PAMPHLET BOX

Q
1
S3
V.84
1981
N/C

Sci.

Physics Abstracts

Science Abstracts Series A
January-June 1981

Subject Index (A - L)

U.I.C.C.
OCT 5 1981
LIBRARY

inspec
The Institution of Electrical Engineers

CONTENTS

Title page	i	Subject index	S1
Abbreviations and acronyms	iii		

SIX-MONTHLY INDEXES TO SCIENCE ABSTRACTS

Cumulative indexes to Science Abstracts are published twice a year covering the period January-June and July-December. They comprise author and subject indexes and some specialised or 'small' indexes. For Physics Abstracts and Electrical & Electronics Abstracts the Author Index and Subject Index are published as separate volumes. In this case the Small Indexes are included in the Author Index volume.

Cumulative author and subject indexes for preceding years are also available. For details please see inside back cover.

Subject Index

The Subject index provides an alphabetical subject key to the articles included in the abstracts journal. Some general guidance on its use is given below:

1. Look in the index for the name of the specific subject in which you are interested. In most cases this name will be a heading in the index and you will find relevant articles listed under it. The majority of the subject headings fall into the following catagories: property, phenomena, substance or named objects, instrument, device, theory, method, process, application, event.

2. Occasionally you will be directed from the subject heading chosen to a different heading under which the relevant or additional articles are listed.

3. If you do not find the subject heading you first chose, try a more general heading.

4. Each entry under the heading relates to an article appearing in the abstracts journal and gives the serial number of that article in the journal preceded by the last digit of the current year, e.g. 1-12345; i.e. Abstract number 12345 in the abstracts journal for 1981

The language of the article, if it is not in English, is also indicated. e.g. digital frequency meter jamming, distribution function determ. (Russian) 1-41575.

Each entry starts with a Keyword or Keyphrase considered to be most relevant to the heading. On sorting these Keywords, the qualifying prefixes are usuallly ignored. (e.g. α-brass, 5-sulphosalicylic, 31 Cygni, n-Ge are sorted under brass, sulphosalicylic, Cygni, Ge respectively).

There are three main Keyword lists; alphabetical A-Z, elementary particles, and chemical symbols (organic substances are written and not given as chemical formula). More than one Keyword list may be present under each subject heading.

For document on, say, 'photoemission of germanium' at least two access points 'photoemission' and 'Germanium' are provided. Under the heading 'photoemission' the Keyword will be 'Ge' and under 'germanium' the Keyword will be 'photoemission'.

In a case like this, it is advisable and quicker to use the heading 'photoemission' and go straight to the chemical symbol list for 'Ge'.

Intermetallic compounds are indexed under the appropriate alloy headings. The chemical formula is used as Keyword. However, it is important to realise in searching the chemical symbol list that, at present, alloys and intermetallic compounds are sorted separately. For example FeCo is sorted at the end of the Fe- list e.g. Fe-Al, ... Fe-Co, ... Fe-Si, ... Fe-Si-B,... FeCo, ... FeSi and so on in this order.

Physics Abstracts

Science Abstracts Series A

January-June 1981

Subject Index (A – L)

Physics Abstracts is published twice monthly by the Institution of Electrical Engineers. Twice-yearly subject and author indexes covering the period January-June and July-December are included in the subscription. Printed by Unwin Brothers Ltd., Old Woking, Surrey, England. Second class postage paid at Piscataway, NJ 08854 USA. POSTMASTER; Send address changes to INSPEC/IEEE SERVICE CENTER, 445 Hoes Lane, Piscataway, NJ08854

© 1981: THE INSTITUTION OF ELECTRICAL ENGINEERS

Physics Abstracts

Science Abstracts Series A

January-June 1981

Subject Index (A – L)

Abbreviations and Acronyms

Abbreviations and acronyms are used in the modifiers in all INSPEC Cumulative Subject Indexes. Individual terms should be readily understood in the context of the subject headings. **Inorganic substances** are usually given by their chemical formulae. Iron and aluminium garnets appear in the formulae lists as MIG and MAG (where M is metal element, e.g. YIG and YAG); $(Pb,La)(Zr,Ti)O_3$ and $Ce_2Mg_3(NO_3)_{12}$ appear as PLZT and CMN respectively. **Organic substances** including **liquid crystals** are not given as formulae but common abbreviations are used.

ABS resin	acrylonitrile-butadiene-styrene
AC	alternating current
ACV	air cushion vehicle
A/D	analogue-to-digital
ADP	administrative data processing
AES	Auger electron spectra(oscopy)
AF	audio frequency
AFC	automatic frequency control
AFL	abstract family of languages
AGC	automatic gain control
AGR	advanced gas-cooled reactor
AM	amplitude modulation
ANS	Astronomical Netherlands Satellite
APACHE	accelerator for physics and chemistry of heavy elements
APR	acoustic paramagnetic resonance
APS	appearance potential spectra(oscopy)
APW	augmented plane wave
ATR	attenuated total reflection
ATS	applications technology satellite
ATWS	anticipated transients without scram
AVC	automatic volume control
BARITT	barrier injection transit time
BBEA	4-butoxybenzal-4'-ethylaniline
BCC	body centred cubic
BCD	binary-code decimal
BFO	beat-frequency oscillator
BWO	backward wave oscillator
BWR	boiling water reactor
BWT	backward wave tube
CAD	computer aided design
CAI	computer assisted instruction
CARS	coherent antiStokes Raman scattering (spectra)
CATV	community antenna TV
CB	citizen band
CBOOA	cyanobenzylidene octyloxyaniline
C-CD	charge-coupled device
CDI	collector diffusion isolation
CDM	code division multiplexing
CDW	charge-density wave
CEM	channel electron multiplier
CEPA	coupled electron pair approximation
CERN	Conseil Européen pour la Recherche Nucléaire
CESR	conduction electron spin resonance
CGTO	contracted Gaussian-type orbital
CHF	coupled Hartree-Fock
CI	configuration interaction
CIEH	charge iterated extended Huckel
CIHY	configuration interaction Hylleras
CNDO	complete neglect of differential overlap
COC	cholesteryl oleyl carbonate
COM	computer output to microform (fiche or film)
COOB	4,4'-cyano-octyloxy-biphenyl
CP	charge, parity
CPA	coherent potential approximation
CPSK	coherent phase shift keying
CPT	charge, parity, time
CRO	cathode ray oscilloscope
CRT	cathode ray tube
CS	coupled states
CSM	continuous slowing down models
CTR	controlled thermonuclear reactor
CVD	chemical vapour deposition
CW	continuous wave
D/A	digital-to-analogue
DBR	distributed Bragg reflector
DC	direct current
DDC	direct digital control
DDL	diode-diode logic
DECENT	distribution of exact classical energy transfer
DESY	Deutsches Electron Synchrotron
DF	Dirac-Fock
DFB	distributed feedback
DH	double heterostructure
DIL	dual-in-line
DITE	divertor in torus experiment
DLTS	deep level transient spectra(oscopy)
DM	delta modulation
DMSO	dimethyl sulphoxide
DMSS	Defence Meteorological Satellite System
DOBAMBC	p-decyloxybenzylidene p'-amino 2-methyl butyl cinnamate
DODS	different orbitals for different spins
DORIS	Dopple-ring-Speicher
DOVETT	double velocity transit time
DP	data processing
DPCM	differential pulse code modulation
DPPH	diphenylpicrylhydrazyl
DPSK	differential phase shift keying
DSC	differential scanning calorimetry
DTA	differential thermal analysis
DV-Xα	discrete variational Xα method
E1,E2	electric dipole, quadrupole
EAS	extensive air shower
EB	exponential Born
EBBA	4-ethoxybenzylidene-4'n-butylanline
EBR	experimental breeder reactor
EBT	Elmo Bumpy Torus
ECC	emergency core cooling
ECELR	epithermal critical experiment laboratory reactor
ECG	electrocardiography (-gram)
EDA	ethylene diamine
EDP	electronic data processing
EDTA	ethylene diamine tetra-acetic acid
EEBAC	ehtyl-4-(4'ethoxy-benzylidene-amino) cinnimate
EEG	electroencephalography (-gram)
EELS	electron energy loss spectra
EFM	extended Flygare method
EHD	electrohydrodynamics
EHF	extremely high frequency
EHP	electron-hole potential method
EHT	extended Huckel theory
EHV	extra high voltage
ELDOR	electron electron double resonance

ELF	extremely low frequency
EM	electromagnetic
EMC	electromagnetic compatibility
EMF	electromotive force
EMG	electromyography(-gram)
ENDOR	electron nuclear double resonance
EOS	earth observatory satellite
EPEN	empirical potential energy function based on interactions of electrons and nuclei
EPMA	electron probe microanalysis
EPR	electron paramagnetic resonance
ERG	electroretinography(-gram)
ERPS	extramolecular relaxation polarisation shift
ERTS	earth resources technology satellite
ESCA	electron spectroscopy for chemical analysis
ESCAR	experimental superconducting accelerating ring
ESFI	epitaxial silicon film on insulator
ESS	electronic switching system
EUV	extreme ultraviolet
EXAFS	extended X-ray absorption fine structure
FBR	fast breeder reactor
FCC	face centred cubic
FDM	frequency division multiplex(ing)
FDNC	frequency dependent negative conductance
FDNR	frequency dependent negative resistance
FEM	field emission microscopy
FET	field effect transistor
FFHR	fusion-fission hybrid reactor
FFT	fast Fourier transform
FFTF	fast flux test facilities
FIM	field ion microscopy
FM	frequency modulation
FPT	finite perturbation theory
FSK	frequency-shift keying
FSGO	floating spherical Gaussian orbitals
FTR	fast test reactor
GAMBIT	gate modulated bipolar transistor
GANIL	grand accelerateur national a ions Lourds
GARP	global atmospheric research programme
GATE	GARP Atlantic tropical experiment
GCFR	gas-cooled fast breeder reactor
GCM	generator coordinate method
GHF-NO-CI	generalised Hartree-Fock/natural orbital/ configuration interactions
GIAO	gauge-invariant atomic orbitals
GO	Gaussian orbitals
GOO	generalised Overhauser orbitals
GPM	ground potential model
GSO	general spin orbitals
GTO	Gaussian-type orbitals
GVB	generalised valence bond
HAM	hydrogenic atoms in molecules
HBAB	hexyloxybenzylidene-p' aminobenzonitrile
HBT	N-(p-hexyloxybenzylidene)-p-toluidene
HCDA	hypothetical core disruptive accident
HCP	hexagonal close packed
HEED	high energy electron diffraction
HF	high frequency or Hartree-Fock
HFB	Hartree-Fock-Bogoliubov
HFER	hot fuel examination facility
HFIR	high flux isotope reactor
HFO	Hartree-Fock-Overhauser
HFS	hyperfine structure
HLW	high level waste (radioactive)
HMO	Huckel molecular orbitals
HOAB	heptyloxyazoxybenzene
HOBHA	p-n-heptyloxy-benzylidene-p-n heptylaniline
HOMO	highest occupied molecular orbitals
HORM	hybrid orbital rehybridisation method
HTGR	high temperature gas-cooled reactor
HV	high voltage
HVEM	high voltage electron microscopy
HWR	heavy water reactor
IAEA	International Atomic Energy Authority Agency
IBPBAC	isobutyl-4-(4'-phenylbenzylideneamino) cinnamate
IC	integrated circuit
ICDF	intermediate coupling Dirac-Fock
IDT	interdigital transducer
IEPA	independent electron pair approximation
IF	intermediate frequency
IGFET	insulated gate field effect transistor
IKO	Institute v. Kernph Ouder Amsterdam
I^2L	integrated injection logic
I^3L	isoplanar I^2L
ILS	instrument landing system
IMPATT	impact avalanche transit time
INDO	intermediate neglect of differential overlap
INDOR	internuclear double resonance
ING	intense neutron generator
INO	iterative natural orbital
INTELSAT	international telecommunications satellite consortium
I/O	input/output
IOC-ω	inclusion of the overlap charges in the omega
IR	infrared
IRDO	intermediate retention of differential overlap
ISABELLE	intersecting storage and acceleration
ISR	intersecting storage ring
ISX	impurity study experiment
ITEP	Institute of Theoretical and Experimental Physics
IU	Indiana University
IVO	improved virtual orbitals
JET	Joint European torus
JAERI	Japan Atomic Energy Research Institute
JINR	Joint Institute for Nuclear Research
KEK	Japan National Laboratory for High Energy Physics
KKR	Korringa-Kohn-Rostoker
LAMPF	Los Alamos meson physics facility
LC	inductance-capacitance
LCAO	linear combination of atomic orbitals
LCBO	linear combinations of (semi-localised) band orbitals
LCGO	linear combination of Gaussian orbitals
LCP	large coil program
LCRO	linear combination of Rydberg orbitals
LEC	liquid encapsulated Czochralski
LED	light emitting diode
LEED	low energy electron diffraction
LEP	large electron positron
LET	linear energy transfer
LF	low frequency
LMC	Large Magellanic Cloud
LMFBR	liquid metal fast breeder reactor
LMTO	linear combination of muffin tin orbitals
LOCA	loss of coolant accident
LOCE	loss of coolant experiment
LOFT	loss of flow test facility
LPE	liquid phase epitaxy
LSA	limited space charge accumulation

LSD	local spin density
LSI	large-scale integration
LTE	local thermodynamic equilibrium
LUMO	lowest unoccupied molecular orbitals
LV	low voltage
LWR	light water reactor
MADO	Mulliken approximation for differential overlap
M1,M2	magnetic dipole, quadrupole
MBBA	4-methoxybenzylidene-4′-n-butyl-aniline
MBE	molecular beam epitaxy
MBPT	many body perturbation theory
MCD	magnetic circular dichroism
MCPESCF	multiconfiguration paired excitation SCF
MCZDO	multi-centre zero differential overlap
MEDO	multipole expansion of diatomic overlap
MESFET	metal-semiconductor field effect transistor
MF	medium frequency
MFP	mean free path
MHD	magnetohydrodynamics
MIC	microwave integrated circuit
MIEHM	modified iterative extended Huckel method
MIM	metal-insulator-metal
MIS	metal-insulator-semiconductor or management information system
MIT	Massachusetts Institute of Technology
MMF	magnetomotive force
MNOS	metal-nitride-oxide-semiconductor
MO	molecular orbitals
MOCIC	molecular orbital constraint of interaction coordinates
MODPOT	model potential
MOS	metal-oxide-semiconductor
MOSFET	metal-oxide-semiconductor field effect transistor
MOST	metal-oxide-semiconductor transistor
MRD	multi-reference double excitation
MRINDO	modified Rydberg INDO
MSI	medium scale integration
MSR	molten salt reactor
MSU	Michigan State University
MTBF	mean-time between failures
MTF	modulation transfer function
MTXα	muffin-tin Xα
MUF	maximum usable frequency
MWH	Mulliken-Wolfsberg-Helmholz-semi-empirical method
NAL	National Accelerator Laboratory
NAND	not-and(logic)
NC	numerical control
NCMET	non-closed shell many electron theory
NDDO	neglect of diatomic differential overlap
NDT	nondestructive testing
NEMO	non-empirical molecular orbitals
NEVE	non-empirical valence-electron
NIC	negative impedance convertor
NMR	nuclear magnetic resonance
NNNDO	neglect of non-neighbour differential overlap
NOR	not-or(logic)
NPOST	non-perturbative open-shell theory
NPSO	non-paired spatial orbitals
NQR	nuclear quadrupole resonance
NRC	nuclear regulatory committee
NRM	natural remanent magnetisation
NTO	natural transition orbitals
OAO	orbiting astronomical observatory
OCR	optical character recognition
ODMR	optical detection of magnetic resonance
OER	oxygen enhancement ratio
OGO	orbiting geophysical observatory
OPHF	orbital polarised Hartree-Fock
OPW	orthogonal plane wave
OR	operations research
ORELA	Oak Ridge electron linear accelerator
ORNL	Oak Ridge National Laboratory
OSO	orbiting solar observatory
OTF	optical transfer function
PAA	paraazoxyanisole
PABX	private automatic branch exchange
PAC	perturbed angular correlation
PAHR	post accident heat removal
PAM	pulse amplitude modulation
PAMPUS	photons for atomic and molecular processes and universal studies
PAP	paraazoxyphenetole
PBF	power bursts facility
PBR	pebble bed reactor
PBX	private branch exchange
PC	printed circuit
PCAC	partially conserved axial currents
PCB	printed circuit board
PCGVB	pairwise correlated generalised valence bond
PCILOCC	perturbative configuration interaction using localised orbitals for crystal calculation
PCM	pulse code modulation
PCX	plasma confinement experiment
PDX	poloidal divertor experiment
PEP	positron electron proton
PETRA	positron electron tandem ringbeschle-uniger anlage
PF	power factor
PFM	pulse frequency modulation
PHWR	pressurised heavy water reactor
PID(PI,PD)	proportional+integral+differential (derivative)
PLA	phase locked arrays
PLC	programmable logic control
PLL	phase locked loops
PLT	Princeton Large Torus
PM	pulse modulation
PMMA	polmethylmethacrylate
PMDR	phosphorescence microwave double resonance
PNDO	partial neglect of differential overlap
PNO-CI	pair natural orbital configuration interaction
POL	pair orthogonalised Lowdin
POPAE	protons on protons and electrons
POPOP	phenyl-oxazolyl-phenyl-oxazolyl-phenyl
POS	point of sale
PPDP/S	Pariser-Parr-Del Bene-Pople/Segal calculations
PPI	plan position indicator
PPM	pulse position modulation or parts per million
PPP	Pariser-Parr-Pople
PRDDO	partial retention of diatomic differential overlap
PRF	pulse recurrence (repetition) frequency
PROM	programmable read-only-memory or Pockels readout optical modulator
PS	proton synchrotron (CERN)
PSK	phase shift keying
PTFE	polytetrafluoroethylene
PTM	pulse time modulation
PVC	polyvinyl chloride
PWM	pulse width modulation
PWR	pressurised water reactor

QCD	quantum chromodynamics
QDMBPT	quasi-degenerate many-body perturbation theory
QED	quantum electrodynamics
QPSK	quaternary phase shift keying
RAM	random access memory
RBE	relative biological effectiveness
RC	resistance-capacitance
RCNDO	Rydberg CNDO
R & D	research and development
RF	radio frequency
RFI	radio frequency interference
RHEED	reflection high energy electron diffraction
RINDO	Rydberg INDO
RKKY	Rudermann-Kittel Kasuya-Yosida
RLC	resistance-inductance-capacitance
RMS	root-mean-square
ROM	read-only memory
RPA	random phase approximation
RPM	relaxation potential model
SAMO	simulated ab initio molecular orbitals
SAS	small astronomy satellite
SAW	surface acoustic waves
SCF	self consistent field
SCL	space charge limited
SCPT	self consistent perturbation theory
SCR	silicon controlled rectifier
SDM	space division multiplexing
SDO	shielded diatomic orbitals
SEHF	spin extended Hartree-Fock
SEM	scanning electron microscope
SFE	solar-flare effect
SGHWR	steam generating heavy water reactor
SHF	superhigh frequency
SHG	second harmonic generation
SIMS	secondary ion mass spectrometer
SIN	Swiss Institute of Nuclear Research
SINDO	scaled INDO
SISAM	spectrometer with interference selective amplitude modulation
SMC	Small Magellanic Cloud
SMS	synchronous meteorological satellite
S/N	signal-to-noise
SOG	strongly orthogonal geminal
SOS	silicon on sapphire
SPA	separated pair approximation
SPC	stored program control
SPEAR	Stanford positron electron asymmetric ring
SPHF	spin polarised Hartree-Fock
SPIN-CIPSI	spin symmetry adapted generalisation of CIPSI
SPS	super proton synchroton (CERN)
SQUID	superconducting quantum interference device
SRMCASE	symmetry-restricted-multiconfiguration annihiliation of single excitations
SSB	single sideband
SSC	sudden storm commencement
SSI	supersonic transport
STD	salinity-temperature-depth or subscriber trunk dialling
STEM	scanning transmission electron microscopy
STO	Slater-type orbitals
STOL	short take-off and landing
STP	Slater-transfer Preuss
SUHFC	spin unrestricted Hartree-Fock with local approximation for correlations
SW	short wave
SWR	standing wave ratio
SXAPS	soft X-ray appearance potential spectrum
TBBA	terephthal-butylaniline
TCNE	tetracyanoethylene
TCNQ	tetracyanoquinodimethane
TCR	temperature coefficient of resistance
TDHF	time dependent Hartree-Fock
TDM	time division multiplex(ing)
TDMA	time division multiple access
TDPAC	time differential perturbed angular correlation
TE	transverse electric
TEA	transversely excited atmospheric
TEM	transverse electromagnetic or transmission electron microscopy
TEXT	Texas Experimental Tokamak
TFTR	Tokamak fusion test reactor
TGFB	triglycine fluoroberyllate
TGS	triglycine sulphate
TGSe	triglycine selenate
TJS	transverse junction stripe
TLD	thermoluminescent dosimeter(-ry)
TM	transverse magnetic
TMMC	tetramethylammonium manganese chloride
TOP	transient overpower accident
TNS	The next step
TRAPATT	trapped plasma avalanche triggered transit
TREAT	transient reactor test facility
TRM	thermoremanent magnetisation
TSC	thermally stimulated currents
TSEE	thermally stimulated exo-electron emission
TTF	tetrathiofulvalinium
TTL	transistor transistor logic
TTT	tetrathiotetracene
TUCA	transient undercooling accident
TV	television
TW	travelling wave
TWT	travelling wave tube
UCHF	uncoupled Hartree-Fock
UHF	ultra high frequency unrestricted Hartree-Fock
UHV	ultra high voltage
UKAEA	United Kingdom Atomic Energy Authority
ULF	ultra low frequency
UMD	unitised microwave devices
UPS	ultraviolet photoelectron spectra
US	ultrasonic
UV	ultraviolet
VB	valence bond
VCR	video cassette recorder
VDM	vector dominance model
VDU	visual display unit
VHF	very high frequency
VLBI	very long base line interferometry
VLF	very low frequency
VLSI	very large scale integration
VOR	VHF omnidirectional range
VPE	vapour phase epitaxy
VRC	visual record computer
VRDDO	variable retention of diatomic differential
VSB	vestigial sideband
VSEPR	valence shell electron pair repulsion
VSWR	voltage standing wave ratio
VTOL	vertical take-off and landing
VTR	voltage transformation ratio or video tape recorder
VUV	vacuum ultraviolet
VVER	water moderated water cooled reactors
WWER	water moderated water cooled reactors
XPS	X-ray photoelectron spectra
ZEBRA	zero energy breeder reactor assembly
ZGS	zero gradient synchrotron
ZPPR	zero power plutonium reactor

Subject Index

1/f noise *see random noise*

A-centres
alkali halides, OH^- and SH^- doped tuneable laser operation of F_2^+, $(F_2^+)_A$ centres 1−29285
alkali-halide crystals, $F_A(11)$ centre model 1−47083
lasers with F_2^+-centres, results for alkali halide crysts. 1−46358
CaO:Mg, F and F_A centres, ODMR 1−16505
CaO:Mg, F_A-centre and F-centre luminesc. meas. 1−16596
KBr(Π), Li-$(F_2^+)_A$ centre absorpt. and emission bands, potential laser action 1−52974
RbI, Li-$(F_2^+)_A$ centre absorpt. and emission bands, potential laser action 1−52974
Si, electron beam irrad., defect form. 1−20264
Si:S, deep centres, thermal electron emission 1−7554

A/D conversion *see analogue-digital conversion*

ab initio calculations
acetaldehyde, struct., thermodynamic props., electron correlations, ab initio calcs. 1−24034
acrolein, cis and trans conformers, geometry, ab initio calcs. 1−24024
amino acids, polar, interaction energies, anal. pots., ab initio calcs. 1−43848
atomic collisions, molecular orbital model, review 1−14810
azobenzene, conformational struct., non-empirical calcs. 1−10647
azolidines, substituted, struct., UV photoelectron spectrosc. obs. 1−24192
benzylideneaniline, conformational struct., non-empirical calcs. 1−10647
bi-1-cyclopropen-1-yl and fluorosubstituted derivatives, isomer stability, electronic transitions, ab initio, STO calcs. 1−24035
bicyclobutane, ab initio charge deformation density from extended Guassian basis 1−33371
1,3-butadiene, cis and trans conformers, geometry, ab initio calcs. 1−24024
butadiene, cis- and trans-, in-plane harmonic force fields and fundamental vibr. freq., ab initio study 1−37104
1,3-butadiene, electronic struct., optical activity, circular dichroism spectra, ab initio SCF-CI calcs. 1−24054
trans-butadiene, Rydberg states from ab initio VB and CI calcs. 1−28880
n-butane, torsional pot. function 1−10802
t-butyl radical, struct., ab initio RHF calcs. 1−10654
butyne, spherically averaged momentum densities by Fourier analysis 1−41431
calcium formate, H^+ and ^{13}C nuclei mag. shielding tensor 1−41327
carbonic acid, struct. and conformational anal., ab initio calcs. 1−51077
carbonium ions, α-cyano substituent effects 1−28849
carbonyl chlorofluoride, gas phase mol. struct. 1−24249
carbonyl fluoride, pot. energy curves calc. using ab initio projected HF calc., photolysis channels 1−26757
chemical bonding, ab initio calc., book contrib. 1−10657
(trans-2-chloroethenyl)dichloroborane, isotopically selective IR photodissoc. 1−29057
choline ester model systems, electrostatic pots. and deformation densities, ab initio calcs. 1−14815
covalent crystal, phonon spectra 1−20334
crystalline systems, ab initio HF calcs. using full-symmetry anal. of basis-set expansions 1−7500
cyanamide-isocyanamide rearrangement, relative energies, struct., inversion barrier, ab initio SCF and correlated SCEP calcs. 1−10636
cyanides, stretching force constants, harmonic and anharmonic, ab initio struct. study 1−10649
cis,cis,cis-cyclonona-1,4,7-triene, molecular and electronic struct., photoelectron spectroscopy, ab initio MO calcs. 1−10645
diamond, ground state properties, LCAO SCF ab initio HF method 1−34609
diatomic hydrides of second row atoms, potential curves studied by unrestricted Moller Plesset method 1−19022
diatomic molecules, pot. curves and dissoc. limit calc. by unrestricted HF method 1−19021
difluoroformaldehyde, one-electron property, ab initio SCF calcs. 1−24031
dimethyl aluminium hydride dimer, bridge bonding, MO calcs. 1−28868
dimethyl ether, H bonds, O-methyl substituent effect, STO calcs. 1−6155
dimethyl ether-boron trifluoride complex configuration, ab initio SCF-MO calcs. 1−28864
dioxiranes, struct., substituent effects 1−24025
dithiocarbazic acid, S-methyl ester, ab initio, LCAO and MO calcs. 1−6149
electronic struct. of free radicals 1−10663
enol-acetone, conform. anal. ab initio method 1−24026
ethane, and hindered rotamers, electron binding and relax. energies 1−37255
ethyl fluoride→ethylene+HF, pot. energy surfaces, energy partitioning, ab initio MO study 1−12988
ethyl methyl ether, rot. pot. functions, ab initio calcs. 1−19078
ethylene, and hindered rotamers, electron binding and relax. energies 1−37255
ethylene, cycloaddition, ab initio and semi-empirical anal. 1−17034
ethylene oxide, struct., thermodynamic props., electron correlations, ab initio calcs. 1−24034
ethylmethylamine, rot. pot. functions, ab initio, STO calcs. 1−19077
ethynyl anion, structure props., ab initio SCF MO calcs. 1−10648
first row atoms, universal Gaussian basis sets 1−1102
Flavin radicals, ab initio molecular orbital studies 1−10644
floating orbital geometry optimisation, quadrupole moments, ab initio and SCF calcs. 1−41315
fluorocarbons, UPS band assignments, MINDO/3 SCF MO calcs. 1−14821

ab initio calculations continued
fluoroform($-d_1$), integrated IR intensity and atomic polar tensors 1−37188
formamide+alkyl glyoxals, charge transfer, conformations, ab initio calcs. 1−19018
formate anion, H^+ and ^{13}C nuclei mag. shielding tensor 1−41327
formic acid, ^2H and ^{17}O nuclear quadrupole coupling const., H-bonding, change of state and mol. distortion effect. 1−45987
formic acid, struct. and rot. barriers, ab initio calcs. 1−45834
formyl cation, structure props., ab initio SCF MO calcs. 1−10648
formyl radical isomers, pot. energy surface, ab initio CI calcs. 1−4048
furan, localised mol. orbitals and chem. binding 1−45837
furan, mol. charge distrib. and chem. binding 1−45836
furan-HCl, H bonding, ab initio SCF MO calcs. 1−1068
furan-HX, H bonding, ab initio SCF MO calcs. 1−1068
glyoxal, cis and trans conformers, geometry, ab initio calcs. 1−24024
glyoxal enol tautomers+formamide, charge transfer interaction, calcs. rel. to electronic theory of cancer 1−46110
graphite, bulk and basal plane electronic densities, ab initio and SCF calc. 1−6143
graphite, prismatic surface electronic density, ab initio and SCF calc. 1−6144
$H_2S.H_2CO$ H-bonded complex, ab initio MO study 1−24032
heterocyclic azoles and azines, ^{14}N NQR results rel. to ab initio calcs. 1−41406
trans-1,3,5-hexatriene, Rydberg states from ab initio CI calcs. 1−28882
hydrocarbons, unsaturated, UPS band assignments, MINDO/3 SCF MO calcs. 1−14821
β-hydroxyacrolein, planar conformers, geometries and energies, ab initio calcs. 1−45838
α-hydroxytetronic acid, electronic struct. of free radicals 1−10663
4-hydroxyuracil tautomer, geometry optimisation, ab initio STO-3G calcs. 1−51102
IBMOL-7, computer program to introduce local symmetry to ab initio calcs. 1−1097
imino methyl radical, structure props., ab initio SCF MO calcs. 1−10648
isoalloxazine, lowest state, ab initio molecular orbital studies 1−10644
isocyanides, stretching force constants, harmonic and anharmonic, ab initio struct. study 1−10649
isoxazole, photochemical isomerisation, ab initio CI calcs. 1−1122
keto-acetone, conform. ab initio method 1−24026
ketones, acyclic, cyclic, keto-enol tautomerism, ab initio investig. 1−4084
β-lactams, mol. and electronic struct., substituent effects, MINDO calc. 1−51128
light projectile+Ar target, K- and L-shell vacancy sharing 1−1351
localised molecular orbits, local basis sets 1−37095
long range intermolecular forces, effects on mol. props. 1−6337
metal diatomics, electronic struct., ab initio relativistic core pot. studies 1−41302
metallic glass formation, microscopic quantum mech. approach 1−25176
methanes, substituent effects on bond length, electrostatic and orbital interaction, ab initio calcs. 1−19020
methanol, conformational preferences and asymmetries, ab initio SCF-MO calc., one-electron MO anal. 1−28863
methanol, H bonds, O-methyl substituent effect, STO calcs. 1−6155
methlene Rydberg states, ab initio MRD-CI study 1−33370
N-methyl benzaldimine, imine bond, photochemical behaviour, ab initio CI calcs. 1−1121
methyl derivatives, conformational preferences and asymmetries, ab initio SCF-MO calc., one-electron MO anal. 1−28863
methylamine, conformational preferences and asymmetries, ab initio SCF-MO calc., one-electron MO anal. 1−28863
methylene, core ionised states, CI and LCAO MO SCF calcs. 1−19035
trans-methylglyoxal, euqilib. geometry, ab initio force method calcs. 1−24027
methylidyne+ethylene addition reaction, doublet reaction path, ab initio SCF MO calcs. 1−21701
molecular anion, bonded group interactions, substituent effect 1−10653
molecular ions, reaction paths, dissoc. mechanism, pot. energy surfaces, ab initio calcs. 1−19148
molecular structure, A-X-Y-B system, lone pair orbital interaction 1−51074
molecular system, electrostatic pot. calc. method for evaluating solvent effects 1−45877
molecules, hyperfine splitting, pseudo-orbital, UHF, projected UHF and single excitation CI calcs. 1−1129
molecules, isotropic dispersion energy coeffs. calcs. 1−10622
molecules, neutral, bonded group interactions, substituent effect 1−10653
molecules, X-ray emission spectra, ab initio SCF calcs. 1−41397
nitroso compounds, PES, ab initio SCF-CI calcs. 1−10783
organic molecular cryst., transport props., quantum mech. calc. 1−20715
organoboranes, B chemical shift, gauge invariant atomic orbital semiempirical theory 1−14934
oxymorphone electronic structure, influence of intramol. H bonding 1−51087
performic acid, harmonic and anharmonic force field and fundamental vibr. freq., ab initio study 1−37173
performic acid, struct. and rot. barriers, ab initio calcs. 1−45834
phellandrene, electronic struct., optical activity, circular dichroism spectra, ab initio SCF-CI calcs. 1−24054
trans-polyacetylene, optical modes and bond stretch force const. 1−46178
polyacetylenes, cis-trans isomerism, ab initio study of equilib. struct. 1−47020
polyatomic molecules, bond functions for ab initio calcs., mols. containing C, N, O and H 1−45807
polycytosine, σ-exciton type mechanism for superconductivity 1−47778

ab initio calculations continued
polydiacetylenes, electron states, ab initio calc. using cryst. orbital method 1−16227
polyene, crystal orbital studies 1−19229
polymeric conductor, transport props., quantum mech. calc. 1−20715
polymers, ground state calc. 1−19225
polymers, quantum theory, conf., Namur, Belgium (Feb. 1979) 1−17938
polymethineimine, crystal orbital studies 1−19229
polyyne, crystal orbital studies 1−19229
propanol, rot. pot. functions, ab initio calcs. 1−19078
propylamine, rot. pot. functions, ab initio, STO calcs. 1−19077
pyrrole, localised mol. orbitals and chem. binding 1−45837
pyrrole, mol. charge distrib. and chem. binding 1−45836
quantum chemistry literature data base 1−1073
quasidegenerate electronic states, coupled-pair many-electron theory appl. 1−24013
semiempirical theories, transferability hypothesis, first principles test calcs. 1−37087
silacyclopropane isomers, ab initio calcs. 1−18995
tetrapeptide model, α-helix and H bonding quantum mech. calcs. 1−24028
trans-thiolformic acid, vibr. freq., harmonic and anharmonic force fields, ab initio calcs. 1−10713
thiopene, localised mol. orbitals and chem. binding 1−45837
thiophene, mol. charge distrib. and chem. binding 1−45836
trimethylenemethane, zero field splitting parameters, ab initio CI wavefunctions, hyperfine coupling const. 1−51143
1,4,7-trioxonin, molecular and electronic struct., photoelectron spectroscopy, ab initio MO calcs. 1−10645
TTF-TCNQ, electron-phonon coupling, electron relax. rate, ab initio calc. 1−30733
unsaturated chromophore excitation influence on feasibility and selectivity of σ-bond cleavage 1−48648
uracil, geometry optimisation, ab initio STO-3G calcs. 1−51102
vinyl alcohol, struct., thermodynamic props., electron correlations, ab initio calcs. 1−24034
water, electron distrib. by high-energy electron scatt. 1−1365
water, H bonds, O-methyl substituent effect, STO calcs. 1−6155
Ar, Beutler-Fano autoionising reson., relativistic multichannel quantum defect theory 1−1188
Ar_2^+, absorpt. cross sections, pot. curves and transition moments, POL CI method 1−10639
ArO, spin-orbit coupling, ab initio CI calcs. 1−1125
Ar_2^*, homonuclear excimers, excited and ground state interactions, spin-orbit coupling 1−6140
B hydrides, B chemical shift, gauge invariant atomic orbital semiempirical theory 1−14934
BH^+, spin-splitting const., ab initio calcs. 1−45825
B_2O_3, electronic and geometric struct., ab initio calc. 1−51115
BS, electronic struct. and doubling parameters, ab initio calc., fine struct., spin-orbit interactions 1−45819
$Be+H_2O$, ab initio molecular orbital calcs. 1−8540
Be_n cluster (n=2-5), struct., ab initio calcs 1−46188
BeF radical in Kr(Ar) gas matrix, ESR and isolation spectra 1−24173
$BeH_2+H^- \rightarrow BeH_3^-$, complex formation reactions, ab initio calculations of potential energy surfaces 1−8543
$BeH_2+LiH \rightarrow LiBeH_3$, complex formation reactions, ab initio calculations of potential energy surfaces 1−8543
BrO_3^-, electronic struct., SCF-Xalpha study 1−6161
$C^+ + H_2 \rightarrow CH^+(^1\Sigma^+) + H$, low-energy passage 1−6341
CCN, ground states, spin-orbit coupling conts., ab initio calcs. 1−45826
CNC, ground states, spin-orbit coupling conts., ab initio calcs. 1−45826
CO_2, ground state pot. surface, ab initio calcs. 1−31864
CO_2^-, ground state pot. surface, ab initio calcs. 1−31864
CO_3 struct., ab initio electron correl. calcs. 1−10675
Ca, spin-forbidden radiative transitions ab initio, SCF and CI calcs. 1−28883
CaO, atomic correl. and bond length, ab initio MO calcs. 1−28856
CdF_2, photoelectron spectra, val. shell electronic struct., ab initio SCF MO calc., ionisation pot. 1−46021
ClO_3^-, electronic struct., SCF-Xalpha study 1−6161
Co complexes, $Co_2(CO_8)L$ (L=substituted acetylene), dinuclear transition, electronic struct., He(I) and (II) photoelectron spectra 1−6315
Cr complex, methyl-hydroxypyridine Cr_2, electronic struct. and UV PES, ab initio MO calcs. 1−10784
Cu, adsorbed CO, core-level XPS spectrum, MO cluster model study 1−53053
Cu atom, X-ray absorpt. edge, ab initio SCF calc. 1−6277
$CuCl_2$, X-ray absorpt. edge, ab initio SCF calc. 1−6277
CuF_2, g-factors, ab initio HF and multiple scatt. Xalpha calcs. 1−24036
D_3T^+, vibr. freq. and zero point energy, ab initio calc. 1−45925
$FH...H_2$, H bonded complex, stretching cubic and quartic force consts., ab initio SCF-MO calcs. 1−6158
FSO radical, electronic struct., ab initio calcs. 1−18997
Fe complexes, electronic struct. of dinuclear transition, He(I) and (II) photoelectron spectra, ab initio SCF calc. 1−6316
$Fe(CO)_2(NO)_2$, He(I) and He(II) photoelectron spectra, correl. effects, ab initio calc. 1−19136
$Fe_3(CO)_8S_2$, electronic struct. of dinuclear transition, He(I) and (II) photoelectron spectra, ab initio SCF calc. 1−6316
$GeCl_4$, mol. cluster, X-ray absorpt. edge struct., first principles calcs. 1−1429
GeH_4, mol. cluster, X-ray absorpt. edge struct., first principles calcs. 1−1429
$H+C^{5+}(N^{5+})(O^{6+})$, electron capture and ionisation cross-sections calcs. 1−46108
H+methane(methane-d_4), abstraction and exchange reactions, transition states and rate const., POL-CI calc. 1−24045
$H^- + He$ collisions, zero range pot. approx., bound state continuum transitions, ab initio calcs. 1−19015
H_2, Franck-Condon factors, ab initio calcs. 1−51109
H_2, GTO ab initio CI calcs. 1−6177
H_2+H_2, scatt. and transport cross-sections, ab initio vibrotor pot. 1−29088
H_3, 3-D ab initio pot. surface, generalised diatomics in molecules theory 1−45879
H_3 excited states, DIM pot. energy surfaces 1−10679
H_3^+, deuterated oscillators, rot. energies in zero-point states of vibr. 1−28946
HBO^-, localised mol. orbitals, ab initio calc. 1−19013
H_2BO, structure props., ab initio SCF MO calcs. 1−10648
ab initio calculations continued
HBr, dipole moment and pot. energy functions, SCF and CI calcs. 1−1300
HCN^-, localised mol. orbitals, ab initio calc. 1−19013
HCO, localised mol. orbitals, ab initio calc. 1−19013
$HCO^+ + CO(N_2)$, clustering energies and stable struct., ab initio LCAO SCF MO and SCEP calc. 1−33395
HCO_3^- hydration complex, ab initio study 1−28857
HCl, dipole moment and pot. energy functions, SCF and CI calcs. 1−1300
HCl, excited states, pot. curves for valence states, ab initio CI calc. 1−37129
HF, dipole moment and pot. energy functions, SCF and CI calcs. 1−1300
H_2F, repulsive surfaces, pot. energy functions derived by fitting ab initio data 1−19156
HF(HCl)(HBr)(HI), dipole moment functions and vibr. rot. transitions 1−37171
HI, pot. energy and dipole moment functions, ab initio SCEP/CEPA and MC SCF calcs. 1−51098
$HN_2^+ + CO(N_2)$, clustering energies and stable struct., ab initio LCAO SCF MO and SCEP calc. 1−33395
$HNCH^+$, J=1←0 transition freq. 1−19011
HNO_3-NH_3, H bonded system, ab initio SCF MO calcs. 1−45839
H_2O, energy and 1-electron props., CI calcs., rel. to Walsh diagram 1−14829
H_2O excited, ionic states, ab initio projected-unrestricted HF calcs. 1−1096
H_2O, vibr. struct. of photoelectron spectra, Franck-Condon factors, ab initio calcs. 1−51109
H_2O_2, struct. and rot. barriers, ab initio calcs. 1−45834
H_2O_2, accurate ab initio $^1A_1$ pot. surface 1−37138
H_2S^+, dissoc. correl. diagrams and electronic states, ab initio MRD-CI calcs. 1−1123
H_4SiO_4, $H_6Si_2O_7$, geometries and charge distribs., ab initio STO-3G MO calcs. 1−41316
$HTD^+(H_2T^+)$, vibr. freq. and zero point energy, ab initio calc. 1−45925
Hg_2Cl_2, mol. struct., ab initio generalised valence bond 1−45857
Hg_2F_2, mol. struct., ab initio generalised valence bond 1−45857
IO_3^-, electronic struct., SCF-Xalpha study 1−6161
K-Rb, liq., free energy and heat of mixing, ab initio calc. 1−42540
K+H, adiabatic pot. energy curves, coupled-channel scatt. eqns. soln., ab initio calcs. 1−37102
KCl:$(LiH)^+(AgH^+)$ centres, EPR 1−3258
KH(KD), $X^1\Sigma^+$ ground state vibr. levels, laser excited fluoresc. in HF discharge 1−24181
Kr, Beutler-Fano autoionising reson., relativistic multichannel quantum defect theory 1−1188
Kr_2^+, absorpt. cross sections, pot. curves and transition moments, POL CI method 1−10639
KrO, spin-orbit coupling, ab initio CI calcs. 1−1125
Kr_2^*, homonuclear excimers, excited and ground state interactions, spin-orbit coupling 1−6140
$LiBH_4$, pot. surfaces and geometry, ab initio calcs. 1−24030
$LiBeH_4^-$, pot. surfaces and geometry, ab initio calcs. 1−24030
$LiCH_4^+$, pot. surfaces and geometry, ab initio calcs. 1−24030
LiFH, repulsive surfaces, pot. energy functions derived by fitting ab initio data 1−19156
LiH, Franck-Condon factors, ab initio calcs. 1−51109
Li_6H_6, struct. and stability, energy gradient method calcs. 1−41299
$Li^+(H_2O)_2$, H bonds, metal ion effects calcs. 1−28871
LiHe, closed and half-closed shell mols., dispersion energy, ab initio calcs. 1−28851
LiO, spin-orbit coupling and Λ-doubling 1−1077
$Mg+H_2O$, ab initio molecular orbital calcs. 1−8540
$(Mg.H_2O)^{2+}$, dissoc. processes and interaction energy curves, ab initio calcs. 1−35519
$(Mg.2H_2O)^{2+}$, dissoc. processes and interaction energy curves, ab initio calcs. 1−35519
Mn, photoionisation cross section, ab initio calc. in random phase approx. with exchange 1−33434
MnO_6^{9-}, absorpt. spectra, cluster calcs. by ab initio UHF 1−41533
Mo complex, methyl-hydroxypyridine Mo_2, electronic struct. and UV PES, ab initio MO calcs. 1−10784
N_2 crystal, lattice dynamics with ab initio intermol. pot. 1−38476
N_2, electron impact excitation cross sections, close-coupling and R-matrix calcs. 1−37336
N_2, electron impact reson. vibr. excitation cross section 1−51301
N_2, ionisation pot., basis set quality and configuration mixing effect 1−1124
N_2+N_2, interaction polarisability, pot. surface, ab initio and SCF calcs. 1−41313
$NF_2(NCl_2)$, inversion barriers calc. using ab initio mol. orbital theory 1−10863
NH_3 crystal, wave function and electronic energy, ab initio SCF calc. *(French)* 1−12055
NH_3, proton affinity, ab initio MO, STO, SCF and CI calc. 1−45824
NO radicals, X-ray excited states, ab initio calcs. 1−24058
$(NO)_2$, asymm. and symm. MO comparison of states 1−45806
N_2O, metastable cyclic conformations examined by ab initio and NDO calc. 1−28878
Na-Cs(K), liq., free energy and heat of mixing, ab initio calc. 1−42540
Na_2, $A^1\Sigma_u^+$-$X^1\Sigma_g^+$ bands, radiative transition probabilities calc., pot. energy curves, ab initio calc. 1−46026
NaH, low lying electronic states, interaction energy, ab initio CI calcs. 1−6175
NaH^-, low lying electronic states, interaction energy, ab initio CI calcs. 1−6175
NaH(NaD), $X^1\Sigma^+$ ground state vibr. levels, laser excited fluoresc. in HF discharge 1−24181
Ne_2^+, absorpt. cross sections, pot. curves and transition moments, POL CI method 1−10639
NeO, spin-orbit coupling, ab initio CI calcs. 1−1125
Ne_2^*, homonuclear excimers, excited and ground state interactions, spin-orbit coupling 1−6140
Ni clusters, electronic struct. calc. using ab initio effective core pot. SCF method 1−24305
Ni_2 bonding, ab initio effective core pot. 1−1095
NiH, electronic struct., rel. to supercond. 1−25607
NiH, electronic struct., ab initio SCF and CI calcs. 1−45812
O_2 radicals, X-ray excited states, ab initio calcs. 1−24058
O_3, decomp., ab initio pot. surface, SCF CI calc. 1−14834

ab initio calculations continued
O_3, metastable cyclic conformations examined by ab initio and NDO calc. 1−28878
O_3, X^1A_1 and a^3B_2 states, ab initio MCSCF/CI pot. energy surfaces calcs. 1−37127
$O(^3P)+H_2(v\leq2,j,m)$, vibr. adiabatic distorted wave studied using LEPS and fitted ab initio pot. energy surface 1−21719
O_2PH^-, electronic struct., ab initio calcs. 1−45835
O_2SH, electronic struct., ab initio calcs. 1−45835
$PF_3(PCl_3)$, inversion barriers calc. using ab initio mol. orbital theory 1−10863
PH_2, $^2\Pi_u$ state, vibronic levels, MRD CI ab initio calcs. 1−28840
PLi_3, struct. and inversion barrier, ab initio SCF CI calc. 1−14804
PdH, electronic struct., ab initio SCF and CI calcs. 1−45812
$Pt(H)_2(PH_3)_2$, cis and trans. struct., energy gradient with effective core pot. approx., ab initio MO method 1−37086
$Pt(PH_3)_2$ structure, energy gradient with effective core pot. approx., ab initio MO method 1−37086
S_2, $^3\Sigma_g^-$, Σ_g^+, $^3\Pi_g$ and $^1\Pi_g$, ab initio and CI calc., val., ion pair and Rydberg states, pot. energy curves 1−37124
$(SCH)_2$, fluoro and cyano-substituted counterparts, bonding mode, ab initio calc. 1−45820
$(SN)_x$, bonding mode, ab initio calc. 1−45820
SOF_2, one-electron property, ab initio SCF calcs. 1−24031
SO_2F_2, one-electron property, ab initio SCF calcs. 1−24031
SiH, Λ doubling and core polarisation 1−37181
$(SiH_3)_2O$, electronic struct., rel. to silicates 1−14813
SiS, electronic struct. and perturbations, wavefunctions, spectroscopic const., SCF-CI energies 1−41312
Sn, grey to white, phase-transition, equilib. and thermodynamic props. 1−47259
T_4^+, electronic struct. 1−41309
$T_3^+(T_2D^+)(T_2H^+)$, vibr. freq. and zero point energy, ab initio calc. 1−45925
$TiS_2(TiSe_2)$, 1T layer compounds, self-consistent valence charge density, Xalpha, OPW and LCAO calc. 1−12013
U I, II, electronic partition functions, 100 to 15000K 1−45842
U II, III, IV, plasma emission coeffs., ab initio calc. 1−45885
Xe, Beutler-Fano autoionising reson., relativistic multichannel quantum defect theory 1−1188
$Xe+Br_2(D')$, vibrationally thermalised emission, temp. depend., ab initio pot. curves. two-photon optical pumping 1−6344
Xe_2^+, absorpt. cross sections, pot. curves and transition moments, POL CI method 1−10639
XeO, spin-orbit coupling, ab initio CI calcs. 1−1125
Xe_2^*, homonuclear excimers, excited and ground state interactions, spin-orbit coupling 1−6140
Zn, energy-band dispersion for 3d states, angle-resolved photoemission 1−26365
ZnF_2, photoelectron spectra, val. shell electronic struct., ab initio SCF MO calc., ionisation pot. 1−46021
$ZrS_2(ZrSe_2)$, 1T layer compounds, self-consistent valence charge density, Xalpha, OPW and LCAO calc. 1−12013

abacs *see nomograms*

aberrations
aberrations in optics and particle optics only
see also lenses; optical instrument testing; particle optics
aberration changes due to focusing and their elimination 1−51593
adaptive optical image correction, sharpness functions for dynamic phase estimation 1−46250
apodised optical systems, optimal reference sphere position 1−37426
astigmatic wave front form. by holographic method 1−29232
astigmatism, subliminal, detect. using a laser refractor 1−8942
automatic computation of optical aberration coeffs. 1−19272
axisymmetric electron optics system having mag. field with discontinuity plane, third order aberrations 1−24347
camera viewfinder using tilted concave mirror erecting elements 1−45057
cathode lenses with spherically symmetric combined fields, electron optics 1−24346
chromatic aberration-free optics for microscopy 1−23302
circular mirror aberration correction, appl. to RATAN-600 radio telescope 1−9367
circularly symmetric aberrations, semiuniform asymptotic expansions of the diffraction integral 1−1455
cladded radially inhomogeneous sphere lens design for imaging, Fourier transform and optical disc reading 1−41806
classical mirror lenses with spherical surfaces, third order aberrations *(German)* 1−1503
colour image restoration after chromatic aberration degradation 1−19274
coma and astigmatism versus field angle and f/number 1−33628
coma free spectrometer with interferometer attachment for difr. grating testing 1−45030
concentric optical systems, field aberrations *(Russian)* 1−17765
conflection lens, focused narrow oblique beam third order aberrations 1−19403
cylindrical holographic stereograms, reconstructed image distortions 1−15112
deflection aberrations of multi-stage deflection systems 1−19256
diffraction-limited true images from severely aberrated instrums., speckle processing 1−6500
double Gauss lens design 1−45056
doublet, one-glass achromatic 1−15248
dye laser, mode-locked with five-mirror cavity, stability and astigmatic compensation anal. 1−41750
electromagnetic focusing system, concentric, electron optics *(Czech)* 1−1479
electron beam, magnetic deflection aberration, third order, generalised formula, in-line gun raster patterns analysis *(Chinese)* 1−46205
electron lens, multipole type, variable magnitude optical aberration generation 1−46206
electron micrograph, high resolution, quasi-periodic crystal lattice images *(French)* 1−52028
electron micrographs, high resolution, correction of artefacts 1−50281
electron microscope lens aberrations effect on lattice images 1−40904
electron optical system with deflectors and a lens, deflective aberration calc. method 1−6442
electron spectrometer design for the TEM 1−5443
electrostatic Einzel lens, independent focal props. 1−51359
electrostatic mirrors, improved focusing and energy resolution 1−24340

aberrations continued
flat field meniscus corrector catadioptric lenses of the Maksutov type 1−45058
fundamental correction limits for extended objects *(German)* 1−46236
geodesic components for guided wave optics 1−11179
geodesic lens, diffr. limited, search for substitute contours 1−41882
gradient index binocular objective design 1−51589
grating rhomb beam sampler, correcting inherent aberrations 1−11081
high-energy laser optical train performance, thermally induced phase aberration model 1−37532
high-performance lens system for Mask Projection Aligning Repeater 1−46488
high-performance optical systems for quasi-diffr.-limited reprod. of micro-patterns on wide fields 1−46487
hologram aberrations, third-order, comparison with classical optical system aberrations 1−19290
hologram reconstructing beam tolerances 1−6509
holograms, computer-generated, recent developments 1−15119
holographic image degradation due to wavefront defects 1−15109
holographic optical elements and systems, incoherent polychromatic imaging *(German)* 1−1517
holographic scanners with aberration corrections, generalised design considerations 1−46258
holographic stereograms, cylindrical, production, using a holographic lens 1−19298
holography at 10.6 μm 1−15129
image wandering correction using two pass time selection technique 1−24360
inflated membrane, Seidel aberrations 1−6630
IR spectrometer, middle resolution, coma corrected *(French)* 1−10028
laser interferometer optics calc. *(Rumanian)* 1−36726
laser light nonlinear transform., optical shaping system aberration effect 1−29307
laser resonator design, intracavity adaptive optics 1−46396
laser speckle formation under extra-axial aberrations 1−10924
lens, spherical surfaced, ideal image form. within Seidel range *(German)* 1−6631
lens design, Conf., Oakland, CA, USA (May-June 1980) 1−44707
lens design, orthogonal circular polynomials as aberration coeffs. 1−46512
lens design using optical aberration coeffs. 1−46516
lens design with desk-top computers 1−46503
lens design with Glatzel's adaptive method 1−46511
lens design with Zernike polynomial program, reduced astigmatism and increased axial MTF 1−46514
lens designing, simple method 1−46522
lens designing utilizing Seidel's coefficients 1−46517
lens evaluation, chromatic aberration matching of polychromatic OTF 1−46482
magnetic objective lenses with saturated polepieces, polepiece shape and lens operating mode choice 1−1476
magnetic sector analysers, aberrations, compensation method 1−40893
metallic mirror deformations and wavefront aberrations caused by CW high power laser beams 1−1608
microelectronic lenses, design and fabrication 1−46527
microscope objectives, chromatically corrected designs 1−45001
mirror, metallic, high power laser beam interactions anal. 1−6590
mirrors, nonspherical, effect of corrector assembly and placement errors on surface shape test results 1−24473
modular two-beam grating interferometer, interference struct. investigations 1−40844
monochromator designs with aberration corrected gratings 1−51604
monochromators, double, employing concave diffr. gratings 1−11076
MTF measurement test and wavefront aberration holographic meas. 1−1673
multiobject optical system diffraction-limited correction criterion *(German)* 1−29221
nondiffraction-limited lenses, aberration balancing criterion, MTF optimisation 1−46513
oculars with long exit pupil distance, correctibility in initial design phase 1−15247
optical design with only two surfaces 1−46524
optical Fourier transform processor for very large array radiotelescope, aberration anal. 1−54386
optical phase conjugation, wavefront generation and appl. *(Japanese)* 1−37550
optical phase modulator, transmission type PVDF, 2-D 1−41823
partially-coherent imaging calcs. 1−46251
perturbed optical system, graphic approach to analysis 1−46518
photoelectric image convertor time-contrast characteristic definition and calc. 1−46581
photographic lens type classification 1−45055
point focus parabolic radiation concentrators, optical analysis 1−46481
projection television, production of optical correction plates 1−6633
rainbow holography, one step 1−15127
reading systems with decentered pupil, meas. error elimination 1−19281
SEM, field emission, illumination system, accelerating gap electron-optical props. 1−14215
sextupole correctors, of spherical aberration 1−15065
shearing interferometry for objective wave aberration evaluation 1−18290
SHG, optical system aberration effect 1−24454
spherical-aberration-free unstable laser resonator with spherical primary mirror 1−46395
spherically and chromatically corrected electron microscope tests *(German)* 1−396
STEM images, method for displaying defocus and astigmatism 1−45078
stochastic simulation of manufacture of optical instruments, aberrations *(German)* 1−15292
superposition fringe shear interferometer for plane wave testing in white light 1−33042
telephoto zoom lenses, continuous close focusing 1−50251
telescope optics, Zernike aberration coeffs. determ. 1−32619
thin lens, spherical abberation minimisation, teaching 1−9798
thin planar surface lenses, primary aberrations, two-dimens. diffr. theory 1−1724
three refracting surfaces, primary aberration-free imaging 1−1502
tilted plate beamsplitter in converging light, aberration correction method 1−46535
triplets, plastic and glass, thermally controlled, third-order theory 1−46529
two-mirror pancratic systems, ξ_1 and ξ_2 coeff. effect on third-order lateral aberration var. 1−41813

aberrations continued
two-photon-resonant image upconvertors, thickness aberrations 1−19388
Twyman-Green interferometer with imperfect collimator optics, beam shear effects 1−10008
UV spectrograph on Salyut-4 orbiting solar telescope, astigmatism 1−27385
volume holographic collector, large factor wavelength scaling 1−41628
water-air interface meniscus surface tension meas. by holographic interferometry 1−16153
wave aberration retrieval from point spread function or OTF data 1−37420
wavefront aberration inversion from point spread function data, numerically stable iterative method 1−15082
white light imagery, colour based quality parameters 1−40834
white light OTF calc. in existence of lateral chromatic aberration 1−46254
wide angle lens systems 1−45061
Zernike annular polynomials for imaging systems with annular pupils 1−37422
zoom lens design using the Delano diagram 1−46523
Ge lens performance improvement for use in thermal IR 8-13 μm waveband 1−6632
Xe, frequency tripling, astigmatism effect 1−41782

abrasion
see also hardness; wear
cast iron, white, abrasive wear 1−48527
dental amalgam, sliding-wear behaviour, influence of contact stress variation 1−48519
friction and wear, at high sliding speeds 1−43536
glass, strengthening by ion-exhange method 1−39480
graphite abrasive wear, at low slip amplitudes 1−48525
metallised polymer solar reflectors, abrasion resistance, solar reflectance, weatherability and dust accumulation 1−13098
metals, failure in contact with abrasive particles, test installation 1−16989
optical glasses, relative abrasion hardness, dependence on microhardness 1−24467
photographic emulsions, abrasion resistance rel. to adhesion *(Russian)* 1−28093
polymeric materials, partial contacting effect on abrasion testing *(Japanese)* 1−26694
sliding friction pairs, incrasing durability with TsIATIM-201+10% Cu lubricant 1−12880
steel, austenitic, abrasive wear *(German)* 1−39475
steel, C, abrasive wear and microstructure relationship 1−48529
steel, C, rolling/sliding conditions, relation between scuffing resist. and increase in surface hardness 1−39474
steel, Ti and N implanted, abrasive wear resistance 1−31684
testing machine for abrasive wear in US field 1−48611
wear test correlation 1−48530
Fe, cast, Ni-hard, abrasive wear resistance *(Chinese)* 1−35395
Fe, cast, white, abrasive wear-microstruct. interactions 1−21599
Mo low press. arc electrodes, erosion in self-generating discharge regime *(Russian)* 1−2264
Na_2O-CaO-SiO_2 float glass, deform. associated with scoring with disc cutter 1−39370
Si p-n junction, abrasion gettering effect on swirl defects 1−15892
SiC abrasive grit, friction and wear of metals and Fe binary alloys 1−43537
Ti-Al-V (6, 4 wt.%), abraded, surface struct., TEM and X-ray diffr. study 1−11967

abrasive wear *see abrasion*

absolute gravity *see gravity*

absolute pressure measurement *see pressure measurement*

absolute temperature *see temperature*

absorbers (surge) *see surge protection*

absorption
for absorption of substances see sorption
see also acoustic wave absorption; electromagnetic wave absorption
charged particles in Saturn magnetosphere, Mimas absorpt. signature obs. 1−40389

absorption spectra *see spectra*

abundance ratio *see element relative abundance; isotope relative abundance*

a.c. generators
see also asynchronous generators; synchronous generators
flywheel generators for JET expt. 1−34121

a.c. network analysers *see network analysers*

acceleration
see also acceleration measurement; accelerometers
charged particle acceleration by cryst. atomic fields 1−38419
classical mechanics, extension of Newton's eqn. of motion 1−40652
falling bubbles, accel. of gravity demonstration 1−9814
Hooke's law, covariant formulation, teaching 1−27715
oesophageal biaxial accelerometry, cardiovascular effects, dog expts. 1−13282
one dimensional, investigation of student understanding of the concept 1−49898
rolling contact of 2 rigid round bodies, contact point accelerations 1−14005
space-time with torsion, rotation and acceleration as parallel transport 1−9888

acceleration measurement
cantilever beam accelerometer, sensing element and MOS detect, circuitry integration on single chip 1−40782
centrifugal acceleration equipment ZBE 2 for calibration of piezoresistive accel. pickups *(German)* 1−283
loudspeaker cone motion meas. at low freqs. using light accelerometer, steady-state performance 1−15344
on-line motion analysis using a TV system 1−32955
vibration transducer calibration methods 1−6835

accelerators (particle) *see particle accelerators*

accelerometers
see also acceleration measurement
cantilever beam accelerometer, sensing element and MOS detect, circuitry integration on single chip 1−40782
centripetal, demonstration apparatus 1−49916
coal/shale interface detector, combines penetrometer and reflectometer meas. 1−36724
electrofluidic, airplane autopilot appl. 1−36635

accelerometers continued
fibre optic, for strain meas. 1−5301
integrated piezo-resistive acceleration pick-ups 1−23217
integrated planar accelerometer structs. using PI-FET capacitive transducers for strain detect. in miniature cantilever beams 1−44911
Super-Cactus accelerometer meas. of Earth radiation budget 1−13588
superconductivity applications in space research and gravitational studies 1−9344
tensometric accelerometers, design to allow for overload protection 1−14113
ultrasensitive superconducting accelerometer operation 1−50117
vibration transducers, calibration 1−44878
vibrations of experimental equipment, measurement 1−18201

accidents
see also electric shocks; explosions; safety
atmospheric model for short-term nuclear plant accident diffusion estimates, in United States, effects of proposed changes 1−867
comparative risks from different energy sources, study methods evolution 1−26824
electric shocks, reaction of human body *(Portuguese)* 1−4256
fission reactors, FBR, simulated HCDA, Structural response of scale models 1−828
fission reactors, FBR, structural response to HCDA, comparison of experiment with analytic simulations 1−829
fission reactors, LMFBR, scaled heads, response to HCDA, comparison of experiment and analytic simulation 1−830
health physics problems at TMI 1−18795
HTR concept which excludes core melting accidents *(German)* 1−37007
nuclear power plant post-accident radiation monitoring, plant communications improvements 1−50954
nuclear power plants, risk study, Germany 1979 1−23785
nuclear power stations, transient events, assessment of operator procedures and display instrumentation 1−14667
nuclear power stations, underground, multidimensional flow of radioactive gases through soil 1−795
radiation accident dosimetry, TLD 1−6052
radiation source terms and shielding at TMI-2 1−18792
radioactive gas and hydrogen removal after a LOCE at the LOFT facility 1−28660
risks from different energy sources, methodological comments 1−26825
Soviet nuclear accident (1957-8) 1−17501
superconducting fusion magnet systems, for Tokamak reactors, safety end reliability 1−37014
Three Mile Island, accident anal. 1−50895
TMI radioactive material release pathways 1−18791
traffic accident investigation, rel. to physics teaching 1−49919

accommodation coefficient *see sorption*

accumulation layers
electron-phonon interaction and magneto-optical anomalies 1−15993
sheet conductance and minority carrier lifetime in semicond., surface props. influence 1−30762
two-dimensional electron layers and strong field mixing effects 1−12174
Al_2O_3-CdSe interface in thin-film transistor, accumulation, electron states 1−20872
GaAs-$Al_{1-x}Ga_xAs$ superlattices and quantum wells, two-dimens. confined carriers, electron-phonon coupling, reson. magneto-phonon effect 1−7725
GaAs-$Al_xGa_{1-x}As$ heterostructure, electronic props. of two-dimens. system 1−7723
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, electronic props. and multi-interface structs., two-dimens. electron gas 1−12186
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, inelastic light scatt. obs. of multilayer two-dimens. electron gas 1−12516
n-InAs, hybrid quantum oscills., transcond. in mag. field 1−16381
Te surface, optical props. of quasi two-dimens. electron systems 1−12482
ZnO, adsorption of H, accumulation layer CESR meas. 1−12400
ZnO clean surfaces, quantised accumulation layers, EELS obs., coupled phonon-plasmon modes 1−12613
ZnO surface, quantized accumulation layer, electron mobility, phonon scatt. 1−30804

accumulators *see secondary cells*

acidity *see pH*

acids, organic *see organic compounds*

acoustic analysis
double wall sound transmission loss, statistical energy analysis *(Japanese)* 1−29463
preadolescent voices, acoustic attributes 1−15329
US spectroscopic scattering expts. 1−39584

acoustic applications
see also ultrasonic applications
aerosol particle sizing, appl. of acoustic particle counter with variable threshold diameter 1−27256
atmosphere remote sensing, radar acoustic sounding meas. of fog-capping thermal inversions 1−54193
BWR loose-parts detection system using acoustic signal monitor 1−45704
geophysics, acoustic logging data recording, reproduction and entry in computer *(Russian)* 1−27280
isobutyl acetate acid hydrolysis, rate consts. using acoustic spectroscopy 1−39643
lightning, radar and acoustic study 1−44254
oceans acoustic mapping, horizontal deflection of acoustic paths by mesoscale eddies 1−17602
particle sizing and counting, acoustic technique using circular orifice flow 1−27916

acoustic arrays
catheter for intravascular blood flow meas. 1−26968
discrete arrays of arbitrary geometry, optimisation 1−37711
effects of propag. 3-dimensional eddy 1−37665
frequency-domain adaptive interference rejection, effect of array errors 1−29465
frequency-wavelength array processing 1−51662
horizontal hydrophone arrays in shallow water, gain of spatial receiver structs., signal processing techniques 1−6708
infinite periodic array of rod transducers with backside acoustic insulation layer 1−37756
noise correlation functions for anisotropic noise fields 1−37712
parametric arrays, influence of phase fluctuations on charcts. 1−19492
phased, arrays, wavefront modelling by computer 1−51657
pressure and pressure gradient sensor pairs for linear arrays 1−29468

acoustic arrays continued
saturated parametric array of electrodynamic horn loudspeakers in air, expt. investigation 1−11222
shading formula generalization from given line shading 1−11251
sparse array processors, S/N ratio gain 1−11250
three array processor (TAP III) frequency domain beamforming system 1−37736
towed acoustic array design, random volume scatter mechanism 1−29446
turbulence-induced noise in acoustic line arrays 1−29497
U-shaped array, cross-sensor processing 1−11248
US imaging system using orthogonal function wavefronts 1−29491
acoustic delay lines
see also ultrasonic delay lines
polyvinylidene fluoride Lamb wave device, high-temp. depend. performance 1−33854
$LiNbO_3$, arbitrary cut, SAW propagation characteristics *(Japanese)* 1−20536
acoustic detectors *see acoustic transducers*
acoustic devices
see also acoustic delay lines; acoustic generators; acoustic microscopes; acoustic microwave devices; acoustic parametric devices; acoustic radiators; acoustic receivers; acoustic resonators; acoustic transducers; bells; surface acoustic wave devices; ultrasonic devices
infrasound detection by acoustic system, lumped and distributed equiv. cct. 1−6728
parallel-coupled acoustic systems, finite element anal. using subsystems 1−1796
shroud-surrounded acoustic antenna, Zernike circle-polynomial analysis 1−46638
telescope meas. system, computerised, for architectural acoustic meas. 1−29485
acoustic dispersion
see also ultrasonic dispersion
critical binary mixtures, sound propagation 1−24552
crystals, planar classes C_{6v} and C_{3v}, acoustic gyrotropy charcts. 1−7267
gelatinous media, rheological equation of state, sound dispersion 1−25399
magnetic insulators, spin wave damping, threshold acoustic phenomena *(Russian)* 1−30930
plasma, ion acoustic wave dispersion, HF electric field effect 1−42171
AlN CVD film on sapphire, SAW, high freq. and low dispersion charcts. 1−47350
Xe-He disparate-mass gas mixture, sound dispersion 1−29828
acoustic echoes *see echo*
acoustic emission
see also ultrasonic materials testing
amplifier, low noise high gain, for acoustic emission 1−19523
atmosphere, meterorite fireball anomalous sound 1−54246
borosilicate glass bonded carborundum of high porosity, fracture induced melting effects 1−21581
α-brass, serrated yielding investigation using acoustic emission technique 1−21541
brittle fracture, controlled crack advancement, eval. of AE energy *(Italian)* 1−48638
brittle rock, pseudostatic uniaxial compressive load, microfracture and failure 1−27157
broadband flaw detection transducers, appl. to acoustic emission pulse shape and spectrum recording 1−29498
ceramics, fracture toughness testing and acoustic emission 1−8511
electron-hole droplets, drag force due to Cherenkov emission of transverse acoustic waves 1−2884
electronic simulation 1−33851
generation and propagation mechanisms and applications *(German)* 1−29448
GFRP laminate, AE study of damage during tensile loading 1−4028
glass, surface microcrack formation, tensile stress caused by Na^+/Li^+ ion exchange *(Czech)* 1−30539
glass fibre reinforced polyester laminates, delamination, acoustic emission 1−48640
graphite fibre reinforced epoxy resin, AE monitoring of damage progression, radiographic verification 1−4021
history and applications 1−12944
industrial component testing *(German)* 1−53393
liquids, radiation-acoustic effects, data anal. 1−30281
locator calibration using piezoelectric torch lighter 1−37746
measurement and analysis methods *(German)* 1−53392
mechanoluminescence, and acoustic emission meas. 1−46642
metals, acoustic emission for phys. exam. 1−8505
monitoring, modified techniques for computerized preventive maintenance systems 1−4020
multichannel acoustic-emission systems, synthesis method 1−31816
NDT appl. 1−4043
NDT of materials 1−26708
noise discriminator for use in acoustic emission studies undertaken in severe noise environments 1−15349
powder flow, AE instrumentation for monitoring 1−35476
radiolysis, sound generation and subsequent recombination of products 1−39662
refractories, deformation-fracture under 3-point bend test, AE charcts. *(Japanese)* 1−21686
reinforcing bar debonding in concrete, detection by acoustic emission technique, feasibility study 1−39551
rocks, acoustic pulses emission meas. using automatic recorder *(Russian)* 1−27281
silicate glass, thermally induced acoustic emission 1−4030
steel, A106B AE monitoring of crack growth 1−4029
steel, AE study of fatigue, offshore appl. 1−53395
steel, alloy, quenched and tempered type 4340, microenergy release rate during fracture, AE, obs. *(Japanese)* 1−53260
steel, austenitic, mechanical props. and AE in type A 533 B, 24 to 288°C, SEM obs. 1−31546
steel, brittle fracture, controlled crack advancement, eval. of AE energy *(Italian)* 1−48638
steel, C-Mn and Nb-Al microalloyed, normalised, applicability of AE during deform. and fracture 1−12875
steel, cladded plate, AE study of thermal shock cracks *(German)* 1−4024
steel, hardness measurement using acoustic emission 1−48608
steel, low alloy, AE from deform., methods of meas. and assessment 1−48437
steel, low alloy, reactor pressure vessel, acoustic emission during elastic-plastic deform., uniaxial 1−3842
acoustic emission continued
steel, low alloy, reactor pressure vessel, acoustic emission during elastic-plastic deform. around crack 1−3843
steel, mild, cleavage fracture, low temp., quantitative acoustic emission source charact. 1−39547
steel, stainless, Type 304, corrosion fatigue crack growth, acoustic emission detection *(Japanese)* 1−53389
steel to Al explosive weldments, quality assessment by AE during bend testing 1−31775
steels, high tensile welded low alloy, sound emission obs. of cold cracking propag. *(German)* 1−8514
strength evaluation of materials, using AE, review *(Japanese)* 1−26695
strength evaluation of materials, using AE *(Japanese)* 1−35461
transducers, resonant behaviour of couplant system 1−51685
transition acoustic emission from moving thermo-optic source 1−1754
weld defect nondestructive examination methods, limitations of methods in current use 1−39548
Westerly granite, thermally induced acoustic emission 1−40118
Al, anodised, oxide layer, electron and acoustic emission during coating fracture 1−12872
Al, dislocation glide study using acoustic emission 1−20235
Al, grainsize effect on acoustic emission, plastic deformation 1−21518
Al_2O_3, fracture toughness testing and acoustic emission 1−8511
Au-Cd (47.5 at.%), reverse thermoelastic transform., release of elastic strain energy as acoustic emission 1−12745
Au-Cd (47.5 wt.%), cooling rate effect on microstruct. and acoustic emission energy during thermoelastic transformation 1−53177
$BaTiO_3$, ceramic, phase transition temps. determ. by acoustic emission 1−31104
electrolytic, intergranular fracture, low temp., quantitative acoustic emission source charact. 1−39547
Fe-Ni (30 wt.%), acoustic emission anal. of $\gamma \rightarrow \alpha$ transformation *(German)* 1−8306
$Fe_{40}Ni_{40}P_{14}B_6$, thermally induced acoustic emission 1−4030
$MoSi_2$ with oxide films, cracking kinetics anal. by acoustic emission method 1−35481
$SrTiO_3$, phase transition temps. determ. by acoustic emission 1−31104
V, precipitation of β-phase hydride from solid soln., acoustic emission 1−3748
W, single cryst., ultrarelativistic electron interaction, orientational-ionisational effect 1−25328
acoustic equipment
see also acoustic arrays; acoustic wave interferometers; ultrasonic equipment
aerospace instrumentation for material science sample mixing in Spacelab 1−36157
locator calibration using piezoelectric torch lighter 1−37746
noise discriminator for use in acoustic emission studies undertaken in severe noise environments 1−15349
particle sizing device, appl. to aerosols meas. 1−27256
sound attenuation, dispersion near liquid-vapour critical point 1−25374
superregenerative acoustic locator using receive/transmit transducer 1−6738
acoustic field
acoustic boundary condition in the presence of flow 1−11391
acousto-optics with SAW, devices and appls. 1−1791
active acoustic absorpt. in 3-D space, theoretical model *(French)* 1−24562
baffled circular cylinder 1−19504
cholesteric liquid cryals, US fields imaging *(Slovak)* 1−15338
circular piston, review of calculation methods *(French)* 1−24572
circular piston in planar baffle, transient sound radiation field, effect of acoustic loading 1−6699
circular plate, sound insulation for single sound pulse 1−29423
circular transducer, lens in nearfield, Gaussian-Laguerre formulation 1−46603
coherence phenomena, different approaches in physics 1−40660
concave radiator in infinite baffle 1−29420
cylindrical conduit, systematic meas. errors using probe tube microphone *(German)* 1−41929
digital simulation of acoustic source localisation 1−22021
directivity pattern of complex radiators calc. from near field meas. 1−37656
duct systems with non-uniform wall impedance, appl. of equivalent surface source method 1−24547
elastic circular plate excited by sound pulse, transient radiation field 1−29421
electromagnetic field from inductive radiators, topographical study 1−33599
equivalent level of noise inside enclosue, generated by sources moving outside 1−29487
fan noise, asymmetric radiation patterns of interacting duct modes 1−41912
high-intensity acoustic fields, turbulent, for aerosol coagulation 1−24774
hybrid ray-mode fields in inhomogeneous waveguides and ducts 1−46604
hydrophone orientation mechanism for far-field US beam pressure distrib. plotting 1−37760
hydrophones, free-field reciprocity calibration in the transition range between near field and far field 1−11267
infinite periodic array of rod transducers with backside acoustic insulation layer 1−37756
layered inhomogeneous septate waveguide 1−37655
liquid crystals, US fields imaging *(Slovak)* 1−15338
loudspeaker systems excited with sinusoidal signal, anal. of field configuration 1−15298
nearfield characteristics of parametric acoustic sources 1−46612
ocean, horizontally stratified, with absorbing bottom sediments having sound-speed gradient, sound field normal-mode sum soln. 1−6707
optical holography with a reference beam of consinusoidally modulated amplitude for the investigation of ultrasonic fields 1−19522
optical interferometric visualization and computerized reconstruction of ultrasonic fields 1−11270
optimum planar sound diffusers, theoretical design 1−11244
point source above porous half-space 1−15306
pulsed planar circular, square and annular transducers, radiation field calcs. 1−24647
pulsed spherical disc and ring US transducers, field pattern calc. 1−37759
reverberant sound field and resonant vibration mode coupling *(French)* 1−51658

acoustic field continued
rigid oblate spheroid in diffuse sound field, sound press. level calc. and meas. near disc *(Japanese)* 1−6697
spatio-temporal structure anal. of acoustic field in air with aid of optical Fourier transform 1−15348
steady-state, of elementary radiation *(Russian)* 1−37653
T-joined plates in contact with fluid, external field due to flexural vibrations 1−19635
unflanged pipe with flow, reflection coefficients 1−24546
US field calibration by optical holography 1−11266
US transducer-lens systems, comparison of experimental and theoretical pressure fields in nearfield 1−11273
vibrating circular plate, sound insulation evaluated in radiation field 1−46623
vibrating plane wall having porous layer on it, acoustic radiation 1−19501

acoustic generators
see also earphones; loudspeakers; photoacoustic effect
polyvinylidene fluoride, acoustic generator for 1-10 MHz range 1−24636
spark generator for model experiments 1−11281

acoustic holography
advances in acoustical holography 1−19517
liquid surface acoustic holography, surface bulge calc. 1−51665
medical applications *(Czech)* 1−32223
self-diffraction, anomalous electroacoustic echo 1−29469
stereophonic recording and reconstruction methods to generate real and virtual images 1−15354
thermoplastic device for acoustic holographic image storage, coherent optical reconstruction 1−41924
ultrasonotomography, state-of-the-art review *(Japanese)* 1−26971
US imaging of nuclear press. vessel weld lines 1−11254

acoustic imaging
see also acoustic holography
acousto-optics with SAW, devices and appls. 1−1791
biomedical US, moving blood appl. 1−22096
cardiac valve motion obs. by real-time US image reconstruction 1−43932
ceramics, structural, acoustic microscopy techniques assessment for NDT 1−43619
computerised tomography, US attenuation, appl. of phase insensitive detect. and freq.-dependent meas. 1−53839
diagnostic information of heart sounds, imaging method 1−22089
grating acoustic scanner using bulk acoustic waves 1−37734
HF phonon transmission for crystal probing and low-temp. imaging 1−38479
imaging processes and coherence in physics, workshop, Les Houches, France (March 79) 1−36456
incoherent insonification method for US transmission imaging 1−39977
inhomogeneous media, sonic and US propagation, numerical techniques 1−37660
integrated grating acoustic scanner 1−51671
inverse problems, reconstruction of distrib. target from impulse responses *(French)* 1−24609
mapping of acoustic fields using nematic liquid cryst. detectors *(French)* 1−24610
medical diagnostic US instruments, review 1−49085
medical image detail improvement by using wide aperture, focused transducers 1−22088
medical US, appls. of optics 1−43930
nonlinear acoustic off-axis imaging 1−6730
oblique incidence reflection acoustic imaging 1−6731
optical interferometric visualization and computerized reconstruction of ultrasonic fields 1−11270
phased-array US imaging system based on new type of delay compensation, focalisation props. 1−8928
spatio-temporal structure anal. of acoustic field in air with aid of optical Fourier transform 1−15348
superresolution ultrasonic imaging system using focused beam illumination and algebraic reconstruction 1−11252
tissue acoustic imaging principles and techniques 1−43894
tomographic image reconstruction from limited projections, using iterative technique 1−40909
transmission acoustic microscopy of opaque samples 1−43641
US image analyser for dimensional quantification, appl. to foetal monitoring 1−15335
US imaging, real-time 2D B-scan, review of principles 1−43926
US imaging system using orthogonal function wavefronts 1−29491
US phased array delay lines, quadrature sampling 1−24602
US probe for meas. field distrib. in water 1−6729
US reflectivity 3D imaging, exact inverse scatt. solns. for plane, cylindrical, and spherical apertures 1−51656
US transducer performance and piezoelectric ceramic vibrator material constants relationship 1−24646
vertebral artery imaging, technique using pulsed Doppler US 1−35845

acoustic impedance
see also acoustic wave velocity
auditory impedance meters, real-ear calibration of ipsilateral acoustic reflex stimuli 1−26972
complex radiation impedance presented to vibrating plate in reverberant room containing rotating diffuser, near field measurement 1−24599
diffraction by absorptive noise barrier on finite impedance ground, calc. using Fresnel integral for Macdonald's soln. 1−6698
ground surface, meas. of impedance using synchronized correlation method 1−24627
mathematical estimation of media acoustic characteristics *(Japanese)* 1−46622
mutual impedance of 2 pulsating cylindrical rings placed on cylinder 1−15299
radiation impedance of cylinder of finite height 1−19487
small orifices, explanations from visual study of shear flow over cavity 1−19667
sources mounted in a hard walled rectangular waveguide 1−11219
transient testing method for determination of acoustic props. of unknown systems 1−24620

acoustic insulating materials *see noise abatement*

acoustic intensity
see also acoustic noise; loudness
double nomogram for acoustic intensity, pressure, displacement and dB level 1−37749
partially choked converging ducts, sound intensification and refraction 1−41900

acoustic intensity continued
room spectral response fluctuations, influence of direct sound 1−11245
spatial averaging of sinusoidal acoustic intensities in reverberant rooms, exact distrib. functions 1−1774

acoustic intensity measurement
A-weighting tolerances and frequency band limits 1−29490
chart for averaging decibels 1−1744
complex radiation impedance presented to vibrating plate in reverberant room containing rotating diffuser, near field measurement 1−24599
cross-spectral method of measuring acoustic intensity by correcting phase and gain mismatch errors by microphone calibration 1−37739
digital sound signal meters with sequential data display using LEDs 1−33862
duct system with flow, transfer function meas. method 1−29489
equivalent level of noise inside enclosue, generated by sources moving outside 1−29487
integration sound level meters, meaning of sound pressure level and associated terms 1−24631
medical US probes, power meas. using a strain gauge technique 1−43925
outdoor machinery acoustic noise source power meas. and in situ calc. *(French)* 1−1763
quietness, noise burst intensity measure *(German)* 1−11265
reverberation chamber, variance of sound power radiated by higher order sources 1−19525
rigid oblate spheroid in diffuse sound field, sound press. level calc. and meas. near disc *(Japanese)* 1−6697
sound-level analyser, microcomputer based *(German)* 1−24616
sound-level meter, features and appls. 1−46644

acoustic magnetic resonance
see also acoustic nuclear magnetic resonance; acoustic paramagnetic resonance
$KMnF_3$, magnetoacoustic solitons near NMR region *(Russian)* 1−21025

acoustic measurements *see acoustic variables measurement*

acoustic microscopes
acoustic properties meas. of microscopic objects using an acoustic microscope 1−37747
ceramics defect characterization using scanning laser acoustic microscope, cracks, laminar flaws, porosity and solid inclusions 1−21685
cutaneous wound tissue, acoustic microscope obs. with age 1−49082
human metaphase chromosomes, micrograph recording using liquid argon 1−32322
imaging, with noncoherent source 1−41932
nonlinear acoustic off-axis imaging 1−6730
oblique incidence reflection acoustic imaging 1−6731
sapphire-lens system for acoustic microscopes, antireflection coating, double layer, for sapphire/water interface 1−33860
SAW excitation and reception with lens of acoustic microscope 1−33863
scanning, with acoustoelectric detector 1−51673
scanning laser acoustic microscope for internal flaw detection to prevent material failure 1−8507
transmission scanning acoustic microscopy for bond integrity evaluation 1−21652
CdS integrated element for scanning acoustic microscopy 1−41935
Cr film, on glass substrate, adhesion studies with acoustic microscope 1−38696
ZnO-film/Au-substrate concave transducer for scanning acoustic microscope 1−33864

acoustic microwave devices
see also acoustic transducers; surface acoustic wave devices
nonpiezoelectric solids, microwave-freq. sound, parametric excitation using electrostrictive nonlinearity 1−41907

acoustic mode of crystals *see lattice dynamics*

acoustic noise
AC machines, combustion chambers with variable cross section, acoustic oscillations *(Russian)* 1−29453
aircraft, community response associated with non-noise factors 1−13206
aircraft noise exposure, prediction of changes at airports 1−8784
ambient background noise in Timor Sea of biological origin 1−11224
anisotropic 1−37712
aversion, objective experimental method, report 1−29459
boiling channel flow stability, multivariate hydrodynamic anal. from inherent noise meas. 1−19782
chemical production plants, sound emission 1−32065
choked airjet, turbulent and shock-assisted noise, pressure ratio effect 1−33953
cylindrical cavities, pressure pulsations, noise, vel. to Reynolds no., cavity depth 1−19749
diesel engined mobile motor generating set, permissible noise levels, causes and damping measures *(German)* 1−1764
disturbance to school teachers due to road and air traffic, survey 1−6714
duct modes, higher order, reflection coefficients 1−24623
effect on sleep, correlation between level and disturbance *(German)* 1−1758
environmental engineering handbook, air and noise pollution control 1−49891
environmental noise, statistical theory for arbitrary distrib. with quantized levels 1−11241
factory noise, computer model for prediction 1−32067
fan noise, asymmetric radiation patterns of interacting duct modes 1−41912
fibre-optic interferometer systems, laser noise, meas. 1−6663
finite length inflanged circular duct with uniform axial flow, anal. of acoustic radiation 1−29431
fluctuation frequency, effect on adverse reactions to noise, report 1−29458
gas turbine engines, convective amplification of internal noise sources 1−51660
hazard assessment of high intensities, implications of critical level inear 1−39937
hearing levels in school children 1−51661
hearing protectors in industrial noise environments 1−27008
helicopter rotor, two bladed, thickness noise 1−24596
human stress effects due to impulsive noise 1−15346
impulse noise, environmental survey 1−53736
industrial, noise diagnosis scheme, plant noise matrix 1−29457
industry, USA, distrib. of compensable hearing impairment 1−41923
insulation between dwelling improvements, case studies 1−1761
insulation for domestic roofing, transmission properties of combining roof and ceiling components 1−6712

acoustic noise continued
jet noise, effects of flight as observed in actual flight and in wind tunnels 1−19495
jets, inverted vel. profile, acoustic noise, density effects 1−1952
jets, shock-free, model, noise power spectrum, rel. to temp. and vel. 1−1951
jets, supersonic strongly underexpanded, pressure pulsations on an obstacle, noise 1−37983
low Mach number vortex sound, influence of solid bodies 1−24578
machine noise simulator for synthesizing random signals with bispectral charact. 1−37737
machinery vibration and noise, diagnostically oriented measures of vibroacoustical processes 1−41910
non-stationary random noise and vibration, statistical anal. rel. to L_x prediction 1−21955
occupational hazard for audio engineers 1−43880
overhead power lines, AC and DC, HV, audible noise prediction formulae 1−37697
personal ear protection for industrial hearing conservation programmes, limitations 1−32264
power stations, thermal, noise prevention and personnel protection measures *(Slovenian)* 1−24591
power transformers, on-time, partial discharge locating field-oriented technique 1−37698
power transmission lines, EHV and UHV, rainfall rate influence on corona performance 1−37699
probe noise, contaminating effect on jet pressure correlations 1−46624
propagation over flat ground surface with uniform cover of vegetation 1−24545
propeller aircraft, ground effect predictions, static noise testing 1−24595
propeller discrete frequency noise prediction technology 1−11243
psychophysical procedure for assessing noise induced annoyance 1−8881
quietness, noise burst intensity measure *(German)* 1−11265
random, practical expression of 2 variate joint probability density distrib. with time correlation 1−15321
road traffic, at right angled intersections *(Japanese)* 1−1762
road traffic, shielding by buildings 1−1759
road traffic in Pescara, statistic meas. of noise over 24 hrs. *(Italian)* 1−41913
road traffic noise modelling and transmission in urban environment 1−1760
road traffic noise prediction, propagation characteristic estimation *(Japanese)* 1−48936
road traffic noise prediction model *(Japanese)* 1−48935
rotary lawn mower, aerodynamic blade noise reduction 1−6715
ship propeller cavitation mechanism diagnosis, by modulation of cavitation noise *(Croatian)* 1−29452
ships, response of hull to propeller generated acoustic pressure 1−41911
sodium boiling detection, acoustic-neutron noise correl. 1−23802
sonic booms, overview 1−37964
speech disturbed by fluctuating noise, preferred listening level 1−8880
subsonic cold jets, noise intermittency 1−11390
subsonic jets, noise generation mechanisms at low Reynolds number 1−19689
suppression in speech using two microphone adaptive noise cancellation 1−29473
temporary threshold shift from impulsive and continuous noise 1−4288
traffic noise prediction, computer model for urban situations under free flow and traffic light conditions 1−26865
tumbler noise reduction, close fitting acoustical enclosure 1−6716
urban traffic noise in USA, forecast 1980 to 1990 1−6711
variable area ducts, comparison of expt. and theory, for acoustic wave propag. 1−1748
ventilation systems, calculation of noise *(French)* 1−11242
vertical directionality and depth dependence of averaged acoustic signals and noise 1−11234
vibratory seismic exploration, freq. method, noise resistance 1−44341
vortex systems, sound radiation 1−51767
water, forced convection boiling, thermoacoustic oscillations in annuli 1−29681

acoustic noise measurement
accurate acoustical meas. and instrumentation for noise meas., state standards and tests 1−24628
aeroengines, cepstrum technique for removal of ground reflections 1−1790
air conditioning and ventilating systems, Draft Proposal from Italian Standard Institution 1−32066
aircraft noise, effect of background levels on community responses 1−1788
aircraft noise, evaluation using psychological methods 1−21957
aircraft noise annoyance contours, importance of overflight freq. and noise level 1−6713
audience induced background noise level in auditoria 1−1757
bispectral passive velocimeter for meas. vel. of moving noisy machines through noise spectral anal. 1−29492
centrifugal fan noise 1−29495
combustion noise−measurements on single oil drops and other diffusion flames 1−31857
community noise assessments, comparison of statistical and energy averaged techniques 1−15345
community noise levels in Patras, Greece 1−46625
corona discharges from water droplets to overhead conductor, audible noise and EM radiation obs. 1−15326
current transformers, sound propagation anal. *(Czech)* 1−41915
environmental noise evaluation for hovercraft ferry terminus 1−1772
equivalent level of noise inside enclosue, generated by sources moving outside 1−29487
equivalent noise level calc., introduction of threshold level for assessment of noise annoyance 1−1765
far field pressure meas. of interrupted jets 1−19526
footstep noise near quiet rooms and studios *(German)* 1−29486
free-field spectrum of noise, cross spectral method 1−37652
freely flowing traffic noise, verification of method for prediction of equivalent level 1−15320
HV transmission lines, corona discharge from water droplets to conductor, pulse distribution charact. obs. 1−15325
hydraulic pumps, airborne noise measurement 1−19508
impulsive noise analysis using gated time domain analyzer 1−24630
impulsive noise measurement with data logging system 1−29450
industrial environment noise measurement method and worker protection measures *(Portuguese)* 1−15339

acoustic noise measurement continued
infrasonic ocean ambient noise levels, meas. using two-hydrophone method for eliminating effects of nonacoustic noise interference 1−11272
insertion loss measurements of small rectangular enclosures 1−29455
large rectangular sources, formula for calc. of sound level as function of distance 1−15323
level monitoring, distributed processing system appl. 1−51670
LF noise using modified perceived noise level 1−24625
LMFBR steam generators, meas. of acoustic background noise 1−50715
low frequency noise detection *(Japanese)* 1−37741
mean power content of summed sinusoids, estimation and appl. to noise meas. in shallow water 1−24624
mechanism noise diagnosis using gated time-domain anal. instrumentation 1−15347
microphones for engine and aircraft noise measurements, selection and use 1−19506
model propeller tip vortex cavitation noise, expt. study 1−46639
noise indices as function of averaging time 1−24619
outdoor machinery acoustic noise source power meas. and in situ calc. *(French)* 1−1763
power plants, analysis using coherence technique 1−37745
propeller induced hull plate vibrations 1−6709
road traffic noise, analysis of quantised level data 1−21958
road traffic system, noise propagation characteristics 1−21956
rotary vacuum pumps, spectral analysis 1−29449
rotating rod, effective source locations and vel. dependence of broadband noise 1−24621
sound propagation from large transformers *(Czech)* 1−29451
steady-state and intermittent noises, aspects of noisiness 1−24592
structure-borne sound due to operation of elec. machines, meas. using correl. and statistical anal. 1−24634
TDK 22/0.4 transformer station *(Slovak)* 1−19507
track-laying machines, evaluation of the noise and of audible warning signals *(German)* 1−41916
traffic noise, performance of self-protecting buildings 1−29464
traffic noise exposure, reliability of and seasonal effects on subjective response 1−1787
traffic roundabout noise levels 1−19509
window acoustic insulation evaluation, standard methods *(Hungarian)* 1−37702

acoustic nuclear magnetic resonance
ethyl benzene, noise decoupling difference spectroscopy, off- and on-resonance, suppression of solvent signals 1−14156
negative spin temp. due to nonresonant acoustic interactions *(Russian)* 1−21073
noise decoupling difference spectroscopy, off- and on-resonance, suppression of solvent signals 1−14156
Ta, diffusion of H and D, nucl. acoustic reson. study 1−30477

acoustic paramagnetic resonance
detection using photoacoustic spectroscopy 1−36711
helical magnetic struct. crysts., microwave acoustic reson. 1−26007
ruby:Cr^{3+}, relaxational paramagnetic sound absorpt. *(Russian)* 1−34933
semiconductor, p-type cubic, acceptor ground state, US spectroscopy 1−16256
ultrasound resonance absorption due to rotational lattice vibrs. 1−47933
CaO:Cr^{2+}, acoustic paramagnetic resonance expts. 1−16479

acoustic parametric amplifiers
TeO_2, dielec., parametric amplification of elastic waves 1−37748

acoustic parametric devices
see also acoustic parametric amplifiers; acoustic parametric oscillators
arrays, influence of phase fluctuations on charact. 1−19492
saturated parametric array of electrodynamic horn loudspeakers in air, expt. investigation 1−11222

acoustic parametric oscillators
LF broadband acoustic source for ocean research, high directivity, minicomputer controlled signal generator 1−32567

acoustic radiators
see also acoustic generators; Doppler effect
baffled circular cylinder 1−19504
circular piston in planar baffle, transient sound radiation field, effect of acoustic loading 1−6699
circular plate, sound insulation for single sound pulse 1−29423
concave radiator in infinite baffle, anal. of acoustic field 1−29420
convex and concave domes in infinite baffle 1−37644
cylinder of finite height, radiation impedance 1−19487
cylinder partially encased in open annular layer 1−19502
directivity pattern of complex radiators calc. from near field meas. 1−37656
elastic circular plate excited by sound pulse, transient radiation field 1−29421
elementary radiators with finite amplitude of field at position points *(Russian)* 1−37653
finite length inflanged circular duct with uniform axial flow, anal. of acoustic radiation 1−29431
finite length unflanged circular duct with uniform axial flow, computed acoustic radiation charact. 1−29432
Fourier horns, fourth order, amplitude gain meas. 1−51686
oscillating arc in combustion flow, spherically symmetrical model for sound emission 1−19988
periodic dipole source 1−11217
piano resonant plates, influence of ribs on acoustic behaviour 1−15319
pulsed microwave energy, sounds produced by localized absorption 1−15358
rectangular enclosure noise reduction and radiation efficiency *(Japanese)* 1−24586
transient acoustic sources, output energy calc. by radiation efficiency method 1−19533
unflanged pipe with flow, reflection coefficients 1−24546
US source in air having high efficiency, 20 kHz 1−19536
vibrating planar boundary, nonlinear generation of harmonics 1−37661

acoustic reactance *see acoustic impedance*

acoustic receivers
see also microphones
automatic recorder, for emission of acoustic pulses from rocks *(Russian)* 1−27281
optimal receivers, frequency dispersive channels 1−46645

acoustic resistance *see acoustic impedance*

acoustic resonators
acousto-optic signal processing using cavity resonances and Bragg imaging 1−51403
crystals, dynamic polarisation echo 1−41904
elastic-solid cavity filler identification by modal resonance scatt. spectra 1−39580
electro-acoustic pipe resonator CW filter 1−19537
fundamental-mode VHF/UHF miniature acoustic resonators and filters on Si 1−41930
Helmholtz resonator, interaction with acoustic mode of enclosure 1−19513
Helmholtz resonator enhancement of photoacoustic signals in trace gas absorpt. meas. 1−45025
nonlinear wave interactions in an acoustic resonator 1−51654
open resonator with reflective piezoelectric transducers, anal. of oscillations 1−19538
precision frequency control and selection, bibliography 1−22964
quarter-wavelength resonator for reduction of centrifugal fan noise 1−29495
SAW devices, practical guide for use by engineers 1−41936
SAW distributed feedback resonators, coupled mode anal. 1−51680
SAW grooved resonators, nonlinear acoustic wave propag., surface waves *(French)* 1−20537
second-harmonic generation in slightly nonlinear acoustic resonator, optimal conditions 1−19490
stimulated Brillouin scattering in acoustic resonator 1−33754
$(Pb,Nd)(Ti,Mn,In)O_3$ ceramics, tuning fork resonator freq. temp. coeff. 1−37751
ZnO-on-Si SAW resonators 1−24635

acoustic signal processing
AF spectral analysis by strobe-type optical system 1−24604
auditory information processing comparison, insects and birds *(German)* 1−13260
binaural detection of sonar signals 1−29466
biological tissue, computer based technique for estimating prop. vels. using unwrapped phase spectra 1−6740
bispectral passive velocimeter for meas. vel. of moving noisy machines through noise spectral anal. 1−29492
broadband flaw detection transducers, appl. to acoustic emission pulse shape and spectrum recording 1−29498
CAMAC utilisation for general or specific acoustical meas. *(Hungarian)* 1−37744
cross-sensor processing for U-shaped array 1−11248
digital filter models for media having linear with frequency loss characteristics 1−37643
directive spectrum analyzing system, accuracy check using moving microphone 1−19528
frequency tracker, improved numerical efficiency 1−11249
frequency-domain adaptive interference rejection, effect of array errors 1−29465
frequency-wavelength array processing 1−51662
Helmholtz eqn. identification using scattering theory approach, nearfield soln. 1−46628
horizontal hydrophone arrays in shallow water, gain of spatial receiver structs., signal processing techniques 1−6708
incoherent insonification method for US transmission imaging 1−39977
infrasonic ocean ambient noise levels, meas. using two-hydrophone method for eliminating effects of nonacoustic noise interference 1−11272
instantaneous power spectra 1−37710
integrated grating acoustic scanner 1−51671
machinery roller bearings, signature anal. of sonic vibrations 1−24583
magnitude squared coherence for unichannel pure tone 1−11253
metacepstrum, modification of cepstrum using equalizer 1−51663
multi-impact noise, use in time history analysis 1−29454
multiple hypothesis optimal tests in active detection *(French)* 1−24607
nearfield inverse scattering soln. to acoustic wave eqn. 1−46627
nonresonant interaction of acoustic waves and correlation processing of information in antiferromagnets 1−19491
optimal receivers, frequency dispersive channels 1−46645
performed music, analysis, synthesis, and display by computer 1−37729
power spectrum centroid detection of US, Doppler systems applications 1−6741
power spectrum centroid detector for US, performance and implementation in Doppler systems 1−6742
pressure and pressure gradient sensor pairs for linear acoustic arrays 1−29468
rotary vacuum pump noise, spectral anal. 1−29449
SAW chirp transform processors, doubling analyzable bandwidth 1−33855
SAW power cepstrum analyser, discrimination of pulsed and CW signals 1−33853
sea floor acoustic reflection signatures, estuarine, correlation with engineering sediment meas. 1−11225
shading formula generalization from given line shading, appl. to sensor arrays 1−11251
shear wave excitation in solids by longitudinal wave contact transducers 1−11218
ship propeller cavitation mechanism diagnosis, by modulation of cavitation noise *(Croatian)* 1−29452
sidelobe interference suppression using adaptive null processor 1−37709
sidelobe suppression versus phase error characts. of multistage modulation scanning sonar systems 1−29467
sonar hydrophone array output, Fredholm integral eqn. of first kind 1−51664
sonar target identification using coherent echo processing *(French)* 1−24605
source localization and characterization of propagation media *(French)* 1−24606
sparse array processors, S/N ratio gain 1−11250
three array processor (TAP III) frequency domain beamforming system 1−37736
time-domain reflectometry, resolution enhancement by iterative superresolving technique 1−40812
underwater sound analysis using programmable signal processor 1−24601
underwater sound wavefront display using theory of holographic interference 1−46629
US phased array delay lines, quadrature sampling 1−24602

acoustic streaming
orifice velocity field obs. for intense sound waves at 500 and 1600 Hz 1−37664

acoustic superradiance
No entries

acoustic surface wave devices *see surface acoustic wave devices*

acoustic surface waves *see surface acoustic waves*

acoustic transducers
see also acoustoelectric transducers; ultrasonic transducers
acousto-optic devices design and fabrication 1−37601
air gun impulsive underwater transducer 1−11279
composite piezoelec. polymer cylinders, electroacoustic sensitivity 1−11277
couplant systems, resonant behaviour 1−51685
disc-shaped flexural mode bimorph cell, characteristics estimation 1−37758
flextensional transducers, present status in technology 1−11280
infinite periodic array of rod transducers with backside acoustic insulation layer 1−37756
lens in nearfield of circular transducer, Gaussian-Laguerre formulation 1−46603
Love wave excitation and reception by corrugation-grating transducer 1−37757
piezoelectric ceramic/polymer composites, high-freq. electromechanical props. 1−33865
polyvinylidene fluoride Lamb wave device, high-temp. depend. performance 1−33854
pressure and pressure gradient sensor pairs for linear acoustic arrays 1−29468

acoustic variables measurement
see also acoustic intensity measurement; acoustic noise measurement; acoustic wave velocity measurement; Q-factor measurement; ultrasonic measurement
amplitude-frequency response correction in sound monitoring systems, radio/TV reception in public places appl. *(French)* 1−33852
auditory impedance meters, real-ear calibration of ipsilateral acoustic reflex stimuli 1−26972
autocorrelation pitch detector for speech 1−37723
CAMAC utilisation for general or specific acoustical meas. *(Hungarian)* 1−37744
flow ducts, plane wave acoustic fields, standing wave acoustic parameters 1−24622
hydrodynamic, optimised sensors design *(Croatian)* 1−29801
impulse test technique for acoustic props. of absorbent material and duct/nozzle system 1−6732
liquids, technique for meas. acoustic vel. difference 1−11268
microscopic objects, appl. of acoustic microscope 1−37747
nearfield characteristics of parametric acoustic sources 1−46612
new CMEA standards for acoustic measuring instruments *(German)* 1−19531
pressure pulsations in breathing cct. of deep-sea diving system, simulation using 4-pole method 1−1789
Trio's SE-3000 acoustic measuring system, reflections on sound field problems 1−6734
vibro-acoustic research, HP 9825A calculation based system *(Croatian)* 1−29488
N_2/CO_2 mixtures, vibrational relaxation rates as determined from LF acoustic wave absorpt. meas. 1−15318

acoustic velocity *see acoustic wave velocity*

acoustic wave absorption
see also noise abatement; ultrasonic absorption
absorption of sound by sound, nonlinearities of state and hydrodynamic eqns. *(French)* 1−24567
absorptive noise barrier on finite impedance ground, comments 1−24550
active absorpt. in 3-D space, theoretical model *(French)* 1−24562
building acoustics, short test methods, meas. uncertainty *(German)* 1−11264
p-butoxybenzylidene-p-octylaniline, smectic liq. crystals, melting behaviour, sound vel. and attenuation meas. 1−16032
edge phenomena of multilayer absorbing panels *(Japanese)* 1−33844
fluids, comparison between two types of modes *(French)* 1−24568
high-temperature predictions of absorpt. in air 1−37674
impulse statistics analysis of room acoustics, appl. to absorptivity meas. 1−15327
impulse test technique for acoustic props. of absorbent material and duct/nozzle system 1−6732
interaction with hydrodynamic turbulence in compressible liquid, nonlinear theory 1−51750
jet flow, vorticity shedding mechanism 1−2047
laryngeal prosthesis, electronic, sound attenuation due to bioencapsulants 1−17522
lightweight walls, improvement of sound insulation *(German)* 1−1773
noise barrier in Toronto, absorptive, reflective and T-profile barriers 1−1769
North Sea, Fladenground area, propagation ranges of CW signals 1−41905
particular materials, static absorption coefficient, reverberation time *(French)* 1−11214
plane porous material absorbing struct., reverberant sound absorption coeff. estimation 1−6718
plant leaves 1−37738
plastic foil absorber *(German)* 1−46601
quartz, 55°-rotated y-cut, acoustic wave props. and device appls. 1−46621
rock, internal friction dissipation mechanism for heterogeneous solid 1−9094
rough surface, multiple scatt., effect on energy division *(French)* 1−29171
sapphire, longitudinal acoustic wave damping due to phonon-phonon interaction 1−25380
saturated sand, laboratory meas. of shear wave attenuation 1−11232
sediments, attenuation meas. from marine seismic reflection data 1−15311
shallow water with lossy bottom sediments, mode attenuation coeff. determ., model SONAR system design *(Japanese)* 1−6706
stochastic stationary wave, relationship between attenuation and power spectral density *(French)* 1−24554
structure borne sound, damping by viscosity of fluid layer between plates *(German)* 1−11213
suspended baffles, absorption coeff. determ. for particulate materials *(French)* 1−11215
underwater sound, absorption mechanisms in Alberich anechoic layers 1−51655

acoustic wave absorption continued
wall/partition transmission loss, equiv. absorption area in receiving room, meas. using reverberation time method and ref. sound power source 1−6717
wave interaction in media with HF attenuation 1−19494
window acoustic insulation evaluation, standard methods *(Hungarian)* 1−37702
wood, sound absorption in relation to anatomical and mechanical properties 1−29424
Ge:Sb, compressed, acoustic wave attenuation, mag. field effect 1−34751
He vapour, sound absorption 1−15572
^{4}He HCP crysts., acoustic props., effects of ^{3}He impurities 1−16140
$KH_3(SeO_3)_2$, sound absorption near ferroelastic transition, isotopic H substitution effects 1−7263
N_2, effect of water vapour at low freq./pressure ratios 1−37677
N_2/CO_2 mixtures, vibrational relaxation rates as determined from LF acoustic wave absorpt. meas. 1−15318
Nb, superconducting transition effects on acoustic losses, audiofreq. attenuation meas. 1−30860
Sb acoustic absorpt. reson. models 1−47176
SiO_2, vitreous, sound velocity and attenuation, Brillouin scatt. meas. 1−30346

acoustic wave amplification
see also acoustoelectric effects
Fourier horns, fourth order, amplitude gain meas. 1−51686
piezoelectric semiconducting film, multipass amplification of acoustic waves 1−33849
piezoelectric-semiconductor film layered structure with size quantisation, acoustoelectronic and acoustoelec. effects 1−12151
self-diffraction, anomalous electroacoustic echo 1−29469
semiconductor, piezoelec., acoustic wave amplification due to electron density gradient 1−38474
thermoacoustics, wave generation and amplification 1−29436
CdS, current noise spectra, acoustoelectric displacement and current fluctuations 1−52612
n-InSb, multitransit acoustic noise amplification in alternating elec. field 1−20826

acoustic wave attenuation *see acoustic dispersion; acoustic wave absorption; acoustic wave scattering; acoustic wave transmission; ultrasonic absorption*

acoustic wave diffraction
see also ultrasonic diffraction
absorbent isotropic plane, diffraction of spherical wave *(French)* 1−24556
absorptive noise barrier on finite impedance ground, calc. using Fresnel integral for Macdonald's soln. 1−6698
absorptive noise barrier on finite impedance ground, comments 1−24550
boundary elements technique for evaluation of diffraction around barriers 1−29434
conference, Marseille, France (Oct. 1980) *(French)* 1−22948
cylinder, straight rigid, calc. of diffraction pattern *(French)* 1−24560
forward scattering by long thin bodies 1−51794
impedance paraboloid 1−11216
inverse problems, reconstruction of distrib. target from impulse responses *(French)* 1−24609
monochromatic cylindrical wave by different models of ground soils *(French)* 1−1743
point source moving in parallel to the edge of a half-screen 1−37650
SAW diffraction by conducting half-plane 1−19486
self-diffraction, anomalous electroacoustic echo 1−29469
singularities at diffracted front for soln. of simple diffractive boundary value problem *(French)* 1−24558
spherical wave by thin infinite plate 1−46609

acoustic wave diffusion *see acoustic wave scattering*

acoustic wave effects
see also acoustic magnetic resonance; acousto-optical effects; acoustoelectric effects; biological effects of acoustic radiation; sonoluminescence; ultrasonic effects
aerosols quasiliquid state, acoustic field action, mechanism 1−29447
cavitation threshold location formulae and cyclic processes 1−37672
circular cylinder in complex sound field, heat transfer 1−15489
leading edge effect in laminar boundary layer excitation by sound 1−42046
turbulence and shock waves induced in travelling wave tube 1−29655

acoustic wave interference
see also acoustic wave interferometers; acoustic wave interferometry
D-region, auroral, interfering acoustic waves rel. to partial EM refl. results 1−27334
LF surface interference effects in long-range propag. 1−37666
pulsed spherical disc and ring US transducers, field pattern calc. 1−37759

acoustic wave interferometers
see also acoustic wave interferometry
No entries

acoustic wave interferometry
see also acoustic wave interferometers
acoustic interferometry and speckle correlation, meas. of surface roughness *(French)* 1−1792
acoustic velocity measurement, acoustooptic interferometric method 1−1785
alcohols soln., interferometric techniques for TVM and TACM studies 1−2566
fibre-optic inerferometric acoustic sensor, noise-equivalent pressure 1−37740
internal stress distribution meas. in solid using acoustical interferometric method 1−51725
surface roughness meas. using US interferometry and speckle correlation *(French)* 1−24608

acoustic wave propagation
see also acoustic dispersion; atmospheric acoustics; Doppler effect; liquid helium sound propagation; seismic waves; shock waves; surface acoustic waves; ultrasonic propagation; underwater sound
3-dimensional eddy, effects on acoustic array 1−37665
amplitude and phase fluctuations of acoustic waves propagated in turbulent jet *(French)* 1−24577
anisotropic crystal with induced inhomogeneity 1−19497
anisotropic non-homogeneous thermoelastic media 1−6813
anisotropic solids, nonlinear acoustic wave propag., surface waves *(French)* 1−20537
anode representation-generalised ray representation transformation 1−36499

acoustic wave propagation continued
asymmetrical planar waveguides, unified asymptotic theory 1−37640
atmosphere, wind and temperature profile effects *(Japanese)* 1−1752
bone, long wavelength approx. to lowest mode of compressional wave propag. 1−24548
bubbly liquids, resonance theory 1−46605
channel propag. through eddies southeast of Gulf Stream 1−29441
combustion duct, propag. through cloud of particles in flowing gas 1−29775
concrete, experimental and theoretical study of multiple scatt. 1−24563
conference, Marseille, France (Oct. 1980) *(French)* 1−22948
critical binary mixtures, sound propagation 1−24552
cross flow effect on power output from idealized mechanical source 1−1756
cylindrical region, acoustic wave propagation, rate of energy transport 1−27790
digital filter models for media having linear with frequency loss characteristics 1−37643
duct modes, higher order, reflection coefficients 1−24623
duct with boundary scattering, appl. to surface duct 1−29442
elastically anisotropic solids, acoustic waves, closed-form expressions 1−7266
electroacoustical digital coordinate measurement, improvement of accuracy 1−23172
finite plane baffles, doublet model for shape and size design 1−29422
fluid mixture, acoustic perturbations 1−24564
fluid-loaded plates, periodically stiffened, response to convected harmonic pressure and free wave propag. 1−41971
gas, dissociating, growth and decay of sonic discontinuities of order one 1−15571
geometrical approximation in statistical wave theory 1−36504
geophysical acoustic logging, elastic wave propag. in fluid-containing cylindrical bore hole *(Chinese)* 1−54254
gravitational atmosphere, critical time for asymptotic acoustic waves 1−32513
gravity wave Cherenkov emission from horizontally moving source 1−46766
ground surface, meas. of short-range propag. using synchronized correlation method 1−24627
inhomogeneous media, amplitude and phase fluctuations analysis w.r.t. density and compressibility variations 1−11220
inhomogeneous media, sonic and US propagation, numerical techniques 1−37660
insulators, phonon echo anal. Mathieu's equation 1−11826
internal flow meeting discontinuities, acoustical sources *(French)* 1−46611
itinerant-electron ferromagnets, mag. field effect on elastic props. 1−15953
layered inhomogeneous septate waveguide 1−37655
layered media, noise propagation over flat ground surface with uniform cover of vegetation 1−24545
LF normal mode propag. in cylindrical waveguide 1−37657
LF radiation from rectangular duct walls 1−1747
linear slip interfaces, elastic wave behaviour 1−15301
liquid with gas bubbles, perturbation (sound) propag., two-wave model 1−46614
lossy medium, arbitrary, inhomogeneous, formulation and development of generalized soln. for eqns. governing propag. 1−29438
low-velocity steady flow with heating, acoustic oscillation onset criteria 1−51741
LW propag. in composite elastic media with spherical inclusions 1−29426
LW propag. in composite elastic media with spherical inclusions 1−29427
magnetic insulators, spin wave damping, threshold acoustic phenomena *(Russian)* 1−30930
molecular crystals, light induced acoustic cryst. activity *(Russian)* 1−52234
non-uniform ducts, in compressible, subsonic mean flow, finite element method 1−51653
non-uniform ducts, with compressible, subsonic mean flow, weighted residuals method 1−51652
nonhomogeneous discontinuous media, numerical solution *(French)* 1−24574
nonlinear directional spherical wave propag. 1−19489
nonlinear planar waves in acoustic medium, integral transform derivation 1−1750
nonlinear surface acoustic waves on an isotropic solid 1−29594
ocean sediments, theoretical aspects 1−11230
one-dimensional vel. inversion for acoustic waves, numerical results 1−37642
optical Fresnel diffr. region, acoustically modified spatial coherence 1−15073
oscillating arc in combustion flow, spherically symmetrical model for sound emission 1−19988
perforated tube muffler components, modelling using decoupling approach 1−46608
piezoelectric semiconductor, acoustic wave excitation by Alfven wave in solid state plasma 1−16308
piezoelectric semiconductor, electron plasma wave parametric conversion to EM wave 1−16307
plane-wave refl. response for determ. of inhomogeneous struct. of medium, comments 1−24549
plasma, inhomogeneous, cold, ion acoustic wave propagation 1−29859
plate with periodic obstructions, propag. of packet of plane flexural waves 1−37693
point source above porous half-space 1−15306
polyvinylidene fluoride, Lamb wave propagation at low temp. 1−38473
pulse propag. in randomly perturbed ocean, single pulse statistics 1−11226
pulse signal propn. in two phase medium *(French)* 1−24566
pulsed microwave energy, sounds produced by localized absorption 1−15358
α-quartz with arbitrary cut, SAW propag. characts. 1−34563
radiated sound power from Al plate excited by periodic impact, theoretical estimation *(Japanese)* 1−19499
random volume scatter mechanism, towed acoustic array design 1−29446
ray acoustics in inhomogeneous and moving media, appl. of differential geometry 1−46602
repeated sawtooth waves propagating in tube, var. of waveform, theoretical calc. 1−6700
road traffic noise prediction, propagation characteristic estimation *(Japanese)* 1−48936

acoustic wave propagation continued
semiconductors, acousto-optical analog of the Borman effect *(Russian)* 1−3366
solar atmosphere, magnetoacoustic surface waves at magnetic interface 1−54456
solar chromosphere, magnetically guided acoustic shock propagation 1−54455
solids, anisotropic, nonlinear acoustic wave propag. *(French)* 1−7265
sound attenuation, dispersion near liquid-vapour critical point 1−25374
sound generation by transverse impact on circular plate 1−19500
sound propagation from large transformers, computation and meas. *(Czech)* 1−29451
sound radiation from vortex systems 1−51767
spin glass, sound propagation and damping near spin-glass transition 1−47898
thermoacoustics, wave generation and amplification 1−29436
time-harmonic buried line force in solid with stress-free, periodic boundary 1−29429
Tollmein-Schlichting wave generated by sound wave, spectral numerical method 1−2007
transmission of monochromatic signals *(French)* 1−24580
Trio's SE-3000 acoustic measuring system, reflections on sound field problems 1−6734
tubes, small amplitude wave propag. 1−6889
underwater wave propagation, generalised Adams methods 1−33847
unidimensional propagation of transient signals through homogeneous layered and discontinuous iterative media *(French)* 1−18030
uniform asymptotics for spherical and cylindrical nonlinear acoustic waves generated by a sinusoidal source 1−41902
variable area ducts, comparison of expt. and theory 1−1748
viscous thermo-acoustic waves, entropic waves, in porous tube *(French)* 1−51901
waveguide, effects of temporal variations of acoustic wave vel. on propag. 1−29425
weak and short waves in one-dimensional inhomogeneous nonlinear elastic materials 1−37662
$AlPO_4$, berlinite, bulk wave and SAW propag. 1−16164
CdS plate, nonlinear acoustoelectric interactions *(Russian)* 1−16319
He, gaseous, expts. on thermally driven acoustic oscills. 1−15573
$Hg_2Cl_2(Br_2)(I_2)$, acoustic wave propag., energy propag. rel. to phase velocity directions 1−25377
n-InSb, electron plasma wave parametric conversion to EM wave 1−16307

acoustic wave reflection
see also echo; reverberation; ultrasonic reflection
cylinder, elastic with filler, in water, transient scatt. of acoustic waves *(Russian)* 1−51650
cylinder, thick-walled elastic, in water, scatt. and refl. of acoustic waves *(Russian)* 1−51649
duct modes, higher order, reflection coefficients 1−24623
elastic body, Rayleigh wave obliquely incident on periodically irregular surface, Bragg reflection 1−2794
ground reflection characteristics, cross spectral method 1−37652
ground reflections, removal using cepstrum technique in aero-engine noise anal. 1−1790
metal surface, sound refl. from adsorbing gas 1−2792
noise barrier in Toronto, absorptive, reflective in T-profile barriers 1−1769
oblique reflection of inhomogeneous acoustic waves 1−37646
ocean bottom reflection loss, dependence on geoacoustic parameters of deep sea sediments 1−15313
ocean sediments, meas. of coherence of reflected acoustic waves 1−15312
piezoelectric semiconducting film, multipass amplification of acoustic waves 1−33849
plane-wave refl. response for determ. of inhomogeneous struct. of medium, comments 1−24549
point source moving in parallel to a plane fluid-field interface 1−37649
point source moving vertically to a plane fluid-fluid interface 1−37651
pulses by different boundaries, comparison of expt. with theory *(French)* 1−24561
randomly layered ocean bottom 1−15314
randomly-rough two-fluids interface, reflection of plane wave *(French)* 1−24555
rough surface, multiple scatt., effect on energy division *(French)* 1−29171
SAW reflection from free Al metallized interface on $LiNbO_3$ 1−51681
sea floor acoustic reflection signatures, estuarine, correlation with engineering sediment meas. 1−11225
sea sediment acoustic plane wave reflection coeff. *(French)* 1−4487
total reflection of a sound pulse of arbitrary form 1−29437
transient testing method for determination of acoustic props. of unknown systems 1−24620
$LiNbO_3$ interdigital transducers, optical probing of SAW generation and reflection 1−24639

acoustic wave refraction
see also acoustic dispersion; ultrasonic refraction
partially choked converging ducts, sound intensification and refraction 1−41900
trigonal crystals, acoustic wave refraction at interface 1−25546

acoustic wave scattering
see also ultrasonic scattering
asymmetric Doppler amplitudes in surface scatter channel for crosswind transmitter-receiver geometry 1−11227
backscattering due to nonlinearity of medium 1−15305
backscattering strength and range dependence of acoustic waves scattered from ocean surface 1−37669
boundary scattering in acoustic channel, appl. to anal. of propag. in surface duct 1−29442
bubbly liquids, resonance theory 1−46605
concrete, experimental and theoretical study of multiple scatt. 1−24563
cylinder, elastic with filler, in water, transient scatt. of acoustic waves *(Russian)* 1−51650
cylinder, thick-walled elastic, in water, scatt. and refl. of acoustic waves *(Russian)* 1−51649
cylindrical bodies, infinite circular, immersed *(French)* 1−24557
cylindrical shell diffusion, nonresonant background definition *(French)* 1−46610
cylindrical vortex, scattering and amplification of acoustic waves 1−19485
directional nature of attenuation of due to scattering at rough ocean surface 1−15315
elastic cylinder, in water, scattering of sound *(Russian)* 1−29445

acoustic wave scattering continued
frequency dependent back-scattering of acoustic wave train in atmosphere 1−29440
Helmholtz eqn. identification using scattering theory approach, nearfield soln. 1−46628
Helmholtz equation, exterior Dirichlet problem, inverse scatt. problem for LF acoustic waves 1−51648
inhomogeneous surface, randomly statistical, stationary area determ. 1−34562
multiple obstacle acoustic scatt. in simple source formulation, reply to comments 1−51647
multiple scattering and acoustic interactions among two parallel hydrophones and planar baffle 1−46607
multiple-object scattering in simple source formulation with accuracy checks, comments 1−1745
nearfield inverse scattering soln. to acoustic wave eqn. 1−46627
obliquely incident wave by infinite cylinder 1−29428
penetrable elliptic cylinder 1−46606
periodic array on piezoelectric substrate, SAW scatt. 1−7446
planar cracks in isotropic media 1−37645
pulses by different boundaries, comparison of expt. with theory *(French)* 1−24561
R-matrix theory of scatt. from fluid spheres via Mittag-Leffler expansion 1−29430
random surfaces 1−15300
Rayleigh wave scattering by two dimens. surface corrugations in oblique incidence 1−37654
Rayleigh waves propag. along periodic corrugated surface of cubic and hexagonal crysts., attenuation 1−52411
SAW interdigital transducers, wave-scattering props. 1−51679
sea surface backscatter at small grazing angles 1−37671
second order low-frequency scattering by the soft ellipsoid 1−29435
shallow water, cycle distances and attenuation 1−11236
spectral broadening, use in velocity profile identification for an axisymmetric flow *(French)* 1−24576
spheroidal scalar and vector wave functions, translational addition theorems 1−18047
weakly inhomogeneous dispersive media, theoretical analysis *(Japanese)* 1−37648

acoustic wave transmission
see also ultrasonic transmission
anomalies in periodic layered medium *(French)* 1−23024
attenuation dependence on neck localisation for branched resonator *(French)* 1−11221
double wall sound transmission loss, statistical energy analysis *(Japanese)* 1−29463
flexible plate with porous surface layers 1−19514
fluctuating ocean, comparison of acoustic wave transmission theory with Jobst's temporal meas. 1−11228
laminated composite cylindrical shell 1−19483
nonresonant transmission through rectangular wall panel 1−19515
plates in air and He atmospheres at pressures up to 50 bars, report *(German)* 1−19488
randomly-rough two-fluids interface, transmission of plane wave *(French)* 1−24555
road traffic noise modelling and transmission in urban environment 1−1760
stiffened cylindrical shell with rings and stringers treated as discrete elements 1−19482
submarine acoustic transmission channel, probabilities of errors *(French)* 1−24581
vibrating circular plate, sound insulation evaluated in radiation field 1−46623
window acoustic insulation evaluation, standard methods *(Hungarian)* 1−37702
α-$AgSbS_2$, phase transition induced by external elec. field 1−47230

acoustic wave velocity
see also acoustic dispersion; liquid helium sound propagation; shock waves; ultrasonic velocity
acoustic boundary condition in the presence of flow 1−11391
alcohols soln., interferometric techniques for TVM and TACM studies 1−2566
alkali metals and halides, molten, solubility, sound vel., and compressibility 1−15783
amines, dilute aq. solns., isentropic compressibility determ. 1−20294
anisotropic crystal with induced inhomogeneity 1−19497
antiferromagnet, orthorhombic, magnetoelastic interactions theory *(Russian)* 1−31002
binary liq. mixtures, van der walls const., internal Press. and sound vel. from Flory's theory 1−47173
p-butoxybenzylidene-p-octylaniline, smectic liq. crystals, melting behaviour, sound vel. and attenuation meas. 1−16032
condensed matter, anomalous acoustic velocity at high press. in superstrong mag. field 1−20320
elastic cylinder, in water, scattering of sound *(Russian)* 1−29445
elastically anisotropic solids, acoustic waves, closed-form expressions 1−7266
gas, dissociating, growth and decay of sonic discontinuities of order one 1−15571
Gulf of Cadiz, sound speed variability due to internal waves and globs 1−17601
heat exchanger tube bank, direction-dependent sound speed calc. 1−1746
inert gas, equil. and transport props., room temp. up to 1 GPa, dil. gas to solid range 1−38042
liquid with gas bubbles, perturbation (sound) propag., two-wave model 1−46614
lung, sound speed in the upper airways 1−26937
metals, liquid, sound velocity and compressibility, struct. factors 1−30328
one-dimensional vel. inversion for acoustic waves, numerical results 1−37642
paramagnet, tetragonal, sound velocity, temp. and mag. field depend. 1−38962
polymers, Brillouin scatt., review 1−35064
porous media, fluid-filled, Biot slow wave, equivalence to fourth sound in superfluid ^4He 1−47314
in pyrophyllite, wave vel. changes assoc. with generalised triaxial deform. 1−22337
quartz, 55°-rotated y-cut, acoustic wave props. and device appls. 1−46621
α-quartz, phonon dispersion branches 1−34434
quartz, surface wave velocity, temp. depend., calc. 1−7445

acoustic wave velocity continued
real gases, phenomenological representation 1−29822
shock poles of bodies with compact isotropic struct., calc. using Morse pot. *(French)* 1−38456
solar interior, mean sound speed from whole-disc Doppler obs. of global oscills. 1−27462
steel, stainless, 304, 310 and 316, sound velocity and elastic consts. 1−31518
stiffness-controlled variable-acoustic-delay line 1−37731
tellurites, model calcs. 1−30329
underwater sound, fractional vel. variation in mesoscale eddies rel. to acoustic paths horizontal deflection 1−17602
waveguide, effects of temporal variations of acoustic wave vel. on propag. 1−29425
Cu powder, vel. of sound under compression *(German)* 1−25378
$CuCl_2.2H_2O$, magnetoelastic interactions eval. *(Russian)* 1−31002
$DyFe_2$, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297
$FeBO_3$, ferromagnet, magnetically tunable sound velocity 1−3228
Ga, amorphous and recrystallised films, sound vel., shear stiffness breakdown 1−7278
Ge, electron-hole droplets dragged by laser-induced deform. pulse 1−47492
He, solid, sound velocity and eqn. of state meas. at high press. 1−38612
^{4}He HCP crysts., acoustic props., effects of ^{3}He impurities 1−16140
$Hg_3Cl_2(Br_2)(I_2)$, acoustic wave propag., energy propag. rel. to phase velocity directions 1−25377
NH_3, dilute aq. solns., isentropic compressibility determ. 1−20294
Se, amorphous, acoustic and acousto-optic props. 1−26168
SiO_2, vitreous, sound velocity and attenuation, Brillouin scatt. meas. 1−30346
Tb-Fe, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297

acoustic wave velocity measurement
see also ultrasonic velocity measurement
atmospheric air, vel. as function of freq. and humidity 1−11223
hydrophone-pinger expt. for meas. compressional-wave vel. in uppermost sea floor sediments 1−15340
interval velocity and attenuation measurements in sediments from marine seismic reflection data 1−15311
multimode waveguides, method for calc. phase vels. and amplitudes of normal modes 1−37658
oscilloscopic method in lateral unloading 1−51672
pulse time delay measuring circuit 1−46640
sediment cores, meas. for characterizing acoustic environment of Hatteras and Nares Abyssal Plains, western N.Atlantic Ocean 1−15309
solid, acoustooptic interferometric method 1−1785
underwater sound, velocity-depth charcts. in western N.Atlantic and Norwegian Sea sediments 1−15310

acoustic waveguides
asymmetrical planar waveguides, unified asymptotic theory 1−37640
concentric-arc grating as thin-film spectrograph for guided waves 1−11083
fluid-loaded plate coated with vibration-absorbing layer, waveguide props. 1−37689
infrasound detection by acoustic system, lumped and distributed equiv. cct. 1−6728
inhomogeneous waveguides and ducts, hybrid ray-mode fields 1−46604
layered inhomogeneous septate waveguide sound propag. 1−37655
LF normal mode propag. in cylindrical waveguide 1−37657
multimode, method for calc. phase vels. and amplitudes of normal modes 1−37658
radiation impedance of one or several real sources mounted in hard-walled rectangular waveguide 1−11219
SAW planar prism waveguide coupler on $LiNbO_3$ 1−37732
solid rectangular waveguide, normal modes (eigenfunctions) 1−19484
temporally varying, acoustic wave propag. 1−29425
triangular ridge acoustic waveguide and coupler 1−37676
vibroacoustics, conf., Leningrad, USSR, (Oct. 1979) 1−36453

acoustic waves
see also acoustic emission; magnetoacoustic effects; shock waves; surface acoustic waves; ultrasonic waves
acoustic-gravity waves of horizontally moving sources, Cherenkov radiation 1−27341
aerodynamic sound generated by a slotted trailing edge 1−6852
α Canis Majoris A (Sirius A), acoustic flux generation in convection zone 1−54486
cavity containing tube bundle, acoustic eigenfrequencies determ. by homogenisation techniques 1−11334
crystals, planar classes C_{6V} and C_{3V}, acoustic gyrotropy charcts. 1−7267
ducts, finite-amplitude sound waves, long time asymptotics, Burgers eqn. 1−24827
interstellar diffuse clouds, nonlinear hydrodynamics of acoustic instabilities 1−22851
metal-semiconductor contact, electromechanical conversion, freq. response, depletion depth and energy levels 1−16527
microwaves and acoustics, similarities and differences *(French)* 1−24551
phonons generated by burst of heat energy at crystal surface, ballistic propagation 1−30495
screening effect, sound waves, phason, one dimensional charge density wave 1−7538
solar atmosphere, longit. sound waves rel. to fluctuations in radio fluxes from small areas of disc 1−4864
solar five minute oscillations, identification as nonradial acoustic modes 1−27468
late-type stars, acoustic waves momentum and energy deposition in stellar atmospheres and winds 1−44540
stellar chromospheres, grey LTE approach to acoustic heating theory in late type stars 1−36269
stiff matter, gravitational waves and sound waves 1−5196
white dwarfs, acoustic fluxes generated in convection zones 1−49646

acoustical laboratories
see also anechoic chambers
No entries

acoustics
see also acoustic applications; acoustic devices; acoustic equipment; acoustic noise; anechoic chambers; architectural acoustics; atmospheric acoustics; audio acoustics; hearing; musical acoustics; photoacoustic effect; sound reproduction; ultrasonics; underwater sound; vibrations
acoustics continued
Acoustical Soc. Amer. 100th meeting, Los Angeles, CA, USA, 1980 Nov. 1−6696
teaching, technological aspects 1−49910

acousto-optical devices
see also acousto-optical effects
acoustooptic circular dichrometer 1−28074
archival optical mass memory design 1−46248
beamforming fibre optic acoustic sensor 1−37615
Bragg cell frequency-shifting, deviation-free, appl. to laser anemometry 1−46419
Bragg RF spectral analyser integrated optical ccts. 1−24533
coherent hybrid optical processors, space and time integrating acousto-optic processing 1−51402
conference, Monterey, CA, USA (Nov. 1979) 1−13920
deflector, wide-band, diffr. by planar multielement piezoelec. tranducer array 1−6643
deflector of laser light with rotating wave vector *(Slovenian)* 1−29379
deposited piezoelectric transducer technology for acousto-optic bulk wave devices 1−15353
electro/acousto-optic technology review 1−19409
fibre microbend acoustic sensor, construction and charcts. 1−6662
fibre optic acoustic sensor using dynamic holographic interferometry 1−11109
fibre optic hydrophone, multimode, based on schlieren acoustooptic intensity modulation 1−41841
guided-wave acousto-optics, wideband real-time signal processing 1−15290
highspeed acousto-optic scanning 1−19415
historical development review of acousto-optics and its appl. 1−39063
integrated acousto-optical spectrum analyser 1−19477
integrated optic technology acousto-optic modulation at GHz freq. 1−41885
integrated optics RF spectrum analyser using Si detector/CCD array, GaAlAs laser and $LiNbO_3$ chip, acousto-optical processing 1−41892
intensity modulated optical hydrophone 1−29503
IR acousto-optic materials, appl., requirements, cryst. development 1−15237
IR acousto-optic materials, appls., requirements and cryst. development 1−37565
light diffraction by SAW 1−1791
material selection and synthesis 1−15236
modulator principles and applications to lasers 1−46549
open acoustic resonator with reflective piezoelectric transducers, anal. of oscillations 1−19538
output light distribution features of acousto-optical modulators with polarising transparency 1−46547
programmable tunable filter for multispectral optical processing 1−51603
radio spectrographs, appls. in radio astronomy 1−13698
SAW acousto-optical signal processing possibilities and limitations 1−24362
scophony light valve with electronic focus shift for laser scanner use 1−46548
signal processing, real-time signal convolution and correlation 1−33630
signal processing architecture classification 1−15090
signal processing devices and systems, seminar, Los Angeles, CA, USA (Feb. 1980) 1−22946
signal processing using cavity resonances and Bragg imaging 1−51403
spectral estimation with acoustooptic system, statistical analysis 1−46232
spectrometer design for radioastron. 1−54388
spectrometer for radio astron. 1−54384
spectrum analyser, real time, through unguided light-SAW interaction 1−19408
spectrum analyzer or multispot modulator, using frequency-steered acoustic beam 1−1686
TE_0-TE_1 optical waveguide mode convertor using chirped gratings 1−33830
TE-TM mode convertor, wide-band, using doubly confined struct. 1−1723
time integrating optical signal processing 1−15091
time-integrating acousto-optic correlator for decimal/residue conversion 1−46240
time-integrating optical processors in one-dimension 1−15089
tunable filter, use in optical fibre parameter meas. system 1−37616
two-dimensional signals, acousto-optic processing 1−51379
waveguide SAW acoustooptic convolver 1−29410
wideband acousto-optical recording from linear receiver 1−46249
wideband bulk acousto-optic modulators and beam deflectors design and fabrication 1−37601
$LiNbO_3$ acousto-optic collinear TE_m-TE_n mode convertor, optimisation of conversion of guided optical waves 1−24495
$LiNbO_3$ single crystal growth, acousto-optic device appl. 1−16681
$LiNbO_3$ surface diffused waveguide parameter influence on acoustooptic interaction efficiency freq. depend. 1−51643
TeO_2 single crystal growth, acousto-optic device appl. 1−16681
Tl-Bi-Te system compound selection and synthesis for acousto-optic device appl. 1−15236

acousto-optical effects
see also acousto-optical devices
acoustic velocity measurement, acoustooptic interferometric method 1−1785
boundary surface testing via differential interferometric measurements of interface waves 1−4031
cardiac valve motion obs. by real-time US image reconstruction 1−43932
chlorobenzene, liq., US wave vel., absorpt. and relax., optical beating method determ. *(Japanese)* 1−11274
coherent acousto-optical interaction techniques and applications 1−39064
Fresnel diffraction region, acoustically modified spatial coherence 1−15073
historical development review of acousto-optics and its appl. 1−39063
intensity modulation in space and time of light beam crossing same US field twice 1−1753
IR acousto-optic materials, appls., requirements and cryst. development 1−37565
laser communication, student project 1−13975
light diffraction by SAW 1−1791
light diffraction by ultrasound with random ultrasonic intensity 1−6446
liquid, nonresonant interaction of high-power optical radiation, review 1−8040
liquid crystals, optical, mech. and elec. props. rel. to mol. ordering, book contrib. 1−38271

acousto-optical effects continued
liquids, US wave vel., absorpt. and relax., optical beating method determ. *(Japanese)* 1−11274
methanol, subharmonic and cavitation activity detection by acousto-optical diffraction 1−37981
modelling techniques for acousto-optic materials 1−15238
nematic liquid crystal film, acoustic streaming 1−2567
optical wave diffraction by travelling spatial phase modulation on stationary phase gratings 1−46218
optical waveguide, planar, IR acousto-optic interaction 1−35012
output light distribution features of acousto-optical modulators with polarising transparency 1−46547
partial coherence of light modified by freq.-modulated US wave 1−19260
polarization of light diffracted by elastic lattice vibrations 1−46217
polystyrene optical waveguide, acoustooptic interactions and anisotropic props. 1−24496
semiconductors, acousto-optical analog of the Borman effect *(Russian)* 1−3366
single-mode optical fibres, acoustic sensitivity predictions using Brillouin scatt. 1−11092
speckle reduction, optical coherence doubly phase modulated by US wave 1−10906
time-varying at high light intensities 1−41908
US light diffraction, Sommerfeld eqns. 1−19259
US-light-diffraction by 2 adjacent progressing beams, modulation of light in diffraction orders 1−37406
CO_2, near crit. state, amplitude and phase fluctuations of propagating US wave, investigation based on light diffraction 1−15317
He, superfluid, subharmonic and cavitation activity detection by acousto-optical diffraction 1−37981
He-Ne internal-mirror laser beam acousto-optical modulation, polarisation induced noise obs. 1−46412
He-Ne laser, light output depend. on acoustic press., use as hydrophones 1−19530
$LiNbO_3$, Hertz vector model of light scatt., SAW 1−33848
$LiNbO_3$ single crystal thin film light guide waveguiding props. 1−15261
$LiNbO_3$ surface diffused waveguide parameter influence on acoustooptic interaction efficiency freq. depend. 1−51643
Se, amorphous, acoustic and acousto-optic props. 1−26168
TeO_2, acoustooptic diffraction at anomalously high values of Q 1−35011

acoustoelasticity *see elasticity*

acoustoelectric devices
see also acoustoelectric transducers
detector for scanning acoustic microscope 1−51673
integrated acoustoelectric SAW source 1−29501
new CMEA standards for acoustic measuring instruments *(German)* 1−19531
CdS integrated element for scanning acoustic microscopy 1−41935

acoustoelectric effects
2.4 MHz US effect on cond. of metal nitrate and sulphate aq. electrolytes 1−38569
acoustic wave, self-diffraction, anomalous electroacoustic echo 1−29469
composite piezoelec. polymer cylinders, electroacoustic sensitivity 1−11277
crystals, dynamic polarisation echo 1−41904
equivalent electromechanical and electroacoustic ccts. for spherical solid and liquid layers 1−20323
nonpiezoelectric solids, microwave-freq. sound, parametric excitation using electrostrictive nonlinearity 1−41907
phonon domains, acoustoelectrically amplified, acoustic impulse generation by piezoelec. shock 1−16320
piezoelectric, bounded nonlinear, parametric excitation of acoustic waves 1−25767
piezoelectric semiconducting film, multipass amplification of acoustic waves 1−33849
piezoelectric semiconductor, inhomogeneous, barrier cond. model influence on elec. effects of acoustoelec. interaction 1−12152
piezoelectric-semiconductor film layered structure with size quantisation, acoustoelectronic and acoustoelec. effects 1−12151
piezoelectric-semiconductor layer structs., SAW propag., alternating carrier drift effect 1−20540
plasma, inhomogeneous, electroacoustic waves/EM waves coupling eqn. *(Chinese)* 1−46867
plasma dielectric-acoustoelectric coupled wave nonlinear parametric amplification 1−25765
semiconductors, acoustoelectromagnetic effect, influence of electron scatt. mechanisms 1−42830
semiconductors, photostimulated acoustomagnetoelectric effect in a longitudinal magnetic field 1−42829
Ag_3SbS_3, pyrargyrite, slow-response electroacoustic echo 1−25768
$Al_xGa_{1-x}As$-GaAs heterojunction layers, current/voltage characts. in high elec. fields, surface acoustoelectric effects 1−34778
$Bi_{12}GeO_{20}$, two-pulse electroacoustic and nuclear quadrupole echo 1−21081
CdS, current noise spectra, acoustoelectric displacement and current fluctuations 1−52612
n-CdS, drift and acoustoelec. Hall effects, acoustoelec. current, inhomogeneities due to IR quenching of photocond. 1−20827
CdS, piezoelectric bound surface acoustoelectric potential *(Russian)* 1−30790
CdS plate, nonlinear acoustoelectric interactions *(Russian)* 1−16319
CdS-$LiNbO_3$ layered structures, elec. effects of acoustoelec. interaction influence on SAW 1−12152
n-GaAs, epitaxial, current instability and microwave transmission oscillations, transverse mag. field 1−20891
InSb, acoustoelectrically amplified phonons, study by anomalous transmission of X-rays 1−15978
n-InSb, multitransit acoustic noise amplification in alternating elec. field 1−20826
$LiNbO_3$-CdSe layer structs., SAW propag., alternating carrier drift effect 1−20540
$LiNbO_3$-ionised gas contact, SAW acoustoelectric interaction with charge carriers 1−29829
$LiNbO_3$-Si layered struct., acoustic-electron interaction *(Russian)* 1−2795
Si:H, highly resistive films, acoustoelectric meas. 1−47713
Si-$LiNbO_3$ layer struct., transverse acoustoelec. effect meas. 1−25766
$Si_{0.10}Ge_{0.4}$, highly resistive films, acoustoelectric meas. 1−47713
ZnS, Brillouin scatt. by injected acoustic domains 1−16576

acoustoelectric transducers
see also earphones; headphones; hydrophones; loudspeakers; microphones
ceramic, phase transition transducer 1−15355
voice operated transducer for the disabled 1−13347

acoustooptics *see acousto-optical effects*

actinide alloys
see also actinide compounds; plutonium alloys; uranium alloys
crystalline electric field and struct. effects in f-electron systems 1−17940
intermediate valence model and mag. props. 1−47840
$Ce_{0.9-x}La_xTh_{0.1}$, mixed valence cpd., energy parameters and cryst. field effects 1−20670
$Ce_{1-x}Th_xAl_2$, mag. order and moment reduction, thermal expansion meas. 1−20979
Dy-Th, mag. phase diagram, search for Lifshitz points 1−12292
$La_{1-x}Th_xNi_5$, heat capacity, hydrogenation, influence of lattice and electronic factors 1−20418
Np intermetallics, mag. props., high press. Mossbauer study 1−47992
$NpAl_2$, mag. props., high press. Mossbauer study 1−47992
$NpCo_2Si_2$, mag. props., high press. Mossbauer study 1−47992
$NpOs_2$, mag. props., high press. Mossbauer study 1−47992
Tb-Th, mag. phase diagram, search for Lifshitz points 1−12292
Th-Cd system, phase diagram and cryst. struct. determ. 1−53158
Th-Cd system, phase relations determ. 1−53157
Th_7Co_3Hx, magnetic props. 1−20956
$Th_2(Fe_{1-x}Co_x)_{17}$, ordering, neutron diffr. study 1−25890
Th_7Fe_3Hx, magnetic props. 1−20956
$Th_7Ni_3H_x$, magnetic props. 1−20956
$ThPt_x$, x=1,2,3, valence bands and core levels, XPS study 1−43247
$Th(Ru,Os)_2$, lattice consts. and supercond. props. 1−38878
W-Th electrode, diffusion depletion time, in arc burning, temp. depend. 1−42581

actinide compounds
see also compounds of individual actinides, e.g. uranium compounds
see also actinide alloys
antiferromagnetic-ferromagnetic transition, electron correlation effects, Hubbard and RKKY models 1−47881
bonding and struct. props. using inclined W systematics 1−47040
excitation spectrum, carrier conc. and temp. depend., CPA calc. 1−47469
magnetic response function, neutron spectroscopy 1−25666
valence instabilities as source of inconsistencies 1−20671

actinide metal compounds *see actinide compounds*

actinide metals *see actinides*

actinides
see also individual actinides, e.g. uranium
atoms, resonance charge transfer cross section tables 1−13943
band struct. and cohesive props. 1−47443
bonding and struct. props. using inclined W systematics 1−47040
conference, Zurich, Switzerland (Apr. 1980) 1−44701
crystalline electric field and struct. effects in f-electron systems 1−17940
5f electrons, presence and character 1−47529
f-electron bonding, review 1−47528
ions in aqueous soln., EXAFS study 1−31235
ions in solution, detection of oxidation state and chemical behaviour, nuclear waste transport 1−31942
partitioning and transmutation, long-term risk anal. for geologic repository of radioactive waste 1−856
partitioning and transmutation for geologic repository of radwaste, feasibility assessment 1−857
partitioning facilities for radwaste management, preconceptual designs and cost estimates 1−854
partitioning of radwaste, short-term risk anal. 1−855
radioactive fuel cycle waste management, actinide partitioning processes 1−852
radioactive waste, actinide transmutation and fuel cycle impacts 1−853
radioactive waste, partitioning and transmutation, review of European research 1−851
radioactive waste geologic disposal, maximum concentration of actinides in geologic media 1−41213

actinium
see also nuclei with .....
No entries

actinium compounds
No entries

actinometers *see radiometers*

actinometry *see radiometry*

activation analysis *see chemical analysis by nuclear reactions and scattering*

active filters
well logging instrumentation, active bandpass filter with cascaded sections *(Russian)* 1−27296

active nitrogen *see nitrogen*

active oxygen *see oxygen*

actuators
see also electric actuators
adaptive optics for laser beam control using segmented and deformable mirrors 1−46491

adaptive control
see also adaptive systems; model reference adaptive control systems
PWR steam generator, water level adaptive control 1−28579

adaptive optics
see also optical phase conjugation
active optical devices and applications, seminar, Washington, DC, USA (April 1980) 1−44705
astronomy of faint objects, review 1−4779
closed-loop active optical system control 1−46498
deformable mirror COAT system, vector interpretation 1−46492
deformable mirror correcting capability rel. to wavefront sensor characts. and spatiotemporal coupling 1−46494
deployable optical system sensing and control 1−46497
elastomer optical storage device for adaptive spatial filtering 1−24477
image correction, sharpness functions for dynamic phase estimation 1−46250
integrated imaging irradiance sensor for closed-loop adaptive optics 1−46583
integrated imaging irradiance wavefront sensor real time minicomputer control 1−46585
laser beam, adaptively corrected, propag. through turbulent atm. 1−46416
laser optics, high energy, review 1−46393
laser resonator design, intracavity adaptive optics 1−46396

adaptive optics continued
lens design with Glatzel's adaptive method 1−46511
mirror figure control improvement with edge appl. of forces and couples 1−46495
phase distortion compensation caused by extended inhomogeneities, system optimisation 1−33632
phase modulator, transmission-type PVDF, 2-D 1−41823
piezoceramic mirror correctors, pulse charcts. 1−37582
random angular displacement correction of optical beams 1−33631
segmented and deformable mirrors for laser beam control 1−46491
stacked-actuator deformable mirror parameters and optical performance 1−46496
thermal blooming correction, target loop adaptive optics 1−46464
turbulent media, EM propag. review 1−19245
wavefront aberration inversion from point spread function data, numerically stable iterative method 1−15082
wavefront sensors and deformable mirrors for visible wavelengths 1−46493

adaptive systems
see also adaptive control; adaptive optics; model reference adaptive control systems; pattern recognition; self-adjusting systems
neuronal encoder two-phase adaptation model 1−8845
PWR steam generator, water level adaptive control 1−28579

adding machines *see calculating apparatus*

adherence *see adhesion*

adhesion
ABS electroplated with Cu, adhesion strength and fatigue damage 1−39442
adhesive wear model based on variations in strength values 1−38446
bimetals, adhesivity of layers, determ. method 1−16986
bonded adhesives, stress depend. of creep 1−8380
bonds, US eval. and quality control tool 1−12946
boundary surface testing via differential interferometric measurements of interface waves 1−4031
centrifugal assessment of cell adhesion 1−53943
coating wear resistance evaluation for bulk metal forming 1−31685
coatings, enamelled and flame-sprayed, characterisation and microwave reflectivity 1−43510
coatings, scratch test technique, model 1−42662
cold metal spray for boiler thermocouple protection, bond-strength tensometer 1−4044
commercial adhesive, Poisson ratio time depend. by holographic interferometry 1−12780
composites, adhesive bonding produced by deform., and effect on mech. props. 1−31573
conductive thin films, evaporation deposition geometry influence on adhesion 1−35178
conical punch, adhesive contact on elastic half-space *(French)* 1−41988
conical punch on elastic half-space, adhesive contact 1−46715
crystal surface sticking probability and coverage determ., geometrical factor correction 1−2829
detonation deposited coatings on metal substrates, method for detect. regions of phys. contact 1−39568
diamond in contact with transition metal, adhesion and friction 1−31671
elastic particles deformation and adhesion to rigid substrate or each other, surface forces influence 1−51722
elastomeric adhesive films, in triaxial stress state, strength 1−43425
electric-spark coating steel powder material, bonding strength *(Russian)* 1−48567
epoxy-Al adhesive joints, environmental fracture, crack tip processes and adhesive-cohesive transition 1−16872
epoxy/Ti bonds, adhesive failure in aq. solns. 1−8526
fatigue crack growth, in structural adhesives 1−48482
fibre reinforced composites, adhesion strength measurement device 1−53376
fibre-matrix interfaces, anal. of fibre pull-out tests 1−35313
fracture toughness testing of joint 1−21675
gas flow in a capillary with an external disturbance varying the coefficient of molecular adhesion 1−46782
gelatinous emulsion on polyethylene terephthalate film substates, adhesion props. *(Russian)* 1−23352
glass cloth/epoxy laminates, elec. props. 1−34969
glass-components, bonding strength of optical-contact 1−24542
glaze coating on ceramics, thermal shock resist., underglaze layer effect 1−12898
globular particle/semi-infinite medium system, van der Waals attraction energy attenuation due to surface roughness 1−31914
glue for strain gauge measurements, pouring installation 1−16992
graphite fibre reinforced Al alloy, friction and wear props., effect of sliding time and speed 1−39473
ion-beam etching of metals and fluoropolymers, aids adhesive bonding 1−35430
joint durability, model prediction 1−8525
mechanical characterization of adhesive layer in situ under combined load 1−17009
metal coating of optical fibres by magnetron sputtering 1−15296
metal/oxide materials, solid-state bonding parameters, adherence of bonds 1−8524
metallic substrate, pretreatment by mechanical activation 1−12959
metallic surface film, surface bonding, deform. depend. 1−12960
metals, high temp., role of creep, hot hardness and sintering 1−26714
photoresist adherence on metal film, contact angle meas. 1−38629
plasma spray coatings, adhesion defects, US testing 1−26700
PMMA films, multi-valued surface props. 1−48646
PMMA-PMMA, welded, fracture mechanics study 1−39429
PMMA-SAN, welded, fracture mechanics study 1−39429
polydimethylsiloxane spreading on variable geom. surface, adhesional contact form. 1−7424
polyethylene, H_2CrO_4 etching, XPS study of surface 1−21613
polyethylene, surface modification by corona and plasma discharges, and free radicals, ESCA study 1−12917
polyethylene to metals, interface bubbles effect 1−17020
polyimide thin films, elec. breakdown strength, cond., adhesion determ. 1−20892
polymer adhesive joints, character of failure 1−48481
polymer microspheres, hybrid, packing material for separators appl. 1−39616
polypropylene, H_2CrO_4 etching, XPS study of surface 1−21613
polypropylene films, corona-discharge treatment, process parameters treatment 1−48541

adhesion continued
polyvinyl acetate, creep meas., hygrothermomechanical characterisation 1−11805
PTFE, high-energy electron emission from film adhesive contact disruption 1−16670
PTFE-Cu, adhesive joint form. and failure, metal surface condition depend. 1−53398
rubber, rolling on rough surfaces 1−43643
SAN-SAN, welded, fracture mechanics study 1−39429
solid-state metal-ceramic bonding appl. and props. 1−16981
stainless steel, adhesive bonding, interface region 1−21693
steel, galvanized sheet, coating adherence testing using limited dome height method *(French)* 1−3977
steel, stainless, adhesive bonds, contribution of metallic and oxide contact to static adhesion 1−48647
steel to polyethylene, interface bubbles effect 1−17020
transition metal boride coatings on stainless steel, plasma spray deposition 1−53358
tube in semi-infinite elastic solid, bond stress 1−19652
Ag coatings, mech. props. meas. 1−12784
Al coating on polymer film, US adhesion *(German)* 1−8528
Al, coatings, mech. props. meas. 1−12784
Al, Ni powder sprayed, method for detect. regions of phys. contact 1−39568
Al to Al adhesive, bonds, US eval. and quality control tool 1−12946
Al_2O_3 scale morphology on doped Co-Cr-Al coating 1−31756
Au coatings, mech. props. meas. 1−12784
Au, electroless plating on III-V cpd. crystals 1−16705
Au-Sn-Al metallizations on GaAlAs LED, interfacial void struct. 1−16195
C film, RF magnetron sputtering prep., fusion reactor appl. 1−21349
Cr film, on glass substrate, adhesion studies with acoustic microscope 1−38696
CrB_2 coatings on stainless steel, plasma spray deposition 1−53358
Cr_2O_3 film, RF sputter-deposited, AES and X-ray diffr. anal. 1−30590
Cu, electroless process of coating glass substrates 1−16929
Cu to polyethylene, interface bubbles effect 1−17020
Cu-Al (1.3(3.8)(7.6) wt.%), adherence of sulphide scale to metallic base 1−3961
Ge, coatings, mech. props. meas. 1−12784
Ni-Cr (80, 20, wt.%) coatings, struct. and mech. props., recrystn. annealing and shot blasting effects 1−4001
SiC, plasma deposition, film props. meas. 1−43277
Ta_2N-Ni films, RF sputtering prep. of Ni films, props. and interdiffusion anal. 1−35174
Ti alloy-steel joints, contact phenomena, effect on strength 1−17021
TiB_2 coatings on stainless steel, plasma spray deposition 1−53358
TiC coatings to steel, modified RF sputtering process and coating characterisation 1−39239
TiC overlay coating, friction and adherence wear 1−31682
TiN overlay coating, friction and adherence wear 1−31682
TiN_x coating, synthesis by activated reactive evaporation 1−16698
WB_2 coatings on stainless steel, plasma spray deposition 1−53358
WC-Co detonation-deposited coatings, adhesion to stainless steel 1−4000
ZnS thin films, vacuum deposited, adhesion-ageing behaviour 1−38698
ZrB_2 coatings on stainless steel, plasma spray deposition 1−53358
ZrO_2-Y_2O_3/Ni-Cr-Al-Y thermal barrier coating, thermal cycling effects 1−31633

adiabatic compression, plasma *see plasma heating*

adiabatic demagnetisation *see magnetic cooling*

adion *see adsorption*

administrative data processing
see also management information systems; manufacturing data processing; medical administrative data processing
fission reactor fuel management appl. of probabilistic decision theory to optimise fuel ordering strategy 1−45604

admittance, electric *see electric admittance*

admittance, electric, measurement *see electric admittance measurement*

ADP *see administrative data processing*

ADP (ammonium dihydrogen phosphate) *see ammonium compounds*

adsorbed layers
see also monolayers
acetylene, chemisorbed on Pt (111), mol. struct. calc. 1−17106
acetylene, on Pt (111) and Ni (111), chemisorption model, UPS and EELS data anal. 1−47381
acetylene adsorbed on exfolieted graphite, thermodynamic props., phase transitions in physisorption *(French)* 1−30552
adsorbate bonds, activation by chemisorbed O_2 1−2800
alkali metal, on Ni(100), electron energy loss spectra study 1−42637
n-alkane adsorbed at Graphon interface, structuring phenomena 1−47372
benzenedicarboxylic acid isomers, inelastic electron tunnelling spectroscopy 1−29069
carbide on Mo(100), effects on N_2, H_2, ethylene, CO adsorption-desorption kinetics 1−20568
charcoal on KBr, examination of IR spectra using flow cell 1−45035
chemisorbed molecules at surfaces, Raman scatt. 1−3406
citrate ion adsorbed on colloidal Ag, surface enhanced Raman scatt. 1−6262
coherent adsorbed layers, order-disorder phase transform. and adsorpt. isotherms 1−34570
commensurate-incommensurate transition caused by instability to dislocation form. 1−42634
cyanide complexes adsorbed on Cu electrodes, surface enhanced Raman scatt. and cyclic voltammetry meas. 1−35056
electrode surface, plasmon polariton spectroscopy, review 1−34763
electrode-electrolyte interface, IR specular reflectance spectroscopy 1−35045
electron-stimulated desorption imaging using cylindrical mirror analyser 1−30556
enhanced light scattering, surface plasmon dispersion relation effects 1−52963
ethylen-e on Ni (110), carbidic monolayer form., oxidation 1−39683
ethylene, on Pt (111) and Ni (111), chemisorption model, UPS and EELS data anal. 1−47381
ethylene adsorption on Ni(110) and Ni(100), LEED study 1−20575
ethylene on Ni(100), ion scatt. spectroscopy study in ultrahigh vacuum 1−52438
EXAFS meas. above C, N, O and F K-edges, appls. to surface struct. determ. 1−28915

adsorbed layers continued
fluoride crystal windows, adsorbed film influence on VUV spectral transmission change 1−37569
fluoromethane-NaCl, evaporation and desorption by IR laser reson. excitation of mol. vibr. 1−20574
gas, on porous solid, surface diffusion, influence of solid heterogeneities 1−7456
graphite substrate, two-dimensional phase transitions of adsorbed molecules, book contrib. 1−7298
image field theory of enhanced Raman scattering by molecules absorbed on metal surfaces: Detailed comparison with experimental results 1−35055
incommensurate crystal, multicritical point near commensurate point *(Russian)* 1−30356
inelastic Mie scatt. on rough metal surfaces 1−21203
inert gas non-registered monolayer and bilayers solid films, coexistence, statistical mechanics 1−25570
laser-stimulated processes, adlayer-surface system, selective and nonselective excitations, dynamical model 1−21297
lead naphthenate, on metals, oxides, and sulphides, XPS study 1−31305
liquid He refrigeration system multilayer thermal desorption calc. 1−2828
metal islands, two-dimens., weakly adsorbed on substrate, equilib. geometries 1−2824
on metals, IR spectroscopic exam., optimum measuring conditions *(German)* 1−26296
methane, adsorbed, rot. motion 1−11972
methane, adsorbed on graphite surface, rot. tunnelling 1−7453
methane adsorbed on graphite, mobility obs. of two dimens. fluids behaviour 1−52416
methane bilayers adsorbed on graphite, orientational phases 1−8608
methanesulphonate adsorbed on Al_2O_3, inelastic electron tunnelling spectroscopy, theory 1−2816
methanol, chemisorption on polycryst. Al, UPS, XPS 1−21778
methyl isocyanide chemisorbed on Rh/Al_2O_3, IR spectrum 1−14902
molecular secondary ion emission from clean surfaces and adsorbed layers 1−31288
molecule, on metal surface, damping of vibrs. 1−7448
molecule, on plane metal surface, coupled system eigenstates 1−34573
molecules, on Ag island film, giant Raman scatt. 1−3399
molecules adsorbed at spherical particles, surface enhanced Raman scatt. 1−6263
molecules adsorbed on surfaces, exchange dipole mixing enhanced Raman effect 1−28974
molecules on plane metal surface, enhanced Raman scatt., surface plasmon mechanism 1−39093
monolayer, interaction with substrate, commensurable-incommensurable transition 1−7477
nucleotides adsorbed in Al-AlO_2-Pb tunnel junction surface, UV radiation damage, inelastic electron tunnelling spectra 1−4334
one-dimensional semi-infinite systems, study on surface states 1−3034
ordered lattice, Green function *(Russian)* 1−12162
ordered overlayer, on metal surface, differential optical refl. 1−8149
organic molecules, ^{13}C NMR spectra, quantum chemical interpretation 1−26060
organic molecules, on Al_2O_3, covered by rough Ag film, surface-enhanced Raman scatt., Ag molecule separation depend. 1−35035
organic molecules adsorbed on Ag and Au metal island films, Raman scatt. and fluoresc. 1−35047
organic molecules adsorbed on metal surfaces, Raman spectra 1−35054
partially localised adsorption, nonadditive hard disc model 1−2815
photoelectron diffraction, normal emission, surface struct. sensitivity, appl. to disordered overlayers 1−31302
physisorbed monolayers, struct. and phase transitions 1−7476
polystyrene, adsorption and metal surface, solvent power effect 1−42631
pyridine, on γ-Al_2O_3, interaction at low coverage, Raman obs. 1−52926
pyridine, on $Ag_{1-x}Pd_x$, surface-enhanced Raman spectra 1−16566
pyridine, on Ag, enhanced Raman scatt., surface plasmon mechanism 1−39093
pyridine adsorbed on Ag, coverage depend. of enhanced adsorbate Raman scatt. 1−39086
pyridine adsorbed on Ag film, surface enhanced Raman scatt., coverage depend 1−8150
pyridine adsorbed on Ag films, surface enhanced and disorder induced Raman scatt. 1−43127
pyridine adsorbed on Au, Ag and Cu electrodes, surface plasmon enhanced Raman scatt. freq. and angular resonance 1−35053
pyridine ion adsorpt. on Cu(Ag)(Au) electrodes, reson. Raman scatt. 1−39100
pyridine on Ag(111), surface-enhanced Raman scatt., surface-plasmon-polariton effects 1−11978
Raman scattering, surface enhanced, very low freq., involving surface-adsorbed molecules 1−35050
Raman scattering, surface roughness effects 1−24158
Raman scattering by adsorbed molecules, microscopic theory 1−35052
rare gas monolayer on Pd(100), photoemission 1−8200
scattering by adsorbed layer, adatom on lattice *(Russian)* 1−53042
spectroscopy, metal surface electrodynamics theory 1−25783
surface atomic geometries from angle-resolved photoemission 1−26361
surface diffusion, atomic jump rates and thermodynamics 1−38665
surface diffusion, density fluctuation autocorrelation functions 1−2818
surface diffusion const., coverage depend. 1−7472
surface processes, laser-stimulated, multiphoton-multiphonon theory 1−3544
tetraalkylammonium ion adsorpt. on Ag(Cu)(Au) electrodes, reson. Raman scatt. 1−39100
tetramethyltin, on graphite (0001), two-step melting in submonolayer region, Mossbauer obs. 1−16176
thermodynamic properties of adsorbed fluid phases, quantum corrections 1−47366
two-dimensional solids, lattice and continuum theories 1−52422
vibrations, inelastic electron scatt., many-body theory 1−12610
water, on silica gel, ESR of transition metal ion probe 1−47936
water monolayer adsorbed on silica, inelastic neutron scatt. 1−47371
Ag, on Si (111), electronic. struct., EELS meas. and band struct. calc. 1−7699
Ag overlayers, bulk plasmon excitation in electrorefl. spectra 1−3520
$Ag(CN)_3^{(x-1)-}$ complexes adsorbed on Ag electrode, Raman spectra correlations with voltammograms 1−34578
AgCl on Ag (100), overlayer to bulk halide transition 1−20571
AgCn adsorbed on Ag electrode, surface enhanced light scatt., background and CN stretch vibr. 1−35046
adsorbed layers continued
Al adsorbed on GaAs (110), bonding and adatom-adatom interaction 1−16172
Al adsorption on GaAs (110), angle-resolved photoemission study 1−39222
Al_2O_3-H_2O 1−21783
$Al(OH)_3$, hydrothermal modification, X-ray and thermographic investigation 1−21783
Ar adsorbed monolayer on BN, two-dimensional phase change at 77K 1−16170
Br, on Au(100), UPS study 1−12639
Br_2 adsorption on W(100) surface, LEED, AES study 1−20569
C adsorbed layers on W, field emission study 1−16667
C, on Ag (110), AES anal. 1−3546
C, on Ru (001), N_2O and O_2 adsorpt., dissoc. chemisorpt., Auger spectrosc. obs. 1−34566
CN, on Cu, surface enhanced Raman scatt. 1−8055
CO adsorbed on 304 stainless steel, ion-induced desorption cleaning 1−25559
CO adsorbed on Cu (100), vibr. lifetime 1−16180
CO adsorbed on Cu (100), isotopic mixture, collective vibr. modes, IR spectra 1−28971
CO adsorbed on Cu (111), relative coverage determ. using isotopic mixing, LEED 1−16181
CO adsorbed on Mo(100), dissociation, chemical evidence 1−26771
CO adsorbed on Ni (111), mol. vibr., slow electron inelastic scatt. study 1−15024
CO, adsorbed on PdAg, cluster formation in SIMS 1−31275
CO adsorbed on Pt electrode, potentiodynamic electro-oxidation, anodic current peaks 1−21732
CO adsorption on Ni (111), sticking probability, dipole moment and absolute coverage determ. 1−38656
CO, CO_2 adsorbed on GaP, GaAs, InP, interaction mechanisms, surface atomic structs., meas. 1−25578
CO, chemisorbed Al_2O_3-Ni, tunnelling vibr. spectrosc. obs. 1−42627
CO, chemisorbed on Cu(111) surface, IR spectra, dipole coupling effects 1−8054
CO, chemisorbed on Fe (110), angle-resolved photoemission 1−3575
CO, chemisorbed on Rh supported by Al_2O_3, IR spectra, temp. effect 1−8609
CO chemisorption on Ni clean and carbided surface, vibr. EELS study 1−38655
CO, coverage determ. by VUV reson. fluoresc. of laser-desorbed particles 1−30554
CO, on Cu, core-level XPS spectrum, MO cluster model study 1−53053
CO, on Cu (100), C-O stretching vibr. mode lifetime 1−7448
CO, on Cu (100), collective vibr. mode, inelastic electron scatt. study 1−16637
CO on Ni evaporated film, IR spectra, low temp. thermal detection technique 1−26209
CO, on Pt (111), EELS intensity ang. distrib. 1−48205
CO, on Ru (001), IR absorpt. spectrum 1−48093
CO, on vapour deposited Ag, enhanced Raman spectroscopy 1−25553
CO overlayer on Ni(111) and Ni(001), substrate depend. C(1s) shape reson. 1−21324
CO oxidation on Pt[9(111)×(100)], mol. beam relax. spectroscopy 1−8611
CO, thermodesorption from disperse metal, kinetic modelling *(German)* 1−52437
Cl on GaAs (110), two-dimens. band struct., angle-resolved photoemission spectra study 1−38828
Cl_2 on Ag (100), overlayer to bulk halide transition 1−20571
Cr overlayer on Fe and Ti, escape depth comparison between Auger electron and disappearance potential spectroscopy electron 1−26319
Cs, on W (110), registered phase obs. by RHEED and AES 1−34580
Cu, annealed and prebombarded surface, ion-induced desorpt. of adsorption layers 1−25557
Eu adatoms on (100) W, conc. depend. of lifetime and heat of adsorption 1−25574
Ga adsorbed on GaAs (110), bonding and adatom-adatom interaction 1−16172
Ga on Mo, W field evaporation, binding states 1−30570
GaAs (100) MBE surface props., H_2S adsorption effects 1−16175
GaAs-Ge (110) overlayer system, electronic struct., scatt. theoretic method 1−7697
H adsorbed on Cr (110), electron energy loss spectra 1−16638
H adsorbed on ZnO, accumulation layer CESR meas. 1−12400
H adsorbed on ZnO, broad line PMR meas. 1−12409
H atoms, adsorption on ^4He liquid surface 1−2733
H atoms adsorbed on frozen H_2 surface, ground state hyperfine resonance 1−1152
H covered TiC(111)Ti-terminated polar surface, electronic props. 1−42844
H, on amorphous Si, field effect meas. on film-substrate and film-vacuum interfaces 1−7622
H on Nb, electron-stimulated desorption imaging using cylindrical mirror analyser 1−30556
H on transition metal surface, adsorbate vibr. spectra, theory 1−16186
H, on W, indirect exchange interaction between adatoms on solid surface *(Japanese)* 1−38649
p-H_2, adsorbed on graphite, zero-temp. stability, liquid and superlattice phases 1−34568
H_2 adsorbed on Ta(Pt)(Si) surfaces, EELS detection 1−25561
H_2 adsorption on Ni(110) and Ni(100), LEED study 1−20575
H_2, coverage determ. by VUV reson. fluoresc. of laser-desorbed particles 1−30554
H_2 on Er, UPS study 1−39221
H_2 on Fe (110), (111), stepped (111) surfaces, LEED and thermal desorpt. study 1−11975
H_2 on P_2, thermally induced state conversion in low coverage states 1−20567
H_2O on Er, UPS study 1−39221
H_2O on Ge, effect on surface recomb. in 10^{-8} torr vacuum 1−30805
He, adsorbed system on inhomogeneous surface, surface phonon absorpt. 1−20502
He atoms, on graphite, effective interaction, sp. ht. 1−25523
^3He, adsorbed, partially spin polarised, apparatus for study of thermal props. 1−269
^4He films, superfluid transition study 1−25524
^4He over Ne monolayer on graphite, adsorption isotherms 1−34569

adsorbed layers continued
I, adsorbed on Ag(111), azimuthal depend. of angle resolved photoelectron diffr. 1−12638
In, two-dimensional condensed phases on Si(III) *(Japanese)* 1−30583
InP Schottky barrier, adsorbed layer influence 1−52642
Ir-W adatom pair interactions on W (110), FIM study 1−47376
Kr, on graphite, commensurate-incommensurate transition caused by instability to dislocation form. 1−42634
Mg adsorption on W (112) surface, film struct. and growth *(Russian)* 1−7475
N containing cpds. adsorbed on Ag, Raman spectra, voltage depend. of surface-molecule line 1−35051
N_2 adsorbed on Fe films, isotopic exchange 1−25571
N_2 on W(110), angle depend. valence photoemission spectra 1−8194
NH_3, chemisorption on Re, UPS, XPS, thermal desorpt. and work function study 1−17105
NO, chemisorption on Re, UPS, XPS, thermal desorpt. and work function study 1−17105
NO monolayer on graphite, polymorphism and melting 1−11974
Nb, surface chemisorbed coatings, secondary yield, XPS study 1−16168
Nb_3Sn, surface chemisorbed coatings, secondary yield, XPS study 1−16168
Ni, on W(100), work function 1−25791
O, chemisorbed on Ni, elastic interaction between adatoms, band struct. model 1−52432
O on Mo(100), surface EXAFS by photon stimulated in desorption 1−20562
O on Pd (100), vibr. hybridisation, LEED Debye-Waller anal. 1−16165
O ordered layer on Cu (110), He beam diffr. study 1−38652
O_2 films adsorbed on Grafoil, heat capacity meas. 1−11880
O_2, on Cu, crystallographic incident beam effects in AES 1−26317
O_2, on Cu (001), surface struct. determ. by angle-resolved SIMS 1−30537
O_2 on Er, UPS study 1−39221
O_2, on graphite, X-ray and heat capacity obs. 1−25565
O_2 on Ni(100), Cu(100), ion scatt. spectroscopy study in ultrahigh vacuum 1−52438
O_2, on porous glass, low temp. mag. susceptibility 1−34856
Pt, (111) surface, adsorbed C, O gas-surface interaction 1−39676
Pt complexes, square planar, adsorbed, inelastic neutron scatt. obs. 1−16190
S, adsorpton on Fe (110) surface, reconstruction, LEED anal. 1−52403
S, on Mo (001), overlayer struct., LEED anal., effect of CO adsorption 1−38660
S, on Rh (100) and (110), LEED crystallography, quasidynamic method 1−2790
S, submonolayer coverage on Cu, positronium thermal desorption thermodynamics 1−52632
Sb adsorbed on GaAs (110), bonding and adatom-adatom interaction 1−16172
Se on Ni (001), normal-emission photoelectron diffr., analogy with EXAFS 1−42636
Si (111)(6×1)-Ag surface structure, RHEED patterns, missing superlattice spots 1−2789
Sn on Mo, W, field evaporation, binding states 1−30570
Xe adsorbed on Ni, surface reflection of slow electrons, electron-exciton complex autoionisation zones *(Russian)* 1−34208
Xe, on Pd(001), photoemission and Auger energies, distance-depend. relax. shifts 1−26362
ZnO(10$\bar{1}$0) surface CO and H adsorption and interaction, UV photoemission obs. 1−17102

adsorption
see also heat of adsorption
acriflavine adsorbates in liquids, quenching by O_2, long-lived phosphoresc. 1−6308
adsorbate-adsorbate association, localised adsorption of gases on random heterogeneous surfaces, model 1−38667
adsorbed molecules on rough surfaces, enhanced Raman scatt., Mie, Rayleigh and Raman scatt. cross sections 1−6267
aerosols, of molecules, light absorption *(Russian)* 1−4125
Ag/KCl pyridine electrode, Raman spectra, depend. on Ag pot. and pyridine concen., adsorpt., desorpt. 1−17059
aluminosilicates, of Ag^0 atoms, ESR study 1−52839
amyl alcohol, adsorpt. parameters at soln.-air interface 1−52400
anion exchange resins, porous, adsorption isotherm studies of struct. 1−52081
annual review of physical chemistry (book) 1−9789
BET-like multilayer adsorpt. with interparticle interaction, activity series 1−42626
binary gas mixtures, adsorpt. kinetics on homogeneous solid surfaces, stochastic approach 1−34586
binary miscibility gap systems, Gibbs surface excess 1−47222
bond lengths, calc. from LEED data 1−34567
butyl alcohol, adsorpt. parameters at soln.-air interface 1−52400
coherent adsorbed layers, order-disorder phase transform. and adsorpt. isotherms 1−34570
controlled pore glass, silicone-coated, adsorption of detergents 1−31908
copper phthalocyanine crystal, NH_3 adsorption and $\alpha \rightarrow \beta$ phase transition obs. 1−11857
cyclohexane-aniline system, adsorption at liq.-vapour interface 1−7427
decohesion, adsorption at interfaces, influence of thermodynamics 1−11971
dipolar hard spheres, adsorption in presence of electric field, linearised hypernetted chain approx. 1−11647
dissociating molecules, adsorption kinetics, allowance for interaction between adatoms 1−25575
dynamically corrected transition state theory, effect of precursor state 1−47382
E glass fibres, production and charact. of materials having high sp. surface areas, by leaching 1−39298
electrochemical systems, adsorpt. phenomena 1−35548
electrode-electrolyte interface, double layer and adsorpt., nonlocal electrostatic approach, review 1−34769
Esin-Markov effect on energetically nonuniform surfaces 1−52645
film formation on weakly attractive substrate, lattice gas model 1−18172
fluid local densities at interfaces, Born-Green-Yvon approach 1−20515
Freundlich-type multicomponent adsorption isotherm 1−38646
gas, rigid rod-like molecules, statistical thermodynamics near surface 1−25563

adsorption continued
gas monolayer localised adsorpt. thermodynamics on heterogeneous surfaces with random topography sites 1−52418
gas-solid physical adsorption, uniform interpret., general isotherm eqn. 1−38622
gas-solid system with many physisorbed bound states, desorption by phonon cascades 1−38651
Gibbs' adsorption eqn. and Antonow's law 1−52399
graphite, adsorption of ehtylene, spreading press. and enthalpy 1−7450
graphite, of Ar, Kr, methane, two-dimens. condensation, adsorbate-adsorbent dimens. incompatibility effects 1−47387
graphite, of ethylene, surface excess meas., crit. region 1−7449
graphite, of Kr, Xe, methane, O_2, partially mobile and partially localised, adsorption isotherms 1−42638
graphite, of methane mol., translational and rot. behaviour, effective pairwise pot. 1−39680
graphite basal plane, He inelastic scatt., reson. lineshapes, physisorption features 1−39204
gravimetric adsorption measurements, estimation of errors 1−50106
heterogeneous gas-solid system, activation heat eqns. 1−30569
heterogeneous surface, thermodynamical value of adsorption of atoms *(German)* 1−53475
hexyl alcohol, adsorpt. parameters at soln.-air interface 1−52400
high pressure gases onto zeolite adsorbents 1−42628
hydrocarbons, rel. between polarisabilities and adsorpt. on activated C 1−35567
impurity adsorption from liquid stream by spherical particle, process and kinetics 1−48727
isoalloxazines, N_{10}-substituted, adsorption on BeO $(SiO_2)(Al_2O_3)$, quantum yields of fluoresc. and phosphoresc. *(Russian)* 1−4249
isothermal, nonlinear partial differential eqn. system, analytical soln. *(German)* 1−34587
kaolinite surface adsorbed water proton mag. relax. *(Russian)* 1−31056
kinetics, rate expressions, precursor states and lateral interactions 1−38662
laser microphotochemistry for solid-state electronics appls. 1−21747
liquid mixture with nonideal bulk phase and regular surface phase, adsorpt. model 1−16147
metal, adsorption and absorption of H_2, book contrib. 1−47389
metal, of CO molecule, image charge effect, HF calc. 1−2817
metal, of H, density functional formalism 1−2827
metal, of polystyrene, solvent power effect 1−42631
metal, thermodesorption of CO, kinetic modelling *(German)* 1−52437
metal cluster, absorption and adsorption of different atoms, quantum chem. treatment *(German)* 1−51334
metal single crystal surfaces, adsorpt., desorption and surface reaction, struct. and comp. effect, book contrib. 1−13039
metal surface, sound refl. from adsorbing gas 1−2792
metal surface, sticking probability, electron-hole-pair excitation contrib. 1−7463
metal surface capacity absorpt., after ion bombardment *(Russian)* 1−35138
metal/solid electrolyte interface impedance 1−42571
metals, electric-spark doping, adsorption phenomena influence *(Russian)* 1−47100
metals, of inert gases, work function and bonding energy 1−47724
metals, surface recombination rate constant for H isotopes 1−7461
molecular crystals, surface impurity, meas. of luminesc. polarisation, mol. orientation determ. 1−52986
molecules, adsorbed, vibr. struct. determ. using inelastic tunneling spectroscopy, book contrib. 1−10796
monomolecular adsorption isotherms 1−16169
multicomponent mixtures on solid surfaces, kinetics and equilib. state, review 1−7474
multicomponent solution of similar size mols., lattice model of surface layer 1−20512
multicomponent systems, analysis of chemisorption 1−42632
nickel phthalocyanine crystal, NH_3 adsorption and $\alpha \rightarrow \beta$ phase transition obs. 1−11857
nickel phthalocyanine films, quantum efficiency increase by O adsorption 1−25758
nitrobenzoic acids, semiconductive props., adsorpt. effects 1−12109
oxide surfaces, IR studies adsorption from soln. 1−21217
oxides, of O_2, adsorboluminescence and adsorboemission 1−38670
partially localised adsorption, nonadditive hard disc model 1−2815
phenylazonaphthylamine, interactions with layer silicates surfaces, spectrosc. obs. 1−39122
polymer, from dilute solutions, macrochain flexibility influence 1−53464
polymer C, adsorpt. of isooctane and α-pinene 1−35568
polystyrene, comb-branched, adsorption onto metal surface, ellipsometric study 1−2811
polystyrene spherical particles, n-hexane type II diffusion 1−52352
porous materials, gas-adsorbate, collision effects, surface diffusion 1−2069
porous materials, surface area and pore size determ., volumetric and gravimetric meas. methods 1−47375
porous media, mixed gas adsorption, mass transfer kinetics, theory 1−38668
PTFE, adsorpt. of hexane, heptane and kerosene, influence of stresses 1−38666
pyridine, on Ag electrode, surface enhanced Raman spectrosc., overtones 1−52932
pyridine on SiO_2-Al_2O, energy distrib., regularisation and characterisation of adsorption isotherms 1−7459
quantum mechanical models for the interaction of a simple adsorbate with a solid surface *(German)* 1−11977
reactive species, gas-solid chromatography and reversible adsorption 1−31926
riboflavin, adsorption on BeO $(SiO_2)(Al_2O_3)$, quantum yields of fluoresc. and phosphoresc. *(Russian)* 1−4249
rotating body in liquid with surfactant layer, resistive torque 1−42057
secondary ion emision in production of adsorbate mol. complexes *(Russian)* 1−53041
deep-sea sediments of N.Equatorial Pacific, adsorption rel. to Ra, Th, U and ^{210}Pb in sediments and pore water 1−44163
silica gel, of N_2 and methane from H_2, temp. effect −129° to −101°C 1−52439
solid, of gas, thermodynamic characteristics determ. using computer program 1−43701
solid surface, of gas, quantum statistical theory 1−16187
solid-electrolyte interfaces, nontraditional approaches, review 1−34575
solution, adsorption kinetics at deformable liq. interface 1−47329

adsorption continued
stainless steel plasma walls, adsorption and absorption processes 1−30555
steel, alloy, contact life reduction under action of media 1−3996
steel, austenitic stainless, friction and wear, H adsorpt. influence 1−35399
steel, austenitic stainless, inhibition effect of 4,7-diphenyl-1,10-phenanthroline spectro-electrochem. studies 1−48557
steel, stainless, monodispersed haematite particle interactions, depend. on pH, flow rate, temp. and additives 1−35580
steel plates, adsorpt. and hysteresis behaviour of crack-detecting liq. penetrants 1−47374
stepped surfaces, lattice gas models 1−47384
styrene-divinylbenzene copolymers, porous, adsorption isotherm studies of struct. 1−52081
surface sticking probability and coverage determ., geometrical factor correction 1−2829
surface structure formation modelling, by means of floating magnets 1−2791
surface tension measurement by drop volume and max. bubble press. methods, diffusion-controlled adsorption kinetics soln. 1−38623
temperature dependence, thermodynamic analysis, isoergs concept, isotherm eqn. 1−38647
transition metal surfaces, adsorption of CO, NO and N_2, thermodynamics 1−30544
transition metals, of CO, binding and dissociation, calc. 1−42635
transition metals, of CO, XPS, UPS and AES study 1−16182
transition metals, of H atoms, adsorbate vibr. spectra, theory 1−16186
3d transition metals, of O_2, combined SIMS, AES, and XPS study 1−30572
trapping probability as function of energy and angle of incidence 1−11976
turbomolecular and diffusion pump systems compared 1−275
unsteady dispersion flow in porous media 1−29769
water solution interface, of aliphatic alcohols, hydrocarbon chain-length and solvent depend. *(French)* 1−52396
zinc phthalocyanine crystal, NH_3 adsorption and $\alpha \rightarrow \beta$ phase transition obs. 1−11857
Ag (100), of Cl_2, AgCl, overlayer to bulk halide transition 1−20571
Ag (111), Pb monolayer and bulk deposition, ultrahigh vacuum and electrochem. cell 1−20594
Ag, colloidal particles, of CO, surface enhanced Raman spectroscopy 1−45969
Ag electrodes, halide ions (air) organic impurities adsorption, surface enhanced Raman spectra 1−48056
Ag electrodes, of EDTA disodium salt and NO_3 ions, surface enhanced Raman scatt., photochemical reaction 1−8605
Ag, of benzene-d_0($-d_6$), surface-enhanced Raman spectrosc. 1−35022
Ag, of C, tunnelling struct., ultrahigh vacuum, Raman obs. 1−16559
Ag, of CN^- ions, elec. variable and adsorpt. isotherm calcs. 1−52434
Ag, of O_2, XPS, UPS ,and X-ray Auger spectra study 1−31303
Ag, polycrystalline surface, of 2,6-lutidine, surface enhanced Raman spectrum, vibrs., mol.-surface interactions 1−28979
Ag, roughened surface enhanced Raman scatt. by plasmon enhancement of EM fields 1−43105
Ag single crystal surface, adsorbate struct. using reflectance spectroscopy 1−34579
Ag sols, pyridine (halide ions) adsorpt., enhanced Raman scattering 1−31913
Ag surface enhanced Raman scatt. from halides and pyridine vibrs. 1−52930
Ag surface enhanced Raman spectrosc. of pyridine, surface complex form. 1−52931
Ag-Cu-Pb melt, surface props. calc. using lattice model 1−20511
Al, clean and oxidised, adsorption of NH_3, UPS and XPS study 1−3577
Al surface interaction of O_2, secondary electron spectroscopy and EELS study 1−48206
Al-Al_2O_3-Al tunnel junction, adsorption of benzoic acid, IETS intensity, surface coverage depend. 1−47359
Al_2O_3-ZrO_2-SiO_2 glass, alkaline durability and struct. determ. 1−31699
Au (100) reconstructed surface, adsorption of Br_2, LEED, thermal desorption, and work function meas. 1−7468
Au, adsorption of ^3He or ^4He, binding energy meas. by dynamic gas diffusion technique 1−42604
Au, roughened surface enhanced Raman scatt. by plasmon enhancement of EM fields 1−43105
Au sols, pyridine (halide ions) adsorpt., enhanced Raman scattering 1−31913
Au with submonolayer Ag deposits, Raman intensity enhanced from adsorbed pyridine and cyanide 1−35049
BN, of Ar, Kr, methane, two-dimens. condensation, adsorbate-adsorbent dimens. incompatibility effects 1−47387
BN, of methane, partially mobile and partially localised, adsorption isotherms 1−42638
$BaO.6Fe_2O_3$, synthesis by reaction of β-FeOOH with $BaCl_2$ solns. 1−35515
Be (0001), of H, surface relax. and induced stress, SCF MO cluster calcs. 1−38659
C, activated, of N_2 and methane from H_2, temp. effect −129° to −101°C 1−52439
C, amorphous substrate, of heavy atoms, motion and distrib., STEM obs. 1−25566
C beds for adsorption of organic solvent vapours, IR obs. 1−28972
CO, adsorption and desorption rate on Pt(110), coverage determ. 1−8610
CO, physisorbed on Al(111), photoemission 1−6320
CO_2, solid, of N_2, cryosorption 1−52415
CaO, charact. of porous particles formed by decomp. of $CaCO_3$ and $Ca(OH)_2$ in vacuum 1−3678
CdS, electron stimulated adsorption of O_2, surface activation and preferential binding, AES and PS study 1−2820
CdSe(Te), of O_2, EELS, AES and LEED study of surface props. 1−7687
Ce, of D_2O, X-ray photoelectron study, comparison with oxidation by O_2 1−8613
Co (0001) surface, oxidation, temp. depend., LEED-ASE study 1−34581
Co oxides, textural props., N adsorpt. 1−38636
Cu (001), dissociative adsorption of Br, angle-resolved photoemission study 1−48237
Cu (110), ordered adsorbed O layer, He beam diffr. study 1−38652
Cu (111), adsorbed CO, relative coverage determ. using isotopic mixing, LEED 1−16181
Cu (111) adsorption of S, electron and positron workfunction correlation 1−25792

adsorption continued
Cu (210), faceting by activated N_2, LEED, RHEED, and AES study 1−7469
Cu, adsorption of ^3He or ^4He, binding energy meas. by dynamic gas diffusion technique 1−42604
Cu electrode, of pyridine, surface enhanced Raman scatt. 1−12484
Cu, of acetylene, Hartree-Fock-Slater-LCAO studies, cluster models 1−52430
Cu, of CO, EELS study 1−35137
Cu, of I_2, on (111) and (100) surfaces, EXAFS obs. 1−25564
Cu, roughened surface enhanced Raman scatt. by plasmon enhancement of EM fields 1−43105
Cu-H_2SO_4 boundary, in situ photoemission spectra study, adsorpt. effects 1−35149
Cu-Sb (0.15 at.%), inner adsorption and collection recrystn., temp. depend. *(Russian)* 1−8315
Cu-Ti(Cr)(Mn)(Fe)(Co)(Ni), intercrystn. internal adsorpt., lattice constants *(Russian)* 1−47044
Cu(100), of O_2, ion scatt. spectroscopy study in ultrahigh vacuum 1−52438
Er, clean and under H_2 and O_2 exposure, EELS study 1−48204
Er, UPS after exposure to O_2, H_2, H_2O 1−39221
Fe, cast, influence of additions on adsorption of unwanted impurities *(Russian)* 1−31465
Fe, cluster, SW-X_α-SCF calcs. *(German)* 1−51333
Fe, H absorption affected by He, Fe and Pt implantation 1−7458
Fe, of acetylene, Hartree-Fock-Slater-LCAO studies, cluster models 1−52430
Fe, of CO, effect on Auger electron appearance potential spectra *(Japanese)* 1−39184
Fe, of H_2 on (110), (111), stepped (111) surfaces, LEED and thermal desorpt. study 1−11975
Fe, strengthening and loss of strength kinetics in adsorption fatigue 1−35376
Fe surface in Na-Hg, Zn impurity adsorption 1−48728
$Fe_2O_3.H_2O$, amorphous, multiple-site adsorption of Cd, Cu, Zn and Pb 1−39677
GaAs (110), of Al, angle-resolved photoemission study 1−39222
GaAs (110), surface states, optical detection at energies above gap, H_2 and O_2 exposure effects 1−52626
GaAs (110) surface, O_2 adsorption, photoemission obs. 1−16173
GaAs (111) B epitaxial films, adsorption of Cs and Cs+O, ellipsometric obs., photocathode sensitivity 1−30547
GaAs {100} MBE layers, of H_2S, stoichiometry effects 1−7439
GaAs epitaxial layer, growth, mech. in hydride method with trimethylgallium 1−38315
GaAs surface, C free, prep., AES and RHEED study 1−48539
GaAs surface charging during adsorpt. of various molecules 1−7454
n-GaAs/electrolyte photoelectrochemical system, surface charge and specific ion adsorption effects 1−42858
GaAs(P) of CO, CO_2, interaction mechanisms, surface atomic structs., meas. 1−25578
Gd-Fe(Co) amorphous thin films, perpendicular anisotropy effect, influence of O_2 adsorption 1−38926
Ge, field-emission props., O adsorption influence 1−3582
Ge, of H_2O and D_2O, slow surface states, charge exchange, isotope effect 1−42845
Ge photocathode, field-emission and spectral charact., adsorption phenomena effect 1−12621
Ge surface interaction with S vapour, mol. processes, etching, sulphide film form. 1−38669
Ge-electrolyte surface barrier height, ferrocene group addition effects 1−34790
H_2O adsorption on metal surfaces, LCAO calcs. 1−34576
He, superfluid, of H(spin down) gas, adsorpt. energy and surface recomb. rates 1−47320
^4He surface, adsorption of spin-polarised D, stabilisation and density limitation 1−2735
InP, of CO, CO_2, interaction mechanisms, surface atomic structs., meas. 1−25578
Ir (110), coadsorption of H_2 and CO 1−7466
Ir(110)(1×2) reconstructed surface, adsorption of water, LEED, XPS, contact pot., and thermal desorption meas. 1−38663
KCl window damage by 10.6 μ short-pulse CO_2 laser, adsorbed water effect 1−29314
^{85}Kr, storage, adsorbed on activated charcoal, pressurised cylinders *(French)* 1−10447
$LaCoO_3$, of CO, 113-773K, IR obs. 1−20572
$LaCoO_3$, of O_2, 113-773K, ESR obs. 1−20573
$(La_{1-x}Sr_x)MnO_3$ $(0.1 \leq x \leq 0.5)$, water adsorption effect, elec. resist. *(Japanese)* 1−42639
Mg, of H_2, on (0001) surface, mol. dissoc., pot. energy surface calcs. 1−42633
MgF_2 film, porous, tensile stress due to adsorpt. of water vapour 1−7496
MgF_2 interference coating, moisture content determ. by IR spectroscopy, vac. annealing effect 1−52414
Mo (001), adsorbed S, overlayer struct., LEED anal., effect of CO adsorption 1−38660
Mo (100), clean and oxidised surface, adsorption and decomp. of trimethylamine 1−52429
Mo (100), surface electron energy spectrum by positron annihilation method, adsorbed gases effect 1−25788
Mo (110), growth of Au, Stranski-Krastanov mode, AES study 1−2825
Mo(100)-C, carbide adlayer effects on N_2, H_2, ethylene, CO adsorption-desorption kinetics 1−20568
Na_3AlF_6 interference coating, moisture content determ. by IR spectroscopy, vac. annealing effect 1−52414
NaCl (001), high-resolution H atom scatt. 1−16646
NaCl window damage by 10.6 μ short-pulse CO_2 laser, adsorbed water effect 1−29314
Nb (110), adsorption/absorption of H_2, angle-resolved photoemission study 1−3568
Nb_2C coatings, direct electron-beam vaporised, emission-adsorpt. props. in Ba-containing stream 1−35450
Ni (100), clean and S-covered, adsorption and reactions of methanol 1−53471
Ni (100), interaction with O_2, XPS, LEED, and SIMS study 1−30573
Ni (100), of H, EELS and secondary electron emission spectroscopies 1−3549
Ni (110), adsorbed of H_2, surface corrugation determ. 1−25568
Ni (110), of CO, IR ellipsometric spectroscopy study 1−8078

adsorption continued
Ni (110), of ethylene, carbidic monolayer form., oxidation 1−39683
Ni (110), of O_2, surface reaction with H_2, LEED, AES, and mass spectroscopic study 1−30545
Ni (111), adsorption of O, dynamical motion of atoms, continued fraction method 1−25549
Ni (111), of CO, sticking probability, dipole moment and absolute coverage determ. 1−38656
Ni (111), of Ni, work function meas. 1−2823
Ni (111) cryst. with small angle boundaries, CO adsorption, S poisoning effects 1−20570
Ni (210), faceting by O_2 and activated N_2, LEED, RHEED, and AES study 1−7469
Ni, of acetylene, dissoc., fragments, Hartree-Fock-Slater-LCAO calc. cluster models, UPS spectra 1−52431
Ni, of CO, on clean and carbided surface, vibr. EELS study 1−38655
Ni, of CO and N_2, core photoionisation of adsorbates, many-body effects, CNDO formalism 1−39223
$Ni-O_2-H_2$ surface reactions, SIMS study 1−31912
NiO, donor and acceptor chemisorption of NO and CO, XPS study 1−39220
Ni(100), of O_2, ethylene, ion scatt. spectroscopy study in ultrahigh vacuum 1−52438
Pb adsorption on Ag substrate during deposition 1−30571
Pd (100) surface, of H_2, thermal desorpt., work function and LEED study 1−16183
Pd, cluster, SW-X_α-SCF calcs. *(German)* 1−51333
Pd, evaporated crystallites, adsorption and catalytic oxidation of CO 1−39681
Pd, of CO, adsorption and desorption meas., photoelectron and electron energy loss spectra obs. 1−7457
Pd-Au, interaction of O_2 and H_2, AFS and XPS study 1−47380
Pd-H films, pressure-conc. isotherms and resist. props. 1−20554
$Pd-SiO_2$-Si MIS devices, gas effects on interface state spectrum 1−38864
Pt (100), of H_2, reconstructed phase surface struct., LEED study 1−2819
Pt (110), of NO, EELS, LEED, AES, and thermal desorption study 1−38661
Pt (111), coadsorption of I and Cl, LEED and AES study 1−25573
Pt (111) surface, of acetylene, EHT study 1−16185
Pt, adsorption-desorption characteristics of CO, O_2, H_2, flash desorption spectroscopy study 1−38654
Pt, of CO, electron stimulated desorption study 1−38653
Pt, of CO, potentiodynamic electro-oxidation, anodic current peaks 1−21732
Pt, of gases and deposits on single cryst. faces, charact. electron energy loss spectra *(French)* 1−52419
Pt, of H_2, thermally induced state conversion in low coverage states 1−20567
Pt, of methanol, on platinised electrodes, surface prep. technique effects 1−52435
Pt, of O_2, electron stimulated desorption study 1−47378
Pt single crystal surface, adsorbate struct. using reflectance spectroscopy 1−34579
Re, of NO, XPS study 1−35152
$Rh/SiO_2(TiO_2)$, of H_2, CO, and NO, catalytic reduction of NO by CO 1−26766
Ru (0001), electronic struct. of carbidic and graphitic overlayers 1−52637
Ru (001), co-adsorption of NO and H_2, adsite symm. and vibr. struct. 1−30550
Ru (001), of NO, work function, thermal desorption, and LEED study 1−11982
Ru, of $O_2(N_2O)$, on C-covered (001) surface, dissoc. chemisorption, AES obs. 1−34566
$Ru(bipy)_3^{2+}$ sensitiser, role of adsorpt. on colloidal TiO_2 particles in H_2O photochemical cleavage by catalysis 1−35663
Si (001) reconstructed surface, multilayer distortions, effect of H_2 adsorption, ion scatt. study 1−34559
Si (111), adsorption and initial film growth of Bi, first adlayer struct. effect on sticking coeff. 1−47386
Si (111), adsorption sites and relative stabilities of 3×1 and $\sqrt{3}$ phases of Ag 1−7471
Si surface, of metals from aq. electrolytes, capacity, photocapacity and current pot. of interface *(Russian)* 1−2830
a-Si:B(P) film, adsorption effects on ESR and elec. cond. 1−21050
Si:H, amorphous, determination of the density of gap states: field effect and surface adsorption 1−30613
n-Si/electrolyte photoelectrochemical system, surface charge and specific ion adsorption effects 1−42858
Si-electrolyte, surface barrier height, ferrocene group addition effects 1−34790
SiO_2 MOS structure, electrophys. parameters, influence of H_2O absorpt., TCD technique *(Russian)* 1−47373
SiO_2, of 1-hexene, stabilised H and D atoms during radiolysis, ESR study 1−4110
SiO_2, of polyoxyethylene, electrokinetic pot. and surface charge effects 1−39649
SiO_2, of water, multilayer adsorption model and surface solute theory 1−25554
SiO_2, soluble, adsorption at solid-aqueous soln. interface, electrokinetic study of leaching from glass 1−48746
SiO_2, surface cluster, adsorption and surface reaction, quantum chem. calcs. *(German)* 1−53474
Si(100) and (110), surface states and O_2 adsorption, reflectometric study 1−8095
Si(111) 7×7, $L_{2,3}$ VV Auger spectrum lineshape, changes induced by adsorption and ion bombardment 1−8171
Si(111), adsorption and desorpion of CO and O_2, ion scatt. spectroscopy study 1−8181
SnO_2, hydrated, prep. by sol-gel method, pore struct., adsorption-desorption obs. 1−39675
Ta surface, ionisation of K, O_2 effect, thermionic emission, Auger spectrosc. obs. 1−26356
ThO_2-UO_3 sol-gel process, role of U(VI) 1−28682
Ti alloys, gas saturation, H purity and pressure influence 1−35378
Ti coated plasma walls, H adsorption and absorption processes 1−30555
Ti film, CO and H_2 impurity adsorpt. and desorpt., ISS obs. 1−25560
TiB_2 coatings, direct electron-beam vaporised, emission-adsorpt. props. in Ba-containing stream 1−35450
$TiC_{0.72}$ coatings, direct electron-beam vaporised, emission-adsorpt. props. in Ba-containing stream 1−35450
TiO_2 supported on alumina, of Co in high temp. water 1−53468

adsorption continued
Ti(0001), H-bonding, site and nature, UPS results anal. 1−3038
V_2O_5, amorphous, splat cooled, V^{4+} Brownian motion after water vapour adsorption, ESR study 1−38975
W (100), of H, LEED and angle-resolved electron stimulated desorption, temp. depend. 1−25572
W (110), of O_2, EELS, AES, LEED, and work function meas. 1−12614
W (110) and (111), adsorption of Cs, image potential allowance 1−25576
W (110) and W (111), of Cl, surface ionisation mechanism, thermal desorption, work function, and LEED meas. 1−2826
W (112), desorption and adsorption kinetics of Cs ions using spherical thermionic electron projector 1−30546
W coadsorption of La and B, work functions and field emission patterns *(Japanese)* 1−52420
W, coadsorption of N_2O, N_2, and O_2, flash desorption mass spectra study *(Japanese)* 1−38650
W field emitter, S adsorption 1−8603
W field emitter tip, adsorpt. of Sb, surface self-diffusion modifications 1−42630
W, of Ag, AES and LEED 1−42625
W of Cu, work function variation, field emission microscopy study 1−34585
W, of Eu, adsorbed atom lifetime, conc. depend., flux modulation method 1−25577
W, of N_2-O_2 mixture, field emission microscopy study 1−20561
W(100) surface, of Br_2, LEED, AES study 1−20569
Zn, elec. double layer struct. on (0001) face 1−53433
Zn film, ultra-high vac. deposited, initial oxidation kinetics 1−7465
Zn, of thiourea, on single cryst. electrodes, AC capacity meas. 1−52433
Zn-electrolyte interface, electrochem. oxidation, electron states, photocurrent study 1−35546
ZnO (10$\bar{1}$0), physical adsorption and thermal desorption of CO_2, CO, O_2, Xe, and H_2 1−7467
ZnO (40$\bar{4}$1) surfaces, anion vacancies chem. props., adsorption of O_2, methanol, and CO_2 1−34558
ZnO, adsorption of H, accumulation layer CESR meas. 1−12400
ZnO, adsorption of H, broad line PMR meas. 1−12409
ZnO cleaved surfaces, work function, surface cond., annealing and H adsorpt. effects 1−20849
ZnO, of CO, on (10$\bar{1}$0) surface, bonding geometry, angle-resolved UV photoemission obs. 1−12622
ZnO surface electronic struct., intrinsic defect effects 1−34761
ZnS interference coating, moisture content determ. by IR spectroscopy, vac. annealing effect 1−52414
n-ZnSe/electrolyte junction, electrolum. under anodic polarisation, adsorpt. effects 1−16360

aerials *see antennas*

aerodromes *see airports*

aerodynamics
see also hypersonic flow; jets; shock waves; supersonic flow; transonic flow; turbulence; wind tunnels
aerofoil, lenticular, inflated, thin, flow past at zero angle, of incidence 1−11419
aerofoil, transonic flow with embedded shocks, integral equation calc. 1−2014
airfoil cascades, hybrid problem, variational principles 1−33974
arbitrary discontinuity decay on curvilinear surface 1−51798
asymmetrically deformed body in nonstationary supersonic motion, aerodynamic characteristics 1−51804
atmospheric flows, quasisteady, lateral boundary conditions 1−11418
axisymmetric resonance tube, jet excited, aerothermodynamic aspects 1−46776
boundary-value problems, time-space boundary element formulation 1−40654
centrifugal fan impellers, comparison, mass flow rate, turbulence 1−29715
channel with permeable walls, flow past slender profile 1−51799
circular cylinders in cross flow, lower mode response, vortex shedding, wakes 1−42062
corners, symm. external axial, flow, numerical calc. 1−2020
dalembertometer for noise source study in air jets 1−14175
data processing system, basic program *(Russian)* 1−40882
delta wing, piecewise planar, supersonic leading edge, undersurface pressure distrib. calc. 1−19746
diabatic gas flows, physical and geometrical properties 1−11417
discrete vortex method for the non-steady separated flow over an airfoil 1−46788
finite aspect ratio wings, sonic speed, matched asymptotic expansions method calc. 1−19741
force and moment meas. with strain-gauge scales and electronic meas. equipment 1−5304
gas, polytropic, free expansion modelling, self-similar flows with uniform velocity gradient 1−2011
gas, viscous, thermally conducting, turbulent mixing in Laval nozzle, three models 1−2056
gas dynamics, entropy rate admissibility criterion 1−44864
gasdynamic shock or detonation waves, discontinuous solns. 1−29721
isotopes and mixtures, aerodynamic separation by Jet Membrane process 1−45716
jet, round, vel., turbulence intensity meas. by laser velocimeter, exit Mach number, temp. effect 1−2042
jets, liquid, injection in supersonic flow, angle effect, wind tunnel study 1−2043
lifting surfaces in unsteady flow, general shaped finite elements 1−29713
multiple-component strain-gauge scales for expt. aerodynamics, study of force interactions, dynamic model 1−6907
nonlifting airfoils, effect of specific heat ratio on two-dimensional transonic aerodynamics 1−46769
plate aerodynamic charcts. in rarefied gas flow, accommodation coeffs. 1−19755
Possio's kernel reformulation, unsteady wind tunnel interference appl. 1−19850
shock wave, strong, transonic small disturbance theory appl. 1−2015
slotted airfoil, unsteady lift caused by vortices shed into wake 1−1989
slotted wind tunnel, viscous crossflow 1−19804
smoke flow visualisation of pattern around shrouded cylinder 1−11420
sonic gas flow, load on surface of slender body executing axisymmetric vibrations 1−51795
sound generation due to slotted trailing edge 1−6852
sound radiation from vortex systems 1−51767
spherical cavity collapse, asymptotic flow 1−51797

aerodynamics continued
subsonic flow, transverse, past circular cylinder 1−51800
supersonic aerodynamic braking characts. and attitude stability, force test in blowdown type wind tunnel, Mach number 2 *(Japanese)* 1−33975
supersonic cascade in complex mode, aerodynamic anal. 1−2023
supersonic power plant intake, performance simulation on hybrid computer 1−19745
turbulent boundary layer, displacement thickness fluctuations 1−37960
unsteady thin airfoil theory, aerodynamic coeffs. 1−15505
wake splitter plate, influence on aerodynamic characteristics of 2-D cylinder 1−33962
wing, rectangular, vortex intensity *(Russian)* 1−51801
wings, low freq. and small perturbation eqn. for transonic flow 1−46771
N_2 ions, energy accommodation coeff. 1−46768
Xe gas, shock wave, ionisation instability 1−42070

aeronomy *see meteorology; terrestrial atmosphere; upper atmosphere*

aerosols
see also foams
anisokinetic sampling of aerosols at a slot intake 1−48751
artificial fog, laser beam transmission growth, evaporation and sedimentation effect modelling 1−19262
asbestos fibres collected on membrane filters, new technique for scanning electron microscopy 1−26867
atmoshere, effect of aerosols on remote sensing of Earth surface nonhomogeneity 1−44299
atmosphere, acidity of marine and continental aerosols 1−13530
atmosphere, aerosol characts. influenced by rainfall, N.Florida, USA 1−54168
atmosphere, aerosol concs. and size distribs. at S.Pole 1−9235
atmosphere, aerosol contrib. to Fraunhofer lines filling in 1−54238
atmosphere, aerosol deposition vel. into Pacific and Atlantic, by ^{7}Be data 1−13513
atmosphere, Arctic haze, particle size distrib. and optical props. 1−9231
atmosphere, CC H_2SO_4 aerosol haze episodes over St. Louis, Missouri, USA 1−13201
atmosphere, climate change model affected by changing aerosol conc. 1−17686
atmosphere, diameter <1 μm, collection by columnar ice crystals in clouds 1−22451
atmosphere, diameter >1 μm, collection by simple ice crystal plates 1−22452
atmosphere, droplet evaporation retardation by air pollutants 1−17639
atmosphere, dry deposition vels. for particles and gas, summary 1−21946
atmosphere, effect of aerosols on standard visual range prediction at high relative prediction 1−49383
atmosphere, elemental composition at remote S.Hemisphere site in Bolivia 1−17640
atmosphere, enrichment of trace elements in remote aerosols 1−27228
atmosphere, extinction coeffs. in Lagos, solar radiance obs. 1−4596
atmosphere, formaldehyde in aerosol, obs. of marine and continental air 1−13503
atmosphere, from Mt. St. Helens 1980 eruption, aerosol struct. from lidar obs. 1−40156
atmosphere, H_2SO_4 layer in stratosphere, increase since 1960, over Wyoming 1−8780
atmosphere, H_2SO_4 particle neutralisation by reaction with NH_3 1−36033
atmosphere, haze effect on UV radiation received in New York 1−44267
atmosphere, HNO_3 and NH_3 aerosol composition, calcs. of equilib. partial press. 1−13504
atmosphere, ion-induced nucleation of water vap. at mesopause 1−9217
atmosphere, IR absorption spectra,. substance identification *(Russian)* 1−40191
atmosphere, laser beam propag., extinction and imaginary index 1−9250
atmosphere, light scattering, of red light, in stratified stratosphere *(Russian)* 1−32516
atmosphere, monsoon region, diurnal and seasonal variation fo elec. and condensation nuclei 1−9229
atmosphere, n-alkanes in Indian Ocean air, of oceanic origin 1−4552
atmosphere, nitrate particle detection method, based on obs. on individual particles 1−4234
atmosphere, nitrate particle formation in plumes from oil refinery 1−13203
atmosphere, optical, chem. and phys. props., over Antarctic ice sheet 1−17641
atmosphere, particle deposition vel. predictions on natural water 1−21947
atmosphere, particulate shapes for aerosols collected in cascade impactor 1−9236
atmosphere, Prigogine diffusion theorem appl. to transfer processes, governing theoretical concept 1−4558
atmosphere, remote sensing, light scatt. techniques survey 1−13616
atmosphere, S aerosol transport across Sweden 1−54224
atmosphere, scavenging of aerosol particles by precipitation 1−22430
atmosphere, sea salts and S budget 1−44250
atmosphere, size and height distrib. in stable atmos., model 1−9230
atmosphere, size distrib. in stratosphere 1−54183
atmosphere, spectral absorpt. of solar radiation *(Russian)* 1−32518
atmosphere, stratification of aerosol in stratosphere *(Russian)* 1−32494
atmosphere, sulphate aerosol production in plumes from coal-fired power stations 1−13202
atmosphere, sulphate aerosol rel. to sea breezes in Tampa Bay, Florida 1−4583
atmosphere, trace gases and aerosols, conf., Aug. 1979, Boulder, Colorado, USA 1−9762
atmosphere, turbidity factor in Moscow for various wind speeds and directions 1−22495
atmosphere, volcanic dust injected into stratosphere, by vulcanian eruption column 1−36030
atmosphere, volume aerosol scatt. coeff. from turbidity coeff. meas. above 30 km *(Russian)* 1−13568
atmosphere aerosol, optical absorpt. const. of suspended particulate matter as air pollution index 1−53738
atmosphere aerosol in Great Smoky Mountains, characterisation 1−53732
atmosphere aerosol size distribs., Chebyshev approach 1−49321
atmosphere aerosols and global climate 1−49349
atmosphere aerosols stationary coagulation, power solns. of kinetic eqn. *(Russian)* 1−9208
atmosphere boundary layer wind velocity profile from aerosol content obs. with lidar technique 1−22529
atmosphere distribution in St. Louis urban area from Sun photometer obs. 1−22423

aerosols continued
atmosphere extinction, vertical aerosol optical depth rel. to calibration of spectrum of α Lyrae (Vega) 1−13771
atmosphere marine aerosols, sulphate enrichment owing to biogenic gaseous S compounds 1−40173
atmosphere particulate pollutants, inorganic compounds speciation using Fourier transform IR spectroscopy 1−26866
atmosphere respirable particle sampling by inclined surface impaction 1−21960
atmosphere sulphate aerosol concs., (1963-1978), in E.United States, seasonal and episodic trends 1−53730
atmospheric aerosol particle investigations, Pb and Br conc. anal. *(German)* 1−54195
atmospheric aerosol remote sensing problems, light scatt. by irregularly shaped particles versus spheres 1−6487
atmospheric aerosols, adsorption of molecules, light absorption *(Russian)* 1−4125
atmospheric aerosols, effect on radiation balance in Earth's atmosphere and climate 1−13501
atmospheric laser transmission, influence of meteorological parameters 1−13573
atmospheric light propagation degradation *(Italian)* 1−40179
atmospheric refractive index estimation 1−36064
atmospheric soot, air sampler to meas. elemental C content 1−4236
backscattering of intensity-modulated optical radiation 1−22494
Boston urban aerosol sources, quantitative determ. 1−35727
characterisation, by at. absorpt. spectrosc. using pneumatic concentric nebuliser 1−50218
charged aerosol flow through pipe bend, deposition anal. 1−21790
charged aerosol flow through two-dimensional bend, deposition 1−21789
climatic effects, radiative-convective model calcs. 1−22408
coagulation in high-intensity acoustic fields, effect of turbulence 1−24774
coal ash droplets in combustion flows, laser transmission for sauter mean dia. meas. 1−19839
combustion chamber, forming aerodisperse system flow through nozzle, momentum losses 1−46822
condensation nucleus counter capable of counting single particles 1−21786
convective deposition rel. to Knudsen number 1−2070
copper acetyl acetonate, ice nucleating activity, dispersity effects 1−48752
deposition of trace elements in aerosols onto surfaces 1−54169
di-2-ethyl-hexyl sebacate aerosols in sharp-edge thin-walled nozzles, aspiration coeff. 1−46798
dioctyl phthalate aerosol, response of light scatt. and ionisation smoke detectors 1−17334
droplet density photographic meas. 1−40225
electrical aerosol analyser, operation, pressure effects 1−45100
electrically charged, capture efficiency by ice cryst. plates 1−32499
electrostatic charging of aerosol cans, meas. 1−20856
extinction coefficient variations at 3.75 μm in coastal marine atm. 1−44296
fly ash tribo-charge state characterisation using charge-analyzing probe 1−24866
fume particle nucleation and growth, time-resolved light scatt. meas. 1−43715
gas temperature profile deform. in relaxation shock wave produced in aerosol 1−29725
heat and mass transfer during mixing with nonequilib. vibr. excited medium flux 1−37997
hydrometer transformation in mists during explosion by laser pulse 1−46230
interceptional collection efficiencies of aerosol particles on spheres and cylinders 1−21785
IR hygrometer for astron. site testing 1−44318
Kelvin size spectra determ., condensation nucleus counter 1−18354
laser Doppler and induced fluorescence anemometry comparison 1−42113
laser Doppler techniques for sizing particulate pollutants and therapeutic aerosols 1−43841
lidar observations of the Mount St. Helens dust layers over Urbana, Illinois 1−4607
light scattering by aerosols with layered humidity-dependent structure 1−21788
LMFBR postulated accidents, nuclear aerosol behaviour *(Japanese)* 1−45630
marine atmosphere, advances in aerosol research 1−13540
marine environment, size distrib. and extinction coeffs. 1−4620
monodisperse aerosols, response of light scatt. and ionisation smoke detectors 1−17334
Mount St. Helens ejecta, long-wave stratospheric transmission 1−40198
movement in wind, Doppler-lidar dual freq. meas. method 1−9262
multicomponent electrolytic, thermodynamics 1−48745
non-spherical particle light scatt. 1−9256
nonspherical, motion in viscous medium, particle-wall fluid-dynamic interaction 1−17114
Nuclepore filters, large pore, filtration efficiencies meas. for liq. and solid aerosols 1−48749
optical thickness calc. method, for satellite remote sensing over ocean 1−22490
p- 1−49427
particle dendrite, simulation of growing process, single fibre collection efficiency with dust load 1−20595
particle deposition due to diffusion and electric charge in plug and Poiseuille flow 1−46812
particle number distributions of aerosols from test fires 1−48750
particle size distrib. (0.1-1.0 μm) during 1979 Calgary chinooks, Canada 1−22418
particle size distributions from indirect meas., mathematical technique 1−21787
particle sizes, meas. via acoustic device 1−27256
particle sizing and counting, acoustic technique using circular orifice flow 1−27916
particle trajectory and capture coeff. in circular-arc channels 1−24870
particulate analysis using angular light scattering 1−13583
particulate studies using polar nephelometer 1−9265
plasma, radiowave propagation, variable electric field influences 1−2174
plasma production, ionization and excitation of emission spectra by CO_2 lasers 1−15631
polystyrene latex spheres, equilibrium charge distrib. on doublets and triplets 1−21792
production mechanism, composition and mass distrib. 1−22419

aerosols continued
Project Gametag (Global Atmosphere Meas. Expt. on Tropospheric Aerosols and Gases), overview 1−40200
quasiliquid state, acoustic field action, mechanism 1−29447
radioaerosol particles in human respiratory tract, calibration of body counter 1−33353
radioaerosols, appl. to lung imaging for airway disease assessment 1−9012
rare earth elements in aerosols from Osaka area, Japan 1−36018
remote aerosol IR signature simulation model 1−27250
respiratory tract, human, physical factors determ. spherical aerosol particle deposition 1−49038
Saturn atmosphere, composition and struct., aerosol nature and distrib. 1−49573
size distrib. meas. and air pollution source identification 1−32074
size distributions and optical consts. determ., in situ light scatt. techniques 1−9257
soil dust, atmospheric transport from Africa to South America 1−44277
spectroscopy, obs. of prod. and transport 1−50216
spherical aerosol collision rates for singular attractive potential 1−35578
stratosphere, aerosol increase following 1979 equatorial eruptions 1−17647
stratosphere, chemistry and composition 1−54198
stratosphere, lower, aerosol extinction coeff. meas. by balloon-borne photometer 1−9253
stratosphere, Mount St. Helens particles laser radar obs. in S.England 1−44276
stratosphere, sulphate dust layer from volcanic eruption 1−22427
stratosphere, volcanic material from Mount St. Helens obs. over Europe 1−9212
stratosphere aerosol layer formation, meas. of SO_2 distrib. in troposphere and stratosphere 1−44249
stratospheric aerosols obs. using Nd:YAG lidar with near-IR sensitive photomultiplier tube 1−22526
submicron exposed to bipolar ions, charge meas. 1−21794
sulphate aerosol, form. and evolution of ultrafine particles produced by radiolysis and photolysis 1−43711
sulphate particles in Four Corners coal-fired power plant plume, form., transport, chem. 1−43839
surfactants, enhancing and suppressing effects in at. absorpt. flame spectrometry 1−53491
thermodiffusiophoresis of fine aerosol particles with phase transitions on particle surface 1−53479
thermophoresis of moderately large particles 1−24915
Titan, cloud model involving press. and aerosols and light absorpt. 1−40383
Titan atmosphere, aerosol photochemistry and vars. related to sunspot cycle 1−49570
Titan atmosphere, aerosols props. var. with solar variability rel. to satellite albedo and secular brightness changes 1−17785
Titan atmosphere, numerical study of aerosol growth 1−9416
transparent particles, laser breakdown 1−26125
troposphere, aerosol Hg content global distrib. 1−9220
troposphere, gas phase and particulate nitrate meas. 1−40165
turbulent cloud medium, CO_2 laser continuous beam self-action 1−40194
two-dimensional motion of aerosol particles in an electric field at Reynolds numbers greater than unity, calc. 1−8626
ultrafine particles produced by radiolysis and photolysis, form. and evolution 1−43711
Venus atmosphere, aerosol component, Venera 11 backscattering nephelometer meas. 1−4802
volcanic eruption cloud, aerosol and dust particle study 1−32417
water droplet explosion in CO_2 laser field, gasdynamic regime modelling 1−33733
water droplets, aerosol particle collisions, Lifshitz-van der Waals forces 1−39692
water drops, bleaching under monochromatic radiation action 1−11051
Ag particles, in N_2-O_2 mixture, photoelectron emission, enormous yield 1−3569
C particles of micron size, refractive index meas. 1−9245
CS_2 vapour, laser induced aerosol, oscillatory evolution 1−8619
Cd aerosol precipitates, crystallography 1−31448
$Fe_{53}Pd_{47}$ aerosol powders, ordering, Mossbauer spectroscopy study *(Russian)* 1−43042
HCl burning-ship exhaust fume conc. determ. using DAS-Lidar system *(German)* 1−21970
H_2SO_4 aerosol, atmospheric form. and growth 1−21791
NH_4Cl, nucleation in gas phase and influence of ions 1−43710
Na mist behaviour in Ar cover gas space of LMFBR 1−18719
O_3, stratosphere vertical, distrib. meas. with Xe-Cl lidar, aerosol influence 1−36017
PuO_2 aerosols administration in mice to study pathological effects in lung 1−49169
Zn, aerosol precipitates, crystallography 1−31448

aerospace
see also aerospace computing; aerospace control; aerospace instrumentation; aerospace propulsion; aerospace simulation; aerospace test facilities; aircraft; ground support systems; space research; space vehicles; terrestrial atmosphere
aeroplanes invisible to radar, Voyager 1, Space Shuttle and Viking 1−49471

aerospace applications of computing *see aerospace computing*

aerospace biophysics
cardiovascular early adaptation to zero gravity, simulation by head-down tilt 1−13329
coronary blood flow in conscious miniature swine during $+G_z$ acceleration stress 1−22141
medical achievements (book) 1−5033
orthostatic tolerance testing, LBNP and HUT methods 1−17502
osteoclast for whole bone testing, appl. to aircraft ejection seat operations 1−13372
renal blood flow during $+G_z$ stress and anti-G suit inflation, miniature swine 1−27011
space medicine and biology, objectives *(French)* 1−44032
white blood cells in space−an experiment for the first Spacelab mission 1−32265
workload evaluation in Spacelab environment, bioinstrumentation 1−49133

aerospace computing
airline flight departure procedures, comparison 1−41914
EXOSAT spacecraft, onboard Data Handling Subsystem 1−49473
orientation system, high-altitude, single-chip microcomputer appl. 1−44405
solar cell numerical model for generator CAD and irradiation degradation 1−39800
space vehicle solar array system design, computer program 1−43774
supersonic power plant intake, performance simulation on hybrid computer 1−19745
two-phase flow density distribution measurement using reconstructive tomography 1−11482

aerospace control
see also attitude control
airplane autopilot, using electrofluidic accelerometer 1−36635
space observatory trends, optical, structural and control technological problems 1−49475
spacecraft reentry, final descent stage, control algorithm 1−54341
spacecraft rendezvous system quality indices, influence of measuring devices in-flight maintenance 1−54344
Spacelab material science expt., positioning system design 1−36157

aerospace engines
ion thruster system (RIT-10), for geostationary satellite station-keeping 1−40305
noise meas., cepstrum technique for removal of ground reflections 1−1790

aerospace instrumentation
see also aircraft instrumentation; Langmuir probes
active optical devices and applications, seminar, Washington, DC, USA (April 1980) 1−44705
high-resolution spectrometer/interferometer design, rocket-borne 1−36730
holographic system for NASA Space Shuttle, statistical anal. 1−41627
holography on the NASA Space Shuttle 1−41626
long-lived Stirling cycle refrigerator development for space 1−44939
material science sample processing in Spacelab, use of acoustic and electrostatic instrumentation 1−36157
microprocessor-based airborne meteorological data collection system 1−4669
satellite-borne radiometer, construction and function *(Italian)* 1−33054
Space Telescope performance verification 1−32625
superconducting oscillators using Nb resonators 1−17753
superconductivity applications in space research and gravitational studies 1−9344

aerospace propulsion
see also aerospace engines
advanced propulsion systems and chemical rocket engine concepts 1−27680
nuclear electric propulsion system for outer planet exploration 1−13664
Voyager spacecraft 1−32597

aerospace simulation
see also aerospace test facilities
electro-optical focusing device for flight simulator laser visual system 1−41819
electron blowoff dielec. surface discharges, theory 1−34140
geosynchronous satellites, modelling of environmentally induced discharges 1−34141
radiated EM field produced by collimated gamma rays and electron beams in air 1−33609
satellite HV solar array voltage pa effect on plasma power losses 1−35651
Space Shuttle system, dynamic testing of the quarter scale model 1−13662
spacecraft discharge processes and associated electron blowoff, physical modelling 1−34139
visible to IR image convertor for dynamic IR target simulation 1−24522

aerospace test facilities
see also wind tunnels
plasmasphere simulation, modification of a very large test chamber 1−13633
Space Shuttle system, dynamic testing of the quarter scale model 1−13662
turbulent dispersed two-phase flow, facilities for meas. propag. characts. 1−11483
two-phase flow density distribution measurement using reconstructive tomography 1−11482

a.f. amplifiers *see audio-frequency amplifiers*

a.f. oscillators *see audio-frequency oscillators*

AFC *see automatic frequency control*

afterglows
electron beam excited gas target, afterglow curves, computer anal. 1−2272
electron cyclotron resonance line shape in transient afterglow plasmas 1−29906
solitons, upper-hybrid in afterglow plasma column 1−15610
Ar, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
Ar, electron collision cross section meas. 1−34043
$CS^+(B^2\Sigma\text{-}X^2\Sigma^+)$ emission following Penning ionis. of $CS(X^1\Sigma^+)$ radical 1−10748
Cu halide vapour lasers, Cu atom recomb. kinetics 1−51459
Cu vapour laser, plasma parameters meas. in afterglow 1−6544
H plasma afterglow, graphite wall reactivity 1−24997
He, electron collision cross section meas. 1−34043
He gas and superfluid, oriented metastable triplet state kinetics *(Russian)* 1−29936
He, partially ionised afterglow, re-ionisation by Alfven waves 1−6947
He^+ dielectronic recomb. in DC hollow cathode discharge, He excited state population 1−51290
He-Cu afterglow, energy and charge transfer, rate consts., spectra 1−38189
$He^+ + N_2 \rightarrow N_2^+ + He$ reaction flowing afterglow anal., ambipolar diffusion assumption 1−53409
He_2^+ recomb. at high electron temp. in afterglow plasma 1−42243
$He_2 + He$, in high press. afterglow, mol. $d^3\Sigma_u^+$ state decay rate 1−29089
Kr, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
Kr_2^+ formation from $Kr^+ + 2Kr \rightarrow Kr_2^+ + Kr$ reaction in decaying plasma 1−53410
MgO, UV-irradiated, interaction of O_2 molecules with surface centres 1−38645
N_2 afterglow, temp. and charge densities meas. 1−15597

afterglows continued
N_2, N_2-Ar mixtures, afterglow, following microwave excitation, electron, ion density enhancement 1−2265
N_2+acetylene (BrCN), reactions, spectra study in N_2 pink afterglow by photometry 1−17046
$N_2^+ + O_2 \rightarrow O_2^+ + He$ reaction flowing afterglow anal., ambipolar diffusion assumption 1−53409
$N^*(^2D)$, diffusion coeff. in N_2, afterglow meas. 1−2133
$N^*(^2P)$, diffusion coeff. in N_2, afterglow meas. 1−2133
$NaCl:Cu^+(Mn^{2+})$, recombination luminesc. 1−39164
Ne, quenching of metastable Ne atoms, rate coeffs. 1−37136
O_2 transport in DC discharge, chem. reactions effects 1−15601
S_2Cl_2+He, in afterglow, S_2^+ visible emission band system, vibr. anal. 1−14907
UF_6+negative ion, charge transfer reaction investig. 1−1356
Xe, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168

AGC *see automatic gain control*

age (Earth) *see geochronology*

age determination, radioactive *see radioactive dating*

age hardening *see precipitation hardening*

ageing
see also precipitation hardening; strain ageing
abnormal and normal aging of thermocouples *(German)* 1−23236
beam, inhomogeneous, subjected to ageing, creep theory optimisation 1−19593
α-brasses, stress corrosion cracking in NH_3 vapour, effect of H_2 1−35383
degradation, and stabilisation, conf. Dubrovnik, Yugoslavia (Oct. 1978) 1−44710
epoxy-resins, with and without fillers and plasticisers, elect. and mech. props. rel. to ageing *(German)* 1−39350
gaseous dielectrics, symposium, Knoxville, USA (Sept. 1980) 1−5031
glass, fracture and flow 1−8402
glass mirrors, ageing characts., for solar thermal power appls. 1−1668
Hastelloy alloy S, order-strengthening 1−16815
high-resolution electron microscopy in materials science, conference, Cambridge, England (Mar. 1979) 1−9763
Josephson tunnel junctions, reliability, review *(Japanese)* 1−47818
α-methylstyryl oligomers, living, ageing mechanisms 1−48686
natural rubber, tensile strength and plasticity retention after Geer oven ageing 1−26568
Nicrosil-Nisil, electromotive force stability 1−47618
Nimonic 80A, rapidly solidified, precipitation and deform., comparison with APK 1 1−21589
nuclear power station equipment qualification for vibratory and other concurrent loadings 1−23792
Nylon 6, mech. props. due to photodegradation 1−31533
phase decomp. process, role of non-linear terms in diffusion eqn. 1−52335
PMMA, density and mech. props., effects of thermal history 1−35327
polyethylene, low density, ductile-brittle transition 1−53275
polymer ageing, and stabilisation, chem. kinetics problems 1−48396
polymer degradation, struct. vs. stability 1−48395
polypropylene, injection-moulded, residual stresses and ageing 1−35290
polystyrene, elec. props., physical ageing effects 1−21113
precipitation, numerical calc. rel. to particle geometry *(German)* 1−53178
rheonomic material model nonisothermal strain curves for tests with periods of ageing, expanded masing principle 1−3865
solid insulating materials, ageing processes, acquisition possibilities *(German)* 1−29935
spinodally decomposed alloys, hardening 1−43352
steel, 0.1%C Al-killed, age hardening effect by interstitial solute atoms on hysteresis loop under cyclic load *(Japanese)* 1−43434
steel, 15%Cr-15Ni-Mo-Ti-B, ageing and creep behaviour 1−16846
steel, 21Cr-14Mn, grain-boundary precipitation and fracture behaviour 1−48502
steel, austenitic, mechanical properties, effect of decomp. mechanism during ageing 1−43380
steel, austenitic stainless, props. and microstruct., TEM and SEM study 1−35394
steel, Cr-Mo, effect of applied stress on intergranular segregation of P 1−26476
steel, Cr-Mo (2.25, 1 wt.%), thermally aged fatigued, and creep deformed, TEM study 1−8386
steel, Cr-Mo (2.25-1 wt.%) decarburized and aged, creep rupture 1−35348
steel, Cr-Ni (25, 20 wt.%), ferrite precipitation after cold rolling and ageing 1−12750
steel, high Mn, struct. and props., V addition effect 1−48389
steel, high-strength maraging, delayed fracture mechanism 1−3910
steel, interdendritic segregation, effect of C content, solidification and corrosion *(French)* 1−31452
steel, low C, susceptibility to cold forming, hardening causes and reduction *(French)* 1−21479
steel, low C, type SKF-REMKO, mag. props., review 1−3221
steel, low-C, Al-killed, strain ageing effect on fatigue crack initiation process *(Japanese)* 1−43486
steel, martensitic stainless, heat treatment influence on struct., mech. props. and corrosion in aq. media *(French)* 1−48393
steel, martensitic transformation and struct. state, effect of implanted H, in 10Kh16N4B *(Russian)* 1−12741
steel, Ni-Ti, maraging, notch toughness, effect of ageing *(Japanese)* 1−8420
steel, stainless, 1Kh18N9T, nonisothermal strain curves for tests with periods of ageing, expanded masing principle 1−3865
steel, stainless, austenitic, Ti-stabilised, precipitation reactions 1−16786
steel, stainless, PH 13-8 Mo, precipitation hardening, optical, TEM and X-ray obs. 1−53193
steel, stainless, sigma phase defects, high high resolution axial lattice imaging 1−30248
steel, stainless 316, aged, neutron irradiated, cold worked, irradiation induced microstruct. changes 1−2525
steel, stainless 316, grain boundary precipitation, ageing effect, SEM and optical obs. 1−3751
steel, steam turbine bolt material, embrittlement and relax., struct. and stress influence *(French)* 1−48495
steel, tool, melting and solidification during dynamic powder compaction 1−53117
steel, type 1018, endurance life increase by N implantation *(Hungarian)* 1−16871
steel, type 1018, ion-implanted, cavitation erosion 1−21594

ageing continued
steel, welded joints in 1Kh2M and 1Kh2FMB dispersion hardening during reheating 1−26484
steel tubes, shear-spun, texture inhomogeneity and strain distrib. 1−3767
stel, maraging, anisotropy of shear-spun tubes 1−21554
Ag thin film bicrystals, gas bubbles generated by thermal aging, TEM study 1−38692
Ag thin film bicrystals, gas bubbles generated by thermal aging, nucleation and growth mechanism 1−38693
Al alloy, heat resistant type AAA 2618, pitting tendency, microstruct. effect 1−48563
Al alloy VAD23, ageing kinetics, planned expt. method appl. 1−48391
Al contact layers, vacuum deposition, resistance, resistivity and thermal ageing coeffs. *(Polish)* 1−21353
Al single crystals with low dislocation density, annealing kinetics of vacancies 1−8345
Al-Cu, hardening mechanism during high temp. ageing *(Russian)* 1−12752
Al-Cu (4 wt.%), precipitation nucleation of Guinier-Preston zones, ageing effect on channelling conditions *(French)* 1−3740
Al-Cu-In (4, 0.06 wt.%), precipitation of θ′ phase *(Japanese)* 1−26470
Al-Cu-Si-Mg, precipitation hardening L70 type, microplasticity 1−35315
Al-Li (2.8 wt.%), dislocation struct. after ageing in US field *(Russian)* 1−7177
Al-Li(1.7 wt.%), low temp. ageing, elec. resist. meas. *(Japanese)* 1−26508
Al-Mg, quenching conditions effect on struct. and mech. props. *(Russian)* 1−26507
Al-Mg (4.5 wt.%), microsegregation influence on ageing effect *(Polish)* 1−16805
Al-Mg-Si alloys AL9 and AL34, heat treatment 1−8351
Al-Zn, growth kinetics of GP zones and α'_R-precipitates, XSAS and resist. meas. 1−26472
Al-Zn (6.8 at.%), elastic behaviour during form. and growth of Guinier Preston zones *(German)* 1−31463
Al-Zn alloys, ageing under pressure, TEM *(Russian)* 1−35287
Al-Zn-Mg, aged, plastic strain amplitude change in total strain controlled low-cycle fatigue 1−16832
Al-Zn-Mg, nucleation of η′-precipitation, room temp. preageing effect 1−21450
Al-Zn-Mg, quenching conditions effect on struct. and mech. props. *(Russian)* 1−26507
Al-Zn-Mg, thermomechanical treatment, strengthening 1−53213
Al-Zn-Mg (3.5, 4 wt.%), cast alloy, precipitation process, TEM obs. 1−21448
Al-Zn-Mg (4.5, 2.5 at.%) η′-phase form., short preageing influence, TEM, XSAS, resist. and hardness meas. 1−21449
Al-Zn-Mg (6, 2.5 wt.%), rel. between ductility and fracture toughness 1−26535
Al-Zn-Mg alloy, resist. increase during isothermal ageing rel. to precipitate growth 1−20701
Al-Zn-Mg alloy, weldable, explosive loading effect on hardness 1−53278
Al-Zn-Mg-Cu, 7075, effect of ageing on props. 1−48402
Al-Zn-Mg-Cu (6,2,x wt.%), effect of Cu content and deform. mode on fatigue crack propag. 1−12856
Al-Zn-Mg-Cu alloy, fatigue crack initiation of notches 1−31646
Al-Zn-Mg-Cu alloy V93pch forgings, quenching water temp. effect on struct. and mech. props. 1−48392
AlMgSi alloys, thermomech. treatment and Cu addition effect on precipitation hardening 1−21467
AlMg5 alloy, influence of duration of soln. treatment on natural ageing *(Russian)* 1−31499
Al_2O_3 plasma deposited coatings, effect of impregnation and thermal ageing on insulating props. 1−12773
Au-Co, galvanomagnetic effects in solid solution and precipitate phases 1−7591
Au-Ni, weak ferromagnetism and elec. props. 1−42981
$CaO-ZrO_2$, partially stabilized, mech. props. transformation toughened, aged 1−16894
CdSe thin film transistors, TSC spectra, electron traps, ageing mechanism 1−38863
Co-Al system, new multilayer martensitic phases after repeated $\beta \leftrightarrows \alpha$ transform 1−3732
Co-Ti, recovery, nonsteady-state coalescence during two-stage ageing treatment *(Russian)* 1−3791
$(Co_{0.83}Cu_{0.17})_6Ce$, struct. changes during ageing, mag. props. 1−31508
Cr-Co-Cu-Fe permanent magnet alloys, deform.-aged, mag. props. 1−12342
Cu, compressed powder, elec. cond., influence of ageing and elec. field strength 1−43545
Cu, OFHC, cold rolled, recrystallisation and ageing, high hydrostatic pressure effect *(Japanese)* 1−48379
Cu-Al-Ni, martensitic transform. and ageing effect *(Japanese)* 1−26458
Cu-Be, recrystallisation and ageing, high hydrostatic pressure effect *(Japanese)* 1−48379
Cu-Be (22.6 wt.%), secondary reaction associated with eutectoid transformation *(Japanese)* 1−26452
Cu-Be alloy strip, stress relaxation in bending 1−26527
Cu-Be-Co (2, 0.05-1.0 wt.%), Co influence on vol. fraction of discontinuous precipitation cells *(Japanese)* 1−31461
Cu-Mn-Al (42, 2 wt.%), cold-rolled sheet, anisotropy of damping capacity *(Japanese)* 1−42446
Cu-Mn-Al Heusler alloys, ageing 1−31511
Cu-Ni-Al-Si (5,5,1 wt.%), alloy 644, high performance, stress relax. behaviour at 200°C 1−43403
Cu-Ni-Fe (26, 8 wt.%), precipitation, study by electron microscopy, X-ray diffr. and hardness meas. *(Japanese)* 1−3745
Cu-Si, dynamically loaded, deform. substruct. and fracture 1−26554
Cu-Sn-Be, vol. changes, warping and residual stresses during heat treatment 1−3805
Cu-Su-Ni-diamond composite sheet materials, prod. and props. 1−21392
Cu-Ti, recovery, nonsteady-state coalescence during two-stage ageing treatment *(Russian)* 1−3791
Cu-Ti (0.7-0.9 wt.%), age hardening 1−21498
Cu-Ti alloys, hardening by modulated structs. 1−21462
Cu-Ti dilute alloy single cryst. strengthening during ageing 1−43353
Cu-Ti dilute alloys, precipitation hardening 1−43354
Cu-Ti polycryst. alloys, (1.6 at.%), mechanical and elec. meas. 1−43416
Cu-Zn-Al, singularities of martensitic transform. *(Russian)* 1−43336
Fe, ageing, positron annihilation study 1−26516
α-Fe, alloying elements effect in Fe-N precipitation *(Japanese)* 1−31462

ageing continued
Fe-C, pure, mech. props. under thermal and deformed ageing conditions 1−26503
Fe-C (1.5-7.2 wt.%) martensite, fresh and aged, interstitial atom configurations study by Mossbauer spectroscopy *(Japanese)* 1−31069
Fe-Cr-Co-Si permanent mag. alloy, mag. props. and Mossbauer spectra, heat treatment effect *(Chinese)* 1−52753
Fe-Cr-Co-V-(Ti), hard magnets, U and V-Ti additions effect on mag. and mech. props. 1−52798
Fe-Cu alloys, high density, sintered from composite powder, mech. props. 1−3668
Fe-N alloys, stress orienting of $Fe_{16}N_2$ precipitates, interpretation of two step ageing expts., comment 1−53187
Fe-N alloys, stress orienting of $Fe_{16}N_2$ precipitates, two step ageing expts. interpretation, reply to comment 1−53188
Fe-Ni (18 wt.%), ageing, positron annihilation study 1−26516
Fe-Ni base alloys, struct. and mag. props. of ageing in $\alpha \rightarrow \gamma$ transformations *(Russian)* 1−48342
Fe-Ni-C (18, ~1 wt.%) martensite, atomic displacements due to C, X-ray meas. 1−7137
Fe-Ni-Co(-Mo), maraging alloys, deformation and heat treatment, strength increase *(Russian)* 1−43371
Fe-Ni-Cr-Mn, deformed, discontinuous precipitation of γ' phase of 36NKhTYu *(Russian)* 1−26466
Fe-Ni-Nb-(Co), martensite ageing, Co-effect *(Russian)* 1−48380
Fe-Ni-Ta (18, 6 wt.%), ageing, positron annihilation study 1−26516
Fe-Ni-Ta-(Co), martensite kinetics 1−3738
Fe-W (20 wt.%), prepared by liq. quenching, modulated struct. 1−3806
Fe-W (8.5 at.%), discontinuous decomp. and hardening after quenching and ageing *(Russian)* 1−3743
$Fe_{80}B_{20}$ metallic glass ageing and crystallisation, TEM obs. 1−11685
$Fe_{40}Ni_{40}P_{14}B_6$, metallic glass, viscous flow and hot forming 1−43463
Fe_3O_4, γ to α transform., mag. reson. study, superparamag. 1−3266
GeSe, amorphous thin films produced by sputtering, elec. props. *(German)* 1−2986
InGaAsP/InP DH laser diode, with single transverse mode, accelerated ageing test 1−46339
InGaAsP-InP aged laser diodes, self-oscillations and dynamic behaviour 1−46347
Li_4GeO_4-Zn_2GeO_4 pseudobinary system, phase diagram and Lisicon ceramic phase obs. *(Chinese)* 1−48331
Mg-Gd-Y-Mn, mech. props., effect of Mn, Y and other alloying additions 1−16818
MgO-ZrO_2, fully stabilized, mech. props. transformation toughened, aged 1−16894
Mo:C, ductility, ageing effects 1−21509
Nb-(W)-(Mo)-Zr-C, struct. transforms. after long-term tests 1−53176
Nb-Al, A15 phase prep. by direct precipitation, microstruct. and supercond. props. 1−47832
Nb_2, H cold work peak 1−8338
Nb_3Al, supercond., direct solid-state precip. processing 1−43294
Ni alloy, heat and corrosion resistance depend. on thermal treatment of type EP958VD alloy *(Russian)* 1−16963
Ni multiphase superalloy IN738, phase boundary segregation, AES and SEM obs. 1−8311
Ni-Al (14 at.%), precipitated γ'-phase particle spatial distrib. during ageing, rel. to mech. props. *(Russian)* 1−26467
Ni-Al(-Ti)(-Cr), ageing accompanied by γ'-phase precipitation, struct. form. during slow cooling *(Russian)* 1−12763
Ni-Al(Si)(Ti), recovery, nonsteady-state coalescence during two-stage ageing treatment *(Russian)* 1−3791
Ni-base superalloy, H-induced crack growth, effect of low temp. ageing 1−26621
Ni-Cr, deformed, discontinuous precipitation of γ' phase of KhN78TYu *(Russian)* 1−26466
Ni-Cr-Fe-Ti-Al (14.7, 8.9, 2.25, 1.1 wt.%), γ' determ. by non-aq. electrolyte-potentiostatic method *(Japanese)* 1−31417
Ni-Mo alloy, solid state morphological stability of Ni_4Mo precipitates 1−35258
Ni-Si, ageing accompanied by γ'-phase precipitation, struct. form. during slow cooling *(Russian)* 1−12763
Ni-Sn, supersaturated FCC alloy, cellular precipitation kinetics *(German)* 1−8317
Ni-Ti-Al (7.8 at.%, 2.6 at.%), two-stage ageing and duplex struct. form 1−43381
Pb-Au-In plasma oxidised alloy Josephson junctions, ageing phenomena 1−3104
PbI, suspension light sensitive layers, ageing and regression 1−8591
Pb(Zr,Ti)O_3, ceramics doped with multiple impurities, internal bias field effects 1−43071
$SmCo_5$ magnets, oxidation controlled mag. ageing, mag. losses meas. 1−53305
Ti alloy, VT16, phase transforms. during ageing, plastic deform. effect *(Russian)* 1−26450
Ti alloys, microalloying, effect of Y, Gd, Dy, Zr, Hf and Re on mech. props. 1−16844
Ti, stress/strain ageing phenomena relation to creep behaviour in 25-400°C 1−16854
Ti-Al-V-Cr-Zr-Mo, aged, thermal stability 1−26474
Ti-Nb, supercond., effect of cold working on precipitation behaviour 1−21452
Ti-Nb (40 and 47 wt.%) alloys, quenched and aged, transform. struct. obs. *(French)* 1−16812
Ti-Nb-Hf, superconducting props. 1−47773
Ti-V-Fe-Al (10, 3, 2 wt.%), phase transform. and tensile props. 1−43376
Ti-Zr-Al-Si (5, 5, 0.5 wt.%), back-stress-based rationale for creep behaviour during dynamic ageing 1−21515
TiT, aged thin film, ^{3}He release 1−8602
V-Ga, A15 phase prep. by direct precipitation, microstruct. and supercond. props. 1−47832
V-Zr-C, long-term high-temp. ageing effect on strength 1−31507
Zn-Al-Pb-Mg, long-term ageing props., effects of Pb and Mg *(Chinese)* 1−53210
$Zn(OH)_{2-x}(N_3)_x$, thermal decomp., kinetics, ageing effect 1−48678
ZnS thin films, vacuum deposited, adhesion-ageing behaviour 1−38698
Zr-Cr-Fe (1.14, 0.08 wt.%), β-quenched, abnormal grain growth during ageing, metallographic study 1−3796
Zr-Mo(Si), (0.5-1.5 (0.25-0.5) wt.%), martensites, precipitation hardening 1−21466

agriculture
see also farming
corn fields 1−35986
Lithuanian SSR, land structure, natural and socio-economic effects *(Russian)* 1−13460
potato blight management, application of model of daily weather 1−54184
review of uses of lab. spectroscopy techniques 1−40867
soil moisture, remote sensing using L-band imaging radar 1−9153
soil moisture of tilled field, remote sensing microwave radiometry 1−9152
solar power photocell/pumped storage agricultural installations, economic viability *(Italian)* 1−48803
solar-electric pumps for pumping water, agricultural use 1−53616
vegetation canopy, remote sensing of temp. profiles 1−49276
wheat yield estimates using spectral refl. meas. 1−54086

air
see also terrestrial atmosphere
AC breakdown voltage of rod gap in air, influence of dust particles 1−15583
air+methane, methane vibr.-translational relax. time from spectrophone sensitivity press. depend. 1−46093
air-He mixture, thermal cond. meas. for molar concs. from 0 to 100% 1−46844
air-methane flame, flame parameters determ. from scatt. spectrum of laser radiation, Cs nitrate addition effect 1−8570
air-natural gas flame, flame parameters determ. from scatt. spectrum of laser radiation, Cs nitrate addition effect 1−8570
air-SO_2 negative corona discharge in flowing gas mixture 1−15680
arc, high-current, Cu vapour concentration determ. 1−15738
artificial air at atmospheric press., negative ions, mass spectra 1−48764
blast arcs, phys. mechanism affecting transient response 1−15692
breakdown characts. calc. and obs., high-temperature 1−15700
breakdown props. of atmospheric air, effects of elevating temp. 1−15590
breakdown voltage of gas gaps, polarity effect 1−11613
CARS spectra, rot., N_2 and O_2 intensities 1−28980
channel, stabilised air flow turbulence local isotropy *(Russian)* 1−2085
circuit breakers, nozzle clogging effect on current zero region 1−15689
collimated gamma rays effect, radiated EM field produced 1−33609
corona, DC, positive and negative, studied at high temperatures and low pressures 1−52002
corona, negative, rod/plane, electrical characts. at 5 to 760 torr 1−20013
corona development, positive streamer, due to NO_x produced by its own discharge 1−20009
corona pulse sequences obs., negative, statistical props. evaluation 1−15708
cylindrical conductors in air, AC corona onset voltage, surface roughness effect 1−19998
discharge products, generation, analaysis and stability *(Japanese)* 1−19992
electric breakdown and V-I characts. of dry air in crossed mag. and elec. fields 1−11612
electric breakdown in overlapping fields, pot. difference variation *(German)* 1−15574
electric breakdown in superimposed fields 1−2135
electrical breakdown tests behind refl. shock wave in shock tube 1−15693
electrical conductivity of highly dosed air 1−34036
electromagnetic fields excited by neutrons in air 1−37395
electron beam effect, radiated EM field produced 1−33609
flow velocity meas. among fan blades, using laser anemometer *(Slovak)* 1−46828
gas blast circuit breaker, post-arc performance study 1−11617
gas blast circuit breaker arcs, scaling laws 1−11621
glow discharge in transverse glow of air, electric field pot. distrib. 1−15666
HV large conductor-tower air gaps, switching surge discharge characts. 1−15683
injection into wind tunnel, atmospheric boundary layer simulation 1−44230
insulation behaviour and dielectric strength 1−52019
laser-induced breakdown, pulse-width and focal vol. depend. 1−53018
laser-induced breakdown at KrF laser wavelength, threshold intensity meas. 1−42124
liquid ring vacuum pump, pumping dry air or saturated air-water vapour mixture *(German)* 1−50148
long sliding spark, breakdown characts. 1−46940
microsecond discharge, fast electron detection at atmos. press. 1−25100
model circuit breaker, thermal area and press. var. at current levels 1−15691
negative ion mobility in negative corona discharge 1−15681
nitrate particle detection method, based on obs. on individual particles 1−4234
positive glow corona, partition into two patches emitting alternately 1−42233
postarc channel, thermal layers 1−34169
pressurised, high-current arc behaviour study 1−15686
propane-air microwave stimulation combustion bomb in extended lean limit 1−39642
refractivity, simplified eqn. 1−34039
sound transmission through plates in air and He atmospheres at pressures up to 50 bars, report *(German)* 1−19488
statistical time-lag distribution of elec. discharge, detachment lifetime meas. of negative ions in atm. air 1−15731
streamer influence zone at cathode of positive point to plane corona discharge 1−11610
supersonic streams breakdown obs. 1−15591
suspended particulates in air in Madrid, Spain 1−54170
thermal cond. at 27.5°C and up to 36 MPa of air and Ar-free air 1−15570
turbulent flow over standing water surface waves 1−24829
turbulent jet, laser light scattering *(French)* 1−11435
Ar-air arc, stabilised, spectroscopic methods of temp. meas. *(Russian)* 1−15646
H_2+air H_3^+ fragment pre-equilib. distrib. and dissoc. 1−6369
H_2S in air of tropical forest and of temperate region, fluorometric obs. 1−13528
O_3 composition of boundary layer, obs. of O_3 vertical flux 1−27226
SF_6-air gas mixture, cylindrical insulator flashover voltages 1−15711
SF_6-air mixture, field breakdown gradient 1−2268
SO_2 in rural air of the Netherlands (obs. made during 1977) 1−17328

air bases *see airports*

air blast circuit breakers
air-blast arc, quenching props. in vortex double flow 1−34159
arcs, physical mechanisms affecting transient response 1−15692
arcs, scaling laws 1−11621
DC current breaking phenomena 1−11618
post-arc performance study 1−11617

air bubbles *see bubbles*

air compressors *see compressors*

air conditioning
see also ventilation
acoustic noise analysis, location of noise sources and acoustic pathways *(French)* 1−11242
acoustic noise level monitoring, distributed processing system appl. 1−51670
aquifer storage of chilled water for air conditioning, economics 1−53693
geothermal heat pumps in low temperature applications 1−48795
heat pump comfort conditioning system, microcomputer control 1−53656
Heat pump technology and applications, conf. Dusseldorf, Germany (June 1980) *(German)* 1−35675
heat pumps, electric, air-source, space-conditioning, development and growth from 1950 to 1990 *(German)* 1−35677
heat pumps, German standards, present status *(German)* 1−43795
indoor air pollution, causes and reduction methods *(German)* 1−8781
liquid desiccant solar heat pump for developing nations 1−17237
noise, a Draft Proposal from Italian Standard Institution 1−32066
seasonal thermal energy storage of chilled water in aquifers 1−53690
solar, passive liquid desiccant air conditioner 1−35702
solar, with liquid desiccants, packed bed dehumidifier/regenerator 1−8672
solar desiccant dehumidifier 1−17283
solar ejector freon refrigeration machine, cycle design parameters selection 1−13082
solar heating systems with air collectors and rock bed storage 1−17272
solar power heat storage units for heating and refrigeration 1−17302
space heating screw compressor electric heat pump systems, operational and control charact. *(German)* 1−35683
Stirling engines for developing countries 1−53652
CC $CaCl_2$-CH_3OH chemical heat pump. prototype studies for solar air conditioning, heating and storage 1−48892

air permeability *see permeability*

air pollution
see also air pollution detection and control; smoke
acetic acid, concs. in atmosphere of SW.USA 1−17653
acid precipitation in Florida, USA 1−4232
acid rain patterns in USA, combination of two network data sets 1−9222
acidic rainfall in S.E. Poland 1−39851
acidity observations of marine and continental precipitation and aerosols 1−13530
acute radioactive releases, appl. of Gaussian plume dispersion model 1−43840
aerosol, particle size distrib. (0.1-1.0 μm) during 1979 Calgary chinooks, Canada 1−22418
aerosol distribution in St. Louis urban area from Sun photometer obs. 1−22423
aerosol particle scavenging by precipitation 1−22430
aerosols, effects on global climate 1−49349
aerosols, pollution index based on optical absorpt. const. of suspended particulate matter 1−53738
aerosols collected in cascade impactor, particulate shapes 1−9236
airport, urban, air pollution and meteorological modeling 1−21950
aliphatic and polyaromatic hydrocarbons in aerosols of urban N.Europe 1−17327
atmospheric gas nonhomogeneities, reflecting area calc. by Rayleigh and Raman dispersion 1−51369
Boston urban aerosol sources, quantitative determ. 1−35727
Canada (E. of Rockies), pollutant emission inventory (1969-77) 1−17329
carbonaceous smoke, visible extinction, absorption and mass conc. 1−35726
cloud water, acidity, determ. at mountain observatory in Adirondack Mountains of New York State 1−43837
clouds affected by particles in plume from coal-fired power station 1−4231
coal fired power station in India, SO_2 and particulate input to local environment 1−21954
conference, Boulder, Colorado, USA (Aug. 1979) 1−9762
cooling tower effects 1−4233
Cumbria, England, radionuclides in atmosphere 1−48934
dispersa of vap. cloud and evap. of liquid into wind field, theory 1−13194
dispersal from point source in sheared atmos., model 1−53721
dispersal from tall chimney, into convective boundary layer 1−17326
dispersal in stratified boundary layer, model *(Russian)* 1−53733
dispersal in topographically complex coastal area, gaussian model 1−48933
dispersal in turbulent boundary layer, 1-D model 1−53722
dispersal of heavy cold gas cloud into boundary layer, model 1−13196
dispersal of pollutants by wind field, wind tunnel expts. 1−13195
dispersion of pollutants downwind from shoreline, tracer expts. 1−17642
droplet evaporation retardation by air pollutants, laboratory expts. 1−17639
dry deposition vels. for particles and gas, summary 1−21946
electricity supply industry, environmental influences exercised within overall economic system *(German)* 1−4229
emission limit for variable sources, by use of multipoint rollback 1−53728
S.England, SO_2 and smoke in rural areas, topography effects 1−54167
fission reactor coolant, chemical form of ^{35}S released to atmosphere 1−14641
fly ash, inorganic compounds speciation using Fourier transform IR spectroscopy 1−26866
formic acid, concs. in atmosphere of SW.USA 1−17653
fossil fuel burning, global climate response to atmospheric chemical comp. changes 1−44290
from F-22, global burden in Earth's atmosphere 1−17332
geothermal power station at Imperial Valley, California, impact assessment 1−39853
Great Smoky Mountains, USA, sulphate aerosol meas. 1−53732
ground-level conc. calc. from a mean wind direction model 1−17643
hazard prediction model *(French)* 1−8779
heat island of urban area, lapse rate/wind speed model 1−22431

air pollution continued
HV polluted insulators, discharge growth obs. using image intensifier 1−15741
hydrocarbons, nonmethane, cones. in eastern urban area, Manhattan and relationship to O_3 1−43838
hydrocarbons and the ozone layer, influence of Na from meteors 1−40178
indoor air pollution, causes and reduction methods *(German)* 1−8781
liquefied natural gas spillage vapour spread and dispersion, finite element models 1−32063
Los Angeles region, USA, plume and haze, airborne lidar obs. 1−43836
Melbourne pollution episodes (1978 June), meteorological factors 1−27227
methane, conc. increase during last decade (1968-1977) 1−35731
methane plume, acoustic sounder return evaluation 1−21949
Moscow, turbidity factor for various wind speeds and directions 1−22495
negatively buoyant plume in turbulent boundary layer 1−13197
nitrate particle formation in plumes from oil refinery 1−13203
nuclear power station gas effluent dispersion anal. using wind tunnel simulation of lower atmosphere layers *(French)* 1−32486
particle deposition vel. predictions on natural water 1−21947
particulate physical props. 1−8783
perturbation calculations, implications of sensitivity expts. on stratosphere two dimens. model 1−22455
photochemical air pollution form. in United Kingdom, impact of vehicle exhaust emission controls 1−53731
photochemical smog mixing with clean air 1−53729
plume concentration fluctuations 1−53723
plume dispersion, lateral dispersion coeffs. as functions of averaging time 1−21951
plume dispersion, spectral diffusivity theory 1−21952
plume dispersion as function of atmos. stability, gaussian model 1−22400
plume dispersion parameters, tall stock in shoreline environment 1−27222
radioactive airborne material, long-range transport models, removal processes 1−54256
radioactive fallout in air and rain: results to end of 1979 1−13205
radioactive releases in atmosphere, radiological consequences assessment via ARANO computer program 1−39856
radionuclide residence time in stratosphere following atmospheric nucl. explosion 1−26863
radionuclide transport, risk assessment of exposure to radioactivity 1−35829
rain chemical composition, obs. at Rothamsted, England (since 1853) 1−8782
scrubland fires in USA and Australia, causative meteorological conditions 1−8778
smoke as quantitative atmospheric diffusion tracer 1−35725
smoke in S.England, rural area obs. 1−53724
Space Shuttle re-entry, NO production in shock-wave 1−17330
St. Louis heat island, early afternoon wind vel. determ. 1−44258
stratosphere O_3 layer pollution, implications of two-dimensional calcs. of HCl and ClO 1−22443
stratosphere tracer transport, global diabatic circulation model 1−9214
sulphate aerosol, form. and evolution of ultrafine particles produced by radiolysis and photolysis 1−43711
sulphate aerosol correl. with sea breeze circulation in Tampa Bay, Florida 1−4583
sulphate aerosol production in plumes from coal-fired power stations 1−13202
sulphate concentrations, (1963-1978), in E.United States, seasonal and episodic trends 1−53730
sulphate in New York metropolitan area, 1977 summer study 1−53725
sulphate particles in Four Corners coal-fired power plant plume, form., transport, chem. 1−43839
sulphur compound sources, natural and man-made 1−40152
suspended particulates in urban air of Rio de Janeiro 1−17331
Sweden, transport of S aerosols across country 1−54224
symposium on atmospheric pollutant physico-chemical behaviour (Ispra, Italy, 1979 October) 1−9773
tetrafluoromethane, absorpt. cross section at H Lyman α (121.57 nm) rel. to atmospheric residence time 1−44295
Tokyo area, organic constituents in atmospheric fallout 1−53726
trace gas transport in troposphere, two-dimens. model 1−13526
transport and dry deposition of chem. reactive pollutants, theory 1−53727
turbulence classification schemes necessary for control measures 1−13502
SE.United States, difference between marine and continental air, obs. of rainwater 1−13533
urban effects, numerical model of radiative processes 1−13204
USA (E. of Rockies), pollutant emission inventory (1969-77) 1−17329
Vancouver, suburban energy balance estimate and turbulent flow from Bowen ratio approach 1−44260
Venice, fog and related diffusion potential 1−9202
Venice, SO_2 conc. oscillations in air flowing over city 1−39852
viscose rayon factory odours, detection and assessment methods 1−48938
wet deposition around point source 1−53730
wet-dry deposition collector, field evaluation of HASL instrument 1−53742
wind, Lagrangian dispersion statistics over open water, appl. to pollution 1−22416
wood stoves, pollution aspects 1−32505
As content of rainwater and snow, and atmos. mass balance implications 1−13532
CO, conc. increase during last decade (1968-1977) 1−35731
CO_2 from fossil fuel, effect of absorpt. by ocean on atmospheric concs. 1−26864
CO_2 from fossil fuels and climate, role of deep sea heat storage in secular response to climatic forcing 1−27178
CO_2 increase, climatic consequences 1−40185
CO_2 increase and climate change, warming effect 1−27248
CS_2, meas. of atmospheric concs. in E. United States 1−17648
^{36}Cl in rainwater, van der Graaff accelerator obs. 1−36034
H_2O_2, in rainwater during precipitation events in California 1−4227
H_2SO_4 aerosol, atmospheric form. and growth 1−21791
H_2SO_4 aerosol haze episodes over St. Louis, Missouri, USA 1−13201
H_2SO_4 droplets in stratosphere increase since 1960 over Wyoming 1−8780
Hg, gaseous, in troposphere, global distrib. 1−9220
^{85}Kr, gaseous, environmental radiation monitoring during venting of TMI2 containment 1−41260
^{85}Kr, gaseous, monitoring during TMI-2 purging using Penn State noble-gas monitor 1−45744

air pollution continued
^{85}Kr gaseous, release from TMI-2, evaluation of radiation monitor effectiveness 1−41259
^{85}Kr, gaseous, release from TMI-2, EPA radiation monitoring and surveillance activities 1−45742
^{85}Kr, gaseous, release from TMI-2, community radiation monitoring program 1−45743
NO, produced in Space Shuttle reentry shock wave 1−17330
NO_2, direct meas. by differential optical absorpt. in near UV 1−44251
NO_3 free radical, photodissociation quantum yields 1−22397
NO_x, aircraft emissions in upper troposphere rel. to O_3 origin 1−44256
NO_x formation during combustion of Kuznetsk 2SS and Donetsk GSSh coals 1−31978
NO_x pollution, implications of tropospheric gas-phase and particulate nitrate meas. 1−40165
N_2O emission from Iowa soils, effect on troposphere 1−21942
O_3 'river', development in E United States during synoptic scale episodes 1−54177
O_3 in SE.Virginia, comparison of measured concs. with computer predictions from photochemical model 1−26862
O_3 in St. Louis, Missouri, USA, and other pollutants 1−4228
O_3 in troposphere, relationship to specific nonmethane hydrocarbons in eastern urban area, Manhattan 1−43838
O_3 layer, effects of global atmospheric pollutants on O_3 content and chemistry 1−21953
Pb cryst. glass, chem. polishing, purification of F-containing gas given off 1−12899
Pb in air over Antwerp, Belgium 1−35729
S compounds, global distrib. in troposphere estimated in height/latit. transport model 1−40172
S cycle, photochemistry of COS, CS_2, CH_2SCH_3 and H_2S 1−40151
S oxides in Europe, Regional Source Quantification model 1−21948
SO_2, air pollutant dispersal, model of long-range transport 1−13525
SO_2, and lichen growth in London, England, recolonisaton 1−39854
SO_2 and sulphate wet deposition in eastern USA 1−13529
SO_2, direct meas. by differential optical absorpt. in near UV 1−44251
SO_2, in air of Sheffield, England, 1968 to 1975 period 1−13198
SO_2 in Norwegian Arctic, winter conc. and transport from Eurasia 1−9215
SO_2 in rural air of the Netherlands (obs. made during 1977) 1−17328
SO_2 in S.England (Hampshire and Sussex), rural area obs. 1−53724
SO_2, oxidation, kinetic model and reactions 1−22379
SO_2 oxidation in INCO chimney plume 1−35728
^{35}S in coolant of gas cooled reactors 1−14641

air pollution detection and control
aerosol particles collected on membrane filters, new technique for scanning electron microscopy 1−26867
aerosol size distrib. meas. and air pollution source identification 1−32074
aerosols, meas. by acoustic particle sizing device 1−27256
aerosols, monodisperse, response of light scatt. and ionisation smoke detectors 1−17334
aerosols, pollution index based on optical absorpt. const. of suspended particulate matter 1−53738
brush fire smoke clouds, IR radiation transfer study 1−40188
clean rooms, particle contamination 1−53734
coal fired MHD power plants, NO_x emission prediction, boiler parameters correlations, math. model 1−53631
combustible gases, diffusion head sensor, laser applications to air pollution 1−32080
combustible gases, diffusion sensors detection systems 1−32082
DAS-Lidar for burning-ship HCl exhaust fume conc. determ. *(German)* 1−21970
Dialex, differential absorption spectroscopy with remote analysis system *(German)* 1−21969
diesel engine testing by portable smokemeter 1−32076
diesel pollutant monitoring and control in underground mines, an overview 1−8786
droplet density photographic meas. 1−40225
dust in gas flow, novel pressure-drop dust meter *(German)* 1−26868
electrostatic precipitators, voltage effect on operation *(Czech)* 1−13200
environmental controls in USA and Canada, particularly, Great Lakes 1−17325
environmental engineering handbook, air and noise pollution control 1−49891
environmental monitoring by passive dosimetry 1−21963
ethylene concentration over refinery area, meas. using pulsed TEA CO_2 laser 1−17703
exhaust emission analysis by IR laser 1−17335
flue dust emission meas. *(German)* 1−13208
fluidised bed combustion in pressurised systems, problems of reduction of atmospheric pollution by flue gases *(German)* 1−43668
forage: a sensitive indicator of airborne radioactivity 1−53739
fossil fuel fired combustion, air/fuel ratio, thermal efficiency 1−32064
Fourier transform IR interferometer for air pollution studies 1−4238
gamma radiation flux density, natural background, analysis of time variations 1−21968
gamma spectrometry, estimation of ^{85}Kr global activity concs. and resulting doses to the public 1−39855
gas sampling container design 1−21959
gaseous contaminations in atmosphere, conc. determ. along horizontal paths using retuned CO_2 laser 1−53740
heavy metal particles and cpds., ion microprobe anal. 1−32072
Helmholtz resonator enhancement of photoacoustic signals in trace gas absorpt. meas. 1−45025
hydrocarbon monitor using membrane permeator and flame ionisation detector 1−32075
hydrocarbon monitoring with chromatographic instrument 1−4237
hydrocarbons, diffusion head sensor, air detectors, laser application to air pollution 1−32080
industrial, regional evaluation and solution using computer techniques *(Hungarian)* 1−49325
internal combustion engines mixture control *(Spanish)* 1−17336
IR beam fork-shaped Darlington-pair photosensor for polluted environment *(French)* 1−32071
IR lasers used in atm. pollution monitoring 1−8787
IR sources, coherent, tunable, near and middle IR range, props. and appls. 1−1638
IR spectrometer, fast-response gas filter correl., atmospheric CO, CH_4, HCl monitoring 1−39859

air pollution detection and control continued
laser application to atm. contamination analysis, IR absorpt., fluroesc., optoacoustic and Raman methods *(Russian)* 1−43843
laser Doppler techniques for sizing particulate pollutants and therapeutic aerosols 1−43841
laser investigations 1−32559
LIDAR, on Space Shuttle, anal. appls. 1−53487
lidar measurement of plume and haze pollution, airborne method 1−43836
mining atmosphere working level, of radioisotopes, evaluation and modification of meas. methods 1−6109
monitoring network design and synthesis by modification 1−32079
nitrate particle detection method, based on obs. on individual particles 1−4234
optics in four dimensions, conf., Ensenada, Mexico (Aug. 1980) 1−40589
particle surface characterisation by Auger and X-ray photoelectron spectroscopy 1−4241
particulate emission from stacks, airborne meas. and analysis 1−35734
particulates analysis by SEM and ion probe 1−53718
passive spectrometric remote sensing of stacks and plumes 1−39858
perchloroethylene, determ. in air by gas chromatography/electron capture detect. 1−21799
pesticide levels in air using automated sequential sampler for gas chromatography 1−53737
photochemical air pollution form. in United Kingdom, impact of vehicle exhaust emission controls 1−53731
piezoelectric crystal detector, anal. chem. appls. 1−53504
power generating plants, flue gas desulphurisation systems, costs variation anal. 1−4603
power plant fly ash, environmental impact of leachates and radioactivity 1−35733
quality monitoring by optical particle counters 1−21961
radio-acoustic sounding for temp. profile, comparison with other methods 1−4589
radioactive particulate airborne materials, purposes, methods and accuracy of sampling 1−6108
remote sensing by laser spectroscopy 1−21964
respirable airborne silica determ. by X-ray diffr. analysis 1−35736
respirable particle sampling by inclined surface impaction 1−21960
smoke as quantitative atmospheric diffusion tracer 1−35725
soot, air sampler to meas. elemental C content 1−4236
stack gas monitoring instrumentation 1−940
stack particulate monitor, optical based, microprocessor controlled 1−48937
stack-gas analyser model SA-601 *(Japanese)* 1−32070
trace gas detection, photofragmentation-laser induced fluorescence 1−13584
tunable lasers used for air pollution monitoring 1−39860
turbulence classification schemes necessary for control measures 1−13502
vertical diffusion over urban+suburban sites, sodar and Rn obs., appl. to pollution 1−44326
vinyl chloride monomer, air pollution, leak detection, computerised control gas chromatography 1−31965
viscose rayon factory odours, detection and assessment methods 1−48938
water vapour distrib. in vicinity of cooling tower, ambient air meas. using pulsed TEA CO_2 laser 1−17703
wet-dry deposition collector, field evaluation of HASL instrument 1−53742
wind profile remote sensing by acoustic Doppler radar 1−32561
CO_2 emission from fossil fuels, control and global warming effect 1−53706
CO_2 in air monitor, portable 1−21965
^{107,109}Cd, prod. by proton bombardment on Ag targets for use in metallobiochemistry of heavy metal pollution 1−21754
HF concentration in exhaust of Al production plant, field meas. using CW HF/DF laser 1−17703
NH_3, composition measurement technique 1−4235
NO air pollutant conc. meas. using wavelength-modulated derivative spectrometer, high sensitivity and stability 1−32069
NO, remote sensing using differential absorption lidar 1−13207
NO_2 air pollutant conc. meas. using wavelength-modulated derivative spectrometer, high sensitivity and stability 1−32069
NO_2 detection by tunable diode laser spectrometer 1−9264
NO_x concentration, meas. using high-performance chemiluminescence analyzer 1−4240
NO_x removal plant, automatic control system *(Japanese)* 1−17333
^{239}Pu, origins and concentrations in atmosphere and soil, transfer to human body *(Japanese)* 1−35718
Rn daughters, natural background gamma radiation flux density 1−21968
SO_2 air pollutant conc. meas. using wavelength-modulated derivative spectrometer, high sensitivity and stability 1−32069
SO_2 air pollution in Kaohsiung area, optimisation eval., monitor network *(Chinese)* 1−53735
SO_2, high resolution absorpt. obs. around 300 nm 1−28991
SiO_2, cryst., determ. in ash from Mt. St. Helens volcano 1−21795

air pumps *see compressors*

air terminals *see airports*

air traffic
aircraft noise, evaluation using psychological methods 1−21957
noise disturbance to school teachers, survey 1−6714

aircraft
see also aerospace control; aerospace instrumentation; helicopters
aerial survey photography development 1−28083
community response to aircraft noise associated with non-noise factors 1−13206
flight departure procedures, comparison 1−41914
flutter testing, application of system identification 1−19613
noise, effect of background levels on community responses 1−1788
noise annoyance contours, importance of overflight freq. and noise level 1−6713
noise measurements, selection and use of microphones 1−19506
sonic booms, overview 1−37964
static noise testing, ground effect predictions, propeller aircraft 1−24595
using-tip charging 1−24314

aircraft instrumentation
C-band stepped frequency microwave radiometer, remote sensing of lake ice appl. 1−32482
electro-optical systems, prediction of change in natural freq. of cantilevered flat plate with added lump mass 1−1755
electrofluidic accelerometer, airplane autopilot appl. 1−36635

airfields *see airports*

airglow
see also atmospheric spectra; aurora; nightglow; sky brightness; twilight
anomalous low latitude phenomenon, OGO 6 obs., soft proton interpretation 1−40245
EUV airglow spectrometer with continuous readout 1−44308
ionosphere, equatorial and high latitude scintillations 1−49453
wavelike structures, seen in OI 6300 Å line 1−44355
H geocorona, H_α spectral profile obs. indicating H escape 1−36090
Li in upper atmos., winter enhancement, obs. of twilight 1−17718
Na in upper atmos., winter enhancement, obs. of twilight 1−17718
O I 1302 Å triplet in dayglow, rel. to thermosphere O I (^{3}P) fine struct. levels excitation temp. *(Chinese)* 1−54301
O I 5577 Å emission intensity, solar tide effects 1−22563
O I 630 nm depletions and equatorial F-layer irregularities, airborne studies 1−13631
O I 6300 Å meridional intensity gradients 1−4673
O I emission spectrum from 530 to 1500 Å, origin from radiative transfer model 1−44354
O I line used to determine turbopause internal gravity waves eddy diffusion coeff. 1−40239
O_2^+ vibrationally excited, dissociative recombination 1−1393

airports
aircraft noise, community response associated with non-noise factors 1−13206
community noise survey 1−32068
noise control, runway layout considerations 1−41917
noise exposure, prediction of changes 1−8784
security X-ray hazards for photographic emulsions 1−28082
urban, air pollution and meteorological modeling 1−21950
visibility meas. by lidar 1−9255
wind measurement, representativeness of single-anemometer obs. 1−44232

alarm systems
nuclear power stations, data transmission for safety systems *(German)* 1−50891
snow level meas. and avalanche warning electronics 1−32562
temperature off limit alarm system 1−9984
track-laying machines, evaluation of the noise and of audible warning signals *(German)* 1−41916
CO_2 in air monitor, portable 1−21965

albedo
albedo and IR effects on Earth radiation budget 1−22485
binary star systems, close, gravity darkening exponent and bolometric albedo 1−9578
cosmic dust in diffuse clouds, albedo increase in VUV due to H_2 fluoresc. 1−49777
dosimetry, albedo technique, neutron stray radiation field, interpretation and monitoring 1−6117
dusty nebulae, radiative transfer, effect of dust albedo 1−49749
Earth, ground albedo in UV rel. to O(^{1}D) photoproduction rate in troposphere 1−40170
Earth albedo radiation pressure effects on Pageos 1 satellite orbit 1−13659
Earth planetary albedo depend. on planetary temp. in zero-dimensional climate model 1−4605
Earth radiation budget obs. from satellite, planetary albedo effect 1−22487
Earth surface radiation budget, effect of small scrub fire 1−9158
gamma rays of Earth, obs. from Kosmos 461 1−22556
grand albedo effect on atm. Fraunhofer lines filling in 1−54238
Iapetus, brightness temp. and bright side bond albedo from far IR photometry 1−44485
interplanetary dust, determ. from zodiacal light brightness 1−44493
interplanetary dust optical reflectivity, meas. for single micron size irregularly shaped grains 1−13656
Mars cloud formations, local, absolute albedo, determ. of dust particle size 1−49556
201 Penelope, photometry rel. to rot. period, light curve and surface albedo vars. 1−13721
photon backscattering number albedo for Pb and Sn 1−28819
plane boundary, half-space integral transport eqn., approx. solns. 1−195
planetary albedos, variations correl. with solar wind and EUV 1−36214
Pluto-Charon system, albedos and radii from speckle interferometric resolution with CFH telescope *(French)* 1−32655
satellite remote sensing, Earth albedo contrib. to photometer data, empirical determ. method 1−13614
Titan, albedo changes induced by solar variability rel. to secular brightness changes 1−17785

alclad *see aluminium alloys*

Alfven waves *see magnetohydrodynamic waves; solid-state plasma*

algebra
see also Boolean algebra; linear algebra; matrix algebra
computing, general relativity appls. 1−18145
computing methods in applied sciences and engineering, conf., Versailles, France (Dec. 1979) 1−18
Feigenbaum's ratios of two-dimensional area preserving maps 1−32832
homogeneous spaces generated by an algebra, and their morphisms 1−461
quadratic systems, limit cycles 1−22990
quantum theory, algebraic structure and implicate order 1−18056

algorithms (computer listings) *see subroutines*

aliphatic compounds *see organic compounds*

alkali metal alloys
see also caesium alloys; lithium alloys; potassium alloys; rubidium alloys; sodium alloys
Au alloys, liq., density of states and cond. calc., metal-nonmetal transition 1−25689

alkali metal compounds
see also alkali metal alloys; alkali metal halides; caesium compounds; francium compounds; lithium compounds; potassium compounds; rubidium compounds; sodium compounds
alkali nitrogen oxyanion salts, cluster intensities, SIMS 1−31931
alkali sulphur oxyanion salts, cluster intensities, SIMS 1−31931
alkali-graphite intercalates, lattice gas disorder, X-ray diffuse scatt. pattern 1−2289
alkali-rare gas molecule, band shape and interaction pot. *(French)* 1−37257
aluminoborosilicate glasses, statistical mechanical model of B coordination 1−30072

alkali metal compounds continued
boroaluminosilicate glass+fused alkali nitrates, ion exchange, equilib. and kinetics 1−43660
chalcogenides, Van der Waals energies 1−47036
cyanides, structural phase transition theory, thermodynamic props. *(Russian)* 1−7331
gallates, M_2O-Ga_2O_3, M=Na, K, Rb, superionic cond., lattice vibr. modes, IR and Raman spectra 1−3404
graphite-alkali metal compounds, intercalate layer struct. 1−34329
graphite-alkali metal intercalation cpds., electronic struct. 1−38705
halogenate crystals, mechanoluminescence 1−52995
hexamolybdenoferrate (III) hydrates, thermal decomposition 1−17043
indium phosphates, synthesis in H_3PO_4 melts 1−12978
intercalated tin compounds, temp. depend. ^{119}Sn Mossbauer studies, lattice dynamics 1−31067
intercalation compounds, Fermi surface obs. by Shubnikov-de Haas and magnetoreflection methods 1−47436
iodate pseudo-binary systems, solid solution investigation *(Chinese)* 1−2611
N-methylacetamide complexes, struct. and bonding 1−52126
monocyanides, atomisation energies, at. absorpt. spectrometric determ. 1−353
nitrates, molten, thermal energy storage material, sp. ht. contents, temp. coeffs. *(Japanese)* 1−8758
oxide-SiO_2-(B_2O_3)-(GeO_2) glasses, alkali ion mobility 1−16085
oxide-SiO_2 glasses, IR spectra and struct. 1−31140
semiconductors, hypovalent two cation, rel. between lattice thermal cond. and chemical bond 1−11925
silicate glass surfaces after reaction with water, IR spectra study 1−21190
silicate glasses, hydrated, synthesis kinetics and props. of products 1−31412
silicate glasses, surface tension and elastic modulus 1−42624
TCNQ salt, alkali metal, ESR 1−42999
three-body Van der Waals coefficients, combination rules 1−1298
MgI_2/AI, A=Cs-Na, thermochem. and struct. study *(German)* 1−48723
Pt electrode reduction of molten alkali metal nitrates, cation effects 1−8578

alkali metal halides
see also compounds of individual alkali metals, e.g. sodium compounds
alkali halides:Eu^{2+}, optical absorpt., emission and excitation spectra 1−39125
Anderson-Gruneisen parameter, isothermal, calc. 1−11833
boiling and melting from ionic to mol. phases 1−30371
boiling from ionic to molecular phases 1−25418
bond polarities determ. using dipole moment model 1−10862
bulk modulus, Anderson parameter and temp. depend. 1−42449
charged particle acceleration by cryst. atomic fields 1−38419
collisional dissociation, chemical relax., rate constants 1−21711
colour centre lasers, tunable, review 1−33694
colour centre lasers 0.8-3.33 μm range 1−29287
colour centre quantised dielectric function, Kramers-Kronig relations 1−3359
compressibility of mixed alkali metal halides, predictions 1−30296
crystal, laser bombarded, light scatt. by damaged regions 1−53021
crystals, anharmonic coeffs., thermal expansion coeff. and specific heat 1−20344
crystals, ionic radii, screened Coulomb pot. calcs. 1−11730
Czochralski grown crystals, solidification front shape effect on cryst. perfection 1−7100
defect press., formation vol., temp. depend. of formation props. of point defects 1−2429
defective single crystals, X-ray study 1−2424
dielectric behaviour anal., electronegativity, effective charge 1−12446
dielectric constant, press. depend., shell model appl. 1−26108
dipole-dipole Van der Waals interaction 1−47039
direct-gap crystal, two-photon absorption models 1−37543
dislocation mobility, high hydrostatic press. effect 1−34424
divalent cation-vacancy pair clustering 1−2642
doped, Suzuki phase characterisation by Raman spectroscopy 1−31138
doping with Pb ions by thermal treatment, annealing, optical absorpt. meas. 1−7186
elastic constants, interionic pots., theory 1−2554
electroluminescence mechanism of α emission 1−21278
electrolytes, nonaq. solns., thermodynamic props., vapour press. osmometry obs. *(Japanese)* 1−7356
electron induced sputtering 1−53022
electron states, crystal metric matrix inversion technique 1−20606
eutectic systems, thermodynamic excess functions, derivation from TX phase diagrams 1−20424
F_2^+ and $(F_2^+)_A$ centre tuneable laser operation in OH^- and SH^- doped alkali halides 1−29285
F_A(II) centre model 1−47083
F-centre, hyperfine const. and light absorption, MS Xalpha method 1−39128
F-centre luminesc., stress-induced polarisation for vibronic model of relaxed excited state 1−39150
fluoride piezobirefringence meas., piezodichroism effect analysis 1−3364
fluoride-SiO_2 glasses, IR spectra and struct. 1−31140
Frenkel defect generation efficiency, temp. depend. 1−25263
heat of formation of solid soln. 1−31898
impurity-vacancy dipole random motion forming stable aggregates 1−30273
interionic potential model for crystal props. 1−7125
ion-electron emission in near-threshold region of pot. energy 1−31253
ionic dielectric, laser radiation breakdown, electron avalanche ionization 1−8001
ionic radii, correlation with nucl. charges and ionisation pots. 1−25192
ionic solids, bulk moduli press. derivatives 1−15945
IR absorption coefficient 1−31116
IR laser wavelength modulation spectrometer for window absorption meas. 1−28077
irradiation colouring, heterogeneous nucleation model 1−2507
laser window material brittle failure criteria 1−29358
laser-induced intrinsic damage, avalanche and multiphoton ionisation models 1−39192
lattice dynamics calcs., phonon dispersion, specific heat, Raman and IR spectra 1−47188
light scattering by point defects, cross-section 1−39109
liquid-vap. interface, struct. and surface tension 1−38628

alkali metal halides continued
melting, parameter free theory 1−20363
melting theory, correl. with defect energies and fast ion cond. 1−25410
molecular dissociation, field dressing with optical fields 1−29055
molecules, interionic forces, Rittner's model 1−14974
molten, charged, high density, microscopic props. 1−11668
molten, elec. cond. at high press., press. effects separation using PVT data 1−38570
off-centre instability induced by exchange forces 1−2928
photoemitted electron energies 1−12631
point defects, two-photon spectroscopy 1−3440
radiation damage studies using two-accelerator facility 1−42434
radiolysis processes, high temp. irradiation *(Russian)* 1−48706
Schottky defect form. enthalpy 1−20192
Schottky pairs, vol. of formation 1−52132
self-trapped excitons, evolution of Frenkel pairs from excited states 1−35077
shell model parameters, vol. depend. 1−47201
solid solutions, luminesc. and struct. of SeO_3^{2-} and O_2^- impurity centres 1−12543
solubility parameter, molar sound vel. and molar compressibility 1−15783
solution energy of alkaline earth metal ions in cryst., lattice energy, calc. 1−30401
stacking faults, appl. of atomistic calc. of extended planar defects in ionic crysts. 1−52154
surface defects, electrostatic charge effects 1−3032
thermoluminescence and radiation induced lattice defects 1−3501
transparent dielectric, optical breakdown and light flash emission by CO_2 laser pulses 1−26290
triplet self-trapped exciton, electron spin-lattice relaxation 1−3298
van der Waals coefficients, improved values 1−38325
LiCl-KCl mixtures, partial struct. factors 1−2311
NaCl type alkali halides, relation between elastic modulus C_{44} and covalency 1−38430
NaCl-KCl mixtures, partial struct. factors 1−2311

alkali metals
see also caesium; francium; lithium; potassium; rubidium; sodium
alkali atom+inert gas, collisional excitation in quasi-one-electron systems *(German)* 1−14996
atom, Rydberg states, Stark struct., atomic core influence 1−6202
atom, unpolarised, two-photon ionised via hyperfine struct. energy levels, polarised nuclei 1−6217
atom+H^+, near-reson. charge-exchange collisions 1−24247
atom+He, near-reson. charge exchange collisions 1−24248
atom+He(Ne), collision-induced dipole moments calcs. 1−33544
atom+inert gas, interaction pot., Baylis model calcs. 1−14835
atom-rare gas interaction, pot. calc. using Baylis model for electronic interaction 1−37288
atomic excited levels, dynamic polarisabilities 1−41331
atoms, core charge polarisation effects, HF calcs. 1−28862
atoms, Green's function approach to nonresonance multiphoton absorpt. 1−24099
atoms, laser ionisation based on reson. saturation 1−45918
atoms, perturbed by foreign gas, laser beam near-resonance scattering, fluoresc. 1−28918
atoms, Stark broadening of neutral lines, Model Microfield Method *(French)* 1−37152
cations, dimethyl sulphoxide solvated, repulsion interaction, dispersion forces, vibr. anal. 1−24147
dilute systems, metal-insulator transition, theory 1−38722
electron-electron scatt., correl. between high temp. and low temp. data 1−42767
equation of state, density functional approach 1−38498
graphite intercalation compounds with Li, K, Rb, Cs, UPS, XPS and AES studies 1−48238
heavy alkali+inert gas mixture, longitudinal orientation of electronic spin *(Spanish)* 1−14971
interacting electron gas dynamic spin susceptibility 1−7852
ion source, CAD 1−14209
ionic atmosphere consideration in thermodynamic study 1−15787
ions, association with neutrals, cluster ions, catalytic effects, rate consts. 1−39589
lattice dynamics, anharmonic phonon freq. shifts and damping 1−7280
liquid alkali metals, structure using electron-ion plasma approach 1−34217
liquid and solid, eqn. of state, 0K compression isotherm 1−30353
negative ions, doubly excited states, electron correls., hyperspherical coords. calcs. 1−45863
phason anomalies in low-temp. lattice sp. ht. 1−42548
plasmon damping, interband transitions and many-electron interactions 1−52511
solubility parameter, molar sound vel. and molar compressibility 1−15783
surface, H and D particle backscatt., H^- and D^- ion form., model 1−39205
surface, H and D positive ion bombarded, H^- and D^- backscatt. yields 1−43232
thermodynamics and vacancy characts., anharmonic effects 1−7281
thermopower at high temps. in solid and liq. phases 1−52549
vapour, thermal cond. and viscosity data generalisation 1−19855

alkaline earth alloys
see also barium alloys; beryllium alloys; calcium alloys; magnesium alloys; strontium alloys
No entries

alkaline earth compounds
see also barium compounds; beryllium compounds; calcium compounds; magnesium compounds; radium compounds; strontium compounds
alkaline earth metal hydrogen compounds, H-bonds, ^1H and ^{19}F NMR data, struct. anal. 1−6283
carbonate-tungstate porous metal cathodes, synthesis and characts. 1−53115
cerates, prep., technical characts. and elec. props. 1−16748
chalcogenides, correlation between ionic radii, nuclear charges and ionization potentials 1−25192
chalcogenides, photoemitted electron energies 1−12631
dihalides, gaseous mols., bonding and spectroscopic props. 1−6240
fluoride colour centre lasers, tunable, review 1−33694
fluoride cryst., defect equilibria, laser spectrosc. 1−3441
fluoride piezobirefringence meas., piezodichroism effect analysis 1−3364
fluorides, high-temp. cond. and ionic disorder, thermodynamic anal. 1−34510

alkaline earth compounds continued
fluorides, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
fluorides, static dielectric const. temp. and press. variation 1−3314
halides, nature of superionicity 1−20363
halides, vol. of formation of Frenkel pairs 1−52132
halogenate crystals, mechanoluminescence 1−52995
N-methylacetamide complexes, struct. and bonding 1−52126
oxides, anion vacancy centres, review 1−38366
oxides, bond energy, quantum chemical model 1−11718

alkaline earth metals
see also barium; beryllium; calcium; magnesium; radium; strontium
atom, Hanle effect in singlet excited states 1−6213
atoms, static dipole and quadrupole polarisability, HF and many-body perturbation theory calc. 1−51106
doubly excited states, electron correls., hyperspherical coords. calcs. 1−45863
equation of state, density functional approach 1−38498
ion+inert gas, collisional excitation in quasi-one-electron systems *(German)* 1−14996
solution in alkali halide cryst., lattice energy, calc. 1−30401

alkalinity *see pH*

allotropism *see polymorphism*

alloy steel
see also tool steel
AE from deform., methods of meas. and assessment 1−48437
aluminised 08kp, ductility, residual stresses, and redistrib. by heating 1−26571
armour plate, texture influence on mech. and ballistic props. 1−43367
austenitic, corrosion cracking in thiocyanate solutions, urotropin addition effect, steel 70 1−26675
austenitic grain size determination, with Epiquant automatic struct. analyser 1−21668
boiler, in synthetic flue gas, influence of HCl on corrosion 1−16957
boriding rate, melt comp. effect 1−8484
cast, low-cycle fatigue in different media, Al addition influence 1−3930
cavitation erosion, influence of microstruct., SEM study 1−16908
chemical-thermal treatment, use of polymers 1−53219
commercial, sintering effect on fracture toughness and yield strength 1−53134
contact life reduction under action of media 1−3996
corrosion cracking in chloride solution, H liberation 1−35440
Cr-C, microsegregation effect on bainite form. during solidification 1−31453
Cr-Mo (2.25, 1 wt.6), thermal fatigue strength under creep fatigue interaction 1−3935
Cr-Ni, mechanism of high-temp. anodic soln. in NaCl solns. *(Russian)* 1−43586
crack growth monitoring, at elevated temps. by elec. potential technique, of type A470 1−39549
crevice corrosion and corrosion cracking, conditions similarity 1−35444
dual-phase, microstruct., importance of epitaxial ferrite 1−26499
dual-phase, work hardening 1−53203
fatigue crack growth in PWR environment 1−26656
fatigue crack growth rate rel. to porosity, in PM specimen AISI 4600 1−21575
fatigue crack growth retardation under constant amplitude and variable mean stress of type 18G2AV 1−21574
fatigue crack propag., finite element anal. in type 4340M 1−21576
fatigue cyclic strength, welding effects, comparative testing of 17KhG2SAFR 1−35494
fatigue damaged, nitrogenated, type 40 Kh, healing mechanism *(Russian)* 1−16869
fatigue limit estimation, by progressively-increasing load tests of types 34CrMo4 and 37MnSi5 1−48466
fatigue strength of polished specimens, small plastic strains effect 1−3924
FCC-BCC orientation relationship, surface relief and displacive phase transformations 1−2388
ferrite X-70 pipeline, strain age study 1−43386
ferritic, compositional effects on reheat cracking 1−39438
ferritic and austenoferritic, mechanisms and kinetics of corrosion by S at high temps. *(French)* 1−35428
ferritic low alloy, stress corrosion cracking susceptibility assessment, comparison of methods 1−31778
ferritic steels, cavity nucleation and growth 1−43462
ferritic weldments, fractography and mechanisms of high temp. cracking 1−39436
forged high-press. vessels, materials used for construction 1−28009
forgings, temp. field calc. for batch cooling 1−3798
fracture surfaces coated with magnetite, microfractographic invest. *(German)* 1−8431
fracture toughness, influence of crack length and specimen thickness 1−31598
friction-strengthening treatment, influence on struct., phase comp., wear resist. *(Russian)* 1−48521
hardening during cyclic loading 1−31614
hardenite formation, conditions and mechanism 1−8301
head treated, tensile strength and area reduction, nonuniformity of expt. distrib., types 40Kh and 40KhN 1−3868
heat treatment methods, in steel industry 1−31501
heat-resistant, recrystallisation-thermal etching of local plastic strain 1−43602
high speed, containing V and Nb, phase transformations, X-ray diffr. study *(German)* 1−43332
high speed, powder metallurgical technique using pre-alloyed powders 1−16717
high strength, 30 Cr MnSiNi2A, shot peening residual stresses effect on fatigue behaviour 1−3889
high strength, low alloy, ductile failure, effect of temper-embrittling heat treatment 1−35356
high strength, stress corrosion cracking in water *(Chinese)* 1−39500
high-alloy, anal. with X-ray quantometer RK-5975 1−21808
high-speed, potentiostatic test method 1−48607
high-speed, powder metallurgically produced *(German)* 1−3658
high-speed, shortened tempering time 1−48384
high-strength, AISI 4340, pre-loading conditions effect on crack initiation and propag. in SCC *(Japanese)* 1−26669
high-strength, corrosion-mech. strength, electrolyte surface-active ions influence 1−53353
high-strength, low-alloy steels, review 1−12957

alloy steel continued
high-strength AISI 4340, notched plates, nucleation and growth of stress corrosion cracks 1—39545
high-strength heat-resistant 30Kh3NM3FTs, props. and appl. 1—8394
high-strength low-alloy, strength of HT80 welds after initial plastic deform. 1—53253
high-strength maraging, delayed fracture mechanism 1—3910
HSLA, Al and N effects on microprecipitation 1—21454
HSLA sheet, flow and fracture after cold forming *(French)* 1—3769
HY130, transition temp. characterisation using fracture toughness parameter 1—26584
impact strength, rel. to lateral expansion, of types StE70 and 15NiCuMoNb5 *(German)* 1—43406
intermediate transformation of austenite in steel 100Yu7 *(Russian)* 1—31456
low alloy, crack length meas. method using crack-opening displacement 1—8508
low alloy, developments in oxidational theory of mild wear 1—26632
low alloy, equiaxed austenite grains originating from hot rolling 1—53216
low alloy, fatigue, effect of stress conc. and size effect 1—39445
low alloy, fatigue, microstruct. effects at intermediate and high crack growth rates 1—3902
low alloy, fatigue crack initiation and propagation in low C martensite, role of prior austenite grains 1—8409
low alloy, high strength, plastic deform. instability, influence of thermal activation 1—21537
low alloy, liquid phase form. during sintering 1—39272
low alloy, martensite morphology, TEM study *(German)* 1—8305
low alloy, neutron irrad., plastic flow at high strain rates 1—48438
low alloy, reactor pressure vessel, acoustic emission, during elastic-plastic deform., uniaxial 1—3842
low alloy, reactor pressure vessel, acoustic emission during elastic-plastic deform. around crack 1—3843
low alloy, secondary ion microanalysis 1—21683
low alloy, sheet, determ. of crit. brittleness 1—12870
low alloy, stress corrosion cracking in acetate solns., predictability from potentiodynamic polarisation curves 1—31716
low alloys, mech. props., effect of precipitated VN and V(C,N) phases 1—16783
low C low alloy, strengthening by rolling at austenite-ferrite two phase regions 1—35283
low-alloy, 15GFD and 12KhGFD, cold resist., tempering effect 1—3909
low-alloy, AISI 4140 and En30A, stress corrosion cracking, double torsion fracture mechanics and Auger electron spectroscopy 1—39527
low-alloy, cracking under stress, H_2S partial pressures influence 1—53349
low-alloy, deoxidation method and irreversible temper brittleness 1—3926
low-alloy, fatigue crack growth kinetics, intense strain influence 1—35371
low-alloy, heat treatment effect on struct. strength 1—43379
low-alloy, quenched and tempered, brittleness, P, V and Mo additions effect 1—3906
low-alloy, structural, Se effect on struct. and props. 1—8430
low-alloy, type 4130, Fe_2MoC carbides, TEM obs. 1—48349
low-C 2.25 Cr-1 Mo, effects of trace elements on creep strength and ductility 1—43441
low-tempered structural, heat treatment for increased fracture toughness 1—31506
magnetic field glow-discharge source, use in anal. of mild and alloy steel 1—46945
magnetoelastic effect in ferromagnet, struct. and processing effects, type 30KhGSNA 1—34917
maraging, anisotropy of shear-spun tubes 1—21554
maraging, grade 300 and 350, effect of microstruct. on fracture toughness 1—39414
maraging, torsion and tensile tests 1—3869
maraging 18.% Ni (300), effect of reverted austenite on plastic deform. 1—26558
maraging steel, 18Ni(350), ultra-high strength, aged, fracture mode transitions 1—43512
mechanical props. optimization by simulating heat treatment, in type X20Cr13 *(German)* 1—8342
medium strength, 30CrMnSiA plate, fracture toughness, using surface flaw test 1—39550
medium-alloy, chemicothermal treatment in calcium cyanate bath effect 1—8479
microalloyed, diffuse necking in tensile tests, strain rate sensitivity effect 1—26557
microalloyed, types StE36 and St52-3, embrittlement phenomena, effect on welding behaviour *(German)* 1—43472
microdoping effect with Ca and Ce of type ShKh-15, and sulphide inclusion hardening *(Russian)* 1—16870
Mn, austenite, wear resist. and strength-toughness, −196°C to room temp. *(Korean)* 1—12852
Mn, sintered, Hametag Fe base powder, struct. 1—39270
nitridation of alloys, 41Cr4, 15CrNi6, 24CrMo13, morphology and lattice distortions 1—35285
nitrided, hardness and N conc., correl. using study using AES 1—53283
nonuniform plastic flow, in simple tension, influence of material parameters on type AKDQ-SL 1—3822
nuclear pressure vessel, fracture toughness predictions 1—47165
pearlitic, alloying element redistribution during heating 1—31504
plastic deform. and heating, redistrib. of C and alloying elements *(Russian)* 1—12789
plastic instability, of low-alloy steel with high elastic limit *(French)* 1—39379
precipitation of excess phases in austenite under influence of hot deform. and recrystn. 1—16782
quenched and tempered type 4340, microenergy release rate during fracture, AE, obs. *(Japanese)* 1—53260
steel, HSLA, Nb-bearing, quenched and tempered, low cycle fatigue behaviour 1—8429
steel, low-alloy, nitrided, strengthening by mixed cluster formation 1—21468
steel, low-alloy SNCM8, environmentally enhanced fatigue crack growth 1—26580
steels, 4130, struct. of tempered martensite and its susceptibility to H_2 stress cracking 1—26618
steels, high Mn, sinter-forged, mech. props. *(Japanese)* 1—31536
strengthened by surface plastic deform., fatigue and corrosion fatigue under fretting conditions 1—53285
stress corrosion cracking, double torsion fracture mechanics and Auger electron spectroscopy 1—39527
alloy steel continued
stress corrosion cracking in H_2S medium, influence of C, Ni, Mn and V additions 1—3989
stress corrosion cracking mechanism, in H_2S of low-alloy steels 1—39512
structural, BS 4360 50B, influence of stored energy on crack arrest 1—39415
structural, temper brittleness, austenitisation temp. influence 1—3929
structural, V-effect in tests for long-term strength *(Russian)* 1—21521
structural, work of fracture as criterion for hardenability determ. 1—43497
structurel steels, welded joint cracking resist. improvement by electromagnetic stirring 1—34409
tensile behavior, influence of deform. rate *(French)* 1—35325
textured sheets of P type steel, with high normal plastic anisotropy, elastic props. calc. 1—43402
tool, M2, electron beam and laser melting, comparative study 1—3976
tool materials, square indentation test 1—4018
tubular welds, thick-walled, solidification cracking, appl. of modified transvarestraint test 1—39437
W-Mo, high-speed, eutectics types 1—8299
weathering steel, characterisation of atmospheric corrosion products 1—16954
welded joints in 1Kh2M and 1Kh2FMB dispersion hardening during reheating 1—26484
welded joints in high alloy steels, ferrite content determination using magnetic method 1—48590
welded low alloy, sound emission obs. of cold cracking propag. *(German)* 1—8514
weldments HY-130, correlation of microstruct. and stress corrosion fracture 1—16972
wires, high-strength, for ropes and bundles, change of Poisson's ratio *(German)* 1—43388
Al bronze sliding on KE961 steel, role of Al segregation in wear under boundary lubrication 1—43535
Al-Mo-V, C migration in welded joint *(Chinese)* 1—52336
C-Mn, Cu and Cr effect on V_4C_3 precipitation, strength effects 1—21469
C-Mn, normalised, applicability of AE during deform. and fracture 1—12875
C-Mn, resistance to H_2 embrittlement 1—43532
C-Mn-Cb, plate, fatigue and toughness props., type A633C and A737B 1—43513
C-Mn-Nb, Al killed, high temp. and mech. props. *(French)* 1—21494
Cr (18 wt.%), peritectoid reaction *(German)* 1—8270
Cr (9 wt.%), ferromag., electrical props., resistivity, hysteresis, magnetisation, EM shielding, temp. depend. 1—3220
Cr, high temp. corrosion *(Czech)* 1—12928
Cr, isothermal decomp. of austenite, study of initial carbide form. *(Chinese)* 1—53179
Cr, isothermal thickening of cementite allotriomorphs 1—39338
Cr, laser melted surfaces, struct. *(German)* 1—8491
Cr, nondestructive test device based on eddy-current transducer *(Polish)* 1—48601
Cr, powders, struct. and props. 1—53248
Cr, SCM, H_2 absorbability, effect on cracking behaviour *(Japanese)* 1—43480
Cr steel, H_2 embrittlement of pressure vessel 1—43534
Cr steel-TiC composites, sintered, corrosion resist. 1—39495
Cr, type X20Cr13, corrosion fatigue, surface layer formation effect at 200°C *(German)* 1—53329
Cr-Mn, H_2 embrittlement of pressure vessel 1—43534
Cr-Mo, creep cavitation and rupture under uniaxial and multiaxial stresses 1—35342
Cr-Mo, creep life, effect of hydrostatic press. 1—16859
Cr-Mo, effect of applied stress on intergranular segregation of P 1—26476
Cr-Mo, embrittlement of pressure vessels for hydrogen storage *(German)* 1—43533
Cr-Mo, fatigue crack growth threshold level, influence of microstruct. 1—31647
Cr-Mo, ferritic, fast neutron irrad., fatigue crack growth behaviour 1—12873
Cr-Mo, fracture surface, method of prep. of thin foils *(German)* 1—8432
Cr-Mo, H_2 embrittlement of pressure vessel 1—43534
Cr-Mo, influence of alloying elements on the transformation and precipitation *(German)* 1—31454
Cr-Mo, methane bubbles after H_2 exposure, direct obs. using TEM 1—43496
Cr-Mo, resistance to H_2 embrittlement 1—43532
Cr-Mo, stabilized, creep and struct. *(Czech)* 1—48425
Cr-Mo, stress corrosion cracking, assessment of possibility during acid cleaning 1—31715
Cr-Mo, thermal fatigue, service props. in sintering machine and coating furnace components 1—8433
Cr-Mo *(Japanese)* 1—43483
Cr-Mo (2.25, 1 wt.%), ausscheidung und kriechfestigkeit (Precipitation and creep resistance) *(German)* 1—3752
Cr-Mo (2.25, 1 wt.%), comp. effects on creep ductility 1—26561
Cr-Mo (2.25, 1 wt.%), fatigue crack prop. characts. in liq. Li 1—16880
Cr-Mo (2.25, 1 wt.%), pressure vessel steel, near-threshold fatigue crack growth in air and H_2 1—43515
Cr-Mo (2.25, 1 wt.%), thermally aged fatigued, and creep deformed, TEM study 1—8386
Cr-Mo (2.25-1 wt.%) decarburized and aged, creep rupture 1—35348
Cr-Mo ferritic, C and N transfer during exposure to Na environment 1—42561
Cr-Mo steel, tertiary creep model 1—43461
Cr-Mo-Ni, resistance to H_2 embrittlement 1—43532
Cr-Mo-Ni, stress corrosion crack growth rate in artificial sea-water 1—43614
Cr-Mo-Ni-V, welded joints, cold cracking susceptibility *(Czech)* 1—12853
Cr-Mo-V, biaxial high strain fatigue testing 1—39552
Cr-Mo-V, creep resistant, relaxation tests under uniaxial tensile load *(German)* 1—21503
Cr-Mo-V, elementary hardening, combination of mechanisms 1—35269
Cr-Mo-V, fatigue-creep interactions, damage formation 1—35392
Cr-Mo-V, ferritic, creep crack propagation, effect of prior damage 1—16896
Cr-Mo-V, heat-resistant, creep, prefracture microstruct. changes 1—16895
Cr-Mo-V, low alloy ferritic, creep behaviour, influence of heat treatment 1—16863
Cr-Mo-V, rotor type, cyclic loading effect on apparent cleavage fracture toughness 1—48462

alloy steel continued
Cr-Mo-V, void form. during creep of 15Kh1M1F and 12Kh1MF *(Russian)* 1−26542
Cr-Mo-V, yield strength, temp. depend., effect of microstruct. 1−35337
Cr-Mo-V (0.5, 0.25 wt.%), creep and microstruct., austenitising treatment effect 1−8357
Cr-Mo-V (0.5, 0.5, 0.25 wt.%), creep damage and life assessment 1−39397
Cr-Mo-V (0.5, 0.5, 0.25 wt.%), behaviour of cracks in creep 1−39400
Cr-Mo-V (0.5, 0.5, 0.25 wt.%), prior room temp. deform. effect on creep, rupture and cavitation 1−39401
Cr-Mo-V (0.5, 0.5, 0.3 wt.%), dislocation stability during high temp. exposure *(Czech)* 1−7175
Cr-Mo-(Nb-V), ferritic, C migration and structural evolution of welded heterogeneous joints, tempering *(French)* 1−43372
Cr-Mo(3, 0.5 wt.%), surface segregation 1−16787
Cr-Ni, AISI 4340, retained austenite at the prior austenite grain boundaries 1−21491
Cr-Ni, ferritic, in-reactor creep 1−21513
Cr-Ni, precipitation hardened, in-reactor creep 1−21513
Cr-Ni, solid solution hardened, in-reactor creep 1−21513
Cr-Ni, two-ductile-phase, Bauschinger effect 1−16849
Cr-Ni, two-ductile-phase alloy, plastically deformed, average internal stress 1−26555
Cr-Ni (25, 20 wt.%), ferrite precipitation after cold rolling and ageing 1−12750
Cr-Ni type 30KhN3A, corrosion fatigue cracked, stress intensity factors 1−31627
Cr-Ni-Mn, AISI 4340, Mn diffusion coated, influence on fatigue life 1−16891
Cr-Ni-Mn-Si-Mo, heat-resistant, creep, prefracture microstruct. changes 1−16895
Cr-Ni-Mo-V, ferritic-pearlitic, radiation brittleness, additional alloying effect 1−3908
Cr-Ni-W, Cr and Ni determ. with vac. quantometer 1−53510
Cr(12 wt.%), heat treatment to improve toughness 1−53221
Fe-Mn-Si based martensitic, ultra-high strength, fracture toughness and fracture strain *(Czech)* 1−8421
MN-Mo-Ni, SA5335B class 1 plate, Charpy energy transitions for weld metal and HAZ 1−48514
Mn (6-12 wt.%), inter-relationship of microstructs. and mech. props. 1−31576
Mn (high), struct. and props., V addition effect 1−48389
Mn, brittleness, effect of chem. comp. and struct. 1−48492
Mn, cryogenic mech. props., improvement through thermal/mech. treatment 1−12769
Mn duplex, formation and stability of secondary austenite *(Russian)* 1−31497
Mn, ferritic, thermal processing for toughness at cryogenic temps. 1−16813
Mn, high, bimetal with C steel, surface layer peeling, P conc. influence 1−43607
Mn, phase comp. and mech. props., preliminary heat treatment influence 1−35333
Mn, rolled sheet, local pulse method of mech. parameter monitoring 1−39578
Mn, sintered, Mn evap. during sintering 1−3666
Mn, sintered, produced from base powder atomised Fe, struct. 1−16715
Mn steel, H_2 embrittlement of pressure vessel 1−43534
Mn steels, production by powder metallurgy method *(Japanese)* 1−31381
Mn-C (1.43, 0.06 wt.%), dynamic precipitation and solute hardening 1−26462
Mn-Cr-V, precipitation hardening, struct. changes *(Czech)* 1−3758
Mn-Nb (1.19, 0.035 wt.%), 0.05% C, dynamic precipitation and solute hardening 1−26462
Mn-Nb (1.25, 0.035 wt.%), 0.05% C, dynamic precipitation and solute hardening 1−26462
Mn-Ni steels, hexagonal ε-martensite, mech. and mag. props. *(German)* 1−31426
Mn-Ni-Mn, heat affected zone, mech. props. after simulated heat treatment *(Czech)* 1−12768
Mn-V (1.25, 0.115 wt.%), 0.05%C, dynamic precipitation and solute hardening 1−26462
Mo steel, tertiary creep model 1−43461
Mo-Co-Cr-V-W, case-hardened, cellular struct. study by SEM 1−8499
Mo-low alloyed, with P-additions up to 1 wt.% and dual phase microstruct., mech. props. 1−48450
Mo-Mn-Cr, weldable, heat treatment optimisation 1−48382
N-Cr-Mn, containing ferrite, precipitation and corrosion after isothermal annealing 1−53185
Nb, fracture under hot-forming conditions 1−39460
Nb, low C, yield strength and microstruct., influence of cooling rate 1−35270
Nb-Al microalloyed, normalised, applicability of AE during deform. and fracture 1−12875
Nb-microalloyed, dual-phase, intercritical annealing temp. effect on struct. 1−16814
Ni (5 (9) wt.%), heat treatment of effect on microstruct. and cryogenic fracture props. 1−8348
Ni (9 wt.%) steel, and its welded joint, fatigue props. at room and liq. N_2 temp. *(Japanese)* 1−26610
Ni (9%), struct., fracture, heat treatment and Mo addition effects 1−48388
Ni, cryogenic metal, brittle fracture, notch testing 1−48471
Ni, El847, neutron bombard., dislocation loop conc. determ. by X-ray diffr. *(Russian)* 1−2519
Ni, resistance to H_2 embrittlement 1−43532
Ni, reverse martensitic transform. characts. and mech. props. 1−16773
Ni steel, quenched, singularities of martensite decomposition *(Russian)* 1−31416
Ni-C (9, 0.1 wt.%), fracture path, microbeam Auger electron spectroscopy 1−21585
Ni-Cr, cyclic tension-compression tests, temp. effect on damping 1−31625
Ni-Cr, grain boundary strength, effect of Sb, Sn and P 1−53267
Ni-Cr, high temp. corrosion *(Czech)* 1−12928
Ni-Cr, high-strength, austenite grain size and stress ratio effect on near threshold fatigue crack growth *(Japanese)* 1−48479
Ni-Cr, Kh20N60, neutron bombard., dislocation loop conc. determ. by X-ray diffr. *(Russian)* 1−2519
Ni-Cr, low-alloy, En25, relationship between shear lip size and fracture toughness 1−12857

alloy steel continued
Ni-Cr, P-doped, comparison of Auger electron spectroscopy and etching method for grain boundary segregation of P 1−3749
Ni-Cr, temper embrittlement, calc. of transition temp. changes 1−16875
Ni-Cr (4, 1.5 wt.%) type 18Kh2N4VA, tempered and quenched, impurity effect on intercrystalline fracture 1−31509
Ni-Cr-Mo, crack branching in delayed failure, effect of pre-austenite grain size *(Japanese)* 1−26604
Ni-Cr-Mo-Al-V, maraging, chemicothermal treatment 1−3978
Ni-Cr-Mo-V, low alloy, fatigue crack growth, influence of environment and stress ratio 1−26585
Ni-Cr-Mo-V, struct. and mech. props., TEM study *(Korean)* 1−12743
Ni-Cr-Mo-V, temper embrittlement, control by intercrit. and low temp. austenitising heat treatments 1−43375
Ni-Cr-Mo-V rotor steel, temper embrittlement, role of Mn 1−8404
Ni-Cr-Mo-V-C, bainitic transform. struct. 1−53181
Ni-Cr-Sn, low alloy, temper embrittled, anomalous sputtering effects in AES grain boundary anal. 1−16790
Ni-Mo alloys teel for LWR pressure vessels *(Czech)* 1−33299
Ni-Mo-Cr, pressure vessel, weld simulation heat-treated specimens, TEM invest. rel. to stress-relief cracking 1−35384
Ni-Ti (18, 1.4 wt.%), maraging, notch toughness, effect of ageing *(Japanese)* 1−8420
Si, galvanised coating development, mechanism, interface energy effect 1−12932
Si, high-induction grain-oriented, mag. alloy 1−12384
Si, hot-rolled coil, welded joint fracture *(Chinese)* 1−53255
Si steels, oriented cold rolled of Czechoslovak origin, mag. props. *(Czech)* 1−3146
SiO_2 based enamel for alloy steel, phase comp. and props. control 1−35415
$(Ti_{1-m}X_m)_2S(C_{1-n}N_n)$, carbosulphide phase in alloy steels and superalloys *(Chinese)* 1−39340
V, commercial, sulphides types 1−3746
V-Nb, micro-alloyed, mech. props., effect of external factors *(Slovak)* 1−12854
W and W-Mo, high-speed, cold hydrostatic extrusion effect on transforms. and lattice defects 1−8304
W-Mo, high-speed, carbides solubility and red hardness 1−8321
W-Mo-Co-Cr-V, high-speed, sintered, microporosity and O content effect on props. 1−53141

alloying additions
austenite, dislocation splitting, structural sensitivity *(Russian)* 1−34348
cast Fe, graphite shape and amount influence on rolling contact fatigue strength *(Japanese)* 1−3896
electroplating on Al alloys, effect of alloying additions 1−21640
Elinvar, Fe-Ni-Co, precip.-hardening, physicomech. props., Co effect 1−43397
Inconel 600, stress corrosion in hot soda solns., effect of additions and annealing *(French)* 1−39529
interstitial alloys, phase equilib., alloying effect *(Russian)* 1−2597
refractory alloy, mech. stresses during isothermal and cyclic oxidation, addition effect on oxide scale adherence 1−48562
steel, alloy, stress corrosion cracking in H_2S medium, influence of C, Ni, Mn and V additions 1−3989
steel, alloying, chemisorption and H_2 embrittlement 1−26616
steel, anodic solution in electrolyte containing an oxidant, Mn content influence *(Russian)* 1−43588
steel, austenitic corrosion resist., methods of increasing yield point *(Czech)* 1−8373
steel, C, alloying additions, effect on reaction with liq. Zn *(Japanese)* 1−3971
steel, C, high-strength bolt, stress corrosion cracking, alloying with Cr, Si and V influence 1−53352
steel, cast, low-cycle fatigue in different media, Al addition influence 1−3930
steel, Cr-Ni-Mo-V, ferritic-pearlitic, radiation brittleness, additional alloying effect 1−3908
steel, dual phase, prod. and formability *(French)* 1−3775
steel, high Mn, struct. and props., V addition effect 1−48389
steel, hot-rolled, low-C, finished at high temps., microalloying effects 1−16879
steel, low alloy with carbide base alloy additions, liquid phase form. during sintering 1−39272
steel, low-alloy, quenched and tempered, brittleness, P, V and Mo additions effect 1−3906
steel, low-alloy, structural, Se effect on struct. and props. 1−8430
steel, low-alloyed Mo, with P-additions up to 1 wt.% and dual phase microstruct., mech. props. 1−48450
steel, low-C sheet, formability improving by interstitial C content and temp. control 1−26513
steel, mild, effect of alloy element additions on pitting corrosion 1−16955
steel, Mn, thermal processing for toughness at cryogenic temps., effect of Ni additions 1−16813
steel, Ni (9%), struct., fracture, heat treatment and Mo addition effects 1−48388
steel, Ni-Cr, grain boundary strength, effect of Sb, Sn and P 1−53267
steel, pearlitic, alloying element redistribution during heating 1−31504
steel, plain C, alloying influence on onset of dynamic strain ageing 1−31512
steel, stabilised austenitic stainless, comp. influence on precipitation 1−21455
steel, structural, V-effect in tests for long-term strength *(Russian)* 1−21521
steel, type ShKh-15 microdoping effect with Ca and Ce pn sulphide inclusion hardening *(Russian)* 1−16870
steel, ultra-high strength martensitic, fracture toughness and fracture strain *(Czech)* 1−8421
steel, ultrahigh C, superplastic props., influence of dil. alloying additions of Cr, Ti, Si and P 1−16856
steel-Nb-Zr-B, electric spark alloyed 1−39465
steels, Cr-Mo, influence of alloying elements on the transformation and precipitation *(German)* 1−31454
steels, HSLA, Al and N effects on microprecipitation 1−21454
steels, low-alloy ferritic, compositional effects on reheat cracking 1−39438
Al dispersion strengthened, dispersoid phases identification during mech. alloying 1−26482
Al-Al_3-Fe eutectic alloy, structural modification by Na and Li additions 1−53166

alloying additions continued
Al-Li, splat-quenched, alloy 2024, effect of Li on struct. and props. 1−8294
Al-Mg-Ag alloys, tensile and fatigue props., effect of Ag 1−31655
AlMgSi alloys, thermomech. treatment and Cu addition effect on precipitation hardening 1−21467
Be-Cr-Ni(V) alloys, struct. and mech. props., effect of Ni and V additions 1−16758
Co-Cr-Al coating, hot corrosion resistance, effect of modification by active elements 1−31761
Co-Cr-Ti (25, 2.5-10 wt.%), oxidation, 1173-1373K, effect of Ti 1−39538
Cu-Al, martensitic transform., alloying elements effect *(Russian)* 1−26455
Cu-Nb_3Sn, in situ, superconducting props., influence of Ga additions *(Japanese)* 1−42894
Cu-Ti, influence of additional alloying with Ga, Zn, Ge, Si, Al on precipitation 1−43347
$(Fe,Ni,Co)_{78-x}M_xSi_{10}B_{12}$, (M=transition metal), metallic glass, form. and thermal stabilities, alloying substituents influence 1−26420
α-Fe, alloying elements effect in Fe-N precipitation *(Japanese)* 1−31462
Fe, cast, grey, Al addition effect on microstruct. and hardness 1−53261
Fe, cast, high-strength, annealability, S alloying effect 1−3720
Fe, cast, influence of additions on adsorption of unwanted impurities *(Russian)* 1−31465
Fe, cast, Ni additions, strengthening and toughening by heat treatment in eutectoid temp. range *(Japanese)* 1−53212
Fe, cast, tensile props. and hardness, influence of Cu additions *(Chinese)* 1−35349
Fe, sintered, Fe_3P addition effect on mag. props. and struct. 1−52805
Fe-B-Nb(W)(Mo), strengthening effects of alloying additions 1−31470
Fe-C-Si facing alloys, wear resist. and fatigue strength, effect of Si 1−16901
Fe-Cr (20 wt.%), effect of La or Y with Si on high temp. oxidation 1−8489
Fe-Cr-Co-V-(Ti), hard magnets, U and V-Ti additions effect on mag. and mech. props. 1−52798
Fe-Ni (12 wt.%), effect of Ti minor additions on fracture toughness 1−39430
Fe-Ni (50 wt.%), non-metallic inclusions formation by deoxidation with Mn, Si, and Al 1−12770
Fe-P-C, amorphous, corrosion behaviour, additive metallic components effects 1−35425
Fe-Si (1-2 wt.%), slip line pattern, influence of Si additives 1−11769
Fe-Si (3 wt.%), effect of Al, N, B on nitride phase form. 1−8310
Mg-Al-Zn-Cu, struct. and mech. props., Cu effect 1−8395
Mg-Gd-Y-Mn, mech. props., effect of Mn, Y and other alloying additions 1−16818
Mn-Cu alloys, plasticity, corrosion-resistance tempering kinetics; Ni, Cu, Al alloying effect *(Russian)* 1−21489
Mo-Ni, Ni effect on grain boundary migration during sintering 1−8255
Mo-Ru (0.2 wt.%), alloying effect on mech. props. *(Russian)* 1−26543
Nb-Sn, superconducting upper crit. field, maximisation, role of disorder 1−47822
Nb_3Sn multifilamentary wires, in situ prep., high field props., effect of additives to Cu-Nb melt 1−47830
Ni-base superalloys by powder metallurgy techniques, vacuum sintering and heat treatment 1−39269
Ni-Cr (10 wt.%), influence of ternary additions W, Mo, Ti, Ta and Nb on isothermal and cyclic oxidation 1−3983
Ni-Cr (20 wt.%), effects of rare-earths and reactive elements on oxidation resistance 1−16980
Ni-Cr-Al-Zr, cyclic oxidation, effect of Zr 1−48569
Ni-Cr-Nb-Co (15, 10, 6.8-33.5 wt.%), dispersion and precip. hardening, effect of Co 1−16795
Ni-Cr-W-Mo-Fe-Al-Ti, ductility, effect of Mg and C 1−48434
Ni-Si-B, amorphous, strain gauge characts., alloying addition effects 1−7577
Ti alloys, microalloying, effect of Y, Gd, Dy, Zr, Hf and Re on mech. props. 1−16844
Ti-Al solid soln. strengthening by Al at low temps. 1−31475
Ti-Al-Mn, alloy OT4, joint zone alloying in diffusion bonding, to improve strength 1−26480
Ti-Al-Mo-Sn-Si (4, 4, 2, 0-0.5 wt.%), high temp. strength, influence of Si 1−31640
Ti-Al-Mo-Zr-Ni(Al)(NiAl), sub-surface zones form. after electrospark alloying with Ni, Al and NiAl *(Russian)* 1−43590
Ti-Al-Zr-Sn-Mo(Nb)(W), mech. props. and struct., effect of Mo, Nb and W 1−16845
Ti-Al-Zr-W, mech. props., effect of W addition, 0-10 wt.%. 1−16884
V_3Ga multifilamentary wire, metallurgical processing and props. 1−53129
V_3Ge solid solns., superconc. transition temp., effect of alloying additions, solubility study *(Russian)* 1−47777
W-Re-Pd powder, sintering, Pd effect on diffusional alloy form. and microstruct. 1−35217
Zn-Al-Pb-Mg, long-term ageing props., effects of Pb and Mg *(Chinese)* 1−53210
Zr-transition metal alloys, corrosion resist., binary microalloying additions influence 1−3997
Zr-ZrV_2, supercond. eutectic, influence of crystallisation conditions and Nb or Fe additions on microstruct. *(Russian)* 1−39328

alloys
alloys such as Au-Cu, Au-Cu-Zn are indexed under components of the named elements i.e. gold alloys; copper alloys; zinc alloys in these examples
see also actinide alloys; alkali metal alloys; alkaline earth alloys; alloying additions; aluminium alloys; antimony alloys; arsenic alloys; bismuth alloys; boron alloys; cadmium alloys; dilute alloys; eutectic alloys; gallium alloys; germanium alloys; indium alloys; lead alloys; liquid alloys; mercury alloys; rare earth alloys; selenium alloys; silicon alloys; solid solutions; superalloys; tellurium alloys; thallium alloys; tin alloys; transition metal alloys; zinc alloys
amorphous, Hall effect, review 1−34689
amorphous, mag. props. *(Japanese)* 1−42952
amorphous, positron annihilation studies *(Japanese)* 1−43209
antiferromagnet, itinerant, bulk susceptibilities 1−30924
atomic struct., electronic struct., mag. and supercond. props. *(Polish)* 1−52110
BCC, solid solution hardening, dislocation theory, book contrib. 1−3762
BCC alloys, hardening by spinodally modulated structure 1−26477

alloys continued
bending, asymmetry effect on endurance with random loading in type MA15 1−31558
binary, composition-temp.-press. phase diagram determ. 1−35237
binary, interstitial diffusion, substitutional impurity atom effect 1−20440
binary, preferential sputtering, effective time const. assignment 1−11284
binary, solid-liquid vapours contact angle calc. 1−42610
binary, spectrochem. anal., quantitative, Monte Carlo methods appl. 1−21806
binary, surface atomic order and ferromagnetism 1−52404
binary, surface segregation, impurities effect 1−52407
binary, surface segregation in terms of surface energy ratio and atomic size ratio 1−42613
binary, vacancy form., ordering, and vapour press. 1−20193
binary, with short-range order, enthalpy of formation *(Russian)* 1−31890
binary alloy, bulk phase diagram, spin-1 antiferromag. Ising model 1−42961
binary alloy, stable cellular growth 1−11705
binary alloys, dilute, cell size of solidification front 1−11707
binary alloys, order-disorder, and antiphase domain boundary energies 1−16772
binary alloys with short range order, elec. resistance in CPA 1−47611
binary cell growth, Zener-Hillert model 1−3723
binary electron states density, short-range order effect *(Russian)* 1−12008
bombardment-induced surface comp. changes, mass and chem. bonding effects 1−16648
n-component disordered alloys, diagrammatic equivalent of coherent pot. approx. *(Chinese)* 1−52459
compressibility determ. from density 1−25359
corrosion, aqueous, ion implantation effect 1−21649
corrosion, electrochemical theory, achievements 1−39502
corrosion fatigue, general aspects 1−31748
corrosion resistance in high temp. and conc. H_2SO_4 1−39546
crack propagation under thermal and fatigue loading, review 1−34407
creep controlling mechanisms, in single phase metals and alloys 1−31577
creep crack growth at elev. temp., review 1−3879
dendrite growth, at limit of stability, tip radius and spacing 1−25598
density of states and cond., Monte Carlo technique 1−20604
diffusion couple, displacement of layer of intermetallics precipitated during diffusion *(Russian)* 1−38601
diffusion pore growth, effect of impurity atoms *(Russian)* 1−7390
dislocation patterns, leading to initiation of ductile fracture 1−30238
dislocations in alloys, amplitude-dependent internal friction calcs. 1−38375
disorder, creation of freq. gaps in phonon spectra 1−11832
disordered, elec. cond., 4.2 to 300K *(Russian)* 1−7578
disordered, elec. resist. calc. and temp. depend., Debye model and saturation *(Chinese)* 1−47601
disordered, optical cond. calcs. 1−35001
disordered alloy, one-dimens., free energy and moments of density of states 1−30422
disordered binary system, ten-fold degenerate d-electron correlation, metal-nonmetal transition 1−34848
disordered interstitial, band struct., single-site CPA calc. 1−16222
dispersion hardened, creep 1−26481
dry corrosion kinetics, matter transfer *(French)* 1−48575
ductile, fatigue crack closure model 1−31660
ductile, relationship between mechanisms of environmental cracking and design criteria 1−43613
electrical resistivity during phase separation 1−20702
electrochemical machining, anodic soln. mechanism *(Russian)* 1−43585
engineering alloys, environmentally enhanced cracking 1−31769
enthalpies of formation, mixing, contact interaction approach 1−42541
entropy, and free energy at HCP→BCC transformation temp. 1−25460
environment sensitive fracture, controlling parameters 1−31770
extended Hubbard model, alloy analogy, metal-insulator transition 1−34605
fatigue cracks development, calc. problems 1−34406
fatigue strength, effect of artificial small defects (drilled holes) *(Japanese)* 1−48478
getters, potential use of intermetallic compounds 1−18238
Hall effect in alloys 1−32828
Heusler alloys, order-disorder phase transitions, model 1−52258
high temperature alloys, model to predict carburisation profiles 1−25315
hydrides of intermetallic compounds, stability, struct., kinetics, review 1−53450
impurities, Spektr styloscope quantitative spectral anal. 1−43723
interstitial, exchange diffusion theory *(Russian)* 1−7367
interstitial alloys, phase relations rel. to binary and ternary oxides, effect of order-disorder transitions 1−38320
ion implantation and heat treatment studies *(Hungarian)* 1−16809
ion-implanted and annealed, thermal evolution to equilib. 1−7195
irradiated, vacancy dislocation loop growth 1−38410
linear expansion thermal coeff. meas., accuracy requirements 1−15379
long period ordered alloys, plastic deform. 1−12834
magnetic alloys, CPA different-orbitals-for-different spins, correlation calc. 1−2900
many-body impurity theory for metals and alloys, Wolff model 1−2905
metal hydrides, rechargeable, kinetic and dynamic aspects for H_2 storage appls. 1−4046
microstructural design, information system *(Japanese)* 1−39861
mixed surface, surface inhomogeneity determ. using scanning probe impedance technique 1−26652
Mossbauer spectroscopy, review *(Japanese)* 1−21094
narrow-band, electron density of states, cluster-Bethe-lattice method 1−12010
nonferrous strip, continuous casting 1−21383
nontransition homovalent alloys, solubility, ionic radius 1−47240
order-disorder, and antiphase domain boundary energies 1−16772
ordered alloys, work hardening rel. to dislocations 1−12760
ordering binary alloys with vacancies, Monte Carlo computations on long- and short-range order 1−2427
ordering tendency/void swelling magnitude relationship 1−35250
oxidation, conf., Poitiers, France (June 1980) 1−44694
particle strengthened, back stress concept 1−12838
phase diagram calcs., cluster variation method, spinodal and equilib. reactions, review 1−43317
phase diagram calcs. mag. effects 1−43318
phase diagrams, thermodynamic anal. and synthesis 1−43320
phase equilibria of multicomponent systems, computer calc., review 1−42514

alloys continued
phase segregation, role of density gradient energy *(Japanese)* 1−8312
phase transformations study, dilatometer for 20-1000°C range 1−21441
plane lattice model, long period, temp. depend. *(Russian)* 1−2463
positron annihilation spectroscopy, appl. to metals and alloys, book contrib. 1−39179
random, containing heavy elements, electronic struct., relativistic theory 1−25611
random, phys. and tracer correl., site percolation problem 1−42563
random alloys, conc. momentum distrib. of electrons 1−25609
random binary, average partition function of electron 1−38702
refractory, extrapolating min. creep rates, evaluation of methods 1−11806
refractory, phase analysis optimization in gas-ion-reaction chamber *(German)* 1−21687
refractory alloy, chromatically contrasted, metallographic exam. after corrosion and creep tests *(German)* 1−48639
refractory alloy, mech. stresses during isothermal and cyclic oxidation, addition effect on oxide scale adherence 1−48562
residual stresses curves, nondestructive determ. after chemothermal treatment 1−8502
s-p electronic materials, heat of formation 1−48721
shape-memory alloys, appls. 1−26457
sintering in vacuum 1−53128
softening, scavenging theory 1−31472
solid soln. alloys, appropriate diffusion coeffs. for describing creep processes 1−47154
solid solubility prediction technique 1−38542
solidification of binary alloy 1−16759
spinodally decomposed alloys, electron microscope lens aberrations effect on lattice images 1−40904
spring, resist. to small plastic deforms., temp. depend. 1−48430
strength of metallic materials, present state and problems on numerical data activities *(Japanese)* 1−43485
strength of metals and alloys, conf., Aachen, Germany (Aug. 1979) 1−5030
strength testing machine, for various loading rates at 293-3273K 1−31789
substitutional, elec. resist. calc. and temp. depend., electron-phonon resist. *(Chinese)* 1−47602
superplastic flow mechanism 1−43417
surface hardening by laser beams 1−21648
surface phonon softening, segregation theory 1−47352
ternary, electrodeposition, developments (1972-1978) 1−8247
thermal conductivity minimum, variational calc. 1−42742
thermal expansion calc. from third-order elastic consts., isotropic continuum model 1−38565
thermochemistry, expts., review 1−43696
thermodynamic excess functions, approx. formulae to fit alloy mass spectrometric data 1−16062
thermodynamics conf., Delft, Netherlands, (June 80) 1−40595
thin film, substitutionally disordered, electronic struct., CPA calc. 1−16386
X-ray scattering, diffuse, influence of elastic distortion fields round equiaxial particles *(Russian)* 1−42262
X-ray spectral analysis, role in anal. control development 1−21804
zone refining, influence of distillation on impurity conc. 1−31341

alnico alloys *see iron alloys*

Al_2O_3 *see alumina*

Al_2O_3-α *see corundum*

α-Al_2O_3 *see corundum*

alpha-decay
see also alpha-decay theory; alpha-particle spectra
A=105 to 115, very neutron deficient nuclei, alpha-decay energies and masses 1−10359
A=145 to 170 very neutron deficient nuclei, alpha-decay energies and masses 1−10359
alpha particle energies and intensity values 1−13939
cigarette smoke, α activity obs. 1−673
compound nucleus, fission, α-decay, evaporation following $^{226}Ra(^{48}Ca,X)$ *(Russian)* 1−50655
compound nucleus fission, α-decay evaporation following $^{207,208}Pb(^{58}Fe,X)$ *(Russian)* 1−50655
conference on nuclei far from stability, Nashville, TN, USA (Sept. 1979) 1−9766
deep sub-barrier region, neutron resonance α-decay, optical pots. *(Russian)* 1−45486
heavy deformed nuclei, α-decay, β-vibration excitation *(Russian)* 1−5746
heavy element collisions, heavy and superheavy element synthesis, spontaneous fission systematics 1−10399
heavy nuclei, decay mode intermediate between nuclear fission and α-decay, review *(Russian)* 1−23611
$^{242}Am^m$, alpha decay data 1−28417
$^{242}Am^m$, isomeric data partial alpha decay half lives 1−28418
$^{10}B \rightarrow {}^{6}Li$ (3.56 MeV) parity forbidden decay *(Russian)* 1−45472
$^{12}C(p,p'\alpha)$, excitation of isoscalar E2 resonance 1−45511
from $^{208}Pb(^{12}C,\alpha 2n)$ 1−50544
^{6}Li, 3.56 MeV state from ^{9}Be(p,alpha), parity forbidden alpha-decay *(Russian)* 1−45472
^{16}O hole states, p and α decay, branching ratios, nuclear Auger effect from $^{17}O(^{3}He,tc)$ 1−14445
Pb region, alpha-decay half-lives new decay product level structures, masses far from stability 1−10358
Pb region, light nuclei, alpha-decay, mass from GSI online mass separator 1−10360
^{188}Pb α-decay rate and branching ratio, $T_{1/2}$ 1−50561
^{190}Pb electron capture and alpha decay, half life, ^{190}Tl levels and transitions 1−41080
^{259}Rf, alpha and spontaneous fission decay, $T_{1/2}$ and branching ratios from $^{249}Cf(^{13}C,3n)$ 1−36972
^{220}Rn, half-life meas., undergraduate expt. 1−5745
Sn region, light nuclei, alpha-decay, mass from GSI online mass separator 1−10360
$^{159}Tb(^{14}N,\alpha X)$, sequential ejectile decays, uncorrelated breakup processes 1−33271
^{232}Th, half-life meas., undergraduate expt. 1−5745
^{233}U half life from 4π-α-X coincidences 1−672

alpha-decay theory
see also alpha decay
A=270-500 shell structure and stability possible primordial superheavy nuclei 1−674
half-lives, semiempirical formula 1−18606

alpha-decay theory continued
^{153}Dy alpha decay intensities, nonlocal barrier effects 1−33244
^{A}Tb,A=149,149m,151, alpha decay intensities, nonlocal barrier effects 1−33244

alpha-particle absorption
organic liquids and vapours, range-energy relations and stopping powers for α-particles 1−11796
stopping cross-sections of water vapour and liquid for 0.3-5.5 MeV particles 1−41286
O_2, range-energy relations and stopping powers, gaseous phase 1−11796

alpha-particle angular distribution
see also alpha-particle spectra
(α,α'), continuous energy spectrum of secondary α particles, exciton model 1−45515
$^{27}Al(^{14}N,X)$, 148 MeV, α-particle emission 1−50647
$^{12}C(^{14}N,X)$, 148 MeV, α-particle emission 1−50647
$^{58}Ni(^{14}N,X)$, 148 MeV, α-particle emission 1−50647
$^{159}Tb(^{14}N,\alpha X)$, sequential ejectile decays, uncorrelated breakup processes 1−33271

alpha-particle attenuation *see alpha-particle absorption*

alpha-particle detection and measurement
see also alpha-particle spectrometers; radioactivity measurement
bronchial tree, human, technique for meas. of α-activity on mucosal surface 1−17473
cellulose nitrate track detector, long-range α-particle energies from rear-etching 1−23971
cellulose nitrate track detectors, α-particle registration probability 1−51053
dyed cellulose nitrate detectors, thermal effects on bulk transparency, track recording charact. 1−10594
inorganic scintillation counters, light yield dependence on energy 1−51037
plastic CR-39 solid-state track detector, charact. and applics. *(Japanese)* 1−23976
Poisson distrib., statistics investig. 1−40
polycarbonate foils processed by the electrochemical etching technique 1−18957
RF-3 film track diam., rel. to etchant con., etching time 1−23980
spark formation time meas. in spark chamber for α and β particles 1−1009
stopping cross-sections of various gases, energy region 0.2 to 5.5 MeV 1−10612
stopping cross-sections of water vapour and liquid for 0.3-5.5 MeV particles 1−41286
surface barrier detectors, plasma delay determ. of fission fragments, α-particles pulses 1−23965
track detector, triacetate substrate X-ray film RF-3, angle and energy-dependent efficiency *(Russian)* 1−51059
$^{3}He(d,n)^{4}He$, neutron yield from assoc. α-particles, corrections 1−24001
LiF TLD, relative TL yield of 4 MeV α-particles to 4.1 keV X-rays 1−945
LiF TLDs high-temp. peaks, linear energy transfer depend. 1−50956
^{222}Rn concentration in soil air meas. by Kodak LR 115 track detector 1−6080
Si surface barrier detectors, rise time discrimination between heavy ions and α-particles 1−23970
Si(Li) detectors as anticoincidence shield, low level α and β meas. 1−23969
Su-Si surface-barrier and radiometer background count rate obs. 1−1013
(UPu)C sphere-pac fuel, α-particle autoradiography 1−50761

alpha-particle effects
aerosols ultrafine particles produced by ^{219}Rn alpha-disintegration, form. and evolution 1−43711
after p and α reaction, Mossbauer spectra 1−3302
benzene, in cyclohexane soln., indioluminesc., fluoresc. decay curves, quenching kinetics 1−43187
cells, effects on intracellular energy metabolism 1−22076
Chinese hamster cells, cell-cycle progression delays, ^{238}Pu α-particles rel. to X-rays 1−43907
cryostat, 'in situ' radiation damage studies 1−44933
fluorite, synthetic, absorption spectra, radiation effects 1−25266
LSI materials, U and Th trace anal. 1−26796
lymphocytes, human, induction of chromosome aberrations 1−4332
lymphocytes, human, induction of chromosome aberrations by ^{239}Pu α-irrad. 1−13291
metabolism and biological effects of α-emitting radioisotopes 1−53833
radioactive waste storage materials, α-recoil aging 1−41186
radioresistant rat-mouse hybrid cell line, sudden reversion to normal radiosensitivity 1−4338
range and stopping tables for 2.5-100 MeV/nucleon heavy ions in solids 1−5034
stilbene monocrystals, triplet exciton diffusion anisotropy *(Russian)* 1−52498
yeast cells, synthesis of inducible enzymes, inhibition by ionising radiation 1−13290
AmO_2 lattice expansion, 38 to 300K 1−47262
Ar, dense gaseous, alpha-particle induced scintillation, emission spectra 1−29833
Fe-B metallic glasses irradiations at 20K, thermal and collision effects 1−34370
LiF TLD, relative TL yield of 4 MeV α-particles to 4.1 keV X-rays 1−945
^{222}Rn, health hazard in geothermally active areas and spas 1−4329
Sb_2Te_3, ^{119}Sn defect, after p and α reaction, Mossbauer spectra 1−3302
Si, planar particles blocking dips in single cryst. *(Chinese)* 1−20281
Sn-SnO_2-Sn tunnel junction, impulsive response due to α-irrad., excess quasiparticles 1−16410
SnTe, ^{119}Te defect, after p and α reaction, Mossbauer spectra 1−3302
Te:Cl, excited by α-particles, photons, elec. props. meas. 1−30765
UO_2, channeling dips, comparison for backscatt. and M X-ray yields 1−47125

alpha-particle interactions *see alpha particle-nucleus reactions*

alpha-particle model *see nuclear cluster model*

alpha particle-nucleus reactions
for inelastic alpha particle-nucleus scattering, see "alpha particle-nucleus scattering"
capture reactions with protons, neutrons, and alpha particles, review 1−28479
neutron star accretion, envelope H and He burning reactions and their rates *(Russian)* 1−22828

alpha particle-nucleus reactions continued
online separator ISOCELE, prelim. results 1−10580
stellar interiors, nuclear reaction rate in Debye-Huckel electrolytic plasma 1−9363
(α,2α), 140 MeV quasi-free knockout reaction, DWIA anal. on ^{9}Be, ^{12}C, ^{16}O and ^{20}Ne 1−5759
(α,α′), 152 MeV, A=46-208, giant multipole resonances, low lying states, folding model anal. 1−14502
(α, ^{2}He), 65 MeV, A=14-92 levels, J$^{\pi}$, DWBA anal., optical pot. 1−23562
(α,pX), cumulative particle prod., scaling law, A depend. *(Russian)* 1−18661
(α,X), 0.4-2.1 GeV/N, limiting target fragmentation 1−28449
(α,X), <38 MeV, isomer prod. absolute cross sections, expt. and statistical model *(Russian)* 1−5679
(α,X), A=6-59, stripping ang. distribs., DW anal., finite radius of interaction effects 1−50570
^{109}Ag(α, 2n), 29 MeV, ^{111}In^{m,g} isomeric ratio 1−45386
^{109}Ag(α,Zn) 27 MeV, ^{111}In high spin isomeric states, lifetimes and g-factors 1−50481
^{27}Al(α,Xγ), 720 MeV, γ-ray transitions and cross sections 1−5732
^{27}Al(α,d), angular and energy depend., l-split optical potential model *(Russian)* 1−45479
^{27}Al(α,p), angular and energy depend., l-split optical potential model *(Russian)* 1−45479
^{27}Al(α,p) 26.2-26.7 MeV, ^{30}Si levels, J, spectroscopic factors, high spin selectivity, stat. and DWBA anal. 1−10298
^{27}Al(α,pγ), 12-15 MeV, ^{30}Si levels, rot. bands, J$^{\pi}$ and γ-transitions 1−28375
^{27}Al(α,t), angular and energy depend., l-split optical potential model *(Russian)* 1−45479
^{10}B(α,p), 1.66 MeV, ^{13}C γ-transition energies and branching ratios, level energies 1−18595
^{9}Be(α,^{5}Li), 90 MeV, differential cross section, finite range DWBA anal. 1−36957
^{12}C(α,X), total cross section, adiabatic treatment, effective nuclear radius 1−18657
^{12}C(α,X), total cross section energy depend., Glauber model calcs. 1−28477
^{12}C(α,γ)^{16}O in stellar interiors, nuclear reaction rate in Debye-Huckel electrolytic plasma 1−9363
^{12}C(α,p), angular and energy depend., l-split optical potential model *(Russian)* 1−45479
^{40}Ca(α,X), total cross section, adiabatic treatment, effective nuclear radius 1−18657
^{40}Ca(α,γ), 4.51 MeV, ^{44}Ti isospin mixed triplet, transitions, J$^{\pi}$ and branching ratio 1−637
^{48}Ca(α,t) 36 MeV, ^{49}Sc single particle and core excited states, J$^{\pi}$, DWBA, CRC anals. 1−10322
^Cd(α,2nγ), A=108,110,112,114,116, Sn deduced levels, high-spin neutron quasiparticle excitations 1−10320
^{242}Cm-Be, (α, n) source, neutron fluence-to-dose conversion factors 1−6066
^{244}Cm-Be, (α, n) source, neutron fluence-to-dose conversion factors 1−6066
^{52}Cr(α,d), 23.9 MeV, ^{54}Mn highspin states, J$^{\pi}$, DWBA anal. 1−18539
^{133}Cs(α,p2n), 55 MeV, ^{134}Ba isomeric states, levels, and J$^{\pi}$ 1−28374
^{164}Dy(α,xnγ), 90 MeV, Er pre-equilibrium de-excitation process, ang. momentum transfer 1−33237
Fe(α,d), 23.9 MeV, ^{56,58}Co highspin states, J$^{\pi}$, DWBA anal. 1−18539
^{152}Gd(α, xn), ^{148,149}Dy yrast states, transitions, proton $h_{11/2}$ and octupole excitations 1−23550
^{2}H(α, αp)n, isospin breaking and sequential processes 1−28491
^{2}H(α,pα), 9.735-11.30 MeV, d breakup, strong, energy depend. 1−14530
^{2}H(α,pα)n, ^{5}He$_{(g.s.)}$ production near threshold, sequential process 1−711
^{3}He(α,γ), 0.1-4.0 MeV, electric dipole capture cross section, microscopic study 1−41125
^{3}He(α,γ), low energies, direct capture anal., total cross section 1−36937
^{7}He(α,p$_{0,1}$)^{6}Li reaction excitation functions, ^{7}Be nucleus excitation region investigation *(Russian)* 1−714
In(α,Zn), 27 MeV, ^{115,117}Sb high spin isomeric states, lifetimes and g-factors 1−50481
^{193}Ir(^{4}He,^{3}H)^{194}Pt, supersymmetry tests on proton stripping reactions 1−45487
^Kr(α,nγ), A=80, 82, ^{83,85}Sr lifetime and linear polarisation meas. by Doppler shift attenuation 1−666
^{82}Kr(α,2nγ), ^{84}Sr lifetime and linear polarisation meas. by Doppler shift attenuation 1−666
^{24}Mg(α, n)^{27}Si, stellar nucl. reaction rate 1−22672
^{98}Mo(α,xnγ), 35-55 MeV, ^{98,99}Ru band struct., level scheme, J$^{\pi}$, T$_{1/2}$, γ-transitions 1−50483
^{150}Nd(α,2n), ^{152}Sm collective octupole bands, K$^{\pi}$ assignments, quasiparticle effects 1−50488
^{58}Ni(α,X), 100 and 172.5 MeV, fragment spectra, local excitations 1−50610
^{61}Ni(α, X), preequilibrium neutron prod., neutron energy and ang. distribs. 1−23625
^{61}Ni(α,npγ), 21-35 MeV, ^{63}Cu isomeric 17^{+}/2 yrast states, J$^{\pi}$ and decay scheme *(French)* 1−10296
^{16}O(α,X), total cross section, adiabatic treatment, effective nuclear radius 1−18657
^{16}O(α,γ)^{20}Ne in stellar interiors, nuclear reaction rate in Debye-Huckel electrolytic plasma 1−9363
^Os(α,α′γ), 14.5 MeV, A=188, 190, 192, low lying state EM props. 1−18596
^{208}Pb(α,n), 18.3-20.6 MeV, ^{211}Po excited states, high spin isomers, J$^{\pi}$ and transitions 1−50484
Pb(α,2n) 24-25.5, MeV, $^{206,208-210}$Po isomeric levels, γ-perturbed ang. distribs., radiation damage effects 1−36923
^{238}Pu-^{18}O(α,n) source, neutron energy spectra, unmoderated and polyethylene moderated 1−6067
^{239}Pu-Be, (α, n) source, neutron fluence-to-dose conversion factors 1−6066
Pu(α,n) neutron production in reactor fuels, effect of burnup 1−50769
^{228}Ra-Be, (α, n) source, neutron fluence-to-dose conversion factors 1−6066
^{87}Rb(α,3n), 30-55 MeV, ^{88}Y high spin state excitations and J$^{\pi}$ 1−41027
^{103}Rh(α,Zn), 27 MeV, ^{105}Ag high spin isomeric states, lifetimes and g-factors 1−50481
Se(α,xn), 9.8-55 MeV, ^{80}Kr band, states, J$^{\pi}$, γ-transitions, quasiparticle excitations, cranked shell model 1−50485

alpha particle-nucleus reactions continued
^{28}Si(α, n)^{31}S, stellar nucl. reaction rate 1−22672
^{28}Si(α,Xγ), 720 MeV, γ-ray transitions and cross sections 1−5732
^{29}Si(α, d), 27.2 MeV, differential cross section for stripping, optical and DW anal. 1−45514
^{154}Sm(α,2n), 24-32 MeV, ^{156}Gd bands, isomers, J$^{\pi}$ and transitions 1−41026
^{86}Sr(α, n), 29 MeV, ^{89}Zr^{m,g} isomeric ratio 1−45386
^{86}Sr(α,γ), 9-12.5 MeV, α-capture through ^{90}Zr giant electric resonances 1−18660
^{87}Sr(α, zn), 29 MeV, ^{89}Zr ^{m,g} isomeric ratio 1−45386
Ta(α,X), 2-10 GeV/N, π^{-} and p multiplicities, correlation observations *(Russian)* 1−36953
^{232}Th(α,α′f), 120 MeV, fission probabilities and ang. distribs. in GQR region 1−10395
^{232}Th(α,α′f), 120 MeV, friction, giant resonances 1−50686
Th(α,n), neutron production in reactor fuels, effect of burnup 1−50769
^{50}Ti(α,d), 23.9 MeV, ^{52}V highspin states, J$^{\pi}$, DWBA anal. 1−18539
Tl(α,xn), 40, 65 MeV, ^{202,204}Bi 10^{-} isomeric state magnetic moments, g-factor 1−10318
^U(α,α′f); A=236,238, 50 and 120 MeV, friction, giant resonances 1−50686
^{238}U, giant quadrupole reson., fission decay in (α,α′f) 1−45550
^{238}U(α,α′f), 120 MeV, fission probabilities and ang. distribs. in GQR region 1−10395
^{238}U(α,α′f), 120 MeV, fission decay rel. to excitation energy 1−45552
U(α,n), neutron production in reactor fuels, effect of burnup 1−50769
^{51}V(α, nγ), 5.45-14.9 MeV, ^{54}Mn excited state lifetime and struct. 1−23596
^Yb(α, xn γ), A=174,176, 50-120 MeV, yrast level population and pre-equilibrium deexcitation, exciton number 1−691
Yb(α,2n), 26-30 MeV, $^{172-174,178}$Hf K-isomer g-factors and T$_{1/2}$ 1−18557

alpha particle-nucleus scattering
(α,α), A=24-120, 130 MeV, ang. distrib., RMS radius, optical pot., model independ. anal. 1−50609
(α, α′), inclusive collisions, deep inelastic heavy ion reaction model 1−14552
^{27}Al(α,α), angular and energy depend., l-split optical potential model *(Russian)* 1−45479
^{197}Au(α,α′), continuous energy spectrum of secondary α particles, exciton model 1−45515
^{12}C(α,α), 25-30 MeV, elastic scatt. amplitude, reaction mechanisms 1−28488
^{12}C(α,α), 5, 6 MeV, phase shift anal. 1−5785
^{12}C(α,α), angular and energy depend., l-split optical potential model *(Russian)* 1−45479
^Ca(α,α), 1.37 GeV, A=40,42,44,48, elastic and inelastic, partial wave phenomenological model 1−14531
^Ca(α,α), 1.37 GeV, A=40, 42, 44, 48, mass distrib., ground state and transition densities, Glauber anal. 1−23551
^{40}Ca(α,α), 104 MeV, folding model approach, antisymmetrisation and density depend. effects 1−50608
^{40}Ca(α,α), 23-80 MeV, cross sections and phenomenological optical pot. 1−28489
^{40}Ca(α,α), 25-30 MeV, elastic scatt. amplitude, reaction mechanisms 1−28488
^{40}Ca(α,α), effects of refraction by attractive nuclear potential in enhancing cross sections 1−23670
^{52}Cr(α,α), 23-80 MeV, cross sections and phenomenological optical pot. 1−28489
^Er(α,α′), 12 MeV, A=162,164, intrinsic ground state shape 1−41046
Ge(α,α′), 7 MeV, quadrupole moments, spherical→prolate shape 1−5687
^{2}H(α,pα)n, singlet deuteron production, isospin breaking 1−23666
^{3}He(α,α), generator coordinator method calc., and interpretation 1−28490
^{4}He(α,α), Pauli correct seperable potential in unitary interpolation method 1−28426
Hg(α,α′), 13.5-16.5 MeV, 2^{+} first excited state static quadrupole moment 1−632
^{24}Mg(α,α*), very forward angles, single and mutual excitation, coupled channels effects 1−41123
^{25}Mg(α,α), 11.8 to 13.2 MeV, statistical analysis 1−712
^{93}Nb(α,α′), continuous energy spectrum of secondary α particles, exciton model 1−45515
^{16}O(α,α), backward scatt., excitation and ang. distribs. from optical model, finite dimens. 1−710
^{16}O(α,α), fish bone optical model 1−23668
^{208}Pb(α,α′), 219 MeV, giant monopole and dipole resonance excitation, DWBA anal. 1−18623
^{208}Pb(α,α), giant dipole resonance excitation in collective model 1−5754
^{28}Si(α,α*), very forward angles, single and mutual excitation, coupled channels effects 1−41123
^{29}Si(α,α), 27.2 MeV, α ang. distribs. 1−45514
^{144}Sm(α,α′), giant monopole resonance splitting with deformation 1−28445
^{147}Sm(α,α′), coulomb excitation, quasi-$f_{7/2}$ multiplet, B(E2) values 1−23538
^{154}Sm(α,α′), giant monopole resonance splitting with deformation 1−28445
^{232}Th(α,α′), continuous energy spectrum of secondary α particles, exciton model 1−45515
^{50}Ti(α,α), 23-80 MeV, cross sections and phenomenological optical pot. 1−28489
^{238}U(α,α′), 16,17 MeV, quasi-gamma and K=0 octupole bands, quadrupole moments 1−36897
^W(α,α′), 24 MeV, A=182, 184, 186, rot. bands, charge deformation, moments, transitions, optical pot. 1−28363
^{90}Zr(α,α), optical model, real part adiabatic approx. 1−5786

alpha-particle scattering *see alpha particle-nucleus scattering*

alpha-particle spectra
see also alpha-particle angular distribution
A=105 to 115, very neutron deficient nuclei, alpha-decay energies and masses 1−10359
A=145 to 170 very neutron deficient nuclei, alpha-decay energies and masses 1−10359
Daresbury Nuclear Structure Facility, isotope and recoil separators, spectra 1−10579
heavy element collisions, heavy and superheavy element synthesis, spontaneous fission systematics 1−10399
(α,α′), continuous energy spectrum of secondary α particles, exciton model 1−45515

alpha-particle spectra continued
$^{197}Au(^{22}Ne,\alpha)$, cross-section rel. to α-particle binding energy 1−28493
Pb region, alpha-decay half-lives new decay product level structures, masses far from stability 1−10358
$^{181}Ta(^{A}Ne,\alpha)$, A=20,22, cross-section rel. to α-particle binding energy 1−28493
$^{181}Ta(^{40}Ar,\alpha)$, cross-section rel. to α-particle binding energy 1−28493
$^{159}Tb(^{22}Ne,\alpha)$, cross-section rel. to α-particle binding energy 1−28493
$^{232}Th(^{22}Ne,\alpha)$, cross-section rel. to α-particle binding energy 1−28493
$^{232}Th(^{40}Ar,\alpha)$, cross-section rel. to α-particle binding energy 1−28493
$^{235}U(n,\alpha f)$, thermal n, α-energy spectrum 1−23700
$^{A}Zn(p,\alpha)$, 15 MeV, A=64, 66, 68, α-spectra, evaporation spectra, stat. model anal. 1−18649

alpha-particle spectrometers
see also alpha-particle spectra
semiconductor detector, energy resolution improved by multihole collimators 1−51032

alpha-particles
see also cosmic ray alpha-particles and helium nuclei
self-heating in inertial confinement systems, Fokker-Planck eqn. soln. 1−18881
thermonuclear plasma parameters, rates of change, α-particle distrib. *(Russian)* 1−24927
Al, stopping power of matter for alpha particles at extreme relativistic energies 1−18989
Cu, stopping power of matter for alpha particles at extreme relativistic energies 1−18989
Pb, stopping power of matter for alpha particles at extreme relativistic energies 1−18989
$Ti(^{16}O,\alpha X)$, 310 MeV, non-equilibrium α-particle emission, energy and ang. correlation 1−14536
$^{235}U(n,f)$, thermal, long range α-particles, multiparameter study 1−5809
^{236}U fission α-particle trajectory calcs., finite size effects from (n,f) 1−14563

alpha-radiation *see alpha-particles*

alpha-rays *see alpha-particles*

alpha-rhythm *see bioelectric potentials*

alpha-rhythm measurement *see electroencephalography*

alternators
1-kWe free-piston Stirling engine/linear alternator test program 1−53653
Co-Fe-V alloy, stator core of aircraft electrical alternator, effect of flux and stress conditions on mag. props. 1−12376

altitude measurement *see height measurement*

alumina
see also corundum
β-spodumene ceramics, fabrication by unidirectional solidification of their melts *(Japanese)* 1−21403
addition to hot pressed Si_3N_4, oxidation behaviour 1−16934
adsorbed methanesulphonate, inelastic electron tunnelling spectroscopy, theory 1−2816
adsorption of N_{10}-substituted isoalloxazines, quantum yields of fluoresc. and phosphoresc. *(Russian)* 1−4249
adsorption of organic mols., covered by rough Ag film, surface-enhanced Raman scatt., Ag molecule separation depend. 1−35035
adsorption of riboflavin, quantum yields of fluoresc. and phosphoresc. *(Russian)* 1−4249
aggregate defect centre, polarised luminesc. and optical absorption 1−3469
anneal coatings, on grain oriented 3% Si-Fe, effect on mag. props 1−8441
anodic coatings, porous, density determ. and surface anal. using MeV ion beams 1−35419
anodic film, cond. props. 1−34817
antireflection coating layer props. obtained by electron-beam evaporation in vac. 1−37568
barrier films vacuum deposition, for high Schottky barriers 1−31353
binder for phosphate porous filler based lightweight refractory 1−12707
catalyst, sorption of pyridine, IR spectrosc. and gravimetric determ. 1−21198
cements, Al_2O_3, chamotte filler grain comp. 1−12709
chemical diffusion during oxidation in polycrystalline sample 1−38595
coating film-mirror facet interface stability determ. in AlGaAs/GaAs DH laser diodes 1−15249
coating on Hastelloy X, carburization resistance 1−30594
coatings, antireflection and protective, of KO-5 optical ceramic components 1−15251
composite particle coated with C layer, emissivity spectra 1−47265
convectively heated, spacially varying thermal cond. effect on thermal stress magnitude 1−2714
crack growth, from small flaws in larger grains 1−26597
DC plasma jets, alumina injection, temp. and vel. distrib. 1−34123
deformation mechanism maps, high temp. appl. 1−21507
dense, subcritical crack growth in physiological media 1−3953
detonation deposited coatings, porosities 1−39494
dielectric film for distributed RC filters and amorphous semiconductors, anodisation growth 1−39036
dispersed in AgI, effect on ionic cond. and thermoelec. power 1−47285
electrical props., influence of impurities and sintering atm. *(German)* 1−35404
electronic structure, AlO_5^{5-} and AlO_6^{9-} clusters, Xα calc. 1−42690
evaporation, transfer and condensation processes in HF induction discharge plasma flow *(Russian)* 1−48273
excess conducting Na^+, charge transfer, charge compensation, model, pot. energy calcs. 1−34344
film, electrical phenomena during mechanical impact *(Russian)* 1−47772
film, pulsed laser damage threshold at 0.26 to 1.06 μ 1−37530
film on Al foil produced by oxidation, thickness meas. using attenuated total refl. 1−12591
films, Schottky emission 1−30807
fracture toughness, room temp. to 1600°C 1−43520
fracture toughness and bending strength of bidisperse structure 1−53274
fracture toughness and crack lengths from Vickers hardness indentation *(German)* 1−35344
fracture toughness determ. using chevron-notch short bar specimens 1−26612
fracture toughness testing and acoustic emission 1−8511
friction coefficient meas. with UO_2 and unirradiated Zircaloy cladding 1−33298
gibbsite, synthetic, $\theta/\kappa \rightarrow \alpha$-$Al_2O_3$ phase transform. activation energy, X-ray diffr. obs. 1−47225

alumina continued
grain boundary struct., electron diffr. and microscopy study 1−38382
grain growth, inclusion controlled 1−21456
growth from melt, purity and doping possibilities 1−53083
high band gap oxide optical coatings for 0.25 and 1.06 μm fusion lasers 1−19395
hot pressing kinetics, MgO addition effect 1−31391
hydrogen containing beta phase, struct. and props. 1−17322
inclusions in Fe ingots, directionally solidified, deoxidised with Al 1−39330
inhomogeneous dielectric coating, interaction of EM radiation *(Russian)* 1−16618
insulator-to-metal transition in oxides under high press., possibility of chem. reduction 1−7255
laser-melted, ultra-rapid quenching 1−26510
liquid and solid states, spectral refl. and emissivity meas. 1−20431
magnesite-chromite-Al_2O_3 based fused-cast refractory, prod. 1−31398
masking props. w.r.t. B diffusion in Si *(Russian)* 1−11913
MgO-Al_2O_3-P_2O_5 system, phase equilibria study 1−26433
MIM struct., RF sputtered, voltage-controlled negative resist. and switching characts. 1−3076
miniaturised CO_2 waveguide laser, internal mirror system made of alumina single block 1−41735
MOM diodes, IR and visible laser radiation detect., thermally enhanced response 1−40852
neutron irradiated, wetting by Hg and Sn 1−52397
optical props., influence of impurities and sintering atm. *(German)* 1−35406
photon-stimulated desorption by core level excitation, density of states and extended fine structs. 1−38664
plasma metallised with Ni, depend. on treatment conditions *(Russian)* 1−16916
plasma sintering 1−3674
plasmasprayed, thermophysical props. 1−2939
poly(acrylic acid)-Al_2O_3 composites, dynamic mech. props. 1−35293
porcelain dosimeter, fast neutron flux-meas. 1−47117
powder, electroless plating with Ni and Cu 1−53325
preparation as function of load and speed of rotation 1−48633
radioisotope analyser for determ. of Al_2O_3 and SiO_2 in cement raw mix 1−21822
refractories (high), phase transitions during melting of Pb-Zn raw material 1−12737
refractory, Al_2O_3 based, thermoelectronic emissivity, 1000-2500K, appl. to MHD generators *(French)* 1−3562
refractory, high temp. corrosion resistance to lignite ash slags 1−3960
refractory boehmite, bonded, prep., modulus of rupture 1−31387
refractory concrete, creep 1−31523
scale morphology on doped Co-Cr-Al coating 1−31756
shock compressed temp. meas. method by thermocouple 1−9981
Sialon, additives effect on sintering 1−48312
sintered, exoelectron dosimetry material, enhanced by annealing 1−8352
sintered, influence of ZnO, NiO, Cr_2O_3, Sb_2O_5, V_2O_5, $AgNO_3$ and furfuryl alcohol on props. 1−31397
sintering, effect of Er_2O_3 addition *(Japanese)* 1−43305
sintering, rare earth oxide effects *(Japanese)* 1−12706
slip cast, MgO and NiO effect on sintering 1−48310
slow crack growth, influence of testing rate and grain size *(German)* 1−4011
solubility in orthopyroxene in MgO-Al_2O_3-SiO_2 system, geothermobarometric appl. to mantle 1−44144
spectral emittance of polycrystalline sample 1−42558
steel, stainless fibre reinforced Al_2O_3 castables, high temp. mech. props. 1−31524
structural refinement of neutron and X-ray data by Rietveld method 1−29960
substrate for CdS thick disordered film, two mode ultrasonic excitation 1−25376
substrate for Pd and Au deposition, valence-band electronic struct., XPS calcs. 1−25627
supported Ni, chemisorpt. of CO, tunnelling vibr. spectrosc. obs. 1−42627
surface diffusion, multiple scratch smoothing method study 1−16162
surface of γ-phase, adsorpt. of pyridine, interaction at low coverage, Raman obs. 1−52926
thermal conductivity, phonon boundary scatt., surface roughness depend., 0.05 to 1.5K 1−15982
thermal shock resist., size and geometry effects in quench tests 1−3789
thermal shock tests, limiter or first wall material 1−4032
thermoluminescence, very deep traps at temps. greater than 500°C 1−3507
thin film electroluminescence in impurity doped Al_2O_3 1−8136
thin film formation kinetics in low temp. plasma 1−4002
TSEE from plasma flame mixture 1−8203
wear reduction of tools, problems assoc. with coatings *(French)* 1−39467
Ag-β-Al_2O_3, for IR absorpt. study 1−43108
Al alloy containing Al_2O_3 and SiC particles, prep. and mech. props. *(Korean)* 1−16720
Al/Al_2O_3 dispersion strengthened, recrystn. 1−26490
Al-Al_2O_3, fractographic study for deform. processes determ. 1−26573
Al-Al_2O_3-Ag struct., light emission by tunnel junctions 1−38866
Al-Al_2O_3-Ag(Pb), normal-supercond. metal junction, electron tunnelling, interference effects, high press. effects. 1−3115
Al-Al_2O_3-Al structure, elec. cond. study 1−34807
Al-Al_2O_3-Al tunnel junction, adsorption of benzoic acid, IETS intensity, surface coverage depend. 1−47359
Al-Al_2O_3-Au thin film structs., IR emission under DC bias *(French)* 1−48169
AlN-Al_2O_3 system, thermal expansion of sintered oxynitrides 1−42554
Al_2O_3, 3% glassy phase, high-temp. J-integral meas. and micromechanisms at crack tip 1−53272
γ-Al_2O_3 anodic coatings on Al-Mg alloys, protection against stress corrosion cracking in saline water 1−12923
Al_2O_3 ceramic, grinding, on diamond grinding discs at faster speeds 1−16928
β-Al_2O_3 ceramic membranes, electrical breakdown 1−43070
β''-Al_2O_3 ceramics, dense conductive, by spray-freeze/freeze-drying, props. 1−31541
α-Al_2O_3, derived by dehydration reaction twinning effect on particle size broadening electron microscope obs. 1−30246
Al_2O_3, detonation spray-deposition, at various degrees of filling of barrel with carrier gas 1−12685

alumina continued
Al_2O_3, electrical cond., enthalpy and heat of fusion determ. in temp. range 1570-3100K 1—52315
Al_2O_3 fibre based porous insulating material, thermal cond. 1—11927
β''-Al_2O_3, irradiation induced defects, examined by 1 MW high-resoln. electron microscopy 1—34369
γ-Al_2O_3, lamellar porous microstructs., energetics of formation 1—35232
η-Al_2O_3, OH coated, IR spectra 1—3390
Al_2O_3 plasma deposited coatings, effect of impregnation and thermal ageing on insulating props. 1—12773
β''-Al_2O_3 powders, spray-frozen/freeze-dried, relative stability 1—21396
β_K''-Al_2O_3, stabilisation by MgO addition by K_2O vaporisation 1—30372
α-Al_2O_3, standard reference materials, for quantitative anal. and d-spacing meas. 1—29951
β-Al_2O_3, strength controlling flaws 1—43511
Al_2O_3 thermally sprayed coatings, formation kinetics 1—34594
Al_2O_3 thermoplastic cast slips, thermophys. props. 1—31401
Al_2O_3 ultrafine particles formation, from NH_3 gas and $AlCl_3$ soln., anal. 1—16726
Al_2O_3:Cr^{2+}(V^{3+}), phonon spectroscopy of ion pairs 1—15969
Al_2O_3:Fe^{3+}, Mossbauer spectrum response to nuclear dipole fields 1—26097
Al_2O_3:Mg, Y, TLD properties 1—953
Al_2O_3:Mn^{3+}, appl. of thermally detected EPR 1—47939
Al_2O_3:Mn^{3+}(Cr^{3+}), thermally detected EPR study of $3d^4$ ions 1—26023
β-Al_2O_3:Na, amorphous like acoustic props. 1—11817
Al_2O_3:Ni^{3+}, acoustic relaxation loss 1—15963
Al_2O_3:Ni^{3+}, acoustic relax., Jahn-Teller model 1—42476
Al_2O_3:V^{3+}, anomalous ion sites obs. by phonon freq. crossing spectroscopy 1—15971
Al_2O_3:V^{3+}, hyperfine splitting of levels of V^{3+} by phonon spectroscopy 1—15970
Al_2O_3:V^{3+}, hyperfine spectrum at 166 GHz, phonon freq. crossing spectroscopy 1—30494
Al_2O_3/molten Fe, interfacial tension meas. *(Japanese)* 1—2778
Al_2O_3-Al contact potential, Schottky emission through Al_2O_3 thin films 1—30807
Al_2O_3-B_2O_3-P_2O_5 glasses, optical basicity, UV absorpt. wavelengths of impurity ions 1—43144
β-Al_2O_3-Ba(Cd)(Sr)O, fast divalent ion conduction 1—30461
Al_2O_3-CdSe interface in thin-film transistor, accumulation, electron states 1—20872
Al_2O_3-Co cermet, effective medium models for inhomogeneous material optical props. 1—37409
Al_2O_3-Cr mixtures, sintering behaviour 1—53121
Al_2O_3-Cr_2O_3-Cr(Mo) eutectics, melting points determ. *(German)* 1—38509
Al_2O_3-$Cr(NO_3)_3$, mixtures, sintering behaviour 1—53121
Al_2O_3-Cu-ZnO catalysts, CO conversion, X-ray absorpt. near edge struct. 1—28992
Al_2O_3-H_2O 1—21783
β''-Al_2O_3-H_3O^+, hydronium alumina, protonic transport, NMR study 1—30464
β''-Al_2O_3-K_2O, fast-ion conductor, ion-ion correlations and cryst. struct., X-ray scatt. study 1—34328
β-Al_2O_3-K_2O, prototype glass, electron spin relax. of irrad.-induced colour centre, disorder effects 1—16481
β-Al_2O_3-K_2O ceramics, proton sensor appl. *(French)* 1—31395
β-Al_2O_3-Li_2O, prototype glass, electron spin relax. of irrad.-induced colour centre, disorder effects 1—16481
Al_2O_3-MgO-H_2O electrolyte for low temp. H_2O vapour electrolysis, proton and electron conductivity 1—42574
Al_2O_3-Mo-Al_2O_3 sputter-deposited selective absorber coating 1—12595
Al_2O_3-Mo-Al_2O_3-Mo solar selective absorbers fabrication and optical props. *(Japanese)* 1—21901
Al_2O_3-Mo-Al_2O_3-Mo solar selective absorber, thermal conversion efficiency calc. *(Japanese)* 1—21907
β-Al_2O_3-Na_2O, ^{23}Na and ^{27}Al NMR response 1—26074
β-Al_2O_3-Na_2O, ^{23}Na second-order quadrupolar shifts, heat capacity anomalies 1—7973
β-Al_2O_3-Na_2O, complex impedance, automated multifreq. meas. 1—33008
β-Al_2O_3-Na_2O, ENDOR study of defects 1—3294
β''-Al_2O_3-Na_2O, fast-ion conductor, ion-ion correlations and cryst. struct., X-ray scatt. study 1—34328
β-Al_2O_3-Na_2O, Haven ratio, temp. depend. 1—25500
β-Al_2O_3-Na_2O, hydrated, PMR study of water 1—31042
β-Al_2O_3-Na_2O, Na^+ tracer diffusion coeff. and spin-lattice relax. meas., H_2O absorpt. processes, thermal anal., cond. 1—7970
β-Al_2O_3-Na_2O, prototype glass, electron spin relax. of irrad.-induced colour centre, disorder effects 1—16481
β-Al_2O_3-Na_2O, superionic, spin-lattice relax. of ^{27}Al and ^{23}Na, two-dimens. continuum diffusion model 1—52855
β-Al_2O_3-Na_2O, US attenuation and velocity at low temps. 1—15956
β-Al_2O_3-Na_2O powder, solution spray dried and freeze dried, prep. and hot pressing 1—16744
Al_2O_3-NiO system, bonding at temp. of reduction, thermogravimetry anal. DTG curves 1—26785
Al_2O_3-SiC materials with aluminochromophosphate binder, dilatometric study 1—30430
Al_2O_3-SiO_2, containing chemically polymerized precursors heat treated to form monolithic materials, microstruct. 1—3788
Al_2O_3-SiO_2, fused mullite, variable comp., obtained by induction melting in cold crucible 1—12727
Al_2O_3-SiO_2, laser-melted, ultra-rapid quenching 1—26510
Al_2O_3-SiO_2, sillimanite powders, shock-induced transformations 1—38453
Al_2O_3-SiO_2 based mullite refractory, creep in neutral and reducing media 1—31553
Al_2O_3-SiO_2 fibre, Cr_2O_3 stabilized, high temp. props. 1—31388
Al_2O_3-SiO_2 zeolites, dehydrated, cationic motion 1—2680
Al_2O_3-SiO_2:Fe^{3+}, mullite, Fe^{3+} struct. position, powder diffr. obs. 1—25217
Al_2O_3-SiO_2-CaO oxides, wettability by liq. steel *(German)* 1—42608
Al_2O_3-SrO-TiO_2-SiO_2-B_2O_3 ceramic, thermal shock resist., effect of electrofused corundum additions 1—8416
Al_2O_3-TiO_2 crucibles for Fe reduction by Al, effect of material on inclusions 1—12995
Al_2O_3-TiO_2 plasma sprayed coatings, thermal expansion characts. 1—20430
Al_2O_3-Y_2O_3, grain-boundary segregation, STEM 1—26469
Al_2O_3-Y_2O_3, laser-melted, ultra-rapid quenching 1—26510
Al_2O_3-Yb_2O_3 system, at high temps., phase diagram *(Japanese)* 1—26436

alumina continued
Al_2O_3-ZrO_2-SiO_2-Na_2O glass ceramic system, struct. study, X-ray line broadening 1—20029
$9Al_2O_3.2B_2O_3$, X-ray cryst. struct. determ. *(Japanese)* 1—15879
$Al_2O_3.3P_2O_5$, thin layer coating on ceramic substrates, prep. method 1—39483
β-alumina:Li,Na, co-ionic cond. nuclear spin-lattice relax. study 1—52344
B_4C-Al_2O_3 burnable poison design to improve PWR U fuel utilisation 1—45602
BaO-SiO_2-Al_2O_3 melt, elec. cond., 1350 to 1550°C *(Japanese)* 1—47267
$3BeO.Al_2O_3.6SiO_2$, beryl, form. reactions mechanism and kinetics 1—43646
CaO-Al_2O_3-B_2O_3 glasses, Ni^{2+} absorpt. spectra *(Japanese)* 1—21216
CaO-Al_2O_3-MgO-SiO_2 system, rel. to quaternary phase Q 1—43328
CaO-Al_2O_3-SiO_2, kaolin-limestone-quartz mixture, vitrification process accompanying mullite formation *(Japanese)* 1—53165
CaO-Al_2O_3-SiO_2 melt, dissoln. of Al_2O_3 and SiO_2 1—11867
CaO-Al_2O_3-(SiO_2), liquid slag, surface tension meas. by pendant drop method *(Japanese)* 1—47332
CaO-MgO-Al_2O_3-SiO_2 system containing garnet, stability 1—44168
CaO-SiO_2-Al_2O_3 molten slag in graphite crucible, evolution rate of SiO and dissolution rate of C *(Japanese)* 1—25436
Co/Al_2O_3 codeposited granular films, filling factor determ. 1—30600
Cr fibre-(Al,Cr)$_2O_3$ eutectic produced by elec. arc melting *(German)* 1—16750
Cr-Al_2O_3 refractory, fusion cast, glass redox condition effect on corrosion. 1—31691
Cr_2O_3-Al_2O_3-Mo, solidified, SEM studies *(German, English)* 1—8300
Cs_2O-Al_2O_3-SiO_2, evaporation of cryst. cpds., mass spectrometry study 1—7311
Cu-Al_2O_3, oxide dispersion strengthened, diffusion of Ni 1—42586
Cu-Al_2O_3 dispersion reinforced composite, mech. props. 1—39384
Cu-Al_2O_3 polycrysts., additive strength contribs. 1—31476
Fe_2O_3-Al_2O_3, diffuse reflection electronic spectra and Fe ion state 1—26234
α-Fe_2O_3-Al_2O_3 solid soln., mag. interactions between Fe atoms 1—38922
H_3O^+ β/β''-Al_2O_3, polycrystn., ceramic fast proton conductor 1—30456
K_2O-Al_2O_3-P_2O_5-TiO_2 system, glass form., props. depend. on chem. comp., struct. interpret. 1—52077
LaO_3-Al_2O_3 system, form. conditions and struct. *(Polish)* 1—53147
LiI-H_2O-Al_2O_3 system, ionic cond. of intermediate comps. 1—20445
LiO_2-Al_2O_3-SiO_2:F, glass-ceramic, strengthening mechanism 1—43432
Li_2O-CaO-Al_2O_3-P_2O_5:Mo^{3+} glasses, fluoresc. line narrowing and decay rates, site depend. 1—39148
Mg-Al spinel, Al_2O_3 rich, precipitation strengthening *(Japanese)* 1—26485
MgO-Al_2O_3, laser-melted, ultra-rapid quenching 1—26510
MgO-Al_2O_3-SiO_2, cordierite, thermal expansion and chemical modification 1—38562
MgO-Al_2O_3-SiO_2 system, Al_2O_3 solubility in orthopyroxene, geothermobarometric appl. to mantle 1—44144
MgO-NiO-Al_2O_3-SiO_2 system, ceramic pigments, synthesis and props. 1—12697
MgO.$2.4Al_2O_3$, surface mass transport study by multiple scratch smoothing method 1—16162
(Mo,Cr)-(Cr_2O_3, Al_2O_3) cermet, thermionic energy convertor 1—17227
Mo-Al_2O_3 cermet, sintered, strength 1—35381
Na/β''-Al_2O_3 interface, resistance rise in Na-S cells 1—21871
Na-β-Al_2O_3, synthesis from mixed hydroxides 1—12696
Na_3AlF_6-Al_2O_3 molten electrolyte, wettability of C electrodes *(Chinese)* 1—52392
Na_2O-Al_2O_3-B_2O_3 glasses, Ni^{2+} absorpt. spectra *(Japanese)* 1—21216
Na_2O-Al_2O_3-TiO_2, conductivity of reduced solid solutions 1—20732
Na_2O-SiO_2-Al_2O_3 melt, elec. cond., 1350 to 1550°C *(Japanese)* 1—47267
$(Na_2O)_2$:$11Al_2O_3$, cryst. struct. and ionic cond. 1—34333
$(Na_2O)_{1.07}$.$11Al_2O_3$, prep. and ionic cond. 1—30466
Ni-Al_2O_3 cermet development, optimisation of cutting tool parameters 1—39469
Ni-Cr (20 wt.%), high temp. oxidation behaviour with dispersions of various reactive metal oxides 1—53363
NiO-Al_2O_3, grain-boundary segregation, STEM 1—26469
Pt-Al_2O_3 reforming catalysts, selective poisoning techniques, reaction kinetics 1—21781
Rh/Al_2O_3, chemisorption of methyl isocyanide, IR spectrum 1—14902
RuO_2-Al_2O_3 co-precipitated catalysts, bulk and surface characterisation 1—8630
Si-Al_2O_3 high temperature coating for superalloys 1—31758
Si_3N_4-Al_2O_3 sintered articles, erosion by molten steel *(Japanese)* 1—43543
Si_3N_4, hot-pressed with Y_2O_3 and Al_2O_3 addition, oxidation behaviour 1—21619
Si_3N_4-Al_2O_3 (22 wt.%), thermal decomposition 1—31848
Si_3N_4-CeO_2-Al_2O_3, ceramic, phase effects, high temp. strength 1—3753
Si_3N_4-Y_2O_3-Al2O3, ceramic, phase effects, high temp. strength 1—3753
SiO_2:Al_2O_3, vitreous, ref. index and light transmission, Al_2O_3 conc. depend. 1—12528
SiO_2-Al_2O_3, pyridine adsorption, energy distrib., regularisation 1—7459
SiO_2-Al_2O_3-P_2O_5 system, phase relationships and ternary compound $4SiO_2.Al_2O_3.3P_2O_5$ *(German)* 1—39319
TiN-Al_2O_3, high-temperature compatibility of components 1—21709
UO_2-Al_2O_3, interaction of sacrificial layer material with UO_2 and fission products following FBR HCDA 1—5888
$ZnAl_2O_4$ spinel formation, from ZnO+Al_2O_3, reaction kinetics 1—12962
ZnO-Al_2O_3-SiO_2 glasses, crystn. studies *(Japanese)* 1—25181
ZnO-CoO(NiO)-Al_2O_3 systems, spinel solid solns., ZnO vapour pressure 1—20370
ZrN-Al_2O_3 composites, for electric spark alloying of steel 1—39535
ZrO_2-Y_2O_3-Al_2O_3 system, subsolidus phase equilibria 1—26432

aluminium
see also nuclei with .....
(111) surface, oxidation, EXAFS study 1—26306
(111) surface, photoemission from physisorbed CO 1—6320
addition to cast steel, effect on low-cycle fatigue in different media 1—3930
addition to reaction bonded Si_3N_4, oxidation behaviour improvement 1—16933
adhesive bonds to Al, US eval. and quality control tool 1—12946
adsorbed chalcogen monolayers on (111), surface, anomalous band broadening, electronic struct. calc. 1—34766
adsorbed on GaAs (110), bonding and adatom-adatom interaction 1—16172

aluminium continued
adsorption of NH_3 on clean and oxidised surfaces, UPS and XPS study 1−3577
adsorption of O_2, secondary electron spectroscopy and EELS study 1−48206
adsorption on GaAs (110), angle-resolved photoemission study 1−39222
anodic dissolution in alkaline solutions, influence of electrolyte additives 1−8702
anodic film on Al, coloured materials and photoluminesc. centres distribs. 1−43164
anodic films, AC and DC, formed on Al in H_2SO_4, XPS studies 1−43699
anodic oxidation in plasma, low temp., enhancement using thin solid electrolyte film 1−48551
anodic oxides, porous, AES depth profiles 1−16628
anodic solution at high current densities, oxide surface films influence *(Russian)* 1−43587
anodised, colouring by means of optical interference effects 1−21641
anodised, oxide layer, electron and acoustic emission during coating fracture 1−12872
anodizing in molten eutectic alkali metal nitrates 1−53362
atom, electron impact excitation cross sections calc. using semiempirical single orbitals *(Russian)* 1−15014
atom, fine struct. from fast extended X-ray absorpt. spectra 1−45892
atomic X-ray emission excited by mol. ions 1−1355
atoms, electron affinities, PES 1−46149
atoms, low-energy electron scatt., partial-wave anal. 1−33567
bar, drawn, change of Poisson's ratio *(German)* 1−43388
bicrystals, grain boundary diffusion of Cu *(Polish)* 1−16089
bicrystals, incompatible, strain accommodation 1−21558
bicrystals, plane-strain compression 1−21557
bicrystals, plastic deform. of specimens having Σ7 and Σ21 coincidence tilt boundaries 1−8366
blocking electron radiation spectra at 1.2 GeV *(Russian)* 1−2541
calorised coatings on C and stainless steel, stability, temp. and annealing time effects 1−3988
chemisorbed on GaAs, GaSb, InP, (110) electron states, cluster calc. 1−52623
chemisorption of methanol on polycryst. surface, UPS, XPS 1−21778
chemisorption of O on (110) surface, mol. orbital cluster study 1−16188
chemisorption on GaAs (110) surface, adsorption mechanisms and bond calcs. *(Chinese)* 1−47364
chemisorption on GaAs (110) surface, calc. 1−16171
coarse grained, cubic, lattice strain *(German)* 1−25198
coated transparent media, Brillouin scatt. from surface waves 1−12515
coating for optical fibre, magnetron sputtering 1−15296
coatings, mech. props. meas. 1−12784
commercially pure, grain boundary sliding as origin of superplasticity 1−53235
contact layers, vacuum deposition, resistance, resistivity and thermal ageing coeffs. *(Polish)* 1−21353
contacts, nearly ideal, on heat-cleaned MBE GaAs surfaces, Schottky barrier props. 1−47733
contacts, room temp. sintering in vac. and in O_2 1−16339
cool-down characteristics, to cryogenic temps. 1−44932
corona corrosion in air, electrochemical interaction between electrical coronas and metal surfaces obs. 1−21651
corrosion, chem. nature, dissolution mechanism of Al_2O_3 and Al powder in various electrolytes 1−35420
corrosion, sea water CO_2 system effect 1−39510
corrosion control by Zn in aq. glycol soln. 1−43576
corrosion protection in liquid Li, by Mo, Mo-Ti and Al diffusion coating 1−35438
crack formation due to laser beam welding *(German)* 1−43475
creep, low temp., quantum effects 1−15947
creep, low-temp., strain valve depend. 1−43407
creep, transient, cell structs., produced by cyclic and monotonic deform. 1−12849
creep behaviour following stress change, substruct. influence 1−12840
crsytalline metals Hall effect 1−32828
cryogenic metal, brittle fracture, notch testing 1−48471
cube, three-dimensional displacement meas. by four small holograms 1−14102
cubic crystals, slightly distorted, Coulomb type defects, X-ray exam. *(Russian)* 1−2425
cubic metal, vacancy point defect, electric field gradient theory 1−47588
cylinder, axial compression, stress and flow patterns 1−34403
defects induced by Ni ion implantation, depth profile anal. by ion channelling 1−2533
deformation at low stress in early stage of fatigue and creep 1−53232
deformation heterogeneities, during tension, in single crysts. *(French)* 1−48412
deformation heterogeneities, recrystn. study *(French)* 1−48415
depth profiling using ion beam from nuclear reactions *(Japanese)* 1−48211
diamond-Al, Schottky barriers, photoelectron spectra meas. 1−30808
diffusion in n-ZnTe single crysts., junction characts. *(Japanese)* 1−20470
diffusion of H in high purity specimens 1−52361
dirty superconducting films, charge-imbalance relax. in presence of pair-breaking supercurrent 1−38892
dirty superconducting films, low normal state resist., Kosterlitz-Thouless transition 1−42899
discoloured, vapour deposited film, AES and XPS anal. of composition 1−11996
discontinuous flow, influence of supercond. transition, 0.4-1K 1−21542
dislocation glide study using acoustic emission 1−20235
dislocation struct. evolution during high press. creep 1−7180
dislocations glissile on (001) planes 1−11767
dispersion strengthened, dispersoid phases identification during mech. alloying 1−26482
dynamic pressure-shear loading using anisotropic crystals 1−7259
dynamic recovery at large plastic strains, struct. aspects 1−16804
dynamical recovery at high temp. 1−26566
EELS in HVEM, trajectory simulation using Monte Carlo calcs. *(French)* 1−20286
electrical resist., effect of high deform. of pure specimens 1−16913
electrical resistivity, effect of annealing on temp. depend. 1−34674
electrical resistivity meas. from 4.2K down to supercond. transition temp. 1−42743
electrode quartz crystals, microprocessor control anodisation 1−16938
electrodeposition, industrial feasibility of process 1−35194
electrodeposition in organic electrolytes, kinetics and mechanism 1−53112
aluminium continued
electron liquid, dynamical structure factor and local-field correction 1−2895
electron penetration, Monte Carlo methods 1−42438
electron penetration and induced secondary emission, Monte Carlo simulation *(French)* 1−16631
electron scattering cross sections, high energy, 1.2-3 MeV 1−30007
electroplastic effect in mono and polycryst. specimens 1−12819
electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
energy storage and dissipation during plastic deform. 1−12829
epitaxial film, reaction with GaAs surface 1−42651
epoxy-Al adhesive joints, environmental fracture, crack tip processes and adhesive-cohesive transition 1−16872
equations of state, pseudopotential calcs. *(Chinese)* 1−2587
exploded foil, laminar pulsed discharge initial stage 1−52012
extended screw dislocation−⟨111⟩ defect elastic interactions 1−2497
fatigue damage, electrochemical detection 1−43629
fatigue damage prediction and dislocation distrib. in single crysts. 1−52137
fatigue damage testing, by electrochem. scanning 1−31819
fatigue process, in-situ study by HVEM 1−3899
FCC single crystal, latent hardening 1−12759
film, (111), self-consistent linear combination of Gaussian orbitals calc. 1−34759
film, asymptotic form of oxide growth, elec. cond. changes obs. 1−16974
film, Hall effect 1−47615
film, He bubble density optical meas. 1−23314
film, interactions with thermally grown SiO_2, electron microprobe Auger spectra obs. *(Japanese)* 1−31936
film, magnetron sputtering deposition X-ray anal. *(Japanese)* 1−30584
film, on SiO coating, quantum oscills. of supercond. transition temp. 1−12219
film, oxidation in low temp. plasma, oxide formation kinetics 1−4002
film, superconducting transition, effect of hot phonon irradiation 1−16406
film, superconductivity destruction by current *(Russian)* 1−42926
film, thermomodulated EXAFS, thermal expansion 1−31237
film, vacuum deposition, vacuum ambience effects 1−16211
film, vacuum quality influence on oxidation, photoelectron spectra *(Russian)* 1−48261
film, evaporated, lattice parameters and homogeneous elastic stresses, $\sin^2\Psi$ meas. method 1−30604
film (111), electronic struct. and surface states, self-consistent linearised APW method 1−47727
film growth on clean and oxidised CdTe and InP surfaces 1−16362
film indicator layers on polymers, for polymer hardness meas. 1−21664
film on SiO_2, interface reactions, XPS study 1−38674
films and semiinfinite layers, electron backscatt., anal. 1−26325
flame-sprayed active coatings, cavitation behaviour 1−21646
foil, ablation accelerated by laser irrad., preheat study 1−7004
foil, laser drilling with different pulse shapes 1−8168
foil, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
foil, subsurface struct. obs. by scanning laser photoacoustic spectroscopy 1−40866
foil in H_3BO_3-$Na_2B_4O_7$ excitation processes at the electrolyte-electrode interface 1−35098
foil thickness meas. from convergent beam diffr. patterns 1−50101
foils for TEM, defects after high-freq. fatigue deform. 1−39566
fracture, brittle and viscous, EM emission 1−35382
friction at low temps. 1−12887
g-factor of cond. electrons, calc. and appl. to CESR 1−25616
galvanised, corrosion under wet storage conditions 1−12922
grainsize effect on acoustic emission, plastic deformation 1−21518
granular, metal-insulator transition obs. 1−34627
H_2 diffusivity and solubility, effect of voids *(Japanese)* 1−2637
heat capacity meas., 6 to 300K 1−14117
hot-worked, subgrain size, new obs. technique using optical microscope 1−4027
Huang scattering and extinction length of cond. electrons 1−38770
Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
hydrostatically compressed single crystals, work hardening *(Russian)* 1−31486
impurity determ., neutron activation anal. 1−8632
internal photoemission and plasmon gain in solid and thin films 1−31309
ion implantation in polycryst. Cu, effect on cyclic stress-strain response 1−21531
ion implanted, radiation disorder and lattice location, channelling and Rutherford backscatt. meas. 1−52161
K X-ray transitions, one-photon $KL_{2,3}^n$ radiative electron rearrangement 1−26311
Kramers-Kronig anal. of optical data, self-consistency and sum-rule tests 1−8034
laminated composites, creep 1−8389
laser induced pressure on metal target by pulsed CO_2 laser, mech. coupling *(French)* 1−39189
laser irradiated, effect of thermophysical props. on evaporation conditions 1−21296
laser light absorption in long-pulse high-irradiance experiments 1−34050
laser supported detonation waves and thermal coupling for 2. 8 μm HF laser irrad. targets 1−43223
laser-modified surface, electrochem. and corrosion behaviour 1−21650
lattice mechanical and electronic props., unified calc. 1−42488
linear magnetoresistance caused by sample thickness variations 1−42745
liquid, impurity diffusion 1−25477
liquid, neutron scattering law $S(Q,\omega)$ 1−30036
liquid, static and dynamic struct. factors, diffr. and inelastic neutron scatt. obs. *(Rumanian)* 1−52049
liquid, static struct. factors at small momentum transfer, neutron diffraction meas. 1−30033
liquid, transport coeff. calc. from effective interatomic pot. 1−30692
liquid and amorphous, molecular dynamic model, statistical geometry 1−30041
liquid film, scanning transmission HEED study 1−20047
magnetron sputtering target, surface oxidation kinetics in Ar/O_2 mixture 1−16687
melts, static, degassing by insoluble purge gases 1−12993
metal catalyst, chemisorbed on CO, EELS study 1−25551
metallographic specimen prep. 1−53382
monocrystalline particles, on MgO substrate, lattice parameter depend. on particle size 1−20599

aluminium continued
monolayer on Si (111) surface, electronic struct., PES study 1−52619
neutron scattering, low-angle, specimen thickness and mag. field effects *(Russian)* 1−25123
Nichrome-Al film deposition in low vac., temp. coeff. of resist. characts. 1−43264
nitride to obtain AlN, impurities determ. 1−8258
oxidation, early stages, exoelectron emission and photoemission study 1−39532
passive film breakdown in H_3BO_3-$Na_2B_4O_7$ by detection and anal. of electrochem. noise 1−39531
pitting corrosion in aq. glycol solns., charact. and relevance to solar thermal collector systems 1−39517
pitting corrosion in electrolytes, evolved gas anal. 1−35418
pitting corrosion inhibition, repassivation process function 1−16948
plasma, K-shell excitation broadband photocoupling effect 1−15606
plasma, laser produced, X-ray emission from central luminous region 1−46859
plasma appearance due to laser action on Al target in air 1−53020
plasma expansion by long pulse CO_2 laser 1−19920
plastic deformation and creep, low temp., effect of mag. field *(Russian)* 1−21508
plastic flow in high-temperature extrusion 1−19582
plastic strain component, for low cycle fatigue 1−26536
plate floating by capillary forces, symm. configs. 1−7423
plates, thickness meas. with portable gamma-ray meter 1−23386
point defect absorption mechanisms by grain and twin boundaries 1−20240
point defect clustering during heavy ion irrad. 1−52186
polycrystalline, cylindrical sample, inertial effects during fast axial deformation *(Polish)* 1−15421
positron annihilation in vacancy, APW calc. 1−26299
positrons and electrons, relative transmission 1−47130
powder, dynamic polarisation echoes 1−26105
powder, ultrafine, sintering, necking stage 1−48298
powder spray coated with Ni, method for detect. regions of phys. contact 1−39568
powders, spray-deposited on solid surface, electron microscopic exam. 1−21387
power cables, SF_6 compressed gas-insulated, Al alloy sheaths corrosion protection and protective coatings *(French)* 1−31714
precursive blistering and localized corrosion 1−43581
pure, true low field Hall coeff. at low temps. 1−25703
quasifree-electron bremsstrahlung induced by H^+ bombardment projectile field 1−26349
radiation damage, HVEM, effects of environmental gas 1−2517
radiogenic Sn defects from implantations of ^{119m}Sn and ^{119}Sb, Mossbauer study 1−42407
reaction with AgI 1−48564
recrystallisation of single crysts. under high press. *(Russian)* 1−8334
recrystallisation texture, influence on earing *(French)* 1−48363
reflectance enhancement of Al-glass mirrors, using multilayer dielectrics 1−51586
reflective coatings on mirrors, porosity 1−11067
relativistic electron absorpt., energy spectrum distrib. 1−42424
saturation stress, of single crysts., steady-state flow anal. 1−12847
secondary electron emission under proton bombardment 1−43230
shear modulus calc., variation limits *(Russian)* 1−43392
sheet, crystallite orientation distrib. function, texture sharpness function *(French)* 1−35271
shells, thin, ellipsoidal, torispherical, Al and steel, failure 1−6802
SHIELDOSE, Al-spacecraft shielding radiation dose calcs. 1−10550
shock compressed type 2024, elastic release wave recording 1−25369
single cryst., structural changes due to multiple deform. *(Russian)* 1−34351
slow positron interactions, positronium form., surface and vacancy trapping 1−21290
solar energy reflector applications, materials, research and development 1−13104
solid solubility in pulsed laser-annealed Si 1−11865
solidification, directional, heat flow 1−3715
solidification, growth condition changes in the vertical Bridgman-Stockbarger method 1−3714
specific heat, anharmonic contribution 1−30412
spectral densities of anomalous X-ray emission and absorption spectra, generalised power law 1−26308
sputtered films, electromigration behaviour 1−47280
static softening at elevated temps. 1−35335
steel fibre reinforced, SEM obs. of fracture 1−31616
steel fibre reinforced Al+Ti hybrid, mech. props. *(Slovak)* 1−3813
steel to Al explosive weldments, quality assessment by AE during bend testing 1−31775
stopping power of matter for alpha particles at extreme relativistic energies 1−18989
strain rate change, anal. of behaviour 1−21538
stress-induced electronic transition, supercond. crit. temp. and magnetothermopower meas. 1−42673
stress/strain behaviour, effect of stress reversal and thermal recovery 1−16851
substrate grain boundary propag. into overgrowth, field ion microscope studies 1−11998
superconducting, crit. temp. enhancement by microwave field 1−30870
superconducting dirty film, tunnel injection, nonequilib. quasiparticle energy distrib. meas. 1−3113
superconducting film, dirty, phase-slip shot noise at transition, vortices 1−7793
superconducting film in double tunnel junctions, quasiparticle relax. times 1−42918
superconducting film in resistive state, anomalous impedance due to HF irrad. *(Russian)* 1−20893
superconducting narrow tunnel junction, gap enhancement induced by homogeneous microwave currents 1−47819
superconducting order-parameter enhancement, microwave-induced, mag. flux behaviour 1−52689
superpure, recrystn. and grain growth, effect on free surface *(Chinese)* 1−35272
superpure, reversible H trapping at grain boundaries 1−11874
superpure substrate, anodic film, high field ionic cond. 1−25493
surface, effect of partial O_2 press. on noble gas ion bombardment 1−31276
surface, elastic distortion in vicinity of point charge 1−38831
aluminium continued
surface, interaction with pulsed XeF laser radiation 1−12606
surface, jellium, local field at an irradiated adatom 1−20846
surface, lattice relax., semi-self-consistent density functional calc. 1−7435
surface (110) and (111), adiabatic variational calc. of lattice relax. 1−7269
surface EM wave attenuation meas. *(Russian)* 1−26155
surface plasmon excitation influence on inelastically scattered electron spectra peaks 1−26324
surface scatt., deviation from Mathiessen's rule 1−12088
Taylors theory appl., to study of heterogeneity of deform. *(French)* 1−48414
tensile props., planar anisotropy *(Korean)* 1−12799
texture development, quantitative prediction in simple traction expt. *(French)* 1−48360
texture evolution during tensile strain, quantitative prediction 1−21481
thermal diffusivity, meas. by flash method with positive or negative pulse 1−2719
thermal expansion and sp. ht., heavy impurity atoms influence 1−52319
thermoactivation parameters and dislocation behaviour at creep under high hydrostatic pressure 1−34404
thick film conductors, sintering mechanism 1−31377
thin film, vacuum-evaporated, Young's modulus determ. 1−38697
thin film conductors, influence of SiO_2 layer passivation on electromigration *(Slovak)* 1−25490
thin film resistivity, grain-boundary scatt. effect meas. 1−7759
TV image intensifier fluoroscopy, masking effects 1−31776
twist boundary Zn diffusion *(Russian)* 1−16093
UPS from oriented surface, plastic deform. enhanced, fatigue life depend. 1−16665
US instrumentation system for applied and residual stress measurement 1−16985
vacancies, annealing kinetics, in single crystals with low dislocation density 1−8345
vacancies characteristics, elec. resist. temp. coeffs. 1−2431
vacancy form. energy, perturbative pseudopot. calc. 1−42378
vacuum deposited coating on Fe, effect of preliminary deform. on coating/substrate interaction 1−16841
vacuum deposition, on Ni-Fe alloy space strips 1−53092
wear process, anal. using finite element method 1−11811
wire, wet drawing for conductor manufacture 1−12777
work softening, of single crysts., effect of orientation 1−8332
work-hardening and softening rates during high temp. deform. *(Japanese)* 1−26551
X-ray and gamma-ray photoeffect cross sections 1−48195
X-ray excited KLV Auger spectra, screening effects 1−8191
XPS, excitation energy depend., many-body perturbation theory 1−43246
Al 4-electron ions, beam-foil lifetimes meas. 1−10704
Al, back-scattered electron theoretical efficiency in secondary electron emission *(French)* 1−26320
Al bronze sliding on KE961 steel, role of Al segregation in wear under boundary lubrication 1−43535
Al coating on polymer film, US adhesion *(German)* 1−8528
Al, deformation modelling, stress relax., transient behaviour and search for microstructural correlations 1−26532
Al, EM study of substruct. during creep 1−30237
Al, fine-grained, dynamic recrystn., effects on superplastic flow conditions *(Russian)* 1−48367
Al I isoelectronic sequence, low lying $^2P^0$, ^2D and $^2F^0$ state lifetimes calcs. 1−45908
Al, jump-type plastic deform. at low temps., statistic study *(Russian)* 1−21522
Al, mobile dislocation density and velocity, during in situ creep in HVEM 1−53242
α-Al, monocryst., diffusion of Cr and Fe *(French)* 1−16096
Al, O^{q+} ion bombardment, convoy-electron prod., detection by coincidence expt. 1−37347
Al plasma parameters, spectral determ. 1−29895
Al VI, spectrum obs. 85-113, 100-1500 Å, energy level identification 1−1154
Al^-, PES 1−46149
Al^{4+}, UV grazing-incidence spectrometer, beam-foil efficiency calibration 1−355
Al:H, lattice relax. energy due to impurity 1−30253
Al:In, simple interstitial configurations at ^{111}In impurities 1−25261
Al/Al_2O_3 dispersion strengthened, recrystn. 1−26490
Al/AlO_x/benzoic acid/Pb(Au) digital inelastic electron tunnelling spectroscopy 1−50286
Al/As_2SeTe_2/Sb struct., resist. and photovoltaic behaviour, contact barrier effects 1−52663
Al/CaF_2/Al thin film struct., AC conduction 1−47758
Al/CdS/Au thin film solar cell deposition by cathodic sputtering *(French)* 1−17199
Al/Cu interface, flat plate solar collectors, thermal contact cond. 1−48905
Al/p-Si MIS solar cells, phys., struct., elec. and optical characts. 1−43758
Al/Shirasu compact, nitridation *(Japanese)* 1−26521
Al-Ag superconductor-metal point junction, cond. temp. depend. *(Russian)* 1−7790
Al-Al_2O_3 contact potential, Schottky emission through Al_2O_3 thin films 1−30807
Al-Al_2O_3-Ag struct., light emission by tunnel junctions 1−38866
Al-Al_2O_3-Ag(Pb), normal-supercond. metal junction, electron tunnelling, interference effects, high press. effects. 1−3115
Al-Al_2O_3-Al structure, elec. cond. study 1−34807
Al-Al_2O_3-Al tunnel junction, adsorption of benzoic acid, IETS intensity, surface coverage depend. 1−47359
Al-Al_2O_3-Au thin film structs., IR emission under DC bias *(French)* 1−48169
Al-Al_xO_y, slow positron interactions, positronium form., surface and vacancy trapping 1−21290
Al-AlO_x-Ag tunnel junction, holographic-grating-enhanced light emission 1−7757
Al-B fibre reinforced composite, B fibre strength influence on mech. props. *(Russian)* 1−3887
Al-Cu finned tube, heat emission and resistance, thermo-aerodynamic charact. *(Russian)* 1−6750
Al-Cu-Al three layer system, electron backscatt. 1−35135
Al-Ga_2Se_3-Si and Al-Ga_2Se_3-SiO_2-Si structs., electrostatic characts., effect of interface states 1−52655

aluminium continued
Al-GaAs (110) interfacial layers, photovoltage saturation and recomb. 1−38814
Al-GaAs(110), interface electronics struct., Schottky barrier form., photoemission study 1−8198
Al-In_2O_3-Al thin film sandwich, field-dependent elec. cond. 1−20883
Al-Li electrode, secondary, in $LiClO_4$-propylene carbonate, Li cycling efficiency determ. 1−21869
Al-n-Si, recrystallised Schottky barrier charact. 1−38849
Al-oxide-Ag system, hot electron mean free path, light emission by surface plasmon excitation 1−25809
Al-oxide-Pb tunnel junctions, voltage annealing 1−16383
Al-oxide-Pd tunnel struct., dynamic cond. anomalies, mag. phase transition obs. 1−30843
Al-PbBi heterojunction spectrometer for studying bremsstrahlung and recombination phonons 1−15975
Al-PbBi tunnel junctions, normal and supercond., thermoelec. effect 1−20926
Al-poly-Si Schottky barrier solar cells, non-exponential I-V charact. 1−43781
Al-polycrystalline Si-SiO_2, threshold voltage increase and charge distrib. at SiO_2-Si interface *(Russian)* 1−3066
Al-Si interface structure in Schottky-barrier diodes *(Russian)* 1−3064
Al-Si junctions, ballistic electron injection, phonon spectroscopy of Al 1−3061
Al-Si_3N_4-Si, interface charge beneath laser-annealed insulators 1−3070
Al-SiO/B_2O_3-Au thin film struct., AC measurements *(French)* 1−52662
Al-SiO_2 interface, solid state reaction, XPS and TEM study 1−47391
Al-SiO_2-Si, interface charge beneath laser-annealed insulators 1−3070
Al-SiO_2-Si, threshold voltage increase and charge distrib. at SiO_2-Si interface *(Russian)* 1−3066
Al-SiO_2-Si p-n junction struct., defect detect. using SEM in EBIC mode 1−20229
Al-SiO_2-Si:P Schottky barrier diodes, electron transport, fabrication 1−7707
Al-SiO_2-p-Si MIS solar cells current mechanism 1−21880
Al-SiO_2-p-Si MIS solar cells, effect of thermal treatment on the oxide 1−32024
Al-SiO_xN_y-Al system, hot electron emission into vac. and electrolum. 1−31317
Al-SiO-Au thin film structs., IR emission under DC bias *(French)* 1−48169
Al-$TlGaSe_2$-Al MIM struct., barrier height, current-voltage charact. and tunnel current meas. 1−38867
Al-ZnP_2-Si and Al-ZnP_2-SiO_2-Si structs., electrostatic charact., effect of interface states 1−52655
Al-ZnTe-Al structure, thin film memory device charact. 1−30840
Al+F_2 reactions, chemiluminesc., beam-gas study 1−48667
Al+$Hg^+(Xe^+)(Cs^+)$, charge transfer cross sections 1−37323
Al_2O_3 particle strengthened, creep and dislocation gliding 1−43414
Al_2O_3-ZrO_2-Al-Ni powder composite, for coating metals 1−21638
^{27}Al, nuclear spectroscopic quadrupole moment from muonic X-rays 1−33216
$^{27}Al(p,\gamma)$, 992 keV, K-shell ionisation, energy shifts 1−50600
Au-Al periodic structs., electronic struct., nearly-free-electron model 1−47446
Au-Al/GaAs (110) interface atomic interdiffusion meas. and modulation 1−16103
Au-Sn-Al metallizations on GaAlAs LED, interfacial void struct. 1−16195
B fibre reinforced, SEM obs. of fracture 1−31616
$Bi_{12}GeO_{20}$:Al, dark cond. and photocond., doping effect 1−30782
p-$CdCr_2Se_4$-Al Schottky barriers, current-voltage charact. 1−20851
Cu:Al ion implanted mirror oxidation for laser pulse reflectivity and damage resistance 1−29312
Cu-Ti alloy, influence of alloying with Al on precipitation 1−43347
Fe reduction, effect of crucible material on inclusions 1−12995
Fe-Al welding, influence of Ag layer on interdiffusion kinetics *(Russian)* 1−16091
GaAs:Al, synthesis, photoconductivity and luminescence spectra 1−35162
GaAs(110)-p(1×1)-Al surface, at. geometry obs. 1−42612
H content in Al and its alloys, meas. techniques 1−43722
He ion irradiated damaged surface layer, mech. props. *(Russian)* 1−20275
MgO:Al, thermally stimulated luminescence, electron and hole traps 1−21282
Nb_2O_5-Al equilibrium interaction simulation, condensed solution formation 1−31445
Si:Al, acceptor bound excitons in mag. and uniaxial stress fields 1−47484
Si:Al, electronic eigenstates and optical lineshapes of impurities and vacancies 1−47552
Si-Al interface, PES and Auger studies 1−53046
n^+-Si-Al point contacts, ballistic electron injection, phonon spectroscopy and impurity-enhanced inelastic scatt. 1−3060
Si-SiO_2-Al MOSFET, ballistic electron injection, phonon and sub-band spectroscopy of Si inversion layers 1−3068
SiC:Al, magneto-Raman scatt. from Al acceptors, line-splitting 1−48048
SiO-Ge-Al solar selective absorber produced by optical multilayer coatings *(Japanese)* 1−21899
SnO_x/ZnS/Cu_xS/ZnS:Mn(Sm)/Al electrolum. thin film struct., spectral props. 1−52999
n−TiO_2:Al electrodes, behaviour in photoassisted oxidation of water 1−20801
VO_x:Ti,Al,Cr, crysts., elec. threshold switching mechanism, expt. 1−20829
Zn-Al (1.1 wt.%) superplastic alloy deformation behaviour, temp. effect 1−43418
ZnS:Cu, Al, phosphor, particle growth, flux effects 1−48311
ZnS:Cu,Al phosphor, cathodolum. saturation and decay charact. 1−26280
ZnSe:Al, IR absorpt. coeff. and free carrier conc. 1−43140
ZnSe:Al, impurity diffusion, luminesc. modification 1−38596

aluminium alloys
see also aluminium compounds
ageing kinetics, planned expt. method appl. to VAD23 alloy 1−48391
Alnico, anisotropic permanent magnet, effect of magnetisation distrib. upon field calc. 1−12341
Alnico permanent magnets, elongated single domain particles, rotational hysteresis and magnetisation curling 1−12352
Astroloy superalloy, hot isostatically pressed, porosity effect on mech. props. 1−3667

aluminium alloys continued
binary, annealed, resistivity model 1−30718
binary alloys, fluidity, strength formation, cracking susceptibility anal. on basis of solid-liq. zone *(Japanese)* 1−31449
bronze-Al, type D (CDA-614), laser surface melted, enhanced corrosion resistance 1−31724
cleaning methods for ultra high vacuum system 1−5331
coated with Al-Ni, crack initiation and propag. 1−39443
constitutionally unstable materials, deformation charact. 1−20303
corrosion, effect of variations in seawater in type 5052 1−31727
corrosion cracking of V93, in 3.5% NaCl soln. 1−53348
Cr-Al (1.4 at.%), lattice location of impurity by proton channelling, induced X-ray emission 1−12602
crack growth eval. in flat design design elements, D16T Al alloy as example 1−35375
cracked plates, thin, determ. of plastic strains and strain energy dissipation 1−47152
creep and fatigue, alternating, method of predicting endurance at crack initiation and growth states 1−12869
crevice corrosion and corrosion cracking, conditions similarity 1−35444
damage behaviour effect on forming process *(French)* 1−3771
diffuse necking in tensile tests, strain rate sensitivity effect 1−26557
dilute, elec. resist. calc. using electron-phonon mean free paths 1−20707
dislocation plasticity in 6061-T6 Al alloy, strain rate eqns. 1−52219
Duralumin, plasticity in low cycle fatigue 1−31643
Duralumin D16T, fatigue life, improving accuracy of calc. by linear damage summation 1−39446
Duraluminium target exposed to laser radiation, induced elec. pot. investigation laser 1−53019
effective plastic strain component for low cycle fatigue 1−26536
electroplating on Al alloys, effect of alloying additions 1−21640
extruded sections of D16, charact. of laminations 1−3804
fatigue, plastic zone size model in type 2024-T3 1−3882
fatigue crack growth, environmental effects, in type A5083-O *(Japanese)* 1−43490
fatigue crack growth, sheet thickness effect on delayed retardation phenomena in type HT80 1−3878
fatigue crack growth rate data, wide range, three component model eval. on type 2219-T851 1−26614
fatigue crack initiation process, rel. to notch sensitivity in rotating bending fatigue in types S15C and S50C *(Japanese)* 1−48477
fatigue crack propagation, plastic work 1−53268
fatigue crack tip plastic strain obs. by stereoimaging 1−3884
fatigue damage prediction and dislocation distrib. in single crysts. 1−52137
fatigue life prediction, remaining life in initiation regime using SAW 1−48591
fatigue strength of dimpled and undimpled loaded holes, clamping press. effect in type 2024-T3 1−26613
flow process of weak shocks, irreversible-thermodyanmic finite-strain theory for 6061-T6 Al 1−7260
foils, laser spectrosc. anal. using Korall-1 device 1−17136
fractography and fracture mechanics, welded parts *(Japanese)* 1−53262
fracture, brittle and viscous, EM emission 1−35382
fracture roughness testing, cylindrical samples with circular crack, results reliability 1−35478
fracture toughness testing, comparison of ASTM standard and short rod methods 1−26696
grain boundary etchant, new 1−48624
graphite fibre reinforced Al alloy, friction and wear props., effect of sliding time and speed 1−39473
GTA welds, grain structs. 1−8298
heat resistant type AAA 2618, pitting tendency, microstruct. effect 1−48563
hydrostatic extrusion, production of hollow and solid profiles 1−35220
IMI 685, Ti-Al-Zr alloy, fatigue behaviour, time dependent deform. 1−35391
IN100, cyclic behaviour, macroscopic description of microstruct. changes induced by varying temp. 1−35341
Inconel 617, effect of stressing on intergranular oxidation *(Japanese)* 1−31743
internal friction in H_2 charged Al alloys 1−53226
laminates, Al alloy/C-epoxy, environmental fatigue crack propagation 1−8415
Mar M200 powder compacts, flow behaviour during isothermal forging 1−16847
metal granules, hot rolling, metal temp. 1−53139
Ni-Al-Hf, containing the γ' and β-phases, structural features 1−39308
positron annihilation study of quenched-in defects in diluted Al-Mg alloys 1−52177
rare earth alloys, $R_{65}Al_{35}$, R=Ce, Pr, Dy, amorphous, mag. props. meas. 1−12266
rare earth-$(Al,Ga)_2$, alloys, unit cell consts. and comp. ranges 1−25201
rare earth-Al_2 alloys, crystal field, neutron diffr. studies 1−25673
rare earth-Al Laves phases, pure and doped RAl_2, growth and characterisation 1−3605
rare earth-Cu_4Al, magnetization meas. 1−25876
rare earth-Si-Fe-Al alloy preparation 1−39280
resistance to low-cycle strain, eval. upon internal heating 1−31530
slab solidification, at continuous casting in electromagnetic mould *(Russian)* 1−48340
steel, fine structure, effect of retained Al in 12Kh1MF 1−16784
strain rate sensitive, hot tensile deform., growth and linkage of holes 1−39406
stress meas. by US birefringence technique, stress-acoustic relations 1−24582
tensile props. of A357-T6 castings 1−48424
thin film couples, intermetallic cpd. form. at room temp. 1−35236
thin sheet, strength reduction by laser irrad. 1−47111
Ti-Al-Sn, type 6242 alloy, time depend. crack growth 1−48500
ticonal alloy, YuNDK35T5BA, transform. of γ phase, mag. and struct. props. *(Russian)* 1−31457
Udimet 710, thermal fatigue resistance, influence of protective coatings 1−31759
vibratory stress relief, fundamental study 1−12776
weak-shock eqn. of state, shock-profile jump eqns. for 6061-T6 Al 1−7261
welded petrol tank, stress corrosion cracking 1−16975
wrought alloys, strengthening by fractional melting 1−26443
X-ray fluorescence analysis 1−21807
Ag-Al, surface segregation and precipitation phenomena 1−16780

aluminium alloys continued
Al alloy containing Al_2O_3 and SiC particles, prep. and mech. props. *(Korean)* 1−16720
Al alloy D16T, dimpled sheets, eddy-current monitoring of mech. parameters 1−31809
β-Al bronze, single crysts., input and hysteresis energies vs. temp. 1−48444
Al-(Fe, Mn), melt spinning 1−12732
Al-[(Au)-(Cu)-(Co-Ni-Sb)] (<1 wt.%), for low temp., high cond. appls., mech. behaviour 1−21465
Al-Ag, dil., thermal diffuse X-ray scatt. 1−43214
Al-Ag, precipitation hardened, strength, review of expt. and theoretical research 1−21459
Al-Ag alloy films for solar reflectors 1−13105
Al-Ag-Cu ternary eutectic system, structs. expected during steady state directional growth 1−8296
Al-Al_3-Fe eutectic alloy, structural modification by Na and Li additions 1−53166
Al-Al_4Ca alloy, microduplex struct., yield stress, flow stress and work hardening 1−31575
Al-Al_4Ca eutectic alloy, microduplex struct., room temp. props., prep. and microstruct. 1−39354
Al-Ba, phase comp., calorimetric determ. 1−8273
Al-C dispersion hardened alloys, deform. behaviour 1−31580
Al-Co, peritectic transformations during crystallisation 1−47213
Al-Cr, (0.07 at.%), interstitial trapping, channelling meas. 1−20282
Al-Cr, peritectic transformations during crystallisation 1−47212
Al-Cr(Mn)(Fe), dil., low-field Hall coeff. at 4.2K 1−7592
Al-Cu, 2017-T4, fatigue crack grwoth under mode II loading *(Japanese)* 1−43492
Al-Cu, 3003 alloy, pitting corrosion in aq. glycol solns., charact. and relevance to solar thermal collector systems 1−39517
Al-Cu, dil., thermal diffuse X-ray scatt. 1−43214
Al-Cu, hardening mechanism during high temp. ageing *(Russian)* 1−12752
Al-Cu, liq. alloy, surface composition, AES study 1−30527
Al-Cu, off-centre E-gun deposition source in planetary evaporation system 1−12670
Al-Cu, polycryst., third-order elastic moduli, US vel. obs. 1−31517
Al-Cu, study on the temp. of thermal spike 1−25256
Al-Cu, twin dendrite growth during directional crystn. *(Russian)* 1−25599
Al-Cu, type 2024, fatigued, and stress corroded, prefracture damage determ. by X-ray double cryst. diffractometry 1−31639
Al-Cu, type 2024 alloy, X-ray double cryst. diffr. and topography for fatigue failure prediction 1−31820
Al-Cu, type 2024-T3, fatigue fracture mode transitions, environmental effects 1−39419
Al-Cu, type 2024-T351, cyclic loading, constitutive eqns. 1−3830
Al-Cu, type 2124 T351, fatigue crack growth retardation 1−8423
Al-Cu, type 2219-T85I, fatigue crack growth response following high load excursion 1−43514
Al-Cu, type 2219-T851, fatigue crack growth, SIMS and AES study 1−31638
Al-Cu (0.2=3.5 wt.%), vacancies characteristics, elec. resist. temp. coeffs. 1−2431
Al-Cu (0.5 wt.%) anomalous internal friction phenomenon *(Chinese)* 1−52228
Al-Cu (0.5 wt.%) thin film, electromigration, texture and grain struct. effects 1−34502
Al-Cu (1-12 at.%), splat-cooled, X-ray diffr. line anal. 1−7131
Al-Cu (2.8 wt.%), crysts., shear localisation 1−25294
Al-Cu (2.8 wt.%) alloy, containing θ' precipitates, cyclically strained, dislocation structs. 1−52140
Al-Cu (33 wt.%), off-eutectic, unidirectional solidification *(Korean)* 1−16766
Al-Cu (4 wt.%), containing plate-like precipitates, lamellar model validity for yield stress variation 1−21545
Al-Cu (4 wt.%), precipitation nucleation of Guinier-Preston zones, ageing effect on channelling conditions *(French)* 1−3740
Al-Cu (4 wt.%), strain rate dependent behaviour as function of precip. state 1−21536
Al-Cu (45 at.%), rapidly solidified, vacancy ordered phases 1−26448
Al-Cu (4.5 wt.%), directionally solidified, anisotropic tensile props. *(Japanese)* 1−3834
Al-Cu (4.5 wt.%), epitaxy and surface melting by high powered directed energy 1−47410
Al-Cu compacts, liquid phase sintering 1−39271
Al-Cu dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Cu eutectic alloys, selective absorbers for solar photothermal conversion 1−32045
Al-Cu evaporated film, lattice parameters and homogeneous elastic stresses, $\sin^2\Psi$ meas. method 1−30604
Al-Cu solid soln., destabilisation and induced work-hardening during plastic deform. 1−31490
Al-Cu solid soln. alloy microstructure, segregation, thermal and elec. cond. *(Japanese)* 1−48347
Al-Cu sputtered films, Cu distrib., AES and SEM study 1−30582
Al-Cu strip, electromigration damage, constant DC stressing, TEM obs. 1−52337
Al-Cu-Ga system, phase diagram *(Chinese)* 1−48323
Al-Cu-In (4, 0.06 wt.%), precipitation of θ' phase *(Japanese)* 1−26470
Al-Cu-Mg, bulk formability meas., effect of second phase particles 1−39405
Al-Cu-Mg, type 2024 alloy, analytical study of microconstituents 1−26786
Al-Cu-Mg (4, 1.5 wt.%), mica particle dispersed, casting fluidity 1−20295
Al-Cu-Mg alloy, component design for low cycle high temp. loading 1−34415
Al-Cu-Mg alloy D16, corrosion cracking in chloride soln., polarisation effect 1−26676
Al-Cu-Mg-Fe-Ni, type 2618A alloy, fatigue threshold 1−48468
Al-Cu-Mg-Mn alloy D16, corrosion cracking in chloride solution, H liberation 1−35440
Al-Cu-Mg-Si, duralumin, extrusion *(Polish)* 1−16830
Al-Cu-Mg-Si alloys, metallographic anal. for phase identification 1−17015
Al-Cu-Mn, D16 type, compressive strength in shock 1−53231
Al-Cu-Mn alloys, short surface fatigue cracks, growth rate models 1−53269
aluminium alloys continued
Al-Cu-Si, planar growth, role of constitutional undercooling 1−3718
Al-Cu-Si film, electromigration behaviour, surface struct. 1−2933
Al-Cu-Si-Mg, precipitation hardening L70 type, microplasticity 1−35315
Al-$CuAl_2$ eutectic, directionally solidified, thermal expansion 1−52320
Al-$CuAl_2$ eutectic alloys, unidirectionally solidified, lamellar structure 1−43329
Al-$CuAl_2$ eutectic composites, hardness meas. 1−31603
Al-Cu(Zn)-Mg, high-strength granulated, heat treatment by stepped heating 1−3803
Al-Fe, dil., interstitial sites for localised diffusion of Fe, Mossbauer γ radiation interference study 1−21096
Al-Fe (0.02 wt.%), vacancies characteristics, elec. resist. temp. coeffs. 1−2431
Al-Fe (0.8 wt.%), recrystallisation kinetics, coarse particle distrib. effect 1−26523
Al-Fe metastable alloys, ion implantation prod., thermal migration of Fe 1−7393
Al-Fe-Ni system, phase equilibria, critical eval. of constitution 1−35233
Al-Ge dilute alloy, magnetoresistance meas. after neutron irrad. 1−47614
Al-Ge eutectic, liq.-solid nucleation behaviour 1−26442
Al-Ge granular superconductors, upper crit. field 1−20932
Al-Li, splat-quenched, alloy 2024, effect of Li on struct. and props. 1−8294
Al-Li (2.8 wt.%), dislocation struct. after ageing in US field *(Russian)* 1−7177
Al-Li(1.7 wt.%), low temp. ageing, elec. resist. meas. *(Japanese)* 1−26508
Al-Mg, elev. temp. behaviour *(French)* 1−3797
Al-Mg, polycryst., third-order elastic moduli, US vel. obs. 1−31517
Al-Mg, quenching conditions effect on struct. and mech. props. *(Russian)* 1−26507
Al-Mg, static softening at elevated temps. 1−35335
Al-Mg, type 5052, 5154 and 5083, deform. and fracture 1−8387
Al-Mg, type 5052, sea water CO_2 system effect on corrosion 1−39510
Al-Mg (0.03 at.%), dil., dislocation internal friction peaks with anomalous amplitude effect *(Chinese)* 1−21500
Al-Mg (0.3 wt.%), single crysts., discontinuous deform. depend. on orientation 1−8382
Al-Mg (0.7 at.%), fatigue deform. and microstruct. stability in single crysts. 1−31649
Al-Mg (0.7 wt.%) single crysts., fatigue softening 1−31602
Al-Mg (10 wt.%), rheocast, special grain boundaries 1−31451
Al-Mg (2 wt.%), β-phase precipitates dissolution, internal strain effect, fracture charact. study 1−26473
Al-Mg (2 wt.%), creep mechanism at high temp., stress depend. 1−38378
Al-Mg (2.2 wt.%), neutron irrad., microstruct. and tensile props. 1−52181
Al-Mg (2.5 wt.%), stress corrosion cracking, protection in saline water by properly oriented anodic coatings 1−12923
Al-Mg (4.5 wt.%), microsegregation influence on ageing effect *(Polish)* 1−16805
Al-Mg (4.9 and 1.2 wt.%), substitutional and interstitial, dynamic and static strain ageing 1−43383
Al-Mg (5 wt.%), creep behaviour following stress change, substruct. influence 1−12840
Al-Mg (5 wt.%), creep mechanism and stress exponent 1−12816
Al-Mg (5 wt.%) clad with austenitic stainless steel, props. and formability *(French)* 1−8336
Al-Mg (5.5 at.%), FCC solid solution alloys, creep behaviour *(Czech)* 1−3838
Al-Mg (93, 6 wt.%), crack development under cyclic loading, prevention using surface plastic strain 1−3785
Al-Mg alloy, dislocation motion, deform. temp. depend., HVEM obs. 1−25276
Al-Mg alloy, in H_3PO_4, aminophenols as corrosion inhibitors 1−31713
Al-Mg alloy 2024, tensile props., planar anisotropy *(Korean)* 1−12799
Al-Mg alloy AMg6, unit crack propag. energy, depend. on chemical comp. 1−39449
Al-Mg alloys, calorimetric study of precipitation process 1−12749
Al-Mg alloys, high temp. solid soln. strengthening, studied through internal friction 1−21470
Al-Mg alloys, hot-rolled, edge cracking 1−8424
Al-Mg alloys, vol. plasmon dispersion meas. 1−30655
Al-Mg dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Mg dilute alloys electric field gradient calcs. 1−20689
Al-Mg foil, dislocation Burgers vector determ. by weak beam imaging in HVEM 1−20224
Al-Mg foils, role of environmental conditions on irradiation damage in HVEM 1−2515
Al-Mg_2Si, study on the temp. of thermal spike 1−25256
Al-Mg-Ag alloys, tensile and fatigue props., effect of Ag 1−31655
Al-Mg-Mn (5, 0.8 wt.%), duplex deform. substruct. form. during extrusion 1−31483
Al-Mg-Si, fracture mechanisms 1−3916
Al-Mg-Si alloys, mech. props., effect of dispersoids and grain size 1−21590
Al-Mg-Si alloys, round extrusions, texture development *(German)* 1−48374
Al-Mg-Si alloys AL9 and AL34, heat treatment 1−8351
Al-Mg-Zn, cast, comp. optimisation 1−3849
Al-Mg-Zn, fully annealed, stretcher strain marks and stress corrosion *(French)* 1−3773
Al-Mg-Zn, precipitation hardened, strength, review of expt. and theoretical research 1−21459
Al-Mg-Zn (5.6-6.1, 2.1-2.5 wt.%), deform. and fracture at elevated temp. 1−21560
Al-Mg-Zn system, coherent hexagonal phases formation, influence of elastic strain energy 1−21451
Al-Mg-(Zn), fracture toughness, intermetallic inclusions influence 1−53289
Al-Mg(-Cu) alloys, strain rate sensitivity and plasticity 1−21559
Al-Mn, partially solidified hyper-eutectic alloy, apparent viscosity and struct. under stirring *(Japanese)* 1−53167
Al-Mn alloy, strain rate sensitivity and plasticity 1−21559
Al-Mn(-Fe-Si), static softening at elevated temps. 1−35335
Al-Ni, heat meas. on solidification in chill and sand moulds *(French)* 1−26446
Al-Ni, peritectic transformations during crystallisation 1−47213
Al-Ni, surface composition, XPS-ISS anal. 1−7443
Al-Ni coated Al alloy, crack initiation and propag. 1−39443

aluminium alloys continued
Al-Ni eutectic alloys, selective absorbers for solar photothermal conversion 1−32045
Al-Pb, preparation in quasi-weightless conditions *(Russian)* 1−16712
Al-Pd eutectic alloy, superplasticity 1−43442
Al-rare earth disordered alloys, solar reflectance props. 1−13102
Al-Si, irradiation-induced precipitation in high voltage electron microscope 1−52178
Al-Si (12.7wt.%), eutectic alloys, growth temp. and interflake spacing during directional solidification 1−8289
Al-Si (3 wt.%), healing phenomena of a hole in soldi-liq. coexisting zone *(Japanese)* 1−31450
Al-Si alloy SS 4245, hypoeutectic, casting effect on mech. props. *(Swedish)* 1−3870
Al-Si alloys, friction and wear, study using SEM and microhardness testing 1−12886
Al-Si alloys, quenched 1−38370
Al-Si alloys, rapidly quenched from mat. characterisation 1−21438
Al-Si alloys, struct. heterogeneity influence on fracture mechanism *(French)* 1−48457
Al-Si based alloys, SAS1-50, microstruct. and dimensional stability, electron microscopy study *(Russian)* 1−30228
Al-Si evaporated film, lattice parameters and homogeneous elastic stresses, $\sin^2\Psi$ meas. method 1−30604
Al-Si piston alloys AL25 and AL30, creep and heat resist. 1−35330
Al-Si system, thermodynamic functions and phase diagram, optimisation using least squares method 1−53155
Al-Si-Ni, alloy SAS1-400, microstruct. and dimensional stability, electron microscopy study *(Russian)* 1−30228
Al-Si-(Cu) single crysts., large local rotations at 2nd phase particles 1−21546
Al-Si(Cu), film, electromigration behaviour, surface struct. 1−2933
Al-Si(Ge) eutectic alloys, supercond. transition temp. enhancement, cond. electron tunnelling into negative-U centres 1−20905
Al-Sn, 0.03 at.%, irrad.-induced defects, trapping by Sn atoms, channelling-backscatt. study 1−11793
Al-Sn, liq. alloy, surface composition, AES study 1−30527
Al-steel fibre deformable composite, preparation, heat treatment *(Russian)* 1−16718
Al-Ti alloys, long-period antiphase domain structs., electron diffr. study 1−25290
Al-Ti-Ga alloys, superplastic behaviour after grain boundary enrichment with Ga 1−16857
Al-Ti-Si alloy, non-equilibrated, $Ti(Al, Si)_3$ compound formation 1−16769
Al-Zn, 7075-T6, fatigue crack grwoth under mode II loading *(Japanese)* 1−43492
Al-Zn, dil., impurity-vacancy complex binding energy, pseudopot. method *(Russian)* 1−15921
Al-Zn, growth kinetics of GP zones and α'_R-precipitates, XSAS and resist. meas. 1−26472
Al-Zn, irradiated, interstitial-solute interactions, mixed dumbbells, mol. dynamics study 1−7207
Al-Zn, twin dendrite growth during directional crystn. *(Russian)* 1−25599
Al-Zn (11 wt.%), polycrystn., dislocation struct. during transient and steady state creep 1−12839
Al-Zn (5 wt.%), creep behaviour following stress change, substruct. influence 1−12840
Al-Zn (6.8 at.%), elastic behaviour during form. and growth of Guinier Preston zones *(German)* 1−31463
Al-Zn (78 wt.%), superplastic phenomena, grain growth obs. *(Polish)* 1−16829
Al-Zn alloys, ageing under pressure, TEM *(Russian)* 1−35287
Al-Zn coatings on steel, corrosion protection 1−12934
Al-Zn solid solns., ^{65}Zn diffusion coeff. rel. to temp. 1−38577
Al-Zn-Mg, aged, plastic strain amplitude change in total strain controlled low-cycle fatigue 1−16832
Al-Zn-Mg, anodic polarisation at grain boundary region and ageing embrittlement by stress corrosion in NaCl aq. soln. *(Japanese)* 1−43479
Al-Zn-Mg, corrosion-fatigue failure kinetics 1−31749
Al-Zn-Mg, nucleation of η'-precipitation, room temp. preageing effect 1−21450
Al-Zn-Mg, quenching conditions effect on struct. and mech. props. *(Russian)* 1−26507
Al-Zn-Mg, thermomechanical treatment, strengthening 1−53213
Al-Zn-Mg, type 7075, lugs, crack propag., finite element anal. 1−21576
Al-Zn-Mg, type 7075-T6, fatigue fracture mode transitions, environmental effects 1−39419
Al-Zn-Mg, type 7075-T6, tongue-shaped crack extension during fatigue 1−48467
Al-Zn-Mg (0.25, 0.8 wt.%), creep crack growth, critical anal. 1−12874
Al-Zn-Mg (3.5, 4 wt.%), cast alloy, precipitation process, TEM obs. 1−21448
Al-Zn-Mg (4, 1.6 wt.%), overaged, deform. microstruct. and crack formation in low-cycle fatigue 1−16831
Al-Zn-Mg (4.5, 2.5 at.%) η'-phase form., short preageing influence, TEM, XSAS, resist. and hardness meas. 1−21449
Al-Zn-Mg (4.7, 1.2 wt.%), mech. props. 1−21504
Al-Zn-Mg (5, 2 wt.%), plastic instability in stretch forming *(French)* 1−3772
Al-Zn-Mg (5,2 wt.%), rupture activation energy meas. at low stress 1−3922
Al-Zn-Mg (5.5, 2.5 wt.%), moisture, grain size, heat treatment effects on surface oxide, AES obs. 1−26653
Al-Zn-Mg (6, 2.5 wt.%), rel. between ductility and fracture toughness 1−26535
Al-Zn-Mg (6,3 wt.%), liquid metal embrittlement, metallographic and fractographic studies 1−39408
Al-Zn-Mg alloy, resist. increase during isothermal ageing rel. to precipitate growth 1−20701
Al-Zn-Mg alloy, weldable, explosive loading effect on hardness 1−53278
Al-Zn-Mg Cu, type 7075-T6, relationship between shear lip size and fracture toughness 1−12857
Al-Zn-Mg ribbed panels, corrosion and mech. props. 1−31755
Al-Zn-Mg single crysts., age-hardened, dislocation struct. and persistent slip band form. during cycling 1−30243
Al-Zn-Mg-Cu, 7075, effect of ageing on props. 1−48402
Al-Zn-Mg-Cu, type 7075-T651, fatigue crack growth, SIMS and AES study 1−31638
Al-Zn-Mg-Cu (5.2, 2.5, 1.5 wt.%), stress corrosion cracking susceptibility, effect of loading direction and environment 1−39503
aluminium alloys continued
Al-Zn-Mg-Cu (5.7, 2.5, 1.5 wt.%), microstruct. and fatigue fracture correlation 1−31642
Al-Zn-Mg-Cu (6,2,x wt.%), effect of Cu content and deform. mode on fatigue crack propag. 1−12856
Al-Zn-Mg-Cu (6.2, 2.6, 0.15 wt.%), fatigue crack propagation and fatigue life, effect of shallow notch 1−8435
Al-Zn-Mg-Cu alloy, fatigue crack initiation of notches 1−31646
Al-Zn-Mg-Cu alloy V93pch forgings, quenching water temp. effect on struct. and mech. props. 1−48392
Al-Zn-Mg-Cu alloys, type 7075, stress corrosion crack-tip surface chemistries, anal. 1−48580
Al-Zn(-Mg), grain boundary precip., effect of boundary struct. 1−53183
$Al_{0.965}Ag_{0.035}$, disorder, creation of freq. gaps in phonon spectra 1−11832
Al_2Au, electron struct., X-ray emission spectra and XPS 1−35123
Al_2Au, electronic struct., multiple scatt. $X\alpha$ cluster method with k-depend. boundary conditions 1−42681
AlCa, dilute, size effect, temp. depend., thermal expansion meas. 1−47263
Al_2Ce and Al_3Ce, Kondo effect under press. 1−30898
$AlCr_2C$ struct. type interstitial phases, dimensional anal. 1−2351
Al_2Cu, electron struct., X-ray emission spectra and XPS 1−35123
Al_2Cu, electronic struct., multiple scatt. $X\alpha$ cluster method with k-depend. boundary conditions 1−42681
Al_2Cu, morphology *(French)* 1−52106
AlEr dirty supercond. films, charge imbalance relax. in presence of pair-breaking interaction 1−38891
AlH_x, electronic struct. rel. to supercond. 1−2863
$Al_2La_xTm_{1-x}$ (Y_xEr_{1-x}), crystal fields determ. from paramag. anisotropy and neutron scatt. 1−20683
AlMg, dilute, size effect, temp. depend., thermal expansion meas. 1−47263
AlMgSi alloys, thermomech. treatment and Cu addition effect on precipitation hardening 1−21467
AlMg5 alloy, influence of duration of soln. treatment on natural ageing *(Russian)* 1−31499
$Al_{80}Pd_{20}$, Auger spectra, depend. on band struct. 1−12627
AlZn heterogeneous alloys, Al-rich, Zn^{65} diffusion 1−47306
AlZnMg, grain boundary diffusion of H during stress corrosion cracking *(German)* 1−8490
Au-Al intermetallic compound formation 1−2707
Au-Al thin film couples, layered phase growth, optical study 1−7488
$AuAl_2$, colour changes induced by cryst. imperfections *(German)* 1−8099
$AuAl_2$, intermetallics, valence band struct., plasmon energies 1−25624
B fibre reinforced Al-Cu, mech. props. *(Slovak)* 1−48405
$Ca_{0.8}Al_{0.2}$ metallic glass, thermoelectric power 1−52547
$CeAl_2$, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
$CeAl_2$, NMR, hyperfine fields, fluctuations, spatial correlation 1−43024
$CeAl_2$, SAW propag. in paramag. phase 1−34560
$CeAl_2$, thermal and elastic props. 1−20433
$CeAl_2$, XPS from Ce core level 1−48231
$CeAl_3$, low temp. elastic consts., rel. to cryst. field splitting 1−35299
$CeAl_3$, spectral width temp. depend. 1−30911
$CeAl_3$, thermal and elastic props. 1−20433
$Ce_{89}Al_{11}$, amorphous, mag. interactions, elec. transport props. and cryst. field effects 1−25903
$Ce_{1-x}Th_xAl_2$, mag. order and moment reduction, thermal expansion meas. 1−20979
Co-Al system, new multilayer martensitic phases after repeated $\beta \rightleftarrows \alpha$ transform 1−3732
Co-Cr-Al, Co-Cr-Al coating, doped, Al_2O_3 scale morphology 1−31756
Co-Cr-Al (10, 11 wt.%), influence of Pt addition on Al_2O_3 scale adherence in oxidation 1−35433
Co-Cr-Al coating, hot corrosion resistance, effect of modification by active elements 1−31761
Co-Cr-Al-Hf(-Pt) second generation turbine airfoil coatings in marine service 1−30596
Co-Cr-Al-Y coating, laser surface treatment 1−31763
Co-Cr-Al-Y(-Ni)(-Si) superalloy overlay coating, hot-corrosion-resistant, for gas turbine engines 1−31760
Co-Cr-(Al), corrosion in mixed gas environments at elevated temps. 1−3981
Co-Ni-Cr-Al-Y reaction-sintered coating on Co-Ni-Cr-W, mech. props. and environmental resistance 1−31762
CoAl, APW band struct., densities of states, complex dielec. function 1−7501
$(Co_2Ni_{1-x})_{75}P_{16}B_xAl_3$, amorphous, mag. and transport props. 1−7587
Cr-Al, dil., antiferromag., mag. struct. between incommensurate and commensurate phases, elec. resist. and mag. susceptibility meas. 1−12269
Cr-Al antiferromagnetic solutions, negative magnetoresist. 1−25706
CrAl, antiferromagnetic alloys, NMR study 1−47970
Cu-Al, Ar^+ excited Al Auger electron emission 1−48216
Cu-Al, α phase solid soln., low temp. work hardening 1−43360
Cu-Al, double ribbons, geometry and props. 1−20242
Cu-Al, FCC alloy, Shockley partial dislocations, anisotropic elasticity and solute interaction effects 1−7178
Cu-Al, isothermal internal friction, high temp., 370-680°C 1−53225
Cu-Al, lattice thermal cond., phonon scatt. by dislocations 1−52249
Cu-Al, martensitic transform., alloying elements effect *(Russian)* 1−26455
α-Cu-Al, single crystal, solid soln. hardening and mech props. 1−12753
Cu-Al, specific heat, quasi-local phonon modes around dislocations 1−20342
Cu-Al, surface, effect of partial O_2 press. on noble gas ion bombardment 1−31276
Cu-Al (0.6 at.%), multiplication of dislocations in single crysts. 1−11757
Cu-Al (1 at.%), dislocation vels., revised meas. in single crysts. 1−11758
Cu-Al (10 at.%), two-step annealing, recrystallisation *(Japanese)* 1−53197
Cu-Al (13.43 wt.%) alloy, electron irradiated, climb mechanism of dissociated dislocations 1−11764
Cu-Al (16 at.%) double ribbons, extended jogs 1−52138
Cu-Al (1.3(3.8)(7.6) wt.%), adherence of sulphide scale to metallic base 1−3961
Cu-Al (2 wt.%), fatigue process, in-situ study by HVEM 1−3899
Cu-Al (30.8 to 40.9 wt.%), γ-phase, long-period superstruct. 1−30015
Cu-Al (5.8 at.%), deformed, stages of hardening in surface region 1−35280
Cu-Al (6-17 at.%), residual elec. resist., effect of low temp. plastic deform. and subsequent annealing *(Russian)* 1−8442

aluminium alloys continued
Cu-Al alloys, heavily deformed α_2 phase, stacking disorder and annealing behavior 1−15910
Cu-Al alloys, low temp. molar heat capacities and interrelations of thermodynamic props. 1−16055
α-Cu-Al alloys, short-range ordering, optical investigations 1−8091
Cu-Al alloys, solid solution hardening, conc. depend. of stress equivalence 1−16796
Cu-Al alloys and intermetallics, synthesis under combustion and thermal explosion conditions 1−53137
Cu-Al bronzes, inductive liquid phase sintering 1−31383
Cu-Al single crysts., dislocations mobility 1−47087
α-Cu-Al single crysts., in-situ electron microscopy of twinning in deform. 1−31571
Cu-Al solid soln., single crysts., work hardening and twinning at temps. 4.2 to 300K 1−31489
α-Cu-Al solid solns., rel. of mech. props. to fine struct. *(Russian)* 1−53208
α-Cu-Al solid solns., thermally activated plastic deform., 20 to 300K *(Russian)* 1−12790
Cu-Al thin film, isothermal evaporation, comp. profile, SIMS and X-ray anal. 1−31357
Cu-Al-Co, dispersion hardening alloys, temp. depend. of flow and critical shear stresses 1−53194
Cu-Al-Co, hetero-phase, mech. twinning *(Russian)* 1−2464
Cu-Al-Co, noncoherent particle containing, work hardening, plastic deform., slip lines, and inelasticity *(Russian)* 1−3764
Cu-Al-Fe-Ni (14, 4.5, 1 wt.%), ion-plated coatings for sheet metal forming dies 1−30592
Cu-Al-Ni, β_1 to β_1' transform. under uniaxial tensile stress, morphology study *(Russian)* 1−12736
Cu-Al-Ni, martensitic transform. and ageing effect *(Japanese)* 1−26458
Cu-Al-Sn, laser surface melted, enhanced corrosion resistance, elemental nonuniformities 1−43610
Cu-Al(Co) (2 wt.%), solid solns., cyclic deform. behaviour 1−31568
Cu-Al(1 at.%), plastic deformation and creep, low temp., effect of mag. field *(Russian)* 1−21508
Cu-Mn-Al (42, 2 wt.%), cold-rolled sheet, anisotropy of damping capacity *(Japanese)* 1−42446
Cu-Mn-Al Heusler alloys, ageing 1−31511
Cu-Ni-Al-Si (5,5,1 wt.%), alloy 644, high performance, stress relax. behaviour at 200°C 1−43403
β-Cu-Zn-Al, diffr. effects during surface martensite particle anal. 1−38389
Cu-Zn-Al, Martensitic transform., DO_3 order effect 1−26459
Cu-Zn-Al, singularities of martensitic transform. *(Russian)* 1−43336
βCu-Zn-Al alloy, dislocations before and after thermoelastic martensitic transform., X-ray topography 1−21446
Cu-Zn-Al alloy, internal friction during martensitic transform., new aspects 1−38448
Cu-Zn-Al alloys, superelastic, fatigue props. 1−31644
CuAl, thermal expansion calc. from third-order elastic consts., isotropic continuum model 1−38565
Cu_2MnAl, Heusler alloy, ^{65}Cu nuclei hyperfine interaction with external mag. field 1−26082
$Cu_2Mn(Al_{1-x}Sn_x)$, Heusler alloy, spin-disorder resist. 1−7603
β-CuZnAl quenched, internal friction 1−43400
CuZnAl shape memory alloys, fatigue behaviour 1−31656
D_2 trapping, in 2219 and 7075 ion-implanted, SIMS study 1−26787
$DyAl_2$, electrical resistivity anisotropy in ferromagnetic range 1−30720
$ErAl_xGa_{2-x}$, lattice consts. and phases, X-ray diffr. and microprobe anal. 1−20128
$EuAl_2$, $EuAl_4$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
Fe, cast, grey, Al addition effect on microstruct. and hardness 1−53261
Fe-Al, conc., self-diffusion meas. 1−52339
Fe-Al, corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
Fe-Al, dil., nuclear spin-lattice relaxation time 1−34953
α-Fe-Al, dil., substitutional sp impurities, electronic struct. calc. 1−16253
Fe-Al, dislocations struct. and temp. depend. of mech. props. 1−8367
Fe-Al, ordering and phase separation 1−12722
Fe-Al, solubility, diffusional phase growth kinetics *(Russian)* 1−16043
Fe-Al (10 to 50 at.%), phase diagram *(German)* 1−31427
Fe-Al (17-27 at.%), twinning, 77K to room temp. 1−15907
Fe-Al (5 wt.%), BCC, surface topography changes during cyclic deform. early stage 1−21527
Fe-Al disordered alloys, disappearance of ferromagnetism, spin glass transition 1−38943
Fe-Al system, melting equilibria *(German)* 1−31419
Fe-Al-Si, sendust, mag. props., appl. as video head for high coercive tape 1−7892
Fe-Cr-Al, corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
Fe-Cr-(Al), corrosion in mixed gas environments at elevated temps. 1−3981
Fe-Ni-Cr(-Al), refractory alloys, oxidation behaviour, influence of Y implantation 1−48552
Fe-Si-Al, mag. props. in high-freq. region 1−7882
FeAl, APW band struct., densities of states, complex dielec. function 1−7501
α-FeAl, k-state heterogeneous SRO 1−25445
$FeAl_3$, star-shaped cluster form. during rapid cooling, SEM obs. 1−31502
Fe_2Al_5, intermetallic compound formed at Fe substrate/Al coating interface, effect of preliminary deform. 1−16841
Fe_2Al_5 intermetallic compound, form. and annihilation, kinetic study *(Korean)* 1−34522
Fe_3Al, ordered, equilibrium phases 1−35252
$(Fe_xNi_{1-x})_{75}P_{16}B_6Al_3$, amorphous, mag. and transport props. 1−7587
$(Fe_xNi_{1-x})_{75}P_{16}B_6Al_3$ amorphous ribbon, mag. phase diagram 1−7841
$Ga_{1-x}Al_xSb$:Te, LPE on p-GaSb substrates 1−35193
$GdAl_2$, magnetisation in ferromag. phase 1−47909
$Gd(Al_{1-x}Cu_x)_2$, magnetoresistance and band struct. near Curie temp. 1−7589
$Gd(Co_xAl_{1-x})_2$ compounds, mag. props. and reson. studies 1−52847
$Gd(Co_xAl_{1-x})_2$, ESR study 1−7946
$Gd_{1-x}R_xAl_2$ (R=Dy, Ho, Er), ESR spectra, g-factor and thermal broadening 1−34935
$(La,U)Al_2$ dilute alloy, localized mag. moments, low temp. 1−47849
La-Al, amorphous, negative temp. coeff. of elec. resist. 1−7579

aluminium alloys continued
La-Al (20 at.%), amorphous, quenched from liq. state, supercond. characts. *(Russian)* 1−42878
$LaAl_2$:Nd, crystalline elec. field, magnetisation meas. 1−47593
$La_{0.80}Al_{0.20}$ amorphous alloy, internal friction and Young's modulus 1−20314
$LaGdAl_2$, conduction electron asymmetric scatt. 1−34685
$La_{1-x}Gd_xAl_2$, spin glass, freezing temp. freq. depend. 1−34898
$LaNi_{4.9}Al_{0.1}$, hydride kinetics during formation-decomposition cycling 1−3744
$LaNi_{5-x}Al_x$ and deuterides, neutron and X-ray diffr. profile anal. and cryst. struct. 1−20119
$LaNi_{5-x}Al_x$, heat capacity, hydrogenation, influence of lattice and electronic factors 1−20418
β-$LaNi_{5-y}Al_yH_x$, H diffusion behaviour, Al substitution effect, PMR relax. time meas. 1−3282
Li-Al, soft X-ray emission spectra 1−8164
Li-Al, soft X-ray emission meas., comparisons with KKR-CPA calcs. 1−31239
Li-Al, thermodynamic investigation by H_2 titration method 1−2656
$LiAl/TiS_2$ cells, high-temp., evaluation 1−17189
$LuAl_2$:Dy(Er), crystalline elec. field, magnetisation meas. 1−47593
MCrAlY/calcium silicate, corrosion-resistant thermal barrier coating, (M=Ni, Ca, e) 1−39530
Mg-Al, hydrogenation reaction rate 1−21714
Mg-Al (33.2 wt.%), nonuniform plastic flow, in simple tension, influence of material parameters 1−3822
Mg-Al oxidation, early stages, exoelectron emission and photoemission study 1−39532
Mg-Al-Zn-Cu, struct. and mech. props., Cu effect 1−8395
Mg-Al-Zn-Mn, sheets, fatigue cracks development 1−53286
Mg-Al(0.8 wt.%), deformed in compression at elevated temps., dynamic recrystn. and texture 1−21544
Mn-Al-C ternary system, phase diagram 1−39317
Mn-Cu-(Ni)-(Cu)-(Al), alloying addition effect on transformations and mech. props. *(Russian)* 1−21489
MnAl, melt extracted, mag. props. and permanent magnet parameters 1−12344
$MnAl_4$, X-ray cryst. struct. determ. 1−42340
Mn_xAl_{1-x}, selective magnetisation, laser annealing 1−30974
MnAlC, melt extracted, mag. props. and permanent magnet parameters 1−12344
MnAlC permanent magnets with macroscopically-plane mag. anisotropy 1−12280
Nb-Al, A15 phase prep. by direct precipitation, microstruct. and supercond. props. 1−47832
Nb-Al, phase diagram determ., high temp. 1−31422
Nb-Al multifilamentary supercond. composites, prod. by powder processing 1−48300
Nb-Al multifilamentary wires, fabrication by powder metallurgy, supercond. props. 1−48297
Nb-Al-Cu, metallographic struct. and supercond. transition temp. *(German)* 1−34821
Nb_3Al, A15 struct., press. effects on phase limits 1−34475
Nb_3Al films, superconducting, preparation by plasma arc spraying *(Ukrainian)* 1−31352
Nb_3Al multifilamentary wire, crit. currents at high fields 1−52729
Nb_3Al, nucl. relax., ^{93}Nb NQR study, rel. to supercond. transition temp. 1−26075
Nb_3Al, supercond., direct solid-state precip. processing 1−43294
Nb_3Al, superconductivity and metallurgy 1−52682
Nb_3Al tapes, critical current density meas. 1−3125
Nb_3Al-based ternary phases, ^{93}Nb NQR study *(Russian)* 1−12423
$Nb_3(AlGe)$, superconductor alloyed with Cu, flux-pinning centres 1−25847
$Nb_3(AlGe)$ tapes, critical current density meas. 1−3125
$NdAl_xGa_{2-x}$, $0 \leq x \leq 2$, lattice consts. and phases, X-ray diffr. and microprobe anal. 1−20128
Ni-Al, ion implanted, annealing behaviour, time evolution of conc. profiles, solubility and diffusion coeffs. 1−30254
Ni-Al, recovery, nonsteady-state coalescence during two-stage ageing treatment *(Russian)* 1−3791
Ni-Al (Ti, Mo, Si), Ni^+ ion bombardment, effect on void nucleation and growth 1−52183
Ni-Al (12 wt.%), generation of migrating boundaries by vacancies, precipitation kinetics 1−20237
Ni-Al (12 wt.%), ζ-solid soln., interdiffusion 1−7398
Ni-Al (14 at.%), precipitated γ'-phase particle spatial distrib. during ageing, rel. to mech. props. *(Russian)* 1−26467
Ni-Al alloys, doublets of γ' precipitate *(Japanese)* 1−43344
Ni-Al intermetallic cmpds., high temp. materials and coatings 1−31555
Ni-Al matrix, composition influence on Ni diffusion into W fibres *(Russian)* 1−47294
Ni-Al system, thermodynamic function, calc. using pseudopot. method 1−25465
Ni-Al-Mo (12.7, 21.6 wt.%), directionally solidified eutectic composite, microstructural studies 1−3724
Ni-Al-Ta, containing the γ' and β-phases, structural features 1−39308
Ni-Al-Ta dendritic monocrysts., solidification, solute redistribution during and after 1−16767
Ni-Al(-Ti)(-Cr), ageing accompanied by γ'-phase precipitation, struct. form. during slow cooling *(Russian)* 1−12763
Ni-Ce-La-Al, hydriding and dehydriding, reaction kinetics 1−4070
Ni-Co-Cr-Al-Y plasma-sprayed coating, coating-substrate interdiffusion 1−30489
Ni-Cr-Al (57, 40, 3 wt.%), stepped decomp. 1−43356
Ni-Cr-Al-Mo, Co free wear resistant alloy development for BWR control rod rollers 1−23772
Ni-Cr-Al-W-Mo-Ti-C-B, mech. props. depend. on deform. temp. and rate 1−35334
Ni-Cr-Al-W-Ti-Mo-Co, precipitation strengthened, microchem. heterogeneity and mech. props. 1−39343
Ni-Cr-Al-Zr, cyclic oxidation, effect of Zr 1−48569
Ni-Cr-Fe-Ti-Al (14.7, 8.9, 2.25, 1.1 wt.%), γ' determ. by non-aq. electrolyte-potentiostatic method *(Japanese)* 1−31417
Ni-Cr-W-Co-Mo-Al-Ti alloy KhN50VMKTYuR, recrystn., original grain size effect 1−43364
Ni-Cr-W-Mo-Fe-Al-Ti, ductility, effect of Mg and C 1−48434
Ni-Cr-(Al-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652

aluminium alloys continued
Ni-Cr-(Al), corrosion in mixed gas environments at elevated temps. 1−3981
Ni-Fe-Cr-Al, heat resistance in air at 800°C, struct. dispersion degree influence 1−35436
Ni-Nb-Al (15.1, 9.9 wt.%), γ'/δ alloy, Al_2O_3 coated, oxidation behaviour 1−8474
Ni-Ti-Al, creep resistant, relaxation tests under uniaxial tensile load *(German)* 1−21503
Ni-Ti-Al (7.8 at.%, 2.6 at.%), two-stage ageing and duplex struct. form 1−43381
Ni-Ti(Nb)(Mo)(Fe)(Co)(Cu)(Al) binary solid solns., anneal hardening 1−31474
NiAl, APW band struct., densities of states, complex dielec. function 1−7501
NiAl alloys, precipitation hardening by large vol. fractions of ordered particles 1−21461
NiAl, intermetallic cpd., oxidation study using SEM and TEM 1−31744
β'-NiAl, magnetisation behaviour under const. field, magnetometer response effects 1−7895
β'-NiAl quenched alloy, w-like diffraction effects 1−2291
$Ni_{1+x}Al_{1-x}$ (0<x0.08), Ni atom clustering, flow stress, and dislocation-cluster interaction 1−30236
NiCr-Al powder composite, prep. and plasma deposition 1−39492
$(Ni_xMn_{1-x})_{75}P_{16}B_6Al_3$, mag. and transport props. 1−7587
$NpAl_2$, mag. props., high press. Mossbauer study 1−47992
Pd-Al, internal oxidation and H_2 permeability *(Russian)* 1−2695
$PrAl_2$, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
$PrAl_2$, electrical resistivity anisotropy in ferromagnetic range 1−30720
$PrAl_2$, induced magnetism via conduction electron exchange 1−47868
RAl_2, exchange coupling depend. on interatomic distance 1−7825
$(ScEu)Al_2$, Mossbauer spectroscopy, valence change of mixed valent Eu impurity ions 1−25834
Si-TiN(TaN)-Al intermetallic, high temp. stable contact structs. 1−11984
SiC reinforced Al alloys, mech. props. 1−48509
$SmAl_2$, 4f and band contribution to Sm form factor 1−25678
Sr-Sn-Al-Pb alloy, corrosion in H_2SO_4 1−21627
Ta-Al-N reactively sputtered thin film capacitors, oxide dielec. props. 1−16540
$ThNi_{5-x}Al_x$ Haucke cpd., low temp. heat capacity and H_2 absorpt. 1−30417
Ti-Al, plastic deformation, low temp. peculiarities 1−43421
Ti-Al (10 wt.%), fatigued, and stress corroded, prefracture damage determ. by X-ray double cryst. diffractometry 1−31639
Ti-Al (5.3 at.%), slip band development in single crysts. containing 0.1-0.6 at.% interstitial impurities, 4.2 to 423K 1−15898
Ti-Al (8.6 wt.%), microstruct. and fatigue fracture correlation 1−31642
Ti-Al alloys, gas-abrasive wear resist. of AT3 and AT6 alloys 1−16900
Ti-Al alloys, in and out of corrosive environments, kinetics and mechanisms of subcritical crack growth 1−16958
Ti-Al solid soln. strengthening by Al at low temps. 1−31475
Ti-Al-H, model of sustained load cracking by hydride growth 1−8428
Ti-Al-Mn, alloy OT4, joint zone alloying in diffusion bonding, to improve strength 1−26480
Ti-Al-Mo, explosive loading, dynamic extension diagram, study using electronic inertia method 1−31805
Ti-Al-Mo-Cr (4.5, 5, 1 wt.%), CORONA 5, thermomech. processing-microstruct.-mech. props. rels. 1−48513
Ti-Al-Mo-Cr (4.5, 5, 1.5 wt.%), influence of processing and heat treatment on mech. props. 1−12767
Ti-Al-Mo-Cr alloy granules, surface and internal struct., effect on form. of nonporous material 1−26406
Ti-Al-Mo-SiC fibrous composite material, interaction zone, struct. and phase composition 1−8318
Ti-Al-Mo-Sn-Si (4, 4, 2, 0-0.5 wt.%), high temp. strength, influence of Si 1−31640
Ti-Al-Mo-V, current transients obs. during stress corrosion cracking in molten LiCl-KCl 1−48571
Ti-Al-Mo-V alloys, elasticity moduli, coeff. of thermal expansion and Debye temp. 1−16826
Ti-Al-Mo-V-Fe-Cu-Zr-Sn martensitic alloy, struct. and mech. props. 1−16791
Ti-Al-Mo-Zr, alloy VT9, props. and struct., effect heat treatment 1−16794
Ti-Al-Mo-Zr (6.7, 3, 1.7 wt.%), VT9, superplastic deform., improvement of mech. props. 1−16843
Ti-Al-Mo-Zr-Ni(Al)(NiAl), sub-surface zones form. after electrospark alloying with Ni, Al and NiAl *(Russian)* 1−43590
Ti-Al-Sn-Zr-Mo (6, 2, 4, 2 wt.%), fatigue props. improvement by Pt ion plating 1−8425
Ti-Al-Sn-Zr-Mo-Si (5, 5, 2, 2, 0.25 wt.%), β-processed, high temp. low cycle fatigue 1−8427
Ti-Al-Sn-Zr-Mo-Si (5, 5, 2, 2, 0.25 wt.%), wear under repetitive compound impact 1−12883
Ti-Al-V, ultra-fine-grained VT-6 alloy, texture effect on mechanical props. 1−31484
Ti-Al-V (6, 4 wt.%), abraded, surface struct., TEM and X-ray diffr. study 1−11967
Ti-Al-V (6, 4 wt.%), anodisation of evaporated Al 1−21634
Ti-Al-V (6, 4 wt.%), fretting fatigue, environmental effects 1−26626
Ti-Al-V (6, 4 wt.%), friction and wear, ion plating effect 1−31686
Ti-Al-V (6, 4 wt.%), Hugoniot curve meas. with commercial manganin gauges 1−42506
Ti-Al-V (6, 4 wt.%), low press. RF plasma deposition of SiC coating 1−16213
Ti-Al-V (6, 4 wt.%), superplastic, factors affecting ductility 1−16855
Ti-Al-V (6, 4 wt.%), surface cleaning, UV/O_3 method, SIMS, ion scatt. spectrometry study 1−21602
Ti-Al-V (6,4 wt.%), elastic-plastic mechanics approach to fatigue crack growth *(Japanese)* 1−43493
Ti-Al-V (6,4 wt.%), superplastic, strain rate sensitivity index determ. 1−8393
Ti-Al-V (6,4), with Widmanstatten $\alpha+\beta$ colonies, continuum anal. of fracture 1−31601
Ti-Al-V alloy sheet, hot and cold rolled, elastic props. and crystallographic texture anisotropy *(Russian)* 1−31529
Ti-Al-V-Cr (3,13,11 wt.%), weldments, solidification cracking, SEM study 1−3905
Ti-Al-V-Cr-Zr-Mo, aged, thermal stability 1−26474
aluminium alloys continued
Ti-Al-V-Sn (6, 6, 2 wt.%), stress corrosion cracking in 3.5% NaCl soln., internal H effect 1−8473
Ti-Al-V-Sn (6, 6, 2 wt.%), lugs, crack propag., finite element anal. 1−21576
Ti-Al-V-Sn (6,6,2 wt%), subcritical crack growth under sustained load 1−53270
Ti-Al-V-Sn (6,6,2 wt.%), weldments, solidification cracking, SEM study 1−3905
Ti-Al-V-Sn (6,6,2 wt.%), α/β phase, hydrogen embrittlement, temp. depend. of threshold 1−43519
Ti-Al-V-Sn (6,6,2 wt.%), notched and unnotched, fatigue under sinusoidal and random excitation 1−48489
Ti-Al-V(6,4 wt.%), stress induced H redistribution 1−15919
Ti-Al-Zr-Mo-Si (6, 5, 0.5, 0.25 wt.%), wear under repetitive compound impact 1−12883
Ti-Al-Zr-Sn-Mo(Nb)(W), mech. props. and struct., effect of Mo, Nb and W 1−16845
Ti-Al-Zr-W, mech. props., effect of W addition, 0-10 wt.%. 1−16884
Ti-Al-(Mo), AT3, AT6 and VT14 alloys, corrosion cracking resist. 1−53350
Ti-V-Fe-Al (10, 3, 2 wt.%), phase transform. and tensile props. 1−43376
Ti-Zr-Al-Si (5, 5, 0.5 wt.%), back-stress-based rationale for creep behaviour during dynamic ageing 1−21515
Ti_3Al, deform. and fracture at elevated temps. 1−8388
Ti_3Al-(Nb), steady-state creep 1−31532
$TiFE_{0.9}Al_{0.1}$, absorption capacity for H_2 storage, equilibrium pressures 25-120°C 1−43814
$TmAl_2$, magnetic behaviour from neutron scatt. expts. 1−25891
Tm_3Al_2, paramag. phase, slow electronic relax., mag. and Mossbauer meas. 1−43046
UAl_2, electronic struct., photoemission study 1−48230
V-Al-Cu, metallographic struct. and supercond. transition temp. *(German)* 1−34821
$V_{1-x}Al_x$, minimum of elec. resist., 5 to 30K *(Russian)* 1−25692
$V_3(Ge_{0.75}Al_{0.25})$, phonon spectrum, localised vibrs. 1−25393
$V_3Ge_{1-x}Al_x$, electrical resistance meas., impurity Al effects *(Russian)* 1−12093
YAl_2, Fermi surface and energy band struct. 1−7507
YAl_2, self-consistent band calc., magnetism and supercond. 1−12023
YAl_2:Er, crystalline elec. field, magnetisation meas. 1−47593
$Y_2(Co_{1-x}Al_x)_{17}$, mag. anisotropy and NMR, individual Co-site contrib. 1−52770
$Y_{1-x}Gd_xAl_2$, spin glass, freezing temp. freq. depend. 1−34898
$YNi_{5-x}Al_x$ Haucke cpd., low temp. heat capacity and H_2 absorpt. 1−30417
$YbAl_2$, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
Zn-Al, finely-granular, low temp. mech. props., purity effect *(Russian)* 1−26544
Zn-Al, superplastic flow, metallographic evidence 1−16848
Zn-Al (15 wt.%) flame-sprayed active coatings, cavitation behaviour 1−21646
Zn-Al (1.1 wt.%), superplasticity 1−12850
Zn-Al (1.1 wt.%) superplastic alloy, elec. resistivity meas. rel. to annealing 1−43419
Zn-Al (22 wt.%), eutectoid, superplastic, differences reported in Region I 1−53244
Zn-Al (22 wt.%), eutectoid, superplastic, differences reported in Region I, reply 1−53245
Zn-Al (22 wt.%) eutectoid alloy, creep behaviour, tested in torsion 1−8365
Zn-Al dil. alloys, longitudinal magnetoresist., contrib. from lens Fermi sheet 1−25704
Zn-Al-Cu-Mg (3.5-4.5, 0.75-1.25, 0.03-0.08 wt.%), castings, mech. props. 1−43506
Zn-Al-Pb-Mg, long-term ageing props., effects of Pb and Mg *(Chinese)* 1−53210
Zr-Nb-(Al), (10,(1) wt.%), omega and the martensitic transformation 1−26456
$Zr+Zr_2Al \rightarrow Zr_3Al$ peritectoid transformation, further obs. 1−26445
Zr_3Al, ordered, transformation-induced reduction in oxidation rate 1−8477
Zr_3Al-based, fast neutron irrad., effect on props. 1−20271
Zr_3Al-based alloy, stoichiometric, oxidation 1−26663
ZrO_2/Ni-Cr-Al-Y segmented oxide protective coating, mech. and thermally induced fractures 1−31631
ZrO_2-Y_2O_3/Ni-Cr-Al-Y thermal barrier coated turbine vane, thermal contact resistance 1−30497
ZrO_2-Y_2O_3/Ni-Cr-Al-Y thermal barrier coating lifetime, Y, Al and Cr conc. effect 1−31632
ZrO_2-Y_2O_3/Ni-Cr-Al-Y thermal barrier coating, thermal cycling effects 1−31633

aluminium compounds
see also alumina; aluminium alloys
aluminosilicate-composite type ion source of alkali ions 1−23921
aluminosiloxane, synthesis of oligomers 1−21726
aluminotitanoxane, synthesis of oligomers 1−21726
emerald, spin-lattice relaxation of Cr^{3+} ions 1−12395
feldspar, labradorite Ca/Na positions derived from high-resoln. electron microscopy and optical diffr. 1−47046
graphite-$AlCl_3$ intercalation cpd., intervalence transitions and IR reflectivity 1−47584
guanidinium aluminium sulphate hexahydrate:Cr^{3+}, EPR spectrum, hydrostatic press. effects 1−21040
kyanite, thermal decomposition kinetics 1−48655
mullite, freeze-drying prep., mech. props. 1−48306
oxides with wide energy gap, possibilities of domination of ionic conduction *(Polish)* 1−42573
salts, molecular absorpt. spectrosc. *(Japanese)* 1−48765
serpentines, synthetic, ordering, IR spectra and cell dimensions 1−43125
Sialon ceramic, hot pressed, oxidation, effect of steatite contamination *(Japanese)* 1−12916
thermal cond. impurity effects 1−16117
zeolites, meas. of heat of immersion against water by quartz temp. sensor *(Japanese)* 1−34488
(Al,Ga)As DH injection lasers with Ga(As,Sb) active layer LPE growth, 0.87 μm, reliability 1−37507
(Al,Ga)As DH laser, accelerated facet erosion form. and degradation 1−15170

aluminium compounds continued
(Al,Ga)As system, diode and laser structs., p-n junctions grown by LPE, interfacial layer form due to S compensation 1−38841
Al coordination complex, bis(pyridine)tribromo aluminium(III), struct. study by IR and Raman spectra 1−28970
Al/AlO_x/benzoic acid/Pb(Au) digital inelastic electron tunnelling spectroscopy 1−50286
Al-Al_2O_3, fractographic study for deform. processes determ. 1−26573
Al-Al_xO_y, slow positron interactions, positronium form., surface and vacancy trapping 1−21290
Al-AlO_x-Ag tunnel junction, holographic-grating-enhanced light emission 1−7757
Al-As-Te semiconducting glasses, thermal props. and crystn. processes 1−25180
Al-K alum growth rate time behaviour 1−25187
Al-Mg-Si, glass reinforced, strength of cold-pressed compacts 1−43299
AlAs, ^{27}Al nuclear mag. shielding, NMR chem. shift 1−3278
AlAs, electron-hole droplet condensation, crit. points and ground states 1−52493
AlAs, electronic struct. using simple orbitals 1−20629
AlAs/GaAs superlattice electronic state localisation and complex bulk band structures 1−16351
α-AlB_{12} single crystal, growth conditions, oxidation, hardness and density *(Japanese)* 1−48252
$Al_8B_4C_7$, synthesis and X-ray crystallography, unit cell dimensions 1−30182
$AlBr_3$, cryst., standard enthalpies of form. 1−48719
$AlBr_3$-KBr melt, specific and molar elec. cond., Br dissolution effects 1−52325
Al_4C_3-AlN-SiC-Si_3N_4-Be_2C-Be_3N_2, phase equilibria 1−31446
Al_4C_3-SiC-Be_2C, phase equilibria 1−31446
AlCl in C-rich shells, Cl chemistry 1−22770
$AlCl_3$, melting from ionic to mol. phases 1−30371
$AlCl_3$-$TbCl_3$, fluoresc. spectra and decay kinetics, oscillator strength, population inversion 1−46008
$AlCl_3$-$TbCl_3$, vapour system, absorpt. and excitation spectra, fluoresc. 1−45979
AlF_3-LiF-NaF system, computer anal. of phase diagrams and thermodynamic props. 1−12725
AlGaAs buried heterostructure lasers on Cr-doped semi-insulating substrates 1−41718
AlGaAs constricted DH diode lasers, low-threshold, high-T_0 1−24419
AlGaAs DH injection laser, single-growth embedded epitaxy, low threshold currents 1−37503
AlGaAs DH laser, direct modulation anal. with inhomogeneous-gain-broadening consideration 1−33692
AlGaAs DH laser, feedback stabilised, freq. stability meas. 1−46363
AlGaAs DH laser, injection locking characts. 1−11031
AlGaAs DH laser, single longitudinal mode, linewidth meas. using Fabry-Perot interferometer 1−46352
AlGaAs DH lasers, LPE growth, low CW threshold current structs. 1−41748
(AlGa)As DH lasers, stripe geometry, MBE growth, source appls. in optical communication systems 1−41747
AlGaAs DH lateral field coupling control laser, active Q-switching 1−6573
AlGaAs Fabry-Perot cavity type laser amplifier, signal gain, saturation power and noise bandwidth 1−15171
AlGaAs heterojunction laser coherent emission, waveguide layer with continuous refractive index variation 1−33690
AlGaAs heterostructure injection laser SCR 1−1582
AlGaAs heterostructure LPE on profiled substrate 1−21371
AlGaAs laser, carrier density depend. of refr. index 1−11003
AlGaAs laser amplifiers, noise characts. 1−33682
AlGaAs laser diode, hermetically encapsulated 1−37506
AlGaAs laser diodes, single mode, structure and communication appls. 1−41733
AlGaAs proton-delineated stripe laser, self-induced intensity modulation, statistics 1−6588
AlGaAs semicond. laser, single-mode operation of 500 Mbit/s modulated by injection locking 1−1603
AlGaAs superlinear laser diode, elec. interactions with its external circuit 1−19335
AlGaAs TJS laser, mirror coating by Si/SiO_2 reflector 1−15250
AlGaAs tandem-type TJS laser, self-Q-switched picosecond optical pulse generation 1−37504
AlGaAs transverse junction stripe lasers having low failure rate for 400000 hour operation 1−11023
AlGaAs variable gap heterostructure, solar cell design 1−21883
AlGaAs/GaAs, backside illuminated, imaging CCD 1−33052
AlGaAs/GaAs concentrator solar cells, organometallic VPE grown 1−8706
AlGaAs/GaAs concentrator solar cell illuminated with curved groove Fresnel lens, distrib. resist. model 1−39773
AlGaAs/GaAs DH laser diodes, coating film-mirror facet interface stability determ. 1−15249
AlGaAs-GaAs CW planar stripe-geometry heterojunction lasers, current-power characts., nonlinear and discontinuous 1−51481
AlGaAs-GaAs CW planar stripe-geometry heterojunction laser, elec. characts. 1−51482
$Al_{0.25}Ga_{0.75}As$-GaAs heterojunctions, growth conditions to achieve mobility enhancement 1−3624
$Al_{1-x}Ga_xAs$ twin-stripe leaky mode injection laser 1−41694
n-$Al_{grad\,x}Ga_{-grad\,x}As$, graded-gap crystal, nonadditivity of elec. cond. 1−20793
$Al_xGa_{1-x}As$, epitaxial growth during forced cooling of soln. in melt, mass and heat transfer influence 1−43280
$Al_xGa_{1-x}As$ epitaxial layer, struct. defects rel. to Schottky diode reverse current excess component 1−20588
$Al_xGa_{1-x}As$ epitaxial layers, deep electron traps 1−30761
$Al_xGa_{1-x}As$, epitaxy of varizone layers in temp. gradient field, forbidden bandwidth 1−43281
n-$Al_xGa_{1-x}As$ graded-gap crysts., electron redistrib. effect on conductance, Hall e.m.f. obs. 1−16309
$Al_xGa_{1-x}As$ growth by organometallic VPE for laser devices 1−48270
n-$Al_xGa_{1-x}As$, Hall coeff., resistivity temp. anomaly 1−42794
$Al_xGa_{1-x}As$, indirect-gap semicond., photolum., excitons and electron-hole plasma 1−3477
$Al_xGa_{1-x}As$ LPE growth, layer thickness 1−21373
$Al_xGa_{1-x}As$, MBE of III-V compounds, review 1−21354
$Al_xGa_{1-x}As$ pulsating DH laser, self-focusing effects 1−41699

aluminium compounds continued
$Al_xGa_{1-x}As$, Raman spectra in strong and weak fields, phonon replicas 1−39082
$Al_xGa_{1-x}As$, thick epitaxial layers, influence of growth conditions on perfection 1−30580
$Al_xGa_{1-x}As$, variable gap film, isothermal LPE mathematical diffusion model 1−42653
$Al_xGa_{1-x}As$, variable-gap semicond., photoluminesc. 1−35092
$Al_xGa_{1-x}As$:Be LPE layers, doping characts., elec. props. 1−15914
$Al_xGa_{1-x}As$:Cr(Te), MBE, study of dopant distrib. SIMS 1−42647
$Al_xGa_{1-x}As$:Ge, LPE grown, photoluminesc. 1−43156
$Al_xGa_{1-x}As$:Sn, deep radiative transitions, photoluminesc. study 1−43173
$Al_xGa_{1-x}As$:Sn, MBE grown, transport props. 1−7609
$Al_xGa_{1-x}As$:Sn(Te), donor related centre, symmetry, ballistic phonon attenuation 1−16257
$Al_xGa_{1-x}As$-AlAs-GaAs, cluster free quantum well heterostructure laser 1−46340
$Al_xGa_{1-x}As$-GaAs, III-V heterostructure devices for integrated optics 1−1725
$Al_xGa_{1-x}As$-GaAs heterojunction layers, current/voltage characts. in high elec. fields, surface acoustoelectric effects 1−34778
$Al_xGa_{1-x}As$-GaAs high-radiance LEDs for optical communications, improved MBE growth 1−48263
$Al_xGa_{1-x}As$-GaAs laser, with V-shaped active region, grown by metalorganic CVD 1−1580
$Al_xGa_{1-x}As$-GaAs modulation-doped single-period heterojunctions, carrier mobility meas. 1−42848
$Al_xGa_{1-x}As$-GaAs quantum-well heterostructures, alloy clustering, spontaneous and stimulated emission 1−29281
$Al_xGa_{1-x}As$-GaAs solar cells with high efficiency, open-circuit voltage and fill factor 1−13124
AlGaAsSb, organometallic VPE growth technique 1−21356
AlGaAsSb/GaSb DH laser, fabrication, temp. depend. of threshold current 1−19336
AlGaAsSb-GaSb, DH laser characteristics, lattice matching 1−24422
$Al_xGa_{1-x}P$ graded heterojunctions, LPE 1−34599
AlGaSb, organometallic VPE growth technique 1−21356
AlGaSb-AlGaAsSb semicond. laser, laser oscills. obs. 1−24420
$Al_xGa_{1-x}Sb$, lattice consts., composition depend., X-ray diffr. study 1−7149
$Al_xGa_{1-x}Sb$ solid solns., oscill. strength of optical transitions, comp. depend. 1−21160
$Al_xGa_{1-x}Sb$, solid solutions, crystallisation, appl. to synthesis of heterojucntions 1−47031
$Al_xGa_{1-x}Sb$:Te, doping of solid solutions in LPE 1−42652
AlH_3, susceptibilities and mag. shielding const., coupled HF calc. 1−33392
α-AlH_3, thermal decomposition, SEM obs. 1−4072
AlI_3, cryst. standard enthalpies of form. 1−48719
$Al_2Mn_3Si_3O_{12}$, mag. phases, ^{27}Al NMR relax. times and linewidths 1−31052
AlN, ^{27}Al nuclear mag. shielding, NMR chem. shift 1−3278
AlN, based high-density ceramic, prep., mech., thermal and dielec. props. 1−31390
AlN CVD film on sapphire, SAW, high freq. and low dispersion characts. 1−47350
AlN catalyst in single cryst. growth of cubic BN 1−39296
AlN, epitaxial growth by metalorganic CVD on sapphire substrate 1−43267
AlN, epitaxial layers, on α-Al_2O_3, prep. and props. 1−20578
AlN, highly dense, pure, high press. sintering 1−16732
AlN, impurities determ. 1−8258
AlN, microscopic identification using EPMA, X-ray and electron diffr. *(Chinese)* 1−52111
AlN, solubility product in Fe-Si (3 wt.%) 1−20398
AlN sputtered films, elec. props. and interface anal. by AES 1−34818
AlN, thermal stress behaviour 1−21487
AlN:Mn^{4+}, plasma discharge, photo-excitation and surface excitation, luminesc. kinetics 1−31191
AlN/Si MIS struct., elec. characts., interface states 1−47747
AlN-Al_2O_3 system, thermal expansion of sintered oxynitrides 1−42554
AlN-Si_3N_4-Be_3N_2, phase equilibria 1−31446
AlN-Y_2O_3, electro-insulating ceramics prep. by sintering 1−21402
$Al(NO_3)_3.9H_2O$:Cr^{3+}, single cryst., EPR of Cr^{3+} 1−38970
$Al_3Na(OH)_6(CrO_4)_2$, crystallographic and IR study *(French)* 1−47063
AlO_4^{5-} clusters, electronic struct., external field effects Xα calcs. 1−42690
AlO_6^{9-} clusters, electronic struct., external field effects Xα calcs. 1−42690
$Al(OH)_3$, H^+ conductivity, activation energies, vapour adsorption, conductivity measurements 1−25492
$Al(OH)_3$, hydrothermal modification, X-ray and thermographic investigation 1−21783
$Al(OH)_3$, proton cond., band model 1−47288
$Al_2(OH)_3$, thermal decomp. prepared by NH_4 gas-$AlCl_3$ soln. reaction 1−21723
$Al(OH)_3$spherical colloidal particles containing dye, prep. and optical props. 1−17115
α-AlOOH electrolyte for low temp. H_2O vapour electrolysis, proton and electron conductivity 1−42574
γ-AlOOH-Al_2O_3, kinetic time-temp. study 1−26735
Al_2OSiO_4:Fe^{3+}, quantum paramagnetic amplifier appl., 40 to 60 GHz, in slow-wave system 1−15135
AlO_4^{5-}units, optical basicity, SCF CNDO calc. 1−2333
AlP, ^{27}Al nuclear mag. shielding, NMR chem. shift 1−3278
$AlPO_4$, α cristobalite, ESR of V^{4+} ions 1−26020
$AlPO_4$, berlinite, bulk wave and SAW propag. 1−16164
$AlPO_4$, berlinite, cryst. growth, piezoelec. and optical props. 1−16529
$AlPO_4$, berlinite, elastic const. near $\alpha \rightleftharpoons \beta$ transition, Brillouin scatt. 1−53224
$AlPO_4$, crystal growth, solubility and perfection study 1−16676
$AlPO_4$, radiation effects, EPR and ENDOR study 1−15933
$AlPO_4$, solubility, cryst. growth, perfection 1−2630
$AlPO_4$, solubility and growth in hydrothermal solvent HCl 1−35157
$AlPO_4$-SiO_2 solid solns., axial thermal expansion 1−2662
$Al(ReO_4)_3$, XPS and laser Raman spectra 1−16554
$Al_2(SO_4)_3$, crystal struct., X-ray powder diffr. obs. 1−30202
AlSb, ^{27}Al nuclear mag. shielding, NMR chem. shift 1−3278
AlSb oxide-semiconductor interface, AES and Raman scatt. anal. *(French)* 1−42642
Al_2Se_3-In_2Se_3, In-rich region, X-ray diffr. study 1−7143

aluminium compounds continued
Al_2SiO_5, kyanite, stacking faults and twins 1−34358
$Al_2SiO_5:Fe^{3+}$, andalusite, inversion ratio in Q and V-bands, maser props. 1−46272
Al_xTe_{1-x}, glass, switching effect, in strong electric field 1−3028
β-Al_2TiO_5, decomposition temp., X-ray diffr. study 1−4073
$Al_4[Fe(CN)_6]_3.12H_2O$, Mossbauer effect 1−52879
Au-$Ga_{1-x}Al_xAs$(GaAs) variable-gap structs., photoelec. props., 77 to 370K 1−20812
BPO_4-$AlPO_4$-SiO_2 system of 1200°C 1−26435
$Ca_2Al_3(OH)(SiO_3)_4$, zoisite, low-energy OH valence vibr., H-D isotope effect on IR spectrum 1−21180
$Ca_8Al_{12}O_{24}(WO_4)_2$, IR, optical and Raman spectra, luminesc. meas. 1−52945
$2CaAl[BO_3]O \equiv Ca_2[AlO_3BO]_2$, synthetic, cryst. struct. determ. 1−25228
$CoAl_2O_4$, solubility in molten Na_2SO_4 at 1200K 1−20386
$ErCl_3$-$AlCl_3$, high temp. vapour complexes, laser-induced fluoresc. and Raman spectra 1−14950
Fe-Al-O, phase equilibria 1−39325
GaAl-As, double-heterostructure, visible emission laser diodes *(Japanese)* 1−46353
GaAlAs actively mode-locked diode laser, bandwidth-limited picosecond pulse generation 1−51526
(GaAl)As buried heterostruct. laser with buried optical guide, transverse mode control 1−15288
(GaAl)As CW DH proton bombarded stripe lasers, MBE grown, high temp. device charact. meas. 1−46338
GaAlAs DH laser as heterodyne receiver, coherent radiation detection 1−1615
GaAlAs DH lasers, transverse-mode-stabilised, transient spectra, dynamic charact. 1−41701
GaAlAs diode laser, modified strip buried heterostruct., picosecond pulse generation by passive mode locking 1−1606
GaAlAs diode lasers, mode-locking 1−19342
GaAlAs, epitaxial layers, elastobirefringence study of dislocations and strain fields 1−3361
(GaAl)As, heterojunction laser with composition charge in active layer plane 1−37498
GaAlAs, hyperfine field and spontaneous oscill. of polarisation in optical orientation of electrons and nuclei 1−3300
GaAlAs integrated optoelectronics, review 1−15289
GaAlAs LED, Au-Sn-Al metallizations, interfacial void struct. 1−16195
GaAlAs, LPE growth, book contrib. 1−48285
GaAlAs laser, GHz analogue modulation and differential delay, temp. and current behaviour 1−11001
GaAlAs laser struct., gain broadening mechanism 1−46350
GaAlAs modified strip buried heterostruct. diode laser, passively mode-locked, picosecond pulse generation 1−51525
GaAlAs proton bombarded stripe laser, optical confinement provided by Zn diffusion, dynamic props. 1−29302
GaAlAs, Schottky barrier formation, anion vacancy electron states 1−52644
(GaAl)As/GaAs solar cells−dopant study of Zn and Be 1−8719
GaAlAs/GaAs solar cells, saturated-melt LPE growth, ohmic contacts using multimetallic layers 1−39776
GaAlAs/GaAs wavelength division solar cells, diode struct., conversion efficiency calcs. 1−13123
GaAlAs-GaAs DH laser, self-aligned, single longitudinal mode, by metal-organic CVD 1−1576
$Ga_{1-x}Al_xAs$ (110) surface anion vacancies, bound-state energy level calc. 1−16332
$Ga_{1-x}Al_xAs$, conduction band struct., deep levels, high-press. Hall effect meas. 1−2987
$Ga_{1-x}Al_xAs$ epitaxial layers, elastobirefringence study of dislocations 1−3362
$Ga_{1-x}Al_xAs$ epitaxial layers on GaAs, selective etching of GaAs window prep. 1−43555
$Ga_{1-x}Al_xAs$, refractive index dispersion relations, theory and expt. 1−3356
$Ga_{1-x}Al_xAs$:Ge, Te p-n struct., variable-gap selective photocells 1−42855
$Ga_{1-x}Al_xAs$/GaAs DH LED, abrupt high temp. degradation 1−21256
$Ga_{1-x}Al_xAs$-GaAs interface strain characterisation by electrolyte electroreflectance 1−16349
$Ga_{1-x}Al_xAs$-GaAs LPE interface structure and composition, STEM and cathodoluminescence obs. 1−16350
$Ga_{0.7}Al_{0.3}As_{1-y}P_y$-GaAs heterojunction, misfit dislocation imaging 1−20223
GaAlAsSb quaternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
GaAlAsSb-GaSb system, Zn diffusion, Sb overpressure effects 1−52347
$Ga_{1-x}Al_xAs(Sb)$, Raman scatt. spectra, lattice dynamics 1−48085
$Ga_{1-x}Al_xAs_{1-y}Sb_y$ Schottky barrier avalanche photodetectors 1−12189
$Ga_{1-x}Al_xP$, imperfect crystals, two-phonon bound states 1−15967
$Ga_{1-x}Al_xP$, refractive index dispersion relations, theory and expt. 1−3356
GaAlSb ternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
$Ga_{1-x}Al_xSb$ avalanche photodiodes, resonant impact ionisation 1−47737
$Ga_{1-x}Al_xSb$ photodiodes, impact ionisation resonant enhancement 1−34715
$Ga_{1-x}Al_xSb$, resonant enhancement of intrinsic impact ionization involving spin-orbit split-off valence band states 1−52572
$Ga_{1-x}Al_xSb$, UPS and XPS photoemission spectra *(French)* 1−48225
GaAs/AlGaAs heterostructure, negative cond., real space electron transfer 1−16342
GaAs/AlGaAs MBE heteroface solar cell on Ge, high-efficiency 1−48834
GaAs/n-AlGaAs heterojunction interface, two-dimensional electron mobility 1−34775
GaAs-(Al,Ga)As laser diodes, luminesc. during degradation 1−41704
GaAs-(AlGa)As heterojunction superlattices, modulation doping 1−52155
GaAs-(Ga,Al)As DH LPE, final wipe-off improvement 1−8245
GaAs-(GaAl)As epitaxial structures, dopant phase diagrams 1−32030
GaAs-$Al_{1-x}Ga_xAs$ superlattices and quantum wells, two-dimens. confined carriers, electron-phonon coupling, reson. magneto-phonon effect 1−7725
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, inelastic light scatt. obs. of multilayer two-dimens. electron gas 1−12516
GaAs-Al_xGa_{1-x} heterostruct. lasers mirrors, ion-plasma treatment 1−51518
GaAs-$Al_xGa_{1-x}As$, optically pumped quantum wells, photoluminesc. 1−3478
GaAs-$Al_xGa_{1-x}As$ diode laser in pulsed mode, lifetime estimation 1−41705

aluminium compounds continued
GaAs-$Al_xGa_{1-x}As$ DH laser, Q-switching with picosecond light pulses 1−51528
GaAs-$Al_xGa_{1-x}As$ heterostructure, electronic props. of two-dimens. system 1−7723
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, electronic props. and multi-interface structs., two-dimens. electron gas 1−12186
GaAs-$Al_xGa_{1-x}As$ heterojunction interface two-dimensional hole gas obs. 1−16354
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, modulation doped, MBE growth 1−34777
GaAs-$Al_xGa_{1-x}As$ high mobility single period modulation-doped heterojunctions, MBE growth 1−42849
GaAs-$Al_xGa_{1-x}As$ heterojunction layers, hot-electron cond. and real-space transfer 1−47736
GaAs-$Al_xGa_{1-x}As$ layers, liq. and solid comp. at LPE growth, ambient gas atm. influence 1−30585
GaAs-$Al_xGa_{1-x}As$ multilayers, two-dimens. elec. transport at high mag. fields 1−7724
GaAs-$Al_xGa_{1-x}As$ multiquantum well superlattice interface disorder, photoluminescence and absorption obs. 1−16353
GaAs-$Al_xGa_{1-x}As$ multi-quantum well struct., radiative recombination from quantum states 1−52990
n-GaAs-$Al_xGa_{1-x}As$-GaAs graded interface barrier conductivity 1−16347
GaAs-AlAs (110) interface deep substitutional sp^3-bonded impurity levels and Frenkel core excitons 1−16344
GaAs-AlAs multilayer heterostruct. laser electron beam transversely pumped 1−33684
GaAs-AlAs superlattices, Raman scatt., phonon folding and anisotropy 1−52940
GaAs-$AlGa_{1-x}As$ superlattice, heavily doped subband struct., band bending, low temp. mobilities 1−7721
GaAs-AlGaAs heterojunction superlattices, inelastic light scatt. spectroscopy of confined carriers 1−16355
GaAs-AlGaAs heterostructure superlattices, far IR emission of 2D electron gas 1−52941
GaAs-AlGaAs lasers, anal. for characterising devices of various cross-sectional geometries 1−1567
GaAs-AlGaAs superlattice, Coulomb interactions, intersubband spectroscopy 1−7719
GaAs-AlGaAs superlattices, light scatt. spectra of electron gas 1−52960
GaAs-$Ga_{1-x}Al_xAs$, semiconductor superlattices, review 1−30817
GaAs-$Ga_{1-x}Al_xAs$ field effect semicond. laser 1−29294
GaAs-$Ga_{1-x}Al_xAs$ semiconductor superlattices by MBE and their characterization 1−2417
GaAs-$Ga_{1-x}Al_xAs$-GaAs heterostructure electron tunnelling transmission 1−16348
GaAs-$Ga_{1-y}Al_yAs$-$Ga_{1-x}Al_xAs$, n^+-i-n heterostruct., optical emitter degradation 1−7716
GaAs-$Ga_xAl_{1-x}As$ double quantum well struct., collective modes of two-dimensional plasma 1−47519
GaAs-GaAlAs DH laser wafer, improvement by $Ga_{1-x}Al_xAs$ buffer layer 1−11002
GaAs-GaAlAs DH lasers, acoustic signal obs. 1−41702
GaAs-GaAlAs DH struct., optically induced dislocation glide, mechanism 1−47090
GaAs-GaAlAs edge-emitting LED for medium capacity digital optical links, >1 mW launched power 1−11170
GaAs-GaAlAs integrated struct. for mode locking a diode laser 1−41754
GaSb-AlGaAsSb, heterojunctions 1−25800
$HfAlC_{2-x}$, synthesis and crystal struct. 1−30165
$HgAl_2S_4$, energy band struct., pseudopotential calcs. 1−20632
(K, Na)(Li, Al, Fe)$_2$[Al, Si_3O_{10}]$_4$(OH, F)$_2$, zinnwaldite, local mag. fields on Al nuclei, NMR method 1−26048
$K_6[Al_4Si_6O_{20}].[B(OH)_4]Cl$, kalborsite, cryst. struct. determ. 1−30193
LiF−Li_2O-$Al(PO_3)_3$ glasses, transport no. for Li ions 1−20449
$LiPO_3$-$AlCl_3$, mixed glasses, elec. cond., struct. approach *(French)* 1−20451
$NH_4Al(SO_4)_2.12H_2O$, cryst. struct., X-ray and neutron diffr. studies 1−30203
$(NH_3OH)Al(SO_4)_2.H_2O$, cryst. struct., X-ray and neutron diffr. studies 1−30203
$NaAlH_2Si_2O_7$ analcite cryst., n-faces micro-topographical study 1−11961
$Na_{3(1-x)}Al_x\square_{2x}PO_4$, x=0.025 and 0.2, cryst. struct. rel. to ionic cond., powder neutron diffr. study 1−34335
$Na_{2-x}Ca_{1-x}Al_2SiO_4$, carnegieite phases, ionic cond. and crystallographic data 1−20450
NaF-AlF_3 melts, containing Al_2O_3, ionic struct. model 1−42282
Nd^{3+}:La_2S_3-$3Al_2S_3$ glass, radiative transition probabilities and stimulated cross-sections 1−26237
$NiAl_2O_4$, solubility in molten Na_2SO_4 at 1200K 1−20386
PbF_2-AlF_3 (30-60 mol.%) glass, preparation, charact. and appl. 1−6625
Si-Al-O-N, densification mechanisms during hot pressing 1−39292
Si-Al-O-N, hot pressing *(Japanese)* 1−31403
$Si_2Al_4O_4N_4$, sialon, heat capacity between 900 and 1650K 1−25452
$Si_3Al_3O_3N_5$, sialon, heat capacity between 900 and 1650K 1−25452
$Si_4Al_2O_2N_6$, sialon, heat capacity between 900 and 1650K 1−25452
Si_xAlON_7, sialon, heat capacity between 900 and 1650K 1−25452
SiC, hot-pressed, strength, effect of Al and B additions *(Japanese)* 1−43306
SiC-Al_4C_3-B_4C system, phase rel. to 1800°C 1−26438
$V_{1-x}Al_xO_z$, metal-insulator transition, press. effect 1−25635
Y-Si-Al oxynitride glass-ceramics, elec. props., X-ray diffr. and electron microprobe study 1−2954
$YAl_3(BO_3)_4$:Pb^{3+}, ESR study 1−7935
Y_2O_3-AlN-SiO_2, elect. charact. 1−38776
$ZrAlC_{3-x}$, synthesis and crystal struct. 1−30165
ZrF_4-BaF_2-YF_3-AlF_3 system, fluoride glass form. 1−34238

aluminosilicate glasses
adsorption of Ag^0 atoms, ESR study 1−52839
alkali aluminoborosilicate glasses, statistical mechanical model of B coordination 1−30072
alkali boroaluminosilicate glass+fused alkali nitrates, ion exchange, equilib. and kinetics 1−43660
aluminoborosilicate, melting, refractory prod. using Cr_2O_3 sinter-reactive powders 1−8256
aluminoborosilicate glass:ZrO_2, struct. IR and EPR obs. 1−21199
aluminoborosilicate glasses containing Ag halide, photochromism, comp. depend. *(Japanese)* 1−43083

aluminosilicate glasses continued
catalyst, sorption of pyridine, IR spectrosc. and gravimetric determ. 1−21198
EPR, Fe group impurities, microwave tunnel echo 1−26027
laminates, effect of $HF+H_2SO_4$ etching on fracture 1−21572
photochromic props., comp. depend. *(Japanese)* 1−48020
sitalls, SiO_2-Al_2O_3-Li_2O-TiO_2, bend strength, effect of bubbles and cavities 1−31561
striae effect on strength 1−25444
US velocity and attenuation, temp. depend. 1−15955
XPS meas., struct. 1−31307
Al_2O_3-MnO-SiO_2, amorphous, mag. phases, ^{27}Al NMR relax. times and linewidths 1−31052
Al_2O_3-ZrO_2-SiO_2 glass, alkaline durability and struct. determ. 1−31699
Al_2O_3-ZrO_2-SiO_2-Na_2O glass ceramic system, struct. study, X-ray line broadening 1−20029
$CaAl_2O_4$-SiO_2 glasses, physicochem. anal., comp. depend. and vol. additive props. 1−42318
CaO-Al_2O_3-SiO_2 glass, annular specimens, bending strength determ. by radial compression 1−3867
CaO-Al_2O_3-SiO_2 glasses, reactivity with NaOH soln. 1−53310
CaO-Al_2O_3-SiO_2-(Na_2O), corrosion by H_3PO_4 1−53308
CaO-MgO-Al_2O_3-SiO_2 glass comps., for glass crystallite 1−12713
CaO-MgO-Al_2O_3-SiO_2 glass, crystn. of chromite-magnesiochromite spinels, nucleation, cryst. growth and sizes 1−42311
K_2O-Al_2O_3-B_2O_3-SiO_2 glasses, B coordination effect on halogen solubility, Ni colour and photochromism 1−7087
LiO_2-Al_2O_3-SiO_2:F, glass-ceramic, strengthening mechanism 1−43432
Li_2O-Al_2O_3-SiO_2, elastooptical props., effect of nature of chem. bonds 1−16549
Li_2O-Al_2O_3-SiO_2 crystn. products, struct. state of G^{III} and V^{IV} ions, ESR obs. 1−52838
Li_2O-Al_2O_3-SiO_2-TiO_2-SnO_2 system glasses, γ-irrad., ESR obs. of Sn^{3+} additions effect on crystn. 1−52829
MgO-Al_2O_3-SiO_2, liquid-phase separated, homogenizing effect of aluminate complexes 1−48337
MgO-Al_2O_3-SiO_2-NiO high strength glass ceramic, crystn. mechanism, NiO addition effect 1−34240
MgO-Al_2O_3-SiO_2-TiO_2, TiO_2 role in glass ceramic form. 1−2339
Na_2O-Al_2O_3-SiO_2 glass surface layers, elec. resistance in NaCl and KCl solns. 1−17072
Na_2O-Al_2O_3-SiO_2 glasses, XPS study 1−31306
Na_2O-B_2O_3-Al_2O_3-SiO_2 system glasses, photochromic gradient layer prod. 1−41803
Na_2O-K_2O-ZnO-Al_2O_3-SiO_2 glass, containing 11 wt.% water, IR spectra 1−26193
Nd^{3+} complexes in glass systems, ESR and opt. obs. 1−52842
Nd_2O_3-Al_2O_3-SiO_2 system, metastable liq.-phase separation 1−52076
PbO-Al_2O_3-SiO_2, elastooptical props., effect of nature of chem. bonds 1−16549
SiO_2-Al_2O_3-Na_2O-K_2O-CaO-MgO(B_2O_3-ZnO) glass, batch prereaction effect 1−30358
SiO_2-Al_2O_3-Na_2O-K_2O-CaO-B_2O_3-ZnO glass, thermal anal. during heat treatment 1−31429
SiO_2-K_2O-Li_2O-B_2O_3-Al_2O_3 glass, phase separated, equilib. viscosity meas. at several temps. 1−30440
SiO_2-Na_2O-B_2O_3-K_2O-Al_2O_3 glass, phonon scatt. states, elec. polarizability 1−30344
SiO_2-Na_2O-Li_2O-B_2O_3-Al_2O_3 (12, 12, 10, 6 mol. %), refractive index and the structural relaxation of glass obtained by ion exchange 1−43091
SiO_2-Na_2O-CaO-MgO-Al_2O_3-K_2O-BaO glass, decolorisation, Na_2So_4 effect 1−12895
WO_3-$Al(PO_3)_3$-SiO_2 and WO_3-P_2O_5-SiO_2 system glasses, reduced forms, elec. cond. and struct. role 1−47654
ZnO-Al_2O_3-SiO_2 glasses, crystallisation, heat treatment effect on ZrO_2 precipitation and transparency 1−16824
ZnO-Al_2O_3-SiO_2 glasses, crystn. studies *(Japanese)* 1−25181
a.m. (modulation) *see amplitude modulation*
ambient temperature *see temperature*
americium
see also nuclei with .....
^{241}Am in Columbia River sediments, meas. rel. to origin of ^{243}Cm and ^{244}Cm 1−8777
environmental, Tokyo and Pacific, Indian and Southern Oceans 1−53711
magnetism and supercond., Hill plot predictions 1−47780
Mediterranean, Pu and Am in surface water particulates 1−17624
Mediterranean seawater composition, rainwater radionuclide contrib. 1−22363
thermodynamic functions, specific heat, 15 to 300K 1−30415
^{243}Am, phase transformations up to 18 GPa rel. to rare earth elements 1−38529
americium compounds
$^{241}AmBe$ neutron sources, average neutron flux values calcs. 1−37034
AmO_2 lattice expansion, 38 to 300K 1−47262
ammeters
frequency range extension up to 100 MHz using current transformers 1−23263
reference photoammeters for calibration of HF ammeters in working freq. range 1−23259
testing, use of square wave signals 1−44905
ammonia
325-MWe plantships, projected costs of electricity generation and/or chemical or fuels production 1−53647
adsorption by metal phthalocyanine crystals 1−11857
adsorption on clean and oxidised Al, UPS and XPS study 1−3577
atmosphere, aerosol composition, calcs. of equilib. partial press. 1−13504
atmosphere, H_2SO_4 particle neutralisation by reaction with NH_3 1−36033
atmosphere for sintering Fe powder, effect on sintering quality and hardness 1−39276
atmospheric content measurement technique 1−4235
chemisorbed states on Pt (111), EELS and thermal desorption spectra study 1−8175
chemisorption on Pt (111), EELS study, electron scatt. mechanism 1−12615
chemisorption on Re, UPS, XPS, thermal desorpt. and work function study 1−17105
collision integrals, internal state polarisations, DWBA approach 1−14976
crystal, wave function and electronic energy, ab initio SCF calc. *(French)* 1−12055
electrode design suitable for industrial applications 1−13053
ammonia continued
fuel cell burning NH_3, electricity and NO cogeneration 1−4173
heterogeneous photocatalytic synthesis from H_2O+N_2 1−8604
intermolecular pots., SCF-MO calcs. 1−46052
interstellar clouds, 23 GHz obs. 1−22855
interstellar excitation absorpt. lines from cloud towards W3(OH) 1−32737
interstellar molecular clouds near Sharpless 68, 106, 140 and OMC2, NH_3 obs. 1−9635
interstellar NH_3, rot. inversion transitions obs. in four dark clouds rel. to physical conditions and cyanobutadiyne (HC_5N) form. 1−49773
Jupiter atmosphere, NH_3 absorpt. band time variations, visible spectra obs. 1−49569
laser, 12 μm, pumped by sequence CO_2 laser 1−29266
laser, interaction of far IR and mid IR laser transitions 1−46315
laser, interaction of far-IR and mid-IR laser transitions 1−33663
laser, optically pumped waveguide far IR, operating charcts. 1−15158
laser action in Stark tuned NH_3, stark FIR lasing spectroscopy in ν_2 band 1−10990
laser system, optically pumped 1−6575
laser system, optically-pumped, calc.-expt. gain/absorpt. spectra evaluation 1−29263
laser with optical pumping, mol. relax. processes 1−46304
liquid, photoemission from metals and semiconductors, electron solvation 1−35150
liquid, Raman mode Fermi reson., conc. depend. effect 1−16560
maser, double beam, open resonator operation 1−6531
maser-like stimulated IR emission from water vapour doped with NH_3 and insect pheromone 1−17454
methane-NH_3 mixtures, far UV photolysis in planetary atmosphere 1−21748
molecular beam, supersonic, vel. anal., time-of-flight method *(Japanese)* 1−6406
molecular beam maser, stimulated emission and oscill., cryst. video detection 1−22972
molecule, ^{15}N nucl. mag. shielding, calc. expts. 1−37132
molecule, conformational energy calcs., core and valence shell effect 1−10621
molecule, convergence props. of valence bond calc., struct., bonds, inversion barrier 1−37123
molecule, Coulomb, exchange and total interaction energy contribs. between localised orbitals 1−1103
molecule, electron impact dissoc., NH($A\ ^3\Pi$, $c\ ^1\Pi$) formation 1−14858
molecule, electronic Schrodinger eqn. soln., appl. of model based on antisymmetric product of geminals 1−49966
molecule, expansion cooled, multiphoton ionisation spectra, photophysics and electronic excited state 1−24194
molecule, intramol. force fields and mean amplitudes of vibr. 1−41360
molecule, inversion spectrum, collisional broadening by intrinsic gas 1−29044
molecule, localised orbital energy and moment contribs., depend. on geom. and basis set 1−37111
molecule, localised orbital energy and moment contribs., depend. on geom. and basis set 1−37112
molecule, microwave rot. relax. rates, absorber speed depend. 1−29102
molecule, momentum space props., LCAO-Xα and HF wavefunctions calcs. 1−37113
molecule, polarisation model, inversion barrier and dipole moment derivatives calcs. 1−37363
molecule, proton affinity, ab initio MO, STO, SCF and CI calc. 1−45824
molecule, relax. consts. determ. by coherent transient spectroscopy 1−33513
molecule, spatially resolved IR absorpt. meas., optical Stark effect 1−51208
molecule, susceptibilities and mag. shielding const., coupled HF calc. 1−33391
molecule, Zeeman effect in IR spectrum, tunable diode laser obs. 1−14957
molecules, inversion frequencies, mol. vibr. and rot. microwave obs. 1−10721
molecules, nuclear spin-spin coupling const., diamag. mol. integral 1−33479
molecules, vibr., IR obs. 1−14885
nozzle beam, vel. anal. by means of time of flight spectra *(Japanese)* 1−27938
ocean distribution, source for atm. *(German)* 1−22453
optically pumped, CW FIR laser lines 1−1546
partial photoionisation cross sections, XPS 1−46020
polar gas, electric charge transport mechanism *(German)* 1−51902
rot. temp., S and R branch lines, temp. depend., Raman obs. 1−19099
shocked, elec. conductivity 1−38572
solid phase transitions studiedup to 11 GPa 1−42465
surface activity, determ. from influence of chemisorption on surface magnetism of Fe-Ni 1−34583
synthesis gas prod., alternative biomass feedstock for synthesis gas from manure process 1−35669
H^+/NH_4^+ ionic exchange in sulphonic membrane membrane selectivity and interdiffusion pot. effect *(French)* 1−48732
Li-NH_3 solution, CESR in metal-nonmetal transition range 1−26036
Li-NH_3 solution, conc., ^7Li NMH obs. in metal-nonmetal transition range 1−26054
Li-NH_3 solution, electronic transport mechanism 1−25727
ND_3 collision integrals, internal state polarisations, DWBA approach 1−14976
ND_3, vibr. intermol. modes meas. by coherent inelastic neutron scatt., elastic const. 1−34430
ND_3+F, reaction, isotope effect, IR chemiluminesc. obs. 1−8538
NH_3, dilute aq. solns., isentropic compressibility determ. 1−20294
NH_3 gas, ^{15}N and ^1H nuclear mag. shielding, temp. depend. 1−41328
NH_3, prod. of NH and NH_2 by IR multiphoton dissoc., emission, laser energy and pressure depend. 1−6248
$^{14}NH_3$, inversion and inversion-rot. spectra, IR-microwave two-photon and IR heterodyne meas. of ν_2 band 1−37205
$^{15}NH_3$, optical pumped FIR laser, two-photon light shifts and Autler-Townes splittings obs. 1−46314
$^{15}NH_3$, rot. and centrifugal distortion consts. far IR rot.-inversion obs. 1−24138
NH_3: ^{119}Sn, Sn binding, Mossbauer spectra 1−47981
NH_3/H_2O absorption cycles with relatively high generator temps. for evacuated tubular solar collectors 1−8753
NH_3-HNO_3, H bonded system, ab initio SCF MO calcs. 1−45839

ammonia continued
NH_3-N_2 system, drop evaporation and diffusion calc. 1−1805
NH_3+aliphatic hydrocarbons, collision cross sections meas. 1−51268
NH_3+F, reaction, isotope effect, IR chemiluminesc. obs. 1−8538
NH_3+H^+, ionisation cross sections 1−19161
NH_3+HCN^+ reactions, reaction rates and prod. distrib. meas. by ICR techniques 1−53407
NH_3+He collisions, energy transfer 1−6360
NH_3+$N_2.H_2O^+$, reactions anal. by drift-chamber mass spectrometer, rate coeff. determ. 1−39597
NH_3+OH, rate const. determ. over wide range of temp. 1−8529
NH_3+$O(^1D_2)$, product branching ratios and internal energy distrib., enthalpies, fluoresc. spectra, chemiluminescence 1−39607
$(NH_3)_2$, polarisation model, inversion barrier and dipole moment derivatives calcs. 1−37363
$(NH_3)_3$, 3-body nonadditive interaction energy calcs. 1−46049
NH_4 ion rotation quantum effect, low field spin-lattice relax. 1−37223
NH_2D, interstellar, detect. in Orion A 1−49774
$NH_3.H_2O_2$, X-ray diffraction pattern, stretching vibrs., IR obs. 1−37187
$(NH_3)_2.H_2O$, X-ray diffraction pattern, stretching vibrs., IR obs. 1−37187
Na-NH_3 solution, heat capacity meas., metal-nonmetal phase coexistence above consolute point 1−7525
Na-NH_3 solutions, US propag. near crit. mixing point 1−34427
SiH_4-NH_3-H_2 plasma, optical emission spectroscopy during growth of Si_3N_4 1−46938

ammonia clocks *see atomic clocks*

ammonium compounds
acetate, diffusion of methyl-group tunneling energy, dynamic nucl. polarisation obs. 1−34958
acetate, methyl group tunnelling motion, proton spin symmetry, neutron scatt. study 1−47024
ammonium Rochelle salt, cryst. struct. at 300K, X-ray study 1−7153
ammonium Rochelle salt-Rochelle salt system, optical, dielec., piezo-optical, piezoelec. props. 1−8006
fluosilicate, trigonal, US and thermal expansion study at phase transition 1−20425
halogenate crystals, mechanoluminescence 1−52995
ocean distribution, source for atm. *(German)* 1−22453
order-disorder phase transitions, mean field approx. 1−25400
oxalate:VO^{2+} monohydrate crystals, electronic optical absorption spectra 1−39129
oxalate, crystalline modifications, Raman and IR spectra *(Russian)* 1−43129
Rochelle salt crystal, paraelec., nonlinear temp. changes of optical charcts. *(Russian)* 1−52914
sodium ammonium tartrate, spontaneous macroscopic quadrupole moment in noncommensurable polar phase 1−3344
tetraphenylborate, IR spectra, cryst. struct. and H bonding 1−16558
Tutton salt crystals, Jahn-Teller centre configurations, lattice struct. 1−3248
$[(NH_4)_3H(SO_4)_2]_{1-x}[(ND_4)_3D(SO_4)_2]_x$, effect of hydrostatic press. on phase transitions, dielec. study 1−8010
$[(NH_4)_{1-x}Rb_x]_2SO_4$, ferroelectric crystals, dielectric and nonlinear optical props. 1−1643
$Cu(NH_3)_2CO_3$ layer compound, exchange coupling, effective field approx. 1−38923
ND_4Br, mol. crysts., effective charge and force consts. 1−47199
ND_4Cl, mol. crysts., effective charge and force consts. 1−47199
ND_4Cl, second harmonic generation and type of multicritical point 1−34471
ND_4ClO_4, Raman band ν_4, temp. depend. 1−3409
ND_4IO_4, neutron diffr. studies at 100K 1−15839
ND_4NO_3, phase IV, IR and Raman vibr. spectra, heteroionic coupling 1−3379
ND_4ReO_4, neutron diffr. studies at 100K and 205K 1−15839
NF_4AsF_6, vibr. spectra, isotope shifts, rel. to GVFF calcs. for NF_4^+ 1−6261
$(NH_4,K)_2H_3P_2O_7$, X-ray powder diffr. data 1−30176
$(NH_4,K)_3HP_2O_7.H_2O$, X-ray powder diffr. data 1−30176
NH_3-NH_4, polarisation model, inversion barrier and dipole moment derivatives calcs. 1−37363
NH_4^+ aerosol, bulk concs. in remote troposphere 1−44247
NH_4^+, collision-induced spin-lattice relax., tunnelling, rot. frame calcs. 1−52859
NH_4^+, harmonic vibr. freq., CI and SCF calcs. 1−1063
NH_4^+, polarisation model, inversion barrier and dipole moment derivatives calcs. 1−37363
$(NH_4)_{1-x}A_xBr$, A=Cs, Rb, K, order-disorder transitions obs. *(German)* 1−52292
$(NH_4)_{1-x}A_xCl$, A=Cs, Rb, K, order-disorder transitions obs. *(German)* 1−52292
$NH_4Al(SO_4)_2.12H_2O$, cryst. struct., X-ray and neutron diffr. studies 1−30203
NH_4BF_4, ^{19}F NMR chemical shift 1−7963
$(NH_4)_2BeF_4$, ferroelec. phase, X-ray diffr. cryst. struct. determ. 1−30196
$(NH_4)_2BeF_4$, noncommensurable ferroelectric, submillimeter spectroscopy 1−26314
$(NH_4)_2BeF_4$, transformation to incommensurate phase, elec. props. *(Russian)* 1−43077
NH_4Br, composite free induction decay, two dimens. time-evolution approach 1−43030
NH_4Br, elec. cond., vacancy migration 1−7606
NH_4Br, heat capacity, 265 to 550K, II to I transition 1−16054
NH_4Br, heat capacity for 0 to 500K 1−2652
NH_4Br, mol. crysts., effective charge and force consts. 1−47199
NH_4Br, orientation phase transitions at high press. *(Russian)* 1−52293
NH_4Br, Raman scatt. studies using high-pressure cell 1−281
NH_4Br:Tl^+, impurity centre parameters, order-disorder transition effects, spectra meas. 1−25430
$NH_4Br_{0.55}Cl_{0.45}$, heat capacity from 8K to 476K 1−2651
$NH_4Br_{0.55}Cl_{0.45}$, heat capacity for 0 to 500K 1−2652
$NH_4Br_xCl_{1-x}$, x=0.20, 0.74, solid solutions, heat capacity from 8 to 300K 1−47252
$(NH_4)_2Ce(NO_3)_6$, solid, proton spin-rotational relax. obs. 1−38998
$NH_4Ce(SO_4)_2.4H_2O$:Gd^{3+}, EPR and IR spectra, phase transitions, spin-lattice relax. 1−34936
NH_4Cl, electric-field gradient at Cl nucleus, quantum mechanical, atomic orbital and STO calc., NQR freq. 1−1085

ammonium compounds continued
NH_4Cl, heat capacity, thermal conductivity and phase transitions 1−30386
NH_4Cl, heat capacity for 0 to 500K 1−2652
NH_4Cl, mol. crysts., effective charge and force consts. 1−47199
NH_4Cl, nucleation in gas phase and influence of ions 1−43710
NH_4Cl, order-disorder transition, quasielastic light scatt. obs. 1−52962
NH_4Cl, press. induced multicrit. pt., SHG obs. 1−38504
NH_4Cl smoke, nucleation and growth of fume particles, time-resolved light scatt. meas. 1−43715
NH_4Cl, surface, point defect form., NH_3 and H_2O atms. effects, rel. to cond. 1−2439
NH_4Cl:Rh, γ-irrad., stabilisation, EPR investig. of Rh^0 and Rh(II) centres 1−31024
NH_4Cl-H_2O, unidirectionally solidified, direct obs. as function of gravity level 1−7497
NH_4ClO_4, proton spin alignment at low temp., neutron scatt. study 1−47023
NH_4ClO_4, Raman band ν_4, temp. depend. 1−3409
NH_4ClO_4, solid, proton spin-rotational relax. obs. 1−38998
NH_4CoF_3, structural phase transitions, X-ray and neutron diffr. 1−2616
$(NH_4)_2CrO_4$, proton spin-lattice relax., NH_4^+ ion reorientation 1−52860
$(NH_4)_2CuCl_4.2H_2O$, disorder of NH_4 ions, high precision neutron diffr. study 1−30151
$NH_nD_{4-n}NO_3$, (0<n<4), phase IV, IR and Raman vibr. spectra, heteroionic coupling 1−3379
$(NH_4)_3FeF_6$, phase transition study 1−21147
$(NH_4)_2GeF_6$, ^{19}F NMR chemical shift 1−7963
$NH_2H_2PO_4$, single crysts., defects, X-ray topographic investig. 1−34343
$(NH_4)_2HPO_4$, proton spin-lattice relax., NH_4^+ ion reorientation 1−52860
$NH_4H_2PO_4$, 250 to 260 nm radiation from intracavity doubling of single-mode ring dye laser 1−24436
$NH_4H_2PO_4$, growing cryst. in aq. soln., conc. gradient meas., by moire fringes 1−11708
$NH_4H_2PO_4$, intracavity SHG using synchronously mode-locked CW dye lasers 1−15226
$NH_4H_2PO_4$, nucleation in quiet saturated soln. 1−52098
$NH_4H_2PO_4$, optical mixing of mode-locked Nd:glass laser broadband radiation 1−15203
$NH_4H_2PO_4$, plastic strain and dislocation and struct. obs. 1−20231
NH_4HSO_4 aerosol, atmospheric, meas. in Great Smoky Mountains, USA 1−53732
$(NH_4)_3H_6[Fe(MoO_4)_6].7H_2O$, thermal decomposition 1−17043
NH_4I and ND_4I, Raman spectra, press. effect 1−39107
NH_4I:Tl, phase transitions under heating and cooling conditions, luminesc. study 1−2623
NH_4IO_4, nuclear spin-lattice relax., inelastic neutron scatt., reorientation, tunnel freq., motion of NH_4 1−12420
$NH_4IO_3.2HIO_3$, cryst. struct. determ. by non-Fourier series method 1−30191
$(NH_4)_3In(SO_4)_3$, low-temp. form, X-ray cryst. struct. determ. 1−15844
$NH_4In(SeO_4)_2.4H_2O$ cryst. struct. 1−25216
$(NH_4)_{1-x}K_xH_2PO_4$, antiferroelec., analogy with antiferromagnetism 1−8007
$(NH_4)_2Mg(SO_4)_2.6H_2O$:Cu^{2+}, ENDOR spectrosc., nucl. spin decoupling 1−10002
NH_4MnF_3, structural phase transitions, X-ray and neutron diffr. 1−2616
$(NH_4)_2Mn_2(SO_4)_3$, lack of phase transitions under hydrostatic press. 1−12464
$(NH_4)_{1-x}(ND_4)_xH_{1-x}D_xSeO_4$, isotopic effect, phase transition temp. shift, pyroelec. study 1−48011
NH_4NO_3, phase IV, IR and Raman vibr. spectra, heteroionic coupling 1−3379
NH_4NO_3, phase V, inelastic neutron scatt. and vibr. spectra study 1−52954
NH_4NO_3, pyroelectric and dielec. behaviour at II-I phase transition 1−52899
NH_4NO_3 washing from ThO_2 gels in wet chem. fuel particle manufacture 1−5986
NH_4NO_3:NiO(CuO), phase transitions 1−7124
NH_4NO_3-water solutions, conc., vapour press. meas. by dew-point method 1−53460
$NH_4Ni[S_2C_2(CN)_2]_2.H_2O$, cryst. struct., elec., mag., and optical props. 1−25719
$(NH_3OH)_2SO_4$, proton spin-lattice relax., NH_4^+ ion reorientation 1−52860
$(NH_4)_2PO_3H.H_2O$, prep. and crystallographic study *(French)* 1−47054
$(NH_4)_5P_3O_{10}.2H_2O$, thermal transition, kinetic characts. 1−39600
NH_4ReO_4 dispersed on TiO_2, reduction, effect on anatase-rutile phase transform. 1−20378
NH_4ReO_4, nuclear spin-lattice relax., inelastic neutron scatt., reorientation, tunnel freq., motion of NH_4 1−12420
$(NH_4)_2SO_4$ powder, Fourier transformed IR photoacoustic spectra 1−8053
$(NH_4)_2SO_4$, proton spin-lattice relax., NH_4^+ ion reorientation 1−52860
$(NH_4)_2S_2O_8$, solid, proton spin-rotational relax. obs. 1−38998
$(NH_4)_2SeO_4$, composite free induction decay, two dimens. time-evolution approach 1−43030
$(NH_4)_2SiF_6$, ^{19}F NMR chemical shift 1−7963
$(NH_4)_2SiF_6$, elastic const. meas. 1−30383
$(NH_4)_2SnF_6$, ^{19}F NMR chemical shift 1−7963
$(NH_4)_{0.67}Tl_{0.33}H_2PO_4$, X-ray cryst. struct. determ. *(French)* 1−15867
$(NH_4)_{1-x}Tl_xH_2PO_4$, antiferroelec., analogy with antiferromagnetism 1−8007
$NH_4U_3F_{13}$, X-ray cryst.-struct. determ. *(French)* 1−15869
$NH_4UO_2(NO_3)_3$, cryst., Raman scatt. anisotropy 1−8061
$NH_4UO_2(NO_3)_3$, γ-irradiated, long wave luminesc. centre 1−12573
$(NH_4)_2VO_3$, proton spin-lattice relax., NH_4^+ ion reorientation 1−52860
$(NH_4)_2ZnCl_4$, non-crystallographic symms. in superstruct. 1−20151
NH_4ZnF_3, structural phase transitions, X-ray and neutron diffr. 1−2616
$(NH_4)_2[MoOF_5]$, cryst. struct. and vibr. spectra 1−34314
$(NH_4)_3[Mo_2O_2F_9]$, cryst. struct. and vibr. spectra 1−34314
$[(NH_4)_2BeF_4]$, elastic constants determ. by X-ray thermal diffuse scattering 1−7224
$NH_3.H_2O$, solid phase IR spectra 1−48057
$NaNH_4SeO_4.2H_2O$, proton spin-lattice relaxation 1−26065
$ScNH_4P_2O_7$, solid-phase reaction prep., characterisation 1−35172

amorphisation
layered ferro- and antiferromag. systems, amorphisation, interlayer exchange parameters, spin glass form., theory 1−12302

amorphisation continued
quartz, elastic and struct. changes at high press. and temp. 1−38455
semiconductor, defect accumulation during light ion irrad. 1−20278
steel, stainless, ion bombard. induced amorphous layers, Rutherford backscatt. and TEM study 1−7218
Cu-Zr powders, laser amorphisation, alloy microstructure 1−3669
Ni-Nb powders, laser amorphisation, alloy microstructure 1−3669
Pd-Si amorphous films, ion implantation prep., elec. resist. meas. 1−34363
Si, ion implanted, disorder prod. and amorphisation 1−52188

amorphous-crystalline transformations *see crystallisation*

amorphous magnetic materials *see magnetic properties of amorphous substances*

amorphous semiconductors
see also chalcogenide glasses; electrical conductivity of amorphous semiconductors and insulators; insulators
AC hopping conductivity, appl. of rate equation formulation 1−7616
alkali metal oxide-V_2O_5-P_2O_5 semicond. glasses, electronic characts. and struct., ESR study 1−34928
Anderson negative-U model of excitations and metastability 1−47575
carrier pulse propagation, anomalous 1−7614
chemical bond approach to atomic and electronic struct. *(Japanese)* 1−42680
chemical bonding, internal surfaces and topology 1−11686
chemistry and physics, teaching approach 1−13966
chemistry and relevance to energy conversion 1−30060
electronic structure, review 1−30615
energy gaps in glassy materials, existence arguments eval. 1−12021
ESR line breadth and spin relax., appl. of master eqn. approach 1−198
field-effect conductance, density of localised states, anal. 1−42723
Ge, filamentation of current, sample geometry influence 1−3027
glass science, conf., Los Angeles, CA, USA (July 1980) 1−27653
ion implantation, range relation estimates *(Chinese)* 1−42403
laser annealing, epitaxial regrowth mechanisms, review 1−30258
localised states, interface, calc. methods, review 1−30801
metal-insulator transition, review 1−47480
morphology and glass-forming tendency 1−11680
pentacene, amorphous, short-time carrier transport 1−12142
photoconductive detectors, high-speed, using short carrier lifetimes 1−50212
phthalocyanine films, amorphous, metal-free, conductivity, temp. depend., X-ray diffr., thermal anal. 1−52569
polyacetylene, doped, semiconducting props. 1−52167
polyacetylene and derivatives, semiconducting, chem. 1−52553
polymer, elec. cond., review *(Japanese)* 1−20734
pressure-induced conductivity transitions 1−34756
secondary electron energy distribs., surface pot. barrier 1−16633
solar cells, photovoltaic science and eng. conf. Tokyo, Japan (Nov 1979) 1−7
structural and electronic properties, review, book contrib. 1−47441
structural studies, review *(Japanese)* 1−42304
structure of liquids and amorphous solids, book 1−44726
theory, electronic states 1−25665
theory, electronic states 1−30681
threshold switching, interpretation based on decay-time data 1−7678
Wannier excitons, single-site theory 1−12036
X-ray and neutron diffr. anal. 1−30067
As, amorphous, elec. and optical props., review 1−47632
As_2Se_3, carrier pulse propagation, anomalous 1−7614
a-As_2Se_3:Ga(Cu) film, time resolved dark injection 1−20886
B:H amorphous films, optical band gap, substrate temp. effect, solar cell appls. 1−48182
Cd_3As_2 amorphous degenerate thin film semiconductor, elec. props. 1−20720
$CdGeAs_2$ films, amorphous, electrical and optical properties 1−20747
$CdGeAs_2$, glassy semiconductor, phase separation and transforms., obs. 1−52074
CdS electrodes, amorphous thin film and polycryst., electrolum. props., photoelectrochemical cell appl. 1−17220
CdS thick disordered films on Al_2O_3 and V_3Si, two-mode ultrasonic excitation 1−25376
GaAs, amorphous film, EXAFS study of disorder effects 1−35118
GaAs film, amorphous, MBE prep., elec. and optical props. 1−25585
GaP, amorphous film, EXAFS study of disorder effects 1−35118
GaP and GaAs amorphous film/crystal sputtered junctions for electroluminescent diodes 1−16608
Ge, amorphous, negative differential resistance, geometry effects 1−47668
Ge amorphous films, 575 kV high-resolution electron microscope obs. 1−15800
Ge amorphous thin films, sputtered and evaporated, DC cond. 1−12108
Ge, amorphous/metal system, short range order modelling and bonding 1−25169
Ge, neutron diffr. study 1−30069
GeSe, sputtered, amorphous films, elec. props. *(German)* 1−2986
GeSe:Fe, amorphous films, 1−26293
$GeSe_2$, amorphous, optical consts. in intrinsic absorpt. edge region *(Russian)* 1−21163
a-Ge_xSe_{1-x}, glass and film, IR and photoluminescence study 1−21275
GeTe thin layer, short-range order struct., electron diffr. study 1−20579
H incorporation, effects on electronic and struct. props., review 1−52067
I, amorphous semiconductor, onefold-coordinated, Raman spectra 1−35036
I_2, amorphous, form. and Raman scatt., semicond. props. 1−53093
InAs, crystalline and amorphous, disorder activated Raman scatt. 1−48062
In_xSe_{1-x}-SnO_2 structure, photovoltaic effect 1−7657
P, amorphous, elec. and optical props., review 1−47632
Pd-Si, amorphous and cryst., silicide form. at interface, Raman scatt., and Rutherford backscatt. study 1−52441
Se, amorphous, acoustic and acousto-optic props. 1−26168
Se, amorphous film, thermal crystn. 1−47000
Se amorphous films, structural relax. towards enthalpic equilib., DTA *(French)* 1−42658
Se, carrier pulse propagation, anomalous 1−7614
Se, electronic structure in solid and liq. state by γ-ray Compton scatt. 1−31223
Se electrophotographic layers 1−40886
Se film, crystn. in electrostatic field, morphology 1−47398
Se films, stress enhanced crystallisation 1−42300

amorphous semiconductors continued
Se, particle migration microfilm, elec. props., photographic sensitivity 1−3005
Se photoreceptors, residual pot. 1−43942
Se, vitreous, viscoelastic and plastic behaviour near glass transition 1−35297
Se:Li,Cl, amorphous, gap states, carrier traps, time-of-flight study 1−52472
Si amorphous, clean, absence of band-gap surface states 1−47725
Si, amorphous, elec. cond. and ESR study 1−20744
Si, amorphous, electronic struct., effect of different kinds of disorder, calc. 1−52473
Si, amorphous, film, surface phonon attenuation, Brillouin scatt. meas. 1−30346
Si, amorphous, glow discharge, for passivation layers, prep. 1−35188
Si, amorphous, heterojunctions, spectral and electrical measurements 1−38845
Si, amorphous, hydrogenated films deposited by ion-beam sputtering 1−43261
Si, amorphous, solar cells, recent advances, review 1−32026
Si, amorphous film, CVD prep., rel. to electronic props. *(Japanese)* 1−43271
Si, amorphous film, glow discharge prep. and props. *(Japanese)* 1−43276
Si amorphous film, prep. by reactive sputtering and props. *(Japanese)* 1−43260
Si amorphous film, spin-lattice relax. of localised states 1−34924
Si, amorphous film deposited on GaAs, SHG in in-plane waveguide 1−19387
Si amorphous film on Si single cryst., inelastic electron refl. anisotropy determ. 1−3547
Si amorphous films, 575 kV high-resolution electron microscope obs. 1−15800
Si, amorphous films, RF sputtering in silane, IR spectra and elec. cond. 1−43259
Si, amorphous hydrogenated, light-induced radiative recomb. centres, photolum. study 1−26251
Si amorphous layers, laser annealed, ordinary Raman spectroscopy 1−43132
Si amorphous p-n junction, current-voltage characts. 1−3051
Si amorphous Schottky barrier solar cell, minority carrier diffusion length, anal. 1−13126
Si, amorphous solar cells, efficiency anal. 1−32028
Si, amorphous thin film form. in low press. multipole DC discharge 1−16703
Si amorphous thin films, H content from IR spectra and (α,α), 25 MeV ang. distrib. 1−39127
Si atomically clean surface prep. by pulsed laser irrad. 1−8456
A-Si, CVD coatings, H^+ implantation, effect on photoconductive response and doping efficiency 1−4192
Si CVD film, elec. and optical props. and localised state density *(Japanese)* 1−20608
Si, diamagnetic susceptibility, temp. depend. *(Rumanian)* 1−16424
Si, disordered, laser beam annealing theory 1−26315
Si, epitaxial growth on (100) Si, channelling, TEM, SIMS studies 1−38677
Si film, amorphous, electroabsorption spectra 1−21171
Si film, ion implantation and H profiling, p-n junction form. 1−52156
Si film, optical constants determ. by analytical methods 1−53007
Si film, RF sputtered in Ar-SiH_4 mixtures, optical and elec. characts. *(Korean)* 1−12652
Si films, amorphous, deposited at low pressure, ellipsometry application for determ. of refractive index, absorption index and thickness 1−40836
Si, glow-discharge films, internal stresses and thermal expansion coeff. 1−42661
Si graphoepitaxy using strip-heater oven 1−7485
a-Si, hydrogenated, band-to-band luminescence 1−8130
a-Si, hydrogenated, luminescence decay intensity depend. 1−8131
Si, junction devices, injected carrier lifetime 1−52648
Si, MIS solar cells, energy cost anal. of fabrication and efficiency 1−17203
Si, ODMR, deep centres 1−31064
Si RF sputtered films photoinduced effects 1−42827
a-Si, RF-sputtered, solar cells, doping effects of group-III and -V elements on conductivity 1−4191
Si, ribbon formation by rapid quenching *(Japanese)* 1−26514
Si whisker, emitter prep. for mass spectrometer *(Japanese)* 1−18327
Si:As, phase transitions prod. by pulsed electron irrad. 1−30364
Si:Au, metal-insulator transition, review 1−47480
Si:B, ion implanted, amorphous, UV irrad. effects during thermal annealing 1−30275
Si:B amorphous, spectrally selective solar absorber, fabrication by glow-discharge 1−13172
Si:B(P), amorphous CVD films, ESR study, doping effects on localised states 1−47931
Si:B(P) CVD amorphous films, heavily doped, ESR study 1−52828
a-Si:B(P) film, adsorption effects on ESR and elec. cond. 1−21050
Si:F, amorphous, chem. bonding struct., IR absorpt. and XPS study 1−52942
Si:F, H, amorphous, glow-discharge, electroreflectance and Raman scatt. studies 1−35044
Si:F, H, amorphous, MIS solar cells, high-efficiency, theory and expt. 1−43782
Si:F, H amorphous thin film as a MIS solar cell 1−39765
Si:F, RF sputtering prep., elec. and optical props. 1−53090
Si:F,H, amorphous, photocond., recomb. mechanisms, influence on solar energy conversion 1−42814
Si:F,H amorphous film, F atom behaviour to 900°C, gas evolution and IR absorpt. 1−48670
Si:F,H amorphous films, bonding of F, IR spectra study 1−39095
Si:F,H amorphous films, IR and photoemission spectra 1−53005
Si:F,H glow-discharge films, amorphous, electronic and vibr. props., electrolyte electrorefl. and Raman spectra 1−53006
a-Si:F RF sputtered film, annealing props. 1−3622
Si:Ga,B, joint implantation, surface resistance 1−30255
Si:H, amorphous, compositional anisotropy and microstruct., electron microscopy, Raman and IR spectra study 1−52070
Si:H, amorphous, Compton profile meas. 1−21288
Si:H, amorphous, dehydrogenated, rehydrogenated, dark and photocond. changes 1−16310
Si:H, amorphous, derivation of low-energy optical absorption spectra from photocond. 1−3018

amorphous semiconductors continued
Si:H, amorphous, determination of the density of gap states: field effect and surface adsorption 1−30613
Si:H, amorphous, elec. and optical props., book contrib. 1−38816
Si:H, amorphous, electron transport, drift mobility and junction capacitance 1−30784
Si:H, amorphous, film deposition by plasma spectroscopy, control and anal. *(Japanese)* 1−26385
Si:H, amorphous, film-substrate and film-vacuum interfaces, field effect meas. 1−7622
Si:H, amorphous, gap states and recomb. processes *(Japanese)* 1−43175
Si:H, amorphous, heteroface photovoltaic cells based on p-i-n junction structure 1−8711
Si:H, amorphous, intrinsic and P-doped, surface photovoltage, band-bending and surface states 1−16338
Si:H, amorphous, nongeminate recomb. of photogenerated holes, meas. 1−7637
Si:H, amorphous, photoelectronic props. study using xerographic discharge techniques 1−34742
Si:H, amorphous, photogeneration, optical absorpt. and transport 1−7665
Si:H, amorphous, photoinduced optical absorpt. spectra 1−43145
Si:H, amorphous, photovoltaic cells and integrated cell module 1−8710
Si:H, amorphous, prep. from SiH_4 plasma 1−2232
Si:H, amorphous, RF sputtered, electron transport, photoelect. props. 1−4193
Si:H, amorphous, radiative recombination, high press. effect, photoluminesc. 1−48160
Si:H, amorphous, reactively sputtered, ^{29}Si NMR spectra study 1−52854
Si:H, amorphous, Schottky barrier solar cells, geminate recomb. effect on photovoltaic charactS. 1−39766
Si:H, amorphous, sputtered, effect of substrate temp. and deposition rate on photocond. 1−3012
Si:H, amorphous, struct., computer model 1−47003
Si:H, amorphous, struct. and lattice dynamic, random network model 1−52069
Si:H, amorphous, vidicon target of p-i-n struct., photocond. props. 1−42813
Si:H, amorphous evaporated film prep. and props. 1−43275
Si:H, amorphous film, luminesc. decay, surface and thickness effects 1−21251
Si:H, amorphous films, plasma-deposited, proton NMR studies 1−43025
Si:H, amorphous films, reactively sputtered, rare gas incorporation, XPS determ. 1−21346
Si:H, amorphous films, recombination, Auger effects and nongeminate recomb., luminesc. study 1−48162
Si:H, amorphous n-type, obs. of electron and hole traps by deep level transient spectroscopy 1−30668
Si:H, amorphous p-i-n drift type solar cell, germinate recomb. process, photovoltaic behaviour 1−53614
Si:H, amorphous plasma-deposited semiconductors, doping-precipitated morphology 1−47395
Si:H, amorphous solar cells, photoconductivity and transport 1−32029
Si:H, amorphous sputtered, optical props. in 0 to 13 eV photon energy range 1−31215
Si:H, amorphous thin film, band-bending, photoluminesc. study 1−52984
Si:H, amorphous thin films, chemical modification 1−32047
Si:H, crystalline and amorphous, bombardment-produced disorder and SiH bonds 1−34379
a-Si:H, determination of states distrib. using MIS tunnel junctions 1 - 20609
Si:H, dopable, quasi-amorphous film prep. by ion beam deposition, struct. and props. 1−12671
Si:H, electron Hall mobility, 200 to 550K 1−30767
Si:H, F films, amorphous, RF glow-discharge prep., dark cond. and photocond. props. 1−34595
a-Si:H, gap state spectroscopy using two beam photoconductivity 1−38813
Si:H, gap states, review 1−16221
Si:H, gap states, TSC and optically stimulated current meas. 1−52577
a-Si:H, glow discharge films for solar cells, photovoltaic props. 1−4195
Si:H, highly resistive films, acoustoelectric meas. 1−47713
Si:H, internal elec. fields, luminesc. decay time meas. 1−52983
Si:H, luminescence fatigue, decay curves 1−48165
Si:H, P, amorphous films, plasma deposited, crystn., doping efficiency, elec. cond. 1−47393
Si:H, pulsed ^1H NMR study 1−52856
α-Si:H, quantum well model 1−7510
Si:H, reactively sputtered, amorphous, kinetic anal. of H evolution 1−34574
Si:H,P film, P conc. determ. using AES 1−30262
Si:H,P films, trap controlled dispersive transport by transient photoresponses 1−52601
Si:H amorphous films, ^{29}Si NMR cross polarisation magic angle spinning spectra 1−47957
Si:H amorphous films, glow-discharge deposition, prep. conditions and characterisation, review 1−30589
Si:H amorphous films, photocond., trapping and recombination 1−47710
Si:H amorphous Schottky barrier diodes, carrier transport model 1−8709
Si:H amorphous thin film, photoreceptor for electrophotography 1−34744
a-Si:H characterisation of glow discharge and sputtered deposited films for solar cells 1−4194
a-Si:H film, preparation from SiH_4 plasma decomposition, elec. props. 1−34130
Si:H film deposition, emission spectroscopy of glow-discharge and sputtering plasmas 1−29910
Si:H films, amorphous, cond. band transport, struct. inhomogeneity effect 1−52561
Si:H films, amorphous, glow discharge prep., elec. props. 1−26392
Si:H films, decomp. mechanism, IR spectra study 1−21720
Si:H RF sputtered films, amorphous, oscill. strengths of Si-H vibrs., charges induced by the He^+ ion bombard. 1−3517
a-Si:H Schottky barrier diode, band struct., conductance-capacitance freq. depend. 1−7704
Si:H solar cells, p-n junctions, current collection mechanism obs., using spectral response analysis 1−43783
Si:H sputtered films, amorphous, guided wave optical spectroscopy, absorpt. spectrun, 0.8 to 1.9 eV 1−53004
$Si:H_x$, amorphous, Schottky-barrier solar cells, carrier collection efficiency, diffusion model 1−48838
Si:N amorphous film, elec. and optical props., doping influence 1−47767
Si:O,H, amorphous, plasma deposited, luminesc. props. 1−21265

amorphous semiconductors continued
Si:P, hydrogenated anorphous, dispersive transport and recomb. lifetime 1−38811
Si:P CVD films, amorphous, doping effects, light-induced ESR study 1−52827
Si:P films, amorphous, low press. CVD growth, ESR, and elec. props. 1−52449
Si:P hydrogenated amorphous film, photoconductivity thickness and spectral depend. 1−3007
Si:P(B) amorphous films, ion implanted, elec. cond. meas. 1−52671
Si:Yb, laser annealing after ion implantation 1−25308
a-Si-based alloys, localised state distrib. meas. using field effect technique 1−30682
Si-Cr thin film struct., amorphous Si, interdiffusion, compound form. 1−42640
Si-O, amorphous, electronic struct. of O impurity atom., LCAO calc. 1−12064
SiC, plasma deposition, film props. meas. 1−43277
Si_xC_{1-x}:H, amorphous alloy, RF reactively sputtered films, control of optical gap 1−8708
Si_xC_{1-x}:H films, plasma deposition, reaction mechanisms, mass spectrometry study 1−43278
$Si_{0.10}Ge_{0.4}$, highly resistive films, acoustoelectric meas. 1−47713
$Si_{1-x}Ge_x$:H glow discharge films, amorphous, struct. props., IR absorpt. and H evolution meas. 1−52071
Si_xGe_{1-x}:H amorphous film, electronic and optical props. 1−30853
SiH_x, amorphous, optical characterisation for solar cell appls. 1−31216
SiH_x, amorphous solar cells, short-circuit current, effect of carrier generation and collection 1−32027
a-SiH_x film, photoconductivity, optical absorpt. edge 1−30779
SiH(D)(F), amorphous, acoustic local mode, IR and Raman spectra meas. 1−12497
a-Si:F, H glow discharge films, for solar cells, photovoltaic props. 1−4195
SnO_2/a-Si(H) electron-beam deposited heterojunction solar cells, I-V characteristics 1−8745
Ta_2O_5 amorphous film, hopping transport 1−20889
V_2O_5-GeO_2(TeO_2)(PbO)(BaO)(As_2O_3) glasses, elec. props. and struct. 1−30743
V_2O_5-P_2O_5 glasses, low temp. electron paramag. props. 1−7936
V_2O_5-P_2O_5 glasses, struct. rel. to phys. props. 1−30073
V_2O_5-P_2O_5-optical absorption, electrical cond. and thermo EMF study 1−25748

amorphous state
see also electrical conductivity of amorphous metals and alloys; electrical conductivity of amorphous semiconductors and insulators; electron energy states of amorphous solids; magnetic properties of amorphous substances; vitreous state
alloys, amorphous, positron annihilation studies *(Japanese)* 1−43209
alloys, storage matrix for fission product Kr 1−33307
amorphography, modelling by geometric transform. 1−30056
amorphous metals, superconductivity pairing induced by two level systems 1−16400
anthracene:naphthacene, amorphous film, fluoresc. spectra temp. depend. 1−8109
Barkhausen effect in amorphous electrodeposited alloy films 1−21012
carbonaceous amorphous film high-resolution electron microscope image contrast obs. 1−15802
n-component disordered alloys, diagrammatic equivalent of coherent pot. approx. *(Chinese)* 1−52459
computer simulation of struct. of monatomic and binary system 1−30062
dangling bonds and crystalline inclusions 1−47002
defects, theory of reference states 1−30063
disordered alloys, dynamical electron-phonon interaction and elec. cond. 1−20336
disordered electron system, two-particle spectral function and AC cond. 1−20693
disordered materials, types of disorder classified *(Japanese)* 1−42303
disordered system with Lorentzian transfer rate, spectral distrib. time development 1−21267
electron microscopy, Monte Carlo simulation *(French)* 1−15771
electronic structure, multiple scatt. approach 1−20611
fluorescence, optical homogeneous linewidth 1−21268
glycerol, amorphous, dielec. const., low temp. variation at 9.15 GHz 1−21104
Hall effect and its appl., commemorative symposium, Baltimore, MD, USA (Nov. 1979) 1−32807
high-resolution electron microscopy in materials science, conference, Cambridge, England (Mar. 1979) 1−9763
Lennard-Jones solid, nonlinear excitations assoc. with vacancies 1−30662
light scattering theory for amorphous absorbing media 1−15078
materials for optical recording, storage and erasure 1−46476
metal, amorphous, dislocation model 1−7083
metal, amorphous, electronic structure, review 1−25619
metal, amorphous, homogeneous isotropic hard sphere model 1−25167
metal, conf., Grenoble, France (July 80) 1−22943
metal, form. and characterisation, review 1−26418
metal, local atomic struct. 1−30064
metal clusters on various substrates, struct., computer simulation 1−30606
metallic systems, chemical short-range order obs. by diffr. methods, review 1−30032
metals, amorphous, crystallisation *(Japanese)* 1−42316
metals, superconducting transition temp. correlation with Hall effect *(Chinese)* 1−3083
metals, thermodynamic aspects, review 1−30423
metals and amorphous metallic alloys, Hall effect, review 1−34689
monatomic amorphous surface, melting transition, mol. dynamics study 1−52406
monatomic materials, total and net displacement functions 1−20284
neutron diffraction determ. of $\rho(r)$ 1−20062
neutron elastic diffr. struct. studies 1−30058
one-dimensional conductor, Peierls instability, charge density distortions, glassy phase formation 1−20713
polyethylene, amorphous solitons, defect diffusion and dielect. relax. 1−16521
PVC, grain morphology determ. by electron microscopy, depend. on prep. method *(German)* 1−21415
random high anisotropy amorphous materials, magnetisation distrib. calc. method 1−3150
rare earth-transition metal alloys, cryst. and amorphous, mag. props. 1−25895

amorphous state continued
short-range order, geometrical model 1−11679
specific heat capacity and thermal cond., tunnelling state model, review 1−47250
spectral diffusion and US attenuation, rate eqn. theory 1−15960
steel, stainless, 18-8, oxide film, amorphous, short range struct., electron diffr. study 1−31739
structure of non-crystalline materials, book 1−44726
superconducting amorphous metals, prospects for high-field applications, book contrib. 1−38900
superconductor, correlation between T_c and Hall coeff. 1−3088
superionic conductors, amorphous subsystem form. 1−20454
transition metal alloys, amorphous, binary, supercond. transition temps., review, review 1−52686
transition metal and alloy superconductors, review *(Japanese)* 1−42886
vibration props., book contrib. 1−38487
Al, blocking electron radiation spectra at 1.2 GeV *(Russian)* 1−2541
Al, molecular dynamic model, statistical geometry 1−30041
As, amorphous, orthorhombic and rhombohedral, NQR study 1−21079
As sputtered amorphous film structure, high resolution electron microscope obs. 1−11676
As, X-ray K absorpt. discontinuity 1−35117
Au-Fe(Ni)(Co) amorphous film, Hall effect 1−34686
Au-Ge, amorphous evaporated films, stability, optical props., electronic struct. 1−31213
Au-Si amorphous interface struct., AES and EELS study 1−30575
BN, hard quasi-amorphous film prep. by ion beam deposition, struct. and props. 1−12671
$BaO\text{-}Fe_2O_3$, amorphous films, crystallisation, RF sputtering prep. 1−30059
Bi, amorphous film, elec. resist., temp. depend. meas. 1−30745
Bi films, amorphous, vacuum-deposited, superconducting transition, crystn. 1−47776
Bi-Fe sandwiches, supercond., proximity effect and transition temp. meas. 1−42919
C amorphous films, 575 kV high-resolution electron microscope obs. 1−15800
C, diamond-like, quasi-amorphous film prep. by ion beam deposition, struct. and props. 1−12671
Co-Fe-Si-B amorphous alloys, struct. changes during heating 1−2330
Co_xSn_{1-x}, amorphous, elec. transport and stability 1−30698
Cu-Zr powders, laser amorphisation, alloy microstructure 1−3669
$Cu_{57}Zr_{43}$, amorphous, vibr. states calc. and elastic consts. determ. 1−20343
$Cu_{60}Zr_{40}$ cold rolled amorphous alloy defects, electron microscope obs. 1−11678
Fe, rust film, amorphous, short range struct., electron diffr. study 1−31739
Fe, structure, freq. distrib. function 1−15832
Fe-Co-Si-B amorphous alloys, spin echo NMR meas. 1−26076
Fe-Cr-Mo amorphous alloys, H embrittlement, effect of corrosion resistance and metalloid additives 1−53257
Fe-Ni-B alloys, amorphous, corrosion behaviour 1−21637
$Fe_{100-x}B_x$ glassy alloys, crystallisation kinetics, Mossbauer and X-ray study 1−2334
$Fe_{80}B_{20}$, amorphous alloy, X-ray struct. anal. *(Chinese)* 1−25164
FeCoNi-SiB amorphous alloys, zero magnetostriction, heat treatment 1−3230
$Fe_xCo_{70}Si_{15}B_{10}$, amorphous alloy, X-ray struct. anal. *(Chinese)* 1−25164
$Fe_{60}Cr_{10}Ni_{10}P_{13}C_7$, amorphous, corrosion behaviour 1−21637
$Fe_{70}Cr_{10}P_{13}C_7$, amorphous, corrosion behaviour 1−21637
$Fe_{20}Ni_{60}B_{20}$, amorphous, corrosion behaviour 1−21637
$Fe_{47}Ni_{25}B_{18}Si_{10}$ ribbons, amorphous, relationship between magnetic properties and struct. changes during annealing 1−47901
$Fe_{10}Ni_{70}P_{14}B_6$ amorphous alloy, spin-glass and mictomagnetic behaviour 1−7862
$Fe_2O_3.H_2O$, multiple-site adsorption of Cd, Cu, Zn and Pb 1−39677
$Fe_{78}Si_{10}B_{12}$, amorphous alloy, X-ray struct. anal. *(Chinese)* 1−25164
Fe_xSn_{1-x}, amorphous, elec. transport and stability 1−30698
Ga, amorphous, electron-phonon coupling constant, Eliashberg function 1−34444
Ga, amorphous and recrystallised films, sound vel., shear stiffness breakdown 1−7278
Gd-Fe(Co), amorphous sputtered thin films, TEM study *(Japanese)* 1−21018
GdCo film, RF sputtered, spatial uniformity, O distrib. influence 1−12364
$GdCo_3$ sputtered amorphous film, domain struct. depend on anisotropy 1−34913
GdFeBi-CdS.Cu.Cl photoconductor sandwich, thermomagnetic switching effect 1−25944
$Ge_{1-x}Si_x$ alloys, vibr. props. 1−52245
Hf-Cu, supercond. amorphous alloys, low temp. ion implantation 1−30863
La-Al (20 at.%), amorphous, quenched from liq. state, supercond. charcts. *(Russian)* 1−42878
La-Zn (22 at.%), amorphous and cryst., supercond. props. meas. 1−30893
$La_{0.80}Al_{0.20}$ amorphous alloy, internal friction and Young's modulus 1−20314
$La_{0.78}Zn_{0.22}$, amorphous and cryst. supercond. specific heat, heat relax., very low temp. 1−30879
$LiNbO_3$ sputtered thin film, permitt., loss angle, temp. depend. 1−43057
Mo, superconducting tunnelling in amorphous thin films 1−3111
MoS_3, amorphous, struct. study rel. to electrochem. behaviour 1−30061
Nb, superconducting tunnelling in amorphous thin films 1−3111
$Nb_{75}Ge_{25}$, amorphous thin films, supercond., resistivity, T_c after S ion irrad., annealing effect 1−42883
$Nb_{80}Si$, amorphous thin films, supercond., resistivity, T_c after S ion irrad., annealing effect 1−42883
Ni-B amorphous-like alloys, electroless plating method using dimethylamine as reducing agent *(Japanese)* 1−43295
Ni-Nb powders, laser amorphisation, alloy microstructure 1−3669
Ni-P, electroless deposited, microstruct. and fatigue props. 1−53282
Ni-P, unoccupied Ni density of states, X-ray absorpt. and emission spectra 1−31229
Ni-P amorphous alloys, chem. deposited and electrodeposited, struct. and crystn. obs. 1−25166
Ni-P electrodeposited films, crystallised phosphide phases, electron diffr. and TEM study 1−52068
$Ni_{75}Mn_{18}Fe_7$, disordered, ferromagnetic relaxation anomaly during spin glass transition *(Russian)* 1−31034

amorphous state continued
Ni_3P deformed amorphous electrodeposits, high resolution electron microscope obs. 1−11677
$PbTiO_2$, amorphous, rapidly quenched, crystallisation, DTA and Raman spectra study *(Japanese)* 1−42305
$PbTiO_3$, amorphous, dielec. const., temp. depend., crystn. behaviour 1−26137
$PbTiO_3$, amorphous, grain-size development during crystn. 1−42310
$PbTiO_3$, amorphous, X-ray diffr. study of struct. *(Japanese)* 1−42306
Pd-Si amorphous and partially crystalline alloys, high resolution TEM obs. 1−15801
$Pd_{80}Si_{20}$, metallic glass, elec. resistance, irrad. induced defects 1−25690
Pd_xSi_{1-x} (x=0.82, 0.85), amorphous and cryst., positron annihilation meas. 1−53013
PdSiCu, amorphous, US propag. at low temps. 1−42473
$Pd_xSi_{1-x-y}Cu_y$, (x=0.73, y=0.06; x=0.79, y=0.04), amorphous and cryst., positron annihilation meas. 1−53013
Sb amorphous film, vacuum deposited on GeO_x, crystn. thickness 1−20582
Sb cluster, nucleation by inert gas condensation, technique for amorphous substance investig. w.r.t. order 1−26394
$Sb_{1-x}Bi_x$ (x≤0.2) amorphous films, crystn. 1−42301
Si-C amorphous alloy film, deposited by glow discharge decomp., white photoluminesc. 1−12538
Si_xC_{1-x}:H, amorphous system, chemical bonding states, XPS and IR study 1−52103
Si_3N_4, amorphous film in MNOS struct., carrier charge sign determ. 1−38861
SiO_2, amorphous, fundamental optical absorption edge 1−3428
SiO_2 amorphous films, thermally grown, 1 nm pores, TEM obs. 1−34591
SiO_2, amorphous free-standing films, steam thermal prep., Raman study 1−26410
SiO_2, chem. heterogeneity of amorphous films 1−30261
SiO_2, crystalline and amorphous, photolum. from E band centres 1−3461
SiO_2, fused, quartz crystal growth mechanism 1−42309
SiO_2 layers, secondary electron emission temp. depend., LO phonon interaction 1−21304
SiO_2, synthesised by shock compression of α quartz, physical props. 1−11815
SiO_x, chemical and electronic structs., XPS, UPS, and X-ray excited Auger spectra *(French)* 1−3578
Sn-Fe sandwiches, supercond., proximity effect and transition temp. meas. 1−42919
SnAu(Cu) film, liquid-like struct., elec. resistivity 1−25596
Tb and $TbFe_2$, computer simulation of struct. 1−30062
$Tb_{0.25}Cu_{0.75}$ amorphous alloy, small-angle neutron and X-ray scatt., thermal stability, density and mag. props. 1−25165
Ti, amorphous, H^+ ion surface trapping influence on low energy light ion reflection 1−53030
Ti-Cu, supercond. amorphous alloys, low temp. ion implantation 1−30863
Ti-Nb-Si amorphous ribbons, superconductivity, mechanical props. 1−16394
Ti-Nb-Si-M (M=Mo, Ru, Rh, Pd, Ir, B, C, Ge), ductile amorphous alloys, supercond., mech. props. 1−30894
TiCl amorphous film, struct. 1−16201
V_2O_5, amorphous, splat cooled, V^{4+} Brownian motion after water vapour adsorption, ESR study 1−38975
V_2O_5:WO_3 amorphous, EPR study, random glass struct., electron localisation 1−47937
WO_3 amorphous film, fundamental absorpt. edge, annealing and electrolytic coloration effects 1−35105
WO_3, amorphous films, optical, EPR and H content meas. before and after coloration 1−8043
WO_3 films, electrochromic, microstruct. and degradation 1−47239
WS_3, amorphous, struct. study rel. to electrochem. behaviour 1−30061
Zr-Cu, supercond. amorphous alloys, low temp. ion implantation 1−30863

amorphous state structure *see noncrystalline state structure*

amplification
see also acoustic wave amplification; amplifiers
hot carrier p-n junction, amplification characts. 1−20862

amplification measurement *see gain measurement*

amplifiers
see also amplification; audio-frequency amplifiers; high-frequency amplifiers; microwave amplifiers; operational amplifiers; parametric amplifiers; preamplifiers; pulse amplifiers; ring lasers; tunnel diode amplifiers
differential magnetoresistance, using a Siemens FP 211 D115 differential sensor, for use in ambient temperatures of 80-110°C *(Italian)* 1−23208
gating amplifier, integrated circuits, tone burst generation 1−49904
helical flux compression amplifiers 1−32982
integrated acoustoelectric SAW source 1−29501
proton magnetometer amplifier, Q-factor multiplication *(Russian)* 1−27265

amplifying *see amplification*

amplitude modulation
laser Dopper velocimetry, signal-to-noise improvement 1−33735
nonlinear dispersive medium, wave modulation 1−18043
optical fibre, FM to AM conversion by material dispersion 1−41858
semiconductor, optoelectronic modulation of MM waves by picosecond pulses 1−52597
sinusoidal tones, subjective magnitude of differences *(German)* 1−4285
solid laser, Q-controlling mode-locked high power, simultaneous active AM plus passive FM 1−51533
GaAlAs laser, GHz analogue modulation and differential delay, temp. and current behaviour 1−11001
$LiNbO_3$-CdSe layered structure, SAW phase modulation and AM 1−34561

analogue computer applications *see analogue simulation*

analogue computer methods *see analogue simulation*

analogue-digital conversion
see also digital-analogue conversion
angular position encoder using airtight EM contacts 1−44882
automatic range-switching convertors, review 1−50118
biological signals, convertor for microprocessor peripheral *(Spanish)* 1−22175
comparatorless electro-optic A/D convertor 1−1721
data acquisition principles 1−32966
digital panel meter, microprocessor interfacing 1−9974
electro-optic light modulators use in A/D convertors 1−24485

analogue-digital conversion continued
Hall probe for HV monitoring 1−28014
hodoscopic registration system A/D convertor unification 1−1038
homogeneous data acquisition systems *(French)* 1−32965
interface for Biomation transient recorders to LSI-11 processors 1−36639
MIR-2 computer and expt. hardware and software interfacing 1−244
multiple ADC controller for coincidence and scaling, using minicomputer 1−23990
Nairi-2 computer data interface improvement 1−245
nonlinear image processing by multiple liquid crystal light valves 1−24491
nonlinear transducer output A/D conversion method 1−27959
oceanography, spectra of freq. counting digitisation errors 1−23143
panel meter, digital and analogue moving coil meters 1−5299
photogrammetry, computerised problem solving *(Hungarian)* 1−14190
photographic transparency digitiser using oscilloscope as scanning light source 1−28085
position-sensitive X-ray detector, digital encoding method 1−28818
signal averager interface between a Biomation 6500 transient recorder and an LSI-11 microcomputer 1−40765
stellar spectral classification, present state and future developments of automatic techniques 1−54396
temperature pulse memory device, specific heat measurement 1−18230
thermocouple temperature signal acquisition and digitisation package, Burr-Brown MP32 1−5291
two-channel digitising recorder for microsecond signals 1−40775
$LiNbO_3$:Ti interferometric waveguide electro-optical A/D convertor 1−24486

analogue memories *see analogue storage*

analogue simulation
electronic simulation of acoustic emission 1−33851
neural-type ccts. first-order system incorporating hysteresis, analogue simulation 1−43861
viscous flow conductance in non-stationary vacuum system, analogue simulation, nonlinear resistance unit 1−40801
MnO_2 porous electrodes during discharge, nonlinear simulation of current distribution and potential profile 1−53432

analogue storage
see also sample and hold circuits
12-channel X-ray register for laser plasma diagnostics 1−46924

analytical chemistry *see chemical analysis*

anaphoresis *see electrophoresis*

AND gates *see logic gates*

Anderson model
alkali halide crystals, bulk modulus temp. depend., Anderson parameter 1−42449
alkali metal atom adsorption on transition metal surfaces with allowance for image pot. 1−25576
alloy, liq. binary, density of states theory inc. local atomic configs. 1−25605
alloy, random binary, average partition function of electron 1−38702
alloys, density of states and cond., Monte Carlo technique 1−20604
amorphous semiconductor, Anderson negative-U model of excitations and metastability 1−47575
analyticity breaking and Anderson localization in incommensurate lattices 1−7114
band-centre and band-edge electrons, localised states 1−16248
chemisorbed atom, density of electronic states 1−25787
diagonal and off-diagonal correlation effects 1−47573
disordered, one-dimens., DC cond. and localisation props., numerical method 1−30691
disordered electronic system, field theory and Anderson model 1−42722
disordered linear chain cond., Kubo formula, evaluation for Anderson model and Cauchy energy distrib. 1−38765
disordered one-dimenaional systems, localised states, kinetic props. *(Russian)* 1−42721
disordered semiconductors, quantum statistical theory of transport by localised carriers 1−2962
disordered solid, conductor-insulator transition in Anderson model 1−42693
disordered system, decimation and Anderson localization 1−12070
doped semiconductor, hopping and delocalisation, electron-electron interactions effect, Coulomb gap 1−47651
doped semiconductor, metal-insulator transition, cluster model approach 1−47478
doped semiconductor, metal-insulator transition, upper Hubbard band position and props. 1−47477
doped semiconductor, optical meas. of approach to Anderson transition 1−48127
energy gaps in glassy materials, existence arguments eval. 1−12021
field theory approach, localization as an alternative to Goldstone's theorem 1−52458
impurity-lattice relax. for simple mixed-valence impurity model, Fermi-liquid theory 1−38747
intermediate valence compounds, mag. susceptibility in simplified Anderson model, f levels split by cryst. field 1−34841
intermediate valence compounds, magnetic order absence, diamagnetism, Anderson model 1−35124
Kondo state in periodic Anderson model, theory 1−30912
local spin magnitude in symm. case 1−47571
localisation, an introduction 1−30609
localisation, finite size scaling approach 1−40719
localisation and localisation edges−a precise characterisation 1−52517
localisation in two-dimensions, renormalisation group study 1−42666
localisation problem in $d \leq 2$ dimensions, diagrammatic self-consistent treatment 1−25664
localised moment in metal, exact soln. of Anderson model 1−20946
metal-insulator transitions at high pressures 1−30634
metals, disordered two-dimensional system, conductivity, Hall effect 1−52545
mixed valence compounds, magnetic re-entrance phase diagram, Anderson lattice model 1−7842
Mott-Hubbard-Anderson model, modified, unrestricted Hartree-Fock pseudocluster calc. 1−47572
naphthalene crystals, isotopically mixed, Anderson transition in vibronic exciton bands 1−48108
non-Ohmic effects, scaling argument for conductance 1−47574
one-dimensional Anderson model, real space renormalisation 1−30607
periodic Anderson model, mag. susceptibility calcs. 1−20965

Anderson model continued
phthalocyanine, metal-free, energy levels due to transition metal impurities 1−7555
quantum particle mobility in three-dimensional random potential 1−47598
quantum particle moving in three-dimens. random pot. approx. theory 1−47475
ruby, nonradiative resonance energy transfer, absence of Anderson transition 1−31187
semiconductor, with impurities, topologically disordered system, theory, random cell model 1−30252
semiconductors, doped, single-particle energy levels below metal-nonmetal transition 1−47566
single-impurity Anderson model with boson interactions, zero-temperature phase diagrams 1−52743
statistical test using correlation functions 1−30680
strong disorder case, analytical soln. by recursive method 1−38749
strongly disordered two-dimens., systems, elec. cond. size depend., Anderson model calc. 1−42736
topologically disordered system lattice model, Anderson's transition 1−2594
two-dimensional systems, Anderson localisation *(Japanese)* 1−12057
valence-fluctuation system, ground state and mag. response 1−20673
valence-fluctuation system, variational ground states and mag. responses 1−47583
$Fe_3O_{4-x}F_x$, Anderson localisation of charge carriers in high temp.phase, resist. and thermopower meas. 1−12154
H atom disordered ring, localisation, Anderson model 1−20664
$Na_xTa_yW_{1-y}O_3$ bronzes, elec. cond. and thermoelec. power, metal-nonmetal transition 1−12156
PbS-Si heterojunction, capacitance-voltage and I-V charcts., energy band diagram 1−30816
Si MOS inversion layer, at low densities, Anderson localisation 1−30830
Si MOS inversion layers, negative magnetoresistance 1−52657
Si, vacancy states, theory. Anderson negative U model 1−47540
Si:P, metal-nonmetal transition related data review 1−47474
$Si-SiO_2$ interface, polaron and bipolaron states in inversion layers 1−7694
$Si-SiO_2$ MOSFET, non-metallic cond. at low temp., two-dimens. behaviour 1−7753
IT-TaS_2, Hall effect, magnetoresistance, thermoelectric power 1−47685
$TaS_{2-x}Se_x$(IT), elec. and mag. props. of Anderson localised states 1−47714
TaS_2(1T), Mott versus Anderson localization 1−12034
IT-$Ta_{1-x}Ti_xS_2$, metal-nonmetal transition 1−47472
ZnO/CdTe heterojunctions, spray pyrolysis prepared, photovoltaic props. 1−3004

anechoic chambers
complex radiation impedance presented to vibrating plate in reverberant room containing rotating diffuser, near field measurement 1−24599
reverberation chamber, variance of sound power radiated by higher order sources 1−19525
reverberation chambers, monotonic curvature of LF decay records 1−24598
wind tunnel for examining jet noise and flight effects 1−19495

anelastic relaxation
see also Bordoni effect; creep; elastic aftereffect; internal friction; Snoek effect; stress relaxation; Zener relaxation
elastic and relaxation properties determination, materials in solid and liq. state 1−53372
organic monomolecular film, thermal-mech. props. detected by vibrating reed 1−52457
polymeric materials, relaxation processes, time integral charcts. of four-parameter description 1−15424
polymers, combined relax. spectrosc. investigs. 1−38447
polymers, mechanical relaxation under hydrostatic compression, test installation 1−16995
polymers, oriented, semicryst., mech. relax. and moduli meas. 1−30324
polymers and polymeric composites, heredity functions calc. using inverse Laplace transforms 1−46682
polyurethane model networks, relaxation and equilibrium behaviour 1−53228
polyvinyltrimethylsilane, eval. of branching on basis of temp. depend. of mech. losses 1−42459
slow processes, obs. by laser interferometry 1−16991
Wood's alloy, elastic and relax. props. determ. in solid and liq. state 1−53372
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, anelastic relax., temp. and stress depend. 1−35296
Nb, lattice distortions and elastic relax. energies due to interstitial H 1−7163
Ni, lattice distortions and elastic relax. energies due to interstitial H 1−7163
Pd, lattice distortions and elastic relax. energies due to interstitial H 1−7163
Sn-Pb superplastic alloys, anelasticity 1−15951
Ta, lattice distortions and elastic relax. energies due to interstitial H 1−7163
V, lattice distortions and elastic relax. energies due to interstitial H 1−7163

anelasticity
see also anelastic relaxation
brittle material, modelling of inelastic deform. induced by rigid indenter 1−34419
creep, micromechanical modelling using distributed parameters 1−38438
glass, anelasticity and internal degrees of freedom 1−42458
model deformation, constitutive model, physically-based 1−8363
Nimonic 90, creep, friction stresses and anelasticity 1−12837
stochastic model of anelastic deform. in creep *(Czech)* 1−47153
subgrain boundaries, numerical study of long-range internal stresses 1−25289
Sn-Pb (38.1 wt.%), superplastic eutectic, transient behaviour, influence of anelasticity after stress and strain rate changes 1−8364

anemometers
see also laser velocimeters
atmosphere boundary layer turbulence, Mk 8 thrust anemometer 1−49410
combined simultaneous flow visualization/hot-wire anemometry for the study of turbulent flows 1−38034
constant temperature, for dynamic flow meas. *(German)* 1−29806
cup anemometer overspeeding, Kansas mast effects, reevaluation 1−9200
discrete particle laser Doppler anemometry data processing 1−29815

anemometers continued
Doppler laser anemometry *(Italian)* 1−46824
electronic anemometer, using diode sensor, 741 IC op. amp. *(Spanish)* 1−46832
heat loss anemometer using pair of bare transistor chips, battery-operated, wind speed meas. 1−32537
heterodyne CW CO_2 laser Doppler backscatter anemometer 1−49405
hot wire anemometer, calibration of lineariser 1−19845
hot wire anemometers for low speed wind tunnels *(Italian)* 1−2115
hot-film, calc. of square wave test for frequency optimization 1−34030
hot-wire, behaviour in low velocity air flow 1−29803
hot-wire anemometer meas. of turbulence in presence of temp. fluctuations 1−42109
hot-wire calibration in pressurised N_2 at low vels. 1−2109
intraoral air flow meas. during vowel phonation using array of hot wire anemometers 1−8884
laser, air flow velocity meas. among fan blades *(Slovak)* 1−46828
laser anemometer system for velocity meas. in laminar and turbulent flow in pipes 1−24903
laser application, optical system and Doppler signal processors *(Czech)* 1−46420
laser Doppler and induced fluorescence anemometry comparison 1−42113
laser Doppler anemometer, optimum code in single-particle vel. estimation 1−2117
laser Doppler anemometer for turbulent flow meas., stochastic velocity data analysis *(Slovak)* 1−46827
laser Doppler anemometry measurements carried out for JCE project on engines, anal. of expt. errors 1−2116
laser Doppler velocimeter, principles *(German)* 1−29805
non-perturbative anemometric and flow visualisation technique 1−15559
pipe flow turbulent boundary layer, exam. of coherent structures using laser-Doppler anemometry 1−2120
polymer solutions, electrodiffusion anemometry 1−15516
pyroelectric, flow measuring system 1−42115
rotating hot-wire prove for small vel. vector meas. 1−54286
scanning laser Doppler anemometer system, for atm. turbulence remote meas. 1−49428
small-tube laser anemometer system design and signal processing 1−42114
steps, two-dimens. recirculating separation flow; pulsed wire anemometer meas. 1−19737
temperature errors of a constant resistance hot wire anemometer with thermal compensation *(Russian)* 1−34024
thermal anemometry bibliography 1−36472
thermistor anemometer for velocity meas. in variable temp. flow 1−34026
thermistor as sensor *(Spanish)* 1−4657
time-of-flight laser anemometer for remote meas. of wind velocity 1−44350
turbulence intensity meas. in canine ascending aorta with hot-film anemometer *(Japanese)* 1−39958
turbulence of marine boundary layer, tri-axial thrust anemometer design 1−44334
turbulent boundary layer research, experimental techniques 1−2119
turbulent flow over a plane normal wall 1−33947
two-phase flow, laser Doppler anemometry, system theoretical approach 1−29814
wind speed and direction meter, display circuitry and testing 1−44348
wind speed and direction meter for racing yachts or met. stations 1−54284

angle measurement *see angular measurement*

angular correlation techniques
automatic control of spectra measurement for annihilation α quanta 1−51065
e^+e^- annihilation, angular correlation spectrometer with programmable multicycle algorithm 1−37080
γ-γ angular correl. using Ge detectors, solid angle corrections 1−24002

angular measurement
see also angular velocity measurement
air-brearing units for linear and angular transducer quality control *(German)* 1−27948
cone angle of male tapers, measurement based on principle of self-deviation 1−14101
deviation measurement in transportation vehicles, capacitive transducer appl. 1−40755
digital angle transducers, theoretical foundations in designing systems for evaluating and maintaining quality 1−18212
engineering, overview of methods used 1−27922
flueric laminar jet angular rate sensor design 1−36626
Fraunhofer diffraction pattern fringe spacing method 1−14094
gyrogone, technical principles and appl. *(French)* 1−5281
HP 3820A, electronic total station for angle and distance measurement 1−223
HP 3820A, geometrical constraints distance and angle measurement system 1−224
HP 3820A station, non contact coordinate measurements with digital theodolites 1−225
laser interferometer bevel angle measurement for spreading resistance profiling 1−32957
laser interferometer for measurements in the horizontal plane 1−23297
liquid crystal tilt angle, retardation extrema method 1−38278
machine tool calibration, angle gauge blocks *(German)* 1−23170
optical fibre break angle meas. technique 1−46577
optical indexing head, high-precision, error determ. using polyhedral prism 1−37638
optical system, HP 3820A distance and angle measurement station 1−1665
position encoder using airtight EM contacts 1−44882
precision rotary table *(German)* 1−27913
reflector for triaxial angle-measuring devices 1−11063

angular momentum
asymptotically flat spaces, near and far field regions 1−18101
binary stars, semi-detached, effect of orbital ang. momentum non-conservation on evolution 1−36332
disc-satellite interactions, astrophysical, angular momentum and energy transfer rates 1−32614
EM, static, observability 1−23028
equivalent electrons, angular momentum eigenstates 1−40628
nuclei, symmetry description of the independent particle model 1−5709
rotating fluid masses, surface tension, ang. speed, ang. momentum and nonconnected shapes 1−44768

angular momentum continued
rotational excitation, orbital angular momentum, infinite order sudden approximation 1−14981
spiral galaxies, mass-angular momentum density relation 1−4977
in stars, time scale of secularly unstable stellar rot. 1−27482
^{3}He, superfluid, A-phase and A_1-phase, mag. field induced supercurrents 1−11942

angular momentum theory
see also quantum theory; Regge poles and trajectories
3 j-m symbols, special relations 1−14049
angular velocity, rotating rigid body Euler angles 1−49895
coupled product operators, algebraic evaluation of closed diagrams 1−5138
decoupling approximations, recoupling method 1−1313
Fermi-Segre formula, generalisation 1−113
formulae for $\mathcal{Y}_{lm}(\mathbf{r}_1\times\mathbf{r}_2)$ 1−119
magnetic ions, cryst. field effects, numerical method of determ. 1−25674
magnetic multipoles in nonresonance time dependent fields 1−5350
many-electron atoms theory, quasi-spin method for jj coupling 1−5152
Wigner angular momentum operators, Lie algebra, eigenfunctions and eigenvalues 1−5531

angular velocity measurement
electro-optical techniques applications in metrology 1−23295
electromagnetic angular-velocity converter 1−50111
fibre optic inertial frame rotation sensors, design approaches 1−36647
fibre optic ring interferometer, optical rotation sensor based on Sagnac effect *(German)* 1−19459
laser sensor nonsensitive zone anal. *(Russian)* 1−27937
NMR cross polarisation magic angle spinning tests 1−28043
ring laser resolution estimation *(Russian)* 1−240
rotational speed meas. using rotoscope *(French)* 1−50185
surface shear viscosity measurement method using decay of surface motions at rotated gas-liq. interface 1−38621

animal communication *see biocommunications*

anisotropy, magnetic *see magnetic anisotropy*

anisotropy, magnetocrystalline *see magnetic anisotropy*

annealing
see also graphitising; laser beam annealing; magnetic annealing; recrystallisation annealing; solution annealing; stress relaxation
alkali halide crysts., doping with Pb ions by thermal treatment, annealing, optical absorpt. meas. 1−7186
alloy, ion-implanted and annealed, thermal evolution to equilib. 1−7195
alloys, heat-resistant, recrystallisation-thermal etching of local plastic strain 1−43602
amorphous alloy, ferromag., annealing and fabrication conditions, effect on mag. props. 1−12765
anthracene, annealing influence on fluorescence, dislocation generation *(Russian)* 1−31196
anthracene crystal, annealing influence on low-temp. fluorescence, exciton *(Russian)* 1−35096
anthracene crystals, generation and annealing of dislocations, fluorescence spectra *(Russian)* 1−20207
Astroloy, grain boundary void nucleation, produced by room temp. deform. and anneal. 1−8350
brass cartridge cases, stress corrosion susceptibility, low temp. annealing effect 1−53222
chalcogenides, amorphous, valence states, thermally and photoinduced changes, UPS study 1−52471
diffusion couple, displacement of layer of intermetallics precipitated during diffusion *(Russian)* 1−38601
dilute alloy, dopant-vacancy interactions *(French)* 1−2500
elastomers, segmented, morphological changes, DSC anal. 1−35277
FCC metals and alloys, Hall-Petch relation appl., effect of prestrain 1−3845
ferromagnet, amorphous, permeability relaxation, annealing effects 1−25983
garnet bubble films, mag. transition temp., ion-implantation, and annealing effects 1−38958
garnet film, laser annealed, mag. props., ferromag. reson. and bubble statics meas. 1−12367
garnet LPE film, defect generation during annealing 1−20590
glass, flat, calc. of stresses produced by heat treatment 1−16823
glass, silicate, low alkali, tracer-diffusion meas. 1−2678
Hastelloy alloy S, order-strengthening 1−16815
Incoloy 800 type, high temp. creep, effect of precip. strengthening 1−31547
Inconel 600, stress corrosion in hot soda solns., effect of additions and annealing *(French)* 1−39529
interference coating, moisture content determ. by IR spectroscopy, vac. annealing effect 1−52414
internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
low C, cold rolled microstruct. and recrystallisation *(French)* 1−21478
magnetic bubble circuit, ion implanted, annealing 1−7915
metallic glass, short range order modelling 1−25178
molecular crystals, radiation defect annealing model, diffusion kinetics *(Russian)* 1−20476
MOS structure, RF annealing mechanisms 1−16371
n-n^+ layer-substrate interface, LPE, high resist. layer removal by in situ etch-back 1−43554
nichrome alloy EI435, wires, texture formation during cold draining and annealing *(Russian)* 1−39346
oxidation, LEED, AES and thermal desorpt. study 1−21621
Permalloy, cold-rolled, magnetoelastic effect in ferromagnet, struct. and processing effects 1−34917
PET, annealing effect on morphology and melting behaviour 1−16811
PMMA, density and mech. props., effects of thermal history 1−35327
α-poly(vinylidene fluoride) film, surface nucleation effect on crystallisation 1−11694
polycaproamide, modified with polyethylene glycol, struct. of fibres and granules *(Bulgarian)* 1−7089
polycarbonate, effect of sub-T_g annealing on CO_2 sorption 1−30566
polycarbonate, fracture toughness, effect of stress cracking 1−48496
polycarbonate as a photoelastic material 1−26705
polycarbonate films, effect of corrosive agents and temp. on physiomech. props. 1−26646
polyethylene, fractionated, crystallisation, quenched from liq. state 1−20079
polyethylene, high modulus, elongational flow effect on continuous processing *(Japanese)* 1−8266

annealing continued
polyethylene, low density, drawn and annealed, transport props. meas. 1−43362
polyethylene, low density, ductile-brittle transition 1−53275
polyhydroquinone, semicond., AC cond., Meyer-Neldel rule 1−7611
polymers, dispersed, crystallisation, quenched from liq. state 1−20078
polypropylene, tape, retraction 1−35289
polystyrene-polybutadiene-polystyrene copolymers, and blends, morphology rel. to mech. props. 1−35273
quartz, cryst., neutron irradiated, low temp. specific heat and thermal cond. meas. 1−38551
quartz, natural, synthetic fluid inclusions, formation 1−47155
semiconductor, ion implantation, review, book contrib. 1−47107
steel, 45 and 30KhGSNA, magnetoelastic effect in ferromagnet, struct. and processing effects 1−34917
steel, alloy, fatigue strength of polished specimens, small plastic strains effect 1−3924
steel, austenitic stainless, creep, effect of prior cold working 1−3840
steel, austenitic stainless, evaporation of elements during vacuum annealing 1−30399
steel, austenitic stainless, for thermonuclear reactors, ferromag. phase precipitation 1−35259
steel, austenitic stainless, oxide morphology, differences on large- and small-grained material 1−43604
steel, austenitic stainless Cr-Ni, N segregation on (100) surface, LEED and AES obs. 1−20525
steel, C, calorised coatings of Al, stability, temp. and annealing time effects 1−3988
steel, C, fatigue strength of polished specimens, small plastic strains effect 1−3924
steel, C 1−53266
steel, Cr-Mo-Ni-V, welded joints, cold cracking susceptibility *(Czech)* 1−12853
steel, Cr-Mo-V, dislocation stability during high temp. exposure *(Czech)* 1−7175
steel, dual-phase, Nb-microalloyed, intercritical annealing temp. effect on struct. 1−16814
steel, dual-phase microstruct., importance of epitaxial ferrite 1−26499
steel, low alloy, neutron irrad., plastic flow at high strain rates 1−48438
steel, low C, ductility improvement by warm rolling and annealing 1−53238
steel, low C, type SKF-REMKO, mag. props., review 1−3221
steel, mild, cold-rolled, 3D anal. of recrystallised textures *(Japanese)* 1−26495
steel, N-Cr-Mn, containing ferrite, precipitation and corrosion after isothermal annealing 1−53185
steel, P textured sheets with high normal plastic anisotropy, elastic props. calc. 1−43402
steel, stainless, 304 and 310, phase transition role in hydrogen embrittlement 1−43333
steel, stainless, calorised coatings of Al, stability, temp. and annealing time effects 1−3988
steel, stainless 316, discontinuous strain obs. in annealed tubes 1−43505
steel, stainless type 304, influence of prior deform. on continuous cooling sensitisation 1−16806
steel, surface properties of cold rolled sheet, ion microprobe anal. 1−30406
steels, microalloyed, types StE36 and St52-3, embrittlement phenomena, effect on welding behaviour *(German)* 1−43472
thoriated W filaments in alloy matrix, interaction at 1200-1600°C 1−16106
Zircaloy-2(4), low temp. (4.6K) fast neutron irradiation, dose and recovery studies 1−7212
Ag, film, annealing effect of internal stress *(Japanese)* 1−2851
Ag film with $Bi_{1-x}Sb_x$, Sb overlayers, annealing behaviour, elec. resist. meas. 1−34809
Ag-Al, surface segregation and precipitation phenomena 1−16780
Ag-glass interfaces of solar mirrors, Auger anal. of diffusion 1−12910
Ag-Zn, vacancy enhancement of diffusion after quenching and during irrad. 1−7369
Al, electrical resistivity, effect of annealing on temp. depend. 1−34674
Al single cryst., structural changes due to multiple deform. *(Russian)* 1−34351
Al single crystals with low dislocation density, annealing kinetics of vacancies 1−8345
Al, superpure, recrystn. and grain growth effect of free surface *(Chinese)* 1−35272
Al-Al_4Ca eutectic alloy, with microduplex struct., tensile props., depend. on grain size 1−48449
Al-Cu (1-12 at.%), splat-cooled, X-ray diffr. line anal. 1−7131
Al-Cu dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Cu sputtered films, Cu distrib., AES and SEM study 1−30582
Al-Fe metastable alloys, ion implantation prod., thermal migration of Fe 1−7393
Al-Ge dilute alloy, magnetoresistance meas. after neutron irrad. 1−47614
Al-Mg-Zn, fully annealed, stretcher strain marks and stress corrosion *(French)* 1−3773
Al-oxide-Pb tunnel junctions, voltage annealing 1−16383
Al-Si alloys, quenched 1−38370
Al-Si based alloys, SAS1-50, microstruct. and dimensional stability, electron microscopy study *(Russian)* 1−30228
Al-Si_3N_4-Si, interface charge beneath laser-annealed insulators 1−3070
Al-Si-Ni, alloy SAS1-400, microstruct. and dimensional stability, electron microscopy study *(Russian)* 1−30228
Al-SiO_2-Si, interface charge beneath laser-annealed insulators 1−3070
Al-Sn, 0.03 at.%, irrad.-induced defects, trapping by Sn atoms, channelling-backscatt. study 1−11793
AlGaAs-GaAs solar cells, 200 keV proton irradiated, I-V characts. and deep level defects, effects of thermal annealing, expt. 1−48855
AlN sputtered films, elec. props. and interface anal. by AES 1−34818
Al_2O_3, corundum, dislocation structure in large crystals 1−20212
α-Al_2O_3, quenched, violet luminesc. under UV excitation 1−26267
Al_2O_3, sintered, exoelectron dosimetry material, enhanced by annealing 1−8352
AmO_2 lattice expansion, 38 to 300K 1−47262
Ar, low temp. (4.6K) fast neutron irradiation, dose and recovery studies 1−7212
As-Se-Sb system, glass form. region and elec. props., devitrification charcts. 1−30080
As_2S_3, photoinduced refractive-index changes *(Japanese)* 1−46473
annealing continued
$As_{40}S_{25}Se_{25}Ge_{10}$, photoinduced refractive-index changes *(Japanese)* 1−46473
Au dendrite on graphite, crystallite self-diffusion, thermal treatment *(French)* 1−30605
Au-Al intermetallic compound formation 1−2707
Au-Fe, precipitation of α-Fe after annealing, Mossbauer study 1−7986
Au-Ni, weak ferromagnetism and elec. props. 1−42981
Au-Si metastable alloy formation induced by ion-beam interface mixing 1−52160
Au-SiO_2-Si capacitor, dipole layers at metal-SiO_2 interface 1−3067
$AuAgZn_2$ alloy, X-ray study of Heusler-type ordering 1−25200
$AuAl_2$, colour changes induced by cryst. imperfections *(German)* 1−8099
$Au_{0.95}Mn_{0.05}$ spin glass, annealing-induced phase separation, EXAFS study 1−21010
BaF_2, neutron irrad. induced point defects, ^{20}F NMR study 1−2528
BaF_2 single crystal, strengthening by oxidation during annealing 1−21458
$BaFe_{12}O_{19}$ ferrite, form. from $BaCO_3+Fe_2O_3$ roll scale, kinetics and mech. 1−39601
BaO:OH^- crystals, annealed, IR absorptions meas. 1−3443
BeO ceramic, thermoluminescence spectra, band struct. 1−3514
Bi films, amorphous, vacuum-deposited, superconducting transition, crystn. 1−47776
Bi-MnBi composite, mag. props., effects of plane-front solidification and heat treatment 1−12345
C, surface struct. and chem. comp., functional groups synthesis 1−53466
CO, non-equilibrium defects created by HCP⇌FCC phase changes, positron trapping study 1−8156
$C_{40}Ti_{59}$, amorphous, quenched-in resist. rel. to atomic movements 1−34675
$Ca(ClO_3)_2$ crystals, gamma-ray radiation damage, isothermal annealing 1−11787
$Ca(ClO_3)_2.2H_2O$ crystals, gamma-ray radiation damage, isothermal annealing 1−11787
CaF_2, neutron irrad. induced point defects, ^{20}F NMR study 1−2528
Cd hexagonal metals, plastic deformation 1−43410
$CdCr_2Se_4$ single crysts. elec. and mag. props., nonstoichiometry effects 1−2967
$Cd_xHg_{1-x}Te$, photoelectric props. obtained by chem. diffusion 1−16311
CdS layers, polycrystalline, anomalous temperature dependence of dark current 1−20890
CdS, luminescence and photoelectric props. changes on annealing, defect formation *(Russian)* 1−21274
CdSb single cryst., diffusion and solubility of Ag 1−11907
CdSe thin film photoelectrodes, increase in solar energy conversion efficiency after annealing, struct. study 1−48870
CdSe:Ag^+, electrical and photoelectric properties 1−20821
$CdSnAs_2$, crystal defects from electron irradiation, effect on cond. 1−25326
CdTe, irrad. induced defects, photoluminesc. study 1−8112
CdTe:Fe, distrib. of mag. impurities, mag. props. meas. *(Russian)* 1−52170
Co grains dispersed in liq. Cu matrix, coarsening study 1−53182
Co, thermoelastic EMF, effect of annealing at α⇌β transform. temp. 1−42748
Co-Fe-Si-B amorphous alloys, struct. changes during heating 1−2330
$(Co_{0.83}Cu_{0.17})_6Ce$, struct. changes during ageing, mag. props. 1−31508
$(Co_{0.89}Fe_{0.11})_{72}Mo_3Si_{15}B_{10}$ metallic glass ribbon, induced mag. anisotropy 1−38928
$Co_{71.4}Fe_{4.6}Si_{9.6}B_{14.4}$ amorphous alloy, Lorentz electron microscopy 1−12339
$Co_{73}Mo_2Si_{15}B_{10}$ metallic glass ribbon, induced mag. anisotropy 1−38928
CoP layers, cylindrical, amorphous, non-annealed and annealed, influence of torsion on magnetic properties 1−52819
Cr, annealed, thermally etched, oxidation, 800 to 1100°C 1−31734
Cr-Au thin film deposited on Al_2O_3, Auger depth profiling 1−11995
Cr_2O_3-Cr black chrome solar selective absorber, metallurgical anal. and high temp. degradation 1−13176
Cu alloys, laser irrad. effect on props. *(German)* 1−38404
Cu, deformed, surface layer thermal loss of strength, annealing medium influence 1−35279
Cu, dispersion strengthened crystals, dislocation density effect on creep 1−26553
Cu, texture stability under fatigue conditions, computer simulation 1−3782
Cu tough-pitch bars, ductile fracture, annealing effect *(Japanese)* 1−26603
Cu:Pb single cryst. film, pulsed laser annealing 1−8341
Cu-Al (10 at.%), two-step annealing, recrystallisation *(Japanese)* 1−53197
Cu-Al (6-17 at.%), residual elec. resist., effect of low temp. plastic deform. and subsequent annealing *(Russian)* 1−8442
Cu-Al alloys, heavily deformed α_2 phase, stacking disorder and annealing behavior 1−15910
α-Cu-Al solid soln., rel. of mech. props. to fine struct. *(Russian)* 1−53208
Cu-Al_2O_3, oxide dispersion strengthened, diffusion of Ni 1−42586
Cu-based composite materials, fracture laws and singularities *(Russian)* 1−3885
Cu-Fe single cryst., deformed and annealed, struct. changes of Fe particles 1−43459
Cu-Ni-Zn single crysts., annealing effects on mech. props. 1−26520
Cu-Ti (0.7-0.9 wt.%), age hardening 1−21498
Cu-Ti polycryst. alloys, (1.6 at.%), mechanical and elec. meas. 1−43416
$CuGaSe_2$, edge luminescence spectra, impurity levels 1−8138
Cu_2O, crystal growth from melt, float zone techniques 1−3618
CuV_2S_4, synthesis conditions, comp. and mag. props. 1−43289
$Cu_{60}Zr_{40}$, cold-rolling and subsequent annealing, X-ray diffr., DTA and EM study 1−3783
Er-Si interfacial reaction, silicide form., ion implantation effect 1−38672
$(Fe,Ni)_{100-x}B_x$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
Fe, ageing, positron annihilation study 1−26516
Fe, Armco, magnetoelastic effect in ferromagnet, struct. and processing effects 1−34917
α-Fe, C-charged, electron irrad., mag. relax. after annealing above stage III 1−21016
Fe, cast, high-strength, annealability, S alloying effect 1−3720
Fe, cast, Ni additions, strengthening and toughening by heat treatment in eutectoid temp. range *(Japanese)* 1−53212
Fe, irradiated or deformed, internal friction peaks α and β_1 1−20313

annealing continued
α-Fe, modelling of defect displacement peak annealing *(Russian)* 1−47078
Fe oxides, hematitic, direct obs. of reduction, oxidation and annealing with aid of device for SEM *(German)* 1−31828
Fe-B amorphous alloys, annealed, metastable Fe_4B phase, electron diffr. and microscopy study 1−38287
Fe-Ni, dil., mag. relax. and aftereffect, low temp., after electron beam irrad. 1−7956
Fe-Ni (18 wt.%), ageing, positron annihilation study 1−26516
Fe-Ni-Mn-Ti (10, 5, 1.5 at.%), Mossbauer spectra, annealing and rolling effects on mag. props. 1−39013
Fe-Ni-Mo-C, reduction and decarburising annealing of atomised powders 1−31385
Fe-Ni-Ta (18, 6 wt.%), ageing, positron annihilation study 1−26516
Fe-Si (3 wt.%), deformed single crystal, texture form. upon recrystallization in transition bands 1−8327
Fe-Si (3 wt.%), deformed single crystal, secondary disperse phase effect on texture form. 1−8329
Fe-Si (3 wt.%), grain growth with (100) <1kl> orientation during annealing 1−8337
Fe-Si (3 wt.%), grain-oriented, mag. props., annealing coating and surface condition effects 1−8441
Fe-Si (3 wt.%), plastically deformed, dislocation struct. rel. to mag. anisotropy *(Russian)* 1−11750
Fe-Si (3 wt.%), small deform. effect on grain size and texture 1−8330
Fe-Si (3 wt.%), texture form. during manufacture of ribbon with rib texture 1−8328
Fe-Si alloy (6 to 7 wt%), ribbon form, prep. grain struct., coercive force, annealing 1−8251
Fe-TiC-Sb system, trapping of Sb by TiC precipitates 1−7389
Fe-C/Fe-C-Cr-Ni system, C diffusion in weldments, steady state model *(Czech)* 1−47282
α-FeAl, k-state heterogeneous SRO 1−25445
$Fe_{100-x}B_x$, amorphous and annealed, Lorentz electron microscopy study 1−30065
$Fe_{82}B_{18}$, glassy, annealing effects 1−8343
$Fe_{83}B_{15}$, crystn. study of amorphous alloy prepared by melt quenching from different temps. 1−11690
$Fe_{80}(B_{1-x}P_x)_{20}$ amorphous alloys, comp. depend. of crystn. 1−20070
$Fe_{82}B_{12}Si_6$, amorphous to cryst. transform., Mossbauer, X-ray diffr. and density obs. 1−11688
FeCoNi-SiB amorphous alloys, zero magnetostriction, heat treatment 1−3230
$Fe_{78}Mo_2B_{20}$, amorphous, anomalous thermal expansion on annealing, mag. struct. transitions 1−16069
$Fe_{40}Ni_{40}B_{20}$, $Fe_{40}Ni_{40}P_{14}B_6$, amorphous, free vol. change during isothermal annealing, thermal expansion meas. 1−34493
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, ribbon, power loss and domain wall spacing, stress effects 1−12349
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, Mossbauer study in transmission and scatt. geometries 1−26089
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, quenched-in resist. rel. to atomic movements 1−34675
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, struct. relax., positron annihilation study 1−47007
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, thermal expansion, annealing effect 1−30428
$Fe_{40}Ni_{40}P_{16}B_4$, thermal treatment effect as mech. props., TEM *(Russian)* 1−21492
$Fe_{29}Ni_{49}P_{14}B_6Si_2$, Metglas 2826B, thermal expansion, annealing effect 1−30428
Fe_2O_3 $[Na_2O.2SiO_2]_{1-x}[Fe_2O_3]_x$ glass, IR study of crystallisation 1−2336
Fe_3O_4, magnetite, temp. depend. of NMR at 10K 1−39006
$Fe_{90-x}Si_xB_{10}$, amorphous, magnetisation and annealing effect, temp. depend. 1−47905
FeW, μ-phase, amorphous, annealing behaviour 1−12766
GaAs, diffusion of Se, electron-pulsed, form. of n^+ regions 1−7187
GaAs, electron irradiation induced defects, annealing study 1−2426
GaAs, heavily doped epitaxial layers, pulse electron beam annealing effects 1−15928
GaAs, ion implanted, carrier removal and charge compensation, annealing effects 1−12125
GaAs, ion-implanted, struct. and elec. profile meas. 1−11779
GaAs, radiation defects, effect on properties, review 1−25319
GaAs, thermally annealed plasma-oxidized films, interfacial reactions, thermodynamically driven 1−21765
GaAs thin film solar cells with grain boundary edge stabilisation, thermal anodisation 1−48835
GaAs wafer, ion-implanted, semi-sealing capless anneal 1−21490
GaAs:B,Cr, low temp. Cr redistrib. and gettering in absence of encapsulant stress 1−15916
GaAs:Cr, B, Si_3N_4-capped, annealing of damage and redistrib. of Cr 1−20248
GaAs:Cr, semi-insulating Cr profile after annealing in H_2-As_4 atmosphere 1−2490
GaAs:Ge, ion implanted, elec. props. and photoluminesc. 1−47646
n-GaAs:O^+, carrier compensation 1−7638
GaAs:Si, radiation annealing 1−43373
$GaAs_{1-x}P_x$, ion implanted, annealing by swept line electron beam, luminescence study 1−3453
GaP:Mn(Cu), electron-bombarded, ESR study 1−31023
GaSb(As)(P), substrate, thermally annealed anodic films, oxide-substrate and oxide-oxide reactions 1−35570
Gd-Co amorphous films, bulk and surface reson. props. 1−12363
Gd-Fe(Co) amorphous thin films, perpendicular anisotropy rel. to O_2 adsorption 1−38926
Ge, (111) surface struct. after pulsed laser annealing 1−7433
Ge, absorption edge in direct transition region after fast neutron bombardment 1−30283
Ge clean surface, electrical conductivity, Hall mobility 1−52640
Ge, divacancy prod. and annealing, electron beam irrad., orientation depend. determ. 1−47081
Ge, radiation defect annealing, photoluminescence study 1−20262
Ge, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
Ge:Au, fast electron irrad., defect formation, annealing 1−20265

annealing continued
GeTE-MnTe-PbTe, physicochemical props., in GeTe-based solid solution region 1−16022
GeTe, homogeneity region 1−20411
Hg, electron irrad., defect prod. and recovery 1−52180
$Hg_{0.79}Cd_{0.21}Te$ epilayers, cond. types, carrier conc., Hall coeff. heat treatment effects 1−38871
$Hg_{1-x}Mn_xSe$, energy struct. in strong mag. field 1−12128
HgTe crystal, surface evaporation of Hg obs. using O^{5+} backscattering 1−8176
In-Bi dil., supercond., ultrasonic attenuation rel. to annealing time, mag. field 1−34828
In_2O_3:Sn RF reactively sputtered films, elec. props. *(Japanese)* 1−20882
InP, LEC grown twinfree crystal annealing technique 1−12646
InP:Cr, S ion implantation, sheet resistance, carrier density 1−2477
InP:Fe, Si implanted annealing, CVD SiO_2 encapsulation 1−38396
p-InSb, n^+-layer form. by ion bombard. and laser irrad. 1−21312
InSb, stoichiometry, temp. effect on (110) surfaces 1−47346
InSb:Zn p-n junctions fabricated by ion implantation with subsequent drive-in diffusion 1−3054
$In_{2-x}Sn_xO_{3-y}$ film, effect of ambient atmos. in annealing 1−2850
KBr, electron pulse induced transient defects, annealing, 400 to 700K 1−2437
KCl, irradiated with X-rays and γ-rays, ionic cond. 1−11899
KCl single crysts., dislocation distrib. change during thermal cycle annealing 1−42387
KCl, thermal and photothermal conversion of colour centres after high-dose electron irrad. *(Russian)* 1−16588
KCl:Pb, Suzuki-like phase nucleation, correlated thermal conductivity and ionic thermocurrent meas. 1−20487
$K_2S_2O_8$, paramagnetic centre form. during mech. treatment, ESR method 1−34923
$LaCrO_3$, synthesis conditions influence on elec. props. 1−2955
LiF, annealing kinetics, dislocation dipole distribution 1−2453
LiF laser windows, press forging and optical props. 1−29353
LiF, thermoluminesc., particle size effects, annealing at 300 to 400°C 1−48174
$LiNbO_3$, annealed and ion sputtered surfaces, EELS 1−39198
$LiNbO_3$:Ar, refractive index change due to ion implantation 1−26161
$LiNbO_3$:Fe, annealed in H_2, OH^- absorpt., spectral and ESR meas. 1−21241
$Li_2O.2SiO_2$ glass, ion implanted, phase separation and crystn. 1−30081
Mg-Al spinel, Al_2O_3 rich, precipitation strengthening *(Japanese)* 1−26485
Mg-Li constructional alloys, fracture toughness 1−53287
MgF_2 interference coating, moisture content determ. by IR spectroscopy, vac. annealing effect 1−52414
MgF_2, neutron irrad. induced point defects, ^{20}F NMR study 1−2528
MgO, atomic C, elec. cond. study 1−20733
MgO, heat treated, SEM cathodolum. studies 1−3498
MgO, heavy ion implanted, annealing by proton bombardment, defect absorption bands, expt. 1−11794
MgO:Fe^{3+}, impurity distrib., EPR study 1−7205
MgO:$Li^+(Na^+)(K^+)$, ion implanted, thermal colloid development, TEM obs. 1−2641
Mn hexagonal metals, plastic deformation 1−43410
Mn_2O_3-Cr_2O_3 system, phase diagram determ. in air, X-ray diffr. study 1−21433
Mo, CVD on graphite, struct., annealing effects 1−12668
Mo CVD thin films for high-power laser mirrors 1−37588
Mo thin film, highly reflecting, high solar absorptance 1−12594
Mo-TiC, alloy 4605, effect of heat treatment of struct. and mech. props. 1−43384
MoCo, μ-phase, amorphous, annealing behaviour 1−12766
MoS_2 crystal struct., synthesis conditions effect 1−7141
Na_3AlF_6 interference coating, moisture content determ. by IR spectroscopy, vac. annealing effect 1−52414
NaCl, γ-irradiated, F-centre decay, aquoluminesc. 1−8135
NaCl:Ca, air grown, thermally annealed, crit. flow stress, IR absorpt. meas. 1−7245
$Na_2S_2O_8$, paramagnetic centre form. during mech. treatment, ESR method 1−34923
Nb, deformed, H and D effect on internal friction 1−12785
Nb film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532
Nb film, single cryst., Ar implantation and vacuum annealing effect on supercond. props. *(Russian)* 1−30859
Nb, superconducting transition effects on acoustic losses, audiofreq. attenuation meas. 1−30860
Nb, surface chemisorbed coatings, secondary yield, XPS study 1−16168
Nb-Zr (5 at.%), Zr depletion profiles after high temp. vac. annealing 1−8331
Nb_3, H cold work peak 1−8338
Nb_3Al, superconductivity and metallurgy 1−52682
Nb_2O_5-barrier tunnel junctions, fabrication and elec. characts. 1−7778
$Nb_{80}Si$, amorphous thin films, supercond., resistivity, T_c after S ion irrad., annealing effect 1−42883
Nb_3Sn, multifilamentary, formed by solid state diffusion, growth, and struct., supercond. props. 1−48301
Nb_3Sn, surface chemisorbed coatings, secondary yield, XPS study 1−16168
Ni alloy, heat and corrosion resistance depend. on thermal treatment of type EP958VD alloy *(Russian)* 1−16963
Ni alloy/TiC fibre interaction, on annealing *(Russian)* 1−3793
Ni film on Si substrate, alteration of Ni_xSi formation by ion implantation 1−47396
Ni-Al alloy, ion implanted, anneling behaviour, time evolution of conc. profiles, solubility and diffusion coeffs. 1−30254
Ni-B amorphous-like alloy film, electroless plating deposition using DMAB reducing agent, crystallization and magnetic props. *(Japanese)* 1−47006
Ni-Cr-Fe, secondary ion emission yield variations 1−3551
Ni-Cr(Al)(Cu) matrix, composition influence on Ni diffusion into W fibres *(Russian)* 1−47294
Ni-Cu (30 wt.%), effect of working temps. on recrystn. behaviour 1−16802
Ni-Cu (30 wt.%), recrystn. grain sizes, effect of working temp. before annealing *(Japanese)* 1−3765
Ni-Cu system alloys, irradiated, high-temp. annealing, elec. cond. depend. *(Russian)* 1−35288
Ni-Mo-Mn soft magnetic alloy 79NM, purity effect on mag. props. 1−42982

annealing continued
$NiFe_2O_4$, ferrospinel form. mechanism and kinetics from inequimolar Fe_2O_3-NiO mixture 1−53401
Ni_4Mo, near-surface ordering during in situ annealing, FIM study 1−47342
NiO, subboundary migration, climb process obs., diffusion coeff. for mass transport *(French)* 1−16099
O_2, solid, Mossbauer studies of implanted ^{57}Co 1−47987
Pb-Ge system, metastable solid solution form. and decomp. 1−21418
$Pb_5Ge_3O_{11}$ film on Si substrate, preparation and props. 1−16204
PbO, props. for electrophotography 1−18321
$Pb(Sc_{0.5}Ta_{0.5})O_3$, B-site cation disorder role in diffuse phase transition, props. 1−3340
PbSe, dec levels in band gap created by intrinsic point defects 1−47551
PbTe:I, Soret effect, I redistrib. during gradient annealing 1−2702
$PbTiO_3$, amorphous, dielec. const., temp. depend., crystn. behaviour 1−26137
$PbTiO_3$, amorphous, grain-size development during crystn. 1−42310
$Pb(Zr, Ti)O_3$ based solid solns., piezoceramic material props. after annealing 1−21128
Pd-H films, pressure-conc. isotherms and resist. props. 1−20554
Pd-Ru (6 wt.%), recrystn. 1−48368
Pd-Si, amorphous and cryst., silicide form. at interface, Raman scatt., and Rutherford backscatt. study 1−52441
Pd-Si-Cu, most stable metallic glass from phase diagram 1−53159
Pd-V, clean surface prep. by annealing and Ar ion sputtering, AES obs. 1−21317
Pd_2Si-PdSi thin film system, thermal stability, reversible phase transform. 1−25581
$Pd_{80}Si_{20}$, metallic glass, elec. resistance, irrad. induced defects 1−25690
$Pd_{82}Si_{18}$ glass, structural relax., viscosity changes during isothermal annealing 1−21486
Pt, catalytic active sites, ion bombardment and FEM study 1−25537
Pt_2Si_3, ion beam induced metastable phase, elec. cond., order-disorder transform. 1−16275
Pt_2Si_3 metastable phase, ion beam induced formation, struct., props. 1−15838
Sb, VPE growth on Sb {111}, RHEED study 1−53105
Se film, amorphous, crystn. in electrostatic field, morphology 1−47398
Si (100) surface, atomically cleaned low temp. annealed, residual damage 1−7213
n-Si, (100) surface, electronic properties, surface treatment effects *(French)* 1−7701
Si, (111) surface struct. after pulsed laser annealing 1−7433
Si amorphous film, as-evaporated and annealed magnetoresistance meas. 1−52585
Si, amorphous hydrogenated, light-induced radiative recomb. centres, photolum. study 1−26251
n-Si, annealing influence on dislocation source density 1−20228
Si, CVD polycryst. films on (100) Si, epitaxial alignment 1−16197
Si, Czochralski crystal, intrinsic gettering using microdefects, double preannealing technique 1−15886
Si, Czochralski crystals, annealed at 800°C, oxygen-related donors, spectral study 1−26255
Si, Czochralski grown, annealed, rod-like defects, self-interstitial nature, model 1−20243
Si, Czochralski grown, O precipitation and redistrib. 1−3742
Si deformed crystal dislocation recovery during annealing *(Russian)* 1−48376
Si, diamagnetic susceptibility, temp. depend. *(Rumanian)* 1−16424
Si diffused solar cells, bias-dependent electron radiation damage 1−13143
Si, dislocation-free, anomalous X-ray transmission after electron irrad. 1−47114
Si, donors, new type, photolum. anal. 1−47556
Si film deposited in solid phase epitaxy, growth conditions 1−47402
n-Si, γ-irrad., electrically active interstitial defects 1−2510
Si, ion implanted, scanning-electron and pulsed-laser annealed, struct. and elec. props. 1−42401
Si ion implanted layers, high-speed scanning electron beam annealing 1−20269
Si, ion-implanted, high dose rate, nonuniformity of sheet resist. following thermal anneal 1−52166
Si, ion-implanted, lattice damage annealing, photoluminesc. study 1−11776
Si ion-implanted wafers, α-quartz formation by pulsed laser irrad. 1−7203
Si, laser annealing and lattice melting 1−31244
Si, neutron-irrad. crysts., healing of radiation defects by annealing 1−42433
Si, oxidation induced stacking faults, SEM obs. 1−25295
Si, polycrystalline, photocond. and absorption coeff. after plasma hydrogen annealing 1−38809
Si polycrystalline, recrystallization 1−53201
Si, pulsed laser-annealed, solid solubilities of B, Al, Ga, P, As and Sb dopants 1−11865
p-Si, recomb. props. of O complexes after annealing and γ-ray irrad. 1−20765
Si, resistivity meas., influence of O_2 1−2979
Si, solar cell fabrication by ion implantation and laser annealing 1−4186
Si, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
Si, twisted, dislocation networks, TEM study 1−20225
Si:As, front and back surface annealing, scanned CW CO_2-laser irradiation 1−2475
Si:As, implantation damage and annealing effect, amorphous layer form., ellipsometric obs. *(Chinese)* 1−20244
Si:As polycryst. films, As segregation to grain boundaries 1−20387
Si:As(B)(As,B), ion-induced impurity displacement, effect of Fermi level 1−11795
Si:As(P), ion implanted, impurity-vacancy cluster interaction, ionisation enhancement 1−2501
Si:B, ion implanted, amorphous, UV irrad. effects during thermal annealing 1−30275
Si:B, ion-implanted, radiation annealing using halogen lamp 1−11773
Si:B, ion-implanted layers, annealing investigation using Hall current method 1−30772
Si:B, polycrystalline, CVD-prepared, resistivity changes caused by thermal annealing 1−30854
Si:B(P), amorphous CVD films, ESR study, doping effects on localised states 1−47931
a-Si:F RF sputtered film, annealing props. 1−3622

annealing continued
Si:Ga,B, joint implantation, surface resistance 1−30255
Si:H, amorphous, dehydrogenated, rehydrogenated, dark and photocond. changes 1−16310
Si:H, amorphous films, plasma-deposited, proton NMR studies 1−43025
Si:H, reactively sputtered, amorphous, kinetic anal. of H evolution 1−34574
Si:In, U_2 photoluminesc. line, evidence for complex isoelectronic centre 1−26257
Si:O(C), annealing of neutron flux defects, IR absorpt. spectra study 1−42430
Si:P, ESR and elec. activity, heat treatment effects 1−34926
Si:P, elec. activity, ESR study, heat treatment effects 1−31015
Si:P, ion implanted, furnace annealing, segregation, elec. props. meas. 1−15912
Si:P, ion-implanted, disordered layers, laser and thermal annealing, elec. props. 1−11780
Si:P, resist. distrib. after light ion bombardment, annealing effects 1−7613
Si:P ion implanted, laser annealed, furnace annealing behaviour 1−2480
Si:Sn, ion implanted, annealed, β-Sn precip., Mossbauer study 1−7341
Si:Sn, structural state of implanted ^{119}Sn atoms 1−52163
Si/Pt superstructures on Si (111) and (100), LEED, AES study 1−16194
Si-SiO_2 interface, defect generation during electron beam lithography *(Japanese)* 1−38854
Si-SiO_2 interface, high temp. annealing effect on bulk lifetime spatial variation 1−7745
Si-SiO_2 interface states, annealing using Ar-ion-implant-damage-gettering 1−12165
Si-SiO_2 MOS capacitors, oxide traps and interface states 1−42864
Si-SiO_2 system exposed to O_2 plasma, radiation damage, annealing effects 1−39490
α-SiC (6H), surface pot. change caused by annealing of defects due to bombardment of Ar ions *(Russian)* 1−2537
SiC ion implantation doped p-n junctions, struct. and props. 1−30813
SiC polytype intermediate transformation structure obs. 1−30124
Si_3N_4 buried layers, synthesized by ion implantation 1−42405
Si_3N_4, hot pressed with Y_2O_3 and Al_2O_3 additions, oxidation 1−16934
SiO_2 based enamel for alloy steel, phase comp. and props. control 1−35415
SiO_2 effectiveness for preventing Si-metal reactions in Si/Mo system 1−16202
SiO_2 film, dielec. breakdown retarded by annealing in NH_3 gas 1−26121
SiO_2 glass, fused, ion implanted, phase separation and crystn. 1−30081
$SmCo_5$, amorphous sputtered films, crystn., mag. and struct. changes 1−16459
SmLuYCaGeIG system, bubble collapse temp. coeff., ion implantation and annealing effect 1−38959
$Sm_{0.5}M_{0.5}Co$, (M=Ce 50%, La 20%, Nd 10%, Pr 10% etc.), amorphous sputtered films, crystn., mag. and struct. changes 1−16459
Sm_2O_2S films, crystallographic struct. after electron beam annealing *(French)* 1−11989
Sn-Zn eutectic alloys, mech. props. and microstruct. 1−8378
SnO_2 (111) face, surface reconstructions 1−47341
SnO_2 films, pure and Sb doped, elec. props., annealing and O adsorption effects 1−7763
SrF_2, neutron irrad. induced point defects, ^{20}F NMR study 1−2528
SrF_2:Mn, X-irrad., absorpt. and emission spectra, lifetimes 1−21238
$Sr(NO_3)_2$, annealing of chemical gamma ray damage 1−25324
Ta, annealed and drawn, tensile and cyclic tensile fatigue strength in vac. at high temp. *(Japanese)* 1−53198
Ta film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532
TaC powders, comp. and struct., annealing effect 1−21476
Tb-Si interfacial reaction, silicide form., ion implantation effect 1−38672
Te, vacuum deposited film, elec. resist., annealing effect 1−47760
Te:Cl, excited by α-particles, photons, elec. props. meas. 1−30765
Ti (VT20) alloy, improving the properties of welded joints by local heat treatment with electron beam 1−48401
Ti alloy VT14, pressure vessel, spherical, correlation between mech. props. and failure stresses 1−3933
Ti alloy-steel joints, contact phenomena, effect on strength 1−17021
Ti alloys, fatigue strength of polished specimens, small plastic strains effect 1−3924
Ti film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532
Ti, neutron-irradiated, supersonication effects on annealing spectrum, calorimetric study *(Russian)* 1−20273
Ti-Al-Mo-Cr (4.5, 5, 1.5 wt.%), influence of processing and heat treatment on mech. props. 1−12767
Ti-Al-Zr-W, mech. props., effect of W addition, 0-10 wt.%. 1−16884
Ti-V-Si, amorphous, crystallisation effect on superconducting props. 1−52687
$Ti_{50}Be_{40}Zr_{10}$ glassy alloy, crystallisation, neutron irrad., resistivity meas. 1−2335
TiC powders, comp. and struct., annealing effect 1−21476
TiN powder, finely divided, heat treatment effect on surface, XPS study 1−12771
$TlSbSe_2$, disorder-order problem, X-ray study 1−2386
$TmH_x(D_x)$, solid solution, electron irradiated, low temp. elec. resist. 1−34679
UO_2, sintered, isothermal grain growth kinetics 1−45626
V guide bronzes, $M_xV_{12}O_{30-y}$, M=Na, Ag, K, Li, Ca and Sr, decomp. of single crysts., semicond.-metal transition 1−53180
V layer on $NiSi_x$, diffusion barrier effect 1−34520
V, precipitation of β-phase hydride from solid soln., acoustic emission 1−3748
V(-C), yield stress and microstruct., effect of irrad. and post-irrad. annealing 1−43429
W, vapour phase deposited, residual stresses, annealing effect 1−48431
WO_3 amorphous film, fundamental absorpt. edge, annealing and electrolytic coloration effects 1−35105
Zn, hexagonal metals, plastic deformation 1−43410
Zn-Al (1.1 wt.%) superplastic alloy, elec. resistivity meas. rel. to annealing 1−43419
$ZnGeP_2$, cond. type inversion under heat treatment 1−20748
ZnO cleaved surfaces, work function, surface cond., annealing and H adsorpt. effects 1−20849
ZnO/CdTe heterojunctions, spray pyrolysis prepared, photovoltaic props. 1−3004
ZnO-Cr_2O_3, annealing effect on texture 1−48371

annealing continued
ZnS interference coating, moisture content determ. by IR spectroscopy, vac. annealing effect 1−52414
ZnS:I, blue luminesc. band nature, annealing in high vac. influence 1−35094
ZnS:In, low resist. n-type layers obtained by ion implantation 1−47106
ZnS:P, ion implanted, p-type cond. 1−47105
ZnSe sputtered film, degree of crystallinity determ. using longwave IR spectroscopy 1−47411
ZnTe, edge-emission, cathodolum. and isochronal annealing studies 1−35101
ZnTe:O implanted extrinsic photodetector for visible integrated optics 1−6685
Zr alloys, irradiation growth, review 1−50779
Zr, recovery of elec. resist. and yield stress after attenuating deform. and annealing *(Russian)* 1−31527
$ZrMn_x$, C14 type, comp. and H absorpt. 1−2813
ZrO_2 based heat resistant materials, temp. held during annealing 1−35284
$Zr_3Y_4O_{12}$, ordering, neutron diffr. investigation 1−20156

annealing, magnetic *see magnetic annealing*

anodes
high current discharge, anode mechanism, self mag. force effect 1−34167
hollow vacuum arc, anode sheath growth and collapse 1−34146
Leclanche dry cell, polypyrrole film appl. 1−8696
steel, stainless, electrode electric breakdown props. in ultra-high vacuum 1−48004
transmolybdenum fluorescent anodes for mammography 1−43980
Au/n-$GaAs_{0.6}P_{0.4}$ anode, illuminated, quasi-Fermi level and flat band pot. meas. method 1−34745
CdS photoanodes in cysteine solutions 1−47743
Cu anodic dissolution, anode potential oscillation obs. 1−7336
$CuInS_2/S_x^{2-}$ system, photoelectrochemistry 1−43785
Fe/Ni alloy foil electroforming, anode material effects 1−48697
α-Fe_2O_3 photoanodes, photoelectrochem. props. 1−21734
n-GaAs photoanode, protection with photoelectrochem. generated polypyrrole film 1−21735
Pb acid battery negative electrode active mass coefficient utilisation 1−53578
Pt anode, oxide film formation in alkaline solns., temp. study 1−21626
Pt, formation of oxide films in alkaline solns., kinetics and mechs. 1−16967
$SrTiO_3$:$LaCrO_3$ photoanodes, light induced photocurrents 1−30777
Ti electrode electric breakdown props. in ultra-high vacuum 1−48004
TiO_2, n-type electrodes, transition-element doped, photoelectronic processes 1−3015
TiO_2(:Fe) anode for photoelectrolysis of H_2O 1−26754
Zn, soluble electrode with almost unlimited cycle life for alkaline batteries *(German)* 1−8701

anodes, electrochemical *see electrochemical electrodes*

anodic machining *see electrolytic machining*

anodisation
Al evaporated film, on Ti-Al-V (6, 4 wt.%), anodisation 1−21634
harmonic mode reaction scheme, variation of impedance diagrams *(French)* 1−43560
lutetium diphthalocyanine films, anodic reaction boundary propag., gaseous environment effects 1−35407
metals, fatigue electrochemical detection 1−43629
steel, anodic solution at high current densities, oxide surface films influence *(Russian)* 1−43587
steel, anodic solution in electrolyte containing an oxidant, Mn content influence *(Russian)* 1−43588
steel, anodic solution mechanism under surge voltage *(Russian)* 1−43589
steel, Cr-Ni, mechanism of high-temp. anodic soln. in NaCl solns. *(Russian)* 1−43586
Al, anodic oxidation in plasma, low temp., enhancement using thin solid electrolyte film 1−48551
Al, anodic solution at high current densities, oxide surface films influence *(Russian)* 1−43587
Al, anodizing in molten eutectic alkali metal nitrates 1−53362
Al electrde quartz crystals, microprocessor control anodisation 1−16938
Al foil in H_3BO_3-$N_2B_4O_7$ soln., excitation processes at the electrolyte-electrode interface 1−35098
Bi_2Te_3, anodic film growth obs. by photoacoustic technique 1−26642
Co, anodic films formed in bicarbonate and borate electrolytes, AES anal. 1−48554
Cr-Ni, mechanism of high-temp. anodic soln. in NaCl solns. *(Russian)* 1−43586
CuO-Cu_2O, copper-black solar selective layers prep. by anodic oxidation, optical and struct. props. 1−53668
Fe-Cr-Mo-B amorphous alloy, anodic behaviour in HCl, Mo effects 1−21628
GaAs anodic oxide interface formation obs. 1−16372
GaAs, direct anodisation at extemely low substrate temp. by O plasma *(Japanese)* 1−31702
n-GaAs electrolyte electroreflectance spectra and space-charge region obs. 1−16359
GaAs, oxide film growth by anodization in O plasma, appl. to fabrication of devices and ICs 1−12915
GaAs semiconductor-oxide-electrolyte interface 1−34801
n-GaAs, surface irregularities induced by anodic oxidation 1−16919
GaAs thin film solar cells with grain boundary edge stabilisation, thermal anodisation 1−48835
$Hg_{1-x}Cd_xTe$, plasma anodisation, work functions 1−39498
InP anodic oxide interface formation obs. 1−16372
Nb variable-thickness bridges, Josephson effects 1−42912
Nb-Ta(−N), oxide layer formed by anodisation, AES, electrical props. 1−31764
Ni alloy EI893, anodic solution mechanism under surge voltage *(Russian)* 1−43589
Ni, anodic polarization in alkaline media containing halide ions 1−43577
Ni, corrosion in acid media in presence of stable or reducible anions *(French)* 1−26651
Ni, nature of anodic film 1−21624
Ni-Mo alloy, nature of anodic film 1−21624
Pt anode, oxide film formation in alkaline solns., temp. study 1−21626
Pt anodes, formation of oxide films in alkaline solns., kinetics and mechs. 1−16967
Pt-O anodic alloys, O content determ. 1−8469
Si anodic oxidation, calibration, doping profile determ. 1−48550

anodisation continued
Si, anodic oxidation, mobile ion detection 1−16922
Si, direct anodisation at extemely low substrate temp. by O plasma *(Japanese)* 1−31702
Si, oxide film growth by anodization in O plasma, appl. to fabrication of devices and ICs 1−12915
Si-electrolyte interface, anodic dissolution and carrier conc. profiling 1−20868
SiC, polar planes identification using anodic oxidation 1−39482
Sn, anodic polarization in alkaline media containing halide ions 1−43577
Sn-Ni (35 wt.%), anodic polarization in alkaline media containing halide ions 1−43577
Ta, anodic oxidation in plasma, low temp., enhancement using thin solid electrolyte film 1−48551
W, anodic oxide film. comp., influence of anodising parameters and charging curves 1−48558
W, anodic oxide films, morphology and dissolution, SEM study 1−48559
WC-Co, (6 wt.%), cemented alloy, anodic behaviour in H_3PO_4 solns. 1−21630

anodised coatings *see anodised layers*

anodised layers
AC and DC films on Al formed in H_2SO_4, XPS studies 1−43699
oxide film, on metals and semiconductors ionic transport during anodic growth *(French)* 1−47289
oxide layers, coloured, anodised, microanalytical exam. 1−21813
Al anodic film, coloured materials and photoluminesc. centres distribs. 1−43164
Al anodic oxides, porous, AES depth profile 1−16628
Al, anodised, colouring by means of optical interference effects 1−21641
Al, anodised, oxide layer, electron and acoustic emission during coating fracture 1−12872
Al_2O_3 anodic coatings, porous, density determ. and surface anal. using MeV ion beams 1−35419
γ-Al_2O_3 anodic coatings on Al-Mg alloys, protection against stress corrosion cracking in saline water 1−12923
Al_2O_3 anodic film, cond. props. 1−34817
Al_2O_3 dielectric film for distributed RC filters and amorphous semiconductors, anodisation growth 1−39036
Bi_2Te_3, anodic film growth obs. by photoacoustic technique 1−26642
Co, anodic films formed in bicarbonate and borate electrolytes, AES anal. 1−48554
GaAs anodic oxide films, 1.5 to 6 eV cathodoluminescence obs. 1−16611
GaAs oxide film growth by plasma anodisation 1−16924
GaAs oxide layers, surface and interface roughness and morphology determ. 1−30532
GaSb(As)(P), substrate, thermally annealed anodic films, oxide-substrate and oxide-oxide reactions 1−35570
InP MISFETs, anodic oxide layer growth 1−38851
InSb, anodic oxidation kinetics *(Russian)* 1−21779
InSb anodic oxide, electrochemically grown, optical props. meas. 1−48024
InSb dielectric function and surface microroughness, spectroscopic ellipsometry 1−16241
InSb-anodic oxide system, optical props. study by ellipsometry 1−26160
Nb oxide, electrostriction, conflict with macroscopic theory 1−34989
Ni-Cr-Fe alloys, Mo-bearing, surface film comp. and electrochem. props. 1−43612
Pt-O anodic alloys, O content determ. 1−8469
SF_6 impulse and AC breakdown, polished and rough electrodes coating influence 1−19995
Ta oxide, electrostriction, conflict with macroscopic theory 1−34989
Ta-Nb alloys, anodic props., comp., effects, ellipsometric obs. 1−53356
W, anodic oxide film. comp., influence of anodising parameters and charging curves 1−48558
W, anodic oxide films, morphology and dissolution, SEM study 1−48559
W oxide, electrostriction, conflict with macroscopic theory 1−34989

anodised thin films *see anodised layers*

anolytes *see electrolytes*

anomalous skin effect
heat transfer due to fluctuating EM field *(Russian)* 1−33875
metal, surface impedance, normal and anomalous skin effect in very weak mag. fields 1−7650
metallic film, impedance under anomalous skin effect conditions *(Russian)* 1−3078
metals, anomalous skin conditions, nonlinear effects, review 1−7652
rough metal surface in mag. field *(Russian)* 1−52596
Bi, anomalous skin conditions, nonlinear effects, review 1−7652

antenna accessories
see also directional couplers
meteor radar system of intermediate power, antenna switch study *(Russian)* 1−27311

antenna arrays
see also antenna phased arrays; directional couplers; microwave antenna arrays
high gain broadband steerable array at Nancay, France to study Jupiter HF emission 1−44434
Very Large Array, construction and performance charcts. 1−49509

antenna components *see antenna accessories*

antenna lobe patterns *see antenna radiation patterns*

antenna patterns *see antenna radiation patterns*

antenna phased arrays
biomedical US imaging system based on new type of delay compensation, focalisation props. 1−8928

antenna radiation patterns
centre-fed antiphase circular arc antenna, radiation characteristics in warm plasma 1−42180
directional pattern formation by apertures with a single plane of symmetry 1−36183
directivity diagram of a rectangular parametric antenna *(French)* 1−24573
EM oscillations of plate condenser using perturbation method *(German)* 1−41542
human body polarisation effect on radiation pattern of small local antennas, meas. and calc. methods *(German)* 1−13284
RATAN-600 radiotelescope, secondary mirror diagram and antenna noise-temp. calc. 1−9366
shroud-surrounded acoustic antenna, Zernike circle-polynomial analysis 1−46638
VHF antenna, directional, ferrite-loaded 1−27255

antenna reflectors
RATAN-600 radiotelescope, secondary mirror diagram and antenna noise-temp. calc. 1−9366
surface quality eval., appl. to Effelsberg 100 m telescope 1−36179
antenna theory
centre-fed antiphase circular arc antenna, radiation characteristics in warm plasma 1−42180
EM waves, conf., Munich, Germany (Aug. 1980) 1−17
island slot antenna, interpretation of VLF impedance meas. 1−13578
island slot antenna, interpreting VLF impedance meas. 1−13579
meter wave band antenna, plasma sheath effect on performance *(Chinese)* 1−29918
performance, analysis using models 1−17455
plane wave scatt. by grating of continuous and discontinuous conducting wires, moment method anal. *(French)* 1−19242
radiotelescopes, antenna feeder interference suppression by substitution method 1−9369
waveguide-plasma coupling, lower hybrid frequencies, density gradient effect 1−46874
antennas
see also antenna radiation patterns; dipole antennas; directive antennas; microwave antennas; reflector antennas
biological VHF/UHF EM field meas. by electrodeless insulated probes 1−32299
conference, Marseille, France (Oct. 1980) *(French)* 1−22948
disc-shaped, radiation impedance for electron plasma wave 1−46870
gravitational radiation antenna transducer system, low noise temperature 1−40701
gravitational wave, instrum. for meas. quality factor *(Chinese)* 1−27851
Helios 1 spacecraft, pot. of monopole antenna on spinning craft 1−17756
island slot antenna, interpretation of VLF impedance meas. 1−13578
island slot antenna, interpreting VLF impedance meas. 1−13579
LF, gravitational radiation 1−32897
microwave holography, subresolution, for antenna diagnostics 1−41629
receiving antenna for Solar Power Satellites for Europe, siting conditions and requirements 1−49472
shroud-surrounded acoustic antenna, Zernike circle-polynomial analysis 1−46638
spacecraft antenna pot., photoelectric effects, monopole antenna on rot. spacecraft 1−17756
thin-wire, effects on neighboring biological body calc. and obs. 1−22058
torsional pendulum use as mech. reson. antenna for LF gravitational wave detection *(Chinese)* 1−18140
antibaryons *see baryons*
anticorrosion coatings *see corrosion protective coatings*
antiferrimagnetism
No entries
antiferroelectric materials
see also antiferroelectricity; ferroelectric materials
orthophosphates, dynamics of proton-ion system, cluster approx. 1−52901
perovskite type compounds, lattice dynamics and phase transitions 1−21141
squaric acid, layered antiferroelec., dielec. const. determ. in microwave region 1−8008
squaric acid, phase transition, pseudospin model for H bond system 1−34994
$DyVO_4$, ferroelastic antiferroelec., microscopic theory, dielec. and elastic props. 1−7239
$KD_3(SeO_3)_2$, ferroelastic-antiferroelec. transition, ionic displacement role, EPR study 1−43009
$KH_3(SeO_3)_2$, ferroelastic transition, antiferroelec. ordering, microscopic theory 1−7235
$(NH_4)_{1-x}K_xH_2PO_4$, antiferroelec., analogy with antiferromagnetism 1−8007
$(NH_4)_{1-x}Tl_xH_2PO_4$, antiferroelec., analogy with antiferromagnetism 1−8007
$NaNO_2$, incommensurate ferroelec. phase, ^{14}N NQR line splitting, theory 1−7969
$NaNbO_3$, elec. props. meas., high press. effects, small polaron hopping theory 1−16288
$NaNbO_3$, growth and electrophysical props. 1−34971
$PbB_{0.5}Nb_{0.5}O_3$, B=Sc, Fe, Lu, Yb, In, Tm, Curie point, antiferroelectric phases 1−21144
$PbHfO_3$, temp.-elec. field phase diagram of antiferroelec. and ferroelec. phases 1−21143
$Pb(Mg_{1/3}Nb_{2/3})O_3$-$Pb(Mg_{1/2}W_{1/2})O_3$ perovskite solid solns., comp. ordering 1−38355
$Pb_3(VO_4)_2$, domain struct. and phase transitions 1−26150
$Pb(Zr,Ti)O_3$, phase transitions, dielec., pyroelec., and piezoelec. props. and DTA 1−16536
$Pb(Zr, Ti)O_3$-based antiferroelec.-ferroelec. multilayer composites, electromech. behaviour 1−26128
$PbZrO_3$, antiferroelec., analogy with antiferromagnetism 1−8007
$PrCl_3$, antiferroelastic antiferroelec., microscopic theory, dielec. and elastic props. 1−7239
$SrTiO_3$-$Na_{0.5}Bi_{0.5}TiO_3$ solid solns., Curie point, dielec. const. and phase diagram 1−39043
antiferroelectricity
see also antiferroelectric materials
analogy with antiferromagnetism 1−8007
polar crystals, mag. control of nonlinear dielectric props. *(Russian)* 1−21136
specific heat, low temp., lattice dynamics 1−7351
tris-sarcosine calcium chloride, antiferroelectric high press. phase dielectric observation 1−8018
antiferromagnetic Curie temperature *see Curie temperature*
antiferromagnetic-ferromagnetic transitions *see ferromagnetic-antiferromagnetic transitions*
antiferromagnetic-paramagnetic transitions *see paramagnetic-antiferromagnetic transitions*
antiferromagnetic properties of substances
see also antiferromagnetism; magnetic semiconductors
alkyl diammonium copper tetrachloride, layer-type magnets, Raman scatt. 1−3382
alloy, itinerant, bulk susceptibilities 1−30924
bis(propylammonium)tetrachloromanganate, weak ferromag., effect of domains on AC susceptibility 1−3154
bis-piperidinium tetrachlorocuprate, struct., antiferromagnetism, X-ray, mag. susceptibility and EPR obs. 1−34341
antiferromagnetic properties of substances continued
$CaO.Fe_2O_3$, mag. phase diagram 1−30937
copper(II) calcium acetate hexahydrate, EPR linewidth rel. to exchange interactions 1−52830
copper formate tetrahydrate and formate bisurea dihydrate, magnetisation curve anal., exchange and anisotropy fields 1−52802
diethylammonium manganese tetrachloride, 2-dimens. spin canted antiferromag., exciton transfer 1−8087
dipyridine copper chloride one dimensional magnet, shear and nonlinear modes 1−7822
Dy, antiferromagnetic domains, US study *(Portuguese)* 1−26005
ferrocene-FeOCl intercalation phase, characterisation by low temp. Mossbauer spectroscopy *(German)* 1−3308
glass preparation by roller quenching, elec. and mag. props. 1−31409
hexagonal ε-martensite, mech. and mag. props. *(German)* 1−31426
Invar, lattice dynamics, phonon dispersion relations, inelastic neutron scatt. 1−47185
manganese stearate, Langmuir-Blodgett monolayers, mag. struct., neutron diffr. study 1−42984
manganocene, quasi 1-D Heisenberg linear chain antiferromag., mag. susceptibility meas. 1−30920
pyrite type crystal, antiferromag. structs., higher order spin interaction and anisotropy energy 1−52750
quinolinium $(TCNQ)_2$, random exchange Heisenberg antiferromagnetic chain, quasi-universal mag. behaviour 1−3262
rare earth-Cu_4Al, magnetization meas. 1−25876
TCNQ salt, MEM-$(TCNQ)_2$, high mag. field behaviour 1−47910
TCNQ salt, Qn$(TCNQ)_2$, random-exchange Heisenberg antiferromag. chain, crossover behaviour, ESR study 1−3237
TCNQ salts, random-exchange Heisenberg antiferromag. drains, thermodynamics 1−3206
TMMA, antiferromeg; sine-Gordon system, breather contribs. to dynamical form factors 1−52762
TMMC:Cd(Cu), nonmagnetic impurity effect on low-temp. susceptibility 1−7828
TMMC, local magnon modes, dynamic response associated with single-impurity spin 1−12275
TMMC one dimensional magnet, shear and nonlinear modes 1−7822
transition metal fluorides, randomly mixed antiferromag., excitations and phase transitions 1−7844
Al_2O_3-MnO-SiO_2 system, amorphous and cryst., mag. phases, ^{27}Al NMR relax. times and linewidths 1−31052
B_9O_{17}, magnetic susceptibility, 1 to 120K, antiferromag. and metal-insulator transitions 1−34870
$BaMnF_4$, struct. and antiferromag. transitions, incommensurate modulation, theory 1−7325
$BaVS_3$, metal-insulator-magnetic transitions, NMR study 1−47969
$CaMn_3O_6$ and $CaMn_4O_8$, prep., mag. and EPR behaviour 1−38925
$Cd_{1-x}Mn_xTe$, paramag.-spin glass-antiferromag. transitions 1−12294
n-CdS, electron dynamics, spin-flip Raman scatt. obs., model amorphous antiferromag., Faraday rot. 1−48083
CdS:Mn, ESR spectra, Mn^{2+} antiferromagnetic behaviour 1−3249
Ce intermetallics, cubic, mag. susceptibility, elec. resist., cryst. field excitations, neutron spectroscopy 1−47865
Ce monopnictides and monochalcogenides, mag. ordering, ⟨100⟩ or ⟨111⟩ alignment 1−47877
$CeAl_2$, NMR, hyperfine fields, fluctuations, spatial correlation 1−43024
CeB_6, anisotropic exchange interaction, paramagnetic susceptibility 1−16425
CeB_6, anomalous mag. props., model calc. within mol. field approx. 1−52766
CeB_6, single crystal spin echo NMR meas., Knight shift, mag. moments 1−52866
$CeIn_3$, mag. ordering in presence of fast spin fluctuations, neutron scatt. study 1−20960
CeSb, antiferromagnet, mag. phase diagram, neutron diffr. study 1−20983
$Ce_{1-x}Th_xAl_2$, mag. order and moment reduction, thermal expansion meas. 1−20979
^{248}Cm, magnetic susceptibility 1−52758
Co complex, $CoCl_2$-bispyridine, electronic, structural and mag. props. of ^{57}Fe atoms created by ^{57}Co electron capture decay 1−26092
Co complex, cobalt pyridine chloride, excitations and mag. ground sate, exchange parameters, spin cluster reson. 1−25880
$CoCO_3$, spin excitations in longitudinal mag. field 1−38919
CoF_2:Mn, coherent reconstruction of the spin wave spectrum *(Russian)* 1−3164
$Co_xM_{1-x}F_2$ (M=Mg,Zn,Ni), mag. excitation dispersion relation and dynamic susceptibility 1−25914
$Co_{3-x}O_4$, prepared by thermal decomp. of $Co(NO_3)_2$, stoichiometry effect on mag. behaviour 1−7814
$Co_xZn_{1-x}Rh_2O_4$ spinel solid soln., mag. dilute, mag. meas. 1−7816
$Co_xZn_{1-x}Rh_2O_4$, spinel solid soln., EPR study 1−3240
$Co_xZn_{1-x}Rh_2O_4$ spinel solid solution, EPR powder spectra 1−7942
copper formate, tetrahydrate and isomer, field-induced antiferromag. to ferromag. transition, process magnetisation 1−34908
Cr (110), antiferromagnetic-paramag. phase transition, band structs., angle-resolved photoemission study 1−12633
Cr alloys, commensurate, longitudinal spin waves and CDWs, theory 1−47872
Cr, antiferromag., electronic struct. 1−30624
Cr, antiferromagnetic, Raman scatt. 1−43120
Cr complexes, Cr III, trinuclear, antiferromag. coupled, luminesc. 1−8110
Cr, Fermi surface and spin density wave Q-vector, vol. depend. 1−25614
Cr, mag. props. and polymorphism *(Russian)* 1−20976
Cr, spin density wave state, phenomenological theory 1−3233
Cr, thermal hysteresis absence near Neel transition, elec. resist. and Young's modulus meas. 1−12288
Cr-Al, dil., mag. struct. between incommensurate and commensurate phases, elec. resist. and mag. susceptibility meas. 1−12269
Cr-Al antiferromagnetic solutions, negative magnetoresist. 1−25706
Cr-Co, dil., resistivity anomaly, Neel temp., rel to conc., press. 1−38760
Cr-Fe (Co) antiferromag. alloys, press. effect on resist. min. 1−25720
Cr-Fe-Mn Invar alloys, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924
Cr-Ge alloys, dil., antiferromagnetism and elec. resist. 1−25697
Cr-Os, order changes in magnetic transform., elec. cond., heat capacity *(Russian)* 1−3177
Cr-Pd, dil., elec. resist. and antiferromagnetism, 77 to 700K 1−7583
Cr-Si solid solns., antiferromag. structs., neutron powder diffr. study 1−25881

antiferromagnetic properties of substances continued
Cr-transition metal alloys, linear expansion coeffs. and elec. resist., triple points in mag. phase diagrams 1−2665
CrAl, antiferromagnetic alloys, NMR study 1−47970
$(Cr_{1-x}Ni_x)_2As$ single crysts., mag. props., conc. depend. meas. 1−12267
$CrS_{1-x}Se_x$, mag. structs. and mag. phase diagram, neutron diffr. study 1−7811
$CsCoBr_3$, Ising-like antiferromagnet, quantisation of magnetic excitation continuum 1−12314
$CsCoBr_3$, one-dimens. magnon Raman spectrum, intercahin coupling effects 1−30932
$CsCoCl_3$, Ising antiferromag., one-dimens., spin dynamics, neutron scatt. study 1−52764
$CsCoCl_3$, Ising-like antiferromagnet, quantisation of magnetic excitation continuum 1−12314
$CsCoCl_3$, one-dimens. antiferromag., short-range-order, optical birefringence obs. 1−12304
$CsCoCl_3$, one-dimens. Ising antiferromag., multiple far IR mag. excitations 1−16435
$CsFeCl_3.2H_2O$, low dimensional mag. cpds., Mossbauer study 1−3312
$CsMnBr_3.2D_2O$, neutron scatt. study of bicritical behaviour 1−7855
$CsMnCl_3.2H_2O$, exciton-magnon light absorpt. *(Russian)* 1−48038
$CsMnF_3$, biexciton decay and multimagnon sidebands in fluroesc. spectra 1−30646
$CsNiCl_3$, one-dimens. antiferromag., short-range-order, optical birefringence obs. 1−12304
$Cs_3R_2(NH_2)_9$, R=Ce,Nd,Sm, struct. and props. *(German)* 1−34315
Cu complex, α-bis(N-methylsolicylaldiminato)-copper (II), proton spin relax. rate at high fields 1−34875
Cu complex, dimethylammonium trichlorocuprate (II), (II), 1-dimens. cryst., mag. anisotropy and susceptibility 1−52754
Cu II-Fe III heterobinuclear complex, crystal struct., antiferromag. coupling, molar mag. susceptibilty 1−47058
Cu, nuclear antiferromagnetism, NMR study 1−2757
Cu quaternary chalcogenides, Cu_2ABX_4 (A=Zn, Mn, Fe, Co; B=Si, Ge, Sn; X=S,Se), elec. mag. and EPR studies 1−34868
Cu-Mn, anomalous vol. expansion and magnetovolume effect, electronic struct. calc. 1−26001
$CuCl_2.2H_2O$, magnetoelastic interactions eval. *(Russian)* 1−31002
$Cu_{4.5}Fe_{1.2}S_{4.7}$, bornite, mag. transitions and mixed valences, mag. and Mossbauer studies 1−52778
$Cu_{1/2}In_{1/2}Cr_2S_4$ spinel, high mag. field obs. of first order transition, mag. struct. and ordering 1−25942
$Cu(NH_3)_2CO_3$ layer compound, exchange coupling, effective field approx. 1−38923
Dy, antiferromagnetic, commensurate turn angle effects 1−30914
Dy, magnetisation, AC susceptibility, and microwave absorpt. 1−47867
Dy-Th, mag. phase diagram, search for Lifshitz points 1−12292
Dy_3Co, metamagnetic phase transitions *(Russian)* 1−20982
Dy_3Co, metamagnetic phase transition, mag. hysteresis and galvanomag. effect 1−52781
$DyPO_4$, Ising antiferromagnet, intrinsic fluoresc. in mag. field 1−43172
Er-H solid solutions, mag. transitions, elec. resist. meas., 4.2 to 100K 1−7833
$ErCrO_3$, adiabatic spin reorientation obs. 1−25953
ErCu, competition between multi-q antiferromagnetic struct. 1−25883
$ErFeO_3$, magnon softening, inelastic light scatt. study 1−26208
$Er_xY_{1-x}Cu$, antiferromagnetic ordering, resistivity and sp. ht. 1−25699
$EuMg_2$, synthesis and mag. props., 3.7 to 295K *(German)* 1−34867
EuSe, mag. Raman scatt. mechanisms 1−26205
EuSe, sp. ht. near mag. transitions 1−12318
$EuSe_{1-x}S_x$, mag. phases, NMR and differential susceptibility meas. 1−38914
EuTe, sp. ht. near mag. transition 1−12318
γ-Fe, antiferromagnetic, spin struct. study 1−34860
Fe, BCC, moment reversal calc. 1−3152
Fe, BCC and FCC, ferromag. and antiferromag., mag. moments 1−30925
Fe complex, Fe(II) methanesulphonate, struct. isomerism, Mossbauer obs. 1−12432
Fe complex, iodobis(N,N,diethyldithiocarbamato)iron(III), antiferromag., sp. ht. and phase transition 1−30951
Fe complex, pyridine-N-oxide perchlorate, S=$^1/_2$ Ising antiferromagnet, mag. susceptibility meas. 1−3156
Fe-Cr, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924
Fe-Mn-Cr alloys, band struct. near Fermi level, elec. resist., thermo-EMF and mag. susceptibility meas. *(Russian)* 1−30622
Fe-Ni Invar alloy, mag. struct., neutron diffr. study 1−7810
Fe-Ni Invar alloy, metamagnetism imposed on ferromagnetism *(French)* 1−52773
$FeBO_3$ ordered mag. material, nuclear spin echo, enhancement factor effect *(Russian)* 1−43034
$FeBO_3$, weak ferromag., mag. domain struct. effects on cryst. imperfection, X-ray diffr. study 1−25976
$FeCl_2.2H_2O$, magnon-phonon interactions, magnetoelastic waves, selection rules 1−12373
$Fe_{1-x}Co_xCl_2$, randomly mixed antiferromag. with competing spin anisotropy, neutron diffr. study 1−16428
$Fe_{1-x}Co_xCl_2.2H_2O$, random mixture with competing anisotropies, ordering, Mossbauer study 1−38912
FeF_2:Mn, pure and doped, mag. polaritons and Mn impurity mode, AFMR study 1−43018
$FeF_2:Mn^{2+}$, Raman scatt. by local magnon modes 1−3412
FeF_2 thin films, mag. and Mossbauer reson. studies 1−21017
$Fe_{1-x}Mn_xCl_2$, disordered mixtures, lowest Fe^{2+} spin excitations by microwave absorption at high freqs. 1−3383
$Fe_{1-x}Mn_xCl_2$, Raman scatt. from magnons and phonons 1−48070
$Fe_{0.65}Ni_{0.35}$ Invar alloys, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924
FeO,-MgO solid soln., mag. interactions between Fe atoms 1−38922
αFe_2O_3, haematite, Hall effect in Morin transition region 1−25746
α-Fe_2O_3, hematite, mag. linear birefringence near Morin temp. *(Russian)* 1−43101
α-Fe_2O_3, weak ferromag., mag. domain struct. effects on cryst. imperfection, X-ray diffr. study 1−25976
α-Fe_2O_3-Al_2O_3 solid soln., mag. interactions between Fe atoms 1−38922
Fe_3O_4-$MgAl_2O_4$ solid soln., mag. interactions between Fe atoms 1−38922
Fe_2P, pressure induced mag. transition 1−30941
$FePt_3$, magnetic excitations in metallic antiferromag., neutron inelastic scatt. meas. 1−7818
$FePt_3$, metallic antiferromag., paramag. scatt. of neutrons 1−7806
antiferromagnetic properties of substances continued
$FePt_3$:Sn, Mossbauer study of ^{119}Sn mag. hyperfine interaction *(Russian)* 1−7989
FeSn, antiferromag., anisotropic hyperfine fields, Mossbauer spectra study 1−31070
P-GaAs, circular polarisation of luminesc. in mag. field, Mott transition effects 1−52923
Gd-Lu(Y), mag. phase diagram, search for Lifshitz points 1−12292
H adsorbed layer on W, indirect exchange interaction between adatoms on solid surface antiferromag. spin ordering *(Japanese)* 1−38649
^3He, liquid and solid, spin polarised, using Castaing-Nozieres effect and Pomeranchuk cooling 1−2745
^3He, solid, BCC, nucl. mag. ordering, Neel temp. and paramag. susceptibility 1−11952
^3He, solid, four spin exchange model and nucl. antiferromag. reson. 1−25527
^3He, solid, nuclear antiferromagnetic, transition to ordered state *(French)* 1−25530
$Hg_{1-x}Mn_xSe$, mag. susceptibility for small x 1−25899
HoCu, competition between multi-q antiferromagnetic struct. 1−25883
$Ho_{0.5}Dy_{0.5}FeO_3$ domain struct. near Neel temp., Faraday effect experiment 1−34904
HoSb, temp. variation of mag. struct., neutron diffr. meas. 1−3140
ImSe, mag. props. under press. 1−30898
$KCoF_3$, antiferromag., mag. props., dynamical correlated effective field approx. 1−12286
K_2CoF_4, antiferromag., dielec. const. near Neel temp. 1−7992
K_2FeF_4, 2-D antiferromagnet, far IR absorpt., magnon modes 1−8075
$KFeS_2$, ESR linewidth, temp. depend. 1−12391
$KMnF_3$, Neel temp. sensitivity to biquadratic coupling 1−25935
$KMn_pZn_{1-p}F_3$, spin correls. near percolation threshold, neutron scatt. study 1−21003
K_2NiF_4 antiferromagnet, Ni^{2+} ion symm. anal. 1−2379
K_xVF_3, cryst. and mag. struct., comp. depend. 1−13971
$KnIPO_4$, mag. props., antiferromag. state, weak ferromag. moment, meas. 1−25909
$LaFeO_3$, magnetoelectric technique of determ. of Neel temp. 1−36709
M=Mg, Ni, Zn, cation distrib., props. of brownmillerite phase 1−47052
$MgCr_2O_4$, ESR of Cr^{3+} paramag. ion 1−26025
$Mg_{1-p}Mn_pTe_2$, mag. props. near p=0.5, neutron diffr. and magnetisation meas. 1−47853
γ-Mn-Cu (6 at.%), magnons, inelastic neutron scatt. study 1−7820
γ-Mn-Cu alloy, neutron and X-ray diffr. study 1−30939
Mn-Cu-Fe (10.4, 1 wt.%), Mossbauer study of magnetic and martensitic transform. 1−52775
Mn-Rh alloys, mag. transitions, exchange anisotropy effect *(Russian)* 1−3178
MnB_2, orientation of easy magnetisation directions and antiferromagnetism axis *(Russian)* 1−30975
$Mn_{2-x}Cr_xSb$, double-phase sample, struct. and mag. props. 1−20401
$Mn_xM_{1-x}F_2$ (M=Mg,Zn,Co,Ni), mag. excitation dispersion relation and dynamic susceptibility 1−25914
$Mn_{83}Ni_{11}C_6$, martensitic transform, elastic consts., lattice dynamical props. 1−30378
$Mn_{85}Ni_9C_6$, martensitic transform, elastic consts., lattice dynamical props. 1−30378
$Mn_{85}Ni_9C_6$, martensitic transform., lattice vibr. data anal. 1−30379
MnO, Neel temp. sensitivity to biquadratic coupling 1−25935
MnO, principal mag. suceptibilities, 4.2 to 300K, temp. depend. 1−42950
MnO, spin orientation at 0K and zero applied field 1−26000
MnO-CoO antiferromag. solid soln., thermomag. study 1−52785
α-MnS, optical absorpt. edge, blue shift, antiferromag. ordering effect 1−12523
MnSi, helically ordered state, μ^+SR and relax. studies 1−26103
$MnSi_x$, band magnetism peculiarities, neutron diffr., magnetisation, and mag. susceptibility meas. 1−12262
$Mn_{1-x}Zn_xF_2$, static mag. props. *(Russian)* 1−52760
$Mn_cZn_{1-c}F_2$, spin correls. near percolation threshold, neutron scatt. study 1−21003
NH_4CoF_3, structural phase transitions, X-ray and neutron diffr. 1−2616
NH_4MnF_3, structural phase transitions, X-ray and neutron diffr. 1−2616
$NaCa_2Ni_2V_3O_{12}$, canted mag. struct., exchange interaction and effective single-ion anisotropy 1−47862
$NaVO_2$, canting antiferromagnetism, mag. susceptibility meas. 1−7815
β-$Na_xV_2O_5$, cryst. struct., elec. and mag. props. 1−12274
Nb_3Ge films, spin wave study in normal and supercond. states, CESR meas. 1−47947
NdB_6, mag. struct., neutron diffr. meas. 1−30915
$NdCrO_3$, elec. cond. and Sebeck coeff. meas. 1−2994
$NdSn_3$, obs. of antiferromag. phase transition, neutron diffr. study 1−3176
Ni complex, $NH_4Ni[S_2C_2(CN)_2]_2.H_2O$, cryst. struct., elec., mag., and optical props. 1−25719
$NiBr_2$, mag. resonance study at high freq. and mag. fields 1−16486
$NiCl_2$, mag. susceptibility and magnetisation meas. 1−12270
NiF_2, canted spin antiferromagnet, Ni^{2+} ion symm. anal. 1−2379
β-$Ni(NO_3)_2.4H_2O$, spin flopping in field induced ordered state 1−25950
NiO, Neel temp. sensitivity to biquadratic coupling 1−25935
NiS, metal, semimetal and magnetic phase transitions, interaction between correlated electronic bands 1−7838
NiS_2, antiferromag. struct., fourth order interaction effects 1−52749
Np intermetallics, mag. props., high press. Mossbauer study 1−47992
$Pb_2Fe_3O_6Cl$, three layer magnet, Mossbauer study 1−7981
$Pb_{1-x}Mn_xTe$, long range coupling between Mn^{2+} ions, ESR spectra, mag. susceptibility 1−20971
PrB_6, low temp. phase transitions and mag. struct. 1−38936
$Pr_{1-x}Mn_{1+x}O_3$ perovskites, struct. and mag. props. 1−38934
PrSb crystalline elec. field split system, press. effects and lattice parameter correlations 1−20939
$Pt_3Mn_xFe_{1-x}$, specific heat, ferromagnetic-antiferromagnetic transition *(Russian)* 1−30967
Rb_2CoF_4, order-parameter relax. below Neel temp., US attenuation study 1−12303
$Rb_2Co_xM_{1-x}F_4$ (M=Mg, Zn, Ni), mag. excitation dispersion relation and dynamic susceptibility 1−25914
$RbFeCl_2.2H_2O$, low dimensional mag. cpds., Mossbauer study 1−3312
Rb_2FeF_5, spin-flop type transition and mag. struct. study *(French)* 1−52779
$RbMnCl_3$, energy spectra of polytypic phases 1−3434
Rb_2MnCl_4, EPR line width, temp. depend. 1−26028

antiferromagnetic properties of substances continued
$Rb_2Mn_xM_{1-x}F_4$ (M=Mg, Zn, Co, Ni), mag. excitation dispersion relation and dynamic susceptibility 1−25914
$RbNiCl_3$, one-dimens. antiferromag., short-range-order, optical birefringence obs. 1−12304
Si_2FeO_3F, prep., struct., and props., Mossbauer resonance spectra *(French)* 1−52112
Sm monopnictides, paramagnetic susceptibilities 1−25871
$Sr(Co_{1-x}Mn_x)O_3$ perovskite, isotropic temp. factors, spin state change rel. to lattice parameter 1−38354
$Sr_{0.5}La_{1.5}Fe_{0.5}O_4$, Fe IV stabilisation, high spin electronic configuration 1−34665
Tb monopnictides, singlet ground state phase diagram and Tb^{3+} coupling parameters 1−20984
Tb-Er, mag. props., susceptibility and magnetisation meas. 1−25896
Tb-Sm single crystals, magnetisation, susceptibility, anisotropy, rel. to temp., composition 1−34866
Tb-Th(La)(Gd), mag. phase diagram, search for Lifshitz points 1−12292
Tb-Y, magnetisation, AC susceptibility, and microwave absorpt. 1−47867
$Tb_xLa_{1-x}Be_{13}$, mag. props. meas., 1.6-300K 1−25939
TbO(OH), mag. transition temp., struct., neutron diffr. determ. 1−42345
TbP, neutron scatt. study of singlet ground state magnetism 1−34863
$TbPO_4$, structural and mag. phase transitions, neutron diffr. study 1−12298
$TeCrO_6$, Cr^{III}-Cr^{III} coupling, nonmag. cation influence exchange const., ferro- and antiferromag. effect 1−47875
$TiBe_2$, self-consistent band calc., magnetism and supercond. 1−12023
$TiBe_{2-x}Cu_x$, antiferromag., analogy with antiferroelectricity 1−8007
$(Ti_{1-x}V_x)_2O_3$ powders, ^{51}V NMR, mag. phase diagram 1−26059
$TlCu_{2-x}Fe_xSe_2$, irreversible antiferromag. to ferromag. transition 1−34882
$TmAl_2$, magnetic behaviour from neutron scatt. expts. 1−25891
TmCu, competition between multi-q antiferromagnetic struct. 1−25883
$Tm_{1-x}Eu_xSe$, valence mixing, mag., elec., and optical props. 1−42726
$TmH_x(D_x)$, solid solution, electron irradiated, low temp. elec. resist. 1−34679
U monopnictides and monochalcogenides, mag. ordering, ⟨100⟩ or ⟨111⟩ alignment 1−47877
U pnictides, magnetisation and mag. struct. meas., domain wall effects 1−47912
UAS, antiferromagnetic, neutron inelastic scatt. studies. 1−47858
UAs, antiferromag., phase transitions, neutron scatt. study 1−47883
UAs, lattice distortion, γ-ray diffr. investig. 1−47060
UAs, mag. phase transition near Lifshitz point, neutron study 1−3195
UAs, mag. props., neutron diffr., magnetisation and specific heat study 1−47854
UN, magnetic structure under press. 1−47860
UN, spin and phonon excitations, neutron scatt. studies 1−47874
UO_2, lattice distortion, γ-ray diffr. investig. 1−47060
UO_2, lattice distortion and quadrupolar ordering 1−25220
UO_2, lattice mode competition and quadrupolar ordering 1−47591
UP-USe system, mag. phase diagram, neutron diffr. and mag. susceptibility study 1−12290
UPb_3, mag. props., neutron diffr. study 1−47855
$U_{1-x}(Pr,Nd)_xS(P)$, cubic struct., magnetization and neutron diffr. studies 1−47914
URh_2Si_2, mag. props., neutron diffr. study 1−47857
USb, antiferromagnetic, neutron inelastic scatt. studies. 1−47858
$U_{1-x}Th_xAs$, mag. ordering, neutron diffr. study, modulated mag. phases obs. 1−47856
$(V_{1-x}Cr_x)_2O_3$, metal-insulator transition and antiferromag. ordering, elec. resist. and Seebeck coeff. meas. 1−12157
$V_xCr_{3-x}S_4$, electrical and magnetic properties 1−52755
V_xTe_4, mag. susceptibility, elec. resist., Neel temp., meas. 1−20963
$YbCrO_3$, Cr^{3+} exciton-Yb^{3+} spin flip simultaneous absorption 1−12490
WCr_2O_6, Cr^{III}-Cr^{III} coupling, nonmag. cation influence exchange const., ferro- and antiferromag. effect 1−47875
Y-rare earth, dil., mag. susceptibility, 4.2 to 300K, Neel point *(Russian)* 1−12265
Y-Tm, mag. susceptibility, 4.2 to 300K, Neel point *(Russian)* 1−12265
$YFeO_3$, domain walls, low temp. NMR study 1−12410
$YFeO_3$, NMR obs. of spin struct., field induced spin reorientation 1−26047
$Y_3Fe_{5-x}Sc_xO_{12}$, ferrite garnets, mag. struct. 1−20961
$YbCrO_3$, metamagnetic transitions, IR spectra 1−16562
$YbCrO_3$, optical absorption spectra, Cr-Yb mag. interaction 1−12489
$ZnCr_2O_4$, EPR line breadth, temp. depend. near T_N 1−38966

antiferromagnetic resonance
manganese (II) (1,2,4-triazole), thiocyanate, two-dimensional cpd., magnetic resonance 1−47940
orthoferrites, antiferromagnetic reson., magnetoelastic tuning 1−21058
propylammonium manganese tetrachloride, two-dimensional cpd., magnetic resonance 1−47940
trigonal antiferromagnet, fourth-order mag. anisotropy const. determ. 1−3268
uniaxial antiferromagnet, absorption of LF mag. field under longitudinal pumping *(Russian)* 1−21057
CoF_2:Mn, coherent reconstruction of the spin wave spectrum *(Russian)* 1−3164
FeF_2:Mn, pure and doped, mag. polaritons and Mn impurity mode, AFMR study 1−43018
^{3}He, solid, BCC, mag. order explained by planar four spin exchange 1−2772
^{3}He, solid, four spin exchange model and nucl. antiferromag. reson. 1−25527
^{3}He, solid, zero field mag. reson. freq. calc. 1−20503
$NiBr_2$, mag. resonance study at high freq. and mag. fields 1−16486

antiferromagnetism
see also antiferromagnetic properties of substances; exchange interactions (electron); metamagnetism
alloys, phase diagram calcs. mag. effects 1−43318
amorphous, Ising model, computer simulation 1−30900
amorphous antiferromagnetism, cluster model 1−42973
analogy with antiferroelectricity 1−8007
anisotropic chain, random, low-temp. thermodynamic props. 1−25965
anisotropic Heisenberg antiferromagnet, variational treatment 1−30901
anisotropy effect on first order antiferromag.-ferromag. transition 1−12291
antiferromagnetic Ising model, spin-1, interface struct. and kinetic phase transition 1−42962

antiferromagnetism continued
antiferromagnetic superconductor, behaviour in mag. field *(Russian)* 1−30872
binary alloy, bulk phase diagram, spin-1 antiferromag. Ising model 1−42961
cubic, uniaxially stressed, phase diagram 1−12293
dilute magnets, dimensional crossover, crit. curves 1−12308
disordered antiferromagnets with short-range atomic ordering, spin waves 1−3163
easy-plane magnet, nonreson. parallel pumping effects on US propag. *(Russian)* 1−31003
equilibrium thermodynamics and critical phenomena, calc. 1−30960
exciton-magnon coupling, exciton energy spectrum *(Russian)* 1−42959
ferroelectric antiferromagnet, exchange magnetoelectric interaction *(Russian)* 1−52820
fine-particles, antiferromagnetic, stochastic props., susceptibility *(Russian)* 1−30990
four-sublattice antiferromagnet, magnetisation 1−25907
ground state energies of antiferromagnetic lattices 1−25851
Heisenberg antiferromagnet, 1-D, spin 1/2, in applied magnetic field, spin fluctuation 1−12315
Heisenberg antiferromagnet, anisotropic, general correl. function series, phase diagram 1−12323
Heisenberg antiferromagnet, linear, S=1/2, spin-wave continuum 1−7804
Heisenberg antiferromagnet, one-dimens anisotropic, finite temp. renormalisation-group theory 1−52789
Heisenberg antiferromagnetic-chain, singular thermodynamic props. 1−25964
Heisenberg chain, linear antiferromag., ground state energy 1−12250
Heisenberg chain, propagating energy modes, magnons 1−16436
Heisenberg chain, random, low-temp. props. 1−3203
Heisenberg chain, spin-Peierls phase transition 1−25963
Heisenberg spin chain, long-range interactions, renormalisation group calc. 1−12317
Heisenberg-Ising model phase boundaries between paramag. and antiferromag. phases, paramag. and spin-flop phases 1−25960
hexagonal anisotropy, weak ferromagnetism , in trigonal antiferromag. crystals 1−3172
Hubbard model, extended, thermodynamic props. 1−42939
Hubbard model 1−25864
impurity spin behaviour in antiferromag. matrix in zero exchange field *(Russian)* 1−38929
Ising antiferromagnet, S=1, crit. temps., uniaxial anisotropy effect 1−25951
Ising chain, antiferromagnetic, with long-range forces, thermodynamic props. 1−34845
Ising magnet, square lattice, in external mag. field, soln. in anisotropic limit 1−25969
Ising model, random, ferro- and antiferromagnetic binary mixture, entropy of spin-glass state at T=0 1−25958
Ising models without phase transitions 1−42980
Ising-like antiferromagnet, quantisation of magnetic excitation continuum 1−12314
itinerant electron magnetism, unified picture *(Japanese)* 1−34851
itinerant magnetism in hybridised degenerate electronic bands 1−47839
itinerant-electron antiferromagnet, mag. susceptibility spatial depend. 1−25900
lattice, antiferromag. square and triangular, ground state energy, lower bounds 1−38903
layered ferro- and antiferromag. systems, amorphisation, interlayer exchange parameters, spin glass form., theory 1−12302
magnetic insulators, spin wave damping, threshold acoustic phenomena *(Russian)* 1−30930
magnetic superconductor, transitions, coupling parameters, Ginzburg-Landau theory 1−3175
magnetically ordered materials, press. effect on mag. ordering *(Russian)* 1−7834
magnetoelectric effect in antiferromagnetic crystals 1−3227
metal, localised moments, induced antiferromag. polarisation, Wolff model 1−16427
metals with paramag., impurities, cond. Green's functions calc. *(Russian)* 1−52544
mictomagnets, spin correlation, ferromag. and antiferromag., theory 1−52791
Neel temp. sensitivity to biquadratic coupling 1−25935
nonresonant excitation of spin waves, alternating magnetic fields, theory 1−3166
nonresonant interaction of acoustic waves and correlation processing of information in antiferromagnets 1−19491
nuclear magnetoacoustic resonance 1−26049
nuclear spin system with two spin species, mag. susceptibility and struct. calc. 1−3129
nuclear spin-lattice relaxation in XY one-dimensional magnetic chains 1−34955
one-dimensional, spin correl. lengths and dynamical struct. factors, soliton terms 1−30952
optical pumping, excitation of magnons and excitons *(Russian)* 1−31130
orthorhombic crystal, magnetoelastic interactions theory *(Russian)* 1−31002
piezomagnetic antiferromagnets, associated with dislocations, magnetisation intensity and longitudinal susceptibility *(Russian)* 1−30921
Potts models, ordering and phase transitions 1−16451
random antiferromagnets, excitations and phase transitions 1−7844
random layered frustration models 1−34900
semiconductor, CESR and ENDOR, effect of s-d exchange interaction 1−52843
sine-Gordon magnetic chains, spin-correlation functions 1−25859
spin $^1/_2$ one-dimensional Heisenberg antiferromagnet, spin-flop phase deviation model 1−47891
spin reorientation theory in rhombohedral antiferromags. *(Russian)* 1−20988
spin waves in space-disordered media, hydrodynamic long wavelength theory 1−38920
superconductor, spin density waves, supercond. crit. props., theory 1−12232
superconductors, BCS pairing gap parameters, mean-field theory 1−52693
triangular, 2D site-diluted, absence of spin glass order 1−42965
trigonal antiferromagnet, antiferromag. reson., fourth-order mag. anisotropy const. determ. 1−3268
trigonal antiferromagnet, spin-reorientation phase transitions 1−3208

antiferromagnetism continued
two sublattice antiferromagnet influence of mag. field on thermodynamic props. 1−38938
type II superconductor, lower crit. field 1−20931
uniaxial antiferromagnet, absorption of LF mag. field under longitudinal pumping *(Russian)* 1−21057
uniaxially anisotropic antiferromagnet, influence of field strength and direction on mag. phases 1−34877

antihyperons *see hyperons*

antimony
see also nuclei with .....
acoustic absorpt. reson. models 1−47176
adsorbed on GaAs (110), bonding and adatom-adatom interaction 1−16172
adsorption on W field emitter tip, surface self-diffusion modifications 1−42630
amorphous film, vacuum deposited on GeO_x, crystn. thickness 1−20582
anodisation of Pb in H_2SO_4 solutions containing Sb species 1−35543
cluster, nucleation by inert gas condensation, technique for amorphous substance investig. w.r.t. order 1−26394
diffusion in $Pb_{1-x}Sn_xTe$ solid soln. 1−30449
diffusion in Si, dislocation and vacancy generation 1−47295
free carrier contributions to second and third order elastic consts. 1−47143
implantation in steatite, microstruct. stability increase *(German)* 1−53258
laser, photodissociation of SbI_3, stimulated emission obs. on 326.7 nm line 1−15164
laser irradiated, effect of thermophysical props. on evaporation conditions 1−21296
lattice thermal conductivity, at low temps., phonon scatt. by charge carriers and peripheral phonons 1−25695
liquid, additive to Bi, liq. metal embrittlement of Cu 1−35365
liquid, double hard sphere model 1−30040
liquid, resist. and thermoelec. power 1−20696
Mossbauer isomer shift, press. depend., systematics with atomic number 1−43052
overlayer on Ag film, influence on annealing behavour 1−34809
oxidation of surface, obs. by LEED, AES, XPS and UPS 1−53321
purity criterion, electrical resistance, temp. depend. 1−16274
quantum oscillations of vel. of sound, power spectrum anal. 1−47438
shear deformations, displacive phase transitions 1−2595
Shubnikov-de Haas effect, hydrostatic press. effect 1−20777
solid solubility in pulsed laser-annealed Si 1−11865
sorption of O_2 and N_2 on (111) surface, thermal accommodation coeffs., high speed vibr. method 1−8617
thin film, thermoelectric power, temp. coeff. of resist. 1−47770
VPE growth on Sb {111}, RHEED study 1−53105
Al/As_2SeTe_2/Sb struct., resist. and photovoltaic behaviour, contact barrier effects 1−52663
Au:Sb, foil, bulk impurity, surface segregation, XPS 1−42413
Ge:Sb, Au 1−20265
Ge:Sb, ballistic heat-pulse attenuation, mag. field depend. 1−16443
Ge:Sb, compressed, acoustic wave attenuation, mag. field effect 1−34751
Ge:Sb, electron phonon interaction in intermediate conc. region 1−2579
Ge:Sb, far IR donor absorpt. and photocond., saturation 1−52970
Ge:Sb, heavily doped, resist. and Hall maxima in metallic range, degenerate electron gas model 1−47683
Ge:Sb, impurity cond., elec., thermal, and mag. props. 1−47641
Ge:Sb, impurity energy level press. depend., elec. props. 1−20661
n-Ge:Sb, thermal phonon scatt., mag. field and uniaxial stress effects 1−15985
Ge:Sb, very shallow photoconduction, trapping centres 1−12149
Ge:Sb single crystal growth by Stepanov method, impurity distrib., resist. meas. 1−2359
Ge:Sb^+, radiogenic Sn impurity defects 1−38365
HCl(Br):Sb^{3+} complex, aqueous solutions, luminescence spectra and kinetics *(Russian)* 1−31197
MgS:Sb^{3+} phosphors, luminescence and excitation spectra meas. 1−39138
Pb-Si:Sb Schottky junction, localised states in reserved region, tunnelling study 1−42860
PbO:Sb, single crystal growth *(Japanese)* 1−3599
PbO_2:Sb, effects of doping on props. 1−16207
PbS-Sb, Bridgman method growth, eutectics morphology *(Russian)* 1−47027
Sb evaporated cleavage faces, study by surface decoration 1−34556
Sb-As_2Se_3-Si MIS struct., potential diagram investigation 1−20878
Si:Sb, ion range and damage distrib., Boltzmann transport equation 1−42439
Si:Sb ion implantation, temp. determ. by IR reflection coeff. meas. 1−14179
SnO_2:Sb, electrical and optical props. 1−42874
SnO_2:Sb films, deposited by hydrolysis, elec., optical, and struct. props. 1−43284
SnO_2:Sb films, elec. props., annealing and O adsorption effects 1−7763
SnO_2:Sb films, plasma etching on Si substrates 1−35414
SnO_2:Sb thin film, DC sputtering process characterization and problems 1−31344

antimony alloys
see also antimony compounds
rare earth ternary alloys, RSbPd, cryst. struct., X-ray diffr. study 1−30138
α-Ag-Sb, thermodynamic factor and rel. chem. potential of impurity component 1−20421
Ag-Sb alloys, solvent diffusion 1−20456
Ag-Sb powder, internally oxidised, sintering behaviour 1−8250
Au-In-Sb, phase equilib., crystal struct. *(German)* 1−8281
Au-Sb dilute alloy, dopant-vacancy interactions *(French)* 1−2500
Bi-Sb, heat cond. at low temp., scatt. mechanism 1−52539
n-Bi-Sb, magnetoplasma waves propagated along trigonal axis, magnetoresist. tensor 1−20794
Bi-Sb alloy monocrystal growth from cooled seed 1−53085
Bi-Sb-Te, electron Fermi surface hydrostatic press. effect 1−52470
$Bi_{0.9}Sb_{0.1}$:Te, RF response due to magnetoplasma anisotropy, meas. 1−7651
$Bi_{1-x}Sb_x$, cyclotron mass of cond. band near semimetal-semicond. transition, expt. 1−16218
$Bi_{1-x}Sb_x$ cyclotron reson., helicon wave contrib., Fermi surface anisotropy effects 1−34612
$Bi_{1-x}Sb_x$, dielec. props. at semicond.-semimetal transition 1−26112

antimony alloys continued
$Bi_{1-x}Sb_x$ overlayer on Ag film, influence on annealing behaviour 1−34809
CeSb, magnetic anisotropy model, band struct. calcs. 1−42957
Cs_3Sb semiconducting liq. alloy, struct. and evidence for ionic bonding 1−25149
Cu-Sb (0.15 at.%), inner adsorption and collection recrystn., temp. depend. *(Russian)* 1−8315
Fe-C-Sb, metastable ε phase obtained by splat quenching *(Chinese)* 1−53209
Fe-Sb, dil., nuclear spin-lattice relaxation time 1−34953
α-Fe-Sb dil., substitutional sp impurities, electronic struct. calc. 1−16253
Fe-Sb-Ni(Co)(Cr), short range order, zero field NMR investigation 1−52850
Fe-Ti-C-Sb alloy, Sb trapping, chanelling study 1−34381
$Fe_{0.12}Mn_{1.1}Sb$, environment of Sb, X-ray determ., anomalous dispersion method 1−15836
$Ga_{1-x}Al_xSb$:Te, LPE on p-GaSb substrates 1−35193
Ge-Sb, liq., elec. resist. and thermoelec. power 1−30706
li-Sb, liq., DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
MnSb under high temp. and press., mag. props. *(Russian)* 1−20978
Na-Sb, liq., DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
Nb_3Sb, A15 cpd., Shubnikov-de Haas and high-field magnetoresistance effects 1−12018
Ni-Sb, dil., nuclear spin-lattice relaxation time 1−34953
Pb-Sb, liq., elec. resist. and thermoelec. power 1−30706
Pb-Sb (0-29.5 wt.%) liquid alloys, surface tension determ. by sessile drop technique *(Czech)* 1−11958
Pb-Sb-Sn alloys, thermodynamic props. by meas. by EMF method 1−48326
Pb-Sb-Te-Cu coating for Pb cables, thickness reduction, mech. props. 1−31563
$(Pb_{1-y}Sb_y)_{1-x}Au_x$ metallic galsses, amorphous phase separation and supercond props. 1−42313
Pd-Mn-Sb alloys, polarised neutron scatt., appl. as neutron polariser 1−45761
Pd_2MnSb, Heusler alloy, electrical resistance meas. 1−2934
Sb-Co alloys, electrodeposition 1−39254
Sb-Zn, liquid alloy, association and its energetic effect *(German)* 1−39316
Sb-Zn, peritectic transformations during crystallisation 1−47213
$Sb_{1-x}Bi_x$ ($x \leq 0.2$) amorphous films, crystn. 1−42301
$Sb_{1-x}Bi_x$, supercond. at high press., up to 14 GPa 1−3090
$Sb_{1-x}In_x$, conc. and temp. depend. of elec. quadrupole interaction for ^{111}Cd, TDPAC study 1−3310
Sb_2Tl_7, related structs. 1−34283
SmSb, SAW propag. in paramag. phase 1−34560
Sn-Sb, liq., TDPAD obs. of quadrupolar spin relax. rate and short-range order 1−31072
Sn-Sb, reactive ion sputtering in Ar-O_2 atmosphere, mechanism 1−48218
Tb-Sb system, phase relationships and phase diagram 1−39310
Te-Sb, dil., liq., electronic behaviour 1−20695
Tl_7Sb_2, struct. and variance 1−34281

antimony compounds
see also antimony alloys
antimonites, empirical relations of O coord. at *(German)* 1−34279
graphite-$SbCl_5$, synthesis and optical tests of its environmental stability 1−8249
graphite-$SbCl_5$ intercalation cpd., intervalence transitions and IR reflectivity 1−47584
graphite-$SbCl_5$ intercalation cpd., optical reflection studies of electronic props. 1−48094
MSb_2O_6, (M=Pb, Ca, Sr, Ba, Cd), vibrs., force field calcs., IR and Raman obs. *(French)* 1−31152
pyrargyrite, microscopic mechanism of low-temp. phase transition 1−11862
$(Ag_{x/2}Pb_{1-x}Sb_{x/2})Te$, absorpt. edge, Hall effect 1−16580
$AgSbTe_2$, optical props. and electronic struct. 1−8090
As-Se-Sb system, glass form. region and elec. props., devitrification charcts. 1−30080
$(As_2Se_3)_{1-x}(Sb_2Se_3)_x$, amorphous, Raman scatt. 1−26192
$(Bi,Sb)_2(Te,Se)_3$, preparation and properties 1−53144
$(Bi,Sb)_2(TeSe)_3$, thermoelectricity, phase diagrams and imperfection struct. 1−52589
Bi-Sb alloy electronic thermal cond. obs., 77 to 300K 1−12104
Bi_2O_3 polymorphs, Sb_2O_3-stabilised, thermal expansion 1−38563
$Bi_{1-x}Sb_x$, energy gap, temp. depend. 1−20625
$Bi_{1-x}Sb_x$, magnetic freezeout study in region of direct and inverted spectra 1−25745
$Bi_{0.5}Sb_{1.5}Te_3$, solid solution, growth in direction of principal crystallographic axis 1−16679
$CaSb_4O_4(OH)_2(SO_4)_2.2H_2O$, peretaite, atomic arrangement and twinning 1−42351
$CsSbS_2$, cryst. struct. determ. 1−25226
$CuPbSbS_3$, cryst. struct. and twinning 1−25223
$GaAs_{1-x}Sb_x$ photodiodes on GaAs (100) substrate, effect of mismatch on performance 1−16343
GaAsSbP variable-gap struct., absorpt. edge profile 1−39174
Ge-Sb-S glasses, Raman spectra in S-rich region 1−31141
Ge-Sb(As)-Se(S) two layer antireflection coatings for YIG near IR detector elements *(Russian)* 1−41800
GeTe-$(Bi,Sb)_2Te_2$ boundary, reactive diffusion processes 1−11919
GeTe-Bi_2Te_3-Sb_2Te_3 system, elec. resist. and thermoelec. props. 1−47692
$(H_3O)_2Sb_4O_{11}(H_2O)_{1.1\pm0.15}$, protonic cond. study by PMR *(French)* 1−7373
In-Sb-Te, DTA, X-ray and metallographic study *(German)* 1−8287
In-Sb-Te ternary system, enthalpy of mixing at 918K 1−38540
InAsSb hybrid focal plane arrays 1−5399
$In_{1-x}Ga_xAs$-$GaSb_{1-y}As_y$ superlattices, electroreflectance, band struct. 1−52916
$Na_2SO_4SbF_3$, bidendate complex, cryst. struct. determ. by X-ray diffr. *(French)* 1−15876
Sb-S dilute solns., Gibbs free energy 1−16061
Sb-S-I, polycrystalline samp. prep. 1−26398
$SbCl_3$, Raman spectrum and melting point studies 1−8064
$SbCl_5$-graphite, IR and Raman spectra, HF graphitic intralayer phonons study 1−39101
SbF_3, intramol. force fields and mean amplitudes of vibr. 1−41360

antimony compounds continued
SbF_5 vapour, core level binding energy XPS for dopant mols. in conducting polymers 1−29036
SbO, spectra obs., rot. struct. and const. 1−41371
Sb_2O_3, vitreous, form., physicochem. props. and IR spectra 1−16573
Sb_2O_3, XPS and AES study 1−42615
β-Sb_2O_4, single cryst. prep., dielec. characts. and cond., ferroelec. and struct. transition absence 1−53063
Sb_2O_4, XPS and AES study 1−42615
Sb_2O_5, XPS and AES study 1−42615
Sb_2O_2I, polytype 2MC, ferroelastic, elastic behaviour, US and Brillouin scatt. studies 1−11801
$Sb_4O_4(OH)_2SO_4$, Klebelsbergite, cryst. struct. determ. 1−38336
$Sb_2O_3.2SO_3.2H_2O$, X-ray cryst. struct. determ. *(French)* 1−30150
$Sb_2O_5.nH_2O$, fast proton cond., ion-exchange props. and densification under cold pressing 1−7380
Sb_2S_3, antimonite, XPS of surface compounds formed during flotation 1−42616
Sb_2S_3 chain crystals, molecular-like-vibrs. 1−20332
Sb_2S_3, stibnite, oxidation kinetics, 320-420°C *(Chinese)* 1−35408
Sb_2S_3, stibnite, oxidation kinetics, 340-440°C *(Chinese)* 1−35409
SbSI chain crystals, molecular-like-vibrs. 1−20332
SbSI, complex dielec. const. and loss tangent at microwave freqs., central mode 1−12463
SbSI, ferroelec., anomalous photovoltaic effect meas. 1−7660
SbSI, influence of press. on reflection spectra, band struct. *(Russian)* 1−21231
SbSI, thermal expansion near ferroelec. phase transition 1−2664
SbSI, tricritical point investigation by NQR *(Russian)* 1−12466
Sb_2Se_3, photocond. rel. to photo-EMF and photodielectric effect 1−42821
SbSi:As ferroelectric, Raman resonance scatt. temp. depend. *(Russian)* 1−3420
Sb_2Te_3, ^{119}Sn defect, after p and α reaction, Mossbauer spectra 1−3302
Sb_2Te_3, cleavage faces and evaporated cleavage faces study by surface decoration, TEM 1−34555
Sb_2Te_3 evaporated cleavage faces, surface decoration study 1−20227
Sb_2Te_3, free carrier dispersive dielectric function 1−47517
Sb_2Te_3, galvanomagnetic, high field transport props. 1−16301
Sb_2Te_3, galvanomagnetic and thermoelectric transport coeffs. *(German)* 1−42795
Sb_2Te_3, single crystal, growth in direction of principal crystallographic axis 1−16679
Sb_2Te_3-Ga_2Te_3 system solid solns., thermal cond. and electrophys. props., 300-800K, complex valence band obs. 1−47308
Sb_xWO_3, structural intergrowth phenomena, X-ray diffr. and electron microscopy study 1−20150
^{121}Sb Mossbauer spectrometer velocity calibration hybrid compound 1−997
$Sb_4[Fe(CN)_6]_3.12H_2O$, Mossbauer effect 1−52879

antineutrinos *see neutrinos*

antineutrons *see neutrons*

antinucleons *see nucleons*

antiphase boundaries
alloy, plane lattice model, long period, temp. depend. *(Russian)* 1−2463
order-disorder, and antiphase domain boundary energies 1−16772
oxides, nonstoichiometric, shear-plane form. and ordering, book contrib. 1−47097
prismatic dislocation loops, loops, dendritic climb, circular form stability 1−20204
AuCu-Zn, irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
AuCu(II), irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
(Ca,Na)[(Al,Si)$AlSi_2O_8$], calcic plagioclase, antiphase boundaries, struct., form. and decomp. 1−42398
ϵ-$Fe_3(C,N)$, formed by glow discharge, microstruct. study 1−39331
Fe_3O_4, cryst. struct. at low temp. rel. to Verwey transition 1−11734
$Gd_2(MoO_4)_3$, ferroelastic and ferroelectric, pol. reversal and field induced phase transform., electron microscopy 1−39049
Ni-Mo-Fe, constitution, mech. props. and dislocation struct. *(Russian)* 1−31528
NiAl alloys, precipitation hardening by large vol. fractions of ordered particles 1−21461
Ni_3Fe, domain struct. after tensile deform. 1−7876
Ni_4Mo ordered alloy, deformation twinning, slip, FIM obs. 1−21514
$Pb_3(PO_4)_2$, ferroelastic phase, electron microscopy study of domain struct. 1−20238

antiphase domains
see also antiphase boundaries
order-disorder, and antiphase domain boundary energies 1−16772
Al-Ti alloys, long-period antiphase domain structs., electron diffr. study 1−25290
Fe-Co-V (50, 0.4-2.0 at.%), ordering transformations 1−35251

antiprotons *see protons*

antireflection coatings
achromatic, for materials with refractive indices of 1.46-1.8 1−24475
acoustic sapphire-lens system for acoustic microscopes, antireflection coating, double layer, for sapphire/water interface 1−33860
broadband three layer antireflection coating improvement by MgO addition to ZrO_2 layer 1−15235
complicated configuration items, coating by pulling or draining from soln. 1−29411
conference, optical interf. coatings, Oakland, CA, USA (June 1980) 1−36444
dielectric interference two-layer coatings vac. deposited on GaAs items 1−37570
dielectric layers, synthesis problem, analytic soln. 1−51366
glass, phase separable, gradient index antireflection layer prod. by chem. leaching 1−31211
inhomogeneous thin layer, simplified approach to antireflection eqns. 1−33623
laser fusion applications 1−19405
mirrors and coatings, used for vacuum UV and UV lasers 1−15174
monitoring of optical coatings during deposition 1−37636
multilayer coating in region of secondary reflection maxima, suppression of reflection 1−6635
multilayer interference absorber, allowance for inactive layer losses 1−40845
multilayer refining and optimisation 1−37402

antireflection coatings continued
oxide layers, achromatic antirefl. coatings for highly refractive glasses 1−37587
photographic chromaticity of camera lenses having multilayer antireflection coatings 1−36755
plastic materials, graded-index antirefl. surfaces produced by ion implantation 1−6689
preparation for fusion lasers 1−19406
prism coatings, colour variations caused by leached layer on glass substrate 1−37589
solar cells, inversion-layer MIS with anti-refl. coatings, electrostatic effects 1−48833
solar cells, quantitative evaluation of overall effectiveness based on weighted average surface reflectance 1−41795
thin-film coating integration into optical systems 1−51597
three-layer, tetraethoxy titalium and silane mixtures for second layer strengthening 1−1738
UV lasers, mirrors and coatings, appls. in 200-300 Å range 1−33698
vacuum UV lasers, mirrors and coatings, appls. in 200-300 Å range 1−33698
Al_2O_3 antireflection coating layer props. obtained by electron-beam evaporation in vac. 1−37568
Al_2O_3 coatings of KO-5 optical ceramic components 1−15251
B_2O_3-SiO_2 glass, weathering with and without antireflection films, effect on transmittance 1−53309
Fe_2O_3 antireflection layer beneath photoresist for standing-wave reduction in chirped grating holography 1−29235
Ge-As(Sb)-S(Se) two layer antireflection coatings for YIG near IR detector elements *(Russian)* 1−41800
In_2O_3/SnO_2-SiO_x-nSi structure for solar cells, characts. 1−17197
$In_{2-x}Sn_xO_{3-y}$ transparent conducting coatings on Si solar cells and 'figure of merit' 1−48843
MgF_2 coatings on glass and selective transparent filters for solar collectors *(Japanese)* 1−21909
Si photovoltaic cell, antirefl. coating and p-n junction form. by dopant diffusion 1−34360
Si solar cell fabrication, BSF with fire through contacts printed on AR coating 1−4188
Si solar cells, wide band wide angle reflection-reducing coatings design, deposition and environmental eval. 1−41796
Si_3N_4 plasma CVD film as preferential diffusion mask for InP avalanche photodiode 1−25589
SiO_2 coatings of KO-5 optical ceramic components 1−15251
SiO_2/TiO_2 optical interf. coatings prepared from colloidal solns. 1−37563
TiO_2-Ti solar selective absorbers, antireflection coatings on metals *(Japanese)* 1−21900
TiO_x ceramic antireflection coatings for Si solar cells 1−17211
TII containing antireflection coating, clarity and environmental stability improvements 1−37571
ZnS-BaF_2 two-layer coatings vac. deposited on GaAs items 1−37570
ZnSe antireflection coated laser window, photoacoustic spectroscopy 1−37595
ZnSe components, increased light transmission using polymer antirefl. coatings 1−37567
ZnSe-ThF_4 antireflection coated laser window, photoacoustic spectroscopy 1−37596

aperture cards *see microforms*

API gravity *see density*

apodisation *see acoustic imaging; optical images*

apparatus *see instrumentation; instruments*

apparent porosity *see porosity*

appearance potential *see ionisation potential*

appearance potential spectra
microchannel plate detector for X-ray spectra 1−45096
rare earth metal, fine structure of soft X-ray APS and electron energy loss spectra 1−53016
Cr overlayer on Fe and Ti, escape depth comparison between Auger electron and disappearance potential spectroscopy electron 1−26319
Fe, adsorption of CO, effect on Auger electron appearance potential spectra *(Japanese)* 1−39184
Fe-Co, soft X-ray appearance potential spectra 1−3538
Hf, isochromat and SXAPS meas. 1−43221
Hg_x supersonic beam aggregate intensities and appearance potentials 1−6420
Ta, isochromat and SXAPS meas. 1−43221
W, isochromat and SXAPS meas. 1−43221
Yb_2O_3, ^{70}Yb SXAPS 1−26313

appearance potential spectroscopy
soft X-ray appearance potential spectrometer with sealed off analyzer tube *(Chinese)* 1−23384

Appleton layer *see ionosphere*

appliances, domestic *see domestic appliances*

applied mechanics *see mechanics*

approximation theory
see also function approximation; interpolation; least squares approximations
diamond difference approximation, resolution of singularities 1−36978
neutron transport theory, asymptotic limit, nearly critical systems, small mean free paths 1−5821
open unstable resonators, approx. diffraction formulae compared 1−1602
plane boundary, half-space integral transport eqn., approx. solns. 1−195
radiative effects in relativistic gravity, gravit. radiation reaction and energy loss in nearly Newtonian systems 1−49497

apr *see acoustic paramagnetic resonance*

APW calculations
diamond lattice, generalised Ewald potential problem 1−47432
Al, positron annihilation in vacancy, APW calc. 1−26299
AlFe(Co)(Ni), APW band struct., densities of states, complex dielec. function 1−7501
AlH_x, electronic struct. rel. to supercond. 1−2863
Al(111) film, electronic struct. and surface states, self-consistent linearised APW method 1−47727
Au, relativistic electron structure, APW method *(Ukrainian)* 1−38707
BaO, pressure induced metallisation, theoretical estimate of transition press. 1−16232
CaO, polarisable O^{2-} ion electronic charge distrib. 1−30632
Ce, f-electron bonding, electronic struct. and phase transitions 1−47431
Ce, isostructural γ-α transition, self-consistent linearised APW energy band calc. 1−42682

APW calculations continued
CeBe(Sb), magnetic anisotropy model, band struct. calcs. 1−42957
$CeH_2(H_3)$, electronic struct. APW calcs., LCAO calcs. 1−20627
La, f-electron bonding, electronic struct. and phase transitions 1−47431
La, FCC, electronic struct. and supercond. under press., linearised APW calc. 1−7514
La monopnictides, electronic struct. 1−20605
LaH_2, LaH_3, electronic struct., APW method 1−38715
Mg, momentum density distribution for Compton scatt. and positron annihilation 1−48193
MgO, polarisable O^{2-} ion electronic charge distrib. 1−30632
NaF, polarisable O^{2-} ion electronic charge distrib. 1−30632
Ni-Si(Ge)(Be), dil., interaction of solute atoms with vacancies and interstitials 1−34367
NiH, electronic struct., rel. to supercond. 1−25607
PdH, band struct., APW calc. 1−38717
PtH, band struct. calcs. possible high temp. supercond. 1−7511
refractory monocarbides, substoichiometric, LCAO-CPA studies of C vacancies 1−2856
Si, band struct., non-muffin-tin APW calc. 1−47451
SmS(Se)(Te), band struct. under press., semiconductor-metal transition 1−2872
SrO, pressure induced metallisation, theoretical estimate of transition press. 1−16232
TiLi, energy band structure and wave functions *(Ukrainian)* 1−25622
TiN (100) cryst. energy band dispersion from ang. resolved PES 1−42688
V, metallic, charge asphericity, X-ray form factors calc. 1−25613
YAl_2, Fermi surface and energy band struct. 1−7507
YSb, electronic struct. 1−20605
Zr hydrides, band struct. calc. 1−25608

arc discharges *see arcs (electric)*

arc furnaces
crack damaged graphite electrodes, current distrib. and its effects *(German)* 1−3883
electric, noise analysis 1−37705

arc heaters *see arc furnaces*

arc lamps
Zr-Ni selective H getters for high-pressure gas discharge lamps 1−7024

arc welding
see also welding equipment
austenitic weld metal containing 25% Ni, crack resist. variation with welding electrode type 1−26625
glow discharge column in Ar arc welding, parameter determination 1−51998
optical fibre directional couplers, low-loss, fabrication by elec. arc welding 1−33822
plasma current effect on metal transfer, vertical mag. field effects *(German)* 1−7025
stability of AC arc, emission of positive ions by welding slags 1−40889
steel, stainless, and Cu, low-cost TIG process for cryogenic and vac. system welds 1−5320
structurel steels, welded joint cracking resist. improvement by electromagnetic stirring 1−34409
TIG, operating on Cu anodes at up to 14.8 atmospheres, stability obs. 1−15720
TIG, welding heat source/molten pool interaction, plasma diagnostics approach 1−15656
UV radiation hazzards to welders meas. 1−22082
Ar free burning welding arc column model, 100 to 500 A 1−7020
H_2 free burning welding arc column model, 100 to 500 A 1−7020
N_2 free burning welding arc column model, 100 to 500 A 1−7020

archaeoastronomy *see astroarchaeology*

archaeology
see also astroarchaeology
clay pipes at 1645 AD geomag. archaeomagnitude determ. 1−44105
ESR dating, present status, reply 1−27302
Greek sundial from time of Alexander the Great, discovery in central Asia 1−44748
Jiangzhai relic (3900 AC), Neolithic epoch, archaeomagnetic research *(Chinese)* 1−49199
thermoluminescence dating, appl. to archaeology and geology, review 1−17691
Troy, geomorphic reconstructions of environs during last 10000 years 1−27164
^{14}C, detection and applications, radiocarbon dating, review *(Polish)* 1−54278

architectural acoustics
see also anechoic chambers; echo; noise abatement; reverberation
amplitude-frequency response correction in sound monitoring systems, radio/TV reception in public places appl. *(French)* 1−33852
articulation index calculation for open plan spaces 1−11247
audience induced background noise level in auditoria 1−1757
auditorium reverberation, iterative calculation 1−37708
barrier buildings, computer model for predicting sound attenuation 1−24587
cavity-backed panel subjected to external transient excitation, pressure within cavity 1−29461
cinematographic scoring stages, sound insulation from external noise *(Russian)* 1−19516
concert halls, auditory backward inhibition 1−1776
Danish churches, early, use of distrib. loudspeaker system with sound reinforcement 1−1775
double wall acoustic insulation evaluation, system theory and expt. *(Japanese)* 1−1771
double wall sound transmission loss, statistical energy analysis *(Japanese)* 1−29463
equivalent level of noise inside enclosue, generated by sources moving outside 1−29487
free-field measurements for a loudspeaker system in a normal room, methods of reducing reflected waves *(Japanese)* 1−6733
Helmholtz resonator interaction with acoustic mode of enclosure 1−19513
impulse statistics analysis of room acoustics, appl. to absorptivity meas. 1−15327
insulation system parameter estimation from noise evaluation level sequential obs. *(Japanese)* 1−29462
interior spaces, acoustical impulse response, comments 1−15328
lightweight walls, improvement of sound insulation *(German)* 1−1773
noise control in music teaching facilities 1−37704

architectural acoustics continued
nonresonant acoustic wave transmission through rectangular wall panel 1−19515
optimum planar sound diffusers, theoretical design 1−11244
orchestra shell in multi-purpose auditorium *(Japanese)* 1−24600
particular materials, static absorption coefficient, reverberation time *(French)* 1−11214
plane porous material absorbing struct., reverberant sound absorption coeff. estimation 1−6718
rectangular enclosure noise reduction and radiation efficiency *(Japanese)* 1−24586
research review, concert halls, sound diffusion, reverberation time and acoustic enclosures 1−6719
reverberant sound field and resonant vibration mode coupling *(French)* 1−51658
room acoustics for the aged 1−29460
room spectral response, statistical props. as function of direct-to-reverberant energy ratio 1−11246
room spectral response fluctuations, influence of direct sound 1−11245
self-protecting buildings, performance with respect to traffic noise 1−29464
short test methods, meas. uncertainty *(German)* 1−11264
spatial averaging of sinusoidal acoustic intensities in reverberant rooms, exact distrib. functions 1−1774
speech intelligibility in real and simulated acoustic fields in theatre 1−46630
speech intelligibility prediction in rooms from modulation transfer function, general room acoustics 1−1777
speech intelligibility prediction in rooms from modulation transfer function, mirror image computer model applied to rectangular rooms 1−1778
suspended baffles, absorption coeff. determ. for particulate materials *(French)* 1−11215
telescope meas. system, computerised 1−29485
temperature gradient effects on acoustic props. of room *(French)* 1−46626
wall/partition transmission loss, equiv. absorption area in receiving room, meas. using reverberation time method and ref. sound power source 1−6717
window acoustic insulation evaluation, standard methods *(Hungarian)* 1−37702

arcing *see arcs (electric)*

arcing, switches *see circuit-breaking arcs*

arcs (electric)
see also arc furnaces; arc lamps; arc welding; circuit-breaking arcs
air, high-current, Cu vapour concentration determ. 1−15738
arc radius, heat transfer process, elec. conduct., appl. to nucl. fusion and MHD conversion 1−42252
auroral particle acceleration, discrete narrow arc production, universal plasma process 1−36104
butt-electrode vacuum arc, Hall voltage and field meas. 1−38196
cathode during current switching in vacuum, expt. confirmation for vacuum discharges 1−25094
cathode during current switching in vacuum, form. of new emission centres 1−25093
cathode sports, crater form., erosion rates 1−2260
cathode spot clustering, plasma electrostatic repulsion and magnetic attractions 1−38197
channel arc model 1−2267
channel model for long arcs in air 1−2273
collision-dominated cathode spot theory 1−15682
confined Ar arc column, cold Ar injection effects 1−34165
current carrying finite arc segment, vector pot. and mag. field in analytical form 1−11604
current interruption process, fuse voltage 1−34171
cylindrical flux compression experiments, plasma crowbars 1−34058
diffuse vacuum arcs, DC current interruption, ion-neutral fluid model 1−34144
discharge in low voltage-high current region, modelling of volt-amp characteristics *(German)* 1−25105
electrically efficient, finely tunable, low power plasma generator 1−25006
exploding wires in air and water, microscopic arc discharges 1−15722
extinguishing of the electric arc compressed by shock waves 1−34180
flashover across the surface of an electrolyte: arresting arc propagation with narrow metal strips 1−11605
fossil fuels, plasma chemistry, book contrib. 1−34179
free burning, plasma analysis using optical absorption meas. system 1−50186
free-burning, extinction and reignition obs., by time-resolved spectroscopy 1−15723
gas discharge and their appl., conference, Edinburgh, Scotland (Sept. 1980) 1−13934
gases and gas mixtures, elec. breakdown carbonisation prediction 1−20004
glow to arc transitions, cathode to anode propag. time of luminous pulse *(French)* 1−11603
graphite, DC arc in Ar flow, voltage-current characts., quasi-neutral region obs. 1−29940
helical arc current, electromag. interaction with its own mag. field 1−15667
high current arc, temp. distrib. in conductive track on magnet blast chute surface 1−34170
high pressure arc discharge, optogalvanic spectroscopy and thermal relaxation 1−11594
high pressure gas discharges, pulse forming networks, coupling energy transfer efficiency 1−38187
hollow cathode arc discharge, active zone processes 1−19989
hollow-anode vacuum arc, anode sheath growth and collapse 1−34146
HV, ultra-high speed and high breaking capacity, pre-arc phenomena considerations *(Rumanian)* 1−15662
HV insulator strings, stresses caused by arcs and their anal. and characterisation *(Hungarian)* 1−38162
impulse breakdown, atmospheric, two-wavelength interferometry, simultaneous recording 1−42230
inert gas-Hg mixtures, multichannel discharges caused by anode oscill. 1−42227
inert-gas mixtures, plasma, current runaway and spatial struct. formation 1−15159
initial arc movement, Cu electrode surface effect 1−34168
IQ-meter for specific heat flow and current density meas. in electric arc spot *(Russian)* 1−46923
ISX-B Tokamak, arcing studies, sulphur detection 1−25085

arcs (electric) continued
magnetic arc movement, from multi-collisional viewpoint 1−15721
metal vapour arc column, high current between seperating electrodes 1−34143
metallic particle motion in high current vacuum arc discharges 1−7017
MHD generator, flow of combustible products containing an additive, electrode arcs theory 1−15669
MHD generator characteristics, current constriction effect at electrodes 1−2251
MHD generator electrodes in arc discharge mode, voltage-current characteristics 1−15668
Mini-Torus, discharge cleaning and arcing 1−29923
optically thick plasmas, axisymmetric arc column experimental determ. of emission coeff. 1−2166
oscillating arc in combustion flow, spherically symmetrical model for sound emission 1−19988
plasma, high press., elec. conductivity and optical props. 1−38056
plasma chemistry, book 1−32811
plasma jet momentum in a tip-plane arc config. 1−38161
plasma jet-metal electrode system, electric breakdown investigation *(Russian)* 1−46895
plasma science conference, Madison, WI, USA (19-21 May) 1−13930
plasma surface interactions in controlled fusion devices, proceedings of the Fourth International Conference 1−22941
plasmatron, glowing arc, elec. field intensity in turbulent air stream 1−38169
PMMA, ablation dominated, high current density, plasma meas. and arc model 1−11608
relays, electromechanical, contacts activation by organic outgassing products as function of temp. *(French)* 1−19993
review of physics of high-power arcs 1−38173
RF discharge, plasma induced arcs 1−25088
shock tubes, arc driven, improvement of Mach number of capabilities 1−15616
spectroscopic analysis, atom transport in arc electrode 1−51922
spot motion, mag. field effects in fusion devices 1−25090
stainless steel plasma wall, surface damage by sheath effects and unipolar arcs 1−25000
steel, type 304, arcing studies, sulphur detection 1−25085
steel spherical electrode HV stability in ultra high vacuum, obs. 1−5332
switchgear, SF_6 insulated, metal-clad, overvoltages caused by operation of isolators 1−52018
switchgear, SF_6 insulated, power arc fault studies 1−38166
Tokamak, DITE, arcing studied using time-resolved arc detector 1−25086
Tokamaks, impurity production by arcing and sputtering 1−25021
Tokamaks, unipolar arcing 1−29912
Tokamaks, unipolar arcs as impurity source 1−24949
transition metal elements emission spectra anal. by arc plasmatron 1−29928
two dimensional tanh-conductivity arc, complete solution 1−15675
two-dimensonal arc stability, plug flow effect 1−34160
unipolar arcs, two-plasma model *(German)* 1−42220
unipolar arcs in JFT-2 Tokamak, role of MHD instabilities, mag. field effect 1−25087
vacuum, with distributed discharge, on expendable cathode 1−34177
vacuum arc, erosion and cathode jets 1−25097
vacuum arc, high current between hollow cylindrical Cu electrodes in radial mag. field 1−34147
vacuum arc plasma, props. and expansion dynamics, density determ. 1−25103
vacuum arc switch ignition, 10 kHz, circuit configurations 1−25116
vacuum arcs motion and impurities in high mag. field 1−25089
voltage-current relationship, in arc discharges 1−38195
wall-stabilised cascade arc, powder injection, emission obs. 1−11609
Ar arc discharges, mathematical model, electrical and physical characteristics 1−15664
Ar DC turbulent arcs, temp. diagnostics 1−34164
Ar decaying plamsa arc, electron density, Saha-Boltzmann relation 1−19991
Ar, dynamic plasmas in supersonic flows, temp. meas. 1−38198
Ar, fluid transpiration arc, excited state population densities 1−42251
Ar mini-arc for VUV radiance transfer standard 1−322
Ar-air, stabilised, spectroscopic methods of temp. meas. *(Russian)* 1−15646
C electrode lightning protector blocks, arcing mechanisms 1−46935
C-Cu electrode, lightning protector blocks, arcing mechanisms 1−46935
Cd^+ excited states in vacuum arc plasma, population inversion, spectroscopic meas. 1−42205
H^- ion source, duoPIGatron, use of hollow cathode 1−23901
Hg, arc discharge, thermal relax., opto-galvanic spectra 1−38191
Hg arc plasma in axial mag. field, electron temp. meas. 1−29840
Hg DC vacuum arc, anchored cathode spots 1−34145
Hg vapour, nearly saturated, pre-breakdown elec. conductivity 1−15579
Hg, vertical high pressure arcs, axial segregation of additives 1−38194
Kr arc discharges, mathematical model, electrical and physical characteristics 1−15664
Mg plasma, in unipolar arc, spectral lines, space/time diagnostics 1−19955
Mo low press. arc electrodes, erosion in self-generating discharge regime *(Russian)* 1−2264
N-O gas mixtures at low press., impulse discharge processes during glow to arc transition 1−15715
N_2 gas-blast arc column, free recovery 1−34163
N_2 pulsed laser, segmented metal discharge tubes 1−24432
Na, arc discharge, thermal relax., opto-galvanic spectra 1−38191
Na, elec. cond., plasma temp., electron distrib., cross sections calcs. 1−42250
Na-Hg-Xe, discharge arcs, high pressure props. plasma comp. depend. 1−38192
SF_6, arc discharge, enhanced photoemission 1−42229
SF_6 arc flow interactions in double nozzle flow system 1−34157
SF_6 gas insulated equipment, power arc effects 1−11630
SF_6, gas-blast arc column, free recovery 1−34163
SF_6 high current arcs, optical spectroscopic meas. 1−34161
SF_6, power losses, visible and IR radiation meas. 1−38199
SF_6, stationary state and decay obs. 1−15724
W-Th electrode, diffusion depletion time, in arc burning, temp. depend. 1−42581
Xe, arc, low-voltage, plasma props., voltage-current characteristics 1−25102

area measurement
catalysts, surface area determ. 1−14095
human airway area, meas. by acoustic reflections at the mouth 1−13296
human central airways, comparison of direct and acoustical meas. in physical models 1−13297
MOS structures, electrical area determ. 1−38855
optical open area ratiometer 1−5352
organ volume and surface area, estimation from 2D echocardiography 1−53840
perforated sheet open-area percentage meas. by Fourier optics 1−27927

argon
see also nuclei with .....
adsorbed monolayer on BN, two-dimensional phase change at 77K 1−16170
alpha-particle induced scintillation, emission spectra 1−29833
anharmonic crystal, statistical theory of vacancy formation, thermodynamic props. 1−2432
anthracene+Ar, van der Waals complex formation, IR spectral shift and lifetimes in supersonic jet 1−31837
arc discharges, mathematical model, electrical and physical characteristics 1−15664
arc plasma, line intensity jump, population and electron densities, Saha-Boltzmann relation 1−19991
arcs, dynamic plasmas in supersonic flows, temp. meas. 1−38198
atom, electron impact ionisation, X-ray emission spectrum 1−19195
atom, electron impact ionisation cross sections, mass spectra 1−10844
atom, electron impact ionisation efficiency curves near ionisation threshold 1−15012
atom, electron scatt., total cross sections meas. 1−6385
atom, near threshold alignment, post collision interactions 1−6219
atom, non-relativistic theory, photoelectron polarisation calcs. 1−24086
atom, photoionisation, angle-, energy- and spin-resolved photoemission 1−28935
atom, positron and electron low energy collision, total scatt. cross section 1−15015
atom, positron scatt., low energy meas. 1−6386
atom, positron scatt., total cross section meas. 1−15019
atom+He(Ne)(Ar)(Kr), 2p levels, depolarisation cross section temp. depend. *(French)* 1−33539
atom+light projectile, K- and L-shell vacancy sharing 1−1351
atoms, asymmetry parameter, partial photoionisation cross sections, spin-orbit components 1−24087
atoms, Beutler-Fano autoionising reson., relativistic multichannel quantum defect theory 1−1188
atoms, electron impact excitation of reson. transitions, calc. using distorted-wave Born approx., role of optical pot. 1−33568
autoionising states, electron impact excitation energy loss obs. 1−19190
classical dense fluid, time correl. functions 1−25134
cold cathode discharge, electron temp. oscillation meas. using direct CRO display 1−25063
compressed gas, Rayleigh-Brillouin spectrum, rel. to generalised Enskog theory 1−2139
confined Ar arc column, cold Ar injection effects 1−34165
crystal, shock wave structure, molecular dynamics calcs. 1−30325
DC turbulent arcs, temp. diagnostics 1−34164
determination, in steels and alloys manufactured by hot isostatic compacting *(German)* 1−31918
dimer, photoionisation cross section and autoionisation struct. 1−33515
discharge, heterodyne detection of phase-conjugate emission using low-power CW laser 1−37549
discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
discharge influence on microhardness of LiF *(Russian)* 1−48488
discharge with superimposed fields, voltage time depend. *(German)* 1−25104
discharges, excited and doubly charged ion, concen., radial distrib. and radial particle calc. 1−34132
electric breakdown in superimposed fields 1−2135
electrons average energy loss factor, transport equations 1−11523
equation of state, extrapolated, for rare gases at high temps. and densities 1−42119
fluid transpiration arc, excited state population densities 1−42251
fluid with m-6-8 potential under shear, computer simulation 1−7060
free burning welding arc column model, 100 to 500 A 1−7020
gas, collision-induced light scatt., integrated intensity 1−24925
gas, compressed, refr. index dispersion direct meas. with yellow Hg light *(French)* 1−6923
gas, effect on ArF^* fluorescence yield, quenching rate consts. 1−37251
gas, positronium form., energy depend. 1−24291
gas, visible spectrum refractivity under variable press. *(French)* 1−6924
gas atom in plasma, electron drag by reson. freq. light, discrete at. excitation *(Russian)* 1−24951
gas matrix, BeF radical ESR and isolation spectra 1−24173
gas source dual inlet mass spectrometer, valve-mixing correction for changeover valve 1−371
glow discharge, thermal balance on closely ranged electrodes 1−52000
Hawaiian igneous rock origin, Ar and He isotope study 1−9138
IGFET fabrication, B oxidation-enhanced diffusion reduction 1−30472
ion beam effect, on sputtered atom ionisation probability *(Russian)* 1−3555
ion CW lasers, radial ion drift influence on population density 1−51452
ion implantation of Nb film, effect on supercond. props. *(Russian)* 1−30859
ion laser, mode-locked, pulse synchronisation with mode-locked Nd:YAG laser 1−51531
ion laser synchronously mode-locked to Nd:YAG laser 1−46411
ions, 2-20 MeV, equilib. charge-state distribs. on thin C foil 1−46102
isoelectronic series, ferriclike ions, polarisabilities and sternheimer antishielding factor 1−51144
laser, frequency stabilised lasers with iodine measuring cell *(Czech)* 1−51449
laser, ionic line broadening obs. along high-current discharge axis 1−46297
laser $2p_{10}$−$1s_5$ transition characts. investigation using high-time-resolution laser spectrometer 1−357
liquid, bubble growth rate during boiling 1−34467
liquid, collision-induced light scatt., integrated intensity 1−24925
liquid, computer simulated, equilib. props., periodic bound conditions effects 1−46978

argon continued
liquid, free-ion electron yield and recomb. luminesc., elec. field effects 1−21269
liquid, isochoric thermal cond. as function of triple points 1−52367
liquid, light scatt. intensities boundary problems, computer simulation 1−48095
liquid, orthobaric, molar vol. and isothermal compressibility, pVT data 1−38422
liquid, repulsive forces, shock wave compression curves computed, using pair pot. 1−25139
liquid, shear viscosity meas. at low shear rates near triple point 1−20439
liquid, shock compression, 21 to 91 GPa, eqns. of state calc. 1−30288
liquid, supercooled, mol. mechanics study *(Russian)* 1−2308
liquid, third-order susceptibilities, orientational and electronic contribs. 1−37548
liquid, US velocity and surface tension, Flory's statistical theory 1−38467
liquid and gas, low temp., positron annihilation, influence of self-nucleating clusters 1−16622
liquid viscosity and diffusion, significant structures theory *(Spanish)* 1−52326
long sliding spark, breakdown characts. 1−46940
metastables, long-living, transport by own gas stream 1−15581
molecule, polarised Raman spectra 1−45972
molecule, UV emission in Ar-Xe mixture 1−46092
monolayer and bilayer solid films, coexistence, statistical mechanics 1−25570
monolayer on graphite, BN, two-dimens. condensation, adsorbate-adsorbent dimens. incompatibility effects 1−47387
monolayer on Pd(100), photoemission 1−8200
monolayers, on Pd (100), lateral interactions, band struct. models and photoemission expts. 1−3037
monolayers on graphite (0001), lattice dynamical study, anharmonic effects 1−47355
multidipole plasma, electron heating 1−6979
muonium prod. in solid and liquid Ar, hyperfine splitting 1−37369
NGC 6720 (Ring Nebula), S and Ar ionisation struct. from spectral line intensities 1−9611
perturbation of Na transitions to Rydberg levels, absorpt. profiles 1−37144
plasma, atom+electron collision cross section meas. 1−34043
plasma, diffusion and heat cond. coeffs. estimation, mag. field effects 1−38066
plasma, electron rate coefficients, electron-electron collisions effect 1−24933
plasma, highly ionised impurity confinement time in Tokamaks, numerical simulation 1−19941
plasma, ionisation waves form., phase velocity *(Russian)* 1−38082
plasma, transient absorption, cross section, comparison with ab initio calcs. 1−42181
plasma, transient afterglow, electron cyclotron reson. line shape 1−29906
plasma etching of Nb films 1−31733
positive column, Langmuir probe meas. of double layers 1−19990
rarefied gas, heat exchange, nonsteady hot-filament method using RC oscillator 1−11491
relativistic ion beams, higher-order corrections to stopping power 1−25344
rock salt, Ar gas permeability (radioactive waste disposal study) 1−44165
self-localised hole, energy spectrum 1−2903
shock wave, N_2 rot. distrib. 1−1336
solid, energy bands, X alpha calc. 1−34620
solid, ion beam collision-induced hot spikes, time evolution 1−53033
solid, phonon energies and dynamic form factor calc. 1−34440
solid, self-interstitial atom struct. determ. 1−25259
solid, two-phonon Raman spectra at 60 and 153.5K, phonon freq. calc. 1−35026
solid cryogen contact heat transfer expts. 1−47221
solid film, range and energy loss of 0.1 to 3 keV electrons 1−20289
spectroscopic F II/F I and S II/S I line transition probability ratios 1−6322
steady-state swarm behavior 1−11522
supersonic mol. beams, diagnostic apparatus complex for determ. beam props. 1−23368
TIG arcs operating on Cu anodes at up to 14.8 atmospheres, stability obs. 1−15720
van der Waal's partition function for fluids, second virial coeffs. 1−42116
viscosity, press. depend. up to 9 kbar 1−38039
VUV radiance transfer standard based on Ar mini-arc with integral differential pumping unit 1−322
W, energy dependence in Ar/CH_4 gas for 300 keV to 1.8 MeV protons 1−46847
Z pinch behaviour in low press. gas *(Japanese)* 1−19932
Ar IV in planetary nebulae, forbidden nebular and auroral transitions 1−22859
Ar, modified form of pot. energy functions, expressions for second virial coeff., force const. 1−51259
Ar XVI, XV, spectra of transitions within second shell 1−28914
Ar^- and Ar-Ne ion implantation of PLZT ceramics, image storage appl. 1−15241
Ar^+ laser radiation, high-freq. modulation due to stable two-mode oscill. 1−29253
Ar^+ laser radiation, high-freq. modulation due to stable two-mode oscill., theory 1−29254
Ar^+ laser with rhodamine 6G saturable absorber, passive and double mode-locking 1−24441
Ar^+ pump laser for rhodamine 6G laser, reciprocal passive mode locking 1−41732
Ar:$NO_2(N_2)$, solid, matrix isolation Raman-spectroscopy at high pressure and at low temperature 1−43151
Ar/OCS/O_2, matrix samples, S_2-SO_2 energy transfer, photolysis, thermoluminesc., fluoresc., IR absorpt. 1−48703
Ar-air arc, stabilised, spectroscopic methods of temp. meas. *(Russian)* 1−15646
Ar-Ar(-N_2)(-O_2), binary clusters formed upon expansion of Ar mixture 1−24304
Ar-Cs, photoionisation, photoconductivity induced by radiation pulse meas. 1−1547
Ar-H_2, supersonic mol. beams, diagnostic apparatus complex for determ. beam props. 1−23368
Ar-H_2, Van der Waals anisotropic pot. at intermediate distances 1−46050
Ar-He, supersonic mol. beams, diagnostic apparatus complex for determ. beam props. 1−23368
argon continued
Ar-Hg discharge, with wall phosphor, light emission increase with negative bias of wall 1−46936
Ar-Hg mixtures, RF H discharges characts. obs. 1−15740
Ar-Kr, equimolar mixture, mixing props., press. and temp. effects 1−38538
Ar-Kr-F_2 laser mixtures, kinetic processes 1−46309
Ar-La solid mixture, metal-nonmetal transition 1−38723
Ar-methane, electron drift velocity, electric field pressure 1−51904
Ar-methane, shift velocity, pressure, diffusion coeff., swarm expts., electric field scaling law 1−51903
Ar-N_2, struct. props., reference interaction site model 1−46966
Ar-N_2 laser pumped by high-current proton beam 1−51461
Ar-N_2 mixture, liquid, bubble growth rate during boiling 1−34467
Ar-N_2(methane), binary mixture, liq.-vap. interface theory, surface tension and density profile calc. 1−34551
Ar-Na, pot. calc. using Baylis model for electronic interaction 1−37288
Ar-Ne inverse Penning mixture, breakdown by Nd laser pulse 1−42125
Ar-O_2, liq. mixtures, vibr. energy relax. 1−1325
Ar-O_2 RF sputtering discharge, O_2 dissoc. mechanism 1−38184
Ar-Xe, fission fragment pumped lasing at 2.65, 2.62 μm 1−41663
Ar-Xe lasers, fission fragment nuclear pumping 1−24391
Ar+$^{12}C^{16}O$, line strength and collisional widths, tunable IR diode laser meas. 1−10785
7Ar+2H_2+O_2, overcompressed detonation wave, lifetime of multifront structure 1−13009
Ar+Ar^{18+} 1−29113
Ar+bare ion, inner shell charge transfer and vacancy prod., multielectron processes effects 1−6379
Ar+Br_2 collisions energy transfer, laser excitation 1−24232
Ar+C thin foil, atomic impact, quasimol. formation inner shell charge transfer cross sections 1−16643
Ar+CO, electron cond., drift velocity, cross sections, Boltzmann eqn. calcs. 1−38046
Ar+CO_2, low temp. fluoresc. studies, vibr. deactivation, rate comb. determ. 1−10705
Ar+carbon tetrachloride, Rydberg state, ion pair formation, cross sections 1−19164
Ar+Cs, collision broadening and shift of hyperfine struct., Lennard-Jones interactomic pot. const. calc. 1−24224
Ar+H, collision strengths at high speeds 1−19169
Ar+H, Lyman-alpha emission, collision induced 1−29090
Ar+H_2, ArH* luminesc. excitation kinetics of Ar-H mixtures, X-ray irrad. 1−6922
Ar+H_2, distorted wave and close coupling calc. of cross sections above rot. transitions 1−10804
Ar+H_2, H_2 continuum excitation 1−37319
Ar+H_2, H_2^+ fragment pre-equilib. distrib. and dissoc. 1−6369
Ar+H_2^+, charge transfer, mol. vibr., photoionisation, photoelectron-photon obs. 1−10781
Ar+H^-, fast H^0 atom prod. by stopping collision 1−1358
Ar+H^+, electron ejection differential cross section 1−10829
Ar+H^+, H(2s) form., absolute cross-sections determ. 1−6378
Ar+H^+, K-shell ionisation *(Portuguese)* 1−24234
Ar+H^+, L-ZZ 1−41467
Ar+H^+, proton impact double-ionisation cross sections determ. 1−41468
Ar+$H^+(H_2^+)(H_3^+)(D^+)$, charge exchange and electron loss cross-sections for various energies 1−29095
Ar+HF, HF band IR spectral line collisional narrowing 1−1283
Ar+He, He Rydberg S and manifold states deexcitation 1−1349
Ar+He, Rydberg state deexcitation 1−1348
Ar+He , He^- detachment, cross sections meas. 1−41475
Ar+K, cross section energy dependence, fine structure transition 1−24213
Ar+K^+, clustering reactions, mobilities and longit. diffusion coeff. 1−12989
Ar+Kr, small angle scatt., ang. transmission function, Monte Carlo calc. 1−29080
Ar+methan, methane vibr.-translational relax. time from spectrophone sensitivity press. depend. 1−46093
Ar+methane, inelastic differential cross sections, pot. anisotropy effects 1−10806
Ar+methane, interaction cross section 1−46064
7Ar+methane+2O_2, overcompressed detonation wave, lifetime of multifront structure 1−13009
Ar+Mg, collisional excitation, emission cross sections, polarisations 1−19177
Ar+Mg^+, angular momentum effects 1−24228
Ar+$\mu p \rightarrow \mu Ar^*+p$, muonic X-rays and muon capture 1−15040
Ar+N_2, electron cond., drift velocity, cross sections, Boltzmann eqn. calcs. 1−38046
Ar+NO collisions, interaction pot. and collision cross section 1−19160
Ar+Na, collision-induced fluorescence of Na, far wing depolarisation 1−41340
Ar+Na, collisional broadening of $3P_{1/2}$-$3P_{3/2}$ transition meas. by trilevel-echo technique 1−14983
Ar+Na, collisional broadening of Na-D line, fluoresc. obs. 1−19050
Ar+Na, Na resonance line press. broadening, mol. dynamics simulation 1−1183
Ar+Na_2, rot. excitation, cross sections, rot. rainbow resolution 1−41461
Ar+$Ne^*(3s^3P_{2,0})$, differential elastic scatt., optical pot. and orbital interpretation 1−46061
Ar+$p\mu \rightarrow p+Ar\mu$, transfer rate direct meas. and muonic X-rays 1−10872
Ar+S^{n+}, ($5 \leq n \leq 13$), K-shell excitation probabilities, rot. coupling 1−24214
Ar+Trichlorofluoromethane, Rydberg state, ion pair formation, cross sections 1−19164
Ar+UF_6^-, electrostatic energy anal. 1−41463
Ar+Xe, energy transfer kinetics, UV range 1−46092
Ar^++Ar, charge exchange, spin change, fine struct. scatt. cross sections calcs. 1−41490
Ar^++H_2(HD)(D_2), charge transfer, atom abstraction, rate consts., isotope effects, mass spectra 1−39630
Ar^++molecule, reaction, thermal rate consts. meas. 1−8550
Ar^++O_2, ion-neutral reactions, ionic vibr. excitation, drift, tube studies 1−43663
Ar^{+2}+N_2, near thermal charge transfer studied by stored ion technique 1−53413
Ar^{18+}+H, electron capture, classical model 1−6375
Ar^{18+}+He(Ne)(Ar) 1−29113

argon continued
Ar^{2+}+He(Xe), cross section for electron capture meas. between 60 and 200 keV 1−33543
Ar^{q+}+Ar, (q=1-4), symmetric reson. multiple charge transfer cross-sections 1−46109
Ar^{q+}+Ar, charge changing collisions, single electron-capture cross sections determ. 1−19167
Ar_2^+, absorpt. cross sections, pot. curves and transition moments, POL CI method 1−10639
Ar_2^+, dissociative recombination coeffs., electron depend., plasma, shock heating 1−38129
Ar_2^+ formation from Ar^++2Ar→Ar_2+Ar reaction in decaying plasma 1−53410
Ar_2^+ transient absorpt. studies, 2500 to 4000 Å region 1−45983
Ar_2+H_2S^+, collision induced and metastable dissoc., mass spectra 1−17037
Ar_4 cluster, unimol. dissoc. rate const., Monte Carlo sampling technique 1−46187
Ar($^3P_2$), atomic metastable states, detection by gas phase EPR 1−24070
$^{40}Ar/^{36}Ar$ ratio in oceanic glassy basalt, correl. with magmatic Ar content 1−49241
$^{40}Ar/^{39}Ar$ dating technique, thermal neutron interferences 1−44321
$^{40}Ar/^{39}Ar$ geothermometer for asteroid fragmentation events, meas. on meteorites 1−36235
Ar*+I_2, ion pair formation 1−10832
Ar*+N, electronic energy transfer 1−1340
Ar*+Ar→Ar*+Ar^+, low energy charge transfer study, time of flight technique 1−6373
Ar_2*, homonuclear excimers, excited and ground state interactions, spin-orbit coupling 1−6140
As_4-Ar binary diffusivity, eval. at 760 to 834K 1−11488
CO_2/Ar CW 18.4 μm gasdynamic laser, nozzle geometry and stagnation condition analytical modelling 1−41657
Co-Ar solutions, vibr. energy transfer and storage 1−35082
GaAs:Ar epitaxial layers and monocrysts., ion implanted, electrophys. and luminesc. props. 1−7663
H_2^++Ar(Ne)(Kr), collisional electron loss, electron energy spectra 1−46105
H_2^++Ar→HAr^++H, H^+ transfer exothermic reaction, reagent vibr. and translation 1−48665
HCl-Ar mixture externally sustained discharge, energy characts. and stability 1−42248
HF-Ar, shape and parameters of HF spectral line J=0-1 1−24193
HF+Ar, HF J=0-1 rotational line shape and param. *(French)* 1−51245
^{3}He-Ar, large volume multiple path nuclear lasing at 1790 nm 1−15153
^{3}He-Ar nuclear pumped laser, multiple-path large-volume for increased output 1−37459
Hg+Ar*, quenching rate const., Penning ionisation and excitation transfer mechanism 1−51267
K+Ar, 4P-7S and 4P-5D lines, collisional broadening and shift 1−51166
Li to Ar atoms, self-consistent field with pseudopot., average energy of config. calc. 1−37092
$LiNbO_3$:Ar, refractive index change due to ion implantation 1−26161
N+Ar^{2+}, single and double charge transfer 1−14992
N_2-Ar mixtures, afterglow, following microwave excitation, electron, ion density enhancement 1−2265
N_2-Ar_2-SF_6 gas, heated by CW IR laser, interferometric meas. and calc. of temps 1−38040
Na-Ar, collisional relax. and quantum beat of picosecond backward echo 1−46461
Na-Ar system, drop evaporation and diffusion calc. 1−1805
Ne-Ar, gas mixtures, Hz impurity, effect on breakdown and ionisation pots. 1−38175
Ne-Ar positive column plasma, metastable atom density meas. 1−38154
SF_6-Ar mixture, discharge parameters meas. 1−15578
SF_6-N_2-CCl_2-Ar gas mixture, spark breakdown potential automatic meas. 1−15743
Si:Ar ion implanted, radiation damage and defect annealing investigated using Rutherford backscatt. and EPR meas. *(German)* 1−20245
Si:As,Ar, ion implanted, interf. in diffusion, backscatt., elec. meas., and TEM obs. 1−2484

argon compounds
ArF*, fluorescence yield, diluent gas influence, quenching rate consts. 1−37251
ArF*, quenching by SF_2, KrCl* and XeCl*, CF_2Cl_2 and XeBr* and by CH_3Br 1−6541
ArF*, upper laser levels, quenching by electron beam pulses 1−24397
ArH*, emission band, excitation kinetics determ., UV obs. 1−41396
ArH* luminesc. excitation kinetics, from X-ray irrad. Ar-H mixtures 1−6922
$(ArKr)^+$, emission spectra, kinetic study, two- and three-body reaction const. calc. 1−41393
ArKrF* excimer, blue luminesc. emission mechanism 1−33499
ArKrF*(ArKrCl*), emission spectra 1−37219
ArO, spin-orbit coupling, ab initio CI calcs. 1−1125
$(ArXe)^+$, emission spectra, kinetic study, two- and three-body reaction const. calc. 1−41393
Ar..SO_2, van der Waals mol., struct. props. and inversion 1−1212
Ar...H_2, van der Waals mol., vibr. predissoc., rot. effects 1−24200

arithmetic (digital) *see digital arithmetic*

armouring (cables) *see cable sheathing*

aromatic compounds *see organic compounds*

arrays (antenna) *see antenna arrays*

arsenic
see also nuclei with .....
amorphous, elec. and optical props., review 1−47632
amorphous, kinetic theory of crystallisation 1−16025
amorphous, orthorhombic and rhombohedral, NQR study 1−21079
atmosphere composition, rainwater composition obs. 1−13532
atom, integral Compton scatt. cross sections, for 279 keV γ-rays 1−1149
carrier density, nonmonotonic variation at press. up to 120 kbar 1−2992
crystal and amorphous, X-ray K absorpt. discontinuity 1−35117
determination in potable, fresh and estuarine waters by flameless at. absorpt. 1−31923
diffusion in Si_3N_4 film, low press. CVD grown, stoichiometry and masking ability 1−20457
electron mean free path, energy depend., ESCA obs. 1−20293
electron spectrum changes due to press. *(Russian)* 1−52481
field ion source using alloys 1−12640
in geothermal waters, appl. of molybdenum blue to As determ. 1−54259
molecules, repulsive states, predissociation pot. curves, mol. vibr., IR obs. 1−14882
shear deformations, displacive phase transitions 1−2595
solid solubility in pulsed laser-annealed Si 1−11865
sorption of O_2 and N_2 on (111) surface, thermal accommodation coeffs., high speed vibr. method 1−8617
sputtered amorphous film structure, high resolution electron microscope obs. 1−11676
stabilisation of InP substrates for growth of $Ga_xIn_{1-x}As$ layers by MBE 1−3633
water pollution from geothermal sources at Waikato catchment, New Zealand 1−13191
As_2^{4-}, electronic struct., in solid cpds., SCF calcs. 1−12075
As_4-Ar binary diffusivity, eval. at 760 to 834K 1−11488
CeSb:Bi(As), magnetization and neutron diffr. studies 1−47915
GaAs:Ge, As, dual implantation, amphoteric activity, Hall effect and elec. resist. 1−38395
Ge:As, electrical resist. and carrier conc., polycrystallinity effect 1−7610
Ge:As, electron phonon interaction in intermediate conc. region 1−2579
Ge:As, even parity excited donor states from bound exciton two-electron transitions 1−48143
Ge:As, far IR donor absorpt. and photocond., saturation 1−52970
n-Ge:As, heavily doped, compensated, elec. cond. 1−20743
n-Ge:As, neutron irrad., ESR study 1−26015
n-Ge:As, thermal phonon scatt., mag. field and uniaxial stress effects 1−15985
GeS:As, photocond., ion implantation effects 1−30780
Si:As, amorphous, phase transitions prod. by pulsed electron irrad. 1−30364
Si:As, crystal pot. investigated by convergent beam electron diffr. technique, doping influence 1−7198
Si:As, diffusion mechanism, vacancy generation 1−47296
Si:As, dopant segregation, Hall and resist. meas. 1−38401
Si:As, electronic excitation spectra of donors, linewidth study 1−52976
Si:As, epitaxial CVD, enthalpies of doping element incorporation 1−20589
Si:As, front and back surface annealing, scanned CW CO_2-laser irradiation 1−2475
Si:As, implant diffusion enhancement by low-temp. heat treatment 1−11908
Si:As, implantation damage and annealing effect, amorphous layer form., ellipsometric obs. *(Chinese)* 1−20244
Si:As, implanted, interaction of mech. stress with residual defects 1−11774
Si:As, ion implanted, CO_2 laser induced annealing and diffusion 1−52159
Si:As, ion implanted, impurity-vacancy cluster interaction, ionisation enhancement 1−2501
Si:As, ion implanted, laser annealing effects on elec. props. 1−2485
Si:As, ion implanted, near surface regrowth effects 1−38390
Si:As, ion implanted, scanned electron beam annealing 1−42402
Si:As, ion range and damage distrib., Boltzmann transport equation 1−42439
Si:As, ion-induced impurity displacement, effect of Fermi level 1−11795
Si:As, laser induced diffusion, doping profiles 1−42575
Si:As,Ar, ion implanted, interf. in diffusion, backscatt., elec. meas., and TEM obs. 1−2484
Si:As iron implantation, temp. determ. by IR reflection coeff. meas. 1−14179
Si:As polycryst. film, sheet resist. reduction by laser irrad., implantation dose and laser wavelength effects 1−52670
Si:As polycryst. films, As segregation to grain boundaries 1−20387
Si:As wafer surfaces testing, As doping inhomogeneities visualisation and determination 1−7199
Si:H, F, As, amorphous, thermoelec. power and elec. cond. meas. 1−47691

arsenic alloys
see also arsenic compounds
Cu-As liq. system, Henrian activity coeff. of As 1−48675
Fe-As, dil., nuclear spin-lattice relaxation time 1−34953
Ni-As, dil., nuclear spin-lattice relaxation time 1−34953

arsenic compounds
see also arsenic alloys
graphite-AsF_5 intercalation cpd., electron energy loss spectroscopy 1−48207
graphite-AsF_5 intercalation cpd., NMR and ESR studies 1−39000
polyacetylene:ASF_5, doping effects on spectroscopic studies 1−39072
polyacetylene:$AsF_5(I_2)$, semicond., photoelectron spectra and X-ray induced AES 1−35146
polyacetylene, pure and AsF_5 doped, specific heat meas. 1−7353
polyphenylene: AsF_5, highly conducting cryst., oligomers solid state synthesis 1−11697
proustite, microscopic mechanism of low-temp. phase transition 1−11862
pyrene-AsF_5 intercalation cpd., NMR and ESR studies 1−39000
A_3Se_3:Cu(Mo,Ni), amorphous, RF cosputtered films, cond. temp. depend., optical absorpt., Fermi level shift 1−42781
Ag-As-Se glasses, low Ag conc. elec. cond. 1−38780
Ag_3AsS_3, proustite, Raman spectrum, soft modes 1−8074
Al/As_2SeTe_2/Sb struct., resist. and photovoltaic behaviour, contact barrier effects 1−52663
Al-As-Te semiconducting glasses, thermal props. and crystn. processes 1−25180
As-Ge-S system, optical and elec. props. 1−3387
As-Ge-Se system, optical and elec. props. 1−3387
As-Ge-Te amorphous film, steady state photocond. meas. 1−52603
As-S, melts and glasses, valence struct., viscosity and elastic props. 1−16080
As-S-Sm films, amorphous, photoinduced struct. alterations *(Russian)* 1−42323
As-S(Se), As-S-Se chalcogenide films, high-efficiency phase hologram recording at elevated temp. 1−6526
As-Se amorphous system, struct. and energy levels, UPS, Raman spectra and photocond. study 1−47440
As-Se chalcogenide glass, thin film waveguide fabrication by laser evaporation 1−6694
As-Se films, X-ray fluoresc. anal. 1−21658
As-Se glassy films, US Rayleigh wave effects, residual changes 1−2793
As-Se system glasses, physicochem. props. calc. method 1−42308
As-Se-Fe, glass, EPR spectra *(Russian)* 1−16478
As-Se-I-Fe glass, EPR spectra *(Russian)* 1−16478

arsenic compounds continued
As-Se-Sb system, glass form. region and elec. props., devitrification characts. 1−30080
As-Te-Si glassy films, switching delay time influence 1−7679
AsF_3 vapour, core level binding energy XPS for dopant mols. in conducting polymers 1−29036
AsF_5 vapour, core level binding energy XPS for dopant mols. in conducting polymers 1−29036
AsF_5-graphite intercalation cpd., magneto-oscillations 1−38763
AsF_5-graphite intercalation cpd., order-disorder transitions 1−39333
AsF_5-graphite intercalation cpd., single cryst. struct. studies by X-ray diffr. 1−42364
AsF_5-graphite intercalation cpd., de Haas-van Alphen effect 1−42677
AsF_5-graphite intercalates, band struct., optical props., structural energy 1−47463
$(AsF_6)^-$, normal coordinate treatment, mean amplitudes of vibr. 1−24115
AsF_6-NO_2SbF_6 intercalated graphite, 1−38989
AsI_3 gas, thermodynamic props. 1−38041
As_2O_3, glass, struct. and vibr. props., IR and Raman spectra 1−30068
As_2O_3, struct. and photostruct. props., NQR study 1−52862
As_2O_5, high temp., cryst. data 1−52116
As_2O_5-$Li_2O(Li_2CO_3)$ phase diagram 1−8285
$AsS^{3\pm}$, electronic struct., in solid cpds., SCF calcs. 1−12075
As_2S_3 amorphous films, electrical cond. 1−42784
a-As_2S_3, chalcogenide glass, luminescence polarisation time depend. 1−16605
As_2S_3 crystalline, press. effects on optical props. 1−21168
As_2S_3, enthalpies of formation and high-temp. thermodynamic functions 1−13034
As_2S_3, evaporated films, struct. 1−20585
As_2S_3 film, controlled growth for coupling integrated optical devices 1−41888
As_2S_3 films, reversible photostructural transform. mechanism *(Russian)* 1−52445
As_2S_3, glassy, space-charge-limited current, temp. depend. 1−2977
As_2S_3, luminescence fatigue, decay curves 1−48165
As_2S_3, optical energy gap and Raman spectrum under high press. 1−35060
As_2S_3, photoinduced refractive-index changes *(Japanese)* 1−46473
As_2S_3, photosuppression and photodarkening effects 1−26292
As_2S_3, vapour-deposited, hole transport meas. 1−34702
As_2S_3:Ag, amorphous film, high speed memory, reliability, expt. 1−20831
As_2S_3-Ag system, boundary motion *(Russian)* 1−30825
$(As_2S_3)_{1-x}$ $(AsBr_3)_x$ glass, depolarisation Raman spectra 1−3401
As_4S_3, struct. and photostruct. props., NQR study 1−52862
As_4S_4, amorphous evaporated films, struct, X-ray diffr. study 1−20585
As_4S_4, enthalpies of formation and high-temp. thermodynamic functions 1−13034
As_xS_{1-x} films, amorphous, photoinduced struct. alterations *(Russian)* 1−42323
$As_{40}S_{25}Se_{25}Ge_{10}$, photoinduced refractive-index changes *(Japanese)* 1−46473
As_2Se_3 amorphous films, glass transition characterisation by heat of vaporisation 1−30367
As_2Se_3, amorphous semiconductor, carrier pulse propagation, anomalous 1−7614
As_2Se_3 film, photoinduced oxidation, optical props. variation 1−43204
As_2Se_3, glassy, metal-nonmetal transition obs. on addition of 3d elements 1−47715
As_2Se_3, glassy, struct. defect states 1−52525
As_2Se_3, photosuppression and photodarkening effects 1−26292
As_2Se_3, rate consts. of crystn., temp. depend., additives effect 1−47004
As_2Se_3, struct. and photostruct. props., NQR study 1−52862
a-As_2Se_3:Ga(Cu) film, time resolved dark injection 1−20886
$As_{70}Se_{30}$ Fourier holograms, intensification of amplitude-phase contrast *(Russian)* 1−37443
As_2Se_3, thin film, spectral sensitivity *(Russian)* 1−48183
As_xSe_{1-x} amorphous thin films, electron drift vel. meas. 1−12114
As_xSe_{1-x} films, amorphous, photoinduced struct. alterations *(Russian)* 1−42323
As_xSe_{100-x} amorphous, valence band states, UPS determ. 1−12624
AsSeI, cryst. struct. determ. and synthesis 1−25231
$(As_2Se_3)_{1-x}(Sb_2Se_3)_x$, amorphous, Raman scatt. 1−26192
$(As_2Se_3)_x(SnSe)_{1-x}$ glass, influence of preparation conditions on positron annihilation 1−3531
$As_{20}Se_{20}Te_{20}$, switching and memory effects 1−12158
As_2Se_3Te/poly-N-vinylcarbazole system, dark and photocurrent, elec. field and temp. depend. meas. *(Japanese)* 1−34739
As_2Te_3, amorphous and metastable cryst. struct. correlations, Mossbauer study 1−30076
$As_4[Fe(CN)_6]_3.12H_2O$, Mossbauer effect 1−52879
B-As solid solns., unit cell dimensions, electron microprobe anal. 1−38347
$Ca_{10-x}Sr_x(AsO_4)_6(OH)_2$, IR spectra, fundamental freqs. 1−31154
CdSe/As_2Se_3Tl, thin layer system, photocapacitance effect 1−47711
CdSe-As_2Se_3 heterostructs., air baking of CdSe layer, effect on phys. props. 1−20861
Cu-As-Se chalcogenide semicond., drift mobility, photoinduced changes *(Russian)* 1−38781
$Cu_xHg_3As_4S_{12}$, cryst. struct. determ. 1−25221
$CuPbAsS_3$, cryst. struct. and twinning 1−25223
Ge-As-Se, glass-like semiconductors, holographic information recording, struct., chemical comp. *(Russian)* 1−37436
Ge-As-Se-Te glass, potential as IR optical material in 3-5 μm and 8-12 μm ranges 1−41798
Ge-As(Sb)-S(Se) two layer antireflection coatings for YIG near IR detector elements *(Russian)* 1−41800
Hg-As-S-I system, glass form. processes, Raman spectra 1−34239
InAsSb hybrid focal plane arrays 1−5399
$InAs_xSb_{1-x}$, direct gap, electron transport study 1−42792
$InP_xAs_ySb_{1-x-y}$ solid solution, optical props. 1−26294
Sb-As_2Se_3-Si MIS struct., potential diagram investigation 1−20878
SbSi:As ferroelectric, Raman resonance scatt. temp. depend. *(Russian)* 1−3420
Se/As-Se-Te/Se/poly-N-vinylcarbazole struct., photoinjection barriers meas. 1−42851
$(Se_{32}Te_{32}As_4Ge_{32})_{100-x}Ni_x$, chalcogenide amorphous semicond., electrical cond. and optical absorpt. 1−20730
Si-Te-As glassy film, current instability develop. in switching with delay 1−20833
Si-Te-As-Ge amorphous films, RF sputtering, props. rel. to deposition conditions 1−43262

arsenic compounds continued
SiH_4:$AsH_3(PH_3)$, impurity removal by laser purification technique 1−4105
$Si_{11}Te_{85}As_4$ glassy energy dissipation in switching 1−3026
$Si_{12}Te_{48}As_{30}Ge_{10}$, glassy films, switching delay time influence 1−7679
$Si_{12}Te_{48}As_{30}Ge_{10}$ glassy film, current instability develop. in switching with delay 1−20833
$Tl_2SeAs_2Te_3$, glassy, current inhomogeneities and develop. of thermal switching 1−20832
UAsS, positron annihilation study of electronic struct. 1−8155
V_2O_5-As_2O_3 glasses, elec. props. and struct. 1−30743

art
winter climate, art and historical records 1−44751

articulation (speech) *see speech*

artificial hearts *see artificial organs*

artificial intelligence
see also adaptive systems; biocybernetics; brain models; neural nets; self-adjusting systems
EEG, morphological descriptors, expt. signal segmentation *(French)* 1−40017
ESCA spectrum automatic interpretation by knowledge-driven method 1−31959

artificial kidneys *see artificial organs*

artificial limbs
above-knee prosthesis, microcomputer-controlled, and gait anal. system 1−13356
above-knee prothesis, microcomputer-controlled 1−22168
arm, simultaneous multiple axis control, lab. evaluation of unified theory 1−22166
arm prosthesis, microprocessor controlled 1−13354
hand prothesis, multifunctional, control methods using EMG signals, computer simulation system *(Japanese)* 1−13352
myoelectric artificial hand for tropical climates 1−44046
myoelectric control, digital sequential EMG processor 1−35915

artificial organs
see also prosthetics
blood pumping systems optimisation 1−35914
circulatory assist system for severe ventricular failure, automatic control 1−32308
cochlear prostheses, review of current status 1−32311
dialysis membranes, transport processes, lattice model 1−17109
ethylene-vinyl alcohol copolymer membranes, prep. for haemodialysis *(Japanese)* 1−39299
haemodialysers, theory vs. practice with residual blood loss 1−22167
heart, automatic control 1−35916
heart, microcomputer control system 1−32317
heart, stable and highly sensitive press. transducer 1−13359
heart, totally artificial, steps towards development 1−53932
heart, valve modeling for blood flow numerical anal. 1−4387
heart with independent energy source 1−44045
kidney, micropump design *(French)* 1−49164
kidney, wearable, miniaturisation of plasma separator *(Japanese)* 1−4388
kidney, wearable, urea-removal electrodialyzers 1−40024
laryngeal prosthesis, electronic, sound attenuation due to bioencapsulants 1−17522
left ventricular assist device, clinical experience 1−44047
left-ventricular assist systems, elec.-activated, long-term expt. studies 1−35917
magnetically actuated heart assist pump 1−13351
vision based on visual cortex stimulation, development prospects 1−22163

artificial satellites
1971-54A resonant orbit and geopotential lumped harmonics 1−49189
Advanced X-ray Astrophysics Facility observatory for Space Shuttle 1−49511
aerial survey photography development 1−28083
attitude control, model reference adaptive control system characts. 1−44409
axisymmetric satellite in reson. case, rot. motion *(Russian)* 1−13675
balloon satellites, history 1−54347
BSE satellite (Japanese Medium Scale Broadcasting Satellite for Experimental Purpose) mission 1−40303
concentrating photovoltaics, power for Air Force satellites 1−48860
Conference on spaceborne optics, Los Angeles, USA (Feb 1980) 1−27661
CS spacecraft, description and radiowave propag. expts., satellite communications 1−40302
Defense Meteorological Satellite Program satellite for meas. of HF radio environment in topside ionosphere 1−32579
distances as measured by Interkosmos laser ranging system *(Russian)* 1−4738
Earth oriented remote sensing satellite system, SPOT 1−32601
Earthnet programme of ESA, experience and prospects *(Italian)* 1−4622
electric utilities future energy sources 1−53522
ERDSAT, a satellite concept for Earth observations with combined optical and microwave payload 1−9343
ETS-II propag. expts., rain attenuation 1−17656
ETS-II weather radar system 1−17698
EXOSAT spacecraft, onboard Data Handling Subsystem 1−49473
Explorer satellites to study solar effects on magnetosphere and ionosphere coupling 1−49441
fast non-resonance rotation, of satellite in restricted three-body problem *(Russian)* 1−32613
geodesy, short-arc method appls. *(German)* 1−17552
geodetic meas., least squares estimate, recurrent algorithm error anal. *(Chinese)* 1−40035
geodetic satellite laser ranging system, performance anal. 1−17692
Geos 3 altimeter data, global gravity field determ. 1−44068
geostationary, receiver design for ionospheric investigation *(Spanish)* 1−54281
geostationary ring, probability of collision 1−36159
geosynchronous satellites, modelling of environmentally induced discharges 1−34141
GOES, Satellite Data Acquisition System (SATDAS) for air-sea interaction data acquisition 1−54249
Hakucho cosmic X-ray satellite, mission description and instrumentation 1−40300
Hakucho X-ray satellite, coordinated radio, optical, IR and X-ray obs. of burst sources in (1981) 1−36192
HEAO 3 gamma-ray spectrometer 1−32623
HEAO-C launching, preliminary report on hole in ionosphere 1−17723

artificial satellites continued
high-voltage differential charging of geostationary spacecraft 1−4740
HIPPARCOS, space astrometry 1−32596
HV solar array voltage pa effect on plasma power losses 1−35651
INSAT-1 solar array design and development summary 1−48864
INSAT-I, Indian National Satellite System, telecommunications, broadcasting and meteorology appls. 1−36161
ion thruster system (RIT-10), for geostationary satellite station-keeping 1−40305
ionosphere plasma flow around satellites, shuttle-era expts. 1−40204
Ionospheric Sounding Satellite-b, mission operation and results 1−40301
ISEE 1,2,3, mission to study bow shock, interplanetary effects 1−49457
ISEE-3, motion about collinear points, Lagrangian formulation 1−4748
ISEE-3, periodic orbits about collinear points, Lagrangian formulation 1−4750
Japanese satellite program to observe magnetosphere and ionosphere 1−40299
Lageos satellite trajectory, neutral atmosphere, electric drag *(French)* 1−4739
LANDSAT data transform. procedure for green and soil brightness indicators 1−4666
Landsat imagery, spatial postprocessing of spectrally classified data 1−40201
LANDSAT MMS data, interactive digital anal. system, geometric correction and registration procedure *(Italian)* 1−4665
launchings in 1979, mission descriptions *(French)* 1−13660
lunisolar perturbations in Earth satellite orbit, resonances dependent on semi-major axis, eccentricity and inclination 1−49474
magnetic stabilization, analysis and design 1−27356
MAGSAT satellite, Earth's mag. field measurement 1−9346
Marine Observation Satellite-1 (MOS-1) remote sensing satellite, mission 1−40304
Megsat, vector data appl. to initial geomag. field model 1−17557
Meteor-25 Fourier spectrometer for atm. parameter determ., design 1−36065
meteorological satellite observation, global system of GARP expt. *(Italian)* 1−4602
Meteosat image data processing defective classification technique 1−4663
Meteosat image preprocessing and image navigation system 1−36061
Meteosat operational programme, origins, schedule and cost *(French)* 1−32592
motion, atmospheric effects *(Russian)* 1−22562
motion, effect of Sun's and Moon's attraction *(Russian)* 1−22661
motion, perturbation effects of solar radiation pressure *(Russian)* 1−22662
motion, third-order soln. 1−40340
motion about collinear points, Lagrangian formulation 1−4748
motion in Earth's gravitational field *(Russian)* 1−22660
National Environmental Satellite Service, Global Weather Experiment data 1−54248
National Oceanic Satellite System 1−32600
NAVSAT, satellite ranging errors due to ionosphere 1−44357
NIMBUS-7, coastal zone colour scanner for chlorophyll conc. in sea 1−4662
Nimbus-7, ocean biology monitoring, Colour Scanner description 1−54282
observation satellites MOS, LOS, infrared, microwave radiometers, Japan 1−32599
oceanography, spaceborne synthetic aperture radar application potential 1−32461
orbit, highly eccentric, anomalistic period perturbation due to zonal harmonics 1−40321
orbit improvement, small eccentricity and inclination case *(Russian)* 1−49477
orbit improvement method using sparse obs. *(Chinese)* 1−40355
orbit predictions from scanning radiometer pictures 1−22665
orbiting laboratory, appl. to gravit. const. meas. 1−36169
P78-1, obs. of solar corona during solar maximum conditions 1−13756
Pageos 1 orbit, direct solar and Earth albedo radiation pressure effects 1−13659
periodic orbits about collinear points, Lagrangian formulation 1−4750
periodic orbits around oblate spheroid, theory 1−44412
planetary satellite orbiter motion, stroboscopic method appl. 1−40314
power systems for West Europe, problems and soln. proposals *(German)* 1−13107
Prognoz 7 effect on plasma flux in magnetosphere high latitude boundary layer 1−54324
remote sensing, design of satellite-based system for coastal oceans monitoring 1−49419
remote sensing satellites, data management 1−4623
resonant motion and stability of libration points *(Russian)* 1−22663
rosette (flowerlike) orbital patterns, coverage props., inclined orbits 1−17755
Samos 2 (1961α1), orbit determ. and anal. at 31:2 reson. 1−22664
satellite power systems (SPS), status overview and possibilities assessment 1−53566
Seasat synthetic aperture radar image processing 1−32531
Seasat-A, scatterometer meas. evaluation rel. to wind meas. in marine surface layer 1−17700
SEASAT-SAR processor workshop, Frascati, Italy (Dec., 1979) 1−49882
Shuttle pallet satellite, multispectral CCD sensor (MOMS) 1−4746
SIRIO Faraday rotation data use in Voyager 1 and 2 spacecraft navigation 1−22659
SIRIO Italian satellite program for ionospheric modification studies 1−22572
SIRIO satellite SHF propag. data, attenuation statistical behaviour 1−22377
SIRIO VHF expts. 1−22567
solar cell array for French earth observation satellite SPOT 1−39786
solar cell array for Maritime European Communication Satellite 1−39785
solar cell power stations, status and planned activities 1−39805
Solar Power satellite, causing heating of ionosphere and degradation of radiocommunications 1−4693
Solar Power Satellites for Europe, conditions and requirements for potential appl. 1−49472
solar power station 500 kW/Si space solar array, design, performance and life cycle cost relationships for Low Earth Orbit applications 1−53625
solar power station systems, effect on radioastronomy 1−54374
solar power stations, multi-100 KWe space systems, power management 1−53626
artificial satellites continued
Space Shuttle, ionosphere wave and particle phenomena induced by electrodynamic tether 1−4745
SPOT, push-beam camera with CCD, in-flight calibration *(French)* 1−369
SPOT, push-broom remote sensing camera, optical fibre device for in-flight calibration *(French)* 1−370
tethered satellite for geomagnetic field mapping 1−9287
Tethered Subsatellite System, attachment to space shuttle orbiter, ionospheric studies appls. *(Japanese)* 1−36158
trap mode in synchronous orbit, stability and state-dependent control force 1−13661
X-ray astronomy satellite, Einstein Observatory, results of observational program 1−32598
Ni-H_2 batteries for INTELSAT V 1−48825
asbestos
biological significance of defects in crocidolite asbestos, studies using transmission electron microscopy 1−32321
fibre identification by X-ray intensity ratio variation 1−4141
asdic *see sonar*
aspherical lenses
see also aberrations
collimated radiation irradiance redistrib. with refractive optical systems, design and analysis 1−11056
computer small optical analysis program for Commodore PET 1−46509
designing lenses to exploit available aspheric technology 1−46519
geodesic components for guided wave optics 1−11179
geodesic lens, diffr. limited, search for substitute contours 1−41882
multi-interface variable-index media, radial depend. singlet, illuminance and caustic surfaces 1−10909
testing by conventional interferometry 1−29369
zoom kernel stabilisation with the aid of aspheres *(German)* 1−1670
assembling
see also microassembling
fuel pellet assembly automation, CANDU reactors 1−45720
high-performance optics, quasi-diffr.-limited, performance assessment and assembly technologies 1−46486
assembly lines *see assembling*
assembly methods *see assembling*
association
see also association of liquids; associative ionisation
N-acetylalanyl-N-methylamide, H_2O behaviour around dipeptide, computer simulation 1−4244
adsorbate-adsorbate association, localised adsorption of gases on random heterogeneous surfaces, model 1−38667
α,ω-bis-(9-anthryl)-n-alkanes, photocycloaddition mechanism 1−31872
aromatic hydrocarbon-I_2 charge transfer complexes, spectrosc. and thermodynamic props. 1−51287
biological systems, metal ligand complexing 1−12966
brown coal-water system, H^+ NMR spin-lattice relax. 1−21071
butanol, aggregation effect on aq. micelles, pyrene fluoresc. probe obs. 1−17111
carbene complex formation, H_2C ... (FH), HF-Roothaan, STO calcs. 1−31851
complex formation const. and soln. equilib. 1−13031
complex formation with multidentate ligands, thermodynamic props., chelate effect 1−12965
complexation reactions, thermodynamic quantities, physico-chemical model 1−12967
cyclopropane-HCl complex, geometry identification from rot. spectrum 1−51185
dimer formation, chemical bonds, computer experiment 1−17045
ethylene, cycloaddition, ab initio and semi-empirical anal. 1−17034
formamide-He, van der Waals mols. and dimer formation in jet cooled expansions 1−48664
free radical+cyanoalkene, nucleophilicity and electrophilicity effects 1−39626
hexanol, aggregation effect on aq. micelles, pyrene fluoresc. probe obs. 1−17111
hydrocarbon, unsaturated, +HX, (X=F, Cl) laser enhanced addition reaction, information theoretic anal. 1−8551
metal complex formation by metal salt-ligating molecule mixture 1−12964
metal complex formation const. 1−8535
methyl+H reaction, high press. rate const. 1−31842
methyl cation+HCN→CH_3HCN^+, radiative assoc. at low press., ICR obs. 1−12969
N-methylacetamide in CCl_4 solvent, H bonding 1−10724
N-methylformamide in CCl_4 solvent, H bonding 1−10724
5-methylresorcinol-hexamethylenetetramine, IR and Raman spectra of struct. and stability 1−43116
nickel phthalocyanine-iodine complexes, chemical, spectral, struct. and charge transport props. 1−47621
nitrobenzene p-substituted anion, ^{14}N hyperfine splitting, ion pairing effect, ESR study 1−14948
organic ion, non-isomerised, metastable decomposition by higher energy pathway 1−17038
pentanol, aggregation effect on aq. micelles, pyrene fluoresc. probe obs. 1−17111
phthalocyanine redox equilib., solvent effect 1−10857
polybenzimidazole soln., mol. aggregation by fluorescence spectroscopy 1−35526
polydimethylsiloxane, association struct., surface tension and struct., film press., contact angle, heat of association 1−53461
purine+water, base stacking, intermol. energy and interactions 1−1116
rare earth selenites, synthesis and characterisation 1−25232
recombination reactions, atom and radical, book contrib. 1−12997
rhodamine 6G, association study using fluorescence polarisation 1−29027
sodium cholate (deoxycholate), micelle formation dynamics, ultrasonic absorpt. 1−43647
surface films, association struct., surface tension and struct., film press., contact angle, heat of association 1−53461
N-tertbutylacetamide in CCl_4 and cyclohexane, self-assoc., selective double reson. obs. 1−21721
tetradecyltrimethylammonium bromide, aq. micelles, pyrene incorporation and fluoresc. for aggregation meas. 1−17111
transition metal complex formation by metal salt-ligating molecule mixture 1−12964
transition metal complexes, Schiff bases, IR electronic spectra and mag. moments 1−21712

association continued
trioxalato-Fe(III) complex formation in aq. soln., X-ray diffr. 1−48654
uranyl acetate monohydrate by uranyl acetate hydration, X-ray anal. *(Russian)* 1−43661
water+alicyclic ketones, hydrogen bonded complexes, IR spectra 1−51207
water+aliphatic ketones, hydrogen bonded complexes, IR spectra 1−51207
BN-B system, sintering, amorphous B nitriding kinetics 1−39294
$BeH_2+H^- \rightarrow BeH_3^-$, complex formation reactions, ab initio calculations of potential energy surfaces 1−8543
$BeH_2+LiH \rightarrow LiBeH_3$, complex formation reactions, ab initio calculations of potential energy surfaces 1−8543
$C^+ + H_2(D_2)$, association reaction studied using drift tube mass spectrometer techniques, rate coeffs. determ. 1−8561
$CO_2+Cl^-(I^-)(NO_2^-)(CO_3^-)(SO_3^-)$ reactions, gas phase cluster prod. 1−4061
Ca_2NbCoO_6, formation reactions, thermal stability 1−35513
Ca_2TaCoO_6, formation reactions, thermal stability 1−35513
$CrCl_3$, conc. solns., complex form., X-ray diffr. obs. 1−4065
H, spin polarised, spin relax. and recombination theory 1−29070
$HCN+C_2H_4^+$ reactions, modified selected ion flow tube study 1−17036
H_2S+formaldehyde, $H_2S.H_2CO$ H-bonded complex, ab initio MO study 1−24032
He^+, 4-body conversion reaction, rate consts. meas. 1−4079
H(spin down) gas, press. meas., adsorpt. energies and surface recomb. rates on He 1−47320
$K^+ + Ar(N_2)$, clustering reactions, mobilities and longit. diffusion coeff. 1−12989
LaF_3, solid electrolyte props. 1−7378
LiNCS dimerisation in apriotic solvents, IR and Raman vibr. study *(French)* 1−31847
$MgO-SiO_2-H_2O$ system, hydrosilicates low pressure hydrothermal synthesis *(German)* 1−39285
NH_3, heterogeneous photocatalytic synthesis from H_2O+N_2 1−8604
NH_3+HCl, NH_4Cl nucleation rates in gas phase and influence of ions 1−43710
Na^+ ions in stratosphere, laboratory meas. of association and switching reactions 1−17649
$NaNO_3$ in 1-propanol-H_2O system, ion assoc. conductance 1−30432
Ne Townsend discharge, molecular ion formation and destruction 1−42226
Ni complex, macrocyclic complexes in soln., ligand ring size effect 1−8536
Ni complex formation stability, macrocyclic effect 1−13030
$SO_2+Cl^-(I^-)(NO_3^-)$ reactions, gas phase cluster prod. 1−4061
Se in Pb, partial heat of soln. determ. by microcalorimetric meas., mol. associates, PbSe* *(French)* 1−48716
Ti complex, biscyclopentadienyl Ti(IV) Schiff base complex formation 1−21713
$U+O_2 \rightarrow UO_2^+ + e$, associative ionisation 1−35518
$Y+H_2$, chemical thermodynamics, YH_2 enthalpy of formation 1−39606

association factor (liquids) *see association of liquids*

association of gases *see association*

association of liquids
see also colloids
adamantane carboxylic acid complex in cyclohexane, self-assoc. obs. using PMR 1−17050
alcohols, liq., dielectric loss, relax. and permittivity 1−7999
dibenzotetrathiafulvalene:tetracyanoethylene charge transfer complex, laser flash photolysis effects *(Russian)* 1−17080
2-2 electrolyte aqueous solutions model, ionic assoc. 1−8574
p-halophenols in non-polar solvents, H bond intermol. assoc., dielectric relax. 1−12451
lactams, 1,3- and 1,4-, intermolecular NH....O H bonds, selective binary and ternary NMR 1−41457
2-methyl-6-t-butylphenol-phosphoryl cpds., in chloroform, carbon tetrachloride and cyclohexane solvents association constants 1−29003
nucleotides in aq. soln., intermol. association, ^1H NMR, microscopic equilib. const. and Gibbs energy determ. 1−21705
perfluorosulphonate ionomers, ionic structural transforms. 1−38249
pyridine-trifluoroacetic acid complexes, in benzene, dipolar assoc. investig. 1−2307
rhodamine 6G, ethanol soln., assoc., absorpt. spectra 1−21223
N-tertbutylacetamide in CCl_4 and cyclohexane, self-assoc., selective double reson. obs. 1−21721
2,2,4,4-tetramethylpentane-3-ol in soln., dimerisation equilib. by IR absorpt. spectra and dielec. methods 1−39591
thermodynamics of solutions with reactive components 1−39665
trimethyl acetic acid-DMSO-carbon tetrachloride system, PMR obs. of complexing reactions and parameters 1−17049
D_2O, in benzene, far IR absorption intensity 1−1222
Fe(III) complexes, biogenic amines in aq. solns., ^{13}C NMR and spin-lattice relax. 1−33477
HCl, liquid struct., assoc., H bonds, intermolecular pot. 1−42287
H_2O, in benzene, far IR absorption intensity 1−1222
Sb-Zn, liquid alloy, association and its energetic effect *(German)* 1−39316

associative ionisation
He+He(Ne)(Ar)(Kr)(Xe), Rydberg state deexcitation 1−1348
N_2 form., during ion bombardment of Si:N, by assoc. ionis. with diabatic curve crossing 1−39203
Na 3p+Na 3p, energy pooling, product signal depend. on laser power density, rate const., temp. depend. 1−19170
Na+Na, crossed-beam collisions, in reson. laser fields, Penning and assoc. ionis. 1−37304
Ne Townsend discharge, molecular ion formation and destruction 1−42226

astatine
see also nuclei with .....
No entries

astatine compounds
No entries

asteroids
1976 UA, recovery, precise positions and correction to ephemeris 1−32643
1976 WA, recovery of Apollo-type object, precise posns. 1−27413
1979 (65) 1, discovery of possible satellite of Cybele 1−27409
1979 Sydney Observatory precise props., obs. with 23 cm camera 1−27415

asteroids continued
1980 RG_1, Amor type asteroidal object, discovery, precise positions and ephemeris 1−4810
1980 RG_1, recovery and precise posns. (1980 October) 1−27412
1980 WF, ephemeris continuation, 1981 January 16 to April 6, and brightness vars. obs. 1−40374
1980 WF, posns., orbital elements and ephemeris (1980 Dec.-1981 Jan.) 1−32642
1980 WF, precise posns. for fast-moving object (1980 Nov.-Dec.) 1−32641
1980 YS, precise posns., orbital elements and ephemeris (1980 Dec.-1981 Apr.) 1−44464
1981 CW, probable Amor-type asteroid, precise positions, orbital elements and ephemeris 1−54409
1981 ephemerides *(Russian, English)* 1−13722
Apollo-type object impact, terrestrial temp. increase and extinctions 1−9258
asteroidal planet, as origin of comets 1−40375
astrometry (1977-1978) at Dresden Lohrmann Observatory 1−27411
astrometry (1979) at University Observatory Siegen *(German)* 1−27410
astrometry in equatorial coords. and rectilinear coords. *(French)* 1−40310
161 Athor, rotation period from UBV photoelectric lightcurve 1−9407
324 Bamberga, phase relation and light curves from photometry obs. 1−40372
1865 Cerberus, photometry, light curve amplitude and rot. period 1−13723
Ceres, UV spectra obs., 210-320 nm 1−9410
2060 Chiron, discovery and orbit 1−44470
2060 Chiron, V-band and JHK photometry rel. to surface material comp. 1−44503
cometary origin, search for comet-like outgassing, UV obs. 1−9405
commensurability cases of Sun-Jupiter asteroid problem, new results 1−40337
Cretaceous-Tertiary boundary meteorite impact, sediment chemistry record 1−32442
Cretaceous-Tertiary species extinction, element abundance and asteroid impact? 1−9157
65 Cybele, occultation of AGK+19 599; discovery of 1979 (65) 1 possible satellite 1−27409
65 Cybele, rot. props. of remaining large minor planet from photoelectric UBV photometry 1−27409
1538 Detre=1980 SK, lost minor planet identified, ephemeris 1−27414
31 Euphrosyne, rot. props. of remaining large minor planet from photoelectric UBV photometry 1−27409
FK4 equinox and equator improvement using asteroid obs. 1−32603
fragmentation, meteorite thermal history from $^{40}Ar/^{39}Ar$ geothermometer obs. 1−36235
GPO, La Silla obs. (April 1978, April 1979), precise posns. 1−9406
1370 Hella, lost minor planet, recovery, (December 1979) 1−49557
139 Juewa, rotation period from UBV photoelectric lightcurve 1−9407
3 Juno, diameter determ. from occultation of AG+0°1022, photoelec. obs. 1−54408
Juno, dimensions determ. from occultation of SAO 115946, (1979 December 11) 1−40309
Jupiter effect on elliptic orbit, short-period perturbations 1−40345
Kirkwood Gaps, origin 1−4808
Kirkwood gaps origin, review of recent work 1−44467
216 Kleopatra, light curve and diameter 1−27416
39 Laetitia, astrometry and diameter using automatic coordinator-photometer *(Russian)* 1−54392
meteorite parent body, nature from correl. of meteorites and asteroids 1−36234
Minor Planet Circulars 5455-5540, precise positions, elements, ephemerides, new nos. and names 1−4812
minor Planet Circulars 5541−5604, precise posns., elements, ephemerides and new nos. 1−9409
Minor Planet Circulars 5605-5658, precise posns., elements, ephemerides and new nos. 1−22713
Minor Planet Circulars 5659-5722, precise posns., elements, ephemerides, new nos. and names 1−32644
Minor Planet Circulars 5723-5798, precise posns., elements, ephemerides and new nos. 1−44465
Minor planet circulars 5799-5858, precise posns., elements, ephemerides, new nos. and names 1−49561
Minor Planet Circulars 5859-5920, precise posns., elements, ephemerides, and new nos. 1−54411
missing planet in asteroid belt, evidence from long-period comets orbits clustering 1−40376
51 Nemausa, FK4 equator and equinox corrections using 2240 obs. 1−32604
304 Olga, lightcurve and phase function, V photometry obs. 1−22712
orbital elements, statistical dependences rel. to evolutionary connections between small bodies of solar system *(Polish)* 1−32635
orbital elements improved for 67 objects *(Russian)* 1−49559
orbital evolution in outer part of asteroidal belt and in Kirkwood gaps, numerical expts. 1−44468
orbital motion of commensurabilities, three dimensional treatment 1−44466
origin, explosion of parent planet (Phaethon) due to ice volumetric electrolysis 1−54410
Pallas, UV spectra obs., 210-320 nm 1−9410
peculiar shapes, geometrical models and implications for light curves and rot. periods 1−49560
201 Penelope, photometry rel. to rot. period, light curve and surface albedo vars. 1−13721
201 Penelope, short rotation period, 1980 Aug.-Sept. obs. 1−4811
positional observations, appl. to astronomical consts. determ. *(Polish)* 1−32607
positions rel. to FK4 catalogue equinox motion *(Russian)* 1−13668
positions used to determine FK 4 catalogue equinox correction 1−22694
1915 Quetzalcoatl, ephemeris for Earth approach and orbit evolution 1−54412
rotation periods, determ. for 32 asteroids from photoelectric obs. in (1978) 1−4809
rotational properties, correls. and selection effects 1−9408
secular perturbations, theoretical anal. 1−44423
shape and dimensions from photometric light curve 1−4780
stony meteorite origin, ^{244}Pu fission track thermometry 1−36233
three-dimensional distributions of minor planets and comets 1−44469
topocentric positions, coordinates for epoch 1950.0 *(German)* 1−49558

asteroids continued
1537 Transylvania (1940 QA), ephemeris, (1981 February 15 to April 26) 1−40373
Trojan, perihelion longitude and eccentricity long period perturbations 1−36208
Trojans, restricted three-body problems, elliptic functions 1−4807
Vesta, IR spectra, similarity to shergottites 1−27434
Vesta, props. used to determ. Ca rich achondrite Kapoeta parent body nature 1−36234
4 Vesta, radar detect. from Arecibo 1−22710
4 Vesta, surface texture and dust coating, optical polarimetry simulation 1−22711
Vesta, UV spectra obs., 210-320 nm 1−9410
astigmatism *see aberrations*
astroarchaeology
megalithic lunar observatories, classification of horizon foresights 1−44450
megalithic lunar sightlines in Scotland, lunar orbit calc. 1−40361
megalithic lunar sites for lunar orbit wobble obs. 1−44449
megalithic monuments 1−4784
astrobiology *see extraterrestrial life*
astroblemes *see meteorite craters*
astrometry
1976 UA, precise positions, 1980 December 7 to 1981 January 7, and ephemeris correction 1−32643
1976 WA, recovery of Apollo-type object, precise posns. 1−27413
1980 RG_1, Amor type asteroidal object, discovery and precise positions (1980 September 13 to 14) 1−4810
1980 RG_1, recovery and precise posns. (1980 October) 1−27412
1980 S 13=1980 S 24=1980 S 25, identification and new positional obs., (1980 March 15) 1−13728
1980 S 31, new satellite of Saturn, discovery and precise position, (1980 March 16) 1−44486
1980 WF, posns., orbital elements and ephemeris (1980 Dec.-1981 Jan.) 1−32642
1980 WF, precise posns. for fast-moving object (1980 Nov.-Dec.) 1−32641
1980 YS, precise posns., orbital elements and ephemeris (1980 Dec.-1981 Apr.) 1−44464
1981 CW, probable Amor-type asteroid, precise positions (1981 February 6 to March 9) 1−54409
β1269, visual binary system containing abnormal stars, proper motions, radial vels. and spectral types 1−49736
absolute astronomical coordinate system, zero fixing by means of Gonnsdorf Zeiss astrograph *(German)* 1−22668
AC San Fernando, star no.154 on plate 1329, proper motion determ. 1−13762
asteroids, determ. of FK 4 catalogue equinox correction 1−22694
asteroids, GPO, La Silla obs. (April 1978, April 1979), precise posns. 1−9406
asteroids, topocentric positions, coordinates for epoch 1950.0 *(German)* 1−49558
asteroids, use in finding systematic errors in stars equatorial coords. *(French)* 1−40310
astrofix in rectangular co-ords., Bhattacharji and Dollen methods *(French)* 1−17693
automatic coordinator-photometer for photographic image positions and diameters *(Russian)* 1−54392
automatic photoelectric transit circles 1−32622
BD+39°4400 (HD 200077), F-type star, absolute parallax from astrometric study 1−9570
BD+39°4403+AO 584, identification as common proper motion pair from astrometric study 1−9570
binary stars, micrometer obs. of double stars and new pairs 1−49730
binary stars, speckle interferometric meas. 1−9576
Boss General Catalogue, systematic corrections for right ascensions and proper motions *(Russian)* 1−13705
Cepheids, absolute proper motion determ. in FK4 system, list *(Russian)* 1−54524
Comet Bradfield (1980t), precise position, 1981 January 9, parabolic orbital elements and ephemeris 1−32664
Comet Bradfield (1980t), precise posns., elements and ephemeris (1980 Dec.-1981 Jan.) 1−27426
Comet Bradfield (1980t), prediscovery precise position, (1980 July 18) 1−32665
Comet Bus (1981b), precise positions, 1981 March 4 to 5, orbital elements and ephemeris 1−49576
Comet Bus (1981b), precise posns. (1981 March) 1−44507
Comet Lovas (1980s), precise positions, (1981 January 6 and 9) 1−27429
Comet Lovas (1980s), precise posn. (1980 December 9) 1−27425
Comet Lovas (1980s), precise posns. (1980 December) 1−27424
Comet Meier (1980q), precise positions (1980 November 6 to 9) 1−13733
Comet Meier (1980q), precise posns., elements, ephemeris and Mags. (1980 Nov.-Dec.) 1−13735
Comet Panther (1980u), precise position (1980 December 28) 1−32659
Comet Panther (1980u), precise positions, (1980 December 27 and 1981 January 8) 1−36222
Comet Panther (1980u), precise posns., elements and ephemeris (1980 Dec.-1981 Jan.) 1−27427
Comet Panther (1980u), precise posns., magnitudes and coma diameters (1980 Dec.-1981 Jan.) 1−32663
Comet Russell (1980l), precise positions (1980 September 15 to October 1) 1−4827
Danjon Astrolabe at Potsdam Geodetic Astronomical Observatory, new obs. program 1−4747
doublet prime focus corrector on Anglo Australian telescope, astrometric test using OR 103 1−40349
χ Draconis, spectroscopic/astrometric binary star, speckle interferometry 1−9569
ephemerides, role of stellar position determ. *(German)* 1−32638
ephemeris reference frame for astrometric work 1−44083
equinox position and motion, appl. to FK5 catalogue fundamental reference coordinate system 1−44410
FK4 catalogue equinox motion, false non-precessional motion cause *(Russian)* 1−13668
FK4 equator and equinox corrections using 51 Nemausa obs. 1−32604
FK4 equinox and equator improvement using asteroid obs. 1−32603
FK5, improved fundamental reference system extended to fainter stars 1−32631
astrometry continued
Fundament Catalogues Centenary meeting (Heidelberg, October 1979) 1−27656
fundamental catalogues of star positions history *(German)* 1−27759
fundamental stars, astrometric obs. for investigation of declination system of Belgrade Observatory meridian circle *(Russian)* 1−13691
geodetic stars, preliminary catalogue (CGS) *(Russian)* 1−13702
Gliese 815 (Furuhjelm 54), triple system, astrometric study 1−9570
Greenwich Obs. Time and Latitude Service, Time Report (July-September 1979) 1−9348
Greenwich Obs. Time and Latitude Service, Time Report (October-December 1979) 1−17757
Groombridge 1618, red dwarf, 40-year intensive Sproul plate series and planetary detect. capability and probability 1−9481
1370 Hella, lost minor planet, recovery and precise positions (1935 August 31 to 1979 December 21) 1−49557
Hyades, astrometry rel. to cluster distance and chemical comp. 1−36350
Hyades cluster, distance modulus from astrometric obs. 1−36348
Hyperion, photographic obs. rel. to orbital elements improvement 1−44489
interferometric astrometry, implications of pillars stability meas. at CERGA Observatory *(French)* 1−49507
International Reference Star programs 1−32606
Jupiter and Galilean satellites (December 1978) from Uccle 1−17781
JYD system of pole coords., stability anal. *(Chinese)* 1−40036
latitude variations, results from obs. of Talcott star pairs in circumzenithal zone with (Pulkovo ZTL-180) *(Russian)* 1−13667
Mars, astrometric observations, 1950 to 1976, compared with ephemerides 1−44462
Merate Observatory, time and latitude obs. (1978) 1−9347
meridian observations, influence of peculiarities of apparent lunar figure on results of reductions *(Russian)* 1−13665
Minor Planet Circulars 5455-5540, precise positions for asteroids and 15 comets 1−4812
minor Planet Circulars 5541−5604, precise posns. for asteroids and six comets 1−9409
Minor Planet Circulars 5605-5658, precise posns. for asteroids and 14 comets 1−22713
Minor Planet Circulars 5659-5722, precise posns. for asteroids and 12 comets 1−32644
Minor Planet Circulars 5723-5798, precise posns. for asteroids and nine comets 1−44465
Minor planet circulars 5799-5858, precise posns. for asteroids and 16 comets 1−49561
Minor Planet Circulars 5859-5920, precise posns. for asteroids and 62 comets 1−54411
minor planets, 1979 Sydney Observatory precise posns., obs. with 23 cm camera 1−27415
minor planets, appl. of positional obs. astronomical consts. determ. *(Polish)* 1−32607
minor planets *(German)* 1−27410
minor planets (1977-1978) at Dresden Lohrmann Observatory 1−27411
Miranda, Uranus satellite, astrometry for 1977-9 from Pic du Midi 1−9418
NGC 2506, open cluster, membership and proper motions, luminosity function determ. 1−54560
Nova Camelopardalis 1980, possible nova discovery, magnitude, 1980 November 6, and precise position 1−44570
Nova Cygni 1980, precise posns. and IR photometry 1−27524
optoelectronic system for angular coords. meas., input stimuli 1−27384
Periodic Comet Longmore (1981a), recovery posns. and ephemeris correction 1−32661
Periodic Comet Lovas (1980s), precise positions, 1981 January 26 and 31, and ephemeris 1−40423
Periodic Comet Russell 2 (1980), discovery and precise positions (1980 September 28 and October 2) 1−4825
Periodic Comet Russell 2 (1980o), positions, elements and ephemeris (1980 Sept.-Nov.) 1−4826
Periodic Comet Russell 2 (1980o), precise positions, (1980 August 9) 1−4828
planets, observational data rel. to orbital theories 1−40329
planets astrometric observations, relativistic corrections *(Russian)* 1−32608
proper motions meas. rel. to galaxies, Tautenburg programme *(German)* 1−22667
radio sources in southern hemisphere, precise optical positions 1−36423
radiosource positions, differential right ascension and declination using RATAN-600 1−44660
radiosources, compact, optical counterparts, fictitious proper motion determ. 1−36419
reduction of star astrographic meas., twelve consts. method, conditions for appl. *(Russian)* 1−49478
reseau astrometry with Palomar Schmidt plates, technique 1−44441
reversible transit instruments, observational accuracy improvement *(Russian)* 1−13689
Ross 128, red dwarf, 40-year intensive Sproul plate series and planetary detect. capability and probability 1−9481
SAO 115946 occultation by Juno, 1979 December 11, astrometric soln. for contact points 1−40309
Smithsonian Astrophysical Observatory catalogue (SAO), star positions comparison with AGK3R and (Perth 70) 1−27399
source coordinates phase measurement, limitation by tropospheric fluctuations 1−9384
space astrometry as NASA and ESA projects 1−32596
star, parallax measurement in two coords., anal. 1−9473
star pairs of ZTL-180 Pulkovo zenith programme, declination corrections *(Russian)* 1−13666
stars, late type, astrometric anal. for parallax determ. 1−9474
stars, nearby, proper motion and radial vel. meas. rel. to search for planets 1−13816
stars, position determ., obs. on different nights, reduction by least squares adjustment *(Russian)* 1−54391
stars in equator region, absolute declination using transit instrument 1−44443
stars proper motion, $m_{vis}>15$ and south of +30°, astrometry and UBVRI photometry 1−40359
Stein 2051, visual binary, parallax, proper motion and mass ratio astrometric meas. *(Italian)* 1−9579
old stellar parallaxes, compilation and probable error recalibration 1−40461

astrometry continued
stellar proper motions, comparison of accuracy of meas. of star and galaxy images *(Russian)* 1−49476
stellar proper motions, estimates for stars of AGK3 catalogue and latit. stars catalogue *(Russian)* 1−13761
supernova in NGC 4536, spectrum, photometry and precise position (1981 March 11 to 24) 1−54533
supernova in NGC 6946, precise position with UBV photometry (1980 November 4 to 12) 1−17861
supernova in NGC 6946, radio detect. at 4885 MHz and precise radio position 1−32717
Tokyo Astronomical Obs., Time and Latitude Bulletins (Jan.-March 1980) 1−32609
Tokyo Astronomical Obs., Time and Latitude Bulletins (Oct.-Dec. 1979) 1−22666
transit instrument, photoelectric, determ. of azimuth and collimation errors *(Russian)* 1−13690
Uranus, 1978 Danjon Astrolabe, obs. from Santiago 1−9419
very long baseline interferometry methods, estimability of astrometric quantities 1−32533
Wolf 294, red dwarf, 40-year intensive Sproul plate series and planetary detect. capability and probability 1−9481
OH maser near Herbig-Haro object GGD37, position meas. 1−13841

astronautics *see space research*

astronomical catalogues
see also astrometry
AFGL catalogue, search for C stars 1−9487
AGK3 catalogue stars, proper motions estimates *(Russian)* 1−13761
B2 source radiogalaxies in Abell clusters 1415 MHz obs. 1−17901
binary stars, list and micrometer obs. of 91 new pairs (hz 1 to 91) 1−49730
blue stars in Magellanic Cloud system, VBLUW obs. 1−40358
Boss General Catalogue, systematic corrections for right ascensions and proper motions *(Russian)* 1−13705
3C radio source, galaxies, redshifts and other optical data 1−27629
Catalogue of Stellar Identifications (CSI), microfiche edition 1−49538
comets, one-apparition, catalogue preparation, dynamical problems 1−44511
COU catalogue of double stars discovered at Nice, 16th series *(French)* 1−36200
degenerate stars, new list and recognition techniques for hot nondegenerates 1−49534
double star fields, catalogue of relative proper motion *(Russian)* 1−4781
eclipsing binary systems, close, light curve synthesis photometric solns. *(Italian)* 1−44445
extragalactic radiosources, 1.35 cm survey in Crimea 1−27627
FK4 catalogue equinox motion, false non-precessional motion cause *(Russian)* 1−13668
FK4 equator and equinox corrections using 51 Nemausa obs. 1−32604
FK4 equinox and equator improvement using asteroid obs. 1−32603
FK5, improved fundamental reference system extended to fainter stars 1−32631
FK5 catalogue, introduction into national ephemerides, (1984) 1−44446
FK5 catalogue, position of equinox 1−44410
FK 4 equinox correction from asteroid position obs. 1−22694
Fundament Catalogues Centenary meeting (Heidelberg, October 1979) 1−27656
fundamental catalogues of star positions, history *(German)* 1−27759
galaxies pairs with at least one Markarian component, catalogue *(Russian)* 1−49542
galaxies with UV excess, third Kazaryan list 1−36394
geodetic stars, preliminary catalogue (CGS) *(Russian)* 1−13702
globular star clusters, catalogue in observers handbook of open and globular clusters 1−44722
far-IR sources in galactic plane, catalogue 1−4952
latitude stars catalogue, stellar proper motions estimates *(Russian)* 1−13761
M-type supergiant and giant stars in LMC, coordinates, finding charts and VRI photometry 1−49540
Markarian 1303-1399, fourteenth list of galaxies with UV continuum 1−22695
Markarian galaxies, 13th list of objects with UV continuum 1−9659
NGC 288, globular cluster main sequence stars 1−36199
O-type stars, general catalogue, magnetic tape and listing *(French)* 1−9389
Ooty lunar occultation sources, list 9, position, struct. and optical identification, UHF obs. 1−32632
open star clusters, catalogue in observers handbook of open and globular clusters 1−44722
planetary nebulae, catalogue and bibliographical index on mag. tape and microfiche 1−49539
planetary nebulae, new, found on United Kingdom 1.2 m Schmidt telescope plates, second list 1−13703
radio sources, decametric survey of discrete sources in declination range −2° to −13° 1−54400
radio sources in Abell 754 field, catalogue and aperture synthesis obs. 1−22905
radio sources in Abell galaxy clusters, 11.1 cm survey of total intensity and polarisation 1−49831
radiosources, bright extragalactic, northern hemisphere catalogue at 2.7 GHz 1−36201
radiosources, strong extragalactic, catalogue, field emission at 11 cm 1−17900
radiosurces, Molonglo Reference Catalogue 1−49541
S and SC-type stars, spectra types on revised MK systems 1−9491
Smithsonian Astrophysical Observatory catalogue (SAO), star positions comparison with AGK3R and (Perth 70) 1−27399
solar type IV radio bursts, fine structure catalogue 1−4840
spectral lines suitable for anal. of late type stars 1−40360
star catalogues zero-points determination, of peculiarities of Moon apparent figure *(Russian)* 1−13665
stars, prod. from star counting with microphotometer, completeness and reliability 1−27563
stars proper motion, m_{vis}>15 and south of +30°, astrometry and UBVRI photometry 1−40359
stellar radial velocities, objective prism meas. of 713 stars in four 4°×4° fields *(French)* 1−49615
sunspots, areas and numbers (1972-6) 1−32691
27W radiosources in Cancer cluster field, deep 610 MHz source counts 1−32767

astronomical catalogues continued
Wolf-Rayet stars, catalogue of low-resolution spectra 1−49537
Wolf-Rayet stars in LMC, spectral classification 1−49536
H II regions in spiral galaxy NGC 7793 1−49535
H_2O maser sources, nonstellar, catalogue 1−9388

astronomical ephemerides
1976 UA, precise positions, 1980 December 7 to 1981 January 7, and ephemeris correction 1−32643
1980 RG, Amor type asteroidal object, ephemeris (1980 October 8 to 28) 1−4810
1980 S 6 (Dione B), orbital elements determ. and predicted separations from Dione 1−40384
1980 WF, ephemeris continuation, 1981 January 16 to April 6, and brightness vars. obs. 1−40374
1980 WF, posns., orbital elements and ephemeris (1980 Dec.-1981 Jan.) 1−32642
1980 YS, precise posns., orbital elements and ephemeris (1980 Dec.-1981 Apr.) 1−44464
1981, calendar of celestiral events *(French)* 1−54349
1981 Astronomical Almanac 1−27688
1981 British Astronomical Association Handbook 1−9783
1981 CW, probable Amor-type asteroid, approximate orbital elements and ephemeris (1980 November 17 to April 16) 1−54409
1981 ephemerides of minor planets *(Russian, English)* 1−13722
Astronomical Ephemeris, present status from comparison with computer calcs. 1−44447
Astronomical Ephemeris/American Ephemeris and Nautical Almanac, cooperative version 1−44446
OY Carinae, eclipsing dwarf nova, ephemeris and physical parameters from eclipse light curves obs. 1−54506
V523 Cassiopeiae, K-type contact binary, light ephemeris from new light curve obs. 1−36329
Comet Bradfield (1980t), parabolic orbital elements and ephemeris (1981 January 6 to February 25) 1−32664
Comet Bradfield (1980t), precise posns., elements and ephemeris (1980 Dec.-1981 Jan.) 1−27426
Comet Bus (1981b), orbital elements and ephemeris (1981 March 7 to May 16) 1−49576
Comet Lovas (1980s), parabolic orbital elements, (1980 November 7 to 1981 April 6) 1−27429
comet Lovas (1980s), possible short period comet, ephemeris (1980 November 7 to 1981 January 26) 1−27428
Comet Meier (1980q), ephemeris (1980 Dec.-1981 June) 1−27420
Comet Meier (1980q), parabolic orbital elements and ephemeris (1980 November 7 to 27) 1−13733
Comet Meier (1980q), precise posns., elements, ephemeris and Mags. (1980 Nov.-Dec.) 1−13735
Comet Panther (1980u), ephemeris continuation, 1981 January 26 to March 7, and magnitude obs. 1−36220
Comet Panther (1980u), ephemeris continuation (1981 February 15 to July 15) 1−44502
Comet Panther (1980u), improved parabolic orbital elements and ephemeris, (1981 January 26 to March 7) 1−36222
Comet Panther (1980u), precise posns., elements and ephemeris (1980 Dec.-1981 Jan.) 1−27427
Comet Russell (1980l), improved orbital elements and ephemeris (1980 September 28 to 1981 January 16) 1−4827
1538 Detre=1980 SK, lost minor planet identification and ephemeris 1−27414
eclipsing binary stars, new ephemerides for 120 Algol-type systems 1−49731
1370 Hella, lost minor planet, recovery, December 1979, and improved orbital elements 1−49557
Lanning 10, eclipsing cataclysmic binary, orbital period and ephemeris 1−36337
lunar ephemerides, contrib. to study of planetary perturbations of Moon *(French)* 1−40364
lunar total penumbral eclipses, ephemerides, (1600 to 2500) 1−49544
Mars, ephemerides compared with obs., (1950 to 1976) 1−44462
Minor Planet Circulars 5455-5540, ephemerides for 45 asteroids 1−4812
minor Planet Circulars 5541−5604, ephemerides for six asteroids 1−9409
Minor Planet Circulars 5605-5658, ephemerides for five asteroids and ten comets 1−22713
Minor Planet Circulars 5659-5722, ephemerides for 103 asteroids 1−32644
Minor Planet Circulars 5723-5798, ephemerides for 13 asteroids 1−44465
Minor planet circulars 5799-5858, ephemerides for 12 asteroids and nine comets 1−49561
Minor Planet Circulars 5859-5920, ephemerides for 61 asteroids 1−54411
Neptune predicted stellar occultations, 1981-1984, ephemerides 1−40418
Periodic Comet Longmore (1981a), recovery posns. and ephemeris correction 1−32661
Periodic Comet Lovas (1980s), orbital elements and ephemeris, (1981 January 16 to April 26) 1−40423
Periodic Comet Russell 2 (1980o), improved orbital elements and corrections to ephemeris 1−4828
Periodic Comet Russell 2 (1980o), positions, elements and ephemeris (1980 Sept.-Nov.) 1−4826
Periodic Comet Stephan-Oterma (1980g), continuation ephemeris (1980 Dec.-1981 June) 1−9428
Periodic Comet Tuttle (1980h), ephemeris and magnitude analysis 1−9426
Periodic Comet West-Kohoutek-Ikemura (1980r), ephemeris (1980 November 17 to 1981 April 26) 1−13734
planetary ephemerides for deep space navigation 1−4742
review of areas in need of revision *(German)* 1−32638
solar system occultations, prediction using automated microdensitometry techniques 1−44411
HU Tauri, eclipsing binary, photoelectric photometry, min. light epochs and new ephemeris 1−13803
time adjustment, positive leap second on (1981 June 30) 1−44066
1537 Transylvania (1940 QA), ephemeris, (1981 February 15 to April 26) 1−40373
Uranus predicted stellar occultations, 1981 to 1984, ephemerides 1−40419
X-ray burst sources and transients, coordinated optical, IR, radio and X-ray obs. in (1981) 1−36192

astronomical instruments
see also astronomical observations; astronomical techniques; astronomical telescopes; planetaria; radiotelescopes
acoustical-optical spectrographs (AOS), appls. in radio astronomy 1−13698
active cavity radiometer type V for solar flux pyrheliometry 1−13686
astrometric device, for determining azimuth and collimation errors of photoelectric transit instrument *(Russian)* 1−13690
automatic coordinator-photometer for photographic image positions and diameters *(Russian)* 1−54392
automatic photoelectric transit circles 1−32622
automatic recording systems for photographic, spectrum profiles meas. *(Polish)* 1−32627
Belgrade Observatory meridian circle, results of investigation of declination system *(Russian)* 1−13691
bidimensional observation, optical systems *(French)* 1−27381
C-CDs S/N ratio maximisation 1−9372
Cassegrain spectrography, remote-controlled, for Lick 3m telescope, use as area scanner and spectropolarimeter 1−27387
coherent optical data processing system, appl. to photographically recorded astronomical spectra 1−17775
conference, Chicago, IL, USA (Oct. 1980) 1−40593
Conference on spaceborne optics, Los Angeles, USA (Feb 1980) 1−27661
Danjon astrolabe at CERGA, modifications and obs. *(French)* 1−49510
Digicon system of Cima Ekar Observatory, description and appl. 1−22687
digital correlator, three level, for radio astronomy, true correl. anal. 1−9376
digital spectrophotometric devices, review of instruments and results 1−49629
Doppler telemetry station at Cagliari Astronomical Observatory, rel. to EDOC-2 campaign *(Italian)* 1−9374
double-pass solar spectrometers, appl. to high resolution solar spectroscopy *(Russian)* 1−49522
EXOSAT spacecraft, onboard Data Handling Subsystem 1−49473
Fabry-Perot spectrometer, Hα calibration rel. to H prod. rates from Comet Kohoutek (1973 XII) 1−54419
faint object camera for space telescope 1−17770
fast large-field mirror systems for spectroscopy and space research, computerised design 1−24469
fibre optics, dissector for quasars and nebulosity spectroscopy anal. 1−49524
filters for detection of linear and circular polarisation, calibration and detection threshold 1−36186
focal reducers, field aberrations of concentric optical systems *(Russian)* 1−17765
future developments, contrib. to stellar spectral classification 1−54398
gamma-ray astronomy, instrumentation for improving ang. resolution of gamma-ray telescopes 1−17769
gravitational wave antennas and measurement electronics, quantum nondemolition meas. 1−23099
gravitational wave detector, with directional capability 1−4770
grism off-axis distortion and stellar radial vel. determ. with slitless field spectrographs 1−49519
Hakucho cosmic X-ray satellite, instrumentation description 1−40300
HEAO 3 gamma-ray spectrometer 1−32623
holographic cylindrical grating, for EUV spectroscopy in near normal incidence 1−37597
holographic cylindrical grating for cosmic X-ray and XUV spectroscopy in grazing incidence 1−13688
horizons in optics, conf., Pont-a-Mousson, France (Apr. 1980) 1−22942
image tube Fabry-Perot interferometer for late type galaxies vel. fields 1−49526
imaging proportional counter, X-ray background event rejection and rise-line discrimination 1−9377
IOAV scanning spectrophotometers on Venera 11 and 12 descent modules 1−9400
IR detectors and imaging systems, thermal fluctuation improvements and applications 1−36738
IR Fourier spectrometer for airborne and ground-based astron. 1−36178
IR receiver appl. to absolute meas. of lunar maria apparent temp. *(French)* 1−4791
Kipp solarimeter, design, performance and calibration 1−17771
Kodak fine-grain emulsions, appl. to stellar spectral classification through photographic broadband photometry 1−54399
long-focus astrograph at Kiev, comparison of accuracy of meas. of star and galaxy images *(Russian)* 1−49476
M9 shchv image tube for 6-m telescope 1−36184
Medusa spectrograph, appl. to multiple object spectroscopy 1−49521
meridian circle data from Ole Romer, anal. by Peder Horrebow *(Danish)* 1−44448
MKh 6411 mass spectrometer for Venera 11 and 12 probes 1−9345
multichannel scanning spectrophotometer 1−22688
multichannel scintillation arrangement, for investigating cosmic ray var. on basis of cosmogenic radiocarbon 1−36188
multidielectric interference filters for the near UV *(French)* 1−11073
near-IR spectral imaging Michelson interferometer 1−27398
neutron monitor, Pb-free, spectral sensitivity of differing geometry of device 1−36189
Nobeyama 17 GHz solar interferometer *(Japanese)* 1−13694
Nobeyama radiospectrographs for solar observations *(Japanese)* 1−13696
Offner compensator for testing of concave aspherical mirrors, design method *(Russian)* 1−17774
optical instruments for space applications *(French)* 1−27382
optical polarisation analyser for solar spectra obs. eliminating atm. turbulence effects *(French)* 1−27376
orbiting solar telescope on Salyut-4 UV spectrograph, focal curve and astigmatism 1−27385
photoelectric multi-element detector scanning system, appl. to automatic spectral classification 1−54396
photographic emulsions hypersensitivisation installation, for baking emulsions in N_2 and He 1−9382
photometer, for IR astronomy appls., design and construction *(Spanish)* 1−9375
planetary spectrograph of 6 m BTA telescope, optical system 1−9373
radial velocity spectrometer, for observing very low amplitude radial vel. vars. in δ Scuti stars 1−27388
radiospectrographs at Nobeyama Solar Radio Observatory, descriptions and use 1−54373
Reticon spectrophotometer at Asiago Observatory, spectra of stars in 4300-7300Å region *(Italian)* 1−9475

astronomical instruments continued
Sacramento Peak Observatory, instrumentation and research projects 1−54376
Sigma gas chromatograph for Venus atmosphere chemical comp. analysis 1−9399
slitless field spectrograph, using grating prisms and focal reducer optical arrangement 1−54380
solar H I Lyman-α radiation detector using MgF_2-NO ion chamber with O_2 gas filter 1−4768
solar radiopolarimeter at 17 GHz *(Japanese)* 1−13697
Solc elements in Lyot-Ohman filters 1−6640
solid state sensors and their use 1−49523
space observatory trends, optical, structural and control technological problems 1−49475
spectrophotometer with intensifier silicon vidicon for stellar line profile studies 1−49520
spherical crystal imaging spectrometer for cosmic X-ray spectroscopy 1−13687
stellar interferometer, long baseline Michelson, design considerations, book contrib. 1−32624
stellar interferometer operation, fringe visibility under Kolmogorov turbulence *(Russian)* 1−22686
stellar spectrophotometer, five-channel meas. and control system 1−27386
submillimetre photometer, f/35, for NASA IR Telescope Facility, 350 μm to 2 mm passband 1−49525
supporting pillars stability, meas. via clinometry *(French)* 1−49507
SzRF photometer meas. of solar X-ray flux, error analysis *(Polish)* 1−22685
wide-angle astrograph at Kiev, comparison of accuracy of meas. of star and galaxy images *(Russian)* 1−49476
X-ray collimator, large-aperture, high-resolution, for Solar Maximum Mission flat cryst. spectrometer 1−9365
Ge:Sb photometer, appl. to obs. of CO far IR emission from Orion Nebula 1−9629

astronomical observations
see also gamma-ray astronomical observations; infrared astronomical observations; radioastronomical observations; ultraviolet astronomical observations; visible astronomical observations; X-ray astronomical observations
3C 390.3, N-galaxy, variability at X-ray optical and radio freqs. 1−13855
R Coronae Austrinae T-association stars, photometry and spectra rel. to distance and membership 1−40536
cosmic ray nuclei (B to Fe), energy spectra to above 100 GeV per nucleon 1−9338
cosmic rays, 22-year modulation assoc. with Sun polar mag. field polarity reversal *(Japanese)* 1−9337
cosmic rays, anisotropy long-period vars. 1−36138
cosmic rays, behaviour during solar cycles 19 and 20 rel. to solar activity 1−36144
cosmic rays, eleven-year cycle obs. and correl. with solar activity 1−36143
cosmic rays, galactic, behaviour during 22-year intensity cycle 1−36145
cosmic rays, intensity and anisotropy vars. rel. to anomalous behaviour of solar wind vel. (1972-75) 1−36148
cosmic rays, intensity fluctuations during Forbush decreases Izmiran scintillation supertelescope data 1−36136
cosmic rays, meas. of energy spectra and zenith angle distribs. of muons and electrons *(Japanese)* 1−9339
cosmic rays lunar variations, harmonic anal. for neutron and meson components vars. 1−36140
degenerate stars, multichannel spectrophotometric obs., identifications of hot nondegenerates 1−49534
ESO 313-N*10, peculiar galactic object, morphology and spectrum 1−17890
G-type stars, energy distribs. rel. to solar spectral analogues and solar flux calibration 1−27492
galactic cosmic rays, ^{10}Be abundance obs. rel. to confinement time 1−4730
Galaxy spiral structure *(Polish)* 1−49822
β Geminorum (Pollux), spectroscopic anal. rel. to Sun with reference to α Bootis (Arcturus) 1−32700
HD 200775, Herbig Be star, UV optical and IR obs. 1−17850
HD 44179 (Red Rectangle), discovery of optical mol. emission from bipolar nebula 1−4953
HDE 226868 (Cygnus X-1), UV, X-ray and IR obs. 1−49720
AM Herculis, spectropolarimetry rel. to mag. field direct meas. 1−54553
Infrared Telescope Facility in Hawaii telescope and instrumentation description 1−54371
Jupiter, results of Voyager project 1−40306
Jupiter magnetosphere, energetic H_2^+ and H_3^+ detect. by Voyager 2 and evidence for ionospheric plasma source 1−17783
Jupiter nightside plasma sheet, static configuration obs. by (Voyager 2) 1−17784
low luminosity stars, photometric HR diagrams from multichannel spectrophotometer obs. 1−17829
M17, multicolour UBVRI photometry of assoc. stars 1−27491
Markarian 1055 (I Zw 8), narrow emission line galaxy, photometric variability detect. 1−32758
meteoroids, results of Pioneer 10 and 11 expts. in interplanetary space and near Saturn 1−40428
new optical and radio obs. 1−13856
NGC 3293, young open cluster, relation to Carina OB1 and Carina Nebula complex from photometry and spectra 1−9587
α Orionis (M2.0 Iab$^-$), eight-colour photometry rel. to effective temp. and radius 1−49635
Periodic Comet Tempel-2 (1978 V), spectrophotometric obs. of outburst 1−36224
quasars of Michigan Curtis Schmidt survey, polarisation obs. and comparison with (PHL 5200) 1−54654
Saturn magnetic field, Pioneer 11 obs. 1−40386
Saturn magnetosphere, charged particle anisotropies obs. by (Pioneer 11) 1−40392
Saturn magnetosphere, energetic particle obs. by (Pioneer 11) 1−40397
Saturn magnetosphere, energetic particles obs. by Pioneer 11 rel. to sources and sinks of electrons and protons 1−40387
Saturn magnetosphere, energetic proton anisotropies obs. rel. to magnetosphere corotation 1−40390
Saturn magnetosphere, low-energy plasmas obs. by (Pioneer 11) 1−40388
Saturn magnetosphere, obs. of high-energy trapped radiation penetrating ring system Saturn 1−40394

astronomical observations continued
Saturn magnetosphere, struct. and interaction with solar wind 1−40385
Saturn magnetosphere, trapped radiation characts. and absorpt. by satellites and rings 1−40391
Saturn magnetosphere charged particles, Mimas absorpt. signature obs. 1−40389
Saturn radiation belt, very energetic protons obs. 1−40396
α Scorpii, (M1.1 Iab), eight-colour photometry rel. to effective temp. and radius 1−49635
V861 Scorpii, eclipsing binary, IUE, optical and IR obs. 1−40523
Sharpless 106, bipolar nebula, spectrum and struct. rel. to star form. in disc-shaped cloud 1−27586
solar corona, satellite obs. during 1979 1−13756
solar flare particles, isotopic comp. of Mg 1−54439
solar rotation velocity, var. with height in photosphere obtained from obs. of Fe I lines *(Russian)* 1−9459
solar wind, electron oscills. obs. and comparison with emissivity of type III radio bursts 1−4737
solar wind, O ion 'freezing-in' temp. obs. 1−4841
solar wind, temp. and speed of He^{++} and O^{6+} ions 1−17749
SS 433, spectroscopic obs. and kinematical anal. from two observing seasons (1978 to 1979) 1−54507
stars in Taurus interstellar dark clouds field, UBVRI photometry *(Russian)* 1−32697
supernova in NGC 4536, spectrum, photometry and precise position (1981 March 11 to 24) 1−54533
Titan, possible mag. wake from Pioneer 11 obs. 1−40399
Venus, ionosphere, steady mag. field, Pioneer Venus Orbiter obs. 1−36206
Venus, nighttime H bulge of thermosphere, Pioneer Venus obs. 1−36205
Venus atmosphere 1−49553
white dwarfs, circular polarisation meas. 1−27501

astronomical observatories
Cagliari Observatory, new Doppler telemetry station rel. to EDOC-2 campaign *(Italian)* 1−9374
CERGA Observatory, stability meas. of instrument pillars via clinometry *(French)* 1−49507
High Altitude Observatory of National Centre for Atmospheric Research, Colorado, solar research program 1−36177
Hvar, Be-star photoelectric photometry program 1−9527
Kiev Main Astronomical Observatory, accuracy of meas. of star and galaxy images on astrograph plates *(Russian)* 1−49476
Lick Observatory, spare parts 40-inch telescope 1−13693
Nobeyama solar radio station, control and data processing *(Japanese)* 1−13695
Sacramento Peak Observatory, instrumentation and research projects 1−54376
San Pedro Martir Observatory in Mexico 1−32618
Special Astronomical Observatory, water content and transparency of daylight atmosphere near large astronomical telescope 1−9247
Special Astrophysical Observatory, USSR, meas. of atmospheric spectral transmission (1974 to 1976) 1−9246
US Naval Observatory, 1830-1865 development years 1−54372

astronomical spectra
see also atmospheric spectra; stellar spectra
2.7K microwave background radiation, spectral index and dipole and quadrupole radiation 1−54664
0540−69.3, new O rich supernova remnant in LMC, narrow-band optical imaging and spectrum 1−49770
1218+304 (=2A 1219+305), BL Lacertae object, optical-IR spectrum, spectral flux distrib. 1−54603
3A 0557−383, X-ray Seyfert galaxy, Balmer emission lines width and redshift 1−54662
2A 1219+305, BL Lacertae object, variable X-ray spectra obs. 1−49784
Abell 754, 993, 1904, multiple red shifts meas. using Medusa spectrograph 1−49521
Abell clusters, HEAO A-2 sample, redshift used to determine X-ray luminosity function 1−49828
Abell galaxy clusters, 11.1 cm survey and sources radio spectra 1−49831
absorbing cloud towards W3(OH), NH_3 excitation absorpt. lines obs. 1−32737
active galactic nuclei, optical continuum and emission-line luminosities from multichannel spectrophotometry 1−49791
active galaxies, nuclei forbidden emission line regions, appl. of photoionisation models 1−40561
active galaxies nuclei, Balmer line profiles from gas kinematic model 1−44645
Arakelian 120, Seyfert galaxy, Hα and Hβ line profiles change (1976 to 1981) 1−36408
Arakelyan 564, Seyfert galaxy, emission line characts., visible spectra obs. *(Russian)* 1−54635
B2 1141+37, giant radio galaxy, optical spectrum and redshift 1−22915
B 272, supposed quasar, spectrophotometry and identification as isolated extragalactic H II region 1−40557
Burnham's nebula and T Tauri, H_2 Lyman band emission, model, EUV obs. 1−49655
3C 120, galaxy, spectrum of variable nucleus and surrounding nebulosity 1−44642
3C 120, Seyfert galaxy, spectrum variability, (1967 to 1980) 1−49821
3C 178, high-resolution obs. of H I absorpt. and radio continuum emission 1−9699
3C 196, 305, extragalactic radio sources, evidence for source axes rot. and spectrum steepening 1−17902
3C 206, resolved quasar in cluster of galaxies, spectroscopic and photometric obs. 1−9709
3C 273, quasar, discovery and red shift of assoc. nebulosity 1−49847
3C 273, X-ray spectrum from high-energy X-ray obs. 1−54661
3C 293, radio galaxy, H I absorpt. obs. 1−54620
3C 382, broad-line radio galaxy, visual-IR spectrum distrib. rel. to IR flux origin 1−40556
3C 390.3, N-galaxy, optical emission lines vars. rel. to X-ray, visual and radio continuum vars. 1−13855
3C 390.3, type 1 Seyfert galaxy 1−54607
3C 84 (NGC 1275) multifrequency radiogalaxy, radio spectrum *(Russian)* 1−17898
3C radio source, galaxies, redshifts and other optical data 1−27629
Cassiopeia A, identity of 25.131 MHz anomalous absorption line 1−9639
cD and related galaxies in poor clusters, radio spectral indices from VLA obs. at 20 cm 1−40555

astronomical spectra continued
Centaurus A (NGC 5128), X-ray spectrum from high-energy X-ray obs. 1−54661
Comet Bowell (1980b) struct. and spectra at 7.17 AV 1−49577
Comet Bradfield (1979 X), C_2, CO^+ and CO_2^+, UV obs. 1−49575
Comet Bradfield (1979 X), CN band anal., near IR obs. 1−54421
Comet Kohoutek (1973 XII), H prod. rates from ground-based Fabry-Perot obs. 1−54419
Comet Meier (1978 XXI), radio obs. in 18 cm OH lines 1−9421
Comet Meier (1980q), OH absorpt. lines obs. and OH parent prod. rate 1−17795
Comet West (1976 VI), C, S and CS prod. rates from UV spectrum obs. 1−44497
Comet West (1976 VI), Na I D-line emission obs. rel. to Na source in comets 1−27419
cometry molecules, present and future obs. from space 1−54370
comets, faint, spectra at various solar distances 1−9405
comets, UV spectra of primitive material 1−32657
cosmic blackbody radiation, method of determining cosmological Compton distortions and radiation temp. 1−44676
cosmic microwave background, dipole anisotropy and spectrum distortions 1−54663
cosmic microwave background radiation spectrum, effect of variable vacuum energy density 1−27637
Crab Nebula, emission spectrum in terms of cosmic ray electrons synchrotron radiation 1−36317
Crab Nebula, X-ray line emission upper limit, implications, X-ray obs. 1−40547
Crab Nebula filaments, radio emission spectrum rel. to relativistic electrons origin 1−13837
V1057 Cygni, maser outburst at 1720 MHz, obs. and interpretation 1−36283
Cygnus Loop, X-ray line emission fit to plasma emission model 1−44614
Cygnus Loop supernova remnant, astrophysical interpretation of 1200-7300 Å emission line spectrum of filament 1−27584
Cygnus Loop supernova remnant, optical spectra calc. 1−36372
detect. of forbidden C II 157 μm (1910 GHz) emission line from interstellar gas complex 1−4956
diffuse gamma-ray background in Hoyle-Narlikar cosmology, theory 1−32775
DR 21, radio source, radio recomb. line interpretation and He problem 1−27626
ESO 313-N*10, peculiar galactic object, morphology and spectrum 1−17890
ESO-113-IG 45 (Fairall 9), extreme Seyfert galaxy, possible spectrum vars. 1−27614
Fairall 9 (ESO-113-IG 45), extreme Seyfert galaxy, possible spectrum vars. 1−27614
Fairall 9 Seyfert galaxy optical spectra, absorpt. due to Magellanic Stream H I region 1−49812
filament H II region north of NEC 3372, nature from visible spectra obs. 1−49765
formaldehyde in Galactic Centre line/continuum ratio, SHF obs. 1−54623
formamide, in Sagittarius A and B2, ^{12}C and ^{13}C abundance from 19 cm obs. 1−27589
G126.2+1.6, supernova remnant, emission spectrum of assoc. nebulosity 1−40539
G292.0+1.8, supernova remnant, X-ray line emission obs. 1−4959
G40.5, previously unrecognised supernova remnant in Aquila, radio spectral index from 1720 and 2700 Mhz obs. 1−27585
G93.3+6.9, highly polarised supernova remnant, radio spectral index from 1720 and 2700 MHz obs. 1−32741
G 1−9615
galactic centre, 2.4 micron emission inhomogeneities, interstellar extinction interpretation 1−9658
galactic centre region, positron annihilation gamma ray line detect. 1−49809
galaxies, bright spirals with strong radio sources, nature, 4885 MHz obs. 1−49799
galaxies, double, with large redshift discrepancies, visible obs. 1−9642
galaxies, early type, rot. curves and vel. dispersion profiles anal., visible obs. 1−54627
galaxies, early-type, isolated, H I obs. 1−4954
galaxies, elliptical, emission line strengths rel. to cluster membership 1−36414
galaxies, emission line dwarfs, O, Ne, He abundances, H I mass determ. 1−49788
galaxies, interacting, radial vels. determ. 1−32754
galaxies, isolated, radial vels. 1−22888
galaxies, primeval, search for high redshift objects in red light using CCD 1−32762
galaxies, UV spectra rel. to predicted colours and magnitudes of high redshift galaxies 1−9669
galaxies active nuclei, dynamics of broad-line-emitting regions rel. to broad lines profiles 1−44625
galaxies active nuclei, emission line widths rel. to inhomogeneous accretion onto massive black holes 1−44626
galaxies containing supernovae radial vels. determ., optical and radio obs. *(French)* 1−40568
galaxies in Virgo cluster, new redshifts for objects within 6° of centre 1−32766
galaxies in X-ray clusters, radio and IR spectra prediction 1−36405
galaxies with spectra of giant H II regions, optical line fluxes 1−13845
Galaxy centre, gamma ray lines and continuum radiation obs. 1−9726
galaxy pairs, masses and radial vels. visible obs. *(Russian)* 1−54634
galaxy pairs, spectra and new radial vels. 1−49817
gamma-ray line observations, statistical evaluation 1−49492
gamma-ray-line astronomy 1−5004
gaseous nebulae, spectral anal. and physical processes, historical perspective 1−44619
GL 2688 (Cygnus Egg Nebula), bipolar nebula, reson. fluoresc. mol. emissions 1−32744
globular cluster in NGC 5128 (Centaurus A), discovery, spectrum and radial vel. 1−4944
brightest globular clusters assoc. with NGC 5128, metallicities from spectrosc. 1−40535
Gum Nebula, interstellar gas column densities 1−22853
HD 44179 (Red Rectangle), discovery of optical mol. emission from bipolar nebula 1−4953
Herbig-Haro objects, H_2 emission interpretation, IR obs. 1−22861

astronomical spectra continued
Herbig-Haro objects, shock wave dynamics from echelle spectra 1−49747
high-velocity H I clouds, high-sensitivity 21 cm survey 1−9619
Hu 2-1 (VV 208), planetary nebula, spectrum in red and near IR 1−27576
HVC 267+35+145, interstellar high vel. cloud, H I linewidths and vel. fine struct. 1−13839
IC 1848 A (W5 E), near IR spectrum rel. to star form. 1−44533
IC 342, detect. of CO J=2→1 line 1−9608
IC 410, H II region, forbidden N II and O III line profiles and ionised gas radial vel. 1−36369
IC 4296, elliptical galaxy, spectroscopic obs. 1−27613
IC 443, supernova remnant, line emission at 6 locations, visible and IR spectra obs. 1−49759
IC 4997, young planetary nebula, UV spectrum 1−13838
interstallar molecular clouds assoc. with Herbig Be/Ae and other young stars, densities from formaldehyde obs. 1−40541
interstellar absorption lines use to determine Galaxy halo gas existence 1−49754
interstellar amorphous grains, far IR emission efficiency, wavelength depend. 1−9623
interstellar C I radio recombination lines, effects of new low-temp. dielectronic-like recomb. process 1−27363
interstellar CO IR bands, collisional and IR radiative pumping of mol. vibr. states 1−27573
interstellar CO IR bands, role of UV pumping of mol. vibr. states 1−27574
interstellar diffuse bands, laboratory production of candidates 1−21696
interstellar diffuse line at 4430 Å, origin, photoelec. obs. 1−49766
interstellar diffuse lines, obs. of predicted $1s^2$-1s6p H^- autoionisation resonance at 7581 Å 1−17884
interstellar dust IR absorption spectra, comparison with silicates, carbonaceous chondrites and carbonates 1−35974
interstellar electron energy spectrum and galactic X-ray and gamma-ray emission 1−27347
interstellar ethylene oxide, possible identification during search for interstellar glycine 1−44607
interstellar ethynyl radical (C_2H), detect. in cold dark clouds 1−9602
interstellar far UV radiation field, spectrum and latit. depend. 1−9604
interstellar formaldehyde (H_2CO), obs. of 3_{12}-3_{13} line 1−27577
interstellar formaldehyde in Sagittarius B2 radio source, line profiles and mean radial vel. *(Russian)* 1−32746
interstellar formyl ion (HCO^+), line profiles self reversals 1−44603
interstellar gas at large distances from galactic plane, UV absorpt. obs. 1−54575
interstellar glycine, search for lowest-energy conformer 1−44607
interstellar H_2 in Orion, S(9), v=0→0 rot. line detect., IR obs. 1−49778
interstellar H I, statistical props. from 21 cm absorpt. surveys 1−49769
interstellar H I in region $320° \leq l \leq 341°$, $+7° \leq b \leq +26°$, line profiles and kinematics 1−49768
interstellar intermediate velocity clouds near S. Celestial Pole, 21 cm obs. rel. to supernova shell model 1−36373
interstellar Kα lines in background X-ray spectrum to find interstellar matter distrib. *(Russian)* 1−22897
interstellar lines, diffuse, pairing due to Platt's particles and similar larger aggregates 1−40546
interstellar lines in LMC, obs. in UV spectra of FD 70 (HD 38282) and SK-71-45 (HD 269676) 1−27611
interstellar matter, highly ionised C, N and S lines towards stars, UV spectral obs. 1−9595
interstellar methyl formate, identification during search for interstellar glycine 1−44607
interstellar molecular clouds, search for ultracold gas using CO obs. 1−9601
interstellar molecular clouds, unidentified millimetre wavelength lines obs. and freqs. 1−40538
interstellar molecular clouds near Sharpless 68, 106, 140 and OMC2, NH_3 obs. 1−9635
interstellar molecules, present and future obs. from space 1−54370
interstellar molecules, theoretical hyperfine consts. for HNC, DNC and $HCNH^+$ 1−27364
interstellar molecules, theoretical microwave spectral consts. for C_2N, C_2N^+ and C_3H 1−27364
interstellar molecules, theoretical microwave spectral consts. for C_2H^+, C_3H^+ and C_4H^+ 1−27365
interstellar Na I, very-high-resolution spectroscopy 1−27592
interstellar NH_3, rot. inversion transitions obs. in four dark clouds rel. to physical conditions and cyanobutadiyne (HC_5N) form. 1−49773
interstellar shocked gas toward Perseus OB2 assoc., optical meas. 1−22872
interstellar spectral band 4430 Å, visual classification system applied to OB stars 1−4972
IR sources, galactic 2.5-4 micron spectra, evidence for organic interstellar grains 1−13824
IRC 10442 (GL 5268-S), CO obs. 1−9720
Jupiter, H I Lyman α emission, spatial imaging 1−13724
Jupiter airglow from night side and crescent, Voyager 2 UV spectral obs. 1−22714
Jupiter atmosphere, NH_3 absorpt. band time variations, visible spectra obs. 1−49569
Jupiter decametric radio emission dynamic spectrum, radio source diffraction model 1−49564
Jupiter polar aurora, enhanced emission, UV spectral obs. from IUE 1−44473
K648, halo planetary nebula in M15, abundances from visible photoelec. spectrophotometry obs. 1−4971
L134N, dark cloud, gravitational collapse from radiative transfer model, ^{13}CO SHF obs. 1−49757
L134N, L778, L1489, L1536, interstellar dark clouds, cyanobutadiyne (HC_5N) detect. 1−49773
line intensity and ratio modification due to shock waves 1−13678
Lo plasma torus, optical emission rel. to mass-loading and diffusion-loss rates 1−49563
Loop I (North Polar Spur), X-ray spectrum and props. of local interstellar medium 1−36371
Lynds 1204, dark cloud assoc. with H II region S140, internal motion 1−4969
Lynds 134, H I 21 cm line obs. of dark cloud 1−13833
M17 (NGC 6618), high vel. features, visible spectra obs. 1−40544
M2-9, bipolar nebula, circumstellar shell driven by stellar wind, visible spectra obs. 1−54476
M31, M32, control region vel. dispersions from visible spectra obs. 1−49794
M82, detect. of CO J=2→1 line 1−9608
M82, medium resolution spectra from 16 to 30 microns 1−49810
M87, IUE spectra of jet and nucleus 1−9650
M87 central luminosity spike, visible spectrum 1−13852
M 2-55, planetary nebula visible spectra and photometry obs. 1−49767
M 31, M 81 and M 94, Fe-peak abundances in nuclei, IR spectra 1−22876
Magellanic irregular galaxies, CO abundances and comparison with spiral galaxies 1−9614
Markarian 10, struct. and brightness, halo search, IR, UV and visible obs. 1−54615
Markarian 1303-1399, photographic magnitudes and spectra of galaxies with UV continuum 1−22695
Markarian 308, spectrophotometry of type II Seyfert nucleus 1−36397
Markarian 421, continuous spectrum, X-ray satellite obs. 1−36381
Markarian 501, BL Lacertae object, emission mechanism, X-ray to SHF obs. 1−54609
Markarian 9, Markarian 10, type 1 Seyfert galaxies, IUE and visual spectrophotometry 1−54607
Markarian galaxies, Seyfert, features of nuclei, spectral obs. 1−9660
Markarian galaxies, spectral observations of 72 objects in list XII 1−36393
Markarian galaxies, UV spectral obs. of possible Seyferts 1−49804
Markaryan 744, Seyfert galaxy, spectrophotometry 1−27599
Markaryan galaxies with double nuclei, spectra and radial rels. *(Russian)* 1−4982
meteors spectral obs. by instantaneous exposure method 1−4831
MSH 15-56 (G326.3−1.8), supernova remnant, visible spectrum characts. 1−27596
nebula, static, forbidden N III and O III lines intensities from Bowen fluoresc. mechanism theory 1−49484
nebulae, derivation of electron density and temp. from forbidden S II and O II line intensity ratios 1−27594
nebulous blue object near galaxy Maffei 1, photometry and spectrum rel. to identification as galactic refl. nebula 1−27597
Neptune atmosphere, absorption features, interpretation, UV obs. 1−54417
NGC 1068, Seyfert galaxy, medium resolution spectra from 16 to 30 microns 1−49810
NGC 1068, Seyfert galaxy, spectrum of nuclear region rel. to vel. field and elements enrichment 1−49816
NGC 1275, Seyfert galaxy, nucleus origin of X-rays., flux and variability 1−49811
NGC 2026, detect. of forbidden C II 157 μm (1910 GHz) emission line from interstellar gas complex 1−4956
NGC 2068, 2071, refl. nebulae in I Orion OB assoc. mol. cloud CO obs. 1−54596
NGC 2261 and R Monocerotis, spectrophotometric investigation 1−27490
NGC 253, detect. of formyl cation, emission line profile and intensity, EHF obs. 1−54613
NGC 281 (Sharpless 184), H II region, H I emission line widths rel. to H I dynamics 1−54586
NGC 2976, rotation and mass of peculiar edge-on spiral galaxy *(French)* 1−27606
NGC 3379, NGC 4472, elliptical galaxies, IUE obs. 1−54608
NGC 3603, giant galactic H II region, turbulent velocity linewidths rel. to nebula kinematics 1−44605
NGC 4151, Seyfert galaxy, broad-line cloud geometry, X-ray spectral constraints 1−22892
NGC 4151, Seyfert galaxy, gamma emission, inverse Compton spectra cutoff effect 1−17894
NGC 4151, Seyfert galaxy, IR emission feature due to dust thermal emission 1−44632
NGC 4151, Seyfert galaxy, radiation from galaxy nucleus in forbidden O III N_1,N_2 lines *(Russian)* 1−17897
NGC 4314 and 4321, central region hot spots, UV and visible anal. 1−32757
NGC 4472, giant elliptical galaxy corona, nature from UV spectra 1−40564
NGC 4472, NGC 5813, elliptical galaxies, spectroscopic obs. 1−27613
NGC 507, E/S0 galaxy, steep radio spectrum from 408 MHz obs. 1−36401
NGC 5548, Seyfert X-ray spectrum, Fe line emission and variability 1−4979
NGC 5929, emission line galaxy, preliminary spectrophotometric investigation of nucleus *(Russian)* 1−9672
NGC 6302, emission nebula, spectral line profiles rel. to complex flows in nebula outer regions 1−13840
NGC 6503, 6643, 7331, 7479, galaxies imaging photon counting system, visible obs. 1−13848
NGC 6572, planetary nebula, C/O ratio and Mg abundance from UV spectra 1−36380
NGC 6720 (Ring Nebula), optical line intensities rel. to S and Ar ionisation struct. 1−9611
NGC 6720 (Ring Nebula in Lyra), monochromatic obs. in forbidden O III lines *(French)* 1−44612
NGC 6853 (Dumbell Nebula), planetary nebula imaging photon counting system, visible obs. 1−13848
NGC 6888, filament nebula imaging photon counting system obs. 1−13848
NGC 7027, 8-13 μm spectrum depend. on position in nebula 1−49752
NGC 7027, planetary nebula, dust, far IR emission line and continuum obs. 1−49744
NGC 7027, planetary nebula, O VI and Ne V forbidden IR emission line detect. 1−13835
NGC 7027, planetary nebula emission spectrum, Ne^{2+} charge transfer with He 1−6371
NGC 7339 and 7537, binary galaxies, rot. and mass from visible spectra obs. *(Russian)* 1−22898
NGC 7469, type I Seyfert galaxy, vel. field, visible spectra obs. 1−4973
NGC 7538, H II region, H_2 IR emission obs. 1−4955
NGC 7582, 2992, X-ray emission-line galaxies, optical spectrophotometry 1−13856
NGC 7635, H II region-planetary nebula, imaging photon counting system obs. 1−13848
NGC 7662, planetary nebula, O III emission lines obs. rel. to Bowen fluorescent mechanism 1−13681

astronomical spectra continued
NGC 972, NGC 4433, irregular M82 type galaxies, spectrophotometric investigation 1−27600
North Polar spur, radio and Hα obs. rel. to old interstellar shock wave-model 1−44652
OH 26.5+0.6, IR source, spectrum interpretation in terms of polysaccharides 1−13826
Orion A, H_2O maser source, fine struct., line profiles, RAO *(Russian)* 1−54649
Orion A, HCN and HCO^+ and isotopes abundance distrib., EHF obs. 1−49838
Orion A, methyl formate, methane and NH_2D detect. 1−49774
Orion Nebula, detect. of CO J=21→20 (124.2 μm) and J=22→21 (118.6 μm) emission 1−9629
Orion nebula, forbidden S II and O II line intensity ratios meas. for electron density and temp. derivation 1−27594
Orion Nebula, high ang. resolution obs. of CS in core of Orion mol. cloud 1−9617
Periodic Comet Encke, UV spectrum obs. by IUE 1−9430
Periodic Comet Schwassmann-Wachmann 1, evidence for ice band during outburst from VJHK photometry 1−44503
Periodic Comet Tempel-2, enhanced CN and C_3 emission during outburst, spectrophotometric obs. 1−36224
Perseid meteors, spectral-height relations 1−49578
Perseus cluster, X-ray obs. above 10 keV, origin from NGC 1275 1−49830
PHL 5200, quasar, spectropolarimetry in visible and near IR 1−54654
PHL 938 and 5200, absorpt. line quasars intervening galaxy for absorpt. line origin 1−13876
photographic spectrum profiles recording, use of simple recorder for digital meas. results *(Polish)* 1−32627
PKS 0237−23, quasar absorpt. spectrum, red shift systems based on C IV doublets 1−40572
PKS 0528-50, QSO, absorpt. lines systems redshifts and ion abundances 1−9713
PKS 0548−322, BL Lacertae object, variable X-ray spectra obs. 1−49784
PKS 2070−370, QSO, Ca II absorpt. lines due to intervening Klemola 31 1−49850
plane parallel medium, line form., angle depend. freq., distrib., external source case 1−9352
planetary nebulae, C III and N III lines, 'shaded' terms *(Russian)* 1−54600
planetary nebulae, effect of dust on emission line fluxes and central stars Zanstra temps. 1−44555
planetary nebulae, electron density from C III, 1909/1907 Å line ratio 1−22860
planetary nebulae, emission lines of Mg II and Ca II 1−9625
planetary nebulae, H β and He II fluxes rel. to temps. of hot central stars 1−49650
planetary nebulae, neutral O and N lines intensities 1−9600
planetary nebulae, search for H I 21 cm emission 1−44537
primordial gravitational-wave spectrum, possible effects of high-energy microprocesses 1−44429
Q1101−264, QSO, spectral line anal. in IUE UV spectral obs. 1−44666
Q 0957+561 A, B, double quasar, brightness and spectrum vars. obs. 1−36432
QSO 0235+164, BL Lacertae type object, correlated radio-optical outburst, SHF obs. 1−13871
QSO 0241+622, X-ray spectrum 1−9712
QSO 0446-208, Ca II absorpt. lines due to intervening galaxy 1−44668
QSO 0957+561A, B, double quasar, spectra of assoc. three radio sources from 408 MHz obs. 1−17905
QSO 2141+174 (=OX 169), Balmer line profiles self absorpt. UV to IR obs. 1−44664
QSO candidates of neutral colour, IR, UV, visible spectra obs. 1−49843
QSOs, C IV and semi-forbidden C III emission lines 1−22916
QSOs, optical spectral indices rel. to presence of extended nebulosities 1−22919
QSOs in field of view of globular cluster NGC 6752 1−32771
QSOs with redshifted Mg II 2795, 2802 Å absorpt. features, H I 21 cm search 1−49845
quasar, low redshift, Lyman alpha flux from IUE 1−49793
quasar emission line ratios, theory for H Lα, Balmer and Paschen lines and Balmer continuum 1−54653
quasar nebulosity spectroscopy, anal. using fibre optics dissector, appl. to 3C 120 1−49524
quasars, brightness difference between QSOs with many and few absorpt. line systems from Hubble diagram 1−13882
quasars, continuum energy distrib., large and small scale struct. 1−9705
quasars, dynamics of broad-line-emitting regions rel. to broad lines profiles 1−44625
quasars, H I 2s to 1s two photon transition peak emissivity 1−40575
quasars, H I Lyman α absorption rel. to superclusters 1−54641
quasars, high redshift, C IV emission line profiles 1−9707
quasars, intergalactic X-ray absorption effects on spectra 1−32748
quasars, IR and optical obs. of H lines 1−54651
quasars, optical continuum and emission-line luminosities from multichannel spectrophotometry 1−49791
quasars, surface density meas. from emission-line objects search 1−9719
quasars, use of C IV 1549 Å flux as standard cosmic candle 1−13879
quasars, UV obs. from IUE 1−9706
quasars, weak emission lines, identification of Fe II 1−44665
quasars emission line ratios, radiation transfer and escape theory 1−54652
quasars IR spectra, Alfven wave driven cyclotron corona model driven cyclotron corona model 1−27630
quasars low resolution spectrophotometry, use of objective prism plates from UK Schmidt Telescope 1−9714
quasars Lyman alpha absorption lines, nature of absorbing clouds 1−44662
quasars nuclei, Balalmer line profiles from gas kinematic model 1−44645
quasi-stellar objects, optical and IR spectrophotometry of 14 QSOs 1−54650
quasi-stellar objects cluster near M82, discovery and redshifts 1−49846
radiative transfer, reinvestigation of redistribution functions R_{III} and R_{IV} 1−44426
radio galaxies, distorted, in Abell 2255, redshifts and evidence of intergalactic gas 2.5-5 Mpc from cluster centre 1−9682
radioastronomical spectrum, calibration by substitution method on antenna 1−9369
astronomical spectra continued
radiogalaxies, narrow line, optical emission line spectrophotometry obs. interpretation 1−54604
5radiosource field objects with UV excess, photometry and spectral obs. 1−4990
radiosources, compact nonthermal sources, variability and broad band spectra, UHF, SHF obs. 1−54646
radiosources, extragalactic, flat and steep spectrum sources at 1400 MHz, cosmological evolution functions 1−36425
radiosources, flat radio spectra from superposition of subcomponents 1−22907
radiosources with flat spectra, photometric millimetre continuum obs. 1−13872
radiosources with flat spectra, quasars and radiogalaxies, red shift and optical identification 1−44656
radiosources with flat spectra in Ooty Occultation Survey, description 1−32632
resonance line pressure in gas-dust systems with local radiative coupling 1−36172
Rosette Nebula, thermal radio emission spectrum obs. 1−13843
Sagittarius A West, source nature grain models 18 μm extinction and 16-30 μm spectra 1−49835
Saturn, methane line profiles near 1.1 μm 1−54415
Saturn, PH_3 and trace constituents abundance, IR spectral obs. 1−9415
Saturn rings near IR reflectance spectrum obs., interpretation 1−22720
Saturn vicinity, Lyman-alpha obs. with Copernicus satellite 1−44483
Seyfert 1 galaxies, continuum energy distrib., large and small scale struct. 1−9705
Seyfert galaxies, forbidden line region energetics rel. to radio structs. 1−9649
Seyfert galaxies, type I, emission line features, profiles anal. 1−49805
Seyfert galaxies, X-ray luminosities correl. with Hβ and forbidden O III emission lines 1−44623
Seyfert galaxies Lyman alpha flux and line ratios dust reddening, IUE obs. 1−49793
Seyfert galaxies spectra, asymmetry of permitted line profiles *(Russian)* 1−9673
Sharpless 106, bipolar nebula, spectrum and struct. rel. to star form. in disc-shaped cloud 1−27586
Sharpless 140, H II region internal motion from visible spectra obs. 1−4969
Sharpless 147,148,149, internal motion from radial vel. obs. 1−4970
SMC planetary nebulae, abundances from spectral line intensities, UV and visible obs. 1−44638
SN 1006, supernova remnant, X-ray spectrum rel. to Crab Nebula, X-ray obs. 1−13834
spectroscopic plates, optimum exposure and development times *(Japanese)* 1−10046
spectroscopy pioneer research by Alexander Stewart Herschel, (1836 to 1907) 1−44749
star clusters in Magellanic Clouds, classification in one-dimensional spectral sequence 1−9584
supergiants, late type, atm. parameters and chem. abundance through galactic disc 1−36273
supernova remnant in NGC 4449, radio obs. of spectrum and time variability of flux density 1−54585
supernova remnants in M33, radio spectral indices meas. 1−27593
Taurus dust cloud towards 3C 123, interstellar lines, VHF and visible obs. 1−9599
Titan atmosphere, absorption features, interpretation, UV obs. 1−54417
TMC 1 (Taurus Molecular Cloud 1), interstellar cyanoacetylene-d_1 detect. 1−9628
TMC 2, dark cloud, gravitational collapse from radiative transfer model, ^{13}CO SHF obs. 1−49757
Tychos supernova remnant (SN 1572), visible and radio identification, general discussion 1−32743
Uranus atmosphere, absorption features, interpretation, UV obs. 1−54417
UV spectroscopy of interstellar and intergalactic matter 1−32736
near UV spectrum, differential optical absorpt. meas. for formaldehyde, HNO_2, O_3, NO_2 and SO_2 concs. 1−44251
Vela X, plerionic supernova remnant, evolution of flux density and EM spectrum 1−17886
Venus, spectrophotometry by Venera 11, layer-addition method appl. 1−9401
Venus atmosphere, CO_2 transmission for spectral region near 10 micrometers 1−4804
VV 565 (NGC 1741), emission line galaxy, spectroscopic obs. with Digicon system of Cima Ekar Observatory 1−22687
W3 molecular cloud core, kinematics, CO and ^{13}CO EHF obs. 1−49833
W50, supernova remnant around SS 433, spectrophotometry of optical nebulosity 1−49771
X-ray galaxies narrow-line, optical spectra obs. 1−9648
X-ray sources, extragalactic, implications for high-energy spectra from search for γ-radiation 1−44631
X-ray sources optical counterparts, UV and visible spectra obs. 1−49859
I Zw 77 and III Zw 92, Seyfert galaxies, emission line charact. *(Russian)* 1−54635
Ar IV in planetary nebulae, forbidden nebular and auroral transitions 1−22859
C, N, O, Ne, spectra from multiply charged ions charge transfer with H and He 1−32615
CN band brightness profile in neutral comet atm. 1−22727
CO emission from elephant-trunk globules in Rosette nebula, radial vel. obs. rel. to form. 1−9610
CO in Venus stratosphere, J=0→1 rot. transition obs. in EHF 1−22705
CO J=1→0 transition obs. of interstellar clouds, $^{12}CO/^{13}CO$ ratio 1−13830
CS, interstellar, isotopic abundance ratios meas. 1−9609
H I, interstellar, anal. and interpretation of self-absorpt. lines 1−44610
H I, interstellar, in vicinity of Sagittarius B2 radio source, line profiles and radial vels. *(Russian)* 1−32745
H I 21 cm line as an extragalactic distance indicator 1−49528
H II region, excitation by X-ray source in dense interstellar cloud, optical emission 1−49760
H II regions, compact, near K 3-50, aperture synthesis obs. of radio recomb. lines 1−54587
H II regions, electron temperature determ. from radio recomb. line 1−32738
H II regions, extragalactic, Balmar lines rel. to interstellar extinction 1−4950

astronomical spectra continued
H II regions, O III, O I and N III fine struct. lines obs. by far IR spectroscopy 1−17888
H II regions, radio recomb. line emission, LTE 1−13828
H II regions, struct. and dynamics rel. to emission lines profiles 1−9616
H II regions abundance determ. using two empirical methods, critical anal. 1−40354
H II regions in NGC 1313 and 6822 galaxies 1−4961
H II regions in NGC 5128 (Centaurus A), spectroscopic obs. and radial vels. 1−36376
H II regions ionisation fronts, depend. of emission props. on boundary conditions 1−32742
H_2 abundance on Neptune and Uranus from obs. of 4-0 quadrupole band 1−22723
H_2O maser emission, search in nearby galaxies 1−27582
H_2O, ν_2 excited state, microwave spectrum appl. to astrophysics 1−6242
O III, ground state config., transition probabilities and line intensity ratios 1−33423
OH 205.1−14.1, abnormal H_2O 22.2 GHz emission radial vel. and line width 1−36378
OH main line anomalies in interstellar clouds 1−32739
Y II, transition oscillator strength, appl. to astrophysics 1−9355
Zr II, transition oscillator strength, appl. to astrophysics 1−9355

astronomical spectroscopy *see astronomical spectra; spectroscopy*

astronomical techniques
see also astrometry; radioastronomical techniques
accretion disc, time depend. evolution in mass transferring binaries 1−54557
Algol systems photometric anal., determ. of solns. with allowance for gas stream effects 1−32723
Ap stars photometry, three-filter system for 5200 Å flux depression meas. *(German)* 1−54514
artificial satellite orbit improvement method using sparse obs. *(Chinese)* 1−40355
asteroid shape and dimensions from photometric light curve 1−4780
asteroids surface slopes, determ. from high speed photometry of stellar occultations 1−40309
astrometry, corrections to declinations of star pairs of ZTL-180 Polkovo zenith programme *(Russian)* 1−13666
astrometry, influence of peculiarities of Moon apparent figure on results of meridian obs. *(Russian)* 1−13665
astrometry, reduction of star astrographic meas., twelve consts. method, conditions for appl. *(Russian)* 1−49478
astrometry, relativistic corrections to obs. of planets *(Russian)* 1−32608
astrometry, tropospheric limitation of phase meas. of coordinate 1−9384
astrophotography 1−9381
atmosphere refraction, calc. of terrestrial and astronomical refr. zenith distances *(Russian)* 1−54239
balloon orientation system, high-altitude, single-chip microcomputer appl. 1−44405
Be stars, quantitative spectral classification on low dispersion spectra 1−49692
binary stars analysis using polarimetric evidence, critique of appl. to Cygnus X-1 1−27550
cataclysmic binaries, accretion discs sizes determ. from eclipse light curves anal. 1−27509
celestial mechanics, appl. of multiple time-scale perturbation method to dynamical systems stability *(Polish)* 1−32612
celestial mechanics, perturbation of vectorial elements of non-Keplerian orbits 1−40327
celestial mechanics, time elements introduction in Keplerian orbital elements 1−44413
cluster main sequence fitting method improvement 1−54565
colour photography appl. to astronomy, review 1−49530
comet head, mag. field direction determ. method 1−44498
cometary orbits computation, recurrent power series integration for catalogue of one-apparition comets 1−44511
concave aspherical mirrors testing, Offner compensator design method *(Russian)* 1−17774
conference, future spectral classification, IAU Colloquium 47 (Vatican, July 1978) 1−44719
cosmic blackbody radiation, method of determining cosmological Compton distortions and radiation temp. 1−44676
cosmic gamma radiation recording, scintillation time-of-flight systems of modern telescopes 1−36185
cosmic microwave background fine-scale anisotropy measurement, far IR techniques appl. 1−9741
cosmic ray electrons isolation from predominant proton background using Interkosmos 17 data 1−36152
cosmic ray variations, investigation on basis of cosmogenic radiocarbon via multichannel scintillation arrangement 1−36188
cosmic ray variations investigations, aspects of exptl. procedures 1−36187
cosmic rays extraterrestrial variations spectrum anal., investigation of atmospheric, geomag. and extraterrestrial vars. 1−36150
cosmological deceleration parameter (q_0), possible determ. using lunar occultations and laser ranging obs. 1−49863
cosmological distance measurement using giant H II regions, results from obs. of galactic H II region (NGC 3603) 1−44605
cubic spline for light curve anal. of variable stars 1−44566
degenerate stars, techniques for recognising hot nondegenerate stars 1−49534
diffraction-limited true images from severely aberrated instrums., speckle processing 1−6500
digital image processing, appls. to astronomy, conference, Pasadena, California, (1980 August 20 to 22) 1−44708
Earth atm. effect on solar limb darkening function, correction techniques 1−27476
eclipsing binary, light curve analysis by direct synthesis method 1−36195
eclipsing binary stars light curves analysis, Fourier techniques 1−13802
electronography, sensitometric calibration and linearity of emulsions 1−27389
elliptical galaxies, minor axis orientations meas. using interactive computer method 1−54605
ephemerides calculation, computer programs rel. to present status of Astronomical Ephemeris 1−44447
extragalactic distance indicator, use of H I 21 cm line 1−49528
extrasolar planetary systems, search techniques 1−13816
faint star radial velocity determ. method from objective prism plates 1−9379

astronomical techniques continued
free-energy-minimisation method for eqn. of state of stellar plasmas, analytical version 1−27483
galactic distance scale determ., from globular clusters distance data 1−36349
galactic plane density function from star counts towards dense mol. clouds 1−54389
galactic sources in BG catalogue, Clean and Restore technique for data reduction 1−36424
galaxies, distance determ. using inner rings dimensions 1−54621
galaxies, primeval, search for high redshift objects in red light using CCD 1−32762
galaxies distance and dust content from dark cloud size distrib. 1−44648
galaxies photographic photometry, technique for automatic meas. of faint objects 1−9667
galaxy bars with structure of uniformly rot. polytrope, nonaxisymmetric config., analytic method 1−36385
galaxy clustering, anal. methods, unified treatment 1−54644
Galaxy spiral structure parameters determ. from Cepheids radial vels., error estimates by numerical expts. 1−13860
galaxy vel. fields, semiautomatic data reduction method 1−49526
gamma-ray astronomy, methods of increasing ang. resolution of gamma-ray telescopes 1−17769
gas clouds, isothermal, gravitational collapse and fragmentation, numerical method 1−36196
globular star cluster photometric investigation by photographic equidensity curves *(German)* 1−27390
gravitational constant, measurement in orbiting laboratory 1−36169
gravitational wave detection by cylindrical antennas, optimal orientation 1−27854
Hale method for periodic soln. construction in elliptical restricted case of three-body problem *(French)* 1−40343
Hartmann test on large telescope with small screen in pupil image 1−32619
Hubble constant isotropy test method using quasars taking into account supergalactic extinction 1−9747
IIIa-J, IIIa-F emulsions, B and V colour eqns. from deep BV photometric anal. of background field 1−40559
image processing for ESA faint Object Camera 1−27393
image reconstruction from Fourier modulus, noise props. 1−54394
image recovery from incomplete astronomical interferometric meas., Simplex Algorithm appl. 1−49527
images from Voyager, digital picture processing techniques for Jupiter and Saturn 1−36193
imaging photon counting system low surface brightness nebula obs. 1−13848
interferometric astrometry, implications of pillars stability meas. at CERGA Observatory *(French)* 1−49507
interplanetary dust grains albedo meas., microscopic technique for single micron size grains 1−13656
interstellar extinctions determination from general star counts, accuracy and precision 1−9620
interstellar spectral band 4430 Å, visual classification system applied to OB stars 1−4972
IR astronomy, absolute meas. of lunar maria apparent temp. *(French)* 1−4791
far-IR astronomy, appl. of Ge:Sb photometer to obs. of CO emission from Orion Nebula 1−9629
IR astronomy, water content and transparency of daylight atmosphere near large astronomical telescope 1−9247
IR signal processing under zodiacal light background 1−40356
iterative reconstruction of space-limited images 1−51389
Large Magellanic Cloud, inclination determ. using Cepheids and other methods 1−27616
least squares method, expansion of general method 1−40351
least-squares method, nonstandard adjustment problems 1−40352
lunar core detection using two surface magnetometers at very low frequency 1−22692
lunar laser ranging, general 1−32637
lunar laser ranging, scientific achievements from ten years' work 1−36198
lunar perihelia and node, Hill's differential eqn. soln. method 1−22691
lunar theory, adaptation of method of Brown for main problem to machine computation 1−4788
lunar theory, contrib. to study of planetary perturbations of Moon *(French)* 1−40364
meteorite examination by thermoluminescence, unequilibrated ordinary chondrites, metamorphic history 1−9440
meteorite orbital parameters from thermoluminescence evidence 1−54433
meteorite thermoluminescence sensitivity measurement methods 1−49583
MK classification for early type stars, standard stars 1−49624
MK classification scheme, techniques and instrumentation 1−49623
MK system use in reddening, errors refining using photometry 1−36277
Monte Carlo simulation, appl. to long-period comets physical and dynamical evolution 1−44509
Moon physical libration, appl. of Lie transform method to Hamiltonian theory 1−40365
multiple object spectroscopy, appl. of Medusa spectrograph 1−49521
multitemperature analysis of solar X-ray line emission 1−4852
nebulae, derivation of electron density and temp. from forbidden S II and O II line intensity ratios 1−27594
neutron star mass, determ. from X-ray burst temporal profile 1−32720
nova distances determ. by blackbody method, dust shells optical depth in IR 1−9517
objective-prism spectral classification at MK dispersion 1−49625
optical astronomy, achieving high resolution, review 1−4779
optical data processing, appl. of coherent system to photographically recorded astronomical spectra 1−17775
optical polarisation analyser for solar spectra obs. eliminating atm. turbulence effects *(French)* 1−27376
particle density above ecliptic plane, from Earth obs. 1−54418
particle flux measurement in space, harmonic anal. of scan plane flux anisotropies 1−40308
periods derivation for cyclic phenomena, improved method 1−27396
photoelectric registration of stellar transits, cross-correlation appl. 1−4775
photographic photometry, colour eqns. from deep BV photometric anal. of background field 1−40559
photographic spectrum profiles recording, use of simple recorder for digital meas. results *(Polish)* 1−32627
photographic stellar spectrophotometry using solar spectrum as calibration 1−13699

astronomical techniques continued
photography, emulsions sensitivity enhancement by baking in N_2 and He 1−9382
photography, pioneer work of Dr. John William Draper (1811-82) 1−36483
photography of groups of galaxies 1−9387
photometric analysis of eclipsing binary light curves, results from VV Orionis rel. to consistency of anal. 1−13765
photometry, photoelectric system for limiting JF photography, meas. of primary standard stars 1−27397
photometry system, narrow band, to differentiate red giants from dwarfs 1−44438
photon-counting techniques for ground-based digital image processing 1−27392
planetary atmosphere, inhomogeneous, discrete ordinates method anal. 1−44456
planetary nebulae, He, O and Ne abundance technique 1−32526
planetary nebulae central stars, temps. determ. in dusty nebulae from He II/H β emission line ratio 1−44555
planetary orbits computation, review of theories and observational data 1−40329
planetary systems detect. by IR intrinsic thermal radiation 1−40532
planetary systems of stars, observational techniques 1−22839
planetary theories construction, discussion of results *(French)* 1−40336
planets, long-period perturbations construction, new approach 1−40334
Population II stars analysis, possibility of using metal unblanketed model atmospheres 1−36279
protostars collapse, numerical algorithms for physical and mathematical formulation of problem *(Russian)* 1−49612
pulsars, period evolution model evaluation technique 1−36319
quasars distances, meas. by use of C IV 1549 Å flux as standard cosmic candle 1−13879
quasars low resolution spectrophotometry, use of objective prism plates from UK Schmidt Telescope 1−9714
radiative transfer theory, appl. of method of addition of layers to soln. of non-linear problems 1−36174
radio sources, extragalactic, cosmological evolution from 408 MHz source count 1−27628
radio sources optical identification using SAO catalogue, recommended techniques 1−27399
radiosources, compact extragalactic, faint outer struct. round bright objects, search method 1−36197
redshifts determ. for elliptical galaxies, appl. of broad UV spectral features 1−54608
reflectance spectrophotometry in UV 1−22520
reflecting telescope, method for full resolution capability in solar photography 1−22690
reseau astrometry with Palomar Schmidt plates, technique 1−44441
Ritchey-Chretien telescope, field correction at several focal ratios 1−4769
Schmidt telescope plate copying system *(Japanese)* 1−13701
Seyfert galaxies long-term photometric monitoring, photoelectric comparison sequences 1−40558
solar diameter fluctuation measurements, comparison with power spectrum of differential atmospheric refr. 1−49593
solar eclipses phase determination, anal. of Bessel interpolation method and differential corrections method *(Italian)* 1−9349
solar interior, probing via five minute oscills. 1−27468
solar Mg I lines, source functions wavelength depend. anal. by intercomparison profiles method 1−44444
solar neutrino secular variations, measurable by obs. of ^{41}Ca in Earth crust 1−54337
solar spectroscopy, high resolution, with double-pass solar spectrometers double-pass solar spectrometers *(Russian)* 1−49522
solar system occultations, prediction using automated microdensitometry techniques 1−44411
solar wind vel. determ. scintillation in radiosource signals 1−4845
solar wind viscosity effects, upstream integration of Navier-Stokes eqns. 1−32588
solid state sensors and their use 1−49523
space astronomy, present and future appls. to obs. of extraterrestrial molecules 1−54370
space astronomy, satellite obs. of solar radio bursts 1−4895
speckle and intensity interferometry, thermal radiation field spatial covariance 1−40357
speckle boiling, scanning rate influence in sequential anal. 1−15080
speckle image reconstruction techniques, computer simulation comparison 1−51387
speckle interferometry, image reconstruction algorithm appl. to ang. dias. of supergiant stars 1−44550
speckle interferometry, resolution of Pluto-Charon system with CFH 3.60 m telescope *(French)* 1−32655
spectra of stars and galaxies, classification from low dispersion objective prism spectra 1−49532
spectral classification with objective prism techniques 1−49531
spectroscopic binary stars, method of searching for cool companions in near IR *(Russian)* 1−17877
spectroscopy, Digicon system of Cima Ekar Observatory 1−22687
spectroscopy pioneer research by Alexander Stewart Herschel, (1836 to 1907) 1−44749
spherical astronomy, consts. determ. based on obs. of minor planets *(Polish)* 1−32607
star radial velocity determinations, use of PDS microdensitometer compared with manual reduction 1−54390
stars, equatorial, absolute declination using transit instrument 1−44443
stars, mode interaction of nonradial oscills. 1−27489
stars, position determ., obs. on different nights, reduction by least squares adjustment *(Russian)* 1−54391
statistical parallax determ., max. likelihood algorithms 1−17817
statistical reduction method, appl. to large scale distribution of extragalactic objects 1−9693
stellar atmospheres, radiative diffusion, static flux-constant model; iteration procedure 1−54480
stellar chemical abundances, determ. from line statistics 1−44534
stellar interferometry, actively controlled long baseline, field-of-view constraints 1−4613
stellar internal rotational angular velocities determ., new method 1−22779
stellar IR photometry method of determining absolute flux from α Lyrae (Vega) in K-band (2.2 μm) 1−4913
stellar kinematic data, anal. for stellar age and mass determ. 1−36264
stellar magnetic field measurement by new spectral technique 1−9469

astronomical techniques continued
stellar photometry, implications for electronographic magnitudes of faint star sequences visibility on sky surveys 1−13817
stellar photometry, multicolour indices rel. to position in HR diagram 1−22790
stellar radial velocities, meas. using 620 mm objective prism of Haute-Provence Observatory *(French)* 1−49615
stellar radial velocities meas., programme for observing very low amplitude vars. in δ Scuti stars 1−27388
stellar radii, determ. from high speed photometry of occultations by asteroids 1−40309
stellar rotation determ. for late spectral type stars, photoelectric cross-correl. method 1−36191
stellar slitless spectroscopy, appl. of grating-prism and focal reducer techniques 1−54380
stellar source function derivation, appl. of limb-darkening obs. 1−13764
stellar speckle interferograms, spatial and temporal props. 1−41581
stellar speckle interferometry, photon-limited, space-time analysis 1−32629
stellar spectra, classification of high dispersion spectra of chemically peculiar (Ap and Am) stars 1−54525
stellar spectra, classification outside MK domain 1−54482
stellar spectral classification, appl. of MK and related systems to spectrograms of various solutions 1−49633
stellar spectral classification, appl. of photographic broadband photometry with Kodak fine-grain emulsions 1−54399
stellar spectral classification, empirically oriented approach 1−54484
stellar spectral classification, examination from theoretical point of view 1−54483
stellar spectral classification, future developments 1−54398
stellar spectral classification, lessons from past and thoughts on future 1−49631
stellar spectral classification, present state and future developments of automatic techniques 1−54396
stellar spectral classification by photoelectric measurements of mol. bands, current status and future prospects 1−49632
stellar spectroscopy, automatic MK spectral classification for early type stars 1−54397
stellar spectroscopy, classification criteria for G-type stars from photoelectric spectrophotometry 1−27502
stellar spectroscopy, first obs. in 4300-7300 Å region with Reticon spectrophotometer at Asiago Observatory *(Italian)* 1−9475
stellar spectroscopy, medium resolution, at 1 to 2 microns, classification criteria 1−49630
stellar spectroscopy, methods for anal. of stellar spectra veiled by lines 1−17818
stellar spectroscopy, two dimensional classification of early type stars via narrow band photometry 1−49634
stellar spectroscopy, two dimensional spectral classification using computer 1−49533
stellar spectroscopy with new devices, review 1−49629
stellar UV spectra synthesis, importance of accurate oscillator strengths 1−49609
stellar VRI photometry, obs. of fainter standard stars in E-regions 1−27564
stroboscopic method for planetary satellite orbiter motion determ. 1−40314
Sun, burst radiofrequency obs. by different methods, review 1−4878
Sun, coronal loops, heating estimation method 1−32684
Sun, force free mag. field with non const. α, numerical method soln. 1−54450
Sun, global velocity signals, effects of analysis procedures 1−22748
Sun, photometric colour indices determ. by a direct interpolation method 1−40353
Sun, photosphere limb brightness oscills., observational test for pulsation theory, spectral obs. 1−27475
sunspot cycle, simulation using narrowband Gaussian process 1−54469
sunspot max. magnitude prediction, using geomag. data during previous minima 1−40456
telescope polar axis, orientation adjustment method 1−40347
torque pendulum use in lunar eclipse and gravit. anomaly obs. *(Chinese)* 1−49543
transit instrument, photoelectric, determ. of azimuth and collimation errors *(Russian)* 1−13690
V/V_{MAX}-test for distribution sources, effect of variability 1−9378
variable stars, nonradially oscillating, mode discrimination from light, colour and vel. obs. 1−40475
variable stars period determination methods, appl. to Ap stars 11 Orionis and 137 Tauri *(French)* 1−32704
Venus, spectrophotometry by Venera 11, layer-addition method appl. 1−9401
X-ray astronomy, maximum entropy method algorithm, appl. to Einstein Observatory image restoration 1−44437
X-ray background event rejection and riseline discrimination in imaging proportional counter 1−9377
X-ray imaging using coded mask telescopes, mask designs and image recovery techniques 1−36180
X-ray sources in globular clusters, masses determ. using new statistical test 1−32772
X-ray spectroscopy, experimental techniques limitations 1−54395
$^{12}C/^{13}C$ ratio determ. in C stars, spectroscopic criteria 1−54500
H II regions abundance determ. using two empirical methods, critical anal. 1−40354
S abundance determination in gaseous nebulae, method of S^{3+} abundance derivation 1−44606

astronomical telescopes
see also radiotelescopes
6 m BTA, planetary spectrograph optical system 1−9373
6-m telescope, M9 shchv image tube 1−36184
active optical devices and applications, seminar, Washington, DC, USA (April 1980) 1−44705
Advanced X-ray Astrophysics Facility observatory for Space Shuttle 1−49511
altazimuth instruments implications of pillars stability meas. at CERGA Observatory *(French)* 1−49507
altazimuth mounting, evaluation of the precision in setting 1−22682
aspheric mirror surfacing for space telescopes 1−46600
balloon borne telescope, attitude control *(Japanese)* 1−22680
Cassegrain telescopes, slitless field spectrograph using grating prism and focal reducer 1−54380

astronomical telescopes continued
coded mask telescopes for X-ray source imaging, mask designs and image recovery techniques 1−36180
coherent optical arrays for space astronomy 1−49514
concentric optical systems, field aberrations *(Russian)* 1−17765
cosmic ray space telescope superconducting magnet system 1−49517
Dollond-Wolloston telescope, description and historical background 1−22681
doublet prime focus corrector on Anglo Australian telescope, astrometric test using OR 103 1−40349
European large telescope projects 1−17773
Faint Object Camera, image processing 1−27393
Faint Object Camera on Space Telescope, calibration and image processing software 1−27394
frequency-contrast charact. of ideal telescope 1−27379
gamma-ray telescope spark chamber photographic data processing by desktop calculator 1−4777
gamma-ray telescopes, ang. resolution improvement techniques 1−17769
gamma-ray telescopes, scintillation time-of-flight systems 1−36185
Grubb Parsons product range 1−22683
Hartmann diaphragm use to test astron. telescopes in observatory 1−11064
Hartmann test on large telescope with small screen in pupil image 1−32619
Infrared Telescope Facility in Hawaii telescope and instrumentation description 1−54371
IR telescope in Hawaii 1−44433
LAMAR X-ray telescopes, Wolter I versus kirkpatrick-Baez optics 1−4771
Large Aperture Telescope for IR and submillimetric astronomy 1−49512
Lick 3m telescope, remote-controlled spectrograph, area scanner and spectropolarimeter 1−27387
Lick Observatory, spare parts 40-inch telescope 1−13693
long-focal-length, all-wavelength telescopes with ultrahigh angular resolution 1−54378
mirrors, nonspherical, effect of corrector assembly and placement errors on surface shape test results 1−24473
offset guidance, uniaxial system theory *(Russian)* 1−44435
optical astronomy, developments review 1−9391
optical design, fixed corrector at Cassegrain focus *(French)* 1−32621
orbiting solar telescope, (UV) on Salyut-4, design 1−27377
orbiting solar telescope, guidance system 1−27378
orbiting solar telescope on Salyut-4 UV spectrograph, focal curve and astigmatism 1−27385
polar axis orientation, adjustment method 1−40347
reflecting telescope, method for full resolution capability in solar photography 1−22690
reversible transit instruments, observational accuracy improvement *(Russian)* 1−13689
Ritchey-Chretien telescope, field correction at several focal ratios 1−4769
Ritchey-Chretien telescopes, Offner compensator design method for concave aspherical mirrors testing *(Russian)* 1−17774
Ritchey-Chretien very large space telescope for optical/UV astronomy 1−49513
San Pedro Martir Observatory in Mexico, telescope installation 1−32618
second main mirror, Hartmann test *(Russian)* 1−13692
Space Telescope, astrometric appls. 1−32596
space telescope, faint object camera 1−17770
Space Telescope digicon performance data, review 1−9370
Space Telescope Digicon photon detector, astronomical appls. 1−17754
Space Telescope maintenance by Shuttle astronauts 1−32602
Space Telescope Observatory 1−44436
Space Telescope optical telescope assembly 1−32626
Space Telescope performance verification 1−32625
Space Telescope using Faint Object Camera *(French)* 1−32620
space-borne and ground-based instrum. comparison 1−27380
Special Astronomical Observatory, water content and transparency of daylight atmosphere near large astronomical telescope 1−9247
synthesised hologram as simulator of telescope primary mirror 1−19303
telescope, 17th century type, construction for teaching purposes 1−49930
transit instrument, photoelectric, determ. of azimuth and collimation errors *(Russian)* 1−13690
two-mirror 100 m aplanatic space telescope system design 1−49515
UK 1.2 m Schmidt telescope, appl. to spectral classification with objective prism spectra 1−49532
X-ray, crossed-grid charge locator [X-ray telescope] for high-resolution imager 1−27383
X-ray astronomy satellite, Einstein Observatory, results of observational program 1−32598
X-ray telescope, actively shielded at balloon altitudes, background effects evaluation 1−36181

astronomy *see astronomy and astrophysics*

astronomy and astrophysics
see also astroarchaeology; astronomical catalogues; astronomical instruments; astronomical observations; astronomical observatories; astronomical spectra; clusters of galaxies; cosmology; extraterrestrial life; galaxies; gamma-ray astronomy; infrared astronomy; intergalactic matter; interplanetary matter; interstellar magnetic fields; occultations; planetaria; radioastronomy; solar system; stars; ultraviolet astronomy; X-ray astronomy
1981 British Astronomical Association Handbook 1−9783
AAVSO Variable Star Atlas, description 1−13704
Alfven waves, nonlinear, in plasma with finite conductivity, propag. theory 1−54358
American Astron. Soc., 156th meeting, College Park, MD (June 1980) 1−5014
American Astronomical Society, 12th Annual Meeting of Division for Planetary Sciences, Tucson, Arizona, (1980 October 14 to 17) 1−36445
American Astronomical Society, 157th meeting, Albuquerque, New Mexico (1981, January 11 to 14) 1−40591
American Astronomical Society, Dynamical Astronomy Division meeting, College Park, Maryland (1980 June 18 to 20) 1−36446
annual review, 18th volume 1−9785
astronomical ephemerides, past, present and future 1−44446
Astronomische Gesellschaft spring meeting report, Bochum, Germany (1979 March 12 to 14) 1−44697
Astronomische Gesellschaft spring meeting report, Mainz, Germany, (1980 March 5 to 7) 1−44698
astrophysical formulae, book, second edition 1−9784

astronomy and astrophysics continued
atmosphere refraction, calc. of terrestrial and astronomical refr. zenith distances *(Russian)* 1−54239
beta strength function fine struct., effect on fission, fusion, astrophysical superheavy elements 1−45465
black hole astrophysics, book contrib. 1−22830
calendars, Julian date from calendar date and vice versa by computing *(German)* 1−27400
coherence of radiation by fast-moving charges 1−9357
colour photography appl., review 1−49530
conference, summer meeting of Astronomy Society of the Pacific, Tucson, USA (July 1980) 1−22945
disc-satellite interactions, angular momentum and energy transfer rates 1−32614
dynamical astronomy, modern research approaches 1−32610
educational course design and problems 1−44746
Einstein's field equations, Kerr-NUT type solns. 1−36437
Elger, Thomas Gwyn Empey (1837-97), diaries, life and work 1−17982
EM beam high-frequency Fresnel drag in moving magneto-active plasma, theory 1−22675
ephemerides, 1981, calendar of celestiral events *(French)* 1−54349
equinox position and motion, appl. to FK5 catalogue fundamental reference coordinate system 1−44410
European large telescope projects 1−17773
Greek sundial from time of Alexander the Great, discovery in central Asia 1−44748
Herschel, Alexander Stewart, 1836 to 1907, astronomical research 1−44749
Herschel, Sir John Frederick William (1792-1871), astronomer 1−32824
Herschel, Sir William (1738-1822), family life and astronomy 1−5063
high-energy astrophysics in radioastronomy *(Dutch)* 1−13901
Horrebow, Peder (1679-1764) anal. of Ole Romer's meridian circle obs. *(Danish)* 1−44448
HR diagram, absolute calibration of fundamental effective temps. and bolometric corrections 1−17826
HR diagram, IAU Symposium No.80, (Washington DC, USA, 1977 November 2 to 5) 1−13937
HR diagram, progress and problems in upper left of diagram (OB-type and Wolf Rayet stars) 1−17842
hydromagnetic oscillatory flow past infinite vertical porous plate, force convection and mass transfer effects 1−54356
IAU (1976) System of Astronomical Constants 1−32605
IAU seventeenth general assembly, Montreal, Canada, (1977 August 14 to 23) 1−40604
Ice Ages on Earth, astronomical implications 1−4606
image quality on Mt. Maidanak, effect of atm. temp. microstruct. 1−44300
inertial reference frame based on extragalactic radio sources, precise optical positions for 22 southern sources 1−36423
interstellar dense clouds, Si chemistry 1−13827
Jeans's instability in expanding medium, soln. by two time-scale method 1−36168
Lacaille, Nicolas, (1713-62), biography 1−47
magnetic field meas. using Hanle effect 1−27391
magnetic merging and reconnection, two dimensional MHD theory 1−44427
MHD Kelvin-Hemlholtz instabilities in astrophysics, relativistic flows theory for plane boundary layer 1−13680
Milne, Edward Arthur (1896-1950) and development of modern astrophysics 1−44
neutrino radiative lifetimes for masses 10-100 eV/c^2, astrophysical constraints 1−36176
neutrinos, Fermi-degenerate, self-gravitating 1−9362
nuclear partition functions of ^{56}Fe and ^{56}Ni 1−49498
observer's handbook of Royal Astronomical Society of Canada (1981) 1−13944
optical astronomy, developments review 1−9391
optoelectronic networks for observing astronomical objects 1−27375
physics research, solar cells, astronomy and astrophys., review 1−17976
plane relativistic shock waves, propag. at edge of gas 1−54357
plasma, degenerate, at densities above nuclear, eqns. of state 1−36167
plasma emission, fundamental and second harmonic emission theory rel. to solar metre wave radio bursts 1−9466
plasma neutral gas interaction in lab. and cosmic plasmas, review 1−7006
Ptolemy, obs., doctored to agree with theory 1−44451
radiation gas dynamics, exact analytical soln. 1−54504
radio sources physics, theory appl. to solar 1−4892
relativistic hydrodynamics of one-dimensional free expansion and shock wave, rel. to superluminal radio sources 1−13870
relativistic shock waves, axisymmetric, propagation 1−17762
restricted quantum-mecanical three-body problems, general theory of He-like ions 1−9852
review of present knowledge of stars, galaxies and the cosmos 1−27401
rotational dynamics of deformable medium, further generalisation 1−36170
Secchi, P. Angelo, S.J., 1818-78, pioneer astrophysicist, solar and stellar work 1−13985
sky obscuration by clouds, model for viewing of space from ground 1−4616
spacecraft astronomical research, operational planning and control 1−54345
spherical astronomy, consts. determ. based on obs. of minor planets *(Polish)* 1−32607
spherically symmetric flows by the dissipative finite difference scheme 1−13682
star tables from Muslim Spain 1−32727
turbulent magnetic dynamo in rotating gaseous disc, theory and astrophysical appls. 1−13683
variable stars and AAVSO activities 1−27534
VICAR image processing system portability 1−27395
Walther, Bernard (1430 to 1504), astronomical obs. 1−27757
wave motions in rapdily rotating spherical shells, non-magnetic case 1−54030
Be-like ions, intermediate coupling collision strengths for $\Delta n=0$ transitions produced by electron impact 1−49501
Be-like ions, intermediate coupling collision strengths for $\Delta n=0$ transitions in $1s^22s^2$, $1s^22p^2$ and $1s^22s2p$ configurations 1−49502
C IV 1549 Å in quasar spectra, use as standard cosmic candle 1−13879
H^-, photodetachment and radiative attachment involving $2p^{23}P^e$ state, rate coeffs. 1−49493

astronomy and astrophysics continued
$H+C^{2+}(C^{3+})(N^{2+})(N^{3+})(O^{2+})(O^{3+})(Ne^{2+})(Ne^{3+})$, charge transfer reaction rate coeffs., quantal calcs. 1−32615
He-like ions, intermediate coupling, collision strengths for $\Delta n=0$ transitions produced by electron impact 1−49500
$He+C^{2+}(O^{2+})$, charge transfer reaction rate coeffs., quantal calcs. 1−32615
$He^{+}+C^{+}$, charge transfer reaction rate coeffs., quantal calcs. 1−32615
La, spectrum atlas, 3000-7000 Å 1−6191
O III, oscillator strengths rel. to Bowen fluorescent mechanism in emission nebulae 1−13681
YO, rot. anal. of $B^2\Sigma^+ \rightarrow X^2\Sigma^+$ system 1−49503
ZrCl, IR band system anal. 1−4759
ZrO, relative intensities and predicted new bands of A(E-X) and B(D-A) systems 1−4754

astronomy computing
see also computerised instrumentation
analytic calculations on digital computers, review 1−50
astronomical ephemerides, computer programs rel. to present status of Astronomical Ephemeris 1−44447
calendars, Julian date from calendar date and vice versa *(German)* 1−27400
calibration and image processing software for the Space Telescope Faint Object Camera 1−27394
CLEAN algorithm, implementation in radio astronomy aperture synthesis obs. 1−9380
digital filtering of observational data 1−22689
digital image processing, appls. to astronomy, conference, Pasadena, California, (1980 August 20 to 22) 1−44708
eclipsing binary, light curve analysis by direct synthesis method 1−36195
eclipsing binary stars light curves analysis, Fourier techniques 1−17866
elliptical galaxies, minor axis orientations meas. using interactive computer method 1−54605
EXOSAT spacecraft, onboard Data Handling Subsystem 1−49473
galaxy clustering, N-body simulations 1−9690
image analysis by moments 1−36194
linear theory, soln. of main problem by method of Brown 1−4788
Mercury topographic data production, MERC program in FORTRAN IV 1−49529
periods derivation for cyclic phenomena, improved method 1−27396
pulsar observations, automatic processing by computer 1−4932
solar convection zone, fast model 1−27439
solar system occultations, prediction using automated microdensitometry techniques 1−44411
stellar dynamics, computer simulations of close encounters between single stars and hard binaries 1−9582
sunspot number prediction by computer, revised McNish-Lincoln method *(Japanese)* 1−4846
X-ray astronomy, maximum entropy method algorithm, appl. to Einstein Observatory image restoration 1−44437

astrophysics computing
see also computerised instrumentation
free-energy-minimisation method for eqn. of state of stellar plasmas, analytical version 1−27483
galaxy evolution in dense clusters, computer simulations of ram-pressure stripping 1−44627
stellar spectral classification, present state and future developments of automatic techniques 1−54396
stellar spectroscopy, automatic MK spectral classification for early type stars 1−54397
stellar spectroscopy, two dimensional spectral classification using computer 1−49533
sunspot cycle, simulation using narrowband Gaussian process 1−54469
sunspots, groups computer study 1−4849

asynchronous generators
electric power generation through industrial waste heat recovery by vapour turbine and induction generator 1−26826

asynchronous motors *see induction motors*

atmosphere, solar *see solar atmosphere*

atmosphere, terrestrial *see terrestrial atmosphere*

atmosphere, upper *see upper atmosphere*

atmospheric acoustics
aurorae, audible sounds excitation 1−49439
boundary layer acoustic (bistatic) sounding, radar eqn. 1−49318
D-region, auroral, interfering acoustic waves rel. to partial EM refl. results 1−27334
disturbance caused by earthquake, propag. to ionosphere, effect of sound vel. vertical gradient 1−22583
fog layer top detection using sodar, obs. at Delhi 1−4576
frequency dependent back-scattering of acoustic wave train in atmosphere 1−29440
geomagnetic disturbance generation by acoustic pulses, gravity effect 1−22585
gravitational atmosphere, critical time for asymptotic acoustic waves 1−32513
infrasonic wave isolation from background noise, spectrum-coherence anal. method *(Russian)* 1−44240
infrasonic waves, propagation from auroral jet current to ground 1−40243
infrasonic waves (microbaromic waves) related to earthquakes, obs. as precursory phenomena *(Chinese)* 1−9090
ionosphere, electroacoustic waves/EM waves coupling eqn. for inhomogeneous plasma *(Chinese)* 1−46867
lightning, radar and acoustic study 1−44254
magnetosphere, electroacoustic waves/EM waves coupling eqn. for inhomogenous plasma *(Chinese)* 1−46867
meteor fireball anomalous sounds due to wake generated EM fields 1−54246
meteor fireballs, audible sounds excitation 1−49439
microbaroms and microseisms, simultaneous obs. indicating ocean wave origin 1−9105
New Zealand meteorite fireball, anomalous sound obs. 1−54246
planetary boundary layer, refractive structure parameter, depend. on temp. and moisture 1−22420
propagation, wind and temperature profile effects *(Japanese)* 1−1752
pulses, geomagnetic disturbance generation, gravity effect 1−22585
radio acoustic sounding, appl. to meas. of fog-capping thermal inversions 1−54193
sodar sounding, use as indicator of microwave propag. characts. 1−13518

atmospheric acoustics continued
sounder return from methane pollutant plume 1−21949
wind profile remote sensing by acoustic Doppler radar 1−32561

atmospheric boundary layer
acoustic (bistatic) sounding, radar eqn. 1−49318
acoustic echoes from planetary layer, structural parameters 1−17706
aerosol, size and height distrib. in stable atmos., model 1−9230
aerosols, global meas. in remote continental and marine regions 1−44248
aerosols in remote troposphere boundary layer, bulk comp. 1−44247
ageostrophic model for atmospheric hydrostatic flows, asymptotic derivation 1−49328
air pollutant dispersal, model of long-range transport 1−13525
air pollution plume concentration fluctuations 1−53723
air-sea interaction, Satellite Data Acquisition System (SATDAS) using satellite telemetry 1−54249
air-sea interactions in equatorial Atlantic 1−54090
Antarctica, convective activity in Wright Valley due to solar heating 1−17679
Arctic Ocean, boundary layer at drifting ice stations 1−27187
NE.Atlantic, air and sea surface temps., monthly anomalies correlative anal. *(French)* 1−35990
baroclinic, convective layer, mean-field and second-moment budgets 1−22407
barotropic flow, effect of planetary scale mountain in simple low-order spectral systems 1−4562
California Bight, mesoscale study of sea surface conditions 1−44196
cloud dynamics and thermal radiation effects, theory *(French)* 1−44269
cyclones, influence of β-effect in boundary layer friction field on vertical motions 1−22472
dispersa of vap. cloud and evap. of liquid into wind field, theory 1−13194
dispersal of heavy pollutant cloud, model 1−13196
dispersal of pollutants, 1-D diffusion eqn. model for turbulent atmos. 1−53722
dispersal of pollutants by wind field, wind tunnel expts. 1−13195
entrainment coeff. in planetary boundary layer 1−9203
entrainment in convective mixed layer, similarity study 1−13509
fence on rough surface in thermally stratified flow 1−40153
fence on rough surface in thermally stratified flow 1−40154
gas effluent dispersion anal. using wind tunnel simulation of lower atmosphere layers *(French)* 1−32486
geostrophic wind in planetary boundary layer, model of Ellison 1−49315
glacial ice sheet ablation rate, depend. on insolation and surface air temp. 1−36003
gravity flow, entrainment dynamics 1−49376
Great Lakes meteorology, infrared radiation transfer and radiative heating 1−44283
growth eqn. with Reynolds averaging 1−19671
haze and plume pollution, airborne lidar method and obs. 1−43836
heat fluxes (turbulent), water vap. effects 1−49319
heat island of urban area, lapse rate/wind speed model 1−22431
heat island of urban area, transient and steady state calcs. 1−13199
hoarfrost formation at nighttime, expt. test of heat flux calcs. 1−13511
humidity structure function parameters of marine surface layer 1−17645
internal gravity waves breaking in marine surface layer, cause of turbulence 1−13510
internal gravity waves in atmosphere surface layer, connection with upper troposphere wind *(Russian)* 1−13515
islet (heated) in tropics, 3-D mesoscale model *(French)* 1−44270
Kansas mast effects on eddy stress and cup anemometer overspeeding, reevaluation 1−9200
Kazansky-Monin theory applied to models of boundary layer *(Russian)* 1−32488
layer wind in exit region of mountain gap 1−44266
local terrain irregularities, influence on wind profiles 1−49316
Loch Ness, mixing layer 1−40149
marine aerosols, review of research 1−13540
marine aerosols, sulphate enrichment owing to biogenic gaseous S compounds 1−40173
marine boundary layer, model of turbulence processes *(Russian)* 1−49278
marine boundary layer study over Bay of Bengal during summer MONEX 79, observation system 1−54257
marine surface layer, wind-wave-induced disturbances obs. 1−17673
marine surface layer remote sensing, evaluation of Seasat-A scatterometer (SASS) meas. 1−17700
mesoscale cellular convection, AMTEX 75 obs. 1−17665
microturbulence over land and sea, temporal struct. *(French)* 1−44271
mixed layers containing stratocumulus, 3-D model 1−9204
model incorporating eddy diffusivity for turbulent transport 1−49317
monsoon (summer) conditions temperature stratification, Deccan Plateau, India 1−27221
monsoon period marine planetary boundary layer characts. 1−27225
monsoon region, diurnal and seasonal variation of elec. and condensation nuclei 1−9229
Moshiri Basin, Japan, wind features and daily vars. *(Japanese)* 1−9210
negatively buoyant plume in turbulent boundary layer 1−13197
nitrates, particulate, in troposphere and atmosphere boundary layer, meas. 1−40165
nocturnal boundary layer disturbance, increase in vertical mixing *(German)* 1−27236
nonstationary boundary layer, stance law using Rossby similarity 1−4556
nonstationary freely rising turbulent convective flows 1−32511
ocean, combined effect of bottom topography wind stress and air press. gradient on surge generation 1−4500
ocean surface pressure, effects of perturbation on internal waves development in fluid with shear flow *(Russian)* 1−9167
ocean water vapour and heat turbulent flux into atm. 1−36043
ocean waves, air flow numerical simulation *(Russian)* 1−44242
ocean wind stress and heat flux during gales 1−17606
ocean-atmosphere interaction, significance of various types of information for long-range weather forecasting 1−22466
one-dimensional circulation and climate model, appl. to lower atmosphere 1−4561
optical transmission degradation through turbulence and extinction 1−22454
particle deposition vel. predictions on natural water 1−21947
N Pennines, temp. and other weather records (1932 to 1978) 1−36038
planetary boundary layer, existence of similarity 1−4559
planetary boundary layer, longitudinal instabilities and secondary flows review 1−36041

atmospheric boundary layer continued
planetary boundary layer, refractive structure parameter, depend. on temp. and moisture 1−22420
planetary boundary layer, semiempirical model *(Russian)* 1−13516
planetary boundary layer over rural terrain, wind and turbulence struct. 1−27223
plume dispersion as function of atmos. stability, gaussian model 1−22400
plume dispersion parameters, tall stock in shoreline environment 1−27222
pollutant dispersal from tall chimney, into convective boundary layer 1−17326
pollutant dispersal in stratified boundary layer, model *(Russian)* 1−53733
pollutant dispersal in topographically complex coastal area, gaussian model 1−48933
pollutant dispersion expts., downwind from shoreline, tracer expts. 1−17642
pollution dispersal from point source in sheared atoms. model 1−53721
quasi-geostrophic turbulence in rotating homogeneous fluid, effects of topography 1−49281
radio-acoustic sounding for temp. profile, comparison with other methods 1−4589
refractive index fluctuations in mountainous region *(Russian)* 1−32493
remote sensing of wind, turbulence and energy dissipation, lidar method 1−17661
rotating atmosphere temporal boundary layers, multi-time motion scales 1−27243
sea surface layer, fluxes of heat and momentum, determ. methods, review 1−22535
sea surface wind derivation from satellite cloud motion obs. (tropical Atlantic) 1−27224
sea surface wind stress coeffs., scaling law 1−22348
sea-air exchange processes, in Atlantic off Brazilian coast 1−13485
sea-air interface, gas exchange physics 1−44288
sensible heat flux, direct computation method utilising field measurements 1−4570
simulation in wind tunnel, air injection 1−44230
stability correction functions for near ground layer 1−13512
stress parameterisation, limit imposed by turbulence intermittency 1−13506
sub-cloud layer over land, diurnal variations 1−13508
surface-layer intermittency, investigation using conditional sampling 1−27219
Taylor's hypothesis, temporal vel. and temp. derivatives, probability density functions 1−1926
temperature inversion dissolution by convection after sunrise *(German)* 1−27235
temperature inversion in half-meter layer over sea 1−54196
terrain change affecting boundary layer parameters 1−22382
tethered balloon measurement system for GATE expt. 1−44313
thermal inversions capping fogs, radio acoustic meas. 1−54193
thermal plume vortices, due to a 1000 MW fire 1−22383
tradewind boundary layer, time-dependent, with non-precipitating cumulus clouds modelling 1−49323
tropical Atlantic Ocean upwelling regions, evaporation and atm. sensible heat flux. 1−22392
turbulence classification schemes, in terms of Pasquill A-F classes 1−13502
turbulence measurement over water, tri-axial thrust anemometer design 1−44334
turbulence measurement with Mk 8 thrust anemometer 1−49410
turbulence probe, of low weight design 1−9282
turbulent baroclinic vertical motions, orographic thermal effect 1−32527
turbulent fluxes of momentum and sensible heat, effect of tree covered surface 1−54203
turbulent shear flow, spectral densities of vel. and temp. derivatives 1−13507
turbulent shear flow over water waves 1−54176
turbulent temp. fluctuations from temp. variance eqn. 1−49314
turbulent vel. and temp. derivatives, correlation 1−9199
wind at airport site, representativeness of single anemometer obs. 1−44232
wind characteristics at Boulder Atm. Observatory 1−27220
wind power as function of height above ground 1−4587
wind vel. and turbulence in Boulder using path averaged optical wind sensors 1−44262
wind velocity profile from aerosol content obs. with lidar technique 1−22529
wind velocity profile in artificially thickened boundary layer 1−32497
CO_2 conc. fluctuations over price field 1−54173
HNO_3, gas phase, in troposphere and atmosphere boundary layer, meas. 1−40165
H_2O, free troposphere/boundary-layer meas. from 58°S to 70°N and comparison with CO and O_3 meas. 1−44246
H_2S in air of tropical forest and of temperate region, fluorometric obs. 1−13528
O_3 composition of boundary layer, obs. of O_3 vertical flux 1−27226
O_3, free tropospheric and boudary-layer meas. over latit. range 58°S to 70°N 1−40164
O_3, mechanism for dry deposition to seawater 1−44252
OCS, conc. meas. on Project Gametag 1−40169
SO_2 in rural air of the Netherlands (obs. made during 1977) 1−17328
SO_2, meas. of Project Gametag 1−40167

atmospheric chemistry
see also atmospheric composition
acid rain patterns in USA, combination of two network data sets 1−9222
composition changes due to fossil fuel burning, global climate response 1−44290
D-region, negative ion chemistry, signal flow graph theory 1−9315
E_s-layer, high latit., role of chemical loss processes in form. 1−27336
formaldehyde, in primitive atmos., photochem. production 1−49390
ionosphere, reactions with rocket exhaust plume rel. to HEAO plasma hole 1−17723
mesosphere, effects of Na^+ cluster ions form. on electron recomb. rate, laboratory meas. 1−17649
mesosphere, O_3 response to particle precipitation 1−32569
methyl chloride, sources and sinks rel. to atmospheric budgets and conc. distrib. 1−40168
negative ions in stratosphere, fractional abundance, balloon borne mass spectroscopic obs. 1−54199
photochemical air pollution form. in United Kingdom, impact of vehicle exhaust emission controls 1−53731

atmospheric chemistry continued
photochemical dynamical transport theory, effects on comp. of upper mesosphere and lower thermosphere *(Chinese)* 1−54171
photochemical model, comparison of computer predictions of O_3 in SE.Virginia with measured O_3 concs. 1−26862
photochemistry, implications for photostationary state of NO_x and HNO_3 meas. in clean air 1−40174
photochemistry near urban airport air pollution and meteorological modeling 1−21950
photodissociation, diurnally averaged rates, calc. method 1−22523
plasma reactions of environmental interest 1−36092
stratosphere, Cl chemistry influenced by Na originating from meteors 1−40178
stratosphere, minor gas conc. from two dimens. photochemical model with Rayleigh scattering 1−22448
stratosphere, O_3+NO_x chemistry rel. to temp. changes assoc. with solar cosmic ray event 1−54166
stratosphere, O_3 photolysis, effect on minor components at their sounding *(Russian)* 1−40160
stratosphere, trace gas transport by stationary planetary waves, importance of chem. processes 1−22456
stratosphere, two-dimensional model calcs. of HCl and ClO distribs. 1−22443
stratosphere Na^+ ion reactions, laboratory meas. 1−17649
stratosphere O_3 transport and photochemistry, systems modeling 1−4592
sulphate aerosol, form. and evolution of ultrafine particles produced by radiolysis and photolysis 1−43711
sulphate particles in Four Corners coal-fired power plant plume, form., transport, chem. 1−43839
symposium on atmospheric pollutant physico-chemical behaviour (Ispra, Italy, 1979 October) 1−9773
tetrafluoromethane, photodissoc. by H Lyman α in mesosphere rel. to atmospheric residence time 1−44295
trace gas distrib. in tropo- and stratosphere, 2-D model 1−49363
troposphere, photochemistry, implications of formic and acetic acids meas. in SW.USA 1−17653
CO production in atm., organic mol. photooxidation as source 1−22380
COS+OH→ products, rate consts. under troposphere conditions 1−36027
CS_2 as precursor of OCS and SO_2, results of CS_2 concs. meas. in E. United States 1−17648
^{13}C transfer to and from atmos., reservoir models of C cycle 1−44287
Cl+HOCl→AHCl+ClO, reaction rate const., 243-365K, stratospheric importance 1−44245
H production rate in 60-100 km altitude range, UV dissoc. of H_2O 1−17715
H^++O_2, H^+ loss function, appl. to atmosphere 1−51281
H_2O dissoc. rate at 20-100 km altitude 1−17715
H_2SO_4 particle neutralisation by reaction with NH_3, laboratory expts. 1−36033
H_2SO_4, stratosphere negative-ion chemistry, laboratory expts. 1−13537
$He+O^{2+}\rightarrow O^+$+He^+, rate coeff. anal. appl. to ionosphere 1−37324
I, possible role in tropospheric photochemistry 1−40171
Mg^+, role of meteoric ion in ionosphere, ion-molecule reactions, rate consts. 1−43664
odd N production in stratosphere and mesosphere, intercomparison of source strengths 1−44253
N_2+$O_2\rightarrow N_2O$+O, upper atmos. reaction of N_2 metastable mol., lab. study 1−4091
NH_3 from ocean and N compounds *(German)* 1−22453
NH_3 neutralisation of H_2SO_4 aerosol in stratosphere, laboratory expts. 1−36033
NO oxidation in stratosphere and mesosphere, source strength for odd N prod. 1−44253
NO^+ in aurora, chemical reaction rates 1−4675
NO_2, photolysis at ground level 1−4553
NO_3 free radical, photodissociation quantum yields 1−22397
NO_x cycle, implications of tropospheric gas-phase and particulate nitrate meas. 1−40165
N_2O from excited O_3, potential atmospheric source 1−44275
N_2O production at lower ionos. altitude, by $N_2(A^3\Sigma_u^+)$+O_2 reaction 1−4092
N_2O production in lower ionosphere, reaction of N_2 metastable mol. with O_3 1−4091
O I in thermosphere, excitation temp. of ^3P ground state fine struct. levels *(Chinese)* 1−54301
O_3 photodissociation in thermosphere, effect of UV solar flux depend. on solar activity 1−40455
O_2 photodissociation rate in Schumann-Runge bands, 40-110 km 1−17716
O_2^+, dissociative recomb., O(^{1}S) quantum yield, appl. to F-region 1−22615
O_3+$N_2\rightarrow N_2O$+O, upper atmos. reaction of $N_2(A^3\Sigma_u^+)$ mols. 1−4092
$(O_2)_2$ collisional pairs spectral absorpt. of sunlight, implications for atm. chem. 1−44293
O_3, atmosphere content, effect on UV flux and temp. in palaeoatmosphere photochemical model 1−49389
O_3 day deposition to seawater surfaces, role of reactions with seawater constituents 1−44252
O_3 in stratosphere, effects of global atmospheric pollutants on O_3 layer 1−21953
O_3 in troposphere, origin 1−44256
O_3/hydrocarbons relationships, meas. in eastern urban area, Manhattan 1−43838
OCS formation from OH+CS_2 reaction, upper limit 1−22399
OCS oxidation as source of atmospheric SO_2, results from meas. of Project Gametag 1−40167
O(^{1}D), photoproduction rate vars. in troposphere for 1977 Gametag flights 1−40170
O(^{1}D)+$N_2(N_2O)(H_2O)(H_2)(CO_2)(O_3)$, interaction kinetics and rate coeff. 1−31858
OH in stratosphere, volcanic eruption gases perturbing atmos. chem. 1−13531
OH+COS→ products, rate const. for troposphere conditions 1−36027
S compounds, global distrib. in troposphere estimated in height/latit. transport model 1−40172
S cycle, photochemistry of COS, CS_2, CH_3SCH_3 and H_2S 1−40151
SO_2 in marine atmosphere, oxidation rel. to sulphate enrichment in marine aerosols 1−40173
SO_2 oxidation in INCO chimney plume 1−35728
SO_2 pollution, oxidation, kinetic model and reactions 1−22379

atmospheric chemistry continued
SO_2 production, evidence for OCS oxidation contrib. from meas. of Project Gametag 1−40167
Si^+ chemistry in ionosphere 1−44388
T_4^+, electronic struct. 1−41309

atmospheric composition
see also atmospheric chemistry; atmospheric structure
acidic rainfall in S.E. Poland 1−39851
acidity observations of marine and continental precipitation and aerosols 1−13530
aerosol, over Antractic ice sheet, optical, chem. and phys. props. 1−17641
aerosol characts. influenced by rainfall, N.Florida, USA 1−54168
aerosol conc. changes in climate model involving cloud optical props. 1−17686
aerosol concentrations and size distribs. at S.Pole 1−9235
aerosol elemental composition at remote S.Hemisphere site in Bolivia 1−17640
aerosol in Great Smoky Mountains, characterisation 1−53732
aerosol in stratosphere, size distrib. 1−54183
aerosol particle scavenging by precipitation 1−22430
aerosol Pb and Br conc. anal. *(German)* 1−54195
aerosol stratification in stratosphere *(Russian)* 1−32494
aerosol transport in surface layer, model for stable conditions 1−9230
aerosols, budget of sea salts and S in atmosphere 1−44250
aerosols, global meas. in remote continental and marine regions 1−44248
remote aerosols, method of comparing trace elements enrichment 1−27228
aerosols collected in cascade impactor, particulate shapes 1−9236
aerosols in remote troposphere, bulk comp. 1−44247
air-sea interface, gas exchange physics 1−44288
aliphatic and polyaromatic hydrocarbons in aerosols of urban N.Europe 1−17327
n-alkane in air over Indian Ocean, of oceanic origin 1−4552
Arctic haze, particle size distrib. and optical props. 1−9231
aurora, H^+ and H collisions with N_2 and O_2, emission cross sections 1−37146
chemical composition changes due to fossil fuel burning, global climate response 1−44290
deposition of trace elements in aerosols onto surfaces 1−54169
droplet evaporation retardation by air pollutants, laboratory expts. 1−17639
dustfall chemical composition obs., Cairo, Egypt 1−13505
Earth Rn flux, methods of meas. by nuclear track technique 1−44323
electrons, intensity meas. at airplane altitudes 1−13555
formaldehyde, contents in air above ocean surface 1−44255
formaldehyde, direct meas. by differential optical absorpt. in near UV 1−44251
formaldehyde, in primitive atmos., photochem. production 1−49390
formaldehyde at a coastal site, air to sea transfer rate 1−36047
formaldehyde in atmos. aerosol, obs. of marine and continental air 1−13503
formaldehyde mixing ratio in troposphere, new meas. technique 1−17655
from F-22, global burden in Earth's atmosphere 1−17332
gaseous contaminations in atmosphere, conc. determ. along horizontal paths using retuned CO_2 laser 1−53740
global C cycle, ten-compartment model calibration and testing 1−9238
haze and plume pollution, airborne lidar method and obs. 1−43836
humidity determination by IR spectral absorption measurement *(French)* 1−44331
hydrocarbon monitoring with chromatographic instrument 1−4237
hydrocarbons, nonmethane, cones. in eastern urban area, Manhattan and relationship to O_3 1−43838
ice crystals, naturally occurring, classification, form. and occurrence 1−9234
inhomogeneities, rel. to atmosphere inhomogeneous heating and gravity waves generation 1−27324
ionosphere, ion species detected on rocket nose cone, Araks expt. 1−44376
laser investigations 1−32559
magnetosphere outer zone low altitude regions, CNO/He ratio obs. 1−40273
marine aerosols, chemical comp. of aerosol and precipitated water 1−13540
marine aerosols, sulphate enrichment owing to biogenic gaseous S compounds 1−40173
mesospause aerosol layer, ion-induced nucleation of water vap. 1−9217
mesosphere, effects of Na^+ cluster ions form. on electron recomb. rate, laboratory meas. 1−17649
upper mesosphere, effects of vertical dynamic transport on comp. *(Chinese)* 1−54171
mesosphere Na layer density response to gravity wave perturbations 1−44352
methane, conc. increase during last decade (1968-1977) 1−35731
methane, latit. distrib. over Pacific Ocean 1−40166
methane plume, air pollutant, acoustic sounder return evaluation 1−21949
methyl chloride, atmospheric conc. distrib. 1−40168
minor constituents meas. by DASE technique 1−49427
monsoon rain chemical composition, Delhi, India 1−54225
negative ions in stratosphere, fractional abundance, balloon borne mass spectroscopic obs. 1−54199
nitrate particle detection method, based on obs. on individual particles 1−4234
O_3 night-time meas. using chemiluminescent rhodamine-B detector on rocket sonde 1−17719
outgassing history of Earth's atmos. 1−13577
ozonograms recorded at Uccle, Belgium, (July to Sept. 1979) *(French, Flemish)* 1−36037
photochemical pollutants in United Kingdom, computer modelling of impact of vehicle exhaust emission controls 1−53731
planetary heat balance variations due to atm. chem. comp. 1−22445
plasma reactions of environmental interest 1−36092
positive ions in stratosphere, fractional abundance, implications for aerosol and ion chemistry 1−54198
precipitable water vapour, detection by ground-based microwave radiometry 1−13548
precipitation chemical composition, Gainesville, Florida, USA 1−4566
primitive atmosphere composition, implications of Earth upper mantle oxidation state 1−17569
primordial atmosphere, inert gas dissipation into space 1−13575
primordial atmosphere comp., effect of early organisms 1−13546

atmospheric composition continued
Project Gametag (Global Atmosphere Meas. Expt. on Tropospheric Aerosols and Gases), overview 1−40200
radionuclide residence time in stratosphere following atmospheric nucl. explosion 1−26863
rain chemical composition, obs. at Rothamsted, England (since 1853) 1−8782
rainwater composition in S.E. United States, differences between marine and continental air 1−13533
rare earth elements in aerosols from Osaka area, Japan 1−36018
smoke in S.England, rural area obs. 1−53724
soot, air sampler to meas. elemental C content 1−4236
stratosphere, evidence for Na^+ ion clusters from laboratory meas. 1−17649
stratosphere, minor gas conc. from two dimens. photochemical model with Rayleigh scattering 1−22448
stratosphere, O_3 photolysis, effect on minor components at their sounding *(Russian)* 1−40160
stratosphere, trace species meas. with balloon-borne IR laser heterodyne radiometer 1−49403
stratosphere, two-dimensional model calcs. of HCl and ClO distribs. 1−22443
stratosphere, volcanic material from Mount St. Helens obs. over Europe 1−9212
stratosphere aerosol formation, influence of ions on NH_4Cl gas phase nucleation 1−43710
stratosphere NO, meas. using new balloon-borne chemiluminesc. instrument 1−44322
stratosphere O_3 content, search for correl. with geomag. activity 1−22396
stratosphere O_3 transport and photochemistry, systems modelling 1−4592
stratosphere ozone and distrib. sensitivity to variables in two dimens. circulation model 1−22455
stratosphere trace constituent profile retrieval using IR limb spectra 1−44309
stratosphere water vapour volume mixing ratio and transport *(Japanese)* 1−22386
stratosphere-troposphere air exchange, turbulent mixing in tropopause folds 1−17662
sulphate aerosol, form. and evolution of ultrafine particles produced by radiolysis and photolysis 1−43711
sulphate aerosol correl. with sea breeze circulation in Tampa Bay, Florida 1−4583
sulphate aerosol production in plumes from coal-fired power stations 1−13202
sulphate concentrations, (1963-1978), in E.United States, seasonal and episodic trends 1−53730
sulphate dust layer in stratosphere, from volcanic eruption 1−22427
sulphur compound sources, natural and man-made 1−40152
suspended particulates in air in Madrid, Spain 1−54170
suspended particulates in urban air of Rio de Janeiro 1−17331
tetrafluoromethane, absorpt. cross section at H Lyman α (121.57 nm) rel. to atmospheric residence time 1−44295
lower thermosphere, effects of vertical dynamic transport on comp. *(Chinese)* 1−54171
Tokyo area, organic constituents in atmospheric fallout 1−53726
trace constituents meas. using fluorescence lidar, SNR maximization 1−49406
trace gas distrib. in tropo- and stratosphere, 2-D model 1−49363
trace gas transport in troposphere, two-dimens. model 1−13526
trace gases and aerosols, conf., Aug. 1979, Boulder, Colorado, USA 1−9762
tropical Pacific, H_2O content, Nimbus-6 microwave radiometry obs. 1−49355
troposphere, gas phase and particulate nitrate meas. 1−40165
SW.USA, formic and acetic acids conc. 1−17653
UV studies using spectrometer/polarimeter 1−40348
volcanic dust injected into stratosphere, by vulcanian eruption column 1−36030
As content of rainwater and snow, and atmos. mass balance implications 1−13532
^{7}Be distribution in troposphere, implications for stratospheric/tropospheric air exchange 1−17654
^{7}Be in stratosphere, due to bombs and cosmic rays 1−49368
Br total content of lower stratosphere, first obs. of new collection system 1−36031
$Br+HO_2(H_2O_2)$, reaction kinetics and constants, stratospheric composition 1−39593
C budget in SE USA, hostirical change in source to sink trend 1−49373
CO and O_3, in troposphere and lower stratosphere, N. and S.America (1974) 1−44286
CO, conc. increase during last decade (1968-1977) 1−35731
CO, free troposphere/boundary-layer meas. from 58°S to 70°N and comparison with H_2O meas. 1−44246
CO, latit. distrib. over Pacific Ocean 1−40166
CO production in atm., organic mol. photooxidation as source 1−22380
CO_2, atmos. composition influenced by El Nino current 1−54207
CO_2 atmospheric burden, influence of ocean surface transport and deep mixing 1−44231
CO_2, biosphere in global surface flux model 1−13527
CO_2, compositional history of atmos. from tree ring data 1−13556
CO_2 conc. fluctuations over price field 1−54173
CO_2 content in atmosphere, methods of estimating past concentrations *(French)* 1−27239
CO_2 effect on climate and models, temp. effects, of view 1−17684
CO_2 from fossil fuel, effect of absorpt. by ocean on atmospheric concs. 1−26864
CO_2 from fossil fuels and climate, role of deep sea heat storage in secular response to climatic forcing 1−27178
CO_2 global warming and coastline flooding, poss. disintegration of West-Antarctic floating ice shelf 1−40183
CO_2 in stratosphere and troposphere, mixing ratio decrease interpretation 1−22442
CO_2, stratospheric concentration, mass spectral obs. 1−36029
CS_2, meas. of atmospheric concs. in E. United States 1−17648
^{13}C transfer to and from atmos., reservoir models of C cycle 1−44287
^{14}C, transport model including diffusion in stratosphere 1−36019
Cl in stratosphere, volcanic eruptions contributing HCl 1−27241
Cl total content of lower stratosphere, first obs. of new collection system 1−36031
^{36}Cl in rainwater, van der Graaff accelerator obs. 1−36034

atmospheric composition continued
H production rate in 60-100 km altitude range, UV dissoc. of H_2O 1−17715
HCl, conc. in stratosphere from far IR meas. 1−17651
HCl, stratosphere contamination by volcanic eruptions 1−27241
HCl, vertical profile and total content, IR spectral obs. 1−36028
HNO_2, direct meas. by differential optical absorpt. in near UV 1−44251
HNO_3, aerosol composition, calcs. of equilib. partial press. 1−13504
HNO_3 IR spectroscopic study around 11.4 μm from Mont-Louis ground level obs. *(French)* 1−49357
HNO_3, meas. in clean air 1−40174
H_2O, free troposphere/boundary-layer meas. from 58°S to 70°N and comparison with CO and O_3 meas. 1−44246
H_2O remote sensing using Nimbus-6 scanning microwave spectrometer 1−49355
H_2O_2, in rainwater during precipitation events in California 1−4227
H_2S in air of tropical forest and of temperate region, fluorometric obs. 1−13528
H_2SO_4 aerosol haze episodes over St. Louis, Missouri, USA 1−13201
H_2SO_4 aerosol layer in stratosphere, increase since 1960, over Wyoming 1−8780
Hg, gaseous, in troposphere, global distrib. 1−9220
I, possible role in tropospheric photochemistry 1−40171
Li in upper atmos., seasonal variation, lidar obs. 1−36091
$^7Li/^6Li$, in upper atmos., lidar obs. 1−36091
N compounds, ocean as a source for NH_3 *(German)* 1−22453
odd N production in stratosphere and mesosphere, intercomparison of source strengths 1−44253
NH_3, aerosol composition, calcs. of equilib. partial press. 1−13504
NH_3, composition measurement technique 1−4235
NO, NO_2, meas. in clean air 1−40174
NO_2, direct meas. by differential optical absorpt. in near UV 1−44251
NO_2, stratosphere vertical distrib., obs. by differential optical absorpt. method 1−9213
NO_2, stratospheric conc. meas. at night from stellar spectra in 440 nm region 1−17650
NO_2 total content, obs. of starlight spectral absorpt. *(French)* 1−44228
NO_3 free radical, photodissociation quantum yields 1−22397
NO_x production in stratosphere by solar cosmic ray event, rel. to O_3 temp. decreases 1−54166
N_2O ambient background conc., remote DF lidar meas. 1−13500
N_2O emission from Iowa soils, effect on troposphere 1−21942
N_2O mole fraction in troposphere determ. with tunable diode laser meas. 1−44239
$N^+(^5S)$ in atmosphere, possible origin for auroral 2145Å mystery feature 1−54303
Na in upper atmos., winter enhancement, obs. of twilight 1−17718
O and O_2, distrib. in thermosphere rel. to turbulent mixing coeff. profile 1−22557
O I in thermosphere, excitation temp. of ^3P ground state fine struct. levels *(Chinese)* 1−54301
O_2 exchange between atm. and ocean, rate const. determ. for N.Atlantic 1−4542
O_2 in upper atmos., UV spectral absorpt. calcs. for Lyman α ion chamber meas. 1−17717
$(O_2)_2$ collisional pairs spectral absorpt. of sunlight, implications for atm. chem. 1−44293
O_3 'river', development in E United States during synoptic scale episodes 1−54177
O_3 at Earth surface, resistance to O_3 uptake of grass, snow, soil, sand, H_2O, seawater 1−22465
O_3 at Tucson, Arizona, visible to near IR optical depth obs. 1−22491
O_3, atmosphere content, effect on UV flux and temp. in palaeoatmosphere 1−49389
O_3, column density 1957 to 1975, secular behaviour of seasonal changes 1−36035
O_3 composition of boundary layer, obs. of O_3 vertical flux 1−27226
O_3 concentration profile determ. from ground based microwave meas. 1−22538
O_3 concentrations in tropical upper stratosphere and mesosphere, annual cycle obs. 1−17652
O_3 content, daily soundings during two winter months including sudden stratospheric warming 1−22398
total O_3 content measurement, comparison of New Zealand filter ozonometer and Dobson spectrophotometer 1−4652
O_3 decrease in stratosphere assoc. with solar cosmic ray event, rel. to rocket sonde derived temp. changes 1−54166
O_3 depletion and stratospheric minor constituents 1−54200
O_3, direct meas. by differential optical absorpt. in near UV 1−44251
O_3 forecasting in stratosphere, rel. to cyclonic and anticyclonic activity *(Russian)* 1−44241
O_3, free troposphere/boundary-layer meas. from 58°S to 70°N and comparison with H_2O meas. 1−44246
O_3, free tropospheric and boudary-layer meas. over latit. range 58°S to 70°N 1−40164
O_3, general circulation/tracer model test of O_3 sampling network obs. 1−13534
O_3 in SE.Virginia, comparison of measured concs. with computer predictions from photochemical model 1−26862
O_3 in stratosphere, effects of global atmospheric pollutants on O_3 layer 1−21953
O_3 in stratosphere and mesosphere, affected by stratospheric warming 1−4569
O_3 in stratosphere over Poland, fluctuations in vertical distrib. 1−49311
O_3 in troposphere, origin 1−44256
O_3 in troposphere, regional scale meas. using pulsed CO_2 lasers 1−9285
O_3 in troposphere, relationship to specific nonmethane hydrocarbons in eastern urban area, Manhattan 1−43838
O_3 in troposphere, remote meas. using laser absorption spectrometer 1−49404
O_3 in troposphere and lower stratosphere, N. and S.America (during 1974) 1−44286
O_3 in troposphere on European clear day 1−36048
O_3 measurements in India 1−49367
O_3, mechanism for dry deposition to seawater 1−44252
O_3 near stratopause, annual variations at 50 km altitude, anal. of 1970-2 UV scatt. obs. 1−13536
O_3 over Uccle, Belgium, 1979 Oct.-Dec. mast obs. *(French, Flemish)* 1−49331
O_3, total concs. rel. to troposphere $O(^1D)$ photoproduction rate 1−40170
O_3 total content, meas. by USSR ozonometric network 1−22549
atmospheric composition continued
O_3 total quantity, ozonograms 1−54228
O_3 variations from solar UV transmission in 298-320 nm 1−40157
O_3, vertical distrib. above 23 km altitude (1967-1979) *(German)* 1−13542
O_3, vertical distrib. above level of max. concentration, balloon obs. *(French)* 1−44227
OCS, conc. meas. on Project Gametag 1−40169
OCS oxidation as source of atmospheric SO_2, results from meas. of Project Gametag 1−40167
OCS sources, results of atmospheric CS_2 concs. meas. in E. United States 1−17648
OCS, upper limit on rate of formation from OH+CS_2 reaction 1−22399
$O(^1D)$, photoproduction rate vars. in troposphere for 1977 Gametag flights 1−40170
OH in stratosphere, volcanic eruption gases perturbing, atmos. chem. 1−13531
OH in troposphere, remote sensing method using UV laser 1−36070
OH, tropospheric, laser optical meas. 1−54285
Rn used to determine vertical diffusion 1−44326
Rn, vars. of ground gas concs. with activity of Kilauea Volcano, Hawaii 1−17591
S compounds, global distrib. in troposphere estimated in height/latit. transport model 1−40172
S in aerosols over Sweden, transport study 1−54224
S oxides as pollution in Europe, Regional Source Quantification model 1−21948
SO_2 absorption at DF laser IR wavelengths 1−13564
SO_2, air pollutant dispersal, model of long-range transport 1−13525
SO_2, air pollution in Sheffield, England, 1968 to 1975 period 1−13198
SO_2, and lichen growth in London, England, recolonisaton 1−39854
SO_2 and sulphate wet deposition in eastern USA 1−13529
SO_2, direct meas. by differential optical absorpt. in near UV 1−44251
SO_2 distribution in troposphere and stratosphere, meas. using new chemiluminescence technique 1−44249
SO_2 from La Soufriere Volcano, W.Indies (during 1979) 1−32419
SO_2 in Norwegian Arctic, winter conc. and transport from Eurasia 1−9215
SO_2 in rural air of the Netherlands (obs. made during 1977) 1−17328
SO_2 in S.England (Hampshire and Sussex), rural area obs. 1−53724
SO_2, meas. of Project Gametag 1−40167
SO_2 pollution, oxidation, kinetic model and reactions 1−22379
SO_2 sources, results of atmospheric CS_2 concs. meas. in E. United States 1−17648
T, tropospheric conc. pattern rel. to rates of input to world oceans 1−4533
atmospheric density *see atmospheric pressure and density*
atmospheric disturbances *see atmospheric movements; thunderstorms*
atmospheric duct *see atmospheric electromagnetic wave propagation*
atmospheric dynamics *see atmospheric movements*
atmospheric electricity
see also atmospheric electromagnetic wave propagation; atmospheric ionisation; atmospherics; aurora; electrojets; ionosphere; lightning; thunderstorms
aerosol particles, electrically charged, capture efficiency by ice cryst. plates 1−32499
air-gaps under sandstorm or humidity condition, breakdown voltage 1−15582
auroral current system mag. field, three dimens., from field aligned and ionosphere currents 1−40250
auroral double layers, simulated, reproduction of features of inverted V-events 1−22607
auroral effects in geoelectric field influence of meteorological phenomena 1−4568
auroral electrojet, currents closing field aligned currents, Pedersen cond. interpretation 1−22584
auroral substorm phases, correl. with elec. fields, electron density and temp. 1−54319
auroral zone field lines electrostatic shocks, indication of parallel elec. fields 1−40269
boundary layer charge and elec. fields in monsoon region 1−9229
charge distribution in lightning flashes, point charge mod el, VHF pulse propag. meas. correl. with ground electric field determ. 1−22480
charge transfer between supercooled raindrops splashing on hailstones, thunderstorm implications 1−22462
charged drops, elec. pot., elec. field and surface charge density calc. *(French)* 1−44274
cloud electrification, precipitation powered mechanism 1−13551
cloud seeding with chaff, dynamical-electrical model 1−54189
conductivity of highly dosed air 1−34036
corona current beneath thunderclouds 1−13535
dark polar ionosphere, model of elec. fields and currents 1−22595
E_s-layer, high latit., role of elec. fields in form. 1−27336
E_s-layer formation, role of electric fields 1−22576
equatorial annular current devel. in mag. storm 1−36103
F-region during diffuse aurora, mag. shear effect on current convective instability 1−40249
hydrometeor terminal vel., altitude and electrical force effects 1−22411
ionosphere, convection electric fields and Birkeland currents, effect of high latitude cond. 1−40258
ionosphere, electroacoustic waves/EM waves coupling eqn. for inhomogeneous plasma *(Chinese)* 1−46867
ionosphere, equivalent current systems determ. from harmonic coeffs. of solar and lunar daily geomag. vars. 1−17559
ionosphere, polar, convection elec. fields rel. to influence of interplanetary mag. field B_z-component on magnetopause reconnection 1−22637
ionosphere auroral plasma, longitudinal dielectric function 1−40253
ionosphere currents associated with chromosphere flares X-ray and UV radiation 1−32570
ionosphere currents caused by diurnal tidal wind, three-dimens. struct. 1−40259
ionosphere dynamo region, large scale electric field 1−22579
ionosphere electrodynamics, wave and particle phenomena induced by Space Shuttle metallic tether 1−4745
ionosphere-magnetosphere coupling, review 1−54314
ionospheric conductivity calc. from auroral sounding rocket obs. 1−54316
ionospheric electric fields (equatorial) influenced by interplanetary mag. fields 1−44358
Japan, seasonal effect in elec. field diurnal var. on Pacific coast 1−9219
Lageos satellite trajectory, neutral atmosphere, electric drag *(French)* 1−4739

atmospheric electricity continued
lightning, elec. field changes correl. with radar and acoustic study 1−44254
lightning return-stroke electric fields, with submicrosecond risetime 1−36032
magnetic substorm field aligned currents, signature for synchronous satellites near 10° mag latitudes 1−40278
magnetosphere, elec. conductivity of turbulent plasma, theory 1−22627
magnetosphere, electric fields parallel to mag. field, chorus obs. evidence 1−36099
magnetosphere, electroacoustic waves/EM waves coupling eqn. for inhomogenous plasma *(Chinese)* 1−46867
magnetosphere, oscillatory elec. fields and energetics of Pc 5 long period resonant hydromagnetic waves 1−22636
magnetosphere and ionosphere, vertical electric currents at high-latitude 1−4711
magnetosphere field-aligned currents systems, rel. to dayside and nightside auroral arc systems 1−17720
magnetosphere geoelectric variations depend. on mag. activity during mag. storms 1−4712
magnetosphere large scale elec. field and field aligned currents 1−9322
magnetosphere partial ring current devel., effect of substorms and interplanetary elec. field 1−40279
magnetosphere polar cap elec. field, IMF B_z component and solar wind vel. depend. 1−54330
magnetosphere quasi-neutral current sheet, tearing mode stability 1−40277
magnetospheric sub-auroral elec. fields 1−36106
magnetotail plasma elec. fields, north-south components 1−36105
magnetovariational sounding of layered Earth in auroral zone, modeling of source 1−22210
planetary heat balance variations due to atm. chem. comp. 1−22445
polar caps, elec. field inhomogeneity, seasonal control 1−4713
polar cusp, current system rel. to By component of IMF 1−4717
rain electricity, characts. in Nigeria, expt. and theoretical relations 1−4595
rain electricity characteristics, in Nigeria, magnitude and var. 1−4594
ring current, production mechanism 1−36113
ring current intensity behaviour during minimum of solar cycle 1−22632
ring current plasma instability, drift loss cone instability 1−27345
solar wind interaction affecting geoelec. field to explain Sun-weather relation 1−4600
Sq(H) on abnormal quiet days 1−36097
Sq(H) variability on normal quiet days 1−36098
Sq and L variation elec. currents, location within ionosphere 1−27327
Sq focus position affected by interplanetary mag. field quiet days 1−27328
stratosphere, horizontal elec. fields at middle latitude on magnetically disturbed days *(Japanese)* 1−22385
substorm onset, ground-based obs. of storm and associate phenomena 1−4719
thermal jets (vertical) created by combustion of fuel for weather modification purposes *(Russian)* 1−32495
troposphere over south polar ice cap, diurnal variations 1−49347
upper atmosphere, coupling and elec. fields, Explorer program 1−49441
upper atmosphere plasma convection, elec. current circulation and field generation *(French)* 1−9308
Cs ion release expt., obs. of EM pulse due to exploding payload 1−17728

atmospheric electromagnetic wave propagation
see also atmospheric light propagation; ionospheric electromagnetic wave propagation; magnetospheric electromagnetic wave propagation; tropospheric electromagnetic wave propagation
absorption of IR radiation by aerosols *(Russian)* 1−40191
aerosol extinction coefficient variations at 3.75 μm in coastal marine atm. 1−44296
amplitude scintillations on 55 GHz line-of-sight link, spectral density 1−36024
atmospherics observations, azimuthal depend. of bandwidth and peak freq. 1−17721
attenuation meas. using SIRIO carrier transmission near 11.6 GHz at Appleton Laboratory 1−22378
auroral zone, radiowave absorpt., diurnal var., effect of interplanetary mag. field sector polarity 1−32584
clear sky spectral solar radiation model for snow covered mountainous terrain 1−36049
Earth-ionosphere waveguide propagation of VLF waves at low latits., lower ionosphere effect 1−13629
gas nonhomogeneities, reflecting area calc. by Rayleigh and Raman dispersion 1−51369
geostationary satellite millimetre wave prop. characteristics 1−49313
ground wave radio propagation, theory for multisection curved Earth 1−13549
interference, particular distribution function of a random variable 1−18160
ionospheric plasma suppression of current instabilities by strong RF field 1−40268
IR refraction and absorption, temp., humidity and pressure effects 1−17689
mesosphere incoherent EM wave scattering, theory 1−54182
microwave scattering by raindrops anal. by finite element method 1−32554
millimetre wave atmospheric attenuation, improved correction 1−4776
planetary boundary layer, refractive structure parameter, depend. on temp. and moisture 1−22420
pulsed high power 10.6 μm laser propagation effects 1−4617
radar, rain attenuation, mesoscale thermodynamic variables as stratifiers 1−54160
radar scattering rel. to winds and turbulence meas., comparison of techniques 1−27299
radio and optical wave refr. in surface-layer propag. links, expt. investigation 1−36040
radiowave polarisation errors in two-channel systems 1−54206
radiowave scatt. from spatially random fluctuations of electron density in anisotropic plasma 1−19906
rain attenuation statistics, prediction, synthetic storm data applic. 1−54162
rain attenuation statistics, prediction 1−54159
rain induced attenuation, frequency scaling at 11, 18 and 30 GHz 1−54161
rain rate statistics, worst month considerations 1−54158

atmospheric electromagnetic wave propagation continued
raindrop size distribution, effect on radiowave propagation parameters 1−54156
SHF and EHF slant path propag. meas. made near Slough, UK 1−40163
SIRIO satellite SHF propag. data, attenuation statistical behaviour 1−22377
sky noise temp. variability in 11 to 14 GHz band due to water vapour and clouds 1−36022
spherical wave structure functions for two sources at two freqs. 1−17671
stratosphere radiowave propag. using relay balloons *(Japanese)* 1−22505
temperature inversion layer regions in World, severe 1−40180
terrestrial path, comparison of rain attenuation prediction methods 1−54163
thermosphere over Saskatoon, partially reflected radiowave meas. of internal gravity waves 1−40241
turbulent media, EM propag. review 1−19245
UV radiation in New York, effect of sunshine, cloudiness and haze 1−44267
VLF attenuation as function of azimuth, study using atmospherics 1−13520
VLF radiation from aurorae and meteor fireballs, generation and transduction into audible sound 1−49439
wavetilt for EM waves, for elec. props. of ground 1−13596
X-band, efficiency, meas. time and evolution of anomalous prop. *(Italian)* 1−22394

atmospheric electron precipitation
see also aurora; radiation belts
Araks electron gun expt., natural precipitation obs. 1−44372
artificial precipitation below 120 km from rocket electron injection expt. 1−44364
aurorae, pulsating patches, electron flux effects 1−9312
auroral absorption spike events incoherent scatter radar obs. of D-region electron densities 1−27333
auroral electrons precip., effects of Pc 5 pulsations long period resonant hydromagnetic waves 1−22636
auroral energy flux rel. to field aligned electron accel. 1−54315
auroral ionosphere, MHz freq. bunching, rocket borne detection technique 1−27306
bremsstrahlung effects on gamma-ray astronomical obs. 1−27350
bremsstrahlung radiation bursts, precipitation electron dynamics from obs. at different longitudes 1−54304
conjugate point electron injection expts., Araks project 1−44391
density enhancement of ionosphere during relativistic electron precipitation 1−36100
E_s-layer, high latit., role of electron precip. in form. 1−27336
electron injection expt. on Araks rocket electron motion calc. 1−44363
energy spectra during 1977 October 28 geomagnetic storm, AE-C and ATS 6 obs. 1−13644
intensity meas. at airplane altitudes 1−13555
inverted-V events, reproduction of characteristic features in simulated double layers 1−22607
ionosphere, plasma instabilities generation (auroral type) at low latitude 1−4692
kilometric radiation from auroral zone, source region emission process and conditions 1−36112
magnetosphere, auroral field lines with trapped and backscattered electrons, prod. mechanisms 1−22640
microburst electron group precipitation, conjugate obs. during substorm recovery phase 1−40256
poleward propagating auroral precipitation, plasma and magnetic field 1−9313
X-ray flux following Araks electron injection expt. 1−49440
Cs cloud release expt., stimulated electron acceleration obs. 1−17729
Cs ion release expt., obs. of EM pulse due to exploding payload 1−17728

atmospheric elementary particle precipitation
see also atmospheric electron precipitation; atmospheric proton precipitation
auroral precipitation region, electron beam stimulated plasma waves obs. 1−32578
neutral atm.-charged particle precipitation region boundary, atm. motion devel. 1−22558
Pi burst micropulsations and associated aurora 1−9332
X-ray bremsstrahlung following explosive Cs release expt. 1−17731
X-ray bremsstrahlung from auroral zone, obs. made at 30-60 km altitude with parachuted instruments 1−17732
Cs ion cloud release expt., to study auroral precipitation 1−17727
Cs released into ionosphere by explosion, X-ray bremsstrahlung obs. and precipitation 1−17731
H I Lyman alpha emission in atm. at low and middle latitudes, particle precipitation excitation source 1−40244
He^+ precipitation, interaction with air causing auroral He I line enhancement 1−40246

atmospheric energetics *see atmospheric movements*

atmospheric humidity
see also hygrometers
aerosol formation, influence of relative humidity on NH_4Cl gas phase nucleation 1−43710
air-gaps under sandstorm or humidity condition, breakdown voltage 1−15582
cloud water, acidity, determ. at mountain observatory in Adirondack Mountains of New York State 1−43837
clouds, effects of water content and droplet size distrib. on solar radiation transfer 1−13572
cold fronts, use of data on atmospheric moisture content for forecasting frontal clouds base height 1−22470
cumulus cloud, small, dynamical and liq. water struct. determined from environment 1−4597
daylight atmosphere, water content and transparency near large astronomical telescope 1−9247
downdraft region beneath precipitating anvil clouds, temp. and humidity profiles 1−17663
fluctuations, effect on IR refraction and absorption 1−17689
free troposphere/boundary-layer airborne meas. of H_2O from 58°S to 70°N, comparison with O_3 and CO meas. 1−44246
geoelectric field auroral effects, influence of meteorological phenomena 1−4568
hydrothermodynamics, appl. of conjugate eqn. method to troposphere temp. field form. 1−22468
IR hygrometer description 1−22537
IR hygrometer for astron. site testing 1−44318

atmospheric humidity continued
marine atmosphere, water vapour exchange rel. to T input rates to world oceans 1−4533
marine boundary layer, heat and water vapour fluxes meas. over Bay of Bengal during summer (MONEX 79) 1−54257
marine surface layer, search for wind-wave-induced disturbances 1−17673
microwave remote sensing of liq. and vap. H_2O content 1−44337
numerical modelling, three dimens., analytical initialisation method 1−44324
objective analysis using radiosonde network in Central Europe 1−22387
ocean boundary layer temp., determ. of heat flux into atm. water vapour press., determ. of turbulent water vapour flux into atm. 1−36043
planetary boundary layer, moisture effect on refractive index 1−22420
precipitable water vapour, detection by ground-based microwave radiometry 1−13548
relative humidity, effects on atmosphere standard visual range prediction 1−49383
relative humidity determ. from dry and wet bulb temps., computation methods 1−22532
remote sensing using Nimbus-6 scanning microwave spectrometer 1−49355
remote single-ended temp. and humidity meas. at 1.77 μm using continuously tunable source 1−9286
Special Astrophysical Observatory, USSR, temp. and humidity correl. with spectral transmission 1−9246
stratosphere water vapour volume mixing ratio and transport *(Japanese)* 1−22386
synoptic-scale relative humidity profiles during foehn situations, statistical anal. 1−49322
tornado, England Home Counties, June 1979, mesoscale humidity field 1−32502
total precipitable water rel. to surface humidity 1−9194
transfer processes, appl. of Prigogine diffusion theorem, governing theoretical concept 1−4558
tropical Atlantic Ocean upwelling regions, evaporation and atm. sensible heat flux. 1−22392
tropical Pacific, H_2O content, Nimbus-6 microwave radiometry obs. 1−49355
troposphere, implications for water monomers and dimers of absorpt. meas. in 5 to 17 cm^{-1} range 1−27229
turbulent structure of marine boundary layer 1−17645
typhoon zone, troposphere moisture content 1−22471
vegetated surface humidity fluctuations obs. with hygrometer and fine wire thermocouple psychrometer 1−44328
water vapor mass above 600 mb rel. to radiative field, Meteosat data anal. 1−44264
water vapour fluctuations measurement along given atmospheric path, spectroscopic instrument *(French)* 1−13603

atmospheric ionisation
see also atmospheric radioactivity; ionosphere
aerosol formation, influence of ions on NH_4Cl gas phase nucleation NH_4Cl gas phase nucleation 1−43710
D-region, electron loss coeffs. at 80 km, positive ion model 1−13638
D-region, solar eclipse caused ionis. depletion, VLF propag. study 1−32573
D-region auroral absorption spike events, incoherent scatter radar obs. of electron densities 1−27333
E_s-layer, high latit., ionisation vertical and horizontal transport rel. to form. 1−27336
E-region, anomalous inogram multiple traces 1−49444
E-region, h_{max} diurnal variation, from 2.2 MHz absorpt. obs. 1−54310
E-region, ionisation irregularities, growth and decay 1−44385
electrons leaving ionosphere, ionisation energy losses allowing for mag. field strength 1−4683
F_2-layer, electron density stratification near equator and radiocommunication implications 1−4679
F_2-layer, near-noon mid-latitude structure, theory 1−4678
F-region, auroral, Chatanika/TRIAD obs. of unstable ionisation enhancements 1−17724
F-region, ionisation irregularities, growth and decay 1−44385
F-region, N(h) analysis of ionograms 1−54322
F-region metal ions morphology from Fe^+ data anal. 1−40257
HV laboratory atmosphere, mobility of ions formed during corona 1−46937
ionosphere, E and F-region 1−22614
ionosphere, ionisation due to artificial electron beam 1−44366
ionosphere, solar eclipse induced changes 1−49443
ionosphere, total electron content irregular variations, global distrib. 1−4701
ionosphere, valley above E-region max., deduction from O- and X-component group paths 1−4681
ionosphere disturbance due to solar flare, temporal evolution of ionisation 1−22603
ionosphere ion drift motion 1−22573
ionosphere model for medium solar activity conditions 1−54307
ionosphere nighttime electron density, ionisation by corpuscular streams 1−27329
ionsophere, ion composition and temp. during magnetic storms 1−49442
magnetosphere energetic particles from solar wind, mean ionisation states 1−40272
mesosphere and D-region 1−40263
meteor shower, indirect cause for LF radiowave fading 1−9310
meteor trail ionisation dispersal, geomag. control of diffusion 1−9321
meteor trails (underdense), radar echo duration and diffusion coeff. 1−54302
meteors, radio, ionisation train diffusion, multifrequency studies, HF obs. 1−40426
proton impact, mean energy expended per ion pair 1−22561
radio meteors, ionisation trains, plasma column radii, vel. depend. 1−40427
recombination coeff. and electrical conductivity of highly dosed air 1−34036
solar eclipse (partial) generation of gravity waves 1−44386
stratosphere, positive ion mass spectra 1−32504

atmospheric light propagation
absorption saturation intensity redistrib. of laser light 1−46463
aerosol, optical absorpt. const. of suspended particulate matter as air pollution index 1−53738
aerosol backscattering of intensity-modulated optical radiation 1−22494

atmospheric light propagation continued
aerosol extinction coefficient in lower stratosphere, meas. by balloon-borne photometer 1−9253
aerosol in troposphere, laser beam extinction and imaginary index 1−9250
aerosol remote sensing problems, light scatt. by irregularly shaped particles versus spheres 1−6487
aerosol size distributions and optical consts. determ., in situ light scatt. techniques 1−9257
aerosols, Chebyshev approach to particle size distribs. fitting 1−49321
aerosols, global meas. in remote continental and marine regions 1−44248
aerosols, optical props. rel. to influence on global climate 1−49349
Arctic haze, particle size distrib. and optical props. 1−9231
astronomical image quality on Mt. Maidanak, effect of atm. temp. microstruct. 1−44300
attenuation coefficient as a correction for Lake Ontario water quality remote sensing 1−22373
attenuation factors (volumetric), calculation method *(Russian)* 1−40192
boundary layer, optical transmission degradation through turbulence and extinction 1−22454
cloud communication channel space-time response to an optical signal 1−10923
clouds, layered, light scatt. coeffs. meas. *(Russian)* 1−13569
clouds, optical transmission function determ. and different light scatt. phase functions *(Russian)* 1−40161
clouds solar fluxes and heating rates calc., struct. of typical two stream methods 1−4612
cloudy sky illumination, math. model 1−36057
cumulus clouds, effects on statistical charact. of short-wave radiation *(Russian)* 1−13570
daylight atmosphere, water content and transparency near large astronomical telescope 1−9247
daytime sky, radiative transfer eqn. approx. inversion from sky brightness obs. *(Russian)* 1−40190
degradation due to turbulence and aerosols *(Italian)* 1−40179
differential refraction, power spectrum and comparison with solar diameter fluctuation meas. 1−49593
diffuse target with multiple glints, scattered irradiance, atm. turbulence statistical effects 1−1493
divergent laser beam, raindrop-induced amplitude scintillations 1−13585
extinction, revised depolarization corrections 1−13563
extinction, vertical optical depth rel. to calibration of spectrum of α Lyrae (Vega) rel. to calibration 1−13771
fluctuations in atmosphere optical model, rel. to information content of press. field remote sensing system *(Russian)* 1−9276
haze conditions, light scatt. matrix, spectral depend. *(Russian)* 1−44319
ice clouds, scatt. and extinction at 10.5-μm 1−40187
IR extinction coeffs. rel. to liquid water content of fogs 1−9244
IR refraction and absorption, temp., humidity and pressure effects 1−17689
IR transmission measurements, long-path high-resolution, LOWTRAN 3B prediction comparison 1−40186
IR transmittance simulations near 4.3 μm band head of CO_2 1−54240
laser beam, accuracy of atmospheric temp. meas. using Raman-scattered laser beam 1−49431
laser beam, adaptively corrected, propag. through turbulent atm. 1−46416
laser beam field coherence in turbulent atm. 1−6472
laser beam high energy propag., variable atm. effects 1−40196
laser beam propag. through cloud medium, secondary condensation 1−44297
laser beam propagation path, atm. refr. and turbulence problems *(Czech)* 1−49386
laser beam propagation strong turbulence 1−4621
laser beam propagation through fog, absorpt. and scatt. coeffs. of droplets 1−40195
laser beams, exptl. determ. of fluctuation correlation scales of intensity and coherence in turbulent atmospheres 1−33620
laser molecular transmittance errors, line and meteorological data effects 1−4619
laser radiation propag., turbulent atmosphere with scatt. region, photoelectron distrib. at photodetector output, photon-counting mode 1−13574
laser sounding of clouds, influence of double scatt. on polarisation charcts. of echo signals *(Russian)* 1−9249
lidar multiple scattering from clouds, polarisation anisotropy 1−36055
lidar multiple scattering in homogeneous fogs 1−9252
lidar remote sensing at night 35-70 km for temp. and density 1−4633
lidar visibility measurements, multiple scatt. process 1−9255
light scattering in haze conditions, measurement apparatus *(Russian)* 1−44319
longitudinal correlation coefficient meas. of laser signals in turbulent atmosphere 1−46227
LOWTRAN atmospheric propagation computer code total vol. mol. scatt. coeff. modification, comment 1−9243
LOWTRAN atmospheric propagation computer code total volume mol. scatt. coeff. modification 1−9242
meteorological parameter influence on atm. laser propag. 1−13573
monostatic heterodyne lidar performance, refractive turbulence effects 1−44292
Moscow, turbidity factor for various wind speeds and directions 1−22495
non-spherical particle light scatt. 1−9256
noncoherent spatially separated reception of atm. optical signals, noise immunity investigation 1−54242
nonlinear thermal effects during optical beam scanning of moving media, stagnant zone influence 1−51571
optical polarisation analyser for solar spectra obs. eliminating atm. turbulence effects *(French)* 1−27376
optical pulsed ranging, atm. scintillation effect on meas. accuracy 1−36058
optical scintillation, relation between irradiance and log-amplitude variance, K distrib. description 1−37413
ozonosphere absorption, effect on Earth shadow density var. at lunar eclipse 1−22702
partially coherent beam waves in turbulent atm., intensity props. 1−1492
particles producing strong extinction for IR screening smoke 1−6474
path delay in satellite laser ranging 1−13582
phase fluctuations of optical wave rel. to atm. refr. index low-freq. fluctuations 1−37410
polytropic atmosphere, astronomical ref. close form expression 1−49382
pulse propag. through clouds 1−49381
pulse wave propagation in discrete random scatt. media, theory 1−13547
pulsed laser energy transmission through atm., air breakdown limitations 1−40197

atmospheric light propagation continued
pyrheliometric formula for calc. Linke turbidity factor 1−49388
quivering of optical images of laser sources in a turbulent atmosphere 1−33621
radio and optical wave refr. in surface-layer propag. links, expt. investigation 1−36040
rain in turbulent atm., mean diffr. picture washing out in receiving lens focal plane 1−22493
random image shifts during ranging in a turbulent atmosphere 1−46228
random screen model, field and intensity fluctuation longit. correl. 1−51375
random shifts of diffraction image in turbulent atmosphere on path with reflection 1−46229
receiver performance evaluation using photocounting cumulants, appl. to atm. turbulence 1−10931
reflection in turbulent atm., averaging effect of receiving aperture 1−33622
refraction, calc. of terrestrial and astronomical refr. zenith distances *(Russian)* 1−54239
scattering in ice clouds and sensing from satellites 1−9293
slant visibility meas. by lidar 1−22496
solar brightness, reduction by natural atmospheric filter rel. to seasonal var. of oriental sunspot sightings 1−9251
solar limb darkening function fluctuation anal. to determine solar pulsations, Earth atm. effects 1−27476
solar radiation, computation of effect of cloud props. on refl., transmission and absorpt. 1−13572
solar radiation, Monte Carlo calcs. for direct and diffuse radiation on oriented sloping surfaces 1−49320
spatial coherence meas. through turbulent atm. using computer-aided interferometer 1−46226
speckle field, two freq., variance after turbulent atm. propag. 1−41579
spectral transmission at Special Astrophysical Observatory, USSR, meas. (1974 to 1976) 1−9246
standard visual range, prediction at high relative humidity for maritime, background and urban aerosols 1−49383
stellar interferometer operation, fringe visibility under Kolmogorov turbulence *(Russian)* 1−22686
stratosphere, effects of volcanic material from Mount St. Helens on Earth limb reflectivity over Europe 1−9212
surface albedo, ice albedo feedback rel. to derivation of zero-dimensional climate model 1−4605
tetrafluoromethane, absorpt. cross section at H Lyman α (121.57 nm) rel. to atmospheric residence time 1−44295
thermal blooming correction, target loop adaptive optics 1−46464
thermal blooming of high power laser beams in atm., simulation cell 1−37560
troposphere, O(^{1}D) photoproduction rate vars. for 1977 Gametag flights 1−40170
turbidity coefficient determ. from aircraft mounted pyranometer obs. 1−22531
turbidity coefficient in visual and UV spectral regions, experimental profiles at altitudes above 30 km *(Russian)* 1−13568
turbidity over West Africa, sunphotometer obs. 1−22391
turbulent atmosphere, effect of fluctuation amplification in case of reflection 1−36059
turbulent cloud medium, CO_2 laser continuous beam self-action 1−40194
UV radiation backscattering, rel. to annual cycle in tropical stratospheric and mesospheric O_3 1−17652
water vapour continuum absorpt. of CO_2 laser radiation 1−40193
N_2, atmospheric, absolute Raman scatt. cross-sections 1−33471
NO, gamma bands, spectral transmission in Earth's atm., remote sensing 1−9248
O_2, atmospheric, absolute Raman scatt. cross-sections 1−33471
$(O_2)_2$ collisional pairs spectral absorpt. of sunlight, implications for atm. chem. 1−44293

atmospheric measuring apparatus
see also air pollution detection and control; ionospheric measuring apparatus; meteorological instruments
acoustic particle sizing device, appl. to aerosols meas. 1−27256
air-sea interaction, Satellite Data Acquisition System (SATDAS) using satellite telemetry 1−54249
airborne radiometers based on superhet. cct. with input mixers, 1.5, 0.8 and 0.3 cm bands, atmosphere and surface meas. appls. 1−9290
boundary layer tethered balloon instrument string for GATE expt. 1−44313
buoys for data collection, NOAA Data Buoy Office programs 1−44304
chemiluminescent instrument, balloon-borne, appl. to stratospheric NO meas. 1−44322
Cherenkov gamma-ray scintillation telescope, characts. 1−4638
cloud water collection system, appl. to acidity determ. at mountain observatory 1−43837
cm wave radiometer for atmospheric water vapour remote sensing *(Chinese)* 1−28061
CW IR Doppler lidar, calibration 1−9263
Doppler shift spectrometer for wind vel. and temp. meas. 1−40224
drop generators for calibration of drop spectrometers appl. to cloud physics 1−44330
droplet density photographic meas. 1−40225
EUV airglow spectrometer with continuous readout 1−44308
fine wire thermocouple psychrometer for humidity obs. over crops, wind effects 1−44328
fluorescence lidar for atmospheric trace constituents meas., SNR maximization 1−49406
fluorescence lidar for minor species monitoring in atmosphere 1−4647
fog droplet sampling, new linear impactor device 1−13586
Fourier spectrometer on Meteor-25 for atm. parameter determ., design 1−36065
gravimetric rain gauge, description 1−9284
high-resolution spectrometer/interferometer design, rocket-borne 1−36730
hydrocarbon monitoring with chromatographic instrument 1−4237
hygrometer, for meas. of water vapour fluctuations along given atmospheric path *(French)* 1−13603
IR hygrometer for astron. site testing 1−44318
IR hygrometer to meas. humidity 1−22537
IR laser heterodyne radiometer, balloon-borne for stratospheric trace species meas. 1−49403
Joss-Waldvogel rainfall disdrometer to measure rainfall drop size 1−22528

atmospheric measuring apparatus continued
laser absorption spectrometer: remote measurement of tropospheric ozone 1−49404
laser velocimeter, two-colour two-spot, backscatter, atm. wind aerosol vel. meas. appl. 1−6594
lidar, pulsed 9.5 μm CO_2 lasers for troposphere O_3 meas. 1−9285
lidar on space platform 1−4646
light scattering in haze conditions, measurement apparatus *(Russian)* 1−44319
magnetometer, calibration of instrument capable of sensing mag. pulsations 1−4639
magnetometers for observing micropulsations, ferromag. core solenoid type 1−54271
marine boundary layer observation system, appl. over Bay of Bengal during summer (MONEX 79) 1−54257
meteor radar system of intermediate power, antenna switch study *(Russian)* 1−27311
moving temperature sensors, convective heat transfer problems 1−27312
Museum of Meteorological Instruments 1−22533
nephelometer, polar, calibration method 1−5354
nitrate particle detection method, based on obs. on individual particles 1−4234
optical processor, appl. to cloud classification 1−27307
ozonometers, intercomparison of New Zealand filter ozonometer and Dobson spectrophotometer total O_3 meas. 1−4652
ozonometric network of USSR, appl. to total O_3 content meas. 1−22549
polar nephelometer for atomospheric particulate studies 1−9265
Project Gametag (Global Atmosphere Meas. Expt. on Tropospheric Aerosols and Gases), instruments and meas. overview 1−40200
pulsed multiwavelength laser ranging system for measuring atmospheric delay 1−13582
pyranometer, aircraft mounted, solar irradiance var. obs. due to meteorological conditions 1−22531
pyrradiometer sensitivity difference between short and long wave spectral regions 1−4636
radiosonde height determination by barometric methods, accuracy *(German)* 1−49424
remote sensing system for atmospheric press. field, information content anal. *(Russian)* 1−9276
scanning laser Doppler anemometer system, for atm. turbulence remote meas. 1−49428
sky temperature measurement, heat flow meter design and calibration 1−54241
soot, air sampler to meas. elemental C content 1−4236
thunderstorm detection system based on sferics, operational experience 1−44312
time-of-flight laser anemometer for remote meas. of wind velocity 1−44350
tunable lasers used for air pollution monitoring 1−39860
turbulence of marine boundary layer, tri-axial thrust anemometer design 1−44334
upper atmosphere exploraton by rocket and radio telemetry 1−4627
UV spectrometer/polarimeter, satellite instrument package, solar rad., Earth atmosphere obs. 1−40348
VIDIAZ spectropluviometer to measure rainfall drop size 1−22528
Br total content of lower stratosphere, first obs. of new collection system 1−36031
Cl total content of lower stratosphere, first obs. of new collection system 1−36031
NH_3, composition measurement technique 1−4235

atmospheric measuring instruments *see atmospheric measuring apparatus*

atmospheric motion *see atmospheric movements*

atmospheric movements
see also atmospheric turbulence; wind
acoustic-gravity resonance beneath auroral reson., origin 1−4567
advective equation with forcing and dissipation 1−44281
aerosols transport, results from global meas. in remote continental and marine regions 1−44248
Africa, Late Pleistocene and Holocene, circulation, environmental and climate change 1−17682
air pollutant dispersal, model of long-range transport 1−13525
AMTEX 75 (east China Sea) wave disturbance anal. 1−22441
atmosphere boundary layer, longitudinal instabilities and secondary flows review 1−36041
balloon (superpressure) response to gravity waves 1−49421
baroclinic instability in mean zonal flow, rel. to geostrophic turbulence 1−49326
baroclinic instability of flows along sloping boundaries 1−22414
baroclinic stability with Ekman damping, eigenvalues 1−19674
baroclinic waves (nonlinear), theory of growth and decay 1−49333
baroclinic waves in general circulation model 1−49344
baroclinic waves of finite amplitude, chaotic and periodic behaviour 1−22403
baroclinic waves resulting from potential vorticity gradients at low Taylor number, expts. and calcs. 1−49329
barotropic circulation, cnoidal waves, solns. of Korteweg-de-Vries eqn. 1−36042
barotropic flow, effect of planetary scale mountain in simple low-order spectral systems 1−4562
E.Bering Sea, mean winter circulation fluctuations rel. to sea ice and temp. variability 1−44206
blocking of atmos. circulation at mid-latitude by vortex pairs 1−4564
blocking type flow in troposphere, role in stratospheric warming events prod. 1−4557
bottom topography affecting flow, of stratified rotating fluid 1−54223
boundary layer, nonstationary resistance law using Rossby similarity 1−4556
boundary layer, quantitative appl. of acoustic sounders, echo strength meas., structural parameters estimation 1−17706
boundary layer disturbances at night-time *(German)* 1−27236
boundary layer gravity flow, entrainment dynamics 1−49376
boundary layer turbulent fluxes, effect of tree covered surface 1−54203
circulation (1963 to 1973), effect on Earth rotation 1−32342
circulation anomalies over N.Atlantic, correl. with tropical belt anomalies *(French)* 1−35993
climate model of N.Hemisphere, zonal asymmetry effects 1−54237
cloud motion vectors, meas. for Global Weather Experiment by National Environmental Satellite Service 1−54248
clouds, dry air mixing into cloud and drop size spectra 1−4593

atmospheric movements continued
coastal air currents, Seasat synthetic aperture radar image processing appl. 1—54289
convection, time-dependent, in tradewind boundary layer with non-precipitating cumulus clouds, modelling 1—49323
convectively mixed layer, entrainment zone, lab. expts. 1—4578
cumuli in Florida, −10°C water-ice and water-updraught relationships 1—22417
cumulus cloud, small, dynamical and liq. water struct. determined from environment 1—4597
cumulus convection weather system mass divergence, convection large scale controls 1—22461
current development at neutral atm.-charged particle precipitation region boundary 1—22558
cyclogenesis (intense) over Tasman Sea, theoretical study 1—44278
cyclone, extratropical, kinetic and pot. energy budget 1—13552
cyclones, influence of β-effect in boundary layer friction field on vertical motions 1—22472
cyclonic circulation at 500 mb level, solar influences (1946 to 1978) 1—49345
diabatic mesoscale circulation energetics 1—54201
dispersion of ionospheric waves 1—22589
disturbance caused by earthquake, propag. to ionosphere, effect of sound vel. vertical gradient 1—22583
dust transport from Asia to tropical N.Pacific, seasonal variation 1—44280
dynamics using quasistatic approximation with geospheric coords. *(German)* 1—40155
E_s-layer, seasonal-daily behaviour, effect of neutral atmosphere motion 1—22576
Earth rotational dynamics, annual wobble excited by atoms. 1—35928
eddy diffusion coefficients and the variance of the atmosphere 30-60 km 1—22447
electrojet (equatorial) strength variations due to planetary waves 1—54308
energy transport by gravity wave 1—13634
F_2-layer, transmission of large-scale travelling ionospheric disturbances (TIDs) 1—27337
F-region, nighttime vertical drifts over Waltair, phase-path records 1—22611
free oscillations of barotropic atmos., zonal flow effects 1—17657
general circulation, attractor sets and quasi-geostrophic equilib. 1—49334
general circulation, index cycle theory 1—54178
general circulation, short-range prediction scheme based on conservation scheme and generalised balance conditions 1—4560
general circulation for atmos. subject to heat sources and dissipation *(Chinese)* 1—54208
general circulation for climatic anomalies at mid-latitudes, theory 1—44282
geomagnetic tail, mantle plasma convection in steady-state model 1—17736
gravity wave, earthquake produced, effect on HF ionosphere refl. waves 1—22582
gravity wave in non-uniformly stratified atmos. *(Chinese)* 1—54211
gravity waves, generation by inhomogeneous heating of atmosphere 1—27324
gravity waves, radiation into atmosphere by ocean surface waves *(Russian)* 1—9207
N hemisphere, vertical and off diagonal eddy diffusivities in stratosphere and lower mesosphere 1—22446
hydrostatic flows, asymptotic derivation of ageostrophic model 1—49328
Indian Ocean, fall monsoon transition rel. to equatorial currents dynamics 1—27170
Indian summer monsoon, onset, advance and withdrawal, interpretation within intertropical convergence zone 1—22449
infrasonic waves, propagation from auroral jet current to ground 1—40243
internal gravity wave instability propag. at small angle to vertical *(Russian)* 1—44353
internal gravity waves breaking in marine surface layer, cause of turbulence 1—13510
internal gravity waves caused by meteor shower, indirect cause for LF radiowave fading 1—9310
internal gravity waves in atmosphere surface layer, connection with upper troposphere wind *(Russian)* 1—13515
ion acoustic waves obs. after explosive release of Cs ion cloud 1—17730
ionosphere, auroral region, electron beam stimulated plasma waves obs. 1—32578
ionosphere, E- and F-region, effect of internal gravity waves 1—4687
ionosphere, electrons collision freqs. and transport props. 1—13630
ionosphere, ionisation vertical and horizontal transport rel. to high-latit. E_s-layers form. 1—27336
ionosphere, topside ion temp. troughs at nighttime, induced by neutral winds 1—9318
ionosphere drifts data analysis, efficient method using full correl. anal. 1—27300
ionosphere dynamics over Brazil, obs. of airglow wave structs. 1—44355
ionosphere electrodynamics, wave and particle phenomena induced by Space Shuttle metallic tether 1—4745
ionosphere gravity waves causing F_2-layer positive disturbances 1—4680
ionosphere gravity waves generated by partial solar eclipse 1—44386
ionosphere tides, determ. from harmonic coeffs. of solar and lunar daily geomag. vars. 1—17559
jet streams in upper troposphere, connection with internal gravity waves in atmosphere surface layer *(Russian)* 1—13515
La Spezia coastal site, local air circulations 1—32507
Lee waves, representation by confined flow, asymptotic model *(French)* 1—54174
lee waves trapped behind isolated mountain 1—22463
lower atmosphere, thermal struct., effect of radiative, turbulent and convective phenomena *(French)* 1—49365
magnetoatmospheric shear flow, stability, rectangle and semicircle theorems, eigenvalue bounds 1—6898
magnetosphere, evidence for westward travelling wave from obs. of giant pulsation event 1—36115
magnetosphere, nonlinear electron-acoustic wave propag. in multi-species plasma 1—6951
magnetosphere, plasma cloud natural oscillations 1—22628
magnetosphere, solar wind shock waves focusing in magnetotail midplane 1—17735
magnetosphere connection, evidence for influence of interplanetary mag. field B_y-component on magnetopause reconnection 1—22637
magnetotail, possibility of steady convection 1—36108
atmospheric movements continued
marine aerosols, atmospheric overland transport of sea salt 1—13540
meridional temp. gradients and heat flux, seasonal changes 1—49335
mesofront, gravity current explanation, laboratory model 1—22459
mesoscale cellular convection, AMTEX 75 obs. 1—17665
mesosphere, dynamical processes and structs., VHF radar obs. 1—36036
mesosphere, gravity waves deduced from OH airglow temp. fluctuation obs. 1—27325
mesosphere, semi-diurnal tides, seasonal variations 1—44257
mesosphere gravity wave perturbations, Na layer density response 1—44352
microbaromic waves related to earthquakes, obs. as precursors to aftershocks *(Chinese)* 1—9090
microwave brightness temperature at 100-300 mb level, long period changes 1—17668
model for short-term nuclear plant accident diffusion estimates, in United States, effects of proposed changes 1—867
moist nonadiabatic thermals above condensation level, dynamics *(Russian)* 1—32491
monsoon atmospheric circulation, shift of quasi-stationary flow feature 1—49371
monsoon droughts over India, and troposphere blocking heights 1—40177
monsoon rainfall over India, rel. to planetary and regional circulation 1—49370
Moscow, effects of atmospheric circulation on turbidity factor 1—22495
nonlinear dynamics, asymptotic methods rel. to long-range weather forecasting 1—22466
one-dimensional circulation and climate model, appl. to lower atmosphere 1—4561
oscillation spatial spectra relationship to temporal spectra *(Russian)* 1—49330
palaeoclimate, design of data network for general circulation study 1—54236
perturbed pressure region, movement rel. to internal waves development in ocean with shear flow *(Russian)* 1—9167
planetary scale circulation, intermediate models 1—49332
planetary waves, theory of solitary eddies 1—4563
planetary waves, two-layer baroclinic model 1—22402
plume dispersion, spectral diffusivity theory 1—21952
pollutant dispersal in stratified boundary layer, model *(Russian)* 1—53733
pollutant dispersal in turbulent boundary layer, 1-D model 1—53722
pollutant dispersion expts., downwind from shoreline, tracer expts. 1—17642
pollution dispersal from point source in sheared atoms. model 1—53721
pressure waves as earthquake precursors, preliminary study *(Chinese)* 1—49209
prograde jet driven by Rossby waves 1—22405
pseudo-adiabatic flow over a two-dimensional ridge 1—54179
quasigeostrophic models, nonlinear normal mode initialisation 1—17659
radioactive airborne material, long-range transport models, removal processes 1—54256
relative diffusion analysis, review 1—27199
Rossby waves, linear and nonlinear reson. rel. to blocking phenomenon 1—4571
Rossby waves, turbulent phase shift theory 1—49327
Rossby waves subject to quasi-reson. orographic forcing 1—13521
Rossby-gravity waves on beta-plane in latitudinally sheared zonal flows 1—17674
rotating atmosphere temporal boundary layers, multi-time motion scales 1—27243
sea surface layer, fluxes of heat and momentum, determ. methods, review 1—22535
small-scale transfer processes, appl. of Prigogine diffusion theorem, governing theoretical concept 1—4558
smoke as quantitative diffusion tracer 1—35725
soil dust transport from Africa to South America, meas. at Cayenne 1—44277
solitary eddies, theory of baroclinic and barotropic cases 1—4563
solitary Rossby waves in baroclinic atmosphere, theory *(Russian)* 1—13514
space-time spectra from polar-orbiting satellite data 1—22413
stratified hydrostatic wind flow past isolated mountain, linear theory 1—36045
stratosphere, dynamical processes and structs., VHF radar obs. 1—36036
lower stratosphere, dynamics in wave number domain rel. to monsoon activity 1—27230
stratosphere, middle, daily O_3 soundings during sudden winter warmings rel. to transport processes 1—22398
stratosphere, sudden warmings, dynamics 1—13558
stratosphere, trace gas transport by stationary planetary waves, importance of chem. processes 1—22456
stratosphere and troposphere, dynamical behaviour of a two dimens. circulational model 1—22455
stratosphere circulation, evidence from obs. of Mount St. Helens material over Europe 1—9212
stratosphere NO_x transport into upper troposphere, rel. to O_3 origin 1—44256
stratosphere O_3 transport and photochemistry, systems modeling 1—4592
stratosphere tracer transport, global diabatic circulation model 1—9214
stratosphere/troposphere air exchange, implications of ^{7}Be distrib. in troposphere 1—17654
stratosphere/troposphere dynamic exchange, implications of airborne H_2O, CO and O_3 meas. 1—44246
stratospheric interhemispheric mixing, ^{7}Be fallout obs. indications 1—49368
sulphate particles in Four Corners coal-fired power plant plume, form., transport, chem. 1—43839
supercell convection with rotating currents *(Chinese)* 1—54209
Sweden, S aerosol transport study 1—54224
temperature inversion layer (ground-based), dissolution by convection *(German)* 1—27235
thermoclinic waveguide, radiation damping of long, finite-amplitude internal waves 1—18042
thermosphere, internal gravity waves in wind vel. variations 1—22560
thermosphere NO downward diffusion, source strength for odd N prod. in stratosphere and mesosphere 1—44253
thunderstorms, two dimens. downdraughts, dynamical and thermodynamical model 1—22458
thunderstorms in Colarado, obs. with zenith pointing Doppler radar 1—22421
TID phenomena, tropospheric source mechanism *(French)* 1—44356

atmospheric movements continued
tides, surface press. response to atmos. heating by Sun, Mars compared to Earth 1−17779
tides of upper atmosphere, tidal theory of radio meteor and nightglow obs. 1−22559
trace gas transport in troposphere, two-dimens. model 1−13526
transport by fluctuating winds, analytic model 1−54186
transport processes in troposphere and stratosphere, rel. to two-dimensional model calcs. of stratospheric HCl and ClO 1−22443
travelling wave disturbance at ground level and in ionosphere, simultaneous obs. 1−32572
tropic motion scale anal. 1−22473
tropical circulation, heat induced, analytical model 1−22457
tropical weather systems, mass divergence and vertical velocity, diurnal var. 1−22460
troposphere, height/latit. transport model for S compounds global distrib. estimation 1−40172
troposphere and stratosphere planetary wave struct., zonal wind influences 1−9227
troposphere circulation cell, role in aerosol prod. mechanism 1−22419
troposphere movements, use of sodar sounding as indicator of microwave propag. characts. 1−13518
turbopause internal gravity waves eddy diffusion coeff. determ. by airglow O I line obs. 1−40239
turbulent convection, freq. spectra of temp. fluctuations *(Russian)* 1−32492
typhoon spiral cloud bands prod. by gravity inertial waves 1−22476
ultralong wave predictability, tropical influences 1−22401
ultralong waves in two dimens. baroclinic model, hydrothermodynamics anal. *(Russian)* 1−40158
E United States, O_3 'river' development assoc. with synoptic scale episodes 1−54177
upper atmosphere plasma convection, elec. current circulation and field generation *(French)* 1−9308
upper atmosphere wind shear height variation, deductions from sporadic-E obs. 1−40238
vertical diffusion over urban+suburban sites, sodar and Rn obs., appl. to pollution 1−44326
vertical dynamic transport, effects on comp. of upper mesosphere and lower thermosphere *(Chinese)* 1−54171
vertical wind shears in troposphere and stratosphere, rel. to turbulent and non-turbulent motions 1−22395
vortex streets assoc. with mountain peaks, cone models 1−36046
wave flow, non-orographic over English Midlands (1979 May 9) 1−49358
wave mean-flow interaction, Lagrangian mean theory 1−13553
waves in equatorial zone, easterly wind shear effects 1−9224
zonal, geostrophic motion on a hemisphere, use of ang. momentum coords. 1−17670
zonal circulation, oscillation cycle theory *(Russian)* 1−54180
^{14}C, transport model including diffusion in stratosphere 1−36019
O_3 forecasting in stratosphere, rel. to cyclonic and anticyclonic activity *(Russian)* 1−44241
O_3, general circulation/tracer model test of O_3 sampling network obs. 1−13534
O_3, transport and photochemistry rel. to effects of global atmospheric pollutants on O_3 layer 1−21953
S oxides as pollution in Europe, transport in Regional Source Quantification model 1−21948

atmospheric noise *see atmospherics*

atmospheric optics
see also airglow; atmospheric light propagation; sky brightness; sunlight; twilight
adaptive optical image correction, sharpness functions for dynamic phase estimation 1−46250
aerosol, over Antractic ice sheet, optical, chem. and phys. props. 1−17641
aerosol, spectral absorpt. of solar radiation *(Russian)* 1−32518
aerosol effects on radiation balance and climate 1−13501
aerosol in stratosphere, stratification and inverse problem of radiation transfer *(Russian)* 1−32494
aerosol in troposphere, laser beam extinction and imaginary index 1−9250
aerosol light scattering, of red light, in stratified stratosphere *(Russian)* 1−32516
aerosol refractive index estimation 1−36064
aerosol remote sensing, light scatt. techniques survey 1−13616
aerosols, optical props. rel. to influence on global climate 1−49349
aerosols with layered humidity-dependent structure, light scatt. 1−21788
air pollution remote sensing scatt. theory of passive spectroscopic methods 1−39858
air refractivity, simplified eqn. 1−34039
Arctic haze, particle size distrib. and optical props. 1−9231
attenuation factors (volumetric), calculation method *(Russian)* 1−40192
boundary layer refractive index fluctuations in mountainous region *(Russian)* 1−32493
cirrus cloud affecting solar energy transmission to ground 1−4611
cirrus clouds (tropical), IR radiative props. 1−17669
climate model involving cloud optical props. 1−17686
cloud, radiative transfer eqn. 1−49385
cloud, remote sensing or struct. and optical characts. using pulsed laser *(Russian)* 1−32517
cloud cover model, application to viewing of space from ground 1−4616
clouds, spectral reflectance meas. technique for gross microphys. props. 1−17667
cloudy atmosphere, calc. of radiation field for nearly conservative scatt. case *(Russian)* 1−32515
colorimetric models of atmospheric radiation, for remote sensing studies 1−22492
conference, Chicago, IL, USA (Oct. 1980) 1−40593
diffusion and scatt., analysis using lidar *(Italian)* 1−44332
emergent intensity (time depend.) from semi-infinite atmos. 1−36056
extinction coeffs. in Lagos due to aerosol, solar radiance obs. 1−4596
field-of-view constraints on actively controlled long-baseline stellar interferometry 1−4613
fluctuations in atmosphere optical model, rel. to information content of press. field remote sensing system *(Russian)* 1−9276
gas nonhomogeneities, reflecting area calc. by Rayleigh and Raman dispersion 1−51369
greenhouse effect throughout history of atmosphere *(Russian)* 1−54244
halo complex due to cirrus cloud 1−22484
halo theory, analytical foundations 1−17688
halos and rainbows, visibility 1−4609

atmospheric optics continued
horizon scanning by artificial satellite *(Russian)* 1−44294
laser ranging, distance corrections for single and dual-colour lasers 1−27298
lidar observations of the Mount St. Helens dust layers over Urbana, Illinois 1−4607
lighthouse beam, halo and rainbow form. 1−9254
marine aerosol particles effects on atmospheric optics 1−13540
marine environment, aerosol size distrib. and extinction coeffs. 1−4620
merman in mediaeval Norse writings as optical phenomenon 1−44298
Moscow, turbidity factor for various wind speeds and directions 1−22495
mountainous terrain radiant transfer, remote sensing model 1−54087
pyrheliometric formula for calc. Linke turbidity factor 1−49388
radiative transfer eqn., integrated over optical depth 1−49384
refraction, calc. of terrestrial and astronomical refr. zenith distances *(Russian)* 1−54239
remote aerosol IR signature simulation model 1−27250
remote sensing of Earth surface nonhomogeneity, effect of atmospheric conditions 1−44299
sea surface temperature, IR sensing from satellite 1−49430
snow cover affecting radiation budget, Munich, Germany *(German)* 1−27234
solar brightness, reduction by natural atmospheric filter rel. to seasonal var. of oriental sunspot sightings 1−9251
solar radiation incident at surface, calc. using satellite data 1−49387
solar radiation observations at Tucson, Arizona, O_3 and aerosol rel. to optical depth 1−22491
standard visual range, prediction at high relative humidity for maritime, background and urban aerosols 1−49383
stellar scintillation statistics 1−4615
Sun pillars, analytical model 1−4614
sunset phenomena 1−13565
thermal inertia remote sensing, two-dimens. model of variability 1−22343
transmission and scatteirng by layer of anisotropic scatt. media *(Russian)* 1−44202
UV opacity of atmos. to Schumann-Runge bands, 20-100 km altitude 1−17715
C particles of micron size, refractive index meas. 1−9245

atmospheric pollution *see air pollution*

atmospheric precipitation
see also ice; rain; snow
aerosol deposition vel. into Pacific and Atlantic, by ^7Be data 1−13513
aerosol particle scavenging by precipitation 1−22430
cloud electrification, precipitation powered mechanism 1−13551
cloud pattern recognition techniques 1−54231
cloud water deposition, acidity determ. at mountain observatory in Adirondack Mountains of New York State 1−43837
deposition of pollution around point source 1−35730
downdraft region beneath precipitating anvil clouds, temp. and humidity profiles 1−17663
formaldehyde at a coastal site, diffusion from atm. 1−36047
frontal precipitating cloud water, chemical comp. rel. to atmosphere sea salts and S budget 1−44250
northwest Gulf of Alaska, annual hydrological cycle rel. to coastal flow of Kenai Current 1−27179
hail, falling stones, stroboscopic obs. 1−13524
hail cloud formation and precipitation stages for Xiyang area, China 1−22478
hail growth in storm clouds, Colorado, USA 1−49339
hail growth mechanism, storm in Colorado, USA, radar obs. 1−49338
hailpad data reduction, errors made by persons reading dent patterns 1−22530
hailstone growth, aging of accreted ice 1−22412
hailstone growth thermodynamics, numerical model 1−49340
hailstones, impacted by supercooled raindrops, charge transfer, thunderstorm implications 1−22462
hailstones formation is supercell hailclouds *(Russian)* 1−44244
hailstorm in south Devon, wind and thermodynamic struct. 1−9232
S.Hemisphere, precipitable water values and moisture relationships 1−22450
hydrometeor terminal vel., altitude and electrical force effects 1−22411
La Porte weather anomaly of Indiana, USA, 1935-65, history and causes 1−22384
local precipitation, correl. with global climatic variable using linear empirical-statistical model of climatic changes 1−22467
marine aerosols, role in precipitation processes 1−13540
marine precipitation, T cones. rel. to rates of T input to world oceans 1−4533
microwave radiometry of precipitable water vapour, ground-based system 1−13548
Nile basin, precip. vars. during Late Quaternary rel. to history of River Nile 1−17628
nonspherical particles, radiation scattering 1−22489
radar backscatter from precipitation particles, dielec. function study 1−49341
rain and dry precipitation chem. composition, at Gainesville, Florida 1−4566
rainfall-runoff models, adaptive filtering through isolated transient errors detect. 1−36011
San Juan Mountains, Colorado, USA, seeding potential of storm clouds 1−49352
San Juan Mountains, Colorado, USA, winter storms, microphys. process 1−49351
San Juan Mountains, Colorado, USA, winter storms and precipitation 1−49350
seeding of clouds, expts. performed in Tasmania, Florida and Israel 1−54191
seeding of strong convective cloud, numerical model for AgI 1−49353
snowfall on Mount Daisetsu, Hokkaido, Japan, water equivalent distrib. *(Japanese)* 1−9187
snowmelt runoff forecasting using synoptic obs. of streamflow, air temp. and precipitation 1−36015
South Pole clear sky precipitation, obs. of atmos. ice cryst. layers 1−54187
E.Texas, temp. and precipitation, graphical anal. 1−54226
thunderstorms in Colorado, obs. with zenith pointing Doppler radar 1−22421
time series analysis of meteorological variables, use of Akaike's information criterion 1−4579
total precipitable water rel. to surface humidity 1−9194

atmospheric precipitation continued
variability and precipitation network design, review 1−32484
water in St. Louis urban area from Sun photometer obs. 1−22423
Ag I in precipitation, determ. of diffusion in clouds, appl. to hail suppression, seeding technique 1−44259
δ^2H-$\delta^{18}O$ relation for meteoric waters, change during Pleistocene glaciation rel. to palaeotemps. 1−54194
SO_2 and sulphate wet deposition in eastern USA 1−13529

atmospheric pressure *see atmospheric pressure and density*

atmospheric pressure and density
air mass variations, spectrographic determ. for investigation of atmospheric vars. of cosmic rays 1−36150
barometric elevations in northern Nigeria, error analysis 1−17646
E.Bering Sea, effect of low-pressure systems on sea ice cover 1−44206
biological effects on life at extremes of temp. and press. 1−48940
blocking anticylcones, role of Rossby waves linear and nonlinear resons. 1−4571
De-region, electron densities obs. by incoherent scatter radar during auroral absorpt. spike events 1−27333
density, latitudinal and seasonal variations for 0 to 150 km altitude 1−54175
density and aerosol characteristics meas. by lidar 1−49427
density and drag effects on satellite motion *(Russian)* 1−22562
earthquake precursor, atom. press. field *(Chinese)* 1−4431
eddies, stationary, sensible heat transport in different press. regimes 1−22390
F_2-layer critical freqs., longit. distrib. rel. to lower atmos. press. 1−22594
F-region, auroral, plasma density atmospheric electricity [F-region, auroral, elec. field and current distrib. meas. rel. to unstable ionisation enhancements] electron density [ionosphere, Chatanika/TRIAD obs. of unstable electron density irregularities in auroral F-region] meas. rel. to unstable ionisation enhancements 1−17724
fluctuations above surface gravity waves 1−49348
geomagnetic tail, mantle plasma density down-tail variation in steady-state tail model 1−17736
gravity waves, generation by inhomogeneous heating of atmosphere 1−27324
heat low over Australia during summer, numerical forecast model 1−4581
ionosphere, density enhancement during relativistic electron enhancement 1−36100
ionosphere, plasma density irregularities rel. to geometrical control of intensity and phase scintillation indices 1−27332
lidar remote sensing at night 35-70 km altitude 1−4633
low frequency pressure waves *(Chinese)* 1−49209
meteor rate and atmos. pressure changes, to explain radar meteor data 1−4829
microbaromic waves related to earthquakes, obs. as precursors to aftershocks *(Chinese)* 1−9090
ocean, combined effect of bottom topography wind stress and air press. gradient on surge generation 1−4500
ocean boundary layer temp., determ. of heat flux into atm. water vapour press., determ. of turbulent water vapour flux into atm. 1−36043
ocean surface pressure, effects of perturbation on internal waves development in fluid with shear flow *(Russian)* 1−9167
Okhotsk Sea, atmospheric press. distrib. rel. to currents off Hokkaido coast in winter (1979) *(Japanese)* 1−9170
prediction, short-range scheme based on conservation scheme and generalised balance conditions 1−4560
pressure fluctuations, effect on IR refraction and absorption 1−17689
remote sensing of atmospheric press. field, information content anal. of sensing system *(Russian)* 1−9276
semidiurnal surface press. oscillations, comparison of Earth and Mars 1−17779
lower stratosphere, geopotential heights rel. to wave number domain dynamic and monsoon activity 1−27230
surface pressure field, variations rel. to crustal tilts at Pades-Gorj and Craciunesti-Deva, Rumania *(Rumanian)* 1−44071
synoptic-scale geopotential height profiles during foehn situations, statistical anal. 1−49322
thermosphere, density perturbations from accelerometer CACTUS on spacecraft, data processing technique appl. *(French)* 1−9304
thermosphere, lower, semi-annual density oscill. rel. to electron-density profile in equatorial ionosphere 1−13628
thermosphere response to magnetic activity 1−49435
time sequence analysis of surface press. data, in 4-D data assimilation 1−9225
tornado surface press. fields, simulation expts. 1−17664
tropical cyclone eye dynamics 1−22406
troposphere 500 mbar level height vars. and sunspot number 1−40175
upper atmosphere, obs. of COSMOS 1009 (during 1978) 1−40242
vapour presusre determ. from dry and wet bulb temps., computation methods 1−22532
He' density and temp. structure in topside polar ionosphere for subsonic outflows 1−4695

atmospheric propagation *see atmospheric electromagnetic wave propagation*

atmospheric proton precipitation
see also aurora; radiation belts
ionosphere, plasma instabilities generation (auroral type) at low latitude 1−4692
magnetosheath proton precipitation along dayside cusp 1−17739
mesosphere, O_3 response to particle precipitation 1−32569

atmospheric radiation
see also aurora
accelerometer meas. by Super-Cactus, radiation budget determ. 1−13588
aerosol, spectral absorpt. of solar radiation *(Russian)* 1−32518
aerosol effects on radiation balance and climate 1−13501
aerosol in stratosphere, stratification and inverse problem of radiation transfer *(Russian)* 1−32494
aerosols, climatic effects, radiative-convective model calcs. 1−22408
airglow O I line used to determine turbopause internal gravity waves eddy diffusion coeff. 1−40239
bremsstrahlung radiation bursts, precipitation electron dynamics from obs. at different longitudes 1−54304
bremsstrahlung X-rays, to observe microburst electron group precipitation, conjugate obs. 1−40256
broken clouds, eqns. for moments in Markov approx. 1−36060
budget meas. by European climatological satellite missions SEOCS and BIRAMIS 1−13580
Cerenkov light from extensive air showers, arrival time struct. 1−4732
atmospheric radiation continued
chorus (equatorial), indicative of elec. fields parallel to geomag. field 1−36099
circumsolar sky function determ. technique 1−36080
cirrus cloud affecting solar energy transmission to ground 1−4611
cirrus clouds (tropical), IR radiative props. 1−17669
cloud albedo and IR effects on Earth radiation budget 1−22485
cloudiness effect on Earth solar and IR radiation budgets 1−22486
clouds solar fluxes and heating rates calc., struct. of typical two stream methods 1−4612
cloudy atmosphere, calc. of radiation field for nearly conservative scatt. case *(Russian)* 1−32515
coastal zone colour scanner imagery, error reduction from sensor calibration and solar irradiance uncertainty 1−40203
colorimetric models of atmospheric radiation, for remote sensing studies 1−22492
contamination of radioastronomical obs. observing and reduction procedures 1−36190
cosmic rays, stratosphere albedo flux contrib. to excess radiation at heights of 200 to 300 km 1−36141
diffuse and direct solar radiation on oriented sloping surfaces, Monte Carlo calcs. 1−49320
diffuse solar radiance distrib. for sky hemisphere, assessment of techniques for determ. 1−31989
diffuse solar radiation computation for Egypt 1−17163
E_s-layer, emissions from gases following electron beam injection, TV obs. 1−22591
ELF-VLF emissions, conjugate point observations 1−32574
emergent intensity (time depend.) from semi-infinite atmos. 1−36056
estimating solar irradiation sums from sunshine and cloudiness observations 1−8682
flux density estimation from radiation meas., geometric shape factor approach 1−13462
gamma ray obs. from Kosmos 461, albedo 1−22556
gamma-ray radiation, Cherenkov scintillation telescope characts. 1−4638
global and net solar radiation, correl. relationship 1−17159
global radiation and sunshine correl. in italy 1−17165
global solar irradiance fluctuations in Hong Kong 1−31984
Great Lakes meteorology, infrared radiation transfer and radiative heating 1−44283
greenhouse effect throughout history of atmosphere *(Russian)* 1−54244
hard gamma-rays at airplane altitudes 1−13554
heat island of urban area, transient and steady state calcs. 1−13199
HF radiowave emission in Araks electron injection expt. 1−44371
hoarfrost formation at nighttime, expt. test of heat flux calcs. 1−13511
ice cloud radiative props., variability 1−4608
incident solar radiation at surface, from satellite brightness data 1−49387
incident solar radiation in Egypt, effect of atmospheric pollution 1−17164
ionosphere, HF waves produced by electron injection expt. (Araks) 1−44368
ionospheric hiss (narrowband at 5 kHz), from plasmapause altitudes 1−44384
IR radiance and METEOSAT IR channel calibration from radiative transfer calcs. 1−22393
kilometric radiation, general props., review 1−49455
kilometric radiation from auroral zone, source region emission process and conditions 1−36112
lower atmosphere, radiation rel. to one-dimensional circulation and climate model 1−4561
lower atmosphere, thermal struct., effect of radiative, turbulent and convective phenomena *(French)* 1−49365
luminance of artificial aurora rel. to electron beam injection pitch angle 1−22565
magnetosphere, naturally occurring repetitive VLF activity rel. to Pc 1 geomag. pulsations stimulation 1−17738
magnetosphere, nonthermal continuum radiation, low-freq. cutoff theory tests 1−9325
magnetosphere VLF atmospherics, possible evidence of van der Pol oscillations from obs. of power line radiation 1−17737
magnetosphere VLF line radiation obs. at Halley, Antarctica 1−40285
meteorite fireball, generation of VLF waves, causing anomalous sound 1−54246
meteorite passage in Earth's atmosphere, radiation effects 1−32669
microwave brightness temperature at 100-300 mb level, long period changes 1−17668
microwave emission from sky, rain attenuation meas. using 11 GHz radiometer 1−13517
microwave remote sensing of liq. and vap. H_2O content 1−44337
microwave remote sensing of temp. profile, numerical model *(Chinese)* 1−54213
monthly average solar insolation on tilted surfaces 1−8685
Moshiri Basin, Japan, nighttime radiative cooling rel. to wind features *(Japanese)* 1−9210
Munich area, Germany, net radiation budget affected by snow cover *(German)* 1−27234
myriametric radiation, latitudinal beaming, mode-coupling mechanism 1−22718
nightglow, H I Lyman alpha emission at low and middle latitudes 1−40244
palaeoatmosphere, O_3 conc. effect on UV flux and temp. 1−49389
planetary albedo effect on Earth radiation budget obs. from satellite 1−22487
precipitable water vapour, detection by ground-based microwave radiometry 1−13548
primordial terrestrial atmosphere, dissipation due to irradiation of solar EUV 1−54245
pyrheliometer, Linke-Feussner, determ. of temp. coeff. 1−5359
pyrheliometric formula for calc. Linke turbidity factor 1−49388
pyrradiometer sensitivity difference between short and long wave spectral regions 1−4636
Qinghai-Xizang Plateau, S.W. China, radiation and heat balance of Earth surface 1−27233
radiation flux at ground surface, effect of orientation and weather conditions 1−17161
radiative transfer through media with uncertain or variable parameters 1−22488
radio noise bursts during mag. disturbances at middle latitude 1−22626
remote sensing with coastal zone colour scanner 1−22541
satellite remote sensing, Earth albedo contrib. to photometer data, empirical determ. method 1−13614
sky radiance, math. model of angular distrib. 1−21850

atmospheric radiation continued
sky radiance as a correction for Lake Ontario water quality remote sensing 1−22373
sky temperature measurement, heat flow meter design and calibration 1−54241
snow cover affecting radiation budget, Munich, Germany *(German)* 1−27234
solar, atmospheric model applied to some actinometric stations in Sicily 1−9223
solar, monthly average daily insolation on tilted collectors in Libya 1−17154
solar energy availability in different regions of the solar spectrum 1−53561
solar heating, new parameterization 1−4555
solar insolation in a polar environment 1−31987
solar insolation measurement, digital meas. device for solar cell arrays 1−31988
solar insolation on a horizontal surface in Greece 1−17166
solar insolation on inclined surfaces, meas. using two-solarimeter method 1−10005
solar irradiance estimates for Zambia 1−53562
solar radiation, global, contrib. of diffuse component *(Italian)* 1−17638
solar radiation, mathematical model for SE.Asia 1−53564
solar radiation estimates in Malaysia 1−53560
solar radiation flux, effect of atmospheric pollution 1−17160
solar radiation flux, effect of slope and orientation on plane incident radiation 1−17158
solar radiation incident on tilted flat surfaces in Barcelona 1−8681
solar radiation intensity distrib., new formulation of the seasonal factor for the Middle East region 1−17162
solar radiation measurements of predicted data for Nigeria 1−53565
stratosphere, effects on O_3+NO_x chemistry and radiative equilib. temp. of solar cosmic ray event 1−54166
submm. radiometry 1−4610
terrestrial solar irradiation, statistical behaviour 1−53563
thermal microwave emission to determine rainfall rate, radiative transfer calcs. for satellite obs. 1−22389
thermodynamics of atmospheric radiation, second law anal. of available energy 1−17183
tradewind boundary layer with non-precipitating cumulus clouds, influence of radiation on modelling 1−49323
troposphere, downgoing and upgoing UV flux meas. in Gametag flights rel. to $O(^1D)$ photoproduction rate vars. 1−40170
troposphere temperature by ground-based IR radiometry, data inversion method 1−54279
UV opacity of atmos. to Schumann-Runge bands, 20-100 km altitude 1−17715
UV radiation in New York, effect of sunshine, cloudiness and haze 1−44267
VLF and ELF bursts with frequency drift, cyclotron excitation model 1−27342
VLF radiation from aurorae and meteor fireballs, generation and transduction into audible sound 1−49439
VLF waves observed during Araks electron injection expts. 1−44370
water vapor mass above 600 mb rel. to radiative field, Meteosat data anal. 1−44264
whistler mode waves generated by electron injection in Araks expt. 1−44369
X-ray bremsstrahlung from auroral zone, obs. made at 30-60 km altitude with parachuted instruments 1−17732
X-ray bremsstrahlung in ionosphere, following explosive Cs release expt. 1−17731
X-ray bremsstrahlung precipitation due to electron injection expt. 1−49440
Cs ion release expt., obs. of EM pulse due to exploding payload 1−17728
OH in ionosphere, radiowave emission at 80-100 km altitude rel. to ionosphere absorpt. 1−4688

atmospheric radioactivity
see also fallout
absorption measuring systems, effect of changes of beta radiation mass attenuation coefficient *(Polish)* 1−24003
Cumbria, air monitoring obs. 1−35732
Cumbria, England, radionuclides in atmosphere 1−48934
Earth Rn flux, methods of meas. by nuclear track technique 1−44323
radionuclide residence time in stratosphere following atmospheric nucl. explosion 1−26863
^{7}Be in stratosphere, due to bombs and cosmic rays 1−49368
^{3}H, atmospheric measurement using source modulation technique 1−18984
Ra daughters in air, gamma activity meas. 1−18983
Rn, vars. of ground gas concs. with activity of Kilauea Volcano, Hawaii 1−17591

atmospheric spectra
see also atmospheric optics
absorption spectra, nonlinear least squares analysis 1−13567
aerosol, IR transmission spectra, component identification *(Russian)* 1−40191
aerosol, spectral absorpt. of solar radiation *(Russian)* 1−32518
atmospherics, spectral study rel. to VLF attenuation as function of azimuth 1−13520
aurora, H^+ and H collisions with N_2 and O_2, emission cross sections 1−37146
aurora, identification of EUV emissions from N ions 1−36094
auroral 2145Å mystery feature; of $N^+(^5S)$ origin 1−54303
auroral 2145 Å feature, laboratory study rel. to identification 1−22566
auroral backscatter at 42 MHz, Doppler spectra correl. with types of fading 1−27335
auroral EUV emissions, rocket-borne meas. 1−9307
cloud recognition from incomplete IR spectra 1−27313
clouds, spectral reflectance meas. technique for gross microphys. props. 1−17667
colorimetric models of atmospheric radiation, for remote sensing studies 1−22492
differential absorption lidar technique, range resolved, spectral limitation 1−36074
Fraunhofer lines filling-in, contrib. of inelastic mol. scatt. and aerosols 1−54238
humidity determination by IR spectral absorption measurement *(French)* 1−44331

atmospheric spectra continued
ionosphere, OH radiowave emission at 80-100 km altitude, rel. to ionosphere absorpt. 1−4688
IR spectral absorpt. due to gaseous and particulate components, 9-11 μm 1−49356
lightning, visible spectra of individual flashes, daytime obs. 1−4585
magnetosheath, differential energy spectra and electron bursts 1−22624
magnetosphere VLF atmospherics, possible evidence of van der Pol oscillations from obs. of power line radiation 1−17737
nightglow spectrum observation using scanning spectrometer 1−4672
radiation spectrum in range LF to VHF, far-field Fraunhoffer approx. 1−17681
solar radiation observations at Tucson, Arizona, O_3 and aerosol rel. to optical depth 1−22491
stratosphere, molecular composition, IR emission spectra from balloons and satellites 1−17672
stratosphere trace constituent profile retrieval using IR limb spectra 1−44309
tetrafluoromethane, absorpt. cross section at H Lyman α (121.57 nm) rel. to atmospheric residence time 1−44295
transmission at Special Astrophysical Observatory, USSR, meas. (1974 to 1976) 1−9246
UV radiation backscattering, rel. to annual cycle in tropical stratospheric and mesospheric O_3 1−17652
near UV spectrum, differential optical absorpt. meas. for formaldehyde, HNO_2, O_3, NO_2 and SO_2 concs. 1−44251
water vapour, 900 nm absorpt. and meas. for determ. of fluctuations along given atmospheric path *(French)* 1−13603
CO_2, atm. transmittance simulations near 4.3 μm band head 1−54240
CO_2, IR spectra and mol. const. in 1.4-1.7 μm atmospheric window, Fourier transform spectroscopy 1−19090
H geocorona, H_α spectral profile obs. indicating H escape 1−36090
HCl, far IR emission spectrum meas. rel. to mixing ratio in stratosphere 1−17651
HCl, vertical profile and total content, IR spectral obs. 1−36028
HNO_3, absorption, temperature depend., 11.3-μm region 1−37182
HNO_3 IR spectroscopic study around 11.4 μm from Mont-Louis ground level obs. *(French)* 1−49357
HNO_3-O_3 bands near 1720 cm^{-1}, high-resolution IR balloon-borne solar spectra, laboratory spectra comparison 1−22483
He I in aurora, line enhancement in visible, interpretation 1−40246
Li in upper atmos., winter enhancement, obs. of twilight 1−17718
N_2, atmospheric, absolute Raman scatt. cross-sections 1−33471
NO, gamma bands, spectral transmission in Earth's atm., remote sensing 1−9248
NO lines in balloon-borne IR solar spectra, identification 1−17687
NO_2, starlight spectral absorpt. obs. *(French)* 1−44228
NO_2, stratospheric conc. meas. at night from stellar spectra in 440 nm region 1−17650
Na in upper atmos., winter enhancement, obs. of twilight 1−17718
O I 1302 Å triplet in dayglow, rel. to thermosphere O I (^{3}P) fine struct. levels excitation temp. *(Chinese)* 1−54301
O I 1356 Å rel. to F-region parameters 1−32473
O I 5577 Å emission intensity, solar tide effects 1−22563
O I 6300 Å, line profiles rel. to midlatit. thermosphere winds and temps. and auroral electrojet activity index 1−17714
O I airglow emission spectrum, origin from radiative transfer model 1−44354
O_2, atmospheric, absolute Raman scatt. cross-sections 1−33471
O_2 in upper atmos., UV spectral absorpt. calcs. for Lyman α ion chamber meas. 1−17717
O_2 lines, appl. to air-mass fluctuations power spectra and comparison with solar diameter fluctuation meas. 1−49593
$(O_2)_2$ collisional pairs spectral absorpt. of sunlight, implications for atm. chem. 1−44293
O_3 variations from solar UV transmission in 298-320 nm 1−40157

atmospheric structure
see also atmospheric composition
aurora, dayside and nightside arc systems topological distinction and assoc. field-aligned currents 1−17720
boundary layer, quantitative appl. of acoustic sounders, echo strength meas., structural parameters estimation 1−17706
boundary layer, semiempirical model *(Russian)* 1−13516
compositional inhomogeneities, rel. to atmosphere inhomogeneous heating and gravity waves generation 1−27324
De-region, electron densities obs. by incoherent scatter radar during auroral absorpt. spike events 1−27333
F-region, auroral, Chatanika/TRIAD obs. of unstable ionisation enhancements 1−17724
F-region backscatter meas. of 11-cm equatorial spread-F irregularities 1−17725
ionosphere, lower, equatorial, noontime model electron density profile 1−13628
ionosphere, plasma density irregularities rel. to geometrical control of intensity and phase scintillation indices 1−27332
ionosphere, preliminary report on plasma hole produced by launching of HEAO-C 1−17723
ionosphere, seasonal and geomag. control of equatorial scintillations in two longitudinal sectors 1−27338
lower atmosphere, acoustic sounder design and performance in monitoring of structural features 1−17705
lower atmosphere, thermal struct., effect of radiative, turbulent and convective phenomena *(French)* 1−49365
planetary boundary layer, existence of similarity 1−4559
stratosphere, lower, aerosol distrib. fine structs. meas. by balloon-borne photometer 1−9253
Tarapur coastal area, structure from sodar studies 1−9198
tradewind boundary layer, time-dependent, with non-precipitating cumulus clouds modelling 1−49323
troposphere temperature field formation, study by conjugate eqn. method 1−22468
troposphere thermal structures, sodar sounding as indicator of microwave propag. characts. 1−13518

atmospheric techniques
see also air pollution detection and control; geophysical equipment; ionospheric measuring apparatus; ionospheric techniques; meteorological instruments; weather forecasting
acid rain patterns in USA, combination of two network data sets 1−9222
acoustic sounder design and performance in monitoring of structural features of lower atm. 1−17705

atmospheric techniques continued
aerosol optical thickness calc. method, for satellite remote sensing over ocean 1−22490
aerosol pollutant analysis, inorganic compounds speciation using Fourier transform IR spectroscopy 1−26866
aerosol refractive index estimation 1−36064
aerosol remote sensing, light scatt. techniques energy 1−13616
aerosol size distributions and optical consts. determ., in situ light scatt. techniques 1−9257
aerosols, meas. by acoustic particle sizing device 1−27256
aerosols, method of comparing trace elements enrichment at remote locations 1−27228
aerosols, pollution index based on optical absorpt. const. of suspended particulate matter 1−53738
aerosols analysis, new technique for scanning electron microscopy of membrane filter collected particles 1−26867
air pollution measuring using tunable lasers 1−39860
airport wind measurement, representativeness of single anemometer obs. 1−44232
analysis of absorption spectra, nonlinear least squares technique 1−13567
ARANO, computer program for assessment of radiological consequences of atmospheric radioactive releases 1−39856
balloon (superpressure) response to gravity waves 1−49421
boundary layer acoustic (bistatic) sounding, radar eqn. 1−49318
boundary layer characteristics, calc. from meteorological mast data 1−22469
boundary layer wind and turbulence props. by lidar method 1−17661
boundary layer wind velocity profile from aerosol content obs. with lidar technique 1−22529
buoys for data collection, NOAA Data Buoy Office programs 1−44304
circumsolar sky function determ. 1−36080
climatology, derivation of zero-dimensional climate models from one-dimensional models 1−4605
climatology, quality control and archiving of world surface data 1−49396
cloud, remote sensing or struct. and optical charcts. using pulsed laser *(Russian)* 1−32517
cloud classification by hybrid optical/digital textural information processing 1−27307
cloud liquid water content, ground based microwave techniques comparison 1−22527
cloud pattern recognition techniques 1−54231
cloud recognition from incomplete IR spectra 1−27313
cloud water collection, ground-based system for acidity determ. at mountain observatory 1−43837
clouds, spectral reflectance meas. technique for gross microphys. props. 1−17667
clouds remote sensing, satellite brightness meas. rel. to optical depths and light scatt. coeffs. *(Russian)* 1−13569
clouds solar fluxes and heating rates calc., struct. of typical two stream methods 1−4612
conjugate equation method, appl. to study of troposphere temp. field form. 1−22468
cosmic rays atmospheric variations, spectrographic method for air mass and temp. profile vars. 1−36150
data acquisition system used on Italian buoy 1−49398
differential absorption lidar technique, range resolved, spectral limitation 1−36074
diffuse solar radiance distrib. for sky hemisphere, assessment of techniques for determ. 1−31989
direction finding of atmospherics, bearing error due to coastal refraction 1−27314
dynamical description of atmos., quasistatic approximation with geospheric coords. *(German)* 1−40155
experimental data, sampling and interpretation, fuzzy clustering algorithms 1−49434
Fabry-Perot spectrometry, thermosphere temp. and wind meas. 1−4648
feature extraction and selection 1−54300
fluxes of heat and momentum in surface layer above sea, determ. methods, review 1−22535
fog layer top detection using sodar, obs. at Delhi 1−4576
forest fires caused by lightning, mag. direction finding method 1−44302
formaldehyde mixing ratio in troposphere, new meas. technique 1−17655
four-dimensional data assimilation problem in weather analysis 1−9226
from F-22 measurement, use of O_2-doped electron capture detector rel. to global atmospheric burden 1−17332
frontal clouds base height, forecasting using atmospheric moisture content data 1−22470
geostrophic wind calculation method *(German)* 1−13545
global aurora imaging from satellite *(Japanese)* 1−32538
Global Weather Experiment, data from National Environmental Satellite Service 1−54248
haze and plume pollution, airborne lidar method and obs. 1−43836
humidity determination by IR spectral absorption measurement *(French)* 1−44331
hurricane monitored by skywave radar, Gulf of Mexico storm 1−40229
hurricanes, simplified methods for ocean surge and wave run-up, prediction 1−54127
hydraulic modelling for studying air circulations over complex coastal sites 1−32507
infrasonic wave isolation from background noise, spectrum-coherence anal. method *(Russian)* 1−44240
knowledge based recognition system of weather chart 1−54230
laser Doppler velocimetry 1−4649
laser investigations 1−32559
laser sounding of clouds, influence of double scatt. on polarisation charcts. of echo signals *(Russian)* 1−9249
laser techniques of atmospheric probing 1−49427
lidar for determ. of atmos. constituents *(Italian)* 1−44332
lidar return processing, stable analytical inversion soln. 1−40189
lidar temp. and density meas., 35-70 km altitude at night 1−4633
light scattering in haze conditions, measurement apparatus *(Russian)* 1−44319
lightning study radar and acoustic methods 1−44254
magnetosphere electron injection from Araks rocket expt., electron trajectory calc. 1−44363
magnetosphere research, appl. of artificial electron beams 1−36160
marine boundary layer study over Bay of Bengal during summer MONEX 79, observation system 1−54257
measurement of fine and dull days, appl. of D-type snow depth recorder using optical fibres *(Japanese)* 1−4641
atmospheric techniques continued
meteoroid motion in atmosphere with variable drag and ablation coeffs., two soln. methods 1−54427
meteorological conditions simulation, appl. of 'Oblako' ('Cloud') standard device 1−22548
meteorological measurement, operational appl. of Doppler radar 1−54172
microwave remote sensing of liq. and vap. H_2O content 1−44337
moisture variables determ. from dry and wet bulb temps., computation methods 1−22532
nightglow spectrum observation using scanning spectrometer 1−4672
nitrate particle detection method, based on obs. on individual particles 1−4234
nuclear track technique, appl. to Earth Rn flux meas. 1−44323
numerical modelling, three dimens., analytical initialisation method, appl. to temp., wind and humidity 1−44324
numerical weather forecasting, effect of planetary scale mountain on barotropic flow 1−4562
numerical weather prediction, Rossby similarity of nonstationary atmospheric boundary layer 1−4556
O_3 night-time meas. using chemiluminescent rhodamine-B detector on rocket sonde 1−17719
optical index, turbulence induced fluctuation and extinction, direct optical meas. techniques comparison 1−22454
orographic-thermal effect recording for baroclinic planetary boundary layer motions 1−32527
palaeoclimate, design of data network for general circulation study 1−54236
particulate analysis using angular light scattering 1−13583
photodissociation, diurnally averaged rates, calc. method 1−22523
Pi 2 signal polarization parameters determ. signal separation using polarisation filters and detectors 1−54331
pilot balloon position using double theodolite method, error anal. 1−22507
precipitable water vapour, detection by ground-based microwave radiometry 1−13548
Project Gametag (Global Atmosphere Meas. Expt. on Tropospheric Aerosols and Gases), overview 1−40200
radar observation of winds and turbulence, comparison of techniques 1−27299
radio acoustic sounding, appl. to meas. of fog-capping thermal inversions 1−54193
radio-acoustic sounding for temp. profile, comparison with other methods 1−4589
radiosonde height determination by barometric methods, accuracy *(German)* 1−49424
radiowave polarisation errors in two-channel systems 1−54206
rain drop size meas. via microwave attenuation, evidence for large drops in radar bright band 1−22444
rain measurement by radar, corrections to be made for spatial and time variation of rainfall *(German)* 1−13605
rain rate, measurement from microwave attenuation determ. using 11 GHz radiometer 1−13517
raindrop size distrib., remote sensing using microwave scatt. meas., propagation system development 1−4668
raindrops, microwave scattering, anal. by finite element method 1−32554
rainfall daily records, interpolation of data from weather stations *(German)* 1−27304
rainfall estimation max. point, technique applied to N.Indian plains 1−4650
rainfall variability, use of 'analysis of variance' theory, to study rain-gauge data 1−32503
remote sensing of atmospheric press. field, information content anal. of sensing system *(Russian)* 1−9276
remote sensing of ice clouds from satellites 1−9293
remote single-ended temp. and humidity meas. at 1.77 μm using continuously tunable source 1−9286
sea surface temperature, IR sensing from satellite 1−49430
seeding of orographic cloud with AgI, aircraft released plume dispersal study 1−49354
sensible heat flux measurement, simplified method *(French)* 1−13602
sodar sounding, use as indicator of microwave propag. charcts. 1−13518
soot, air sampler to meas. elemental C content 1−4236
space-time spectra estimation method using polar-orbiting satellite data 1−22413
stability over urban and suburban sites using sodar and Rn obs. 1−44326
storm cloud research aircraft meteorological instrumentation system 1−44310
stratosphere NO, meas. using new balloon-borne chemiluminesc. instrument 1−44322
stratosphere trace constituent profile retrieval using IR limb spectra 1−44309
stratospheric aerosols obs. using Nd:YAG lidar with near-IR sensitive photomultiplier tube 1−22526
submm. radiometry 1−4610
synoptic charts and time-series graphs from Meteorological Office, England 1−54252
temperature inversion in half-metre layer over sea, meas. system 1−54196
temperature measurement using Raman-scattered laser radiation, statistical accuracy 1−49431
temperature profile remote sensing from microwave emission, model *(Chinese)* 1−54213
temperature retrieval over ocean, satellite microwave method, two examples 1−22501
thermosphere, density perturbations from accelerometer CACTUS on spacecraft, data processing technique appl. *(French)* 1−9304
thermosphere, wind parameter determ., techniques *(French)* 1−13625
thunderstorm detection system based on sferics, operational experience 1−44312
thunderstorm detection system based on sferics monitoring 1−44311
thunderstorm forecasting in pre-monsoon season at Dundigal airport and environs 1−22536
thunderstorms in Colorado, obs. with zenith pointing Doppler radar 1−22421
tides of upper atmosphere, tidal theory of radio meteor and nightglow obs. 1−22559
time sequence analysis of surface press. data, in 4-D data assimilation 1−9225
tornado vortex, pot. for remote sensing using plasma obs. 1−44327
trace gas detection, photofragmentation-laser induced fluorescence 1−13584
troposphere temperature anomaly long-range forecasting, appl. of conjugate eqn. method 1−22468

atmospheric techniques continued
troposphere temperature by ground-based IR radiometry, data inversion method 1−54279
tropospheric remote sensing using S-band FM CW radar, layered and turbulent struct., hydrometeor reflectivity 1−17699
turbulence remote sensing using a fast optical method 1−44325
visibility, prediction of standard visual range at high relative humidity 1−49383
water vapour fluctuations measurement along given atmospheric path, spectroscopic instrument *(French)* 1−13603
weather forecasting, long-range, significance of various types of information 1−22466
weather forecasting, numerical, development through noise-free atmosphere hypothesis *(German)* 1−9218
weather forecasting problem, correctness of finite difference eqns. in vertical direction *(Russian)* 1−9206
weather prediction, short-range scheme based on conservation scheme and generalised balance conditions 1−4560
whistlers occurrence rate automatic obs., using microcomputer 1−4658
wind determination method, IR satellite imagery of H_2O vap. 1−4582
wind field evaluation method for open sea 1−4590
wind speed remote sensing, evaluation of Seasat-A scatterometer (SASS) meas. 1−17700
wind velocity measurement using dual-freq. Doppler-lidar method 1−9262
Br total content of lower stratosphere, first obs. of new collection system 1−36031
Cl total content of lower stratosphere, first obs. of new collection system 1−36031
H_2O remote sensing using Nimbus-6 microwave spectrometer 1−49355
NH_3, composition measurement technique 1−4235
NO_2 detection by tunable diode laser spectrometer 1−9264
NO_2, stratosphere vertical distrib., obs. by differential optical absorpt. method 1−9213
O_2 in upper atmos., UV spectral absorpt. calcs. for Lyman α ion chamber meas. 1−17717
O_3 concentration profile determ. from ground based microwave meas. 1−22538
total O_3 content measurement, comparison of New Zealand filter ozonometer and Dobson spectrophotometer 1−4652
O_3 sampling network results tested by general circulation tracer model 1−13534
O_3 total content measurement, techniques of USSR ozonometric network 1−22549
OH in troposphere, remote sensing method using UV laser 1−36070
OH, tropospheric, laser optical meas. 1−54285
SO_2 analysis, new chemiluminesc. technique appl. to troposphere and stratosphere SO_2 distrib. 1−44249

atmospheric temperature
see also atmospheric thermodynamics
NE.Atlantic, air and sea surface temps., monthly anomalies correlative anal. *(French)* 1−35990
baroclinic instability and geostrophic turbulence, role of temp. perturbations scatt. 1−49326
E.Bering Sea, temp. fluctuations fluctuations rel. to sea ice and temp. variability 1−44206
biological effects on life at extremes of temp. and press. 1−48940
boundary layer, semiempirical model for temp. distrib. *(Russian)* 1−13516
boundary layer, temp. profiles calc. from meteorological mast data 1−22469
boundary layer over sea (half metre thick layer) 1−54196
N. Canada, relative departures in July temps. for past 6000 yr 1−36052
climate model, cloud amount in energy balance model 1−17685
Cretaceous-Tertiary temp. increase and extinctions 1−9258
dew point determ. from dry and wet bulb temps., computation methods 1−22532
Doppler shift spectrometer for temp. meas. 1−40224
downdraft region beneath precipitating anvil clouds, temp. and humidity profiles 1−17663
E-region temperature and ion-neutral collision freq., radar meas. 1−40262
central England, future air temp. prediction by statistical anal. of past climate 1−32514
England, recurrence short-period atmos. temp. patterns 1−54192
exosphere, temo. meas. at Millstone Hill, seasonal var., magnetic activity effect 1−4671
fluctuations, effect on IR refraction and absorption 1−17689
global climatic warning, response to atmospheric comp. changes due to fossil fuel burning 1−44290
global warming, possible climatic consequences 1−40184
greenhouse effect of minor constituents in atmosphere 1−27249
heating by meteor shower, indirect cause for LF radiowave fading 1−9310
India, equatorial, thermal struct. of troposphere, stratosphere and mesosphere 1−22433
inversion layer (ground-based), dissolution by convection after sunrise *(German)* 1−27235
inversion layer regions in World, severe 1−40180
inversion temp. rel. to small cumulus cloud dynamical and liq. water struct. 1−4597
ionosphere, electron temps. rel. to collision freqs. and transport props. 1−13630
ionosphere, topside ion temp. troughs at nighttime, induced by neutral winds 1−9318
ionsophere, ion composition and temp. during magnetic storms 1−49442
Lake Kuttara, Japan, local climatological investigation *(Japanese)* 1−9188
laser techniques of atmospheric probing, temp. meas. using Raman scatt. 1−49427
lidar remote sensing at night 35-70 km altitude 1−4633
local thermal regime, correl. with global climatic variable using linear empirical-statistical model of climatic changes 1−22467
marine surface layer, search for wind-wave-induced disturbances 1−17673
measurement using Raman-scattered laser radiation, statistical accuracy 1−49431
mesosphere, gravity waves deduced from OH airglow temp. fluctuation obs. 1−27325
microstructure in ground layer on Mt. Maidanak, effect on astronomical images 1−44300
microwave brightness temperature at 100-300 mb level, long period changes 1−17668

atmospheric temperature continued
microwave remote sensing of temp. profiles, numerical simulation *(Chinese)* 1−54213
Modena, Italy, long-period oscills. in daily temps. 1−32506
Moshiri Basin, Japan, nighttime radiative cooling rel. to wind features *(Japanese)* 1−9210
New Zealand, mean temp. since 1930, trends 1−13559
nighttime minimum temps., cloudy and clear skies, on grass and screen surfaces 1−22432
numerical modelling, three dimens., analytical initialisation method 1−44324
objective analysis using radiosonde network in Central Europe 1−22387
ocean boundary layer temp., determ. of heat flux into atm. 1−36043
palaeoatmosphere, O_3 conc. effect on UV flux and temp. 1−49389
N Pennines, temp. and other weather records (1932 to 1978) 1−36038
planetary temperature, effect on planetary albedo rel. to zero-dimensional climate models 1−4605
Pleistocene glaciation palaeotemperatures, implications of changes of ^2H and ^{18}O enrichment of meteoric water 1−54194
pulsed high power 10.6 μm laser propagation effects 1−4617
Qinghai-Xizang Plateau, S.W. China, radiation and heat balance of Earth surface 1−27233
radio-acoustic sounding for temp. profile, comparison with other methods 1−4589
radiometric observation of troposphere, data inversion by Kalman filtering 1−54279
remote single-ended temp. and humidity meas. at 1.77 μm using continuously tunable source 1−9286
Roxburgh Hydro, New Zealand, air temp. changes 1−13560
satellite microwave temperature retrieval over ocean, two examples 1−22501
secular response to climatic forcing, role of deep sea heat storage 1−27178
sensible heat flux, measurement using horizontal wind vel. and temp. meas. *(French)* 1−13602
sky temperature measurement, heat flow meter design and calibration 1−54241
snowmelt runoff forecasting using synoptic obs. of streamflow, air temp. and precipitation 1−36015
sound propagation, wind and temperature profile effects *(Japanese)* 1−1752
Special Astrophysical Observatory, USSR, temp. and humidity correl. with spectral transmission 1−9246
stratopause in summer, temp. struct. within two dimens. circulation model 1−22455
stratosphere, middle, vars. in O_3 content, temp. and meridional wind during sudden winter warming 1−22398
stratosphere, rocket sonde-derived temp. changes assoc. with solar cosmic ray event, 1972 August 1−54166
stratosphere warming events, role of tropospheric blocking type flow 1−4557
surface boundary layer effect on glacial ice sheet ablation rate 1−36003
surface layer, turbulent vel. and temp. derivatives, correlation 1−9199
surface temperature, eqn. for simple statistical model of present-day climate 1−22482
synoptic-scale temperature profiles during foehn situations, statistical anal. 1−49322
Thar desert, meteorological aspects 1−22439
thermal inversions capping fogs, radio acoustic meas. 1−54193
thermosphere, excitation temp. of O I (^3P) fine struct. levels *(Chinese)* 1−54301
thermosphere, midlatitude, winds and temps. rel. to auroral electrojet activity index 1−17714
tropopause, polar and tropical, temp. and altitude fields struct. *(Russian)* 1−40159
troposphere, temp. depend. of absorpt. in range 5 to 17 cm^{-1} 1−27229
troposphere, temp. inversion rel. to formaldehyde mixing ratios 1−17655
troposphere, temperature modulations observed during GATE 1−13523
troposphere temperature field formation, study by conjugate eqn. method 1−22468
troposphere thermal structures, sodar sounding as indicator of microwave propag. characts. 1−13518
USSR, Holocene thermal optimum, climate and vegetation zones *(Russian)* 1−13561
vertical soundings, Global Weather Expt. data from National Environmental Satellite Service 1−54248
vertical temperature profile variations, spectrographic determ. for investigation of atmospheric vars. of cosmic rays 1−36150
CO_2 effect on climate and models, temp. effects, review 1−17684
CO_2 global warming and coastline flooding, poss. disintegration of West-Antarctic floating ice shelf 1−40183
CO_2 increase and climate change, warming effect 1−27248
CO_2 influence on atmospheric temp. and climate *(German)* 1−13718
$Cl+HOCl \rightarrow AHCl+ClO$, reaction rate const., 243-365K, stratospheric importance 1−44245
He^+ density and temp. structure in topside polar ionosphere for subsonic outflows 1−4695

atmospheric thermodynamics
see also atmospheric temperature
baroclinic instability in mean zonal flow, rel. to geostrophic turbulence 1−49326
boundary layer, sensible heat flux and turbulent flow in semiempirical model *(Russian)* 1−13516
boundary layer, surface heat flux calc. from meteorological mast data 1−22469
boundary layer heat fluxes (turbulent), water vap. effects 1−49319
boundary layer turbulent fluxes, effect of tree covered surface 1−54203
clouds solar fluxes and heating rates calc., struct. of typical two stream methods 1−4612
diabatic mesoscale circulation energetics 1−54201
eddies, stationary, sensible heat transport in different press. regimes 1−22390
energy balance equation, one-dimensional, appl. to zero-dimensional climate models derivation 1−4605
energy fluxes over Europe (latent heat, kinetic energy etc.) 1−54220
energy regime in stationary model of atmos., 50-500 km altitude, lower boundary conditions selection 1−4670
energy transport by gravity wave 1−13634
geomagnetic tail, props. of steady-state model 1−17736

atmospheric thermodynamics continued
Great Lakes meteorology, infrared radiation transfer and radiative heating 1−44283
greenhouse effect throughout history of atmosphere *(Russian)* 1−54244
hailstorm in south Devon, wind and thermodynamic struct. 1−9232
heating by solar radiation, new parameterization 1−4555
hydrothermodynamics, appl. of conjugate eqn. method to troposphere temp. field form. 1−22468
inhomogeneous heating, rel. to gravity waves generation 1−27324
lawn, suburban, evapotranspiration and energy balance microclimate 1−22422
lower atmosphere, thermal struct., effect of radiative, turbulent and convective phenomena *(French)* 1−49365
magnetopause reconnection, influence of interplanetary mag. field B_x-component 1−22637
magnetosphere/ionosphere, energetics of Pc 5 long period resonant hydromagnetic waves 1−22636
marine boundary layer, heat and water vapour fluxes meas. over Bay of Bengal during summer (MONEX 79) 1−54257
meridional temp. gradients and heat flux, seasonal changes 1−49335
Moshiri Basin, Japan, nighttime radiative cooling rel. to wind features *(Japanese)* 1−9210
one-dimensional circulation and climate model, appl. to lower atmosphere 1−4561
planetary boundary layer, turbulent heat flux rel. to existence of similarity 1−4559
plasma sheet energy budget, effects of magnetotail interaction with shocks in solar wind 1−17735
sea surface layer, fluxes of heat and momentum, determ. methods, review 1−22535
sensible heat flux measurement, simplified method *(French)* 1−13602
sensible heat flux of boundary layer, direct computation method 1−4570
small-scale transfer processes, appl. of Prigogine diffusion theorem, governing theoretical concept 1−4558
St. Louis heat island, early afternoon wind vel. determ. 1−44258
stratopause in summer, temp. struct. within two dimens. circulation model 1−22455
stratosphere, effects on O_3+NO_x chemistry and radiative equilib. temp. of solar cosmic ray event 1−54166
lower stratosphere, momentum and sensible heat transport in wave number domain rel. to monsoon activity 1−27230
stratosphere, sudden warmings, dynamics 1−13558
stratosphere warming events, role of tropospheric blocking type flow 1−4557
thermosphere, Joule heating by auroral electrojet rel. to midlatit. winds and temps. 1−17714
thermosphere heating efficiency for solar UV photons 1−40240
thunderstorms, two dimens. downdraughts, dynamical and thermodynamical model 1−22458
tradewind boundary layer, time-dependent, with non-precipitating cumulus clouds modelling 1−49323
tropical Atlantic Ocean upwelling regions, evaporation and atm. sensible heat flux. 1−22392
tropical circulation, heat induced, analytical model 1−22457
tropical weather systems, mass divergence and vertical velocity, diurnal var. 1−22460
typhoon zone, troposphere moisture content rel. to storm energetics 1−22471
ultralong waves in two dimens. baroclinic model, hydrothermodynamics anal. *(Russian)* 1−40158
Vancouver, suburban energy balance estimate and turbulent flow from Bowen ratio approach 1−44260
zonal energy balance climate model, for climatic response to atmospheric comp. changes due to fossil fuel burning 1−44290

atmospheric turbulence
baroclinc planetary boundary layer vertical motions, orographic-thermal effect 1−32527
boundary layer, measurement with Mk 8 thrust anemometer 1−49410
boundary layer, mixing length in turbulent stratified flow *(Russian)* 1−13516
boundary layer, optical transmission degradation through turbulence and extinction 1−22454
boundary layer, temp. fluctuations from temp. variance eqn. 1−49314
boundary layer (marine), humidity structure function parameters 1−17645
boundary layer disturbances at night-time *(German)* 1−27236
boundary layer model 1−49317
boundary layer over water waves, turbulent shear waves 1−54176
boundary layer refractive index fluctuations in mountainous region *(Russian)* 1−32493
boundary layer stress parameterisation, limit imposed by turbulence intermittency 1−13506
boundary layer turbulent fluxes, effect of tree covered surface 1−54203
classification schemes for turbulence, Pasquill A-F classes 1−13502
clear air turbulence, eddy diffusivity obs. 1−13522
clear-air turbulence forecasting, over N.W. Europe and N.Atlantic 1−36039
cloud medium, CO_2 laser continuous beam self-action 1−40194
cloud microscale turbulence, of layered clouds *(Russian)* 1−32490
cumulus cloud, small, evidence for quasistatic turbulent dynamical struct. 1−4597
diffuse target with multiple glints, scattered irradiance, atm. turbulence statistical effects 1−1493
effect on monostatic heterodyne lidar performance 1−44292
EM propag. in turbulent media, review 1−19245
fence on rough surface in thermally stratified flow 1−40153
fence on rough surface in thermally stratified flow 1−40154
fluctuation amplification in case of reflection 1−36059
geostrophic turbulence, baroclinic instability theory 1−49326
internal gravity waves breaking in marine surface layer, cause of turbulence 1−13510
laser anemometry by photon correlation with simply periodic gated sampling 1−42112
laser beam, adaptively corrected, propag. through turbulent atm. 1−46416
laser beam field coherence in turbulent atm. 1−6472
laser beam propagation path, atm. refr. and turbulence problems *(Czech)* 1−49386
laser beam propagation strong turbulence 1−4621
laser beams, exptl. determ. of fluctuation correlation scales of intensity and coherence in turbulent atmospheres 1−33620

atmospheric turbulence continued
laser radiation propag., turbulent atmosphere with scatt. region, photoelectron distrib. at photodetector output, photon-counting mode 1−13574
light propagation degradation *(Italian)* 1−40179
light reflection in turbulent atm., averaging effect of receiving aperture 1−33622
longitudinal correlation coefficient meas. of laser signals in turbulent atmosphere 1−46227
lower atmosphere, thermal struct., effect of radiative, turbulent and convective phenomena *(French)* 1−49365
in marine boundary layer, meas. over Bay of Bengal during summer (MONEX 79) 1−54257
measurement of marine boundary layer, tri-axial thrust anemometer design 1−44334
mesoscale cellular convection, AMTEX 75 obs. 1−17665
mesosphere, dynamical processes and structs., VHF radar obs. 1−36036
mesosphere and stratosphere, turbulence decay over Thumba, India 1−54181
methane air mixture in pollutant plume, acoustic sounder return 1−21949
Michelson stellar interferometry, design considerations, book contrib. 1−32624
microturbulence over land and sea, temporal struct. *(French)* 1−44271
microwave brightness temperature at 100-300 mb level, long period changes 1−17668
mixing coefficient profile rel. to thermosphere O and O_3 distrib. 1−22557
moist nonadiabatic thermals above condensation level, dynamics *(Russian)* 1−32491
near ground layer, stability correction functions 1−13512
negatively buoyant plume in turbulent boundary layer 1−13197
noncoherent spatially separated reception of atm. optical signals, noise immunity investigation 1−54242
nonstationary freely rising turbulent convective flows 1−32511
optical partially coherent beam waves, intensity props. 1−1492
optical polarisation analyser for solar spectra obs. eliminating atm. turbulence effects *(French)* 1−27376
optical pulsed ranging, atm. scintillation effect on meas. accuracy 1−36058
optical wave phase fluctuations rel. to atm. refr. index low-freq. fluctuations 1−37410
planetary boundary layer, model for refr. struct. parameter 1−22420
planetary boundary layer, turbulent heat flux rel. to existence of similarity 1−4559
planetary boundary layer over rural terrain, wind and turbulence struct. 1−27223
plume dispersion as function of atmos. stability, gaussian model 1−22400
Po valley, turbulent diffusion parameters 1−32508
pollutant dispersal from tall chimney, into convective boundary layer 1−17326
probe of low weight design, for boundary layer work 1−9282
quasi-geostrophic turbulence, statistical theory 1−17660
quasi-geostrophic turbulence in rotating homogeneous fluid, expts. 1−49281
radar observation of winds and turbulence, comparison of techniques 1−27299
rain in turbulent atm., mean diffr. picture washing out in receiving lens focal plane 1−22493
random image shifts during ranging in a turbulent atmosphere 1−46228
random shifts of diffraction image in turbulent atmosphere on path with reflection 1−46229
remote determination of boundary layer props., lidar method 1−17661
remote measurement with scanning laser Doppler anemometer system 1−49428
remote sensing using a fast optical method 1−44325
Rossby waves, turbulent phase shift theory 1−49327
shear flow turbulence, spectral densities of vel. and temp. derivatives 1−13507
solitary eddies, theory of baroclinic and barotropic cases 1−4563
spatial coherence meas. through turbulent atm. using computer-aided interferometer 1−46226
spatial spectra relationship to temporal spectra *(Russian)* 1−49330
speckle boiling, scanning rate influence in sequential anal. 1−15080
speckle field, two freq., variance after turbulent atm. propag. 1−41579
spherical wave structure functions for two sources at two freqs. 1−17671
stellar interferometer operation, fringe visibility under Kolmogorov turbulence *(Russian)* 1−22686
stratosphere, dynamical processes and structs., VHF radar obs. 1−36036
stratosphere, turbulent and non-turbulent motions rel. to vertical wind shears 1−22395
stratosphere, turbulent diffusion rel. to ^{14}C transport model 1−36019
stratosphere tracer transport, global diabatic circulation model 1−9214
surface layer, turbulent vel. and temp. derivatives, correlation 1−9199
surface-layer intermittency, investigation using conditional sampling 1−27219
temperature inversion layer (ground-based), dissolution by convection *(German)* 1−27235
thermal plume vortices, due to a 1000 MW fire 1−22383
tornado outbreak in USA, 3 April 1974, mesoscale weather conditions 1−17666
transport processes, appl. to lower atmosphere one-dimensional circulation and climate model 1−4561
tropopause folds, turbulent mixing of stratosphere and troposphere air 1−17662
troposphere, limitation of phase meas. of source coordinates in astronomy 1−9384
troposphere, turbulence energy dissipation rate rel. to vertical wind shears 1−22395
turbulent convection, freq. spectra of temp. fluctuations *(Russian)* 1−32492
turbulent convection, obs. of temp. field spatial struct. *(Russian)* 1−32489
two level model, CISK modes 1−32509
Vancouver, suburban energy balance estimate and turbulent flow from Bowen ratio approach 1−44260
vorticity at 500 mb, dynamical adjustment using P.D. Thompson scheme 1−54221

atmospheric wind *see wind*

atmospherics
see also atmospheric electromagnetic wave propagation; whistlers
bearing error due to coastal refraction in direction finding of atmospherics 1−27314

atmospherics continued
chorus ELF emission, generation mechanism and propag. to Agra, India 1−49458
ELF propag. constant and phase of wave impedance 1−44387
magnetosphere, naturally occurring repetitive VLF activity rel. to Pc 1 geomag. pulsations stimulation 1−17738
magnetosphere VLF atmospherics, possible evidence of van der Pol oscillations from obs. of power line radiation 1−17737
propagation study, peak freq. and bandwidth as function of azimuth 1−17721
thunderstorm detection system based on sferics, operational experience 1−44312
thunderstorm detection system based on sferics monitoring 1−44311
VLF, integrated field intensity variation, Calcutta 1−32500
VLF atmospherics, study of attenuation as function of azimuth 1−13520
VLF radiation from aurorae and meteor fireballs, generation and transduction into audible sound 1−49439
VLF seasonal variations over Calcutta rel. to rainfall 1−9193

atom-atom collisions
includes reactive collisions
AH+A→A+HA, H and H^+ transfer reaction dynamics, symm. case 1−53411
alkali+rare gas atom pairs, collision induced absorption in dipole electronic transitions 1−29160
alkali atom+He(Ne), collision-induced dipole moments calcs. 1−33544
alkali atom+inert gas, collisional excitation in quasi-one-electron systems *(German)* 1−14996
alkali metal+inert gas, interaction pot., Baylis model calcs. 1−14835
angular momentum effects 1−24228
collision strengths at high speeds 1−19169
heavy particles low energy collisions, cross section scaling effect, review 1−10831
high Rydberg atom inert gas atom collision, expt. probe for electron scatt. 1−41466
hot atom reactions, time depend. theory, Boltzmann eqn. soln. 1−48662
interacting spheres, collisionally induced long-range dipole moment 1−10865
Landau-Zener satallite shape temp. depend. 1−29093
molecular approximation 1−10807
nuclear trajectory variation effects on atomic excitation probabilities 1−14540
radiatively assisted inelastic collision, weak field impact core limit, coherence effect 1−14999
radiatively assisted inelastic collisions, coherence effects 1−14998
recombination reactions, atom and radical, book contrib. 1−12997
Rydberg atom+atom, semiquantal, impulse and multistate orbital theories 1−19168
spectral line using excitation, collisionally redistributed fluoresc., polarisation calcs. 1−45893
translational radiative transitions, potential energy curves *(Russian)* 1−33545
$A+A_n \rightleftarrows A_{n+1}$*, cluster dynamics, classical trajectory method 1−6418
Ar+pμ→p+Arμ, transfer rate direct meas. and muonic X-rays 1−10872
Ar+Xe, energy transfer kinetics, UV range 1−46092
Ar*+N, electronic energy transfer 1−1340
C_2+atoms, C_2 free radical intersystem crossing and reactions 1−1270
Ca+inert gas, collision induced dipole transitions 1−46066
Ca+Zn, energy transfer between electronically excited Zn 1−46082
Cd II+He(2^2S), Penning excitation cross sections determ. 1−41483
Cs+He(Ne), Cs $6^2P_{3/2}$ state depolarisation, D_2 line optical pumping 1−19173
Cs+He(Ne)(Ar)(Kr)(Xe), collision broadening and shift of hyperfine struct., Lennard-Jones interactomic pot. const. calc. 1−24224
Cs+inert gas, far wing profile, interaction pot. and oscillator strengths *(French)* 1−37154
Cu halide vapour lasers, Cu atom recomb. kinetics 1−51459
H, atomic, spin polarised, three-body reaction rate 1−31852
H, spin polarised, stability against recombination reactions 1−1317
H-^{4}He, magnetic resonance studies at 1K 1−1151
H+^{4}He, scattering processes at low temp. 1−1318
H+Ar, collision strengths at high speeds 1−19169
H+H, chemistimulated diffusion of Cu in Ge 1−38603
H+H, Heitler-London interaction energy, oscillator model 1−29082
H+H ionising collisions, electron exchange effect 1−29108
H+H(H^+), H(2s) form. cross-section calcs. 1−1322
H+He, charged particle prod., cross sections, reaction mechanisms 1−37302
H+He, collision strengths at high speeds 1−19169
H+He(Ne), pot. energy calcs., CI method 1−1319
H^-+He(Ne) 1−1319
H^++$He^+(Li^{2+})(Be^{3+})(C^{5+})$, electron capture collisions, continuum distorted wave approx. 1−1345
He, fast atom, electron impact and atom-atom interactions 1−1381
He, in glow discharge, quenching and excitation transfer in n=4 sublevels 1−46943
He+Cs, rate const. meas. for Penning ionisation at thermal energies 1−33552
He+H collisional pair polarisabilities, exchange perturbation theory using elec. field variant basis sets 1−46065
He+He, collision strengths at high speeds 1−19169
He+He, equilib. charge distrib. of He beams 1−46090
He+He(Ar)(Kr), He Rydberg S and manifold states deexcitation 1−1349
He+He(He^+), collision symmetry, electron spectra produced by autoionisation 1−6381
He+He(Ne)(Ar)(Kr)(Xe), Rydberg state deexcitation 1−1348
$He+Ne_2 \rightleftharpoons He+2Ne$, collision induced dissoc. and recomb., continuum problem 1−31835
He^{2+}+$He^+(Li^{2+})(Be^{3+})$, electron capture collisions, continuum distorted wave approx. 1−1345
He*+Ne, electronic energy transfer, one electron model pot. calcs. 1−1342
Hg metastable 6^3P_0 atom relaxation *(French)* 1−10677
Hg, self-broadened 1849 Å line, transition moment variation with internucl. distance *(French)* 1−51163
Hg+Hg (inert gases), spectral profile anal., collision broadening *(French)* 1−37155
Hg+Ne*(Ar*)(Kr*), quenching rate const., Penning ionisation and excitation transfer mechanism 1−51267
K+Ar, 4P-7S and 4P-5D lines, collisional broadening and shift 1−51166

atom-atom collisions continued
K+H, adiabatic pot. energy curves, coupled-channel scatt. eqns. soln., ab initio calcs. 1−37102
Kr+Xe, VUV emission, energy transfer kinetics 1−41477
Li+inert gas, Li(2p) excitation, photon scattered atom coincidence meas. 1−1343
Li+Ne, angular momentum effects 1−24228
Mg+He(Ne)(Ar), collisional excitation, emission cross sections, polarisations 1−19177
Na 3p+Na 3p, energy pooling, product signal depend. on laser power density, rate const., temp. depend. 1−19170
Na-Ar, collisional relax. and quantum beat of picosecond backward echo 1−46461
Na+Ar, collision-induced fluorescence of Na, far wing depolarisation 1−41340
Na+Ar, Na resonance line press. broadening, mol. dynamics simulation 1−1183
Na+He, broadening of NaD_2 line, collision rates and cross sections calcs. 1−41465
Na+He, differential cross sections, kinetic energy, optical pot., Penning electron spectra 1−10780
Na+He(Ne)(Ar)(Kr)(Xe), collisional broadening of $3P_{1/2}$-$3P_{3/2}$ transition meas. by trilevel-echo technique 1−14983
Na+I, ion-pair formation, differential cross section 1−29106
Na+Li(K), collisional excitation, emission cross sections, polarisations 1−19177
Na+Na, crossed-beam collisions, in reson. laser fields, Penning and assoc. ionis. 1−37304
Na+Na energy pooling vapour collisions, Na and Na_2^+ form-rate consts. 1−37307
Na+Xe, optically pumped, spin relax. and polarisation, role of Na-Xe mol. 1−24225
Na+Xe, Rydberg Na atom l-changing collisions, selective field ionisation 1−51282
Na(^{2}P)+He(^{1}S), fine struct. transitions, degeneracy averaged probabilities and differential cross sections calc. 1−37300
Na($3^2P_{3/2}$)+Hg, rainbow scatt. at hyperthermal energies 1−1309
Ni+Ni(Ge)(Rb), K-vacancy prod. probabilities from nearly symmetric collision, rot. coupling model calcs. 1−1321
Pa+Cm, heavy ion scattering, electron translation effects 1−46100
Rb*+inert gas collision, spectral broadening and shift 1−1179
Sn+inert gas atoms, collision energy transfer 1−29100
Tl+Kr(Xe), collisional 535 nm line broadening and shift 1−19174

atom-ion collisions
includes reactive collisions
see also charge exchange
actinide atoms, resonance charge transfer cross section tables 1−13943
AH+A→A+HA, H and H^+ transfer reaction dynamics, symm. case 1−53411
Al, atomic X-ray emission excited by mol. ions 1−1355
apparatus for low and intermediate energies 1−28126
asymmetric, electron capture, semiclassical impulse approx. calcs. 1−10837
atom+H^+, K-shell ionisation, electronic relativistic effects 1−24237
atom+multicharged ion, collisional ionisation, single electron excitation calcs. 1−10814
charge exchange of atoms in highly excited states on ions during accidental reson. 1−41488
charge transfer in heavy-ion collisions at relativistic velocities, electron capture 1−19181
conference on heavy ion interactions at high energies, Erice, Italy (Mar.-Apr. 1979) 1−13917
electron capture from K-shells 1−15001
electron loss to low-lying continuum states of projectile, doubly differential cross section, struct. 1−24217
fast ion-beam collisions, atomic struct. investigations, life time determ. 1−29105
$H+H^+$, photon emission *(Russian)* 1−6370
heavy charged particle impact, K- and L-shell ionis. cross sections, plane wave Born approx. calcs. 1−13942
heavy charged particle impact, K- and L-shell ionis. cross sections calc. in plane wave Born approx., computer code 1−14991
heavy ion+atom collisions, QED in strong fields positron prod., δ-rays, inner shell ionisation 1−15004
heavy ion+heavy ion, electron spin polarisation in strong mag. field 1−46076
heavy ion + atom collisions, QED of strong fields, coherent position prod. 1−14988
heavy ion + atom collisions, QED of strong fields 1−14987
heavy particles low energy collisions, cross section scaling effect, review 1−10831
heavy-ion collisions, relativistic gradient expansion of kinetic energy density 1−45870
high energy, classical trajectory impact parameter calcs. 1−51273
hydrogenic ion, electron loss to low-lying continuum states of projectile, doubly differential cross section, struct. 1−24217
hydrogenlike ion+bare ion, electron capture, second Born approx. calcs. 1−1361
inert gas+alkaline earth ion, collisional excitation in quasi-one-electron systems *(German)* 1−14996
inert gas atoms+I^-, electron detachment cross section determ. 1−33542
ion+ion, electron charge exchange cross section, incident ion charge effect 1−51288
ion+neutral elastic collision, ion-ion recomb. 1−46062
ionisation and pair-production, scaling law 1−37318
K-shell ionization by protons and alpha particles 1−46094
K-vacancy formation, coupled channel calcs., deep inelastic nuclear reactions 1−18678
K-vacancy transfer, impact parameter depend. pot. coupling, model matrix elements appl. 1−6346
lanthanide atoms, resonance charge transfer cross section tables 1−13943
light projectile+Ar target, K- and L-shell vacancy sharing 1−1351
metals, sputtered atom ionisation probability, effect of inert gas primary ion nature *(Russian)* 1−3555
mol. orbital radiation tails, X-ray spectra 1−45985
molecular approximation 1−10807
planewave Born-approximation calculations of L-shell ionization cross sections 1−19165
projectiles in solid targets, L-shell ionisation, K X-ray yield, capture cross sections 1−29091

atom-ion collisions continued
scaled proton ionization cross sections in the Born approximation 1−1350
secondary electron emission in ion-atom collisions, biological media 1−48961
short-lived quasi-atoms and molecules, supercritical field QED *(German)* 1−10114
transfer ionisation, pot. diagrams 1−14993
$Z_1+Z_2>150$ collision systems, $2p_{1/2\sigma}$ excitation probability, line width anal. 1−19047
Ag+H(D)(He) ions, inner-shell ionisation, Coulomb deflection effect 1−15000
$Ag+I^+$, impact parameter depend., K-vacancy prod. 1−6350
Al, atomic X-ray emission excited by mol. ions 1−1355
Ar+bare ion, inner shell charge transfer and vacancy prod., multielectron processes effects 1−6379
$Ar+H^+$, electron ejection differential cross section 1−10829
$Ar+H^+$, L-ZZ 1−41467
$Ar+H^+(H_2^+)(H_3^+)(D^+)$, charge exchange and electron loss cross-sections for various energies 1−29095
Ar^++Ar, charge exchange, spin change, fine struct. scatt. cross sections calcs. 1−41490
Ar^{18+}+He(Ne)(Ar) 1−29113
Ar^{2+}+He(Xe), cross section for electron capture meas. between 60 and 200 keV 1−33543
Ar^{q+}+Ar, charge changing collisions, single electron-capture cross sections determ. 1−19167
$Au+H^+(He^+)$, impact ionisation, L-subshell alignment 1−6367
Au+H(D)(He) ions, inner-shell ionisation, Coulomb deflection effect 1−15000
Ba^++Ba, resonant charge transfer cross sections calc. 1−24223
$Ba^++Ba^+\rightarrow Ba+Ba^{2+}$, electron transfer cross sections 1−1363
$^{209}Bi+^{209}Bi$, 1 GeV, MO X-ray ang. distribs., Doppler shift and anisotropy 1−6354
C+Cl ion, projectile double-K-vacancy fraction with target thickness, X-ray spectra 1−14997
$C+H^+$, inner shell capture and ionisation 1−46098
$C^{4+}+He\rightarrow C^{2+}+He^{2+}$, two electron capture, asymptotic Landau-Herring method 1−1346
CO_2^{2+}, reaction with atoms, rate consts., selected ion flow tube method 1−43651
$CO_2+H^+(He^+)(O^+)$, dissociative ionisation reaction, time-energy spectra 1−12981
^{12}C, resonant nuclear scatt., inner-shell ionisation influence 1−29107
$Cs+He^+$, single electron capture cross sections for He^+ ions 1−33553
$Cs^++Fe(Mo)(Al)(Ti)(Ta)(C)$, charge transfer cross sections 1−37323
Fe^{4+}+thin gas targets, single and multiple electron loss cross section 1−46104
Fe^{7+}+He, one electron ion 2s-2p excitation cross section, plane wave Born approx. 1−15003
Ge, atomic X-ray emission excited by mol. ions 1−1355
$H+Ar^{18+}$, electron capture, classical model 1−6375
$H+C^{3+}(N_2^+)$, charge transfer at thermal energies 1−51286
$H+C^{5+}(N^{5+})(O^{6+})$, electron capture and ionisation cross-sections calcs. 1−46108
$H+C^{6+}$ Coulomb excitation, 1S 2S transition 1−24238
H+fast stripped ion, ionisation, CTC peak asymmetry 1−46107
$H+H^-$ collisions, inelastic cross sections, wavefunctions perturbation techniques 1−19163
$H+H^+$, collisions at high energies, charge exchange, electron capture theories 1−46071
$H+H^+$, ground state excitation, Glauber cross-section calcs. 1−46134
$H+H^+$, H(2s) form. cross-section calcs. 1−1322
$H+H^+$, perturbation theory, coulombic and exchange energy, Pade approximants 1−14980
$H+He^+$, direct excitation collision cross section 1−1352
$H+He^+$, doubly differential cross sections for electron ejection in plane-wave Born approx. 1−33540
$H+He^+$, electron loss to low-lying continuum states of projectile, doubly differential cross section, struct. 1−24217
$H+He^+$, excitation cross sections calc., Vainshtein-Presnyakov-Sobel'man approximation appl. 1−24219
$H+He^+$, H excitation, angular differential and total cross sections 1−46103
$H+He^{2+}(H^+)$, electron capture, Eikonal theory 1−46097
H+highly stripped ions, electron capture, classical model 1−6375
H^-+atom, fast H^0 atom prod. by stopping collision 1−1358
H^-+He collisions, zero range pot. approx., bound state continuum transitions, ab initio calcs. 1−19015
H^-+Kr, collisional electron loss, electron energy spectra 1−46105
H^-+Na(K)(Rb)(Cs), low energy electron loss reaction cross section 1−6175
H^++Ar(Kr), K-shell ionisation *(Portuguese)* 1−24234
H^++C(Ne), K-ZZ 1−41467
H^++H, charge transfer collisions 1−15002
H^++H, electron capture, H arbitrary excited state prod. 1−1344
H^++H^-, neutralisation reaction, asymmetry effect 1−46112
H^++H(He), atomic excitation and polarisation at medium and high energy 1−10830
H^++He, charge transfer collisions, laser enhanced Lyman-α prod. 1−29112
$H^++He^+(Li^{2+})(Be^{3+})(C^{5+})$, electron capture collisions, continuum distorted wave approx. 1−1345
H^++He(Ar)(Kr), proton impact double-ionisation cross sections determ. 1−41468
H^++He(Ne)(Ar), H(2s) form., absolute cross-sections determ. 1−6378
H^++O isoelectronic series ions, collisional excitation calcs. 1−14979
H^++S isoelectronic series ions, collisional excitation calcs. 1−14979
H_2^++Ar→HAr^++H, H^+ transfer exothermic reaction, reagent vibr. and translation 1−48665
$H_3^++He^+\rightarrow H_2+He$, 0.8 MeV/N, electron spectra 1−10818
He I, excitation by heavy ion impact, relative populations of Zeeman sublevels, depolarisation of transition obs. *(French)* 1−51280
$He+H^+(H_2)(H_3^+)(D^+)$, charge exchange and electron loss cross-sections for various energies 1−29095
$He+He^+$ collision symmetry, electron spectra produced by autoionisation 1−6381
$He+He^{2+}$, scintillation kinetics 1−14843
He+ion, charge transfer recomb., Landau-Zener calcs., appl. to astrophysics 1−22671
$He+Li^+$, radiative collision processes studied in projectile energy range 0.45 to 4.2 keV, polarisation meas. 1−33541
$He+Ne^{2+}$ charge transfer rate from obs. of planetary nebula emission spectra 1−6371
$He+Ne^{4+}$, absolute emission cross sections determ. 1−46070
$He+O^{2+}$, ground and metastable state reactions, charge exchange, rate consts., mass spectra 1−39634
$He+O^{2+}\rightarrow O^++He^+$, rate coeff. anal. appl. to ionosphere 1−37324
He^-+He(Ne)(Ar)(NO), He^- detachment, cross sections meas. 1−41475
He^++He, energy and angular distribution of electrons 1−41484
He^++He(He-Ne), four-body conversion into mol. ions, rate consts. 1−39629
He^++Kr, collisional electron loss, electron energy spectra 1−46105
$He^{2+}+He^+(Li^{2+})(Be^{3+})$, electron capture collisions, continuum distorted wave approx. 1−1345
$He^{2+}+He\rightarrow He+He^{2+}$, two electron capture, asymptotic Landau-Herring method 1−1346
He^{2+}+Li, $He^+(n=3)$ selective formation, visible and X-ray spectra 1−46096
He^{2+}+Li, selective form. of He^+, excited states, superradiance at Lyman wavelengths 1−41476
$Hg+He^+(Ne^+)(N^+)(N_2^+)(N_3^+)(N_4^+)$, thermal energy reactions, charge transfer 1−39604
$Hg^++Fe(Mo)(Al)(Ti)(Ta)(C)$, charge transfer cross sections 1−37323
$HgBr+He^+(Ne^+)(N^+)(N_2^+)(N_3^+)(N_4^+)$, thermal energy reactions, charge transfer 1−39604
K+He^+, single electron capture cross sections for He^+ ions 1−33553
$K^++2Kr\rightarrow Kr_2^++Kr$ reaction, Kr_2^+ formation in decaying plasma 1−53410
K^++Ar, clustering reactions, mobilities and longit. diffusion coeff. 1−12989
$Kr+H^+(H_2^+)(H_3^+)(D^+)$, charge exchange and electron loss cross-sections for various energies 1−29095
Kr^++Kr, symmetric, electronic excitation 1−6366
Kr^{n+}+Kr, continuous electron spectra prod., mol. autoionisation, MO determ. 1−41469
Kr^{n+}+Kr, continuous electron spectra, direct coupling with continuum 1−41470
Mg, K_{alpha} X-ray multiplet struct. obs. by atom+ion collisions 1−51155
$Mg+H^+(He^+)(O^{2+})(Ne^{2+})(S^{4+})$, Mg K_{alpha} X-ray multiplet struct. 1−51155
$Mg^++He(Ar)$, angular momentum effects 1−24228
Mg^++Ne, electron autoionisation, cross sections, spectra 1−41464
$^{24}Mg^++Mg$, quasi-molecular K radiation, linear polarisation measurements, X-ray diffraction obs. 1−24215
Mo+Nb ions, impact parameter depend. of $2p\sigma$ and $1s\sigma$ MO X-rays 1−19171
$N+Ar^{2+}(N^{2+})$, single and double charge transfer 1−14992
N^++CO reaction, product translational energy distrib. 1−31843
N^++inert gas atoms, near-resonant charge transfer processes, metastable states 1−6349
N_2+heavy ion, few-electron states prod. by selective electron capture 1−51285
$Na+H^+$, collisions, photoexcited states, electron transfer, ion beam studies 1−37305
Na+inert gas, D line broadening, width, shift and asymmetry meas. 1−6206
Ne ions+$He(H_2)(Xe)$, autoionising states formed by electron capture, energy spectra, excited states lifetime 1−24218
$Ne+H^+(H_2^+)(H_3^+)(D^+)$, charge exchange and electron loss cross-sections for various energies 1−29095
$Ne+H^+(He^{2+})(Li^{3+})$, inner shell capture and ionisation 1−46098
$Ne+He^+$, single electron capture cross sections for He^+ ions 1−33553
Ne+heavy ion, few-electron states prod. by selective electron capture 1−51285
$Ne+I^-$, electron detachment cross section determ. 1−33542
$Ne+N^+$, direct and exchange processes, relative population of metastable states 1−10813
$Ne+Na^+$ collisions, metastable atomic states, excitation funct. 1−41485
$Ne+Ne^+(Ne^{2+})$ collisions, Ne K-shell fluoresc. yield 1−1354
Ne+O, K-vacancy transfer, impact parameter depend. pot. coupling, model matrix elements appl. 1−6346
Ne^{n+}+Ne, continuous electron spectra, direct coupling with continuum 1−41470
Ni+H(D)(He) ions, inner-shell ionisation, Coulomb deflection effect 1−15000
O^++inert gas atoms, near-resonant charge transfer processes, metastable states 1−6349
O^{2+}+He, ground and metastable state reactions, rate constants, mass spectra 1−39610
$^{31}P^{9+}$+Si, quasi-molecular K radiation, linear polarisation measurements, X-ray diffraction obs. 1−24215
Pb+H^+, X-ray intensity ratios, energy depend. 1−1323
$^{208}Pb+^{208}Pb$, 1 GeV, MO X-ray ang. distribs., Doppler shift and anisotropy 1−6354
Pd+H(D)(He) ions, inner-shell ionisation, Coulomb deflection effect 1−15000
Rb+He^+, single electron capture cross sections for He^+ ions 1−33553
$S^{n+}+Ar$ ($5\leq n\leq 13$), K-shell excitation probabilities, rot. coupling 1−24214
S^{n+}+Kr(Xe), high projectile energy collisions, charge state, inner shell effect 1−46069
SF_6+heavy ion, few-electron states prod. by selective electron capture 1−51285
Si, atomic X-ray emission excited by mol. ions 1−1355
Si^{12+}+He, one electron ion 2s-2p excitation cross section, plane wave Born approx. 1−15003
$UF_6^-+Ar(Xe)$, electrostatic energy anal. 1−41463
$Xe^{q+}+Fe(Mo)(Al)(Ti)(Ta)(C)$, charge transfer cross sections 1−37323
$Yb+^4He^+(C^{n+})$, X-ray intensity ratios, energy depend. 1−1323

atom-molecule collisions
see also atom-molecule reactions; molecular rotational-vibrational energy transfer
Δm transition in sudden collisions, differential cross-sections, IOS calcs. 1−1307
atom+diatom, rot. inelastic collisions, two-dimensional model; deflection functions and forbidden transitions props. 1−19172
atom+diatom, rot. inelastic differential cross-sections, inversion method calcs. 1−33548
atom+diatom collisions, few-body processes 1−51271

atom-molecule collisions continued
atom+diatom exchange collisions, electronically adiabatic pot. energy surface 1−51270
atom+harmonic oscillator system, continuous quantisation procedure 1−29083
atom+molecule rotational excitation, exponential approx. 1−41480
atom+rigid rotor scatt., virial theorem for inelastic molecular collisions 1−10809
atom+triatomic mol. collision, Fermi reson. effects 1−1308
carbon tetrachloride-Ar, Rydberg state, ion pair formation, cross sections 1−19164
convergence, interfacing state effect 1−1305
diatomic target molecule, rot. excited, three dimensional quantum mechanical reactive scatt. 1−24209
differential scattering of state-selected molecules in distorted wave and sudden approximation 1−29081
F 1−10806
gas phase collision dynamics, Langevin eqns., reference trajectory approach 1−6363
inelastic cross sections calc. programme using exponential distorted waves 1−1310
inert gas atom+H_2, distorted wave and close coupling calc. of cross sections above rot. transitions 1−10804
inert gas atoms+CO_2(OCS) collinear collisions, vibr. transition probabilities, quantum mechanical calcs. 1−51279
inert gas atoms+Li_2, rot. transitions, correspondence principle model, pot. surface 1−6347
infinite order sudden approx., wave vector modification 1−10808
inversion methods for atom+molecule and symmetric exchange scatt. 1−41452
methylene kinetics, direct meas. of removal rates of $\tilde{a}^1A_1$, $\tilde{b}^1B_1$ CH_2 and CD_2 1−51264
muon catalysis, isotope substituted molecule rotational relaxation, excited complexes *(Russian)* 1−10828
nitriles+He(Iα) collisions, ionic and neutral optical emission 1−19178
quasimolecules, electronically excited, interatomic interaction 1−24308
rotational excitation, orbital angular momentum, infinite order sudden approximation 1−14981
rotational rainbow structure, potential well effect 1−24229
Rydberg atom+molecule, semiquantal, impulse and multistate orbital theories 1−19168
thermal unimolecular reactions, rate constants, incubation times, collision model, mixture rules 1−21697
trichlorofluoromethane+Ar, Rydberg state, ion pair formation, cross sections 1−19164
Ar+H_2, distorted wave and close coupling calc. of cross sections above rot. transitions 1−10804
Ar+H_2, H_2^+ fragment pre-equilib. distrib. and dissoc. 1−6369
Ar+methane, interaction cross section 1−46064
Ar+methane, methane vibr.-translational relax. time from spectrophone sensitivity press. depend. 1−46093
Br*+H_2, reactive pathways and inelastic energy transfer channels, laser investig. 1−33538
C_2+molecules, C_2 free radical intersystem crossing and reactions 1−1270
CO+H in interstellar clouds, collisional pumping of mol. vibr. states rel. to CO IR bands emission 1−27573
CO+Xe(Kr)(Ar), electron cond., drift velocity, cross sections, Boltzmann eqn. calcs. 1−38046
CO_2+Ar(Xe), low temp. fluoresc. studies, vibr. deactivation, rate comb. determ. 1−10705
CO_2+atom, collisional deactivation rate consts., temp. depend. 1−10822
CO_2+He(Ne) molecule+metastable atom collisions, Penning ionis. and ejected electron energy spectrum *(French)* 1−37316
CO_2+Kr(He), collinear collisions, strong coupling correspondence principle 1−51278
$^{12}C^{16}O$+N_2(Ar), line strength and collisional widths, tunable IR diode laser meas. 1−10785
Cd+acetylene (ethylene)(propene)(cis-2-butene), absolute cross sections for quenching 1−19049
Co+Ne*(He*), Penning ionisation study of CO *(French)* 1−41481
Cs+H_2(N_2), collision broadening and shift of hyperfine struct., Lennard-Jones interactomic pot. const. calc. 1−24224
Cs+O_2, nonadiabatic collisions, eqn. for pot. surfaces, cross-section for ion-pair form. determ. 1−24212
CsF+inert gas atoms rotational excitation, exponential approx. 1−41480
D_2+Ne, rot. excitation, anisotropic interaction pot., state-to-state differential cross section 1−33551
F+H_2, state-to-state reactive scatt. process, ang. distrib., DWBA study 1−35509
H+H_2, charged particle prod., cross sections, reaction mechanisms 1−37302
H+H_2, pot. energy surface, isotropic and leading anisotropic terms, SCF and SCF-CI calc. 1−28898
H+methane(methane-d_4), abstraction and exchange reactions, transition states and rate const., POL-CI calc. 1−24045
H+N_2(O_2), Hα and Hβ emission cross sections, appl. to H aurora 1−37146
H+O_2(NO), spin-exchange cross-section, stored at beam spectrosc. meas., maser appls. 1−24235
H_2, collision induced vibr. transitions, breathing sphere model 1−33546
H_2+Ar, H_2 continuum excitation 1−37319
HF-Ar, shape and parameters of HF spectral line J=0-1 1−24193
HF+CO_2, HF J=0-1 rotational line shape and param. *(French)* 1−51245
HF+He, HF vibr. relax., coupled quantum treatment 1−46081
HF+Ne(Ar), HF band IR spectral line collisional narrowing 1−1283
He+CO, free jet expansion, state resolved rot. relax. of CO 1−51266
He+CO, rotational excitation, pot. energy surfaces, CI calcs. 1−1329
He+CO(HCl), CS and IOS degeneracy averaged differential cross sections, wave param. effect 1−6364
He+H_2, collisions, statistical quasiclassical approach 1−1312
He+HBr(HCl), isotropic interaction pots., differential scatt. cross-sections 1−6342
He+HF(TF), collisional energy transfer, laser induced, coupled channel calcs. 1−37306
He+He_2, metastable states, collisional de-excitation rate coeffs., quenching and fluoresc. 1−39632
He+molecular gases, equilib. charge distrib. of He beams 1−46090
He+N_2, He Rydberg S and manifold states deexcitation 1−1349
He+N_2, radiative collisions, cross sections, gain prediction, Penning and auto-ionisation 1−41487
atom-molecule collisions continued
He+N_2(CO)(methane), resolved rot. transitions, mol. beam time-of-flight meas. 1−1333
He+Na_2, Δm transition in sudden collisions, differential cross-sections, IOS calcs. 1−1307
He+Na_2, rot. inelastic differential cross-sections, inversion method calcs. 1−33548
He+OCS(CO_2), collision, Fermi reson. effects 1−1308
He_2+He, in high press. afterglow, mol. $d^3\Sigma_u^+$ state decay rate 1−29089
He(2^3S)+N_2, nonBoltzmann vibr. level populations determ. using Penning ionisation technique 1−41482
I_2+Ar*(K), ion pair formation 1−10832
$I(^2P_{1/2})$+H_2, electronic-vibr. energy transfer, optoacoustic meas. 1−10823
K+alkyl halide (HI), collisions, scatt. cross sections, electron harpoon method 1−41471
K+K_2, interaction pot. surfaces calc., scatt. transport coeff. determ. 1−14973
K+O_2 collision, hyperthermal mol. beam scatt., product angular, energy and branching ratio anal. 1−46089
K+O_2 collisions, vibronic excitation, time of flight spectra 1−14995
Kr+CsI(CsBr)(RbI)(KI), collision induced dissoc., mass and orientation effects, 3-D classical trajectory calcs. 1−29087
Kr+Xe_2, VUV emission, energy transfer kinetics 1−41477
Kr($^3P_{2,0}$)+Br_2→KrBr(B)+Br, rotational alignment in inelastic and reactive scatt., crossed-beam study 1−6356
Kr($^3P_{2,0}$)+Br_2→Kr($^1S_0$)+Br_2, rotational alignment in inelastic and reactive scatt., crossed-beam study 1−6356
Li+Li_2, interaction pot. surfaces calc., scatt. transport coeff. determ. 1−14973
Li(2p)+H_2(N_2), excitation cross sections, polarisation anal., mag. sublevel population of 2p state 1−6348
Mg(^3P_J)+H_2 collisional quenching, physical-chemical exit channel control 1−6361
Mu+O_2 (NO) collisions, muonium spin-exchange 1−6410
N_2+Ar, electron cond., drift velocity, cross sections, Boltzmann eqn. calcs. 1−38046
NH_3+He collisions, energy transfer 1−6360
NO+Xe(Kr)(Ar) collisions, interaction pot. and collision cross section 1−19160
N(^4S)+O_2($^3\Sigma_g^-$), polyatomic surfaces calc., minimum energy paths for reaction determ. 1−17028
Na + CH_4(C_3H_8), Na nd states, collisional angular momentum mixing 1−1353
Na-Na_2, interaction pot. surfaces calc., scatt. transport coeff. determ. 1−14973
Na+CCl_4, chemiluminescent spectra, vibr. population inversion and relax. kinetics 1−8571
Na+N_2, pot. curves calc. using modified HF method, quenching and excitation, vibr. levels 1−28899
Na+N_2 radiative collisions 1−37308
Na+N_2 vibr. nonequilib., excitation mechanism 1−41479
Na+N_2(CO), collisional broadening of forbidden ground-to-Rydberg state transitions meas. by trilevel echoes 1−14982
Na+Na_2, relax. in nozzle expansion, internal energy distrib. 1−51277
Na_2+Ne(Ar), rot. excitation, cross sections, rot. rainbow resolution 1−41461
Na_2*+Xe, rot. energy transfer, rate consts., velocity depend., Doppler shift 1−37313
Ne+HD, CS and IOS degeneracy averaged differential cross sections, wave param. effect 1−6364
Ne+HD, rot. excitation, differential cross sections determ., anisotropic interactions 1−10811
O+CS, perturbation-enhanced quenching 1−6340
O+pentafluoroiodoethane, reactive scatt., cross correlation time-of-flight anal., pot. energy surfaces 1−1337
O+propyl iodide, reactive scatt., product. translational energy distrib. 1−48674
O+tetrafluoroethylene, reactive scatt., vel. distrib. of F_2CO product determ. by cross correlation time of flight anal. 1−1338
O_2+K(Cs), collisions, positive ion formation and neutral scatt., mol. vibr. effects 1−14994
OCS+inert gas, collisional relax. of vibr. excited OCS 1−10826
O(^3P)+H_2(v≤2,j,m), vibr. adiabatic distorted wave studied using LEPS and fitted ab initio pot. energy surface 1−21719
Sn+diatomic molecules collision energy transfer 1−29100
Xe+Br_2(D'), vibrationally thermalised emission, temp. depend., ab initio pot. curves. two-photon optical pumping 1−6344
Xe+CsI(CsBr)(RbI)(KI), collision induced dissoc., mass and orientation effects, 3-D classical trajectory calcs. 1−29087
Xe+Kr_2, VUV emission, energy transfer kinetics 1−41477
Xe^2+N_2, collision, N_2($B^3\Pi_g$) form. 1−1326
Xe($^3P_{2,0}$)+BrCN→Xe($^1S_0$)+Br+CN($B^2\Sigma^+$), chemiluminescent reaction, crossed molecular beam study 1−6296

atom-molecule reactions
see also atom-molecule collisions
anthracene+Ar, van der Waals complex formation, IR spectral shift and lifetimes in supersonic jet 1−31837
bimolecular reactions with metastable intermediates, statistical models for product energy distributions 1−12975
halogen molecules+Sc(Y) reactions, chemiluminesc. origin 1−26720
halogen molecules+Sc(Y) reactions, monohalides laser induced fluoresc. 1−26721
methanol+O, reaction rate, isotope effects, time of flight obs. 1−41521
methyl+H reaction, high press. rate const. 1−31842
muonium+hemin (protoporphyrin) reaction mechanism, rate const. determ. 1−15038
reaction, H(H_2) elimination, crossed mol. beam study 1−35524
reactive surfaces, analytical theories of multiple trapped periodic trajectories 1−26717
recombination reactions, atom and radical, book contrib. 1−12997
Ar+H_2, ArH* luminesc. excitation kinetics of Ar-H mixtures, X-ray irrad. 1−6922
Ar+methane, interaction cross section 1−46064
Ar^++molecule, reaction, thermal rate consts. meas. 1−8550
Be+H_2O, ab initio molecular orbital calcs. 1−8540
Br+HO_2(H_2O_2), reaction kinetics and constants, stratospheric composition 1−39593
Br_2+He(Xe), dissociation and exchange reactions 1−35517
C+NO→CN+O, rot. excitation, velocity-selected mol. beam study 1−43652

atom-molecule reactions continued
CO production from reaction of $O(^3P)$ and propargyl chloride and bromide, vibr. and conc. meas. 1−12976
Ca+SF_6, reactions, chemiluminesc. spectra 1−53420
Cl+bromoethylene, statistical models for product energy distributions 1−12975
Cl+H_2 reaction, kinetic isotope effects for D and T substitution 1−48659
Cl+HOCl→AHCl+ClO, reaction rate const., 243-365K, stratospheric importance 1−44245
Cs+nonmetal fluorides reactive collisions, electronic excitation and energy distrib. 1−21706
D+H_2→HD+H, reactive scatt., cross-sections and rate consts., 3-dimens. calcs. 1−35522
D+NO_2, production of OD, mol. beam reaction 1−37243
D_2+Ne, rot. excitation, anisotropic interaction pot., state-to-state differential cross section 1−33551
F+bromotrifluoromethane reaction rate const., temp. depend. 1−48668
F+H_2, state-to-state reactive scatt. process, ang. distrib., DWBA study 1−35509
F+H_2, variational transition state theory, vibr. adiabatic transmission coeffs. 1−6343
F+H_2→HF+H, integral cross sections, infinite order approx., quantum mechanical calcs. 1−12972
F+HCl(HBr)(HI) reaction, HF vibr. rot. distrib. and IR chemiluminesc. 1−4062
F+methanol$(-d_1)$ $(-d_3)(-d_4)$, IR chemiluminescent reactions, vibr. and rot. relax., branching ratios and kinetic isotope effects 1−26750
F+$NH_3(ND_3)$, reaction, isotope effect, IR chemiluminesc. obs. 1−8538
F+Na_2→$FNaNa^{2+}$*→NaF+Na*, chemiluminesc. obs. 1−35534
F+O_2 reaction in Ar matrix, FO_2 and O_2F_2 vibr. spectra and dissoc. 1−39615
F+$O_2(CO)(NO_2)(SO_3)(FSO_3)(NF_2)(ClO_2)(ClF)$, recombination const. calc. 1−8596
F_2+B(Al)(Ga)(In)(Tl) reactions, chemiluminesc., beam-gas study 1−48667
H^+ transfer, intermolecular forces, configs., isotope effects 1−19154
H-chloromethane, excited atom reaction 1−31830
H+$Br_2(SF_5Br)(PBr_3)(SF_5)(SF_4)$, rale const. and vibr. energy disposal 1−39609
H+ClF→HCl+F, two-channel reaction, rate consts. of production and energy distrib. of products 1−48681
H+ClF→HF+Cl, two-channel reaction, rate consts. of production and energy distrib. of products 1−48681
H+F_2, variational transition state theory, vibr. adiabatic transmission coeffs. 1−6343
H+H_2, collinear exchange reaction, evaluation of reaction probability and product distrib. 1−26716
H+H_2 reaction pot. energy surface, vibr. and rot. effect on reactivity 1−48658
H+HN_3, electronically excited NH_2 form. 1−31829
H+methane(methane-d_4), abstraction and exchange reactions, transition states and rate const., POL-CI calc. 1−24045
H+NO_2, prod. of OH, mol. beam reaction 1−37243
H+O_3→HO_2+O reaction, laser photolysis 1−48666
H_2+H, bimolecular reactions, collision theory 1−4054
HCN+O reaction, rate constant, shock wave meas. *(German)* 1−21698
H_2O and S, radiation-induced reaction 1−43688
He+aniline ($^1B_2$), mode-dependent enhanced vibr. relax., supersonic jet spectrosc. obs. 1−35521
He+Ne_2⇌He+2Ne, collision induced dissoc. and recomb., continuum problem 1−31835
He+S_2Cl_2, in afterglow, S_2^+ visible emission band system, vibr. anal. 1−14907
I+H_2→IH+I, collinear quantum mech. reaction probabilities, calcs. using hyperspherical coords. 1−39594
K+ethyl iodide→KI+ethyl radical, reaction cross-section, translational energy depend. 1−4050
Li+FH reaction, quantum mechanical collinear model 1−48669
Li+HF(HCl) reaction dynamics study by crossed mol. beams 1−8557
Mg(^3P_J)+H_2 collisional quenching, physical-chemical exit channel control 1−6361
N+$TiCl_4$ reaction, TiN prod., matrix isolation Fourier transform IR spectra 1−51193
N_2+He(s^3S), nonBoltzmann vibr. level populations determ. using Penning ionisation technique 1−41482
$N^2D(^2P)$+O_2 reaction rate const. meas. 1−26725
NO_2+Zn(Cd)(Mg) matrix reaction, $Zn^+NO_2^-$, $Cd^+NO_2^-$ and $Mg^+NO_2^-$ IR spectra 1−1220
N(^4S)+alkanes(alkynes) reactivity study 1−17032
N(^4S)+$O_2(^3\Sigma_g^-)$, polyatomic surfaces calc., minimum energy paths for reaction determ. 1−17028
Na+CO, CO vibr. energ. distrib. and quenching dynamics 1−1331
Na+H_2, NaH cryst. particle laser prod. 1−8556
O+CS_2→SO+CS reaction dynamics, mass scaled cluster coords. 1−35510
O+H_2 reaction, OH($X^2\Pi_i$) prod. internal energy distrib. 1−4063
O+O_3, yielding $O_2(^1\Sigma)$ 1−6228
O+pentafluoroiodoethane, reactive scatt., cross correlation time-of-flight anal., pot. energy surfaces 1−1337
O+propyl iodide, reactive scatt., product. translational energy distrib. 1−48674
O+tetrafluoroethylene, reactive scatt., vel. distrib. of F_2CO product determ. by cross correlation time of flight anal. 1−1338
O(^1D)+$N_2(N_2O)(H_2)(H_2O)(CO_2)(O_3)$, interaction kinetics and rate coeff. 1−31858
O($^1D_2$)+HCl, product state distrib. determ., laser photolysis and laser induced fluoresc., rot., vibr. 1−39588
O($^1D_2$)+NH_3, product branching ratios and internal energy distrib., enthalpies, fluoresc. spectra, chemiluminescence 1−39607
O(^3P)+H_2(v≤2,j,m), vibr. adiabatic distorted wave studied using LEPS and fitted ab initio pot. energy surface 1−21719
O(^3P)+methyl radical, reaction rate const. meas. using photoionisation mass spectrometer 1−4058
O(^3P)+propargyl chloride (propargyl bromide), CO production, vibr. energy and conc. meas. 1−12976
PCl_3+H(O)(OH), EPR and mass spectrometry, rate const. determ., reaction mechanism anal. *(French)* 1−53415
SF_4+Na reactions, chemiluminesc. spectra 1−31834
SF_6+Li(Na)(K) reactions, chemiluminesc. spectra 1−31834
Sr+SF_6, reactions, chemiluminesc. spectra 1−53420
U+O_2→UO_2^++e, associative ionisation 1−35518

atom-molecule reactions continued
UF_5+F→UF_6, RRKM calcs., decomposition rate const. 1−35516
Yb+halomethane, laser fluoresc. study, UV and visible spectra, vibr. state distribs. 1−12987

atom probe field ion microscopy
conference, Albuquerque, NM, USA (July 1978) 1−17935
Ni base superalloys, APK1, In 100, In 972, rapidily solidified structs., comparison with Nimonic 80A 1−21436
Ni-Cu, surface segregation, atom-probe field-ion microscope study 1−42611
Si whiskers, time-of-flight atom probe anal. 1−53059
W:D, ion implanted, D ion trapping at grain boundaries, atom probe FIM study 1−15913

atom-surface impact
see also sputtering
biphenyl, mol. reorientation on evap. films surface, Penning ionis. electron spectrosc. obs. 1−2354
classical scattering by arbitrary contour free-atom lattice *(Russian)* 1−53043
dispersion relations of surface phonons from atomic scattering 1−47358
elastic scattering in presence of laser radiation, effect on diffr. patterns 1−1304
ethane(ethylene) surface, Fe vapour impact reactions, Mossbauer effect 1−31904
fast ion-beam collisions, atomic struct. investigations, life time determ. 1−29105
gas-solid interactions, isopotential surfaces and corrugated wall model 1−3559
gas-surface diffraction experiments, interaction of gas atoms with single crystal surfaces, review 1−31264
gas-surface interactions, hard spheroid model, energy and momentum transfer 1−16639
graphite, diffraction of He beam, isopotential surfaces and corrugated wall model 1−3559
graphite basal plane, He inelastic scatt., reson. lineshapes, physisorption features 1−39204
Inconel, C(O)(S) impurities, H discharge cleaning 1−26342
inversion problem, approx. soln. 1−3554
Kirchhoff approximation and closed-form expressions for atom-surface scattering 1−35139
light atoms, backscatt. from solid surface, energy spectra and charge states 1−26328
metal, interaction of metastable He beam, effect of beam purity 1−39207
metal surface, metastable He atom impact, electron emission, deexcitation mechanisms 1−21315
metal surface, unimolecular processes, electron-hole pair excitations, X-ray edge effects 1−8179
metals, collisions of atomic particles, one-electron processes, accurate asymptotical treatment 1−41499
one-dimensional stationary sinusoidal hard well, elastic atom scatt., CCGM theory appl. 1−48215
scattering by adsorbed layer, adatom on lattice *(Russian)* 1−53042
stainless steel surface, D impurity, surface recomb. rates and D_2 emission 1−25504
stainless steel surface cleaning of impurities by H RF glow discharges 1−23851
surface topography, book contrib. 1−47348
Van der Waals interaction between an atom and a solid 1−8183
vapours, fluoresc. spectra near glass surface, Doppler struct. due to light induced polarisation 1−6195
Ag surface, (111), rare earth atom lobular scatt. 1−21311
C thin foil, atomic impact, quasimol. formation inner shell charge transfer cross sections 1−16643
Cu (100), low energy Ar atom and ion scatt., ion fraction, ionisation, and neutralisation 1−12620
Cu (100), low energy Ne atom and ion scatt., ionisation and neutralisation 1−12619
Cu (110), adsorbed ordered O layer, He beam diffr. study 1−38652
Cu surface, keV neutral impact, secondary electron yield rel. to incident angle and energy 1−16641
H hyperthermal, trapping on pyrolytic graphite 1−25555
LiF (001), inelastic scatt. of He, time-of-flight spectra anal. 1−53037
LiF(001), Rayleigh surface phonon dispersion relation, He atom scatt. meas. 1−47354
LiF(001) surface, scatt. of the long-lived states in elastic collision, reciprocal lattice vector poles calcs. 1−31257
N^++Mo surface, reactions kinetic energy depend. 1−35501
NaCl (001), high-resolution H atom scatt. 1−16646
NaF (001), scattering of He, surface phonon dispersion relations 1−47358
Pt (100) surface, silicide precipitate form., He diffr. and LEED study 1−16050
Si surface, F interaction prod. from SF_6 multiphoton dissoc. 1−48730
Ti-based coatings for TFTR, D trapping and release 1−25556
W (110), angle resolved scatt. and electron ejection by incident metastable He atoms 1−53039
W (110), interaction of metastable He atom beam 1−39206

atomic absorption spectroscopy
alkali, monocyanides, atomisation energies, at. absorpt. spectrometric determ. 1−353
atomic absorpt. spectrometer, with plasma-torch attachment *(French)* 1−5403
atomisation processes, atomic absorpt. spectrometry, titration method 1−53427
background emission correction system for at. absorpt. spectrosc. 1−50219
geological materials, Sn content determination 1−53502
halide matrices, chemical effects of atomic absorption analysis in air 1−8631
interference reduction using autosampler, furnace atomization methods 1−13050
laser and electrical discharges, simultaneous use in atomic absorpt. anal. 1−53515
laser impulse fluorometer operation and applications *(German)* 1−31930
miniature high temp. diffusion flames for anal. at. spectrosc. 1−43718
nonselective light attenuation in at. absorpt. and at. fluoresc. anal., review 1−4136
picosecond, visual pigment study 1−53498
pneumatic concentric nebuliser for at. absorpt. spectrosc., aerosol characterisation 1−50218

atomic absorption spectroscopy continued
pneumatic concentric nebuliser for at. absorpt. spectrosc. 1−50217
powdered samples in UHF discharge, atomisation, absorpt. signals of duration meas. 1−349
rare earth monocyanides, dissoc. energy atomic absorpt. spectroscopy 1−4074
refractory boat nonflame atomiser, use in anal. of metallic samples 1−50230
sample preparation techniques 1−13047
spectral overlaps, mathematical model and its use for line shape parameters 1−53518
spectrophotometer, with digital integrator in recording circuit 1−17128
sputter atomisation interferences 1−17117
steel, Y determ. 1−21805
surfactants, enhancing and suppressing effects in at. absorpt. flame spectrometry 1−53491
toluene-NO flame, props. and appl. in atomic absorpt. spectroscopy 1−4089
trace elements, determ. in seawater 1−21797
transition metal extraction from solvent, synergistic effect *(Japanese)* 1−17139
Zeeman atomic absorption spectroscopy, a.c. modulated magnet appl. 1−10026
Ag atoms trapped in various matrices, optical absorpt., emission and ESR props. 1−41531
As, determ. in potable, fresh and estuarine waters by flameless at. absorpt. 1−31923
Au micron-sized particles in UHF discharge, atomisation, absorpt. signals of duration meas. 1−349
Ba high-freq. discharge lamp, as spectral line source *(Japanese)* 1−10022
Cd, determ. in seawater, by graphite furnace AAS, using organic matrix modifiers 1−21796
Fe, determ. in seawater by graphite furnace AAS 1−21800
H atoms in aqueous solution of hydrostatic acid, absorption spectra and photochemistry 1−1156
Li atoms in rare gas matrices, absorpt. and emission spectra, fluoresc. 1−6192
$LiNbO_3$:Si, Fe, dopant conc. anal. by atomic absorption spectroscopy 1−20251
Mg atomic absorption analysis, automatic sample preparation and data handling 1−27941
Mn, determ. in seawater by graphite furnace AAS 1−21800
Ni electrolytic solution, Co, Cu, Fe, Pb and Zn determ. using flame-atomic absorpt. photometry *(Chinese)* 1−48767
O detection at 630.03, 636.38 nm by intracavity dye-laser spectroscopy 1−53516
ScCN, dissoc. energy atomic absorpt. spectroscopy 1−4074
Y determination in steel 1−21805
YCN, dissoc. energy atomic absorpt. spectroscopy 1−4074
Zn, determ. in seawater by graphite furnace AAS 1−21800

atomic beam electric resonance
No entries

atomic beam magnetic resonance
^{A}Au, A=185, 187, 188, hyperfine structure measurements 1−5692
^{181}Ta low lying atomic levels, hyperfine and Zeeman studies, atomic beam mag. resonance 1−24102

atomic beams
see also atom-molecule reactions; atom-surface impact; atomic beam electric resonance; atomic beam magnetic resonance; particle velocity analysis; plasma-beam interactions
coherent atomic deflection by resonant standing waves 1−51169
interaction with laser radiation, kinetic eqn. *(Russian)* 1−33431
motion in field of reson. standing EM wave 1−1411
optical resonances detection by fluoresc. obs. from optically pumped fast atomic beam *(French)* 1−24288
Ca atom and gasdynamic beams, metastable atoms, vel. distrib. and state density, laser diagnostics 1−6407
H metastable beam, spin transitions in time-depend. mag. fields 1−46171
He+molecular gases, equilib. charge distrib. of He beams 1−46090
Na beam, efficient transverse deflection by reson. radiation press. 1−46170

atomic clocks
see also frequency measurement; time measurement
International Atomic Time Scale, review of problems in generation, quality and availability 1−36605
primary Cs clocks, 1 m interaction length, design and performance 1−36608
relativity and clocks 1−14052
Cs beam, laser optically pumped, preliminary operation *(French)* 1−5287
Cs beam frequency standards, new design for dipole-beam optics system 1−36610
Cs beam time standard, uncertainty due to beam asymmetry 1−36609
Cs clock, standard time and freq. in USSR, meas. system 1−44889
Cs frequency standard development 1−23191
H maser, wall shift, Teflon cylinder replacement for storage bulb *(Rumanian)* 1−51437
^{87}Rb atomic freq. standard light shift reduction *(Chinese)* 1−50107

atomic clusters
$A_n \rightarrow A_{n-1}+A$, cluster dynamics, classical trajectory study 1−46186
compound states in atoms, molecules, and clusters 1−37110
diamond (100) surface reconstruction, dimer bond form., cluster calc. 1−52408
diamond (111) surface reconstruction modelled by small clusters, MINDO/3 calc. 1−52405
diatomic metals and metallic clusters, stability, bond and dissoc. energy 1−46153
graphite intercalation compound with O, cluster model studies 1−37379
Lennard-Jones clusters, struct., phase and thermodynamic behaviour studied by Monte Carlo method 1−1428
localised-muffin-tin-orbital basis within local-density formalism 1−6421
metal, absorption and adsorption of different atoms, quantum chem. treatment *(German)* 1−51334
metal clusters, matrix-isolated, assignment of electronic spectra, appl. of mag. circular dichroism 1−41532
microcluster structural changes, effect of three-body interactions 1−7095
transition metal atoms and clusters from polynuclear metal carbonyls, gas phase production, reaction kinetics 1−48690
$A+A_n \rightleftarrows A_{n+1}^*$, cluster dynamics, classical trajectory method 1−6418
Ag atoms trapped in various matrices, optical absorpt., emission and ESR props. 1−41531

atomic clusters continued
Ag_n, matrix-isolated, assignment of electronic spectra, appl. of mag. circular dichroism 1−41532
Ar, liq. and gas, low temp. positron annihilation, influence of self-nucleating clusters 1−16622
$Ar_4 \rightarrow Ar_3+Ar$, cluster dynamics, classical trajectory study 1−46186
Ar_4 cluster, unimol. dissoc. rate const., Monte Carlo sampling technique 1−46187
Be_n cluster (n=2-5), struct., ab initio calcs 1−46188
C-atom clusters, bulk and basal plane electronic densities, ab initio and SCF calc. 1−6143
Cu_n, matrix-isolated, assignment of electronic spectra, appl. of mag. circular dichroism 1−41532
Fe, cluster, SW-X_α-SCF calcs. *(German)* 1−51333
$FeAR_{12}$ clusters, electronic struct. and Mossbauer isomer shift 1−24307
H atom disordered ring, localisation, Anderson model 1−20664
H, chemisorption on metal surface, LCAO cluster theory, review *(Japanese)* 1−2810
H clusters, variational and Fadeev-UPE calcs. 1−1427
^{3}He clusters, variational and Fadeev-UPE calcs. 1−1427
^{4}He clusters, variational and Fadeev-UPE calcs. 1−1427
$^{39}K_3$ atomic cluster matrix isolated, ESR spectra 1−51331
Li clusters, quadrupole mass anal. 1−10882
Ni clusters, electronic struct. calc. using ab initio effective core pot. SCF method 1−24305
Pd, cluster, SW-X_α-SCF calcs. *(German)* 1−51333
Si (100) surface reconstruction, dimer bond form., cluster calc. 1−52408
Si (111) surface reconstruction modelled by small clusters, MINDO/3 calc. 1−52405
T clusters, variational and Fadeev-UPE calcs. 1−1427
TaS_2(1T), Mott versus Anderson localization 1−12034

atomic collision processes *see atomic inelastic collisions; elastic scattering of atoms and molecules*

atomic electric moment
alkali atom+He(Ne), collision-induced dipole moments calcs. 1−33544
atom+atom interaction, photon density-density correl. 1−1303
atom pair, long-range dipole moment, non-expanded representation 1−6398
energy-conservative dipole dephasing irreversibility 1−1654
first row ions isoelectronic series, E1, M1 and M2 transition probability 1−37157
interacting spheres, collisionally induced long-range dipole moment 1−10865
two-level atom interacting with quantised radiation field, soluble quantum model, dipole moment 1−24084
Na+Ar, Na resonance line press. broadening, mol. dynamics simulation 1−1183
Ne, alignment-orientation collisional transfer obs. 1−51147
Xe, $(6p[1/2]_0)$ and $(6p[3/2]_2)$ state formation by VUV absorpt. 1−45887

atomic electron configuration interactions *see atomic electron correlations*

atomic electron correlations
alchemy CI method, symbolic matrix method appl. 1−41324
alkali negative ions, doubly excited states, electron correls., hyperspherical coords. calcs. 1−45863
alkaline earth atoms, doubly excited states, electron correls., hyperspherical coords. calcs. 1−45863
atomic systems, multiconfiguration relativistic HF Roothaan theory 1−19024
CI direct method for general multireference expansions, symm. group approach 1−51140
CI with reference state composed of many reference configurations 1−24044
closed-shell atom, pair radial eqn. of many-electron perturbation theory, soln. by finite-difference method 1−51093
cooperative resonance fluorescence steady state, atom-atom correl., Fokker-Planck description 1−6197
eigenvalue problem in configuration interaction calculations, in FORTRAN 1−19036
electron quadrupole transition probabilities, many-electron theory 1−24082
first row atoms, pseudopotentials and density functionals combination calcs. 1−51101
first row ions isoelectronic series, E1, M1 and M2 transition probability 1−37157
many body perturbation expansion for excited atoms and molecules 1−1119
many-electron perturbation theory, pair radial eqn., soln. by finite-difference method 1−51093
multiconfig. Dirac-Fock calcs., transverse Breit, and QED corrections, computer package 1−33402
multiconfig. Dirac-Fock calcs. computer package 1−28881
non-adiabatic HF and CI theory 1−51139
pair correlation energies, second order, transferability of partial wave increments 1−6147
plasma, energy levels, modulation of population, correl. meas. of relaxation rates 1−19863
radial couplings for charge transfer, CI calcs. 1−24246
second row atoms, pseudopotentials and density functionals combination calcs. 1−51101
second-low atoms (ions), multiconfigurational approach, atomic polarisabilities, polarised pseudopotentials 1−1127
Sternheimer shielding functions calc. using coupled HF method 1−19025
third row atoms, pseudopotentials and density functionals combination calcs. 1−51101
two electron at. config., energy ordering 1−14827
two-electron atoms, effective pot. model for calc. energy shift in ground state 1−24021
C, tetracoordinate planar, singlet biradical, struct. calcs. 1−45821
Ca, spin-forbidden radiative transitions ab initio, SCF and CI calcs. 1−28883
Cl I, discrete-continuum interactions 1−37128
Fe^{18+}, multiconfiguration relativistic HF Roothaan theory 1−19024
Ge, gas phase high temp. photoelectron spectroscopy, relativistic config. interaction calc. 1−33436
H^-, intrashell doubly excited states, supermultiplet classification 1−6183
H+He(Ne), pot. energy calcs., CI method 1−1319
H^-+He(Ne) 1−1319
He excited states, autoionisation 1−45914
He, intrashell doubly excited states, supermultiplet classification 1−6183
He isoelectronic sequence, correlated atomic wave functions 1−14824

atomic electron correlations continued
He isoelectronic sequence, atomic excitation probability accompanying β-decay, electronic correl. effect 1−14825
He isoelectronic sequence, effective pot. model for calc. energy shift in ground state 1−24021
He isoelectronic sereis, lowest states, statistical electron correl. coeff. 1−45817
He-like ions, electron impact cross-sections and excitation rates 1−46132
Hg^{72+}, multiconfiguration relativistic HF Roothaan theory 1−19024
In, photoelectron spectra, initial and final state conds. 1−28937
Li, doubly excited states, config. overlap method 1−1128
Li, photoionisation, electron correl., HF calcs., photoelectron spectra study 1−51138
Li, transition probabilities, excited states, autoionisation, config. interaction calcs. 1−28922
Li-like ions, excited ^{2}S states, core electron correls. calcs. 1−33406
Li^++CO, low angle scatt., pot. energy surfaces, CI calcs. 1−1306
N, inner-core energy levels, semiempirical studies, ESCA shifts studied by SCC-MO method 1−6154
Ne, $1s^22s^22p^4(^3P)3s3p$ config., position of autoionis. terms, core correls. 1−10678
Ne V, semi-forbidden transitions, electron impact excitation, collision and oscillator strengths 1−24260
Ne VII, allowed transitions, probabilities, lifetimes, oscill. strengths, CI calcs. 1−45864
Ni, electron correl. for f orbitals 1−6174
O, collision strengths, semi-forbidden transitions, electron impact excitation 1−29122
O V, absorption transitions to 2p3s and 2p3d singlet and triplet states, configuration interaction wavefunctions 1−45866
O-like atomic system, appl. of multiconfiguration relativistic HF Roothaan theory 1−19024
S I, discrete-continuum interactions 1−37128
S IV, ground and excited state fine struct. levels, collision and oscillator strength 1−6169
Sn, gas phase high temp. photoelectron spectroscopy, relativistic config. interaction calc. 1−33436
Ti, $3d^24s^2$, $3d^34s^1$ and $3d^4$ states, MCSCF CI calcs. 1−1126
Tl, photoelectron spectra, initial and final state conds. 1−28937

atomic electron impact excitation
see also electron spectra
absolute cross-sections determ. 1−37326
afterglow curves, from electron beam excited gas target, computer anal. 1−2272
complex atoms, electron scattering R-matrix, Breit-Pauli Hamiltonian 1−10848
electron energy distribution, relax. theory, eqn. for excitation rates and ionisation of atoms 1−15011
electron scattering, separable approx. generalisation in presence of long-range forces 1−51283
electron-atom scattering at intermediate energies 1−33560
electron-photon coincidence, spin-orbit coupling effect 1−19192
electronics and electron physics advances, book 1−32810
excited atoms, electron impact ionisation, excitation, deexcitation and total depopulation cross-sections and rate coeffs. 1−1384
Glauber and eikonal approximations appl. to atomic collisions, book contrib. 1−33565
inert gas, positron scatt., low energy meas. 1−6386
inert gas atoms, electron impact excitation of high-orbital angular momentum states 1−24267
inert gases, annihilation of positrons 1−6389
inner-shell ionisations by electron impact, sum-rule constrained binary-collision model 1−24266
plasma, atomic energy levels, modulation of population, correl. meas. of relaxation rates 1−19863
positive ions, electron impact excitation 1−41497
rarefied gasdynamics, electron beam diagnostic method, resolution 1−15064
resonances and cusps separation from background effects in electron scatt. expts. 1−46136
review of electron atom scatt. calcs. 1−1364
theoretical atomic collision physics 1−46130
trapped ion polarisation and polarisation detection, method 1−10870
Al, cross sections calc. using semiempirical single orbitals *(Russian)* 1−15014
Al, low-energy electron scatt., partial-wave anal. 1−33567
Ar, autoionising states, electron impact excitation energy loss obs. 1−19190
Ar, electron impact excitation of reson. transitions, calc. using distorted-wave Born approx., role of optical pot. 1−33568
Ar, positron and electron low energy collision, total scatt. cross section 1−15015
Ar, positron scatt., total cross section meas. 1−15019
Au, M X-ray production cross sections for proton impact 1−24265
Ba I and Ba II, autoionising and Auger levels, electron impact excitation, ejected-electron spectrum 1−24261
Be I, $2s3s^3S$ and $2s3d^3D$ state lifetime meas. 1−24059
Be-like ions, intermediate coupling collision strengths for $\Delta n=0$ transitions produced by electron impact 1−49501
Be-like ions, intermediate coupling collision strengths for $\Delta n=0$ transitions in $1s^22s^2$, $1s^22p^2$ and $1s^22s2p$ configurations 1−49502
Bi, M X-ray production cross sections for proton impact 1−24265
C III, elastic and inelastic cross sections calc. method 1−33560
Cd, autoionization levels, electron-impact excitation near threshold 1−33563
Cs^+, electron impact excitation, reson. cross section, VUV spectra 1−29124
Fe II, electron-ion collision strengths, transition probability and population density 1−4756
Fe XXV, electron impact excitation, relativistic distorted wave approx. calcs. 1−1383
Fe^{23+} electron scattering R-matrix, Breit-Pauli Hamiltonian 1−10848
Fe^{25+} electron impact excitation, three-state close-coupling calc. 1−41496
H and H-like ions, electron and positron elastic and inelastic scatt., relativistic Glauber amplitudes 1−1375
H, electron (positron) scattering, multichannel theories, review 1−51289
H, electron impact and elastic scatt., entrance channel, optical model calcs. 1−24258
H, electron impact excitation, Lyman-α radiation polarisation fraction 1−15018

atomic electron impact excitation continued
H, electron impact excitations, cross sections, Feshbach resonances 1−19188
H, electron impact excitation, distorted-wave second Born approx. appl. 1−24251
H electron impact excitation, continuum states, close-coupling formulation 1−29119
H, electron scattering, separable approx. generalisation in presence of long-range forces 1−51283
H, ground state, electron impact excitation, Glauber cross-section calcs. 1−46134
H, metastable S states, electron impact excitation, differential cross sections determ. 1−1379
H, positron impact, photon emission *(Russian)* 1−6370
H+proton, excitation cross sections calc., Vainshtein-Presnyakov-Sobel'man approximation appl. 1−24219
He, 1^1S-2^1P transition, large-momentum-transfer limit of some matrix elements [atomic electron scattering] 1−1374
He, 2^1P state, alignment and orientation parameters determ. by electron-photon coincidence technique 1−6390
He, 2^1P-state, electron impact excitation, differential cross-sections, ang. correl. 1−46133
He autoionising states, electron impact excitation, post collision interaction, semiclassical and shake-down models 1−24259
He, electron impact, absolute emission cross sections determ. 1−46070
He, electron impact excitation, emission cross section 1−15016
He, electron impact ionisation cross-sections 1−15020
He, electron impact triplet-triplet excitation, differential cross-sections calcs. 1−1387
He, electron scattering, elastic and inelastic, saddle-point technique, calcs. 1−1371
He, electron scattering, multichannel theories, review 1−51289
He, equilibrium positron decay rates 1−6388
He, fast atom, electron impact and atom-atom interactions 1−1381
He, metastable S states, electron impact excitation, differential cross sections determ. 1−1379
He, positron impact excitation, time of flight spectra 1−29123
He, positron impact formation into arbitrary excited S state, scatt. amplitude determ. 1−24292
He, positron scatt., p-wave phaseshift calc., annihilation rate parameter determ. 1−24264
He^+, electron scattering, multichannel theories, review 1−51289
He-like atoms, highly ionised, electron impact excitation cross sections calcs. 1−1386
He-like ions, electron impact cross-sections and excitation rates 1−46132
He-like ions, intermediate coupling, collision strengths for $\Delta n=0$ transitions produced by electron impact 1−49500
He(1^1S−3^3D), total cross section for electron impact excitation calc. 1−24262
Hg, electron impact, $6^1S_0 \rightarrow 6^3P_1 \rightarrow 6^1S_0$ excitationIdeexcitation process, coincident photon coherent anal. 1−19193
K, electron impact differential cross sections determ. 1−24254
Kr, positron and electron low energy collision, total scatt. cross section 1−15015
Kr, soft X-ray emission spectra, dipole relax. processes of super-Coster-Kronig type 1−6193
Kr XXXV, electron impact excitation, relativistic distorted wave approx. calcs. 1−1383
Mg, electron impact excitation, autoionised state decay *(Russian)* 1−33564
Mn, atomic and metallic, $L_{2,3}MM$ Auger electron spectra 1−37164
Na, electron impact excitation, $3P \rightarrow 3S$ transition orientation 1−1378
Na, electron impact excitation, orientation parameter 1−10847
Na, hyperfine structure, polarisation in mag. field, photon counting technique 1−10697
Ne, autoionising and excited states, scattered-electron spectra 1−29117
Ne, electron excitation coeffs., electron drift tube and laser absorpt techniques 1−37135
Ne, isoelectronic sequence, electron impact excitation, optical oscillator strength calc. 1−10845
Ne V, semi-forbidden transitions, electron impact excitation, collision and oscillator strengths 1−24260
O, collision strengths, semi-forbidden transitions, electron impact excitation 1−29122
O, electron impact excitation of ^3P-^3S transition 1−15013
O I in thermosphere, collisional excitation of ^3P ground state fine struct. levels *(Chinese)* 1−54301
O^+ Stark width, electron impact broadening 1−1167
O^{2+}, Stark width, electron impact broadening 1−1167
Rb^+ ion, electron impact excitation of reson. lines, autoionis. *(Russian)* 1−6392
S, electron impact excitation of $^2P^o$-$^4P^e$ transition 1−10846
Sn, L X-ray production cross sections for proton impact 1−24265
Xe, positron scatt., total cross section meas. 1−15019
Xe, soft X-ray emission spectra, dipole relax. processes of super-Coster-Kronig type 1−6193
Y, L X-ray production cross sections for proton impact 1−24265
Yb I, electron impact excited autoionisation states, electronic spectra 1−24268
Yb II, electron impact excited autoionisation states, electronic spectra 1−24268
Zn, electron impact, free-electron polarisation, optical meas. 1−19194

atomic electron impact ionisation
see also electron spectra
advances in atomic and molecular phys. (book) 1−13947
Compton electron scattering, momentum densities and differential cross sections *(French)* 1−37330
(e, 2e) atomic and molecular expts. 1−41494
electron coincidence spectroscopy, struct. investig. 1−51299
electron energy distribution, relax. theory, eqn. for excitation rates and ionisation of atoms 1−15011
electronics and electron physics advances, book 1−32810
excited atoms, electron impact ionisation, excitation, deexcitation and total depopulation cross-sections and rate coeffs. 1−1384
Glauber and eikonal approximations appl. to atomic collisions, book contrib. 1−33565
inert gas atom, electron impact ionisation cross sections, mass spectra 1−10844
inert gas plasma, electron-beam-produced, emission spectra and short-pulse lasing obs. *(Japanese)* 1−24392

atomic electron impact ionisation continued
inert gases, electron impact, autoionisation, Feshbach resonances, electroionisation and photon spectra 1−37332
inner-shell ionisations by electron impact, sum-rule constrained binary-collision model 1−24266
plasma, atomic energy levels, modulation of population, correl. meas. of relaxation rates 1−19863
theoretical atomic collision physics 1−46130
Ar near threshold alignment, post collision interactions 1−6219
Ar, positron scatt., total cross section meas. 1−15019
Ar, X-ray emission spectrum 1−19195
Au, electron impact L-subshell ionisation cross-sections, 60-600 keV 1−1388
Au, M X-ray production cross sections for proton impact 1−24265
Bi, electron impact L-subshell ionisation cross-sections, 60-600 keV 1−1388
Bi, M X-ray production cross sections for proton impact 1−24265
^{12}C, resonant nuclear scatt., inner-shell ionisation influence 1−29107
Cd, electron impact ionisation efficiency curves determ. 1−24263
Cs^+, electron impact multiple ionisation cross sections, crossed beam meas. 1−37331
Fe II, electron-ion collision strengths, transition probability and population density 1−4756
H and H-like ions, electron and positron elastic and inelastic scatt., relativistic Glauber amplitudes 1−1375
H, electron impact ionisation amplitude, numerical integration 1−1377
H, electron impact ionisation, triple differential cross section, Born approx. calcs. 1−19187
H, electron impact ionisation, triple differential cross section, Coulomb wave Born approx. calcs. 1−19191
H, exchange scattering amplitude, eikonal approx. 1−1382
H, positron inelastic scatt., electron capture, distorted-wave Born approx. 1−1385
H^-, electron loss, sample cross section data obtained using Cs vapour target of novel design 1−10849
H^0, electron capture, sample cross section data obtained using Cs vapour target of novel design 1−10849
H^+, electron capture, sample cross section data obtained using Cs vapour target of novel design 1−10849
H_1 electron impact ionisation, cross sections, metastable states 1−29121
$H(e,2e)H^+$, three-body interaction with one of the masses infinite 1−29118
He electron impact ionisation triple differential cross sections calcs. 1−19189
He, electron impact ionisation, He^- 1s2s2p ^2P Feshbach reson. state 1−51148
He, electronic energy levels, Russell-Saunders coupling, ionisation pcts., spectra, electron impact method 1−49901
He^+, 1s to 2s transition, electron impact excitation 1−1380
He^+, electron impact ionisation, absolute cross sections, cross beam meas. 1−29120
$He+H^+(He^{q+})(O^{q+})(Au^{q+})$ collisions, single and double electron loss 1−15017
Kr, electron impact ionisation efficiency curves near ionisation threshold 1−15012
Li, high-Rydberg quantum states distrib., effects of collisions 1−37303
Ne, electronic energy levels, Russell-Saunders coupling, ionisation pcts., spectra, electron impact method 1−49901
Ne-like atoms, electron impact ionisation, distorted wave cross section 1−46137
Pb, electron impact L-subshell ionisation cross-sections, 60-600 keV 1−1388
Sn, L X-ray production cross sections for proton impact 1−24265
W, electron impact, low energy, L shell ionisation 1−6391
Xe, electron impact, L-subshell ionisation cross sections 1−46131
Xe, electron impact ionisation efficiency curves near ionisation threshold 1−15012
Xe, positron scatt., total cross section meas. 1−15019
Y, L X-ray production cross sections for proton impact 1−24265

atomic electron scattering *see atomic electron impact excitation; atomic electron impact ionisation; elastic scattering of electrons by atoms and molecules*

atomic emission spectroscopy
exploding thin film atomic spectroscopy, saturable inductor based controlled waveform excitation source 1−43719
ferrous materials, atomic emission spectrographic investig. of boride layer depth profiles *(German)* 1−21830
gasdynamic jet diagnostics using laser induced fluoresc. *(German)* 1−21816
glow discharge spectroscopy, modified, steel surface anal. 1−7442
hollow cathode discharge, rot. temp. meas. 1−40784
inductively coupled plasma, sample preparation techniques 1−13047
laser dedicated trace element monitor development 1−43729
laser impulse fluorometer operation and applications *(German)* 1−31930
microwave-induced plasma excitation source for AES 1−33060
miniature high temp. diffusion flames for anal. at. spectrosc. 1−43718
nonselective light attenuation in at. absorpt. and at. fluoresc. anal., review 1−4136
silicate rocks:Li(Rb) powder, graphite-capsule flame atomiser for emission anal. 1−43724
Ag atoms trapped in various matrices, optical absorpt., emission and ESR props. 1−41531
Al-Zn-Mg (5.5, 2.5 wt.%), moisture, grain size, heat treatment effects on surface oxide, AES obs. 1−26653
D, shape of D_γ line *(Rumanian)* 1−14840
Mg_2Cu, surface anal. using XPS and AES 1−2784
Mg_2Ni(-Mg), surface anal. using XPS and AES 1−2784

atomic energy *see nuclear power*

atomic excited states
see also atomic metastable states; atomic resonant states
alkali metals, excited levels, dynamic polarisabilities 1−41331
alkali negative ions, doubly excited states, electron correls., hyperspherical coords. calcs. 1−45863
alkaline earth atoms, doubly excited states, electron correls., hyperspherical coords. calcs. 1−45863
Alkaline earth atoms, Hanle effect in singlet excited states 1−6213
atom-surface elastic scattering in presence of laser radiation, effect on diffr. patterns 1−1304
atoms, K(2)L(8)$3s^m3p^n$, formulae for evaluation of valence orbital ionisation pot. 1−41507

atomic excited states continued
Bloch-Siegert shift, influence of relax. times 1−45901
collisional redistribution and light depolarisation, dynamic correl. 1−6200
doubly excited atoms, pairing model 1−1060
electron impact ionisation, excitation, deexcitation and total depopulation cross-sections and rate coeffs. 1−1384
p-, d, and f-electrons, effective potential in sp, p^5d and d^9f configurations 1−41456
excited gas-metallic state transition 1−34037
excited levels, dynamic polarisabilities 1−41331
first and second row atoms, lower excited configs., formulae for evaluation of valence orbital ionisation pot. 1−41507
first row atoms and ions, self-interaction corrections in density functional formalism 1−51145
geometric approx., Rayleigh-Schrodinger perturbation theory 1−45876
highly excited atoms, intense low-freq. EM radiation field 1−28895
inert gas atoms, electron impact excitation of high-orbital angular momentum states 1−24267
inert gas atoms, excited states, photoionisation 1−14853
inert gas atoms, radioluminesc. mechanism, review *(Portuguese)* 1−24924
inert gas matrices, effects on electronic levels of isolated atoms, spectra 1−28902
inert gases, excited levels, dynamic polarisabilities 1−41331
interaction with laser radiation, kinetic eqn. *(Russian)* 1−33431
ion core approx. calcs. 1−51149
Li ion, beam-foil excitation spectra, radiation 1−6368
many body perturbation expansion for excited atoms and molecules 1−1119
metal vapours, sputtered, fluorescence decay, pulsed laser excitation 1−28917
multiphoton excitation and ionisation, collective emission effect near three photon reson. 1−10703
Rydberg atom+atom (molecule), semiquantal, impulse and multistate orbital theories 1−19168
Rydberg atom+neutral, L-changing transitions, impulse treatment 1−19162
Rydberg states, excitation and collision mechanism, electric fields effect 1−28891
second row atoms and ions, self-interaction corrections in density functional formalism 1−51145
three level system, two-photon reson. fluoresc. 1−6201
two photon transitions, Gaussian amplitude fluctuations, Stark shift, light statistical dependence 1−24079
two-electron systems, excited state transitions, time-depend. Hartree-Fock theory 1−28847
two-level system, superradiant, ground state anal. by mean field theory 1−28942
Ag atoms trapped in various matrices, optical absorpt., emission and ESR props. 1−41531
Ba, doubly excited autoionising Rydberg states, electric field effect 1−1189
Ba, excitation, level crossing resonances, optical Hanle effect 1−51171
Ba, in inert gas, absorpt., collision-induced dipole transitions 1−6187
Ba, reson. radiation scatt. from superposition of Zeeman levels, Hanle effect, density depend. 1−14836
Be I, $2s3s^3S$ and $2s3d^3D$ state lifetime meas. 1−24059
Be-like ions, intermediate coupling collision strengths for $\Delta n=0$ transitions produced by electron impact 1−49501
Be-like ions, intermediate coupling collision strengths for $\Delta n=0$ transitions in $1s^22s^2$, $1s^22p^2$ and $1s^22s2p$ configurations 1−49502
Bi^{3+} in solids, luminesc. levels 1−8107
Br^*+H_2, reactive pathways and inelastic energy transfer channels, laser investig. 1−33538
C, interstellar, collisional stabilisation of dielectronic-like recomb. process rel. to radio recomb. lines 1−27363
Cl^++neutral molecule, reactions in ground and excited state of 300K 1−12970
Cs, 5^2D state, prod. from Cs_2 selective photolysis 1−48704
Cs, 6P state, prod. from selective photolysis of Cs_2 $X^1\Sigma_g$ state 1−48705
Cs, 7^2P excited states, photoionisation and photoelectron spin polarisation 1−19066
Cs vapour targets, D^- production by charge transfer of 0.3-10 keV D^+, D^0 and D^- 1−19180
Dy I, excited levels, lifetimes, spectral line oscill. strengths 1−33425
Dy II excited levels, lifetimes 1−33425
Dy^{2+} excited states, SCF wave functions 1−6153
Fe ions, Na-, F- and O-like, low-lying excited states, UV spectra, radiative lifetimes meas. 1−14839
Fe series, self-interaction corrections in density functional formalism 1−51145
H, elastic electron scatt., exact second Born exchange amplitude 1−24253
H, fluorescence angular distrib., H^+ polarisation effect 1−24077
H, multiphoton excitation and Zeeman splitting in plasma background 1−24977
H, Ryderberg states, quadratic Zeeman effect, oscillator strengths for dipole transitions 1−24080
H^-, intrashell doubly excited states, supermultiplet classification 1−6183
H^-, photodetachment and radiative attachment involving $2p^{23}P^e$ state, rate coeffs. 1−49493
H-chloromethane, excited atom reaction 1−31830
$H+C^{6+}$ Coulomb excitation, 1S 2S transition 1−24238
$H+H^+$, perturbation theory, coulombic and exchange energy, Pade approximants 1−14980
H^++C-foil collisions, charge transfer to continuum and high Rydberg states 1−24233
H^*, translational energy distrib., prod. from H_2 electron impact dissoc. 1−19137
He, 2^1P state, alignment and orientation parameters determ. by electron-photon coincidence technique 1−6390
He, $3p^1P$ and $4d^1D$ levels orientation and alignment, tilted foil excitation 1−1139
He excited state population from He^+ dielectronic recomb. in DC hollow cathode 1−51290
He excited states, autoionisation 1−45914
He, excited states in plasmas, population densities, cross sections 1−19860
He I, excitation by heavy ion impact, relative populations of Zeeman sublevels, depolarisation of transition obs. *(French)* 1−51280
He, intrashell doubly excited states, supermultiplet classification 1−6183
He isoelectronic sequence, excited state transitions, time-depend. Hartree-Fock theory 1−28847
He, photoionisation and photoexcitation 1−6214

atomic excited states continued
He, positron impact formation into arbitrary excited S state, scatt. amplitude determ. 1−24292
He, supermultiplet classification of intrashell levels, ro-vibr. collective interpretation 1−6184
He^-, triply excited ^2P and ^2D resonance struct. investig. 1−1138
He-like ions n=2 levels, collision strengths for Δn=0 transitions produced by electron impact 1−49500
He+He(Ar)(Kr), He Rydberg S and manifold states deexcitation 1−1349
He+He(Ne)(Ar)(Kr)(Xe), Rydberg state deexcitation 1−1348
$He+N_2$, He Rydberg S and manifold states deexcitation 1−1349
$He^{2+}+Li$, selective form. of He^+, excited states, superradiance at Lyman wavelengths 1−41476
$H^+(n=3)$ selective formation from $He^{2+}+Li$, visible and X-ray spectra 1−46096
K, $4^2P_{3/2}$-state, disorientation and disalignment induced in reson. collisions 1−6181
K+alkyl halide (HI), collisions, scatt. cross sections, electron harpoon method 1−41471
Kr plasma production by pulsed electron beam, excitation processes 1−19910
Li atoms in rare gas matrices, absorpt. and emission spectra, fluoresc. 1−6192
Li, double excited level lifetimes, beam foil technique 1−37160
Li, doubly excited states, config. overlap method 1−1128
Li, transition probabilities, excited states, autoionisation, config. interaction calcs. 1−28922
Li-like ions, excited ^2S states, core electron correls. calcs. 1−33406
$Li(2p)+H_2(N_2)$, excitation cross sections, polarisation anal., mag. sublevel population of 2p state 1−6348
Mg, electron impact excitation, autoionised state decay *(Russian)* 1−33564
Mg, reson. radiation scatt. from superposition of Zeeman levels, Hanle effect, density depend. 1−14836
Mg^+, excited state form. from $Mg^{2+}+Mg$ collision 1−1137
$Mg(^3P_J)+H_2$ collisional quenching, physical-chemical exit channel control 1−6361
N, prod. by electron impact dissoc. of N_2, optical cross-sections 1−37335
Na Rydberg state disappearance and broadening in strong laser field 1−28897
Na vapour, double electronic excitations, 2s threshold, transmission spectra 1−28903
Na vapour targets, D^- production by charge transfer of 0.3-10 keV D^+, D^0 and D^- 1−19180
$Na+H^+$, collisions, photoexcited states, electron transfer, ion beam studies 1−37305
Na+He(Ne)(Ar)(Kr)(Xe), collisional broadening of $3P_{1/2}$-$3P_{3/2}$ transition meas. by trilevel-echo technique 1−14983
$Na+N_2(CO)$, collisional broadening of forbidden ground-to-Rydberg state transitions meas. by trilevel echoes 1−14982
Na+Xe, Rydberg Na atom l-changing collisions, selective field ionisation 1−51282
$Na(3^2P_{3/2})+Hg$, rainbow scatt. at hyperthermal energies 1−1309
Ne, $1s^22s^22p^4(^3P)3s3p$ config., position of autoionis. terms, core correls. 1−10678
Ne, alignment-orientation collisional transfer obs. 1−51147
Ne, autoionising and excited states, scattered-electron spectra 1−29117
Ne, electron excitation coeffs., electron drift tube and laser absorpt techniques 1−37135
Ne excited level population density meas. in ring discharge plasma 1−15641
Ne, excited states, variational principle calc. 1−28893
Ne isoelectronic sequence, electron impact excitation, optical oscillator strength calc. 1−10845
O, dissoc. of O_2, excited atomic multiplets, radiative lifetimes, time resolved obs. 1−46030
OV, fine struct. in $1s2s2p^2\ ^5P$-$1s2p^3\ ^5S$ transition 1−29130
P III, transition probabilities between exited states, SCF treatment 1−33394
Pb, excited state, two-step autoionisation, 5d spectra 1−45881
Rb vapour targets, D^- production by charge transfer of 0.3-10 keV D^+, D^0 and D^- 1−19180
Rb*+inert gas collision, spectral broadening and shift 1−1179
S IV, ground and excited state fine struct. levels, collision and oscillator strength 1−6169
Se*(^1S) photoionisation cross section meas., 170-175 nm spectral region 1−19061
Si I, 3 p4s ^3P state lifetime rel. to solar and meteoritic Si abundance 1−54442
Sr, excitation in hollow-cathode discharges 1−28894
Xe, $(6p[1/2]_0)$ and $(6p[3/2]_2)$ state formation by VUV absorpt. 1−45887
Xe, photoionisation cross section calc., relativistic effects 1−24092
Xe plasma production by pulsed electron beam, excitation processes 1−19910
Xe, Rydberg and autoionising states, optogalvanic detection method 1−41352
Yb, high-lying triplet states, multistep laser spectrosc. 1−1195
Zr(IV), trebly ionised, transitions to nd(n=4, 5, 6) levels, spectrum anal. 1−10682

atomic explosions *see nuclear explosions*

atomic fine structure
ion beams, metastable peak shapes, apparatus broadening deconvolution and kinetic energy spread 1−1170
ion beams, metastable peaks, instrumental parameters and kinetic energy release in linked scan 1−1171
positronium, Coulomb interaction within 6th order accuracy in α, quasi-pot. approach *(Russian)* 1−37372
quantum beat spectroscopy with pulsed dye laser excitation *(Rumanian)* 1−15036
μ-e atoms, multiplet and fine structure splitting, exact Breit operator 1−19218
Al, fine struct. from fast extended X-ray absorpt. spectra 1−45892
Ar^++Ar, charge exchange, spin change, fine struct. scatt. cross sections calcs. 1−41490
B, ground states, fine struct., spin-extended Hartree-Fock calcs. 1−45829
Be II, nd ^2D and nf ^2F sequences, fine struct. studied using fast-beam level-crossing spectroscopy 1−24276
Br VII, spectrum, excited state energie and fine struct. 1−45891
C, ground states, fine struct., spin-extended Hartree-Fock calcs. 1−45829

atomic fine structure continued
C II, fine struct. states rel. to dielectronic like recomb. process and interstellar radio recomb. lines 1−27363
ClXVI, 2s-2p transitions, fine struct. and wavelengths 1−1398
Cs, 5^2D state, prod. from Cs_2 selective photolysis 1−48704
Cs, 6P state, prod. from selective photolysis of $Cs_2\ X^1\Sigma_g$ state 1−48705
Cs, n^2D and n^2F fine-struct. intervals obs. 1−1157
Cs, photoionisation, quadrupole resonances, fine struct. electron spin polarisation 1−24088
Cu, isoelectronic series ions, fine struct. separations explicit empirical formula 1−46145
F, ground states, fine struct., spin-extended Hartree-Fock calcs. 1−45829
Fe pionic atoms, relativistic fine struct. splitting 1−1415
H, $2^2P_{3/2}$-$2^2S_{1/2}$ fine struct. interval meas. 1−24275
He I, isoelectronic sequence, 2s-2p transitions, fine struct. and wavelengths 1−1398
^4He singlet states, electrostatic fine struct. and forbidden transition, laser mag. reson. spectra 1−1181
Hg, free atom, Auger electron spectra 1−1194
In, $M_{4,5}N_{4,5}N_{4,5}$ Auger electron spectrum 1−6220
K, two-photon ionisation cross section calcs. from quasi-degenerate perturbation theory, HF calc., reson. struct. 1−33435
$K+N_2(Ar)$, cross section energy dependence, fine structure transition 1−24213
$K^-+h\nu\rightarrow K^*+e^-$, electron photodetachment, fluoresc. and fine-structure 1−1190
Li I, fine structure of d^2D-terms, beam-foil quantum-beat spectroscopy 1−51304
LiI, isoelectronic sequence, 2s-2p transitions, fine struct. and wavelengths 1−1398
$^7Li^+$, Lamb shift and fine struct. meas. 1−6211
Mg, fine struct. from fast extended X-ray absorpt. spectra 1−45892
$N^++N_2(CO)$, charge transfer, interference effects, fine struct. 1−41489
Na I isoelectronic sequence fine struct. splitting of 3d and 4d terms 1−19040
Na isoelectronic series, Z=25 to 80, ion energies by model pot. method 1−37130
$Na(^2P)+He(^1S)$, fine struct. transitions, degeneracy averaged probabilities and differential cross sections calc. 1−37300
O, ground states, fine struct., spin-extended Hartree-Fock calcs. 1−45829
O I in thermosphere, excitation temp. of ^3P ground state fine struct. levels *(Chinese)* 1−54301
$O+H^+$, charge exchange, interatomic pot. curves and coupling fine structure, excitation process 1−10835
OV, fine struct. in $1s2s2p^2\ ^5P$-$1s2p^3\ ^5S$ transition 1−29130
S IV, ground and excited state fine struct. levels, collision and oscillator strength 1−6169
SO_2, high resolution absorpt. obs. around 300 nm 1−28991
Si^+, fine struct. levels, population, effect of UV pumping, astrophysical appl. 1−54362
Ti pionic atoms, relativistic fine struct. splitting 1−1415

atomic fluorescence
alkali metal atoms, perturbed by foreign gas, laser beam near-resonance scattering, fluoresc. 1−28918
analytical at. spectroscopy, tunable laser appl. 1−18309
atom+atom, radiatively assisted inelastic collision, weak field impact core limit, coherence effect 1−14999
atom+atom, radiatively assisted inelastic collisions, coherence effects 1−14998
atomic collisions, translational radiative transitions, potential energy curves *(Russian)* 1−33545
backward-fluorescence spectroscopy, Doppler-free 1−28066
cascade production of power-law decay curves 1−28919
cooperative resonance fluorescence, observable props., fluoresc. correl., photon bunching and antibunching 1−1166
cooperative resonance fluorescence steady state, atom-atom correl., Fokker-Planck description 1−6197
degenerate atomic system, equations of motion for density matrix, radiation collisional redistrib. 1−14985
dense metal vapours, multiphoton ionis. and fluoresc., radiation scatt. and trapping 1−10689
dense metal vapours, multiphoton ionisation and fluoresc., radiation scatt. and trapping 1−14844
direct Coulomb M-subshell ionisation by charged particles, nonrelativistic PWBA calcs. 1−17944
fluctuations of spontaneous emission, pump spatial coherence effect 1−41343
gasdynamic jet diagnostics using laser induced fluoresc. *(German)* 1−21816
individual atom detection and real-time motion obs. in He buffer gas 1−10690
ion, ultracooled, trapped, low intensity fluoresc. 1−6199
k-shell photoelectric cross-section measurements 1−51174
L-shell fluorescence, Auger and electron yields calc. for photoionisation, depend. on vacancy distrib. 1−14854
Li ion, beam-foil excitation spectra, radiation 1−6368
Maxwell-Bloch equations, amplifying soln. with atomic relaxation and field losses 1−6196
metal vapours, sputtered, fluorescence decay, pulsed laser excitation 1−28917
multielement fluorescence anal., spectral shift and hyperfine splitting 1−28923
optical resonances detection by fluoresc. obs. from optically pumped fast atomic beam *(French)* 1−24288
photon statistics in resonance fluorescence from laser deflection of an atomic beam 1−24375
projectiles in solid targets, L-shell ionisation, K X-ray yield, capture cross sections 1−29091
quantum beat superfluoresc., semiclassical theory 1−6198
Raman scattering, laser bandwidth effect 1−24455
relaxing quantum system, reson. scatt. of high-power radiation and fluoresc. 1−1163
resonance fluorescence, collisional perturbation in strong monochromatic driving field 1−45897
Resonance fluorescence polarisation of atom with degenerate levels *(Russian)* 1−33421
single-atom resonance fluorescence, canonical transformation 1−14845
spectral line using excitation, collisionally redistributed fluoresc., polarisation calcs. 1−45893
spontaneous emission theory 1−7275

atomic fluorescence continued
sub-Poissonian radiation field in resonant cavity 1−41651
thermally assisted, appl. to local flame temp. meas. 1−44916
three level atom, cooperative two-photon resonance fluorescence 1−1165
three level system, two-photon reson. fluoresc. 1−6201
three-level, bichromatic field interaction, reson. fluoresc. spectra 1−19048
three-level system, rate eqn. soln. for temporal behaviour 1−10688
two atom system, reson. fluoresc. intensity correlations calc. in weak-field limit 1−45896
two atoms coherently driven by strong reson. laser field, reson. fluoresc. spectrum 1−41342
two level atom, reson. fluoresc. 1−51158
two-atom coherence in collision broadened gas sample, response to coherent radiation 1−24220
two-atom system, reson. fluoresc. and absorpt. spectrum, dispersion force effects 1−45895
two-level atom, interaction with strong radiation field, canonical transform. approach 1−10698
two-level atom, reson. fluoresc., photon number statistics 1−46269
two-level atom in presence of pulse-train driving field, light scatt., power spectrum 1−14838
two-level atom vapour, self-induced generation of off-axis freq. shifted radiation 1−41341
two-level atoms, cooperative states and resonance fluorescence 1−24075
vapours, fluoresc. spectra near glass surface, Doppler struct. due to light induced polarisation 1−6195
Ar, dense gaseous, alpha-particle induced scintillation, emission spectra 1−29833
Ba atom and ion, laser excited fluoresc., rel. spatial profiles 1−10691
Ba^+ localised visible mono-ion oscillator, laser fluoresc. 1−2221
$^{137}Ba^+$, hyperfine splitting in ground state 1−46147
Be I, $2s3s^3S$ and $2s3d^3D$ state lifetime meas. 1−24059
Ca atom and gasdynamic beams, metastable atoms, vel. distrib. and state density, laser diagnostics 1−6407
Cu^{3+} in solution, detection of oxidation state and chemical behaviour, nuclear waste transport 1−31942
Fe* stimulated emissions from transverse excitation of $Fe(CO)_5$ using KrF pulses 1−24085
H, antiprotonic, K-series X-ray spectrum 1−1419
H, fluorescence angular distrib., H^+ polarisation effect 1−24077
H+Ne(Ar)$(N_2)(CO_2)$, Lyman-alpha emission, collision induced 1−29090
He+He^{2+}, scintillation kinetics 1−14843
^{3}He, and ^{4}He, 2^3P-3^3D transition isotope shift and hyperfine struct. 1−6210
K, $4^2P_{3/2}$-state, disorientation and disalignment induced in reson. collisions 1−6181
K, D-line fluoresc. from NaK dissoc. 1−37235
$K^-+h\nu \rightarrow K^*+e^-$, electron photodetachment, fluoresc. and fine-structure 1−1190
Li atoms in rare gas matrices, absorpt. and emission spectra, fluoresc. 1−6192
Li^+ optically pumped trapped ions, fluoresc. response curves 1−19051
$^7Li^+$, Lamb shift and fine struct. meas. 1−6211
Mg^+, fluorescence spectra, double resonance techniques 1−45889
$N^2D(^2P)+O_2$ reaction rate const. meas. 1−26725
Na + $CH_4(C_3H_8)$, Na nd states, collisional angular momentum mixing 1−1353
Na 3p+Na 3p, energy pooling, product signal depend. on laser power density, rate const., temp. depend. 1−19170
Na, D line, collisional broadening by Ar, N_2H_2 perturbers, fluoresc. obs. 1−19050
Na, D-line fluoresc. from NaK dissoc. 1−37235
Na, laser excited D_2 line fluoresc., optical nutational transients obs. 1−45894
Na+Ar, collision-induced fluorescence of Na, far wing depolarisation 1−41340
Ne+Ne^+(Ne^{2+}) collisions, Ne K-shell fluoresc. yield 1−1354
O III, oscillator strengths rel. to Bowen fluorescent mechanism in emission nebulae 1−13681
O(^{3}P), resonance fluoresc. detection from O_3 photolysis 1−6228
Pb concentration detection using laser-excited at. fluoresc. 1−53519
Pb, L_{III} subshell fluorescence yield meas. 1−37150
Rb*+inert gas collision, spectral broadening and shift 1−1179
Se metastable atoms, laser performance of electric-dipole forbidden transitions, collision effect, induced emission 1−37486
Sr, population inversion in reson. line by using cascading superfluoresc. in three-level system 1−33432
Sr, reson. line anomalous off-axis emissions, quasi-reson. pulsed laser illum. 1−19052
Th, L_{III} subshell fluorescence yield meas. 1−37150
Tl, L_1 subshell fluoresc. yield, X-ray spectra *(Portuguese)* 1−24076
U atomic beam, lifetime meas. by laser induced fluoresc. 1−45906
U, L_{III} subshell fluorescence yield meas. 1−37150
Xe, $(6p[1/2]_0)_0$ and $(6p[3/2]_2)$ state formation by VUV absorpt. 1−45887
Xe II $6p^4P_{5/2}^0$ level, lifetime meas. by selective laser excitation, fluoresc. obs. 1−33424

atomic fluorescence spectroscopy *see atomic emission spectroscopy*

atomic forces
alkali atom+He(Ne), collision-induced dipole moments calcs. 1−33544
alkali-rare gas molecule, band shape and interaction pot. *(French)* 1−37257
atom pair, long-range dipole moment, non-expanded representation 1−6398
atom-atom dispersion interactions, London approx. calcs. 1−29077
Brinkman potential constant calcs. 1−46056
electrostatic interaction between two ions in ideal dipolar gas 1−46835
inert gas+heavy alkali mixture, longitudinal orientation of electronic spin *(Spanish)* 1−14971
interacting systems, intermol. forces calcs., three body coeff. 1−14972
interaction, photon density-density correl. 1−1303
ion, separation of centre of mass motion 1−33439
pair polarisability, point dipole model, reson. and dispersion energies 1−6132
three-body Van der Waals coefficients, combination rules 1−1298
two S-state atoms, interaction involving spin symmetry, pot. model 1−46051
valence vibration freqs., intramol. interactions effects, CNDO/2 calcs. 1−6176
Ar atom+He(Ne)(Ar)(Kr), 2p levels, depolarisation cross section temp. depend. *(French)* 1−33539

atomic forces continued
Cl^-, ion mobility in Xe and Cl^--Xe interaction pot. 1−2137
Cs+inert gas, far wing profile, interaction pot. and oscillator strengths *(French)* 1−37154
H, energy spectrum, global props., classification, quantum numbers, degeneracy 1−46054
H, positronium scatt., van der Waals forces 1−1414
H-negative charge system, diatomic interactions, binding/antibinding anal. 1−37286
He, positronium scatt., van der Waals forces 1−1414
Hg, self-broadened 1849 Å line, transition moment variation with internucl. distance *(French)* 1−51163
Hg+Hg (inert gases), spectral profile anal., collision broadening *(French)* 1−37155
Li^++Ni^{2+} interaction, aq. soln., NMR relaxation obs. and calcs. 1−28908
Ne, spectrum parametrisation, spin-spin, spin-orbit and orbit-orbit interactions 1−33401
Ne_3, exchange repulsion nonadditivity, many-orbital cluster expansion calcs. 1−28869

atomic hyperfine structure
see also Lamb shift
alkali unpolarised atom polarised nuclei, two-photon resonant ionisation, hyperfine struct. energy levels 1−6217
ground-state hyperfine struct. reson. obs. 1−10875
hyperfine shift X-ray lines excited during internal conversion *(Russian)* 1−41339
isotope shift hyperfine struct., nonrelativistic probability electron density function 1−45902
laser heterodyne spectroscopy of isotope shifts and hyperfine structure 1−28070
multielement fluorescence anal., spectral shift and hyperfine splitting 1−28923
nuclear structure studied by atomic hyperfine spectroscopy 1−41504
nuclear structure studied by on-line hyperfine spectroscopy, laser techniques 1−41505
positronium hyperfine splitting, second-order perturbation theory 1−37370
quantum beat spectroscopy with pulsed dye laser excitation *(Rumanian)* 1−15036
quartz, double electron-nuclear resonance of E′-centres 1−31062
spectral overlaps, mathematical model and its use for line shape parameters 1−53518
tuning-fork effect detection among optically oriented atoms by microwave resonance 1−33414
Z=49-83 pionic and kaonic X-rays, nuclear quadrupole deformation effects 1−51322
Ar, muonium prod. in solid and liquid Ar, hyperfine splitting 1−37369
^{A}Au, A=185, 187, 188, hyperfine structure measurements 1−5692
$^{137}Ba^+$, hyperfine splitting in ground state 1−46147
Bi, parity violation, atomic physics checks 1−10856
Br, $^2P_{1/2}$←$^2P_{3/2}$ transition obs. by colour centre laser spectroscopy 1−28906
Cs beam atomic clock, laser optically pumped, preliminary operation *(French)* 1−5287
Cs-He pairs, hyperfine shifts, broadening and temp. coeff., rel. to ionisation pot. and polarisability coeff. 1−28926
Cs+$H_2(N_2)$, collision broadening and shift of hyperfine struct., Lennard-Jones interactomic pot. const. calc. 1−24224
Cs+He(Ne)(Ar)(Kr)(Xe), collision broadening and shift of hyperfine struct., Lennard-Jones interactomic pot. const. calc. 1−24224
^{133}Cs, Rydberg D-states, hyperfine structs., lifetimes and collisional cross-sections 1−46072
$^{151,153}Eu$, $z^6P_{7/2}$ hyperfine anomaly, laser-atomic-beam study 1−1132
Fe atom, in cryst. Ar matrix, electronic struct., Mossbauer isomer shift 1−24307
Fr isotopes, D_2 optical reson. line, laser optical spectroscopy 1−19057
GaI, hyperfine struct. and isotope shifts 1−45871
H, adsorbed on frozen H_2 surface, ground state hyperfine resonance 1−1152
H, binding energy on liq. ^{4}He, zero-field hyperfine reson. study 1−48734
H, ground state frequency determination from maser wall shift expts. 1−37449
H isotopes, muon capture, muonic atoms and molecules, hyperfine populations 1−51321
H, spin polarised, spin relax. and recombination theory 1−29070
H-^{4}He, magnetic resonance studies at 1K 1−1151
H-maser, ground state hyperfine levels, Stark shift theory 1−15133
He, muonic, hyperfine struct. 1−1416
He, muonic, nonrelativistic hyperfine splitting, adiabatic perturbation theory calcs. 1−1418
^{3}He, hyperfine structure, singlet-triplet distance, spectra 1−24274
^{3}He, and ^{4}He, 2^3P-3^3D transition isotope shift and hyperfine struct. 1−6210
Hg, emission profile, hyperfine struct. and intensity anomaly 1−33416
Hg I, $6d^3D_1$-$6p^3P_0$ transition isotope shift meas. at 296.7 nm using saturated absorpt. spectroscopy 1−24461
I photodissociation laser, hyperfine relax. 1−51465
InI, hyperfine struct. and isotope shifts 1−45871
Kr, muonium prod. in solid and liq. Kr, hyperfine splitting 1−37369
$^7Li^+$, Lamb shift and fine struct. meas. 1−6211
Na D line density shift and broadening, elastic and inelastic collision influence 1−37350
Na, hyperfine structure, polarisation in mag. field, photon counting technique 1−10697
Na I, interstellar, ground state hyperfine struct. detect. from very-high-resolution spectroscopy 1−27592
Na, Larmor precession in polarisation spectroscopy with spatially separated beams 1−6204
Na vapour, quantum beat detection, population grating time development 1−46017
Ne, hyperfine struct. and isotope shift of 640.2 and 626.6 nm lines 1−1175
Rb-He pair, hyperfine shifts, broadening and temp. coeff., rel. to ionisation pot. and polarisability coeff. 1−28926
^{87}Rb lamp profiles, temp. depend. anal. 1−41346
^{87}Rb, optical self-pumping in hyperfine struct. of ground state, mag. reson. obs. 1−33413
^{181}Ta low lying atomic levels, hyperfine and Zeeman studies, atomic beam mag. resonance 1−24102

atomic hyperfine structure continued
Xe ions, hyperfine structures and isotope shifts of $5d^4D_{7/2} \rightarrow 6p^4P_{5/2}{}^0$ transition 1−46146
^{129}Xe, $5d[7/2]_{3,4}$ states, hyperfine struct., RF-optical double reson. obs. 1−28909

atomic inelastic collisions
see also atom-atom collisions; atom-ion collisions; atom-molecule collisions; atom-molecule reactions; atomic electron impact excitation; atomic electron impact ionisation; beam foil spectra; ionisation of atoms
advances in atomic and molecular phys. (book) 1−13947
alkali metal atoms, perturbed by foreign gas, laser beam near-resonance scattering, fluoresc. 1−28918
Alkaline earth atoms, Hanle effect in singlet excited states 1−6213
amplitudes, Franck-Condon factors, uniform semiclassical evaluation 1−46063
atom+breathing sphere, collisional energy transfer, sensitivity anal. 1−37298
atom+linear rigid rotor, collisional energy transfer, sensitivity anal. 1−37298
atom+particle collisions, unitary eikonal approx. with 2nd-order phase function 1−46075
atom ionisation by fast charged particles, K-shell electron spectra 1−46067
atomic, molecular and nuclear collisions, review 1−51263
collisional redistribution and light depolarisation, dynamic correl. 1−6200
collisional redistribution of radiation, density matrix, radiative damping, interatomic pot. 1−14984
conference on few body problems, Eugene, USA (Aug. 1980) 1−49876
Coulomb functions (negative energies), calc. program 1−24016
degenerate atom in binary collision approx., correl. function, scattered spectrum, eqn. of motion 1−14986
degenerate atomic system, equations of motion for density matrix, radiation collisional redistrib. 1−14985
direct Coulomb M-subshell ionisation by charged particles, nonrelativistic PWBA calcs. 1−17944
electron-atom scattering at intermediate energies 1−33560
exchange integral evaluation for STO in impact parameter formulation in atomic charge transfer collisions 1−1070
Feynman diagram approach 1−6331
harmonic oscillator, vibr. excitation, quantum mechanical problem with adiabatic basis set 1−1311
heavy ion scattering, electron translation effects 1−46100
hydrogenic ions, electron scatt., hybrid multichannel algebraic variational method appl. 1−1316
inert gas+heavy alkali mixture, longitudinal orientation of electronic spin *(Spanish)* 1−14971
ion-ion recombination in systems at low gas densities, symmetrical reson. charge transfer contrib. 1−8563
laser spectroscopy, of collisional line shapes *(French)* 1−36743
molecular approximation 1−10807
molecular orbital model, review 1−14810
muon-atom collisions, e^+e^- pair prod., energy spectrum *(Russian)* 1−41474
one-electron systems, perturbed stationary states, semiclassical approx. 1−46074
one-electron systems, perturbed stationary states, wave theoretic formulation 1−46073
post-collision interaction, electron correl. 1−41462
relaxation processes, non-Markovian excitation effect 1−46085
resonance fluorescence, collisional perturbation in strong monochromatic driving field 1−45897
Rydberg atom+neutral, L-changing transitions, impulse treatment 1−19162
Rydberg atoms, collisional ang. momentum mixing, approx. scaling formula 1−24226
Rydberg states, excitation and collision mechanism, electric fields effect 1−28891
semiclassical scattering matrix expansion in small Massey parameter 1−41473
subbarrier resonances in inelastic channel during atomic collisions in a laser field 1−29094
theoretical atomic collision physics 1−46130
three level atomic scatt., laser spectroscopy study 1−36744
three-level atoms, collisionally aided radiative excitation 1−1320
two-atom coherence in collision broadened gas sample, response to coherent radiation 1−24220
two-atom coherence in collision-broadened gas, spectral lineshape of reson. absorpt., coherent radiation scatt. 1−24221
$Z=1<38$, oscill. strength moments, stopping powers, inelastic scatt. cross-sections 1−24227
Ag binding change effect on K-shell ionisation by deuterons and α-particles 1−10817
Ag slow neutron scatt. lengths and cross-sections, isotope effects 1−1324
Ar atom+He(Ne)(Ar)(Kr), 2p levels, depolarisation cross section temp. depend. *(French)* 1−33539
C, interstellar, collisional stabilisation of dielectronic-like recomb. process rel. to radio recomb. lines 1−27363
C^{5+}, electron scatt., hybrid multichannel algebraic variational method appl. 1−1316
C^{6+}+H, perturbed stationary states, charge exchange cross sections 1−46099
^{133}Cs, Rydberg D-states, hyperfine structs., lifetimes and collisional cross-sections 1−46072
Cu binding change effect on K-shell ionisation by deuterons and α-particles 1−10817
$Fe^{7+}+He^{2+}$, one electron ion 2s-2p excitation cross section, plane wave Born approx. 1−15003
H, excited states, collisions, magnetic quantum number, Stark obs. 1−19053
H, muonic, long lived 2s-state detect. in H_2 gas 1−51324
H, muonic, metastable, radiative collisional quenching calcs. 1−24293
H, spin polarised, mag. confinement 1−29147
H, spin polarised, spin relax. and recombination theory 1−29070
H-like ions, 1s and 2s, ionisation probabilities, first Born approx. calcs. 1−1347
H+Ne(Ar)(N_2)(CO_2), Lyman-alpha emission, collision induced 1−29090
He atoms, μ^- Auger capture and scattering cross sections HF calcs. *(Russian)* 1−6397
He beam, charge-changing collisions in gases, electron loss 1−10833
He, muonic, metastable, radiative collisional quenching calcs. 1−24293

atomic inelastic collisions continued
In slow neutron scatt. lengths and cross-sections, isotope effects 1−1324
K, $4^2P_{3/2}$-state, disorientation and disalignment induced in reson. collisions 1−6181
K+N_2(Ar), cross section energy dependence, fine structure transition 1−24213
Li_2 high-Rydberg quantum states distrib., effects of collisions 1−37303
Li^{2+}, electron scatt., hybrid multichannel algebraic variational method appl. 1−1316
Na D line density shift and broadening, elastic and inelastic collision influence 1−37350
Na, D_1-line collisional broadening cross-sections 1−33426
Na+Ar(N_2)(H_2) collisional broadening of D line, fluoresc. obs. 1−19050
Ne, alignment-orientation collisional transfer obs. 1−51147
Ne^{9+}, electron scatt., hybrid multichannel algebraic variational method appl. 1−1316
Ni, 4s-4p and 3d-4p transitions for sputtered atoms from metallic targets 1−46079
O I in thermosphere, collisional excitation of ^3P ground state fine struct. levels *(Chinese)* 1−54301
O II in emission nebulae, collisional de-excitation rel. to line intensity ratios, electron density and temp. 1−27594
S II in emission nebulae, collisional de-excitation rel. to line intensity ratios, electron density and temp. 1−27594
Se, metastable atoms, laser performance of electric-dipole forbidden transitions, collision effect, induced emission 1−37486
$Si^{12+}+He^{2+}$, one electron ion 2s-2p excitation cross section, plane wave Born approx. 1−15003
Tb 1−10817

atomic magnetic moment
see also gyromagnetic ratio
atom+atom interaction, photon density-density correl. 1−1303
energy-conservative dipole dephasing irreversibility 1−1654
first row ions isoelectronic series, E1, M1 and M2 transition probability 1−37157
interacting spheres, collisionally induced long-range dipole moment 1−10865
thermal neutron interactions with matter, nuclear and magnetic 1−36955
three electron atoms, autoionisation radiative and nonradiative decay 1−41353
two-level spin system, mag. moment dynamics under mutually perpendicular mag. field conditions 1−41503
^{133}Ba nucleus excited state mag. moment meas. *(Russian)* 1−41339
^{201}Hg mag. reson., free precession of nucl. spins, quadrupole perturbation effects 1−45886
^{201}Hg, mag. reson., relax., quadrupole perturbation effects 1−51153
$^{166}Ho^m$, multiaxis nuclear spin structs. determ. using γ-ray emission from orientated nuclei 1−26102
Na+Ar, Na resonance line press. broadening, mol. dynamics simulation 1−1183
Ne, alignment-orientation collisional transfer obs. 1−51147
Ti XVIII, magnetic dipole lines 1−15027

atomic mass
see also isotopes; mass spectra; nuclear mass
rare earth, in orthophosphates, effect on rate of vaporisation of P_2D_5 in thermal decomposition *(French)* 1−4080
Hg isotopes, atomic masses and mass differences 1−1397
Pd, isotope composition in meteorites, atomic weights, mass spectroscopic anal. 1−32667
Zr isotopic ratio in meteorites, lunar samples and granite G2, mass spectra 1−51303

atomic metastable states
EPR, gas phase, for determ. atomic metastable states 1−24070
hydrogenic ions, metastable, weak neutral currents anal. 1−24277
inert gas positive column plasma, medium-press., mol. ion and metastable atoms form., effect on electron temp. 1−11607
ion beams, metastable peak shapes, apparatus broadening deconvolution and kinetic energy spread 1−1170
ion beams, metastable peaks, instrumental parameters and kinetic energy release in linked scan 1−1171
optogalvanic detection, RF optical double resonance and level crossing spectrosc. 1−1187
SCF calcs. using complex coord. transform. 1−1065
transition metal atoms and clusters from polynuclear metal carbonyls, gas phase production, reaction kinetics 1−48690
$A+A_n \rightleftarrows A_{n+1}{}^*$, cluster dynamics, classical trajectory method 1−6418
Ar, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
Ar, fluid transpiration arc, excited state population densities 1−42251
Ar^++molecule, reaction, thermal rate consts. meas. 1−8550
$Ar^{+2}+N_2$, near thermal charge transfer studied by stored ion technique 1−53413
$Ar^{*+}+Ar \rightarrow Ar^*+Ar^+$, low energy charge transfer study, time of flight technique 1−6373
Ba II, (6P−5D) branching ratio 1−51157
Ba, reson. radiation scatt. from superposition of Zeeman levels, Hanle effect, density depend. 1−14836
Ca atom and gasdynamic beams, metastable atoms, vel. distrib. and state density, laser diagnostics 1−6407
H metastable beam, spin transitions in time-depend. mag. fields 1−46171
H, metastable S states, electron impact excitation, differential cross sections determ. 1−1379
H, muonic, long lived 2s-state detect. in H_2 gas 1−51324
H, muonic, metastable, radiative collisional quenching calcs. 1−24293
H_i electron impact ionisation, cross sections, metastable states 1−29121
H(2s) form. from H+H(H^+) collision, cross-section calcs. 1−1322
H(2s) form. in atom-ion and ion-molecule collisions, absolute cross-sections determ. 1−6378
He, electron impact triplet-triplet excitation, differential cross-sections calcs. 1−1387
He gas and superfluid, oriented metastable triplet state kinetics *(Russian)* 1−29936
He laser plasma, atom metastable state population *(Russian)* 1−1140
He, metastable S states, electron impact excitation, differential cross sections determ. 1−1379
He, muonic, metastable, radiative collisional quenching calcs. 1−24293
He, pulsed discharge, temporal and spatial variations of population of excited state atoms 1−29939
He+CO_2 metastable atom+molecule collisions, Penning ionis. and ejected electron energy spectrum *(French)* 1−37316

atomic metastable states continued
He+Cs, rate const. meas. for Penning ionisation at thermal energies 1−33552
He*+CO, Penning ionisation study of CO *(French)* 1−41481
He*+Ne, electronic energy transfer, one electron model pot. calcs. 1−1342
He(2^3S)+Cd II, Penning excitation cross sections determ. 1−41483
Hg atoms aligned in strong oscillating RF field, unmodulated reson. signals, displacement and broadening 1−6189
Hg metastable 6^3P_0 atom relaxation *(French)* 1−10677
Hg+Ne*(Ar*)(Kr*), quenching rate const., Penning ionisation and excitation transfer mechanism 1−51267
Kr, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
Mg, reson. radiation scatt. from superposition of Zeeman levels, Hanle effect, density depend. 1−14836
N+Ar*, electronic energy transfer 1−1340
N^++inert gas atoms, near-resonant charge transfer processes, metastable states 1−6349
$N^2D(^2P)+O_2$ reaction rate const. meas. 1−26725
N(II), UV transitions, branching ratios, metastable levels 1−37137
$N^+(^5S)$, prod. by N_2 electron impact dissociative excitation rel. to 2145 Å feature in aurora 1−22566
$N^*(^2D)$, diffusion coeff. in N_2, afterglow meas. 1−2133
$N^*(^2P)$, diffusion coeff. in N_2, afterglow meas. 1−2133
Ne, metastable atoms quenching in Ne afterglows, rate coeffs. 1−37136
Ne-Ar positive column plasma, metastable atom density meas. 1−38154
Ne+CO_2 metastable atom+molecule collisions, Penning ionis. and ejected electron energy spectrum *(French)* 1−37316
Ne+Na^+ collisions, metastable atomic states, excitation funct. 1−41485
Ne+Ne, elastic scattering, differential cross sections, time of flight obs. 1−24289
Ne*+CO, Penning ionisation study of CO *(French)* 1−41481
$Ne^*(3s^3P_{2,0})$+Ar(Kr)(Xe), differential elastic scatt., optical pot. and orbital interpretation 1−46061
O^++inert gas atoms, near-resonant charge transfer processes, metastable states 1−6349
O^++$O_2(N_2)(H_2)$, thermal energy reactions, metastable states, charge exchange, mass spectra 1−39633
O^{2+}+He, ground and metastable state reactions, rate constants, mass spectra 1−39610
O^{2+}+$He(O_2)(N_2)$, ground and metastable state reactions, charge exchange, rate consts., mass spectra 1−39634
O^{2+}+$O_2(N_2)(CO_2)$, ground and metastable state reactions, rate consts., mass spectra 1−39610
O(II) UV transitions, branching ratios, metastable levels 1−37137
Se metastable atoms, laser performance of electric-dipole forbidden transitions, collision effect, induced emission 1−37486
^{181}Ta low lying atomic levels, hyperfine and Zeeman studies, atomic beam mag. resonance 1−24102
Xe, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
Xe II $6p^4P_{5/2}{}^0$ level, lifetime meas. by selective laser excitation, fluoresc. obs. 1−33424
Xe ions, hyperfine structures and isotope shifts of $5d^4D_{7/2}$→$6p^4P_{5/2}{}^0$ transition 1−46146
Xe^2+N_2, collision, $N_2(B^3\Pi_g)$ form. 1−1326
ZnI triplet system, lifetimes and oscillator strengths 1−28927

atomic orbitals *see atomic structure*

atomic orbitals calculations
see also GO calculations; GTO calculations; STO calculations
atoms, K(2)L(8)$3s^m3p^n$, formulae for evaluation of valence orbital ionisation pot. 1−41507
butene, two-electron integrals, algorithm for transformation of AO basis to symmetry orbital basis 1−24012
canonical orthonormalisation to complete atomic orbital set union 1−45814
centre of gravity theorem for poles of one-particle Green's function 1−6122
closed shell free atoms, localised atomic orbital construction method 1−1075
Coulomb Green function between Slater orbitals, matrix element calcs. 1−14803
diatomic molecules, localised atomic orbitals determ. 1−1076
diatomics in molecules method with neglect of overlap 1−51100
electron capture at relativistic energy, nonorthogonality of at. wavefunctions 1−6377
excited states, ion core approx. 1−51149
Fermi contact interaction, solvable model 1−1094
first and second row atoms, lower excited configs., formulae for evaluation of valence orbital ionisation pot. 1−41507
Hartree-Fock orbitals, asymptotic behaviour 1−10640
Hiller-Sucher-Feinberg and contact operators in unrestricted HF approx. 1−28854
IIIB compounds, electron orbit struct. and superconducting transition temp. 1−25196
isoelectronic atoms and ions, SCF and Slater's orbital energy in open shell config. 1−33388
isoelectronic energy changes calc. from energy-density functionals 1−37101
mixed orbital configurations, unitary group approach 1−45818
multiconfig. Dirac-Fock calcs., transverse Breit, and QED corrections, computer package 1−33402
multiconfig. Dirac-Fock calcs. computer package 1−28881
polyatomic molecules, electric-field gradient at Cl nucleus, quantum mechanical, atomic orbital and STO calc., NQR freq. 1−1085
polyelectronic atoms, HTOs and STOs, minimum basis functions, SCF calcs. 1−14807
quasidegenerate electronic states, coupled-pair many-electron theory appl. 1−24013
relativistic radiationless transition probabilities for atomic K- and L-shells 1−17945
Rydberg atom+atom (molecule), semiquantal, impulse and multistate orbital theories 1−19168
Rydberg orbitals, Gaussian basis functions 1−41298
SCF equations for radial orbitals determ., least squares soln. method 1−19009
second row atoms, self-consistent field with pseudopot., average energy of config. calc. 1−37092
second-row atoms, Gaussian basis sets 1−19016

atomic orbitals calculations continued
self-consistent field with pseudopot., average energy of config. calc. 1−37092
shellwise virial theory, pot. and kinetic energy overlap integrals 1−14809
Slater type, overlap integrals, computer-generated formulae 1−10627
STO, multicentre integrals by complete set expansion 1−1071
three-atom systems, diatomics in molecules method with neglect of overlap 1−51100
total Hartree-Fock energy-eigenvalue sum relationship in atoms and ions 1−37093
two-electron atoms, effective pot. model for calc. energy shift in ground state 1−24021
two-electron integrals, algorithm for transformation of AO basis to symmetry orbital basis 1−24012
two-electron properties, HF calcs. 1−41308
two-electron systems, eigenfunctions of RPA, computer program 1−6137
Al, electron impact excitation cross sections calc. using semiempirical single orbitals *(Russian)* 1−15014
Be, HF wavefunctions, use of grid points of Gauss Legendre quadrature 1−33386
F atom in HF molecule, appln. of localised atomic orbital construction method 1−1075
Gd, electron orbit struct. and A_3-A_2 phase transition 1−25196
He and He like ions, $1s2s^3S$ state, coupled HF calc. 1−51105
He, HF wavefunctions, use of grid points of Gauss Legendre quadrature 1−33386
He isoelectronic sequence, effective pot. model for calc. energy shift in ground state 1−24021
Li to Ar atoms, self-consistent field with pseudopot., average energy of config. calc. 1−37092
N, inner-core energy levels, semiempirical studies, ESCA shifts studied by SCC-MO method 1−6154
Ne, HF wavefunctions, use of grid points of Gauss Legendre quadrature 1−33386
Ni, electron correl. for f orbitals 1−6174
NiF_6, two-electron integrals, algorithm for transformation of AO basis to symmetry orbital basis 1−24012
O^{7+}, variational relativistic calcs., squared Dirac operator appls. 1−51141

atomic polarisability
alkali metal atoms, core charge polarisation effects, HF calcs. 1−28862
alkali metal atoms, excited levels, dynamic polarisabilities 1−41331
atom+atom, radiatively assisted inelastic collision, weak field impact core limit, coherence effect 1−14999
atom+atom, radiatively assisted inelastic collisions, coherence effects 1−14998
atom-atom dispersion interactions, London approx. calcs. 1−29077
excited levels, dynamic polarisabilities 1−41331
fluoroform($-d_1$), integrated IR intensity and atomic polar tensors 1−37188
inert gas atoms, excited states, photoionisation 1−14853
inert gases, excited levels, dynamic polarisabilities 1−41331
interacting spheres, collisionally induced long-range dipole moment 1−10865
interacting systems, intermol. forces calcs., three body coeff. 1−14972
Li^++He, radiative collision processes studied in projectile energy range 0.45 to 4.2 keV, polarisation meas. 1−33541
pair polarisability, point dipole model, reson. and dispersion energies 1−6132
Resonance fluorescence polarisation of atom with degenerate levels *(Russian)* 1−33421
s-block atoms, electric dipole polarisabilities, Dirac-Fock calcs. 1−41311
second-low atoms (ions), multiconfigurational approach, atomic polarisabilities, polarised pseudopotentials 1−1127
Sternheimer equation, modified 1−14793
three-electron atomic system, self consistent perturbation theory derivation elec. quadrupole polarisability calc. 1−37105
two-level system, superradiant, ground state anal. by mean field theory 1−28942
vapours, fluoresc. spectra near glass surface, Doppler struct. due to light induced polarisation 1−6195
Ar, isoelectronic series, ferriclike ions, polarisabilities and sternheimer antishielding factor 1−51144
Be, freq. depend. polarisability, multiconfigurational time depend. HF approx. 1−10624
Cs, f-h and f-i intervals meas. using two- and three-photon microwave spectroscopy coupled with elec. field ionisation 1−24098
Cs-He pairs, hyperfine shifts, broadening and temp. coeff., rel. to ionisation pot. and polarisability coeff. 1−28926
Cs+He(Ne), Cs $6^2P_{3/2}$ state depolarisation, D_2 line optical pumping 1−19173
Cu isoelectronic sequence, quadrupole polarisation and dynamical correl. effects 1−24273
H, EM interactions and relativistic infinite component wave eqn. 1−45139
H, fluorescence angular distrib., H^+ polarisation effect 1−24077
H, multipole Cauchy moments, variationally determ. 1−10630
H, polarisability, oscillating strengths, Cauchy coeffs., quantum mech. 1−10635
H^++Ar(Kr), K-shell ionisation *(Portuguese)* 1−24234
H^++H(He), atomic excitation and polarisation at medium and high energy 1−10830
He, multipole Cauchy moments, variationally determ. 1−10630
He, rel. between charge density susceptibility, scatt. functions, and Van der Waals' functions 1−24203
He+H collisional pair polarisabilities, exchange perturbation theory using elec. field variant basis sets 1−46065
Li, isoelectronic sequence, quadrupole polarisation and dynamical correl. effects 1−24273
Li(2p)+$H_2(N_2)$, excitation cross sections, polarisation anal., mag. sublevel population of 2p state 1−6348
Na isoelectronic sequence, quadrupole polarisation and dynamical correl. effects 1−24273
Na, polarisation spectroscopy, optical pumping theory 1−51170
Na vapour, inverted signals in polarisation spectroscopy 1−45898
Rb-He pair, hyperfine shifts, broadening and temp. coeff., rel. to ionisation pot. and polarisability coeff. 1−28926
Xe, depolarisation factor of light scattered in crit. region 1−38048
Xe VIII, hydrogenic terms and ionization pot. 1−45882
Zn, electron impact, free-electron polarisation, optical meas. 1−19194

atomic positron scattering *see atomic electron impact excitation; atomic electron impact ionisation; elastic scattering of electrons by atoms and molecules*
atomic power *see nuclear power*
atomic reactors *see fission reactors*
atomic resonant states
absorption by trapped particles, linear reson. intensity 1−51168
alkali metal atoms, laser ionisation based on reson. saturation 1−45918
atom+atom interaction, photon density-density correl. 1−1303
Bloch-Siegert shift, influence of relax. times 1−45901
charge exchange of atoms in highly excited states on ions during accidental reson. 1−41488
electron affinities and ionisation potentials, calc. using coordinate rot. of electron propagator 1−6182
inert gases, electron impact, autoionisation, Feshbach resonances, electroionisation and photon spectra 1−37332
light scattering, correl. props. 1−15074
metals, collisions of atomic particles, one-electron processes, accurate asymptotical treatment 1−41499
multiphoton ionisation, resonance effects 1−28939
multiphoton resonant processes, book contrib. 1−51178
one-electron atom, quasi-Landau reson. 1−24081
optical nutation and photon echo on resonant atomic transitions 1−46462
optical resonances detection by fluoresc. obs. from optically pumped fast atomic beam *(French)* 1−24288
photoionisation, resonance and threshold effects 1−28934
resonance-radiation pressure on atoms 1−24100
SCF calcs. using complex coord. transform. 1−1065
surface wave/atom interaction with momentum exchange 1−1186
three-level systems, Doppler-free resons. 1−28905
two atom system, reson. fluoresc. intensity correlations calc. in weak-field limit 1−45896
two-atom system, reson. fluoresc. and absorpt. spectrum, dispersion force effects 1−45895
two-level spin system, mag. moment dynamics under mutually perpendicular mag. field conditions 1−41503
Ar, Beutler-Fano autoionising reson., relativistic multichannel quantum defect theory 1−1188
Ar, electron impact excitation of reson. transitions, calc. using distorted-wave Born approx., role of optical pot. 1−33568
Ar, fluid transpiration arc, excited state population densities 1−42251
Ba, reson. radiation scatt. from superposition of Zeeman levels, Hanle effect, density depend. 1−14836
Ba^++Ba, resonant charge transfer cross sections calc. 1−24223
Be, resonance states, electron affinities and ionisation pot., calc. using coordinate rot. of electron propagator 1−6182
Cs, laser induced autoionisation like resonances 1−28930
Cs+He(Ne), Cs $6^2P_{3/2}$ state depolarisation, D_2 line optical pumping 1−19173
Fr isotopes, D_2 optical reson. line, laser optical spectroscopy 1−19057
Ga vapour, direct and hybrid two-photon transitions 1−6223
H atoms, coupled to single quantised radiation mode 1−6221
H, electron impact excitations, cross sections, Feshbach resonances 1−19188
H^++CO, inelastic scatt., core-excited resons. 1−37299
He, electron scattering, elastic and inelastic, saddle-point technique, calcs. 1−1371
He^-, 1s2s2p ^2P Feshbach reson. state 1−51148
He^-, triply excited ^2P and ^2D resonance struct. investig. 1−1138
K, two-photon ionisation cross section calcs. from quasi-degenerate perturbation theory, HF calc., reson. struct. 1−33435
Kr, Beutler-Fano autoionising reson., relativistic multichannel quantum defect theory 1−1188
Mg, reson. radiation scatt. from superposition of Zeeman levels, Hanle effect, density depend. 1−14836
Mo XIV, 4p $^2P_{1/2}$ and $^2P_{3/2}$ levels radiative lifetimes, beam-foil spectrosc. meas. 1−51167
Na D line density shift and broadening, elastic and inelastic collision influence 1−37350
Na, laser ionisation based on reson. saturation 1−45918
Na, polarisation spectroscopy, Zeeman effect 1−6203
Pm, isoelectronic sequence, UV spectra, reson. lines, struct., HF calc., line strengths 1−28867
^{87}Rb vapour, optically pumped, RF multiple quantum transitions 1−45910
Sr, population inversion in reson. line by using cascading superfluoresc. in three-level system 1−33432
Sr, reson. line anomalous off-axis emissions, quasi-reson. pulsed laser illum. 1−19052
Xe, Beutler-Fano autoionising reson., relativistic multichannel quantum defect theory 1−1188
atomic scattering factors *see crystal atomic structure; crystallography; lattice dynamics*
atomic spectra
see also atomic fluorescence; atomic hyperfine structure; atomic spectral line breadth; atomic structure; beam-foil spectra; conversion electron spectra; radiative corrections; Russell-Saunders coupling; Stark effect; Zeeman effect
advances in atomic and molecular phys. (book) 1−13947
aligned atoms in strong oscillating RF fields, modulation signals 1−1150
alkali+rare gas atom pairs, collision induced absorption in dipole electronic transitions 1−29160
antisymmetrised geminal-power functions and their excitation spectrum calc. 1−19006
atom+atom interaction, photon density-density correl. 1−1303
atomic scattering factors, photoelectric cross sections,, dispersion formula, dipole approx. 1−19046
atoms in electric and magnetic field, spectrum near zero-field ionisation limit 1−24066
C I radio recombination lines, effects of new low-temp. dielectronic-like recomb. process 1−27363
catalogue of lines suitable for anal. of late type stars 1−40360
cold gas blanket expt., electron temp. profiles from hydrogen line spectra 1−51985
collisional redistribution of radiation, density matrix, radiative damping, interatomic pot. 1−14984
degenerate atom in binary collision approx., correl. function, scattered spectrum, eqn. of motion 1−14986
doppler-free transitions induced by strong double-frequency optical excitation 1−15208
atomic spectra continued
electric multipole transitions, role of EM field potential gauge 1−19043
electron density at nucleus, press. depend., for elements K-Ra inclusive 1−33428
electron quadrupole transition probabilities, many-electron theory 1−24082
elements, Z=1-100, photon cross-section and mass attenuation coeffs. 1−45909
EM transitions, relativistic effects in nuclear and atomic few body systems 1−50545
equivalent electrons, basis states, irreducible representation for SO(2l+1)×SU(2) using Sp(4l+2) 1−50342
EXAFS, principles and applications, review 1−28147
four level atoms, stimulated two-photon induced Raman scatt. 1−51550
heavy ion + atom collisions, QED of strong fields, coherent position prod. 1−14988
highly excited atoms, intense low-freq. EM radiation field 1−28895
hydrogenlike atoms, near-threshold Raman-type three-photon processes 1−41358
hyperfine shift X-ray lines excited during internal conversion *(Russian)* 1−41339
inert gas plasma, electron-beam-produced, emission spectra and short-pulse lasing obs. *(Japanese)* 1−24392
inert gases, electron impact, autoionisation, Feshbach resonances, electroionisation and photon spectra 1−37332
isotope shift, in complex electronic configurations 1−19058
isotope shift hyperfine struct., nonrelativistic probability electron density function 1−45902
laser radiation induced fast deep coding 1−46841
laser spectroscopy line shapes 1−45903
laser spectroscopy progress in atoms, mol. and nuclear physics 1−45034
line intensities and ratios, modification by astrophys. shocks, charge exchange effects 1−13678
many-level absorber, lossless propag. of simultaneous different-wavelength optical pulses, theory 1−51564
multilevel system, coherent sideband generation during EM propag., Maxwell and Schrodinger eqn. solns. 1−51427
nonresonant 3-photon scatt., transition cross sections 1−33411
opposite parity states, nonreson. 3-photon transition cross-sections 1−28940
positronium, annihilation in strong magnetic fields, energy levels, electromagnetic transitions 1−46173
quadrupole rotation of polarization plane 1−28928
Rabi frequency, review 1−24069
Raman coupling between dressed states in resonant multiphoton ionization 1−41357
Raman scattering, laser bandwidth effect 1−24455
single-atom resonance fluorescence, canonical transformation 1−14845
spectral line using excitation, collisionally redistributed fluoresc., polarisation calcs. 1−45893
three-level, bichromatic field interaction, reson. fluoresc. spectra 1−19048
three-level atoms, optical bistability mechanism 1−46432
transition metal elements emission spectra anal. by arc plasmatron 1−29928
two-atom coherence in collision-broadened gas, spectral lineshape of reson. absorpt., coherent radiation scatt. 1−24221
two-atom system, reson. fluoresc. and absorpt. spectrum, dispersion force effects 1−45895
two-level atom, extension of Einstein's model to relativistic frequencies 1−19042
two-level atom ensemble, mag. reson., interference of degenerate quasienergy states 1−33412
two-level atom in presence of pulse-train driving field, light scatt., power spectrum 1−14838
two-level atomic system, stimulated Raman scatt., quantum theory, detuning and upper level population effect 1−51543
two-level system, superradiant, ground state anal. by mean field theory 1−28942
vacuum UV radiation physics, conf., Charlottesville, VA, USA (June 1980) 1−16
VUV radiation physics, conf., Charlottesville, VA, USA (June 1980) 1−27648
weakly bound level decay in monochromatic field *(Russian)* 1−6212
'H, negative muonic, atomic transition cascade, deceleration times *(Russian)* 1−6413
Ag, matrix isolated in Xe, absorption spectra 1−33410
Al, atomic X-ray emission excited by mol. ions 1−1355
Al, fine struct. from fast extended X-ray absorpt. spectra 1−45892
Al VI, spectrum obs. 85-113, 100-1500 Å, energy level identification 1−1154
Ar+Xe, energy transfer kinetics, UV range 1−46092
B I isoelectronic series, K XV to V XIX, spectra of transitions within second shell 1−28914
Ba, absorption spectrum, magnetic effects 1−10685
Ba, doubly excited autoionising Rydberg states, electric field effect 1−1189
Ba, in inert gas, absorpt., collision-induced dipole transitions 1−6187
Ba, reson. radiation scatt. from superposition of Zeeman levels, Hanle effect, density depend. 1−14836
Be I isoelectronic series, Ar XV to V XX, spectra of transitions within second shell 1−28914
Be isoelectronic sequence, relativistic multichannel quantum defect theory 1−1178
Be-like ions, intermediate coupling collision strengths for Δn=O transitions in $1s^22s^2$, $1s^22p^2$ and $1s^22s2p$ configurations 1−49502
Be-like ions, line strengths for Δn=O transitions produced by electron impact 1−49501
Bi, parity violation, atomic physics checks 1−10856
Bi_n (n=1,2,3,4), inert gas matrices, Raman obs. 1−14904
$^{209}Bi+^{209}Bi$, 1 GeV, MO X-ray ang. distribs., Doppler shift and anisotropy 1−6354
Br VII, spectrum, excited state energie and fine struct. 1−45891
C I, ^3P ground state photoionisation spectrum 1−51175
C I isoelectronic series, K XIV to V XVIII, spectra of transitions within second shell 1−28914
C III, interconfiguration transitions in Wolf-Rayet stars 1−36294
C IV, beam foil excitation, relative level populations 1−46095
C IV 1549 Å in quasar spectra, use as standard cosmic candle 1−13879
C IV and semi-forbidden C III emission lines in QSOs 1−22916
C, isotope shift, in complex electronic configurations 1−19058
C VI, laser-produced plasma, polarisation shift of H_α lines 1−41348

atomic spectra continued
C+Cl ion, projectile double-K-vacancy fraction with target thickness, X-ray spectra 1−14997
Ca II emission lines in planetary nebulae 1−9625
Ca, spin-forbidden radiative transitions ab initio, SCF and CI calcs. 1−28883
Ca+inert gas, collision induced dipole transitions 1−46066
Cd II, ^2P and ^2D states, radiative lifetimes, delayed coincidence meas. 1−1177
Cd III, UV spectra and ionisation pot. 1−1158
Cr(I) visible line transition probabilities, emission meas. 1−33418
Cr(II) visible line transition probabilities, emission meas. 1−33418
Cs, 5^2D state, prod. from Cs_2 selective photolysis 1−48704
Cs, 6P state, prod. from selective photolysis of Cs_2 $X^1\Sigma_g$ state 1−48705
Cs, $6P_{3/2}$ lifetime from time-resolved spectroscopy 1−24072
Cs, n^2D and n^2F fine-struct. intervals obs. 1−1157
Cs, quasi-hydrogenic spectrum, Landau condensation 1−24067
Cs, reson. lines, shape of inner-wing satellites, pot. curve 1−6188
Cs XI, spectra, 80-300 Å range 1−37149
Cs^+, electron impact excitation, reson. cross section, VUV spectra 1−29124
Cs^+, transition from uncollapsed to collapsed excited f-wave functions via post collision interaction Auger effect 1−19068
Cs-Cs(K) systems, continuum-state pair absorpt., thermionic detect. of ionic fragments 1−41356
Cs-He pairs, hyperfine shifts, broadening and temp. coeff., rel. to ionisation pot. and polarisability coeff. 1−28926
Cu III to Ge VI, isoelectronic series, electric dipole transitions, energy levels and oscillator strengths 1−19059
Cu VI, emission spectra analysis in Fe III-Cu VI isoelectronic sequence 1−45890
Cu, X-ray absorpt. edge, ab initio SCF calc. 1−6277
D, muonic, de-excitation and Stark mixing processes *(Russian)* 1−41524
D, shape of D_α line *(Rumanian)* 1−14840
Dy I, excited levels, lifetimes, spectral line oscill. strengths 1−33425
Er I, first spectrum, description and classification 1−10683
F I-like spectra, $2s^m2p^k$ (m=2, 1, 0) config. energy level compilation 1−37089
F VII, beam foil excitation, relative level populations 1−46095
F+methanol($-d_1$) ($-d_3$)($-d_4$), IR chemiluminescent reactions, vibr. and rot. relax., branching ratios and kinetic isotope effects 1−26750
Fe II 3969.4 Å in solar spectrum, spatial intensity vars. rel. to stellar Fe lines form. 1−32671
Fe ions, Na-, F- and O-like, low-lying excited states, UV spectra, radiative lifetimes meas. 1−14839
Fe VII- term anal. 1−45883
Fe XVII in solar active region, X-ray emission line profiles anal. 1−54435
Fe XXI, Fe XXII in solar flare X-ray spectra, density sensitive line ratios meas. 1−32674
Fr isotopes, D_2 optical reson. line, laser optical spectroscopy 1−19057
Ga isoelectronic series, sp^2 config., photoabsorption, HF calcs. 1−28904
Ga V, in Cu III to Ge VI isoelectronic series, electric dipole transitions 1−19059
Ga vapour, direct and hybrid two-photon transitions 1−6223
Ge, atomic X-ray emission excited by mol. ions 1−1355
Ge I, high resolution VUV Rydberg state spectroscopy 1−28912
Ge VI, transitions between low-lying configurations 1−19059
H, Balmer lines, stark spectra, static field influence, appl. to plasma diagnostics 1−41344
H I, interstellar, spin temp. determ. from self-absorption lines 1−44610
H I 1s-2s transition peak emissivity, implications for quasar spectra 1−40575
H I emission and recomb. coeffs., appl. to exotic gaseous nebulae 1−27372
H I in interstellar high-vel. clouds, emission-absorpt. obs. rel. to mean spin temp. 1−9615
H I transition probabilities in intense mag. fields using adiabatic approximation, comparison with variational results 1−27366
H, ionisation-induced attenuation, in plasma electric microfield 1−19880
H, Lamb shift in n=2 state, sub-natural-linewidth spectrosc. obs. 1−41350
H, Lyman α radiation, resonance scatt. 1−14837
H Lyman- and Balmer-like transitions in strong magnetic fields 1−17763
H, muonic, de-excitation and Stark mixing processes *(Russian)* 1−41524
H, optical radiation from electron-stimulated desorption of excited particles 1−33420
H, Ryderberg states, quadratic Zeeman effect, oscillator strengths for dipole transitions 1−24080
H, spectrum in very strong mag. field, effect of proton mass 1−1148
H, X-ray emission line broadening by laser prod. plasma *(French)* 1−37153
H^-, IR emission from radiative attachment involving $2p^{23}P^e$ state 1−49493
H^-, interstellar, predicted $1s^2$-1s6p autoionisation resonance observed as diffuse interstellar line at 7581 Å 1−17884
H^-, intrashell doubly excited states, supermultiplet classification 1−6183
$H+N_2(O_2)$, Hα and Hβ emission cross section, appl. to H aurora 1−37146
$H^++N_2(O_2)$, Hα and Hβ emission cross section, appl. to H aurora 1−37146
HI, EM transitions in strong mag. fields 1−44424
^{2}H, pionic, energy shift and K_α transition, three body perturbative estimates 1−19216
He, electronic energy levels, Russell-Saunders coupling, ionisation pcts., spectra, electron impact method 1−49901
He, intrashell doubly excited states, supermultiplet classification 1−6183
He, supermultiplet classification of intrashell levels, ro-vibr. collective interpretation 1−6184
^{3}He, hyperfine structure, singlet-triplet distance, spectra 1−24274
He-Cu afterglow, energy and charge transfer, rate consts., spectra 1−38189
He-like ions, electric dipole line strengths for $\Delta n=0$ transitions produced by electron impact 1−49500
Hg atoms aligned in strong oscillating RF field, unmodulated reson. signals, displacement and broadening 1−6189
Hg, electron impact, $6^1S_0 \rightarrow 6^3P_1 \rightarrow 6^1S_0$ excitationIdeexcitation process, coincident photon coherent anal. 1−19193
Hg, emission profile, hyperfine struct. and intensity anomaly 1−33416
Hg I UV transition saturation spectroscopic anal. using freq.-doubled CW ring dye laser 1−24462

atomic spectra continued
$H^+(n=3)$ selective formation from He^{2+}+Li, visible and X-ray spectra 1−46096
I, absorption spectrum around 5915 Å, calibration and assignments 1−45888
I IX, spectrum obs. 300 to 80 Å, level designation 1−28913
I, neutral, excitation of inner 4d shell 1−51173
I photodissociation laser, hyperfine relax. 1−51465
I^-, transition from uncollapsed to collapsed excited f-wave functions via post collision interaction Auger effect 1−19068
In isoelectronic series, sp^2 config., photoabsorption, HF calcs. 1−28904
In, $M_{4,5}N_{4,5}N_{4,5}$ Auger electron spectrum 1−6220
Kr I, isotope shifts meas. in visible lines of arc spectrum 1−1172
Kr, X-ray reson. Raman scatt., electron ejection 1−1161
Kr+Xe_2, VUV emission, energy transfer kinetics 1−41477
La, spectrum atlas, 3000-7000 Å 1−6191
Li I, quartet spectrum transitions 1−45923
Li I isoelectronic sequence between Mg X and Ti XX, transitions between levels of principal quantum nos. 3 and 4, spectra 1−33409
Li I isoelectronic series, AR XVI to V XXI, spectra of transitions within second shell 1−28914
Li, optical radiation from electron-stimulated desorption of excited particles 1−33420
Li^-, beam-foil excited, optical emission obs. 1−37317
Mg, bound states, resonance struct., two-electron model, frozen approx. 1−41310
Mg, fine struct. from fast extended X-ray absorpt. spectra 1−45892
Mg I and II resonance line study of Am and non-Am stars of similar temp. 1−27516
Mg I solar b_2-line, coherence analysis of granular intensity 1−22758
Mg II emission lines in planetary nebulae 1−9625
Mg, reson. radiation scatt. from superposition of Zeeman levels, Hanle effect, density depend. 1−14836
Mg V, spectrum obs. 95 to 400 Å, energy level values 1−1155
Mg, X-ray K emission spectra 1−26312
Mg^+, fluorescence spectra, double resonance techniques 1−45889
Mn VII-Cu XI, K I isoelectronic series spectra 1−33419
Mo in Ar and Kr, matrix isolation UV absorpt. spectra 1−41336
Mo XIV, 4p $^2P_{1/2}$ and $^2P_{3/2}$ levels radiative lifetimes, beam-foil spectrosc. meas. 1−51167
Mo XIV, revised 6p $^2P_{1/2}$ level 1−51152
N I isoelectronic series, K XIII to V XVII, spectra of transitions within second shell 1−28914
N II 2145 Å feature in aurora, study of $N^+(^5S)$ prod. by N_2 electron impact dissociative excitation 1−22566
N IV, interconfiguration transitions in Wolf-Rayet stars 1−36294
N V, beam foil excitation, relative level populations 1−46095
N VII, laser-produced plasma, polarisation shift of H_α lines 1−41348
N VUV spectral lines, Stark broadening, ion contrib. 1−1169
N+Ar*, electronic energy transfer 1−1340
N(II), UV transitions, branching ratios, metastable levels 1−37137
^{14}N, ionised, polarisation of atomic transitions after ion beam surface interaction 1−33417
Na D line density shift and broadening, elastic and inelastic collision influence 1−37350
Na I, spectral lines form. in solar atmosphere 1−27440
Na, Larmor precession in polarisation spectroscopy with spatially separated beams 1−6204
Na, optical radiation from electron-stimulated desorption of excited particles 1−33420
Na, polarisation spectroscopy, Zeeman effect 1−6203
Na, transitions to Rydberg levels, absorpt. profiles, perturbed by Ar 1−37144
Na vapour, double electronic excitations, 2s threshold, transmission spectra 1−28903
Na+He, broadening of NaD_2 line, collision rates and cross sections calcs. 1−41465
Ne, autoionising and excited states, scattered-electron spectra 1−29117
Ne, electronic energy levels, Russell-Saunders coupling, ionisation pcts., spectra, electron impact method 1−49901
Ne I sequence, wavelength predictions for likely observable lines 1−41337
Ne, metastable atoms quenching in Ne afterglows, rate coeffs. 1−37136
Ne, spectrum parametrisation, spin-spin, spin-orbit and orbit-orbit interactions 1−33401
Ne V, semi-forbidden transitions, electron impact excitation, collision and oscillator strengths 1−24260
Ne X in solar active region, X-ray emission line profiles anal. 1−54435
Ni, atomic X-ray emission excited by mol. ions 1−1355
Np(III)(IV)(V)(VI) oxidation and absorpt. spectra in HNO_3 aq. soln. 1−19045
O I 1356 Å rel. to F-region parameters 1−32473
O I 5577 Å emission intensity, solar tide effects 1−22563
O I-like spectra, $2s^m2p^k$ (m=2, 1, 0) config. energy level compilation 1−37089
O III, ground state config., transition probabilities and line intensity ratios 1−33423
O III, oscillator strengths rel. to Bowen fluorescent mechanism in emission nebulae 1−13681
O III far IR forbidden line emission from galactic centre 1−22893
O, isotope shift, in complex electronic configurations 1−19058
O V, interconfiguration transitions in Wolf-Rayet stars 1−36294
O VI, beam foil excitation, relative level populations 1−46095
O(II) UV transitions, branching ratios, metastable levels 1−37137
P VI, transition probability, semiempirical calcs. 1−1176
P XI (P XII), ions, transitions between levels of principal quantum nos. 3 and 4, spectra 1−33409
Pb, excited state, two-step autoionisation, 5d spectra 1−45881
^{208}Pb+^{208}Pb, 1 GeV, MO X-ray ang. distribs., Doppler shift and anisotropy 1−6354
Pd isoelectronic sequence, theoretical line strengths for $4d^{10}\ ^1S-4d^94f^1P^0$ reson. transition, HF calcs. 1−24068
Pm, isoelectronic sequence, UV spectra, reson. lines, struct., HF calc., line strengths 1−28867
Rb, ionisation energies, Z+1 approx., photoabsorption spectra anal. 1−41334
Rb, reson. lines, shape of inner-wing satellites, pot. curve 1−6188
Rb-He pair, hyperfine shifts, broadening and temp. coeff., rel. to ionisation pot. and polarisability coeff. 1−28926
Rb(I), transitions, emission of superradiant light, polarisation, quantum fluctuation study 1−45922

atomic spectra continued
^{85}Rb, optical self-pumping in hyperfine struct. of ground state, mag. reson. obs. 1−33413
Rb*+inert gas collision, spectral broadening and shift 1−1179
S VII, transition probability, semiempirical calcs. 1−1176
Si, atomic X-ray emission excited by mol. ions 1−1355
Si I, lifetimes and oscillator strengths rel. to solar and meteoritic Si abundance 1−54442
Si I in sunspot, spectra redshift and line weakening interpretation 1−17799
Si^+, fine struct. levels, population, effect of UV pumping, astrophysical appl. 1−54362
Sm, field and mass isotope shifts, J dependence, spectra 1−45880
Sr, absorption spectrum, magnetic effects 1−10685
Sr I, high resolution VUV Rydberg state spectroscopy 1−28912
Sr, ionisation energies, Z+1 approx., photoabsorption spectra anal. 1−41334
Sr, transition oscillator strengths, appl. to element abundance in Hg-Mn stars 1−37145
Ti I, transition probabilities for 3600-6300 Å lines 1−10684
Ti in Ar and Kr, matrix isolation UV absorpt. spectra 1−41336
Tl isoelectronic series, sp^2 config., photoabsorption, HF calcs. 1−28904
Tl+Kr(Xe), collisional 535 nm line broadening and shift 1−19174
U II, III, IV, plasma emission coeffs., ab initio calc. 1−45885
Xe, $(6p[1/2]_0)$ and $(6p[3/2]_2)$ state formation by VUV absorpt. 1−45887
Xe, depolarisation factor of light scattered in crit. region 1−38048
Xe, oscillator strength meas. by hook method, using VUV Mach-Zehnder interferometer 1−50235
Xe, transition from uncollapsed to collapsed excited f-wave functions via post collision interaction Auger effect 1−19068
Xe VI, VII, VIII, beam-foil spectrum obs. 500 to 1550 Å 1−1153
Xe VIII, hydrogenic terms and ionization pot. 1−45882
Y I, oscillator strengths for 2723 to 4761 Å transitions, hook-method meas. in furnace 1−28921
Y II, transition oscillator strength, appl. to astrophysics 1−9355
Y, transition oscillator strengths, appl. to element abundance in Hg-Mn stars 1−37145
Yb I, electron impact excited autoionisation states, electronic spectra 1−24268
Yb II, electron impact excited autoionisation states, electronic spectra 1−24268
Zn IV, in Cu III to Ge VI isoelectronic series, electric dipole transition 1−19059
Zr III, classified lines and energy levels 1−45884
Zr in Ar and Kr, matrix isolation UV absorpt. spectra 1−41336
Zr, transition oscillator strengths, appl. to element abundance in Hg-Mn stars 1−37145
Zr(IV), trebly ionised, transitions to nd(n=4, 5, 6) levels, spectrum anal. 1−10682

atomic spectral line breadth
absorption by trapped particles, linear reson. intensity 1−51168
atomic ion K_α radiation line-shift variation, plasma diagnostic appl. *(Chinese)* 1−51162
atoms, core-level lifetimes, XPS meas. 1−6218
Doppler linewidth nomograph and table 1−28920
ion beams, metastable peak shapes, apparatus broadening deconvolution and kinetic energy spread 1−1170
ion beams, metastable peaks, instrumental parameters and kinetic energy release in linked scan 1−1171
ionised lines, Stark width 1−10692
Landau-Zener satallite shape temp. depend. 1−29093
laser spectroscopy line shapes, review 1−45903
multiphoton excitation and ionisation, collective emission effect near three photon reson. 1−10703
natural line shape theory, book contrib. 1−14849
optical triple reson., line narrowing condition 1−51176
oscillator nonlinearity, spectral evidence 1−28925
pressure broadened spectral lines, profile parameter determ., statistical anal. 1−45907
pulsed-excitation laser spectroscopy, sub-natural linewidth interpretation 1−41349
Raman scattering, laser bandwidth effect 1−24455
rare earths, low frequency L-emission satellites origin 1−14842
resonant light scatt., correl. props. 1−15074
Rydberg level broadening and slow electron reson. scatt. 1−41495
solar line shifts, limb effect across plages and supergranules with latitudes 1−22759
spectral overlaps, mathematical model and its use for line shape parameters 1−53518
Stark broadening, ion dynamics effect *(French)* 1−37151
Stark broadening of atomic spectral lines in multimode laser radiation field *(Russian)* 1−10693
Stark broadening of neutral lines, Model Microfield Method *(French)* 1−37152
superfluorescent pulses, spectral line, delay-time statistics 1−51431
two-photon absorpt. in standing-wavefield under conditions of longit. interaction with at. beam 1−51177
visible spectrum of beta Geminorum, line breadth and blocking coeffs. 1−17822
$Z_1+Z_2>150$ collision systems, $2p_{1/2}\sigma$ excitation probability, line width anal. 1−19047
Zeeman component width of simple atomic lines *(French)* 1−45900
Ar laser, ionic line broadening obs. along high-current discharge axis 1−46297
Ba atom and ion; laser excited fluoresc., rel. spatial profiles 1−10691
Ba, collision broadening of principal series lines, in Kr atmosphere 1−19054
Ba I and Ba II, autoionising and Auger levels, electron impact excitation, ejected-electron spectrum 1−24261
C III 1175 Å multiplet in UW Canis Majoris, P Cygni profile vars., phase correlation 1−54548
C VI, laser-produced plasma, polarisation shift of H_α lines 1−41348
Ca II K in solar spectrum, two-dimensional radiative transfer rel. to line wings intensities 1−32675
Ca, optical Ramsey fringe profiles, second-order Doppler effect 1−51165
Cd, Lβ satellite origin 1−14841
Cs, pressure-broadened spectral lines, shift, width, and asymmetry 1−10696
Cs, quasi-hydrogenic spectrum, Landau condensation 1−24067
Cs, reson. lines, shape of inner-wing satellites, pot. curve 1−6188

atomic spectral line breadth continued
Cs+$H_2(N_2)$(inert gases), elastic collision cross section 1−19158
Cs+inert gas, far wing profile, interaction pot. and oscillator strengths *(French)* 1−37154
Fe I lines, damping constants in solar photosphere 1−22757
Fe II UV reson. lines in solar spectrum, wing photons pumping rel. to Fe II 3969.4 Å spatial intensity var. 1−32671
Ge, gas phase high temp. photoelectron spectroscopy, relativistic config. interaction calc. 1−33436
H, antiprotonic, K-series X-ray spectrum 1−1419
H I Lyman α profiles for two solar flares 1−4855
H, kaonic, K-series X-rays obs. 1−1420
H, X-ray emission line broadening by laser prod. plasma *(French)* 1−37153
HI, EM transitions in strong mag. fields 1−44424
He, electron-impact broadening and line shifts in hot plasma, semiclassical convergent calcs. 1−1182
4He, state mixing and transition line shapes, mag. and motional Stark field effect 1−1180
HeI forbidden transition, corrected binary collision treatment, ion dynamic corrections 1−19055
Hg atoms aligned in strong oscillating RF field, unmodulated reson. signals, displacement and broadening 1−6189
Hg, self-broadened 1849 Å line, transition moment variation with internucl. distance *(French)* 1−51163
Hg+Hg (inert gases), spectral profile anal., collision broadening *(French)* 1−37155
K+Ar, 4P-7S and 4P-5D lines, collisional broadening and shift 1−51166
Mg II k in solar spectrum, two-dimensional radiative transfer rel. to line wings intensities 1−32675
N VII, laser-produced plasma, polarisation shift of H_α lines 1−41348
N VUV spectral lines, Stark braodening, ion contrib. 1−1169
Na D line density shift and broadening, elastic and inelastic collision influence 1−37350
Na, D_1-line collisional broadening cross-sections 1−33426
Na I, line form. in solar atmosphere rel. to intensity profile centre to limb var. 1−27440
Na Rydberg state disappearance and broadening in strong laser field 1−28897
Na, unidirectional amplified spontaneous emission, vel. depend. light shift 1−6209
Na+Ar, Na resonance line press. broadening, mol. dynamics simulation 1−1183
Na+inert gas, D line broadening, width, shift and asymmetry meas. 1−6206
O III, ground state config., transition probabilities and line intensity ratios 1−33423
O VI 1032 Å line profiles of solar active region prominence 1−27458
O^+, Stark width, electron impact broadening 1−1167
O^{2+}, Stark width, electron impact broadening 1−1167
Pm, isoelectronic sequence, UV spectra, reson. lines, struct., HF calc., line strengths 1−28867
Rb, reson. lines, shape of inner-wing satellites, pot. curve 1−6188
^{87}Rb lamp profiles, temp. depend. anal. 1−41346
^{87}Rb, resonance line profile parameter determ., statistical anal. 1−45907
Rb*+inert gas collision, spectral broadening and shift 1−1179
Sn, gas phase high temp. photoelectron spectroscopy, relativistic config. interaction calc. 1−33436
Sr I, line shapes during pulsed discharge 1−33427
Sr II, line shapes during pulsed discharge 1−33427
Tl+Kr(Xe), collisional 535 nm line broadening and shift 1−19174
Xe atom, degenerated three-level system, power broadening of probe line-shape 1−19056

atomic structure
see also atomic electron correlations; atomic excited states; atomic fine structure; atomic orbitals calculations; atomic polarisability; atomic spectra; nuclear screening; Russell-Saunders coupling; triplet state
alkali atom, Rydberg states, Stark struct., atomic core influence 1−6202
atoms, K(2)L(8)$3s^m3p^n$, formulae for evaluation of valence orbital ionisation pot. 1−41507
book 1−13949
cascade correlations, luminal channel, nonlocality of quantum mechanics 1−6409
charge transfer in heavy-ion collisions at relativistic velocities, electron capture 1−19181
compound states in atoms, molecules, and clusters 1−37110
configurations, open shell system, relativistic formulation, many body problem 1−14789
core-valence excitations, many-body theory 1−52460
Coulomb functions (negative energies), calc. program 1−24016
doubly excited atoms, pairing model 1−1060
electron coincidence spectroscopy, struct. investig. 1−51299
electrostatic potential-electronic density rels. 1−1064
energy eigenvalues, analytic atomic potential, perturb. treatment *(Spanish)* 1−51073
energy-density rel. and screening const. in atoms 1−37115
expectation values, hydrogenic and Thomas-Fermi, Z-dependence 1−45845
expectation values, inequalities calcs. 1−37103
fast ion-beam collisions, atomic struct. investigations, life time determ. 1−29105
first and second row atoms, lower excited configs., formulae for evaluation of valence orbital ionisation pot. 1−41507
first row atoms and ions, self-interaction corrections in density functional formalism 1−51145
ground state energy, atom with Z=86 to 290 Thomas-Fermi model, SCF calcs. 1−45846
H atoms in magnetic field, energy eigenvalues and bound-bound transitions, CPOLAR program 1−6138
Hartree-Fock-Slater scheme, α-parameter, 1-electron eigenvalues and total energy calcs. 1−1091
high resolution electron microscopy of crystal defects and surfaces, book contrib. 1−10051
Hiller-Sucher-Feinberg and contact operators in unrestricted HF approx. 1−28854
inert gas matrices, effects on electronic levels of isolated atoms, spectra 1−28902
ion, separation of centre of mass motion 1−33439
isoelectronic series, energy-density rel. and screening const. 1−37115

atomic structure continued
j-j coupling within shell of equiv. atomic electrons, quasi-spin method for tensor props. 1−19002
low energy level spacing distrib. in atomic table ensemble 1−18999
molecules, representation as self-interacting field with internal struct. quasi-particles 1−14797
n-electron systems, cusp conditions for eigenfunctions 1−24011
Newtonian theory, extension of Newton's eqn. of motion 1−40652
non-stationary states, wave functions, complex coord. and variational principle calcs. 1−51088
octet compounds, nodal, ionic and at. radii 1−51113
one electron atom, quasi-Landau reson. 1−24081
one-electron atom as a probe of spacetime curvature 1−9913
open-shell electronic systems, ionisation processes, branching ratios 1−24065
optimalised projected Hamiltonian and groundstate algorithm 1−19010
pair correlation energies, second order, transferability of partial wave increments 1−6147
parentage coefficients, algebraic expressions determ. 1−19008
particle dynamics in modified heliocentric coords. 1−19005
plasma-dynamic laser, atomic level population inversion in thermally heated recombining plasma 1−24402
polarisation propagator, operator manifolds, Hermiticity, stationary, nonredundance, algorithms 1−14802
positronium, annihilation in strong magnetic fields, energy levels, electromagnetic transitions 1−46173
positronium, Coulomb interaction within 6th order accuracy in α, quasi-pot. approach *(Russian)* 1−37372
proton electron mass ratio, direct determ. using cyclotron freqs. 1−557
R(4) symmetries 1−45813
rare earth metals, spin-pairing energy description, parameters, refining 1−24057
scattering phases, at. struct., X-ray absorpt. spectra 1−41338
second row atoms, self-consistent field with pseudopot., average energy of config. calc. 1−37092
second row atoms and ions, self-interaction corrections in density functional formalism 1−51145
second-low atoms (ions), multiconfigurational approach, atomic polarisabilities, polarised pseudopotentials 1−1127
self-consistent field with pseudopot., average energy of config. calc. 1−37092
selfadjoint operator eigenvalues, variance minimisation, var. calcs. 1−28846
solid surfaces, atomic, electronic and macroscopic props. 1−52616
Thomas-Fermi model, leading corrections 1−14817
transition metal negative ions, binding energies and struct. 1−45915
two electron at. config., energy ordering 1−14827
two-electron atoms, effective pot. model for calc. energy shift in ground state 1−24021
two-electron properties, HF calcs. 1−41308
two-electron-one-photon transition probabilities, K and L shells, atomic struct. influence 1−45904
two-level atom interacting with quantised radiation field, soluble quantum model, dipole moment 1−24084
two-level atomic system, stimulated Raman scatt., quantum theory, detuning and upper level population effect 1−51543
vacuum UV radiation physics, conf., Charlottesville, VA, USA (June 1980) 1−16
valence shell observation possibility in TEM 1−46169
wave functions, bound-state asymptotic behaviour 1−19004
Al I isoelectronic sequence, low lying $^2P^0$, ^2D and $^2F^0$ state lifetimes calcs. 1−45908
Al VI, spectrum obs. 85-113, 100-1500 Å, energy level identification 1−1154
B and isoelectronic series, oscillator strengths, electronic configs., HF calcs. 1−19014
Be I-like spectra, $2s^m2p^k$ (m=2, 1, 0) config. energy level compilation 1−37089
C, energy levels, relativistic corrections, rel. to singlet-triplet, splitting in methylene 1−6180
C, energy struct. calcs. for atoms in infinitely deep potential well *(Russian)* 1−37109
C, tetracoordinate planar, singlet biradical, struct. calcs. 1−45821
$CaF_2(Cl_2)$, 3d electron collapse in $2p^53d$ configuration of Ar-like ions *(Russian)* 1−26371
Cs II, energy levels in $5p^55d$ configuration 1−1059
Cs XI, spectra, 80-300 Å range 1−37149
Cu III to Ge VI, isoelectronic series, electric dipole transitions, energy levels and oscillator strengths 1−19059
$(e^-e^+e^-)$ ion, three-body Coulomb system, ground-state energy, hyperspherical harmonics 1−45828
Er IV, $4f^N5d$ and $4f^N6s$ states, config. interpretation by generalised parametric method 1−37088
Fe series, self-interaction corrections in density functional formalism 1−51145
Ga V, in Cu III to Ge VI isoelectronic series, electric dipole transitions 1−19059
Ge VI, transitions between low-lying configurations 1−19059
H, approximate dynamical symm. in uniform mag. field 1−1168
H, energy levels, transition probabilities, perturbation calcs. validity 1−41347
H, excited states, collisions, magnetic quantum number, Stark obs. 1−19053
H, ground state energy solns., for atom in spherical enclosure 1−33393
H, harmonic coeff., third level, discrete energy level spectra, LF limits 1−51078
H, spin polarised, Bose condensation 1−1078
H, spin polarised, stability 1−1079
H, Stark profile asymmetry, differentiated population of at. states 1−41345
H^-, three-body Coulomb system, ground-state energy hyperspherical harmonics 1−45828
H-like atoms, approximate solution of the Dirac equation using the Foldy-Wouthuysen hamiltonian 1−18998
H-like nlm states, asymptotic props., correspondence principle appls. 1−6125
$H^+ + Ar(Kr)$, K-shell ionisation *(Portuguese)* 1−24234
H_2O, triply and quadruply excited electronic config., multiconfig. SCF study 1−1054
^2H, pionic, energy shift and K_α transition, three body perturbative estimates 1−19216

atomic structure continued
He, 2^1P state, alignment and orientation parameters determ. by electron-photon coincidence technique 1−6390
He, electronic energy levels, Russell-Saunders coupling, ionisation pcts., spectra, electron impact method 1−49901
He, ground state, Pade approximants 1−10634
He, ground state, selfadjoint operator eigenvalues, variance minimisation, var. calcs. 1−28846
He isoelectronic sequence, effective pot. model for calc. energy shift in ground state 1−24021
He, three-body Coulomb system, ground-state energy hyperspherical harmonics 1−45828
He, weakly coupled bound states, T-matrix anal. in one dimens. 1−1061
He^-, photodetachment cross sections, autodetached electron energy meas. 1−19062
He-like ions, general theory for restricted quantum-mecanical three-body problems 1−9852
^4He, far IR laser mag. reson. spectroscopy of S and P states 1−41335
I IX, spectrum obs. 300 to 80 Å, level designation 1−28913
KF(Cl)(Br)(I), 3d electron collapse in $2p^53d$ configuration of Ar-like ions *(Russian)* 1−26371
Li, ^2S and ^2P states, lowest var. upper bound 1−18994
Li to Ar atoms, self-consistent field with pseudopot., average energy of config. calc. 1−37092
Mg, bound states, resonance struct., two-electron model, frozen approx. 1−41310
Mg, energy levels, dipole oscillator strengths, multi-config. optimised central pot. model 1−45830
Mg, KLL Auger transition energy, HF-Slater transition state calcs. 1−24010
Mg V, spectrum obs. 95 to 400 Å, energy level values 1−1155
N, energy struct. calcs. for atoms in infinitely deep potential well *(Russian)* 1−37109
Na, KLL Auger transition energy, HF-Slater transition state calcs. 1−24010
Ne, electronic energy levels, Russell-Saunders coupling, ionisation pcts., spectra, electron impact method 1−49901
Ni clusters, electronic struct. calc. using ab initio effective core pot. SCF method 1−24305
O, energy struct. calcs. for atoms in infinitely deep potential well *(Russian)* 1−37109
O^{3+}, autoionis. states, quasi-projection operator calcs. 1−1092
Sc_2O_3, 3d electron collapse in $2p^53d$ configuration of Ar-like ions *(Russian)* 1−26371
Si^{11+}, autoionis. states, quasi-projection operator calcs. 1−1092
Ti, $3d^24s^2$, $3d^34s^1$ and $3d^4$ states, MCSCF CI calcs. 1−1126
Ti (111), configurations, energy levels, intermediate coupling, HF calcs. 1−45827
Tl, parity nonconservation, $6^2P_{1/2}$-$7^2P_{1/2}$ transition obs. 1−46150
Tm IV, $4f^N5d$ and $4f^N6s$ states, config. interpretation by generalised parametric method 1−37088
U I, II, electronic partition functions, 100 to 15000K 1−45842
Xe atom, degenerated three-level system, power broadening of probe lineshape 1−19056
Xe I, off-resonant E2 transition obs. in two-photon absorpt. 1−24096
Zn IV, in Cu III to Ge VI isoelectronic series, electric dipole transition 1−19059
Zr III, classified lines and energy levels 1−45884
Zr(IV), trebly ionised, transitions to nd(n=4, 5, 6) levels, spectrum anal. 1−10682

atomic structure, crystals *see crystal atomic structure*

atomic weight *see atomic mass*

atoms
see also exotic atoms; helium atoms; hydrogen neutral atoms; positronium
heavy atom motion, obs. at TV scan rates using high-resolution STEM imaging 1−15037

attaching *see joining processes*

attenuation *see absorption; dispersion (wave); scattering; transmission*

attenuation measurement
fibre optic cables, attenuation mode mixing and coupling loss meas. by time-domain reflectometer *(German)* 1−18287
graded index fibres, backscatter attenuation meas. 1−19441
high-precision test installation for attenuation meas. at 0.01-100 MHz, reference standard verification appl. 1−296
industrial self-adjusting microwave attenuation and phase shift monitor 1−28024
loose optical fibre cable structures, cabling losses and thermal behaviour, precise attenuation meas. 1−11164
microwaves, effect of sand storms in central Sudan 1−54233
multimode fibres, differential mode attenuation meas. *(Japanese)* 1−41862
multimode graded index, broadband spectral attenuation meas., interlaboratory comparison 1−11144
optical fibre 1−11147
optical fibre backscatter system employing semicond. laser diodes and avalanche photodiodes, noise anal. 1−46576
optical fibres, attenuation meas. system *(German)* 1−19451
optical fibres, backscatter-loss signatures, spectral attenuation meas. over wide range, correl. with fibre defects 1−11145
optical fibres, launch-dependent attenuation meas. on 10-km concatenation expt. 1−11143
optical fibres, properties meas. over wavelength range 0.85 microns to 1.7 microns *(German)* 1−19450
optical fibres attenuation meas. procedures comparison *(German)* 1−19461
optical fibres using reflectometer *(German)* 1−18285
optical light guides, automatic test set up for spectral attenuation meas. *(German)* 1−19449
optical pulse reflectometer prospects *(German)* 1−18284
optical time-domain reflectometer, principles and design, for application in fibre optics *(German)* 1−37626
rain, propagation characteristics of 30/20 GHz domestic satellite communication system design appls. *(Japanese)* 1−4565
rain and cloud attenuation of radiowaves in 11 to 110 GHz range, meas. made near Slough, UK 1−40163
rain and ice attenuation and depolarization at 19 GHz 1−54232
RF attenuation meas. using low-noise bolometers in mixer of precision receiver in test installation 1−23262

attenuation measurement continued
single-mode, broadband spectral attenuation meas., interlaboratory comparison 1−11144
SIRIO satellite carrier transmission near 11.6 GHz attenuation meas. at Appleton Laboratory 1−22378
SIRIO satellite SHF propag. data, attenuation statistical behaviour 1−22377
attitude control
balloon borne telescope, attitude control *(Japanese)* 1−22680
Pioneer Venus missions 1−44407
satellite attitude control, model reference adaptive control system charcts. 1−44409
satellites, magnetic stabilization, analysis and design 1−27356
spacecraft rotation axis optimal reorientation based on fuel expenditure 1−54339
Voyager spacecraft, attitude and articulation control subsystem 1−32597
audio acoustics
see also audio recording; audio systems; hearing; speech
bandwidth requirements for optimum sound signal transmission, listening tests 1−37742
free-field measurements for a loudspeaker system in a normal room, methods of reducing reflected waves *(Japanese)* 1−6733
frequency analysis of time window considering aural masking 1−19529
audio amplifiers *see audio-frequency amplifiers*
audio discs *see video and audio discs*
audio equipment
see also audio-frequency amplifiers; audio-frequency oscillators; gramophones; loudspeakers; microphones; pick-ups; video and audio discs
stereophonic recording and reconstruction methods to generate real and virtual images 1−15354
tuning forks, modified, with high stability for support 1−6739
audio-frequency amplifiers
acoustic emission, appl. of low noise high gain amplifier 1−19523
high-fidelity system, amplifiers and loudspeakers 1−15352
audio-frequency oscillators
low-distortion acoustic-measurement oscillator using semiconductor junctions as variable-tuning elements 1−41933
audio oscillators *see audio-frequency oscillators*
audio recording
see also video and audio discs
16-mm clear-print sound-film time-code transfer machine and associated editing table 1−50258
book 1−11282
cinematographic scoring stages, sound insulation from external noise *(Russian)* 1−19516
magnetic sound film transports, film and video studios appl. 1−5414
optical soundtracks, distortion balance test procedure 1−51684
sound negative processing control in film processing laboratories 1−23324
stereophonic recording and reconstruction methods to generate real and virtual images 1−15354
audio systems
see also acoustic devices; acoustic equipment
AF spectral analysis by strobe-type optical system 1−24604
bandwidth requirements for optimum sound signal transmission, listening tests 1−37742
auditory activity *see hearing*
auditory perception *see hearing*
Auger effect
acid phthalate crystals, X-ray reflection coeff. across oxygen K-edge region 1−26305
adsorption, ultrahigh vacuum system for LEED, AES, and ion scatt. spectrometry studies 1−52438
alkanes, Auger spectra mol. orbital treatment, one-electron approx. 1−37268
atmospheric pollutant particle surface characterisation by Auger and X-ray photoelectron spectroscopy 1−4241
atom+H^+, K-shell ionisation, electronic relativistic effects 1−24237
atoms, third row elements, muonic cascade 1−1417
backscattering factor for L_3MM transitions, Monte Carlo method 1−21301
black chrome, solar absorbing, struct. refinement, optical degradation mechanisms 1−16157
CdTe(Se), surface, clean and with adsorbed O_2, EELS, AES and LEED study 1−7687
ceramics, chemical analysis, electron- and ion-beam methods advantages and limitations *(German)* 1−53508
chemical composition of solid surface, ZES *(Slovenian)* 1−31928
chemical shift of level unperturbed by electron relaxation 1−19069
cycloalkanes, Auger electron spectra, lineshapes 1−37269
desorption, Auger initiated, reneutralisation bottleneck 1−38658
diamond in contact with transition metal, adhesion and friction 1−31671
discoloured, vapour deposited film, AES and XPS anal. of composition 1−11996
dynamic theory, Auger decay, photoelectron spectra 1−21299
electronograph spherical grid fabrication method 1−50277
electrons, spin polarisation 1−24093
emission line regions, forbidden, in active galaxy nuclei, appl. of photoionisation model 1−40561
fault analysis in electron devices, materials appl. 1−53391
float glass, surface compositional profiles determ. by ESCA, SIMS, AES *(Japanese)* 1−48240
gas inlet system and specimen isolation for commercial LEED-AES device *(German)* 1−40897
GE (110), photoelectron diffr. effects., XPS angular distribs. 1−53050
glass, corrosion, surface and solution analytical techniques 1−16930
graphite fibre reinforced Al alloy, friction and wear props., effect of sliding time and speed 1−39473
graphite intercalation compounds with Li, K, Rb, Cs, UPS, XPS and AES studies 1−48238
heavily doped emitter region, minority carrier injection and storage, approx. soln. for Auger recomb. 1−34781
hexaborides, thermionic emission props. 1−26355
impurities in single crystals, diffr. effects 1−35593
Incoloy 800, differential composition profiles of passive films 1−17120
Inconel 600, differential composition profiles of passive films 1−17120
industrial materials, surface characterization by XPS, AES and SIMS 1−11966
ion bombardment of solids, orientation effects 1−3561
K-shell ionisation cross-sections, for use in microanal. 1−31946
Auger effect continued
L-shell fluorescence, Auger and electron yields calc. for photoionisation, depend. on vacancy distrib. 1−14854
MBE system design considerations 1−3626
metal surface, metastable He atom impact, electron emission, deexcitation mechanisms 1−21315
metal-semiconductor contacts, metallurgical and elec. characterisation 1−12190
metals, photoinduced Auger events, coherence effects, resonance satellites 1−21300
microcomputer application to AES, data acquisition system *(Japanese)* 1−53513
microcomputer application to Auger analysis, energy analyser with 3-grid LEED-AES system *(Japanese)* 1−53512
mirror degradation, characterisation using AES, ESCA and SIMS 1−11065
molecular Auger decay rates, config. interaction effects 1−41436
molecular spectra, initial state valence relax. effects 1−46031
muonic atoms, heavy, electronic K X-ray energies 1−15042
particle characterisation, conference, Ann Arbor, MI, USA (June 78) 1−14
polyacetylene:$AsF_5(I_2)$, semicond., photoelectron spectra and X-ray induced AES 1−35146
polyacetylene, semicond., photoelectron spectra and X-ray induced AES 1−35146
polymer surface and interface anal. methods, review 1−20534
quantitative AES, direct energy or differential energy spectrum mode of recording 1−8639
quantitative AES, modulating the spectrometer 1−5446
quantitative Auger analysis using spectrometer-computer system 1−31924
reaction layers formed under Reichart wear test concl. in presence of extreme press. additives, AES 1−53303
reference levels in electron and X-ray excited Auger spectra 1−5445
relativistic radiationless transition probabilities for atomic K- and L-shells 1−17945
scanning Auger microprobe interfaced to minicomputer system for control of spectrum acquisition and display 1−21828
scanning Auger microscope and high resolution spectroscopy combined system 1−28127
scanning Auger microscope appl. of high voltage HF deflection amplifier 1−397
semiconductor, Auger recombination cross section associated with deep traps 1−20761
semiconductor, Auger recombination rate calcs. 1−30764
semiconductor, indirect band gap, electron-hole drop recomb. time, theory 1−12124
solar mirror degradation due to corrosion, study using SEM, electron microprobe, AES and X-ray photoelectron spectroscopy 1−21847
sputter rate meas. during SIMS, AES depth profiling, electro-optical technique 1−30266
sputtered thin films, origins and minimisation of defects 1−47412
steel, 21Cr-14Mn, grain-boundary precipitation and fracture behaviour 1−48502
steel, alloy, temper embrittlement, control by intercrit. and low temp. austenitising heat treatments 1−43375
steel, austenitic stainless, for thermonuclear reactors, ferromag. phase precipitation 1−35259
steel, austenitic stainless, oxide morphology, differences on large- and small-grained material 1−43604
steel, austenitic stainless, surface comp., effect of plastic deform., AES study 1−16159
steel, austenitic stainless Cr-Ni, N segregation on (100) surface, LEED and AES obs. 1−20525
steel, austenitic type 304, high-temp. water effect, oxide formation 1−8470
steel, Cr-Mo, effect of applied stress on intergranular segregation of P 1−26476
steel, low alloy, temper embrittled, anomalous sputtering effects in AES grain boundary anal. 1−16790
steel, low-alloy, stress corrosion cracking, double torsion fracture mechanics and Auger electron spectroscopy 1−39527
steel, mild, grain boundary microchemistry and stress-corrosion failure, AES obs. 1−48578
steel, mild, nitro carburised composition-depth profiling, scanning Auger microprobe 1−21824
steel, Mn-Ni-Mo, heat affected zone, mech. props. after simulated heat treatment *(Czech)* 1−12768
steel, Ni-C (9, 0.1 wt.%), fracture path, microbeam Auger electron spectroscopy 1−21585
steel, Ni-Cr, P-doped, comparison of Auger electron spectroscopy and etching method for grain boundary segregation of P 1−3749
steel, nitrided, hardness and N conc., correl. study using AES 1−53283
steel, stainless, laser beam etching in vacuum, AES and quadrupole mass spectroscopy studies 1−35132
steel, stainless ferritic, study of passive films formed on surface 1−43721
steel, Ti and N implanted, abrasive wear resistance 1−31684
steel, tool, fracture surfaces, heat treatment and fracturing temp. effects, AES obs. 1−21580
steel austenitic stainless, surface characterisation after various treatments 1−35452
steels, 4130, struct. of tempered martensite and its susceptibility to H_2 stress cracking 1−26618
surface coatings, composition-depth profiling, interface anal., ball cratering and scanning Auger microprobe 1−21824
surface shape development during sputter-depth profiling by AES 1−21319
transition metal silicide form. by ion implantation of transition metal-Si struct. 1−38398
transition metals, adsorption of CO, XPS, UPS and AES study 1−16182
3d transition metals, adsorption of O_2, combined SIMS, AES, and XPS study 1−30572
3d transition metals in contact with Cu, electronic struct. influence on friction in vac. 1−26635
tribology, research, present and future, AFS and XPS applications 1−35396
X-ray spectroscopy techniques for solids *(Dutch)* 1−12596
Ag (110), surface C, AES anal. 1−3546
Ag, adsorption of O_2, XPS, UPS ,and X-ray Auger spectra study 1−31303
Ag, thin films, ion sputtered and lapped compositional profiles, Auger electron spectroscopy 1−31246

Auger effect continued
Ag/Tl(Br,I) vacuum condensate/crystal system, diffusional mass transfer, Auger spectra and ion etching obs. *(Russian)* 1−16105
Ag-glass interfaces of solar mirrors, Auger anal. of diffusion 1−12910
Ag-Pd, $PdM_{4,5}N_{4,5}N_{4,5}$ Auger spectra 1−12628
Al anodic oxides, porous, AES depth profiles 1−16628
Al bronze sliding on KE961 steel, role of Al segregation in wear under boundary lubrication 1−43535
Al evaporated film, on Ti-Al-V (6,4 wt.%), anodisation 1−21634
Al film, interactions with thermally grown SiO_2, electron microprobe Auger spectra obs. *(Japanese)* 1−31936
Al, K X-ray transitions, one-photon $KL_{2,3}^n$ radiative electron rearrangement 1−26311
Al, X-ray excited KLV Auger spectra, screening effects 1−8191
Al/p-Si MIS solar cells, phys., struct., elec. and optical charact. 1−43758
Al-Cu, liq. alloy, surface composition, AES study 1−30527
Al-Cu, type 2219-T851, fatigue crack growth, SIMS and AES study 1−31638
Al-Cu sputtered films, Cu distrib., AES and SEM study 1−30582
Al-Sn, liq. alloy, surface composition, AES study 1−30527
Al-Zn-Mg-Cu, type 7075-T651, fatigue crack growth, SIMS and AES study 1−31638
Al-Zn-Mg-Cu alloys, type 7075, stress corrosion crack-tip surface chemistries, anal. 1−48580
AlN sputtered films, elec. props. and interface anal. by AES 1−34818
Al_2O_3 anodic coatings, porous, density determ. and surface anal. using MeV ion beams 1−35419
$Al_{80}Pd_{20}$, Auger spectra, depend. on band struct. 1−12627
AlSb oxide-semiconductor interface, AES and Raman scatt. anal. *(French)* 1−42642
Ar near threshold alignment, post collision interactions 1−6219
Au and Mo/Au ion-plated layers on stainless steel, friction props. in vacuum at elevated temps. 1−12878
Au electrodeposit surface quality control, Auger Electron Spectroscopy appl. 1−8579
Au, growth on Mo (110) surface, Stranski-Krastanov mode, AES study 1−2825
Au monolayers, on Si substrate, struct. determ. by LEED and AES 1−52454
Au spherical crystals, topography and surface melt after purification by pre-melt in air 1−2781
Au/GaAs, out-diffusion of GaAs, ambient effects, AES study 1−30487
Au-Ge/Pt ohmic contacts to Ga As by pulsed electron beams and furnace heating 1−7731
Au-Ni, Auger L_3MM transitions, backscatt. factor calc., Monte Carlo method 1−21301
Au-Si amorphous interface struct., AES and EELS study 1−30575
BN, characteristic molecular Auger spectra, comparison with elemental spectra, appls. 1−21829
B_2O_3, characteristic molecular Auger spectra, comparison with elemental spectra, appls. 1−21829
Ba, double-K-vacancy production, correl. effects 1−24095
Ba I and Ba II, autoionising and Auger levels, electron impact excitation, ejected-electron spectrum 1−24261
^{207}Bi, double K-vacancy production during nuclear electron capture 1−23607
Br_2, anomalous Auger electron spectra, electron beam excitation 1−1193
C, electron energy states, Auger, energy loss and X-ray spectroscopies 1−12167
C thin foil, atomic impact, quasimol. formation inner shell charge transfer cross sections 1−16643
CO, Auger decay rates, config. interaction effects 1−41436
CO, K-shell Auger electrons angular distrib., photoabsorpt. anisotropy spectra 1−14968
CO_2, Auger decay rates, config. interaction effects 1−41436
^{12}C, resonant nuclear scatt., inner-shell ionisation influence 1−29107
$Cd_{0.2}Hg_{0.8}Te$, surface comp., SIMS, AES, and XPS study 1−30538
CdS, electron stimulated adsorption of O_2, surface activation and preferential binding, AES and PS study 1−2820
CdS surfaces, electron beam stimulated changes in composition and electrical props. 1−25327
CdTe-metal contacts, growth study 1−16362
Co (0001) surface, oxidation, temp. depend., LEED-ASE study 1−34581
Co, anodic films formed in bicarbonate and borate electrolytes, AES anal. 1−48554
Co, Auger spectra identification due to ion and electron impact 1−3553
Co black, electroplated selective absorpt. coating, struct., thermal stability, preparation 1−2833
$Co:N_2^+$, implantation profiles, AES 1−42412
$Co_xNi_{1-x}O$, monocryst. growth, appl. of floating zone technique *(French)* 1−3619
Cr, Auger spectra identification due to ion and electron impact 1−3553
Cr overlayer on Fe and Ti, escape depth comparison between Auger electron and disappearance potential spectroscopy electron 1−26319
Cr surface, passivated in acidic and neutral aqueous solns., ellipsometry and AES anal. 1−21625
Cr thin film, oxide formation, Auger spectra 1−8467
Cr-Au thin film deposited on Al_2O_3, Auger depth profiling 1−11995
Cr-Fe(Pd), Auger L_3MM transitions, backscatt. factor calc., Monte Carlo method 1−21301
Cr_2O_3 film, RF sputter-deposited, AES and X-ray diffr. anal. 1−30590
Cr_2O_3-CoO chemical-spray-deposited films, optical props., substrate temp. effects 1−53009
Cr_2O_3-Cr black chrome, electrodeposited selective solar absorber film, oxidation 1−12996
Cs^+, transition from uncollapsed to collapsed excited f-wave functions via post collision interaction Auger effect 1−19068
Cu (111), adsorbed Na and Cs monolayers, clean and O_2-exposed, electronic struct., EELS, AES, UPS, and work function meas. 1−42841
Cu (210), faceting by activated N_2, LEED, RHEED, and AES study 1−7469
Cu, adsorbed O_2 and clean surfaces, crystallographic incident beam effects, AES 1−26317
Cu core hole de-excitation, Auger yield meas., secondary electron emission correction 1−26318
Cu slipring contact elemental surface composition rel. to temp., AES examination in ultrahigh vacuum system 1−47349
Cu-Al, Ar^+ excited Al Auger electron emission 1−48216
Cu-Al-Fe-Ni (14, 4.5, 1 wt.%), ion-plated coatings for sheet metal forming dies 1−30592

Auger effect continued
Cu-Al-Sn, laser surface melted, enhanced corrosion resistance, elemental nonuniformities 1−43610
Cu-Be alloy dynode surfaces, ESCA, AES and SEM analysis 1−7434
Cu-In (10 at.%), supersaturated, enhanced diffusion and precipitation due to low energy ion bombard. 1−39210
Cu-Ni, composition of Ar ion bombarded surface layers at elevated temps. *(Japanese)* 1−53028
Cu-Ni, preferential sputtering by Ar ions, dose rate effect, AES study 1−16642
Cu-Ni, sputtering, Cu depletion from grain boundary region, 873K 1−26345
Cu-Ni, sputtering at high temp., in situ AES study 1−3557
Cu-Ni, surface comp. under Ar^+ ion bombard., ion scatt. spectroscopy and in situ AES meas. 1−8182
Cu-Ni (10 wt.%), monolayer chemisorption of C 1−11983
Cu-Ni (40 at.%), sputter-induced modification of surface comp., AES study 1−21322
Cu-Ni-Sn, laser surface melted, enhanced corrosion resistance, elemental nonuniformities 1−43610
Cu-Pd, (001) surface, AES and LEED obs. *(Japanese)* 1−25538
Cu-Si, Auger electron emission, Si(LMM), by Ar^+ ion bombardment, origin 1−26344
Fe, adsorption of CO, effect on Auger electron appearance potential spectra *(Japanese)* 1−39184
Fe alloys, grain boundary segregation phenomena, interpretation using scanning Auger spectroscopy 1−21453
Fe alloys, oxidation mechanism, super-heated steam 1−53345
Fe, Auger spectra identification due to ion and electron impact 1−3553
Fe surface (111), O_2 interaction, AES study 1−43704
Fe thin film, oxide formation, Auger spectra 1−8467
Fe unfilled atomic shells, internal conversion theory *(Russian)* 1−37165
Fe-B metallic glasses, amorphous-crystalline transition photoemission 1−48242
Fe-Cr, electron beam effects in AES and SEM 1−20266
Fe-Cr, thin film, oxide formation, Auger spectra 1−8467
Fe-Ni (12 wt.%), effect of Ti minor additions on fracture toughness 1−39430
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, oxidation kinetics, AES and ellipsometric obs. 1−35426
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, oxidation kinetics, AES and ellipsometric obs. 1−35426
$FeTi_x$ surface, reactivity with H_2 1−2783
GaAs (110), adsorption of Al, angle-resolved photoemission study 1−39222
GaAs (110), photoelectron diffr. effects., XPS angular distribs. 1−53050
GaAs (110) surface, clean and oxidized, band bending, Raman, LEED and Auger study 1−52624
GaAs, Auger recombination at B centre 1−35133
GaAs, Auger recombination, impurity assisted 1−47676
GaAs solar cells, grain boundary and interface investigations using AES and complementary surface anal. techniques 1−21884
GaAs surface, Al reactions 1−42651
GaAs surface, C free, prep., AES and RHEED study 1−48539
GaAs, thermal oxidation of GaO_xN_y covered surface, Auger-sputtering study 1−21612
p-GaAs to Au/Zn/Au multilayer ohmic contacts 1−3062
GaAs(P), adsorption of CO, CO_2, interaction mechanisms, surface atomic structs., meas. 1−25578
(GaIN)(AsP)DH lasers with Zn doping, temp. dependence of threshold current 1−51480
GaSb, Auger recombination, impurity assisted 1−47676
GaSb laser, band-to-band Auger effect 1−1568
GaSb, MBE on GaAs, surface reaction phenomena *(Japanese)* 1−31356
Gd, passivation by electtopolishing, Auger depth profile anal. 1−31736
Gd-Co-Mo sputtered films, perpendicular anisotropy rel. to oxidation during annealing 1−12281
GdCo film, amorphous sputtered, substrate bias effect on O contamination 1−25587
GdCo sputtered amorphous films, effect of Ar gas press. 1−25586
Ge:GaAs(110) heterostructure formation, LEED, AES and work function obs. 1−16345
GeS (001), site specific valence band densities, XPS and Auger spectra 1−16656
GeSe (001), site specific valence band densities, XPS and Auger spectra 1−16656
HCl chemisorption on Si (111), UV PES study 1−11981
He atoms, μ^- Auger capture and scattering cross sections HF calcs. *(Russian)* 1−6397
Hg, free atom, Auger electron spectra 1−1194
$Hg_{1-x}Cd_xTe$, two-photon absorpt., photocond., freq. depend. 1−3432
I^-, transition from uncollapsed to collapsed excited f-wave functions via post collision interaction Auger effect 1−19068
In, double-K-vacancy production, correl. effects 1−24095
In, $M_{4,5}N_{4,5}N_{4,5}$ Auger electron spectrum 1−6220
InAs laser, band-to-band Auger effect 1−1568
InAsSbP-InAs superlattice growth, organometallic VPE method 1−26393
InGaAs VPE, suppression of InP substrate thermal damage and PH_3 contamination 1−48277
InGaAsP-InP DH laser degradation in water due to facet deterioration 1−19355
InP (100) oriented epitaxial layers, chem. state, Auger study 1−47403
InP (110) with Ag overlayers, film growth, Schottky barrier formation 1−34593
InP, adsorption of CO, CO_2, interaction mechanisms, surface atomic structs., meas. 1−25578
InP polycrystal oxides and interfaces, AES, SIMS and XPS obs. 1−16379
InP solar cells, grain boundary and interface investigations using AES and complementary surface anal. techniques 1−21884
InP:Cr, S ion implantation, sheet resistance, carrier density 1−2477
InP-metal contacts, growth study 1−16362
InP(100 surface), electron stimulated oxidation, Auger spectra 1−8169
InSb (110) surface, defect struct., chem., struct. and elec. props. 1−52627
InSb, In and Sb, oxidation of surface, obs. by LEED, AES, XPS and UPS 1−53321
InSb, stoichiometry, temp. effect on (110) surfaces 1−47346
InSb, two-photon absorpt., photocond., freq. depend. 1−3432
Kr, anomalous Auger electron spectra, electron beam excitation 1−1193
LaB_6, delayed onset of 4d photoemission rel. to giant 4d photo-absorption of La 1−53054

Auger effect continued
Mg, K X-ray transitions, one-photon $KL_{2,3}^n$ radiative electron rearrangement 1−26311
Mg, KLL Auger transition energy, HF-Slater transition state calcs. 1−24010
Mg, X-ray excited KLV Auger spectra, screening effects 1−8191
MgF_2 surface, low-energy electron impact dynamic effects 1−8642
$Mg_{75}Pd_{25}$, Auger spectra, depend. on band struct. 1−12627
Mn, atomic and metallic, $L_{2,3}MM$ Auger electron spectra 1−37164
Mn, Auger spectra identification due to ion and electron impact 1−3553
Mo (100), clean and oxidised surface, adsorption and decomp. of trimethylamine 1−52429
Mo (100), photon-stimulated desorption of O following deep core-level excitation 1−52421
Mo, sputtering of low energy He^+ bombardment 1−52185
Mo, thin films, silane silicidation, AES 1−43553
N_2, K-shell Auger electrons angular distrib., photoabsorpt. anisotropy spectra 1−14968
N_2+heavy ion, few-electron states prod. by selective electron capture 1−51285
Na, K X-ray transitions, one-photon $KL_{2,3}^n$ radiative electron rearrangement 1−26311
Na, KLL Auger transition energy, HF-Slater transition state calcs. 1−24010
Na, X-ray excited KLV Auger spectra, screening effects 1−8191
Na_2O-SiO_2 glass film, Na migration, AES study 1−21302
Na_xWO_3 (100), surface struct. and comp., LEED and AES study 1−30533
Nb film sputtered onto stainless steel, struct. and supercond. props. 1−38691
Nb, redistrib. of C by Ar^+ ion bombardment 1−25332
Nb-Ta(−N), oxide layer formed by anodisation, AES, electrical props. 1−31764
Nb_3Ge film deposited on Nb_3Ir and Al_2O_3, supercond. transition temp. and phase rel. 1−52680
Nb_3Sn layers, prep. on Nb substrates exposed to Sn vapour 1−21351
Ne+heavy ion, few-electron states prod. by selective electron capture 1−51285
Ni (001) surface, angular resolved AES, single scatt. cluster model 1−39197
Ni (110), adsorption of O_2 and surface reaction with H_2, LEED, AES, and mass spectroscopic study 1−30545
Ni (110), S segregation to surface during heating, dislocation density influence, LEED and AES obs. 1−20524
Ni (110) surface, appearance of S induced by electron bombard., AES study 1−38633
Ni (111) cryst. with small angle boundaries, CO adsorption, S poisoning effects 1−20570
Ni (210), faceting by O_2 and activated N_2, LEED, RHEED, and AES study 1−7469
Ni alloys, grain boundary segregation phenomena, interpretation using scanning Auger spectroscopy 1−21453
Ni, morphological, mech. and chem. aspects of S behaviour and effects in grain boundaries *(French)* 1−35260
Ni multiphase superalloy IN738, phase boundary segregation, AES and SEM obs. 1−8311
Ni ultrathin layers, vacuum deposition on Ag(111), LEED-AES study 1−42657
Ni/Cr sandwich multilayer thin films, crater edge profiling, scanning Auger microscopy 1−42655
Ni-Cr-Fe alloys, Mo-bearing, surface film comp. and electrochem. props. 1−43612
Ni-Cr-Mo-V rotor steel, temper embrittlement, role of Mn 1−8404
Ni-Cu (Pd), Auger L_3MM transitions, backscatt. factor calc., Monte Carlo method 1−21301
Ni-Si, Auger electron emission, Si(LMM), by Ar^+ ion bombardment, origin 1−26344
NiAl, intermetallic cpd., oxidation study using SEM and TEM 1−31744
NiO/Ni interface, composition profile, Auger electron peak shape anal. 1−42641
NiSi thin films, phase characterisation using AES, XPS 1−39196
Pb monolayer and bulk deposition on Ag (111), ultrahigh vacuum and electrochem. cell 1−20594
Pb, ratios of double to single photoionisation cross sections, Auger decay 1−24089
$Pb_{1-x}Sn_xTe$ film, comp. investig. using Auger spectra, optimal evap. conditions 1−42645
PbTe-$Pb_{1-x}Sn_xTe$ superlattice, hot wall preparation technique 1−38842
Pd (111) epitaxial film growth on Cu (111), Auger line shape meas. 1−25593
Pd, Auger spectra, depend. on band struct. 1−12627
Pd film, VPE on Ag, Au, pseudomorphic growth and interdiffusion 1−38694
Pd overlayers on N band Ta, structure, relation to H uptake 1−11980
Pd/W (110) system, LEED, AES, work function and TDS meas., ISS and SIMS meas. 1−31927
Pd-Au, interaction of O_2 and H_2, AFS and XPS study 1−47380
Pd-Ge-n-GaAs as-deposited contacts study 1−7735
Pd-Si Auger electron emission, Si(LMM), by Ar^+ ion bombardment, origin 1−26344
Pd-Si interdiffusion, photoemission and AES obs. 1−16104
Pd-V, clean surface prep. by annealing and Ar ion sputtering, AES obs. 1−21317
Pd_2Si, characteristic molecular Auger spectra, comparison with elemental spectra, appls. 1−21829
Pd_2Si, chemical bonding and electronic struct., UPS and AES study 1−26366
Pd_2Si thin films, phase characterisation using AES, XPS 1−39196
Pd(001), adsorbed Xe, photoemission and Auger energies, distance-depend. relax. shifts 1−26362
Pt (110), adsorption of NO, EELS, LEED, AES, and thermal desorption study 1−38661
Pt (111), coadsorption of I and Cl, LEED and AES study 1−25573
Pt (111), oxide form. caused by bulk dissolved Si, AES and ion scatt. study 1−35435
Pt, adsorption of gases and deposits on single cryst. faces *(French)* 1−52419
Pt, chemisorption of H in acidic soln., LEED-AES electrochem. anal. 1−39685
Pt-Si (111) interface, electronic struct. of cpds. formed 1−43250
Pt-Si interdiffusion, photoemission and AES obs. 1−16104
Auger effect continued
Rh (111) surface, oxidation, LEED, AES and thermal desorpt. study 1−21621
Rh, dissociation of chemisorbed CO 1−53470
Ru (001), C-covered, N_2O and O_2, dissoc. chemisorption, AES obs. 1−34566
Ru (001), clean and Cu-covered, chemisorption of O_2 and N_2O 1−34582
RuO_2-Al_2O_3 co-precipitated catalysts, bulk and surface characterisation 1−8630
SF_6+heavy ion, few-electron states prod. by selective electron capture 1−51285
Sb oxides, XPS and AES study 1−42615
n-Si, (100) surface, electronic properties, surface treatment effects *(French)* 1−7701
Si (111), oxidation enhancement by very thin predeposited Au layers, AES and EELS study 1−48548
Si (111)-Pd(Pt) interfaces, electron states, cooling effect, AES and photoemission study 1−12634
Si, Auger electron emission, Si(LMM), by Ar^+ ion bombardment, origin 1−26344
Si, Auger electron emission, effect of backscattered electrons *(French)* 1−43227
n-Si, Auger recombination process, IR absorpt. meas. 1−21206
Si, charge exchange with clean surface, Si^+ Auger type charact. rel. meas. 1−26351
Si, chemical sputtering under Ar ion bombard. in XeF_2 mol. beam 1−48213
Si, cleaved, (111) surface, density of states from AES 1−34760
Si, electron beam effects in AES and SEM 1−20266
Si, multigrained, impurity segregation to grain boundaries, SIMS and AES study 1−30405
Si, oxidized, O monolayer detection using energy dispersive X-ray spectrometry 1−3537
Si, phonon assisted electron-hole Auger recombination 1−47671
Si, range of 50 to 1000 eV electrons, Auger line intensity meas. 1−30285
Si, reactive ion implantation of O_2^+ and N_2^+, surface layer comp., electron spectroscopy 1−52162
Si solar cells, grain boundary and interface investigations using AES and complementary surface anal. techniques 1−21884
Si solar cells, heavily-doped n^+p junction, simplified model 1−43778
Si terrestrial solar cells, efficiency and material requirement interactions 1−39772
Si, X-ray excited KLV Auger spectra, screening effects 1−8191
Si:B(Li)(P), bound multiexciton complexes, exciton capture and Auger recomb. rates 1−48146
Si:H, amorphous films, recombination, Auger effects and nongeminate recomb., luminesc. study 1−48162
Si:H,P film, amorphous, P conc. determ. using AES 1−30262
Si:P, ion implanted, quantitative Auger anal., chem. effects 1−20249
Si:Sn, structural state of implanted ^{119}Sn atoms 1−52163
Si/Ni (Au) interface formation, interdiffusion, metallisation 1−52364
Si/Pt superstructures on Si (111) and (100), LEED, AES study 1−16194
Si/SiO_2 interface, Auger lineshape calc., chemisorbed O effects 1−43226
Si-Al interface, PES and Auger studies 1−53046
Si-SiO_x interface, chemical and electronic structs., XPS, UPS, and X-ray excited Auger spectra *(French)* 1−3578
SiN plasma deposited films, structural and elec. props. 1−16391
Si_3N_4, reactive ion implantation of O_2^+, surface layer comp., electron spectroscopy 1−52162
$Si_xN_yH_z$ film, plasma activated, analysis by AES and ESCA 1−13054
SiO_2, chemical sputtering under Ar ion bombard. in XeF_2 mol. beam 1−48213
SiO_2 effectiveness for preventing Si-metal reactions in Si/Mo system 1−16202
SiO_2 encapsulation film for InP:Si ion implantation and annealing, AES 1−38396
SiO_2 film, Auger spectroscopy investigation 1−12607
SiO_2 films, direct thermal nitridation in anhydrous NH_3 gas 1−16920
SiO_2, reactive ion implantation of N_2^+, surface layer comp., electron spectroscopy 1−52162
SiO_2:P, ion implanted, quantitative Auger anal., chem. effects 1−20249
SiO_2:P film, P conc., AES study, electron and ion beam effects 1−34366
SiO_2/GaAs sputter deposited system, interface layer formation 1−38671
SiO_x, cryst. and amorphous, chemical and electronic structs., XPS, UPS, and X-ray excited Auger spectra *(French)* 1−3578
Si(111) 7×7, $L_{2,3}$ VV Auger spectrum lineshape, changes induced by adsorption and ion bombardment 1−8171
Si(111), bonding states during thermal oxidation, AES study 1−8172
Sn tungstate conversion coating, deposition, surface anal. 1−12933
Sn whiskers, micro-AES obs. 1−42663
Sn-Pb (28 at.%), surface comp. and struct., ion sputtering and oxidation effects, AES study 1−31245
$SrTiO_3$, H species characterization by electron-excited Auger stimulated desorpt. 1−34577
Ta film sputtered onto stainless steel, struct. and supercond. props. 1−38691
Ta surface, ionisation of K, O_2 effect, thermionic emission, Auger spectrosc. obs. 1−26356
Ta-Nb alloys, anodic props., comp., effects, ellipsometric obs. 1−53356
ThF_4 film characterisation by surface microanalysis techniques 1−30603
Ti+α-SiC solid-state reaction 1−13038
TiB_2, CVD films, surface composition and erosion yields subjected to D^+ bombardment 1−26334
TiB_2 coatings, sputtering under D^+ and $^4He^+$ ion bombard. 1−21321
TiB_2, on polycryst. Mo substrate, surface charact. 1−25583
TiC, coatings on pyrolytic C, by electron beam induced C/Ti interdiffusion, characterisation 1−25584
TiO_2, H species characterization by electron-excited Auger stimulated desorpt. 1−34577
Tl, double-K-vacancy production, correl. effects 1−24095
Tl, ratios of double to single photoionisation cross sections, Auger decay 1−24089
W (110), adsorption of Cs, registered phase obs. by RHEED and AES 1−34580
W (110), adsorption of O_2, EELS, AES, LEED, and work function meas. 1−12614
W (110) surface, temp. depend. Auger electron emission 1−8170
W adsorption of Ag, AES, LEED and contact pot. difference 1−42625
W electrodes, high current activated, surface Auger spectroscopy 1−31944
W, wire, K conc. on fracture surface, AES study 1−20533

Auger effect continued
WO_3 (100), surface props., LEED and AES study 1−30534
WO_x, chemical and electronic structs., XPS, UPS, and X-ray excited Auger spectra *(French)* 1−3578
W(100) surface, adsorption of Br_2, LEED, AES study 1−20569
Xe, Auger resonant Raman effect obs. 1−24094
Xe, transition from uncollapsed to collapsed excited f-wave functions via post collision interaction Auger effect 1−19068
ZnO, desorption of Zn, binding states, surface cond., LEED, and AES meas. 1−7470
ZnS film characterisation by surface microanalysis techniques 1−30603
ZnS:Cu,Al phosphor, cathodolum. saturation and decay charact. 1−26280
ZnSe, nonlinearity and laser beam self-action *(Russian)* 1−8036
$(ZnSe)_x$-$(GaP)_{1-x}$, nonlinearity and laser beam self-action *(Russian)* 1−8036
Zr, chemisorption of I, AES study, thermodynamics of adsorbed layer form. 1−35571
Zr, oxidation, AES study 1−48572
ZrO_2, characteristic molecular Auger spectra, comparison with elemental spectra, appls. 1−21829

Auger electrons *see Auger effect*

Auger recombination *see Auger effect; electron-hole recombination*

Auger showers *see cosmic ray showers and bursts*

Auger spectra *see Auger effect*

Auger spectroscopy *see Auger effect*

augmented plane wave calculations *see APW calculations*

aurora
see also airglow; atmospheric electron precipitation; atmospheric proton precipitation; atmospheric spectra
2145 Å feature, laboratory study rel. to identification 1−22566
antiloss-cone electrons, LF electrostatic instability 1−27331
Araks rocket expt. with electron injection expts., general description 1−44403
arc systems, dayside and nightside topological distinction and assoc. field-aligned currents 1−17720
artificial events from radio heating obs. *(German)* 1−49446
audible sounds from aurorae, VLF radiation theory 1−49439
conjugate observations of ELF-VLF emissions, micropulsations and aurorae 1−32574
conjugate point electron injection expts., Araks project 1−44391
dayside cusp auroral morphology related to nightside magnetic activity 1−4715
diffuse aurora luminosity, temporal fluctuations 1−40247
electrojet, currents closing field aligned currents, Pedersen cond. interpretation 1−22584
electron acceleration at low altitude, S3-3 satellite meas. 1−13626
electron precipitation, reproduction of features of inverted V-events in simulated double layers 1−22607
equatorial boundary vars. rel. to DP-2 disturbances 1−22564
EUV auroral emissions, from N ions 1−36094
EUV emissions, rocket-borne meas. 1−9307
F-region during diffuse aurora, mag. shear effect on current convective instability 1−40249
flickering auroras, freq. content time sequence anal. using Fourier anal. 1−40248
geoelectric field auroral effects, influence of meteorological phenomena 1−4568
global aurora imaging from satellite *(Japanese)* 1−32538
Hall currents in aurora 1−36096
Hall effect and its appl., commemorative symposium, Baltimore, MD, USA (Nov. 1979) 1−32807
historical observations, from Pliny and Aristotle to present *(Russian)* 1−49438
historical record, 500 BC to 1700 AD, evidence for secular solar variability 1−36095
luminance of artificial aurora rel. to electron beam injection pitch angle 1−22565
particle acceleration, discrete narrow arc production, universal plasma process 1−36104
Pi burst micropulsations and associated aurora 1−9332
poleward propagating auroral precipitation, plasma and magnetic field 1−9313
precipitation mechanisms, studied by Cs plasma release expts. 1−17727
pulsating patches, electron flux effects 1−9312
radio backscatter, results on 42 MHz fading 1−27335
radio-auroral scattering at two closely spaced frequencies 1−9311
solar index, 522 B.C. to A.D. 1968 period 1−13752
substorm onset, ground-based obs. of storm and associate phenomena 1−4719
substorm phases , correl. with elec. fields, electron density and temp. 1−54319
temporal sequences during substorms, rel. to synchronous orbit particle fluctuations 1−4674
He I, line enhancement due to precipitating He^+ interactions with air 1−40246
NO^+, chemical reaction rates 1−4675
$N^+(^5S)$ in atmosphere, possible origin for auroral 2145Å mystery feature 1−54303
O, proton loss function, differential ionization and stripping cross-sections 1−19201
O_2 1.27 μm emission horizontal wind effect 1−9306

auroral ionisation *see aurora*

austenitic stainless steel
0Kh16N15M3B, ^{60}Co diffusion 1−28600
1Kh18N10T, ^{60}Co diffusion 1−28600
atmospheric pitting, role of non-metallic inclusions 1−39504
boiler, in synthetic flue gas, influence of HCl on corrosion 1−16957
butt-welded tubes with internal pressure, creep 1−39396
BWR piping, thermal analysis in induction heating stress improvement *(Japanese)* 1−28593
cavitation erosion, influence of microstruct., SEM study 1−16908
cladding on Al-Mg (5 wt.%) props. and formability *(French)* 1−8336
constructional, corrosion cracking testing 1−53388
corrosion, inhibition effect of 4,7-diphenyl-1,10-phenanthroline spectroelectrochem. studies 1−48557
corrosion, intercrystalline, dislocation distrib. effect, in 08Kh18N10T *(Russian)* 1−3963
corrosion, intergranular, S and P effects, on type 304 1−39516
austenitic stainless steel continued
corrosion by V_2O_5, 700-1100°C *(Korean)* 1−12927
corrosion fatigue, statistical eval. of role of pits and cracks in type SUS 304 1−39542
corrosion fatigue behaviour in H_2SO_4/NaCl media, effect of metallurgical variables 1−39411
corrosion fatigue crack growth, acoustic emission detection, Type 304 specimens *(Japanese)* 1−53389
corrosion in liquid Na loops, anal. diffusion model 1−8485
corrosion products release, effect of γ-radiation, in high temp. water 1−780
crack growth monitoring, at elevated temps. by elec. potential technique, of type 304 1−39549
crack growth rate under high temp. creep, fatigue, and creep-fatigue interaction 1−26588
crack growth rate under high temp. creep, fatigue and creep-fatigue interactions, role of fracture mech. parameter 1−26589
creep, effect of prior cold working 1−3840
creep, micromechanical modelling using distributed parameters 1−38438
creep, Portevin-Le-Chatelier effect and dynamic strain ageing *(Czech)* 1−48426
creep at low stresses, in type 304 1−21505
creep crack growth, in AISI 316 1−39455
creep crack growth rate at high temp., new parameter for prediction 1−25364
creep rupture test results, effect of specimen size in reproducibility 1−17011
creep with programmed stress intensity variation, plastic prestraining, in type 1Kh18N9T 1−39385
creep-fatigue interaction, eval. by linear damage rule and fracture appearance for type SUS 304 *(Japanese)* 1−35351
creep-fatigue interaction, interactive damage eqn. 1−34414
creep/fatigue props. at 625°C of type 316 1−39369
crevice corrosion, electrolytic comp. and heat treatment effect 1−39509
cryogenic, mechanical behaviour 1−53191
cryogenic metals, brittle fracture, notch testing 1−48471
cyclic life prediction, high temp., damage accumulation model 1−34412
deformation hardening at elevated temp. 1−35282
deformation induced γ-α transform., phase and structural changes, in type 30Kh12G23 *(Russian)* 1−31455
diffuse necking in tensile tests, strain rate sensitivity effect 1−26557
dual beam irradiation, vacancy loop effect on swelling 1−2531
electrochemical polishing and etching in same electrolyte *(German)* 1−8486
electron irrad., void swelling behaviour 1−15929
electropolishing, effect of Cu 1−21642
equiaxed austenite grains originating from hot rolling 1−53216
etching in 56% HNO_3 at 56°C 1−26661
evaporation of elements during vacuum annealing 1−30399
fast reactor material, exposed to oxygenated Na, form. of $NaCrO_2$ 1−21769
fatigue, high strain, of type 316 1−48470
fatigue, low cycle, effect of thermal cycle 1−39453
fatigue, low cycle, thermal and isothermal, tensile hold time effects 1−35389
fatigue, low cycle high temp., damage mechanisms 1−35393
fatigue, low-cycle, of type 310, C-ion implantation effect 1−3920
fatigue, low-cycle, under creep-fatigue interaction 1−8414
fatigue, low-cycle thermal-mech., under creep-fatigue interaction 1−35390
fatigue behavior, low cycle, effects of environment and hold times 1−39454
fatigue crack growth, in type 304, elastic-plastic mechanics approach *(Japanese)* 1−43493
fatigue crack growth in PWR environment 1−26656
fatigue crack propag., and threshold at 77 and 293K, of type 304 1−26579
fatigue crackgrowth in threshold region, environmental influence on type 304 1−26578
fatigue fracture surfaces, of Z6 CND 17-12, oxidation at low crack growth rates 1−3904
fatigue life, elevated temp., low-cycle, effect of rising mean strain 1−8436
fatigue life, low-cycle, high temp., effect of strain wave shape 1−43495
fatigue life in H_2 atmosphere, low-cycle loading freq. influence 1−3927
fatigue lives, low-cycle, at high temp., influence of grain size 1−16878
fatigued, and stress corroded, prefracture damage determ. by X-ray double cryst. diffractometry 1−31639
ferromagnetic phase precipitation, on surface, after annealing 1−35259
fine-grained, tensile behaviour at high temps., effect of spreading of grain boundary dislocations 1−3841
fission reactor fuel cladding tubes, meas. of residual stress by X-ray method *(Japanese)* 1−33292
flow stress, electrolytic H charging influence, size effect *(Japanese)* 1−31540
fracture, orientation of surfaces produced by stress corrosion cracking and H_2 embrittlement 1−16876
fracture toughness determ. under conditions of plastic instability 1−48518
fracture under hot-forming conditions 1−39460
friction and wear, H adsorpt. influence 1−35399
friction at low temps. 1−12887
fusion reactor, postirradiation fatigue crack growth testing, miniature specimen technology 1−4042
grain boundary reaction nodules, tensile props., fracture, deform. in type 21-4N 1−26538
hardening fatigue damage interaction, in type 316 L *(French)* 1−8339
heat-resistant, creep, prefracture microstruct. changes 1−16895
heat-resistant, recrystallisation-thermal etching of local plastic strain 1−43602
heating coil, corroded, role of design in corrosion process *(German)* 1−8488
hot rolling, behaviour of austenite, TEM and optical metallography study 1−21497
hot worked, dislocation substructure in dynamic recovery and recrystallisation 1−12779
hydrogen permeation charact., 350 to 1050K in types 321 and 316 1−2697
impact properties at low temp. *(Japanese)* 1−26624
in-reactor creep 1−21513
Incoloy 800 type, high temp. creep, effect of precip. strengthening 1−31547
intergranular corrosion mechanism in oxidising acids 1−26673

austenitic stainless steel continued
low C, 304, thermophysical meas. above 1400K, transient technique 1−30413
low-temperature ultrasonic treatment, effect on props. 1−48346
maraging, austenite stabilisation and destabilisation 1−3737
martensite rate due to deform. when subjected to traction at constant vel. *(French)* 1−43334
microstructural evolution, during monotonic and/or cyclic uniaxial loading at room temp., of type 316L 1−26577
microstructure and mech. props., TEM and SEM study 1−35394
neutron irrad., the trapping at Ti-rich MC particles in type 316+Ti 1−25330
Nitronic 33 electron beam welded, mech. props. rel. to N loss, chem. anal. 1−26782
nonuniform plastic flow, in simple tension, influence of material parameters on type 304 1−3822
oxide formation, by high-temp. water 1−8470
oxide morphology, differences on large- and small-grained material 1−43604
passivation, of steel AISI 321 in H_2SO_4, effect of $F_2Cr_2O_7$ 1−31712
pit initiation, of 304L in Cl^- soln., temp. effect (25-289°C) 1−16947
pitting potentials, in acidic chloride soln., scan rate effect in type 304 1−39511
plastic zone obs., −196°-950°C, using recrystn. technique 1−39368
precipitation, comp. influence 1−21455
precipitation, needle-like, intergranular phase formed in temp. interval 975-1095 *(Czech)* 1−12748
recrystallisation, effect of structural inhomogeneities 1−48357
sensitisation, continuous cooling, on type 304, influence of prior deform. 1−16806
sensitisation, effect of prior cold work 1−43575
sensitisation and corrosion susceptibility, effects of deform. induced martensite 1−43605
sensitised, prediction of stress corrosion cracking in 0.01 M Na_2SO_4 at 97°C 1−53339
shocked-loaded, residual strength, effect of grain size and deformation-induced grain refinement 1−21591
sigma phase obs. and anal. using non-aq. electrolyte-potentiostatic etching method *(Japanese)* 1−43600
softening due to electron irrad. of types SS316 and EP838 steels *(Russian)* 1−16800
steel, 15%Cr-15Ni-Mo-Ti-B, ageing and creep behaviour 1−16846
steel, austenitic stainless 304, substructural development in hot tensile testing 1−12805
steel, austenitic type 316, B content and distrib. effects on He bubble populations and stress-rupture props. 1−26595
steel, stainless, type 304 and 316, explosively deformed, prior deform. effect on microstruct 1−8384
steel, stainless 304, corrosion fatigue crack propag. in boiling $MgCl_2$ soln. *(Japanese)* 1−26670
steel, stainless type 316, diffusion of Mo^{99}, Zr^{95}, and Co^{60} 1−16094
steel, type 304, arcing studies, sulphur detection 1−25085
strain depend. of strain rate sensitivity 1−21535
strengthening, explosive 1−26479
stress corrosion crack propagation, interaction of strain rate and repassivation rate 1−48555
stress corrosion cracked, effect of mech. and electrochem. props. *(French)* 1−26672
stress corrosion cracking, assessment of possibility during acid cleaning 1−31715
stress corrosion cracking, of type AISI 304, at room temp. Cl content influence and acidity 1−16945
stress corrosion cracking in acidified NaCl soln. 1−43574
stress corrosion cracking in H_2SO_4-NaF aq. soln., of type 304 *(Japanese)* 1−31740
stress corrosion cracking in LiCl soln., chloride conc. effect in type 304 1−26654
stress corrosion cracking inhibition, scratching electrode technique 1−31720
stress-corrosion fracture surfaces interpretation, by load pulsing in type 310S 1−16959
sulfidation, high-temp. corrosion resist. of types 304 and 316 1−43611
surface characterisation after various treatments 1−35452
surface comp., effect of plastic deform., AES study 1−16159
surface deform. and frictional heating during machining 1−39403
surface finish effect on residual stress distrib. and SCC susceptibility in boiling $MgCl_2$ 1−43616
tensile testing, at constant true plastic strain rate, of type 304 1−35458
thermal diffusivity determ. using pulse method 1−15375
thermal shock cracking, elastic-plastic fracture mechanics study 1−48515
Tokamak wall, D_3^+ implantation, depth profiling and thermal desorption 1−25314
tubes, acidification in crevices, effect on H_2 evolution 1−53336
twin boundary sliding during high-temp. creep 1−43447
type 304, with crack, creep and fatigue fracture *(Japanese)* 1−39366
type 316, cold swelling, effects of Si and Ti, HV electron microscope investig. *(Japanese)* 1−38409
vacancy concentration, equilib., effect of P and B *(French)* 1−52172
weld specimen, laue spots and radiographic mottling 1−48626
welded, types 304 and 304L, stress corrosion cracking under cyclic load 1−26657
welded pipe, plastic deform. and fracture, struct. characts. 1−48432
yield stress, effect of low temp. thermal cycling 1−26574
C deposition on steel surfaces in fission reactor (AGR) 1−28594
Cr-Mn, thermonuclear reactor material, ferromag. layer form. 1−41231
Cr-Ni, N segregation on (100) surface, LEED and AES obs. 1−20525
Cr-Ni, thermonuclear reactor material, ferromag. layer form. 1−41231
Cr-Ni (25, 20 wt.%), stress drop expts. during high temp. creep (1133 and 1193K) 1−8398
Cr-Ni-Mo (AM-350), corrosion behaviour in LWR coolant 1−48582
Cr-Ni-Mo-Ti-B, boride phase precipitation 1−26468
Cr-Ni(12,13 wt.%), irradiation induced phase transformations and orientation rel. 1−35254
Fe-base alloys, corrosion behaviour, in high temp. $H_2+CO+CO_2$ gas mixture 1−48585
H recycling, on SS 304L, plasma-wall interaction simulator 1−24993
H recycling on 304L, mechanism, plasma-wall interaction 1−24994
Mn-Ni-Cr, dislocation struct., improved technique for obs., after small deforms. *(Czech)* 1−2451
Ti-stabilised, precipitation reactions 1−16786

austenitic steel
see also austenitic stainless steel
abrasive wear *(German)* 1−39475
austenitic weld metal, ferrite content meas. by ferrite numbers *(German)* 1−3173
corrosion cracking in acid thiocyanates solns., H absorpt. influence 1−3994
corrosion cracking in thiocyanate solutions, urotropin addition effect, steel 70 1−26675
corrosion resistant, methods of increasing yield point *(Czech)* 1−8373
creep behaviour following multiple mech. thermal treatment 1−16864
cryogenic, mechanical behaviour 1−53191
dislocation splitting in austenite, structural sensitivity *(Russian)* 1−34348
grain size determination, with Epiquant automatic struct. analyser 1−21668
high-strength heat-resistant 30Kh3NM3FTs, props. and appl. 1−8394
hot working and substructure diagrams of type 110Kh6 austenite 1−21493
low-tempered structural, heat treatment for increased fracture toughness 1−31506
mechanical properties, effect of decomp. mechanism during ageing 1−43380
mechanical props. and AE in type A 533 B, 24 to 288°C, SEM obs. 1−31546
Mn, wear resist. and strength-toughness, −196°C to room temp. *(Korean)* 1−12852
NDT, appl. of pulsed eddy current method *(German)* 1−35468
plastic deform. induced martensitic transform. under proton bombard. for 60N21 *(Russian)* 1−12742
stability rel. to deform. speed in simple traction *(French)* 1−3823
steel, AISI 4340, retained austenite at the prior austenite grain boundaries 1−21491
steel, austenitic, metastable, struct. and strength *(German)* 1−31460
stress corrosion cracking and intercrystalline corrosion susceptibility 1−3979
unstable, fracture toughness 1−3907
unstable martensitic transform. kinetics during deform. 1−16776
warm work hardened, creep resistant, relaxation tests under uniaxial tensile load *(German)* 1−21503
weld metal containing 25% Ni, crack resist. variation with welding electrode type 1−26625
C diffusivity, phenomenological model, anal. of data 1−30471
Cr-Ni (20, 25 wt.%), Nb-stabilised AGR fuel pin cladding design 1−10441
Fe-Ni (30 wt.%) alloy, cyclic plastic behaviour at 293 and 373K 1−39375
Fe_γ-C/Fe-C-Cr-Ni system, C diffusion in weldments, steady state model *(Czech)* 1−47282
Mn Hadfield, rapid work hardening mechanism 1−21480
Mn-Cr-V, precipitation hardening, struct. changes *(Czech)* 1−3758

autoionisation
see also Auger effect
acetylene, total electron impact ionisation efficiency curve, simulation 1−6394
atmospheric gas ions, dissociative recomb., vibr. excitation, rate coeffs. 1−46141
diatomic molecular ions, electronic, vibr. and rot. predissociation 1−19149
heavy ion + atom collisions, QED of strong fields 1−14987
inert gas ions, dissociative recomb., vibr. excitation, rate coeffs. 1−46141
inert gases, electron impact, autoionisation, Feshbach resonances, electroionisation and photon spectra 1−37332
internal atomic shell autoionisation by β-decay *(Russian)* 1−41354
mol. multichannel resons. studies, complex scaling method, Schrodinger eqn. 1−41443
molecular autoionisation, multichannel quantum defect theory 1−14966
molecular ion formation, electronic and vibr. branching ratios, photoionisation, autoionisation 1−19142
multiphoton processes review, autoionising resonances 1−28938
polyatomic molecules, autoionisation, vibr. relax., predissociation, de-excitation probabilities 1−41442
three electron atoms, autoionisation radiative and nonradiative decay 1−41353
triatomic molecular ions, electronic, vibr. and rot. predissociation 1−19149
unpolarised atoms, 2-photon reson. ionisation, polarised electron prod. 1−6216
Ar, autoionising states, electron impact excitation energy loss obs. 1−19190
Ar, Beutler-Fano autoionising reson., relativistic multichannel quantum defect theory 1−1188
Ar dimer, photoionisation cross section and autoionisation struct. 1−33515
B-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912
Ba, doubly excited autoionising Rydberg states, electric field effect 1−1189
Ba I and Ba II, autoionising and Auger levels, electron impact excitation, ejected-electron spectrum 1−24261
Be isoelectronic series ions, autoionis. states at. consts. 1−17947
Be-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912
C_2^- auutodecking resonances, photodetachment spectroscopy, vibr. levels, rot. anal. 1−24195
Ca, valence p shell ionisation, He II photoelectron spectra 1−45911
Cd, autoionization levels, electron-impact excitation near threshold 1−33563
CdS, biexcitons, active nonlinear spectroscopy, propag. effects and Fano interf. 1−46453
Cs I, laser induced autoionizing-like reson. in continuum 1−45913
Cs, laser induced autoionisation like resonances 1−28930
H^-, interstellar, predicted $1s^2$-1s6p autoionisation resonance observed as diffuse interstellar line at 7581 Å 1−17884
$(H_2)_2$, photoionisation, autoionisation predissociation, spectra, mol. beam expts. 1−37273
He autoionising states, electron impact excitation, post collision interaction, semiclassical and shake-down models 1−24259
He excited states, autoionisation 1−45914
He^+ elastic electron scatt. cross section, autoionising state influence *(Russian)* 1−1376
He-like ions, electron impact cross-sections and excitation rates 1−46132

autoionisation continued
He+He(He^+), collision symmetry, electron spectra produced by autoionisation 1−6381
He_2^{2+}, potential energy curves, energy widths, autoionising states, config. interaction calcs. 1−24048
I, neutral, excitation of inner 4d shell 1−51173
I_2+Ar*(K), ion pair formation 1−10832
Kr, Beutler-Fano autoionising reson., relativistic multichannel quantum defect theory 1−1188
Kr^{n+}+Kr, continuous electron spectra prod., mol. autoionisation, MO determ. 1−41469
Li, doubly excited states, config. overlap method 1−1128
Li, transition probabilities, excited states, autoionisation, config. interaction calcs. 1−28922
Li-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912
Mg, electron impact excitation, autoionised state decay *(Russian)* 1−33564
Mg^++Ne, electron autoionisation, cross sections, spectra 1−41464
Mn, photoionisation cross section, ab initio calc. in random phase approx. with exchange 1−33434
N, $^2D^0$ and $^2P^0$ metastable states, photoionisation 1−6215
N_2 form., during ion bombardment of Si:N, by assoc. ionis. with diabatic curve crossing 1−39203
N_2^+, autoionis. profile, triply-differential photoelectron investig., 710-730 Å 1−33519
N_2^+, vibr. levels, ionisation, photoelectron obs. 1−29038
N_2+He, radiative collisions, cross sections, gain prediction, Penning and auto-ionisation 1−41487
NO, photoionisation, autoionisation struct., relaxation, molecular beam method 1−37274
Ne, $1s^22s^22p^4(^3P)3s3p$ config., position of autoionis. terms, core correls. 1−10678
Ne, autoionising and excited states, scattered-electron spectra 1−29117
Ne ions+$He(H_2)$(Xe), autoionising states formed by electron capture, energy spectra, excited states lifetime 1−24218
O_3 partially autoionising states, photoelectron study 1−28936
O^{3+}, autoionis. states, quasi-projection operator calcs. 1−1092
O_{2+} electronic states, vibr., autoionisation photoelectron obs. 1−51242
O_2^{2+}, ground state formation, vibr. branching ratios, photoelectron ang. distrib., autoionisation, photoelectron obs. 1−46018
Pb, excited state, two-step autoionisation, 5d spectra 1−45881
Rb^+ ion, electron impact excitation of reson. lines, autoionis. *(Russian)* 1−6392
Si^{11+}, autoionis. states, quasi-projection operator calcs. 1−1092
Sr, valence p shell ionisation, He II photoelectron spectra 1−45911
U, atomic, laser isotope separation 1−935
Xe, Beutler-Fano autoionising reson., relativistic multichannel quantum defect theory 1−1188
Xe, Rydberg and autoionising states, optogalvanic detection method 1−41352
Yb, double-excited narrow autoionisation states 1−14852
Yb I, electron impact excited autoionisation states, electronic spectra 1−24268
Yb II, electron impact excited autoionisation states, electronic spectra 1−24268

automatic frequency control
^{158}Er, K≠0 bands, Hartree-Fock calcs. 1−5673

automatic gain control
laser beam displacement meas. in media with variable optical thickness 1−46414
natural water and industrial effluent chronopotentiometry for heavy metals 1−32077

automatic test equipment
angular correlation spectra measurement for annihilation α quanta 1−51065
compensated current comparator with automatically zeroing flux 1−28031
computer-controlled calibration system for resistance thermometers 1−36657
contour and shape meas. technology, new developments *(German)* 1−9968
digital thermometers and temp. controllers, precision instruments for use in range −100 to +300°C, utilisation in automatic test systems 1−300
electric impedance measurement, high resolution digital comparator 1−36682
EMF comparison system for stanadard cells 1−39754
fatigue testing, metals, installation for checking cyclic loading freq. 1−21666
flatness measurement system, Fizeau interferometry 1−222
impedance measurement, LF and VLF ranges *(French)* 1−18252
low-temperature plasma probe characteristic recording automatic system 1−2235
luminaire distribution characteristics, automatic meas. 1−28053
materials testing, computer based 1−35457
mechanical system, microprocessor-based, for bi-axial testing of soft tissues 1−32320
metals, quenched-in vacancies, elec. resist. decay curves, AC automatic recording method 1−44956
n^+-p diode arrays, test parameter inhomogeneities, elec. microscopy 1−25795
optical fibres testing, by transmittive/reflective methods 1−33837
optical light guides, automatic test set up for spectral attenuation meas. *(German)* 1−19449
optical surface testing, automated methods 1−11192
plastic, weathering of mechanically loaded test specimen, electronically controlled automatic apparatus *(German)* 1−39554
polarimeter saccharimeter, high-precision, for automatic testing line 1−36723
pulse superposition system, gated-carrier, for high precision meas. of US vel. 1−24633
rolled steel strips, mag. parameters meas., ATE, microprocessor-based automata family 1−23281
servohydraulic biaxial tension/compression test bed, computer controlled *(German)* 1−31790
slip gauges, calibration 1−44879
speed and versatility of laboratory, production and bench instruments 1−40774
tensile testing machines, automated horizontal, for rapid quality control testing 1−35459
thermal expansion measurements 1−27919

automatic test equipment continued
thermometric analyser, automatic, which works by dithermanal thermometry *(French)* 1−32986
transparent tube wall thickness, automated monitoring apparatus using interference method 1−24541
ultrasonic non-destructive materials testing system *(French)* 1−21681
veiling-glare distribution meas. using automatic apparatus 1−363
wave gauge, servo type, detection accuracy improvement *(Japanese)* 1−6910

automatic testing
AC/DC difference testing, calibration using semiautomatic system 1−36691
blood pressure automatic meas. method 1−32301
complex profile parts, radiometric inspection, automated multichannel γ-ray inspection unit 1−31812
film thickness determ. using film-substrate system polarisation props. 1−235
materials testing, servo-hydraulics 1−8494
materials testing machines, computer-controlled, improvement in quality control, modular systems 1−26712
optical fibres, by transmittive/reflective methods 1−33837
probing method for phase recognition in multiphase turbulent flows 1−34032
product anal. using X-rays 1−48625
refractories, thermal shock resistance eval. by ribbon test method 1−31772
steel bars, nondestructive test device based on eddy-current transducer *(Polish)* 1−48601
US plate testing, automatic quality assessment based on defect image reconstruction *(German)* 1−4009
X-ray diffr., quantitative powder phase anal., optimal degrees of automation 1−29996

automobile industry
fibre reinforced composite materials, for automotive components, design methodology 1−39585
Jeep door body distortion non-contact mean system 1−24470
H_2, liquid automotive fuel storage 1−48919
N_2 liquid as automotive heat engine working substance 1−48809

automobiles
adapting geothermal energy to produce ethanol for automotive fuel 1−48794
outdoor machinery acoustic noise source power meas. and in situ calc. *(French)* 1−1763

autoresonant accelerators *see collective accelerators*

avalanche diodes
see also avalanche photodiodes; IMPATT diodes
noise and nonlinear effects 1−7682
GaAs, p-n junction, avalanche and field emission breakdown, SHG 1−3049
Ge, p-n junction, avalanche and field emission breakdown, SHG 1−3049
Ge-GaAs heterojunction avalanche transit diodes, recombination props., elec. characts. 1−38847
Si, p-n junction, avalanche and field emission breakdown, SHG 1−3049
Si_xGe_{1-x}-GaAs heterojunction avalanche transit diodes, recombination props., elec. characts. 1−38847

avalanche photodiodes
broadband transmission, optical fibres, modulation systems, lasers and avalanche diodes *(German)* 1−46580
communication appl., props., circuit aspects and noise generation *(German)* 1−41875
fibre transmission systems, photodetectors developments 1−11168
heterostructures to improve avalanche photodiodes 1−34787
optical fibre backscatter system employing semicond. laser diodes and avalanche photodiodes, noise anal. 1−46576
optical fibre transmission devices, for 1.3 to 1.55 micron region 1−51638
optical fibres, attenuation meas. system *(German)* 1−19451
GaAlAsSb quaternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
$Ga_{1-x}Al_xAs_{1-y}Sb_y$ Schottky barrier avalanche photodetectors 1−12189
GaAlSb ternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
$Ga_{1-x}Al_xSb$ avalanche photodiodes, resonant impact ionisation 1−47737
$Ga_{1-x}Al_xSb$ photodiodes, impact ionisation resonant enhancement 1−34715
GaInAs-InP avalanche photodetectors, low dark-current high gain 1−45014
GaInAsP avalanche photodiode for guided wave optical signal processing 1−37634
GaInAsP/InP low-dark-current avalanche photodetector, noise characts., avalanche multiplication 1−33053
Ge n^+np avalanche photodiode, low-noise, performance in 0.8 to 1.5 μm region 1−45006
InGaAs-InP avalanche photodiodes with separated absorpt. and multiplication regions, improved characts. 1−45011
InGaAs-InP avalanche photodiode with LPE and VPE layers, separated absorpt. and multiplication regions 1−45012
$In_{1-x}Ga_xAs_yP_{1-y}$-InP LPE and VPE layers, transport props., defects and device considerations 1−47766
InP avalanche photodiode, Si_3N_4 plasma CVD film as preferential diffusion mask 1−25589

avalanches, carrier *see impact ionisation*
avalanches, electron *see electron avalanches*
avalanches, electron-hole *see impact ionisation*
avionic systems *see aircraft instrumentation*
avogadro's number *see constants*
axicons *see lenses*

axiomatic field theory
1+1 dimensional S-matrix, on-shell soln. of massive Thirring model, quantum sine-Gordon eqn. 1−28225
$\lambda\phi^4$ field theory in curved spacetime, BPHZ renormalisation 1−50300
$\lambda\phi^{4-1}/_4\phi^2$-$\mu\phi$ two-dimensional field theory, mass spectrum 1−28159
σ models, instanton quantum fluctuations *(Russian)* 1−50334
σ-model, 4-D, Euclidean, coupled to metric tensor field 1−428
σ-models, Euclidean, two dimensional, SU(n) and SO(n)-invariant, reduction 1−18362
σ-models, four-dimensional quaternionic, instantons, topological quantum numbers 1−28219
ϕ_6^3, IR, UV and mass regularisation in asymptotically free field theories 1−50312

axiomatic field theory continued
ϕ_6^3 theory, anomalous dimensions in renormalisable field theory 1−45122
ϕ^{n} theory, $P(\phi)_2$ models, asymptotic nature of perturbation theory 1−5467
$\phi^2\sigma$ phase transition and interplay of Schwinger-Dyson equation solutions 1−14249
ϕ^4 theory, kink states from the boson transformation 1−5500
ϕ^4 theory, massless, conformal-invariant, spontaneous mass generation, tadpole graphs 1−45124
ϕ^4 theory massless, comparison of nonperturbative with conventional renormalisation 1−50308
ϕ^4-field theory in (1+1) dimensions, domain walls above transition point 1−28187
Abelian lattice theories, geometric approach 1−14225
advanced institute, common trends in particle and condensed matter physics, Les Houches, France (Feb. 1980) 1−27645
aesthetic fields−null theory 1−18358
annealed and quenched gauge field models, spontaneous symm. breaking 1−33111
Bethe ansatz, periodic boundary conditions and relations between various models 1−36581
chromodynamics, SU(3) gauge theory, ϕ^4 model, generally invariant theories, classical solns. 1−18356
chromoelectric flux tube thickness, quark confinement, strong coupling on lattice 1−40965
cluster expansion, extrapolation to continuum limit 1−40926
conference, Mexico City, Mexico (Dec. 1979) 1−44691
conference on field theory and strong interactions, Schladming, Austria (Feb. 1980) 1−17925
conformally flat space-times, finite temperature effects, one-loop effective potential 1−36797
CP^{n-1} model in 2-D Euclidean space-time, topological charge, action, stability 1−435
criteria for belief 1−28202
critical point dominance in one dimension 1−50305
cylindrically symmetric configurations of gauge fields, exact solns. *(Russian)* 1−36791
Euclidean loop Green functional, renormalised loop wave equation, WKB approx. 1−424
Euclidean space, de Sitter-invariant field equations 1−10056
Euclidean space, general gauge fields and gravitational field 1−50318
Euclidean space-time, coefficient functions for S-matrix, projection iteration method in quantum field theory 1−5503
Euclidean strings, planar-time dynamics 1−23422
Euclidean SU(2) Yang-Mills theory, functional determinants 1−10061
fermion field theories, strong-coupling expansion, and large-N limit of Gross-Neveu model 1−23410
ferroelectric crystals, first order structural phase transitions, ϕ^6 field theory in (1+1) dimensions 1−8016
$g_6\phi^4$ strong coupling expansion, renormalisation 1−23426
$g\phi^3$ theory, generalized effective potential and its equations of motion *(Russian)* 1−18383
$g\phi^4$ model, five loop calcs. and critical index, anomalous dimensions 1−50321
$g\psi^4ZZ$ 1−45121
gravitational bubbles, foamlike structure of space-time, particle propagation 1−5209
gravitational instantons, G-index theorem and non-local boundary terms 1−27850
gravitational instantons and 2-D Kahler Einstein spaces 1−18133
hadronic wave equations from lattice gauge theories, heavy quark systems 1−23431
Heisenberg models, O(2) and O(3) in (1+1) dimensions, finite lattice methods in quantum Hamiltonain field theory 1−27892
Higgs model, non-Abelian, meron-like configurations 1−5493
Higgs models on lattice in 3 or 4 dimensions 1−5515
holonomic fields, isomonodromic deformation and Ising model 1−36821
instanton+anti-instanton system, weakly interacting, structure and stability under external colour electric field 1−45123
instantons, rel. to zeta functs., Green's functs., CP^{n-1} model 1−33113
inverse scattering equations for $g\phi^3+h\phi^4$ theory in two dimensions 1−418
Ising model, finite lattice methods in quantum Hamiltonian field theory 1−27891
Ising model, two dimensional, two spin correlation function, nonlinear partial difference eqns. 1−40932
lattice chiral field, local conservation laws 1−36804
lattice fermion problem, weak coupling of perturbation theory, chiral invariance 1−28213
lattice field, massless, renormalisation group technique, block spin approach 1−414
lattice field theory, stochastic thresholds, coupled oscillator system 1−429
lattice gauge fields, recursive eqns., cluster and contour expansions, phase-space struct. 1−28207
lattice gauge theories, large dimensional, Z_2 pure gauge system 1−5481
lattice gauge theories, Monte Carlo simulations 1−28188
lattice gauge theories, phase diagrams, first order transitions, β functions, 1/N expansions 1−23428
lattice gauge theories, string tension, β-function calcs. 1−28190
lattice gauge theories, string tension and vortex free energy, high temp. expansions 1−40967
lattice gauge theories, transition patterns, large dimens. expansions 1−28189
lattice gauge theories, Z_4 and $Z_2\times Z_2$ equivalence 1−33108
lattice gauge theory, chiral symmetry breaking, pion spin waves, compact QED 1−40936
lattice gauge theory, classical solns. and large-N limit 1−45115
lattice gauge thories on subgroups of SU(2), phase struct., Monte Carlo calcs. 1−23429
lattice like gauge theory invariant under translation and rot., integral form 1−36801
lattice QCD, approx. SU(6)×SU(6)×U(1) symmetry 1−516
lattice QCD, gluonic sector, strong coupling $1/N_c$ expansion, high order 1−18385
lattice QCD, strong coupling $1/N_c$ expansion in gluonic sector 1−5582
lattice Yang-Mills theory, Wilsons action alternative 1−14243
massive Thirring model, exact quantisation, S-matrix direct calc. 1−14256
massive Thirring model, repulsive case, mass spectrum and S-matrix 1−412
massive Yang-Mills-Higgs-Kibble systems, static solns. 1−28169
mesons as spin waves, chiral symmetry breaking in QCD 1−10146

axiomatic field theory continued
momentum-space representation for propagation functions in pseudoparticle fields 1−23439
neutrinos on Kogut-Susskind lattice, absence in homotopy theory 1−50340
non-perturbative contributions in models with a non-analytic behavior at infinite N 1−45118
nonlocal field theory in Bogolyubov axiomatic approach, admissible universal classes *(Russian)* 1−441
nonlocal quantum field theory, Bogolyubov axiomatic approach *(Russian)* 1−18382
normalization sum for the Bethe's hypothesis wave functions of the Heisenberg-Ising chain 1−44860
O(3) sigma model, three-dimens., vortices and duality transforms 1−10077
O(N) $(\phi^2)_3^2$ model, chiral field model and 3-dimens. space universality 1−14273
O(N) symmetric ϕ^6 model, effective pot., spontaneous symmetry breaking 1−10066
operators, two-dimensional Ising model in scaling unit 1−28217
particle production near the cosmological singularity 1−28264
planar Ising model from transfer matrix and spinor algebras 1−36584
Potts models in 1+1 dimens., self-dual renormalisation group anal., confinement 1−28175
pure SU(2) Yang-Mills theory on finite lattice, Monte Carlo calcs., quark confinement 1−508
q-state gauge matter Potts models in Lagrangian form., large q expansions 1−28173
QCD, external field problem in large N limit, lattice, gauge theories 1−18438
QCD and instantons at finite temperature, review 1−40940
quadratic building blocks theories, large N saddle point formulation 1−426
quantized gauge fields, geometry, Yang-Mills formulation, lattice models confinement, phase transform. 1−28206
quark confinement, gauge theories, duality transform., excitations, coupling consts. 1−18390
quenched system under Gaussian random fields conjugate to anisotropic spin fields, renormalised field theory 1−40746
relativistic Feynman-type integrals, generalised stochastic model 1−415
scalar field theory in curved space-time, dimensional renormalisation 1−36788
sine-Gordon quantum fields in arbitrary space-time dimensions 1−10058
small lattice gauge theories, U(1), SU(2) and SU(3) exact solns. 1−28198
solvable q-state models in lattice statistics and quantum field theory 1−50068
string tension and scale parameter relation pure SU(3) and lattice gauge theories 1−14333
string variables, dynamical eqns., general gauge group and QCD 1−28218
strong coupling expansion, renormalisation, $\lambda\phi^4$ theory 1−45150
strong coupling lattice theories, continuum limit, approx. scheme 1−23447
SU(2) lattice gauge model, correlations and specific heat, string tension 1−23416
SU(2) lattice gauge theory, plaquette-plaquette correlations 1−18378
SU(2) lattice Yang-Mills theories, static quark confinement, Z(2) variables 1−18429
SU(2) Yang-Mills theory and HP(n) σ-models, quaternionic multi-S^4 instantons 1−23414
SU(2) Yang-Mills theory at finite temp. on lattice, confinement transition, Monte Carlo calcs. 1−28180
SU(2) Yang-Mills theory on lattice at finite temp., Monte Carlo study, confinement transition 1−33106
$SU(3)_{colour}\times U(1)_{EM}$ lattice gauge theory, coloured monopoles 1−45117
SU(3) Hamiltonian lattice gauge theory, string tension, confinement, roughening 1−28183
SU(N) massless Thirring model, eigenvectors and quantum numbers 1−5489
susceptibility exponents, surface and local, ε expressions, semi-infinite ϕ^4 O(n) systems 1−47864
ternon theory, quantum properties of composite gauge field 1−5491
Thirring model, massless, with SU_n symm., soln. *(Russian)* 1−50336
Thirring model, with instanton soln., functional determinant 1−18363
Toda lattice, nonAbelian, discrete analogue of matrix Schrodinger spectral problem 1−28167
topological excitations and Monte Carlo simulation of Abelian gauge theory 1−23458
Tr(exp(A−λB)), Laplace transform representation with positive weight and some matrix inequalities 1−157
two dimensional planar model, critical line correlation functions, logarithmic factors, scaling 1−40722
U(1) lattice gauge theory, α-dimens., universal props., confinement, mag. monopoles 1−28172
U(N) and SU(N) lattice gauge theories in two space-time dimensions 1−50325
U(N) gauge theory, 2-D, effective potential and bound states, ϕ^4 term and symmetry breaking 1−443
U(N) gauge theory on small lattices, large N limit, nonAbelian toy models 1−33091
U(N) integral for the generating functional in lattice gauge theory 1−10068
U(N) integrals, 1/N, and the de Wit-'t Hooft anomalies 1−28164
U(n) Thirring model, fermion field identities for bosonisation 1−50337
Wightman axiomatic approach to elementary particle theory, strong continuity *(Russian)* 1−50332
Wilson's surface roughening in 4-D lattice gauge theories 1−5487
winding number and gauge condition *(Chinese)* 1−18380
XY model, phase transitions, soluble model 1−23430
Yang-Mills field equations, 4-D Euclidean space, solns. depending on arbitrary soln. of 4-D Laplace eqn. 1−5496
Z_2 lattice gauge theory, connection to Ising spin glasses 1−30965
Z_N gauge theories, phase structure 1−45105
Z(2) gauge and matter theory, phase struct. 1−28191
Z(2) lattice gauge system, critical props. in strong coupling expansions 1−431
Z(2) lattice gauge theory, variational method 1−23441
Z(N) lattice gauge theories, continuum limit, Hamiltonian and Lagrangian approach 1−28212
Z(N) theories, phase transitions 1−5462
$\pi^0\pi^0\to\pi^0\pi^0$, absolute bounds on amplitudes in physical region and threshold behaviour 1−5649

axiomatic field theory continued
SU_3 gauge groups, equations of motion in Euclidean space, numerical and exact solns. 1−14253
Zn and U(1) Abelian lattice gauge theories, roughening transition and confining string 1−40966
backscatter
see also particle backscattering
aerosol backscattering of intensity-modulated optical radiation 1−22494
atmosphere, UV backscattering meas. rel. to annual cycle in tropical stratospheric and mesospheric O_3 1−17652
cross polarised backscatter from half space random medium, second order renormalisation theory 1−29189
dye ring laser behaviour, backscattering effect 1−15195
EM wave scatt. by rotating dielectric sphere, depolarisation of backscattered signal and low freq. limit 1−1447
EM wave scattering by non-Gaussian random surfaces, shadowing properties, backscatter function 1−29174
F-region backscatter meas. of 11-cm equatorial spread-F irregularities 1−17725
finned circular cylinder illuminated by plane wave, backscattered field, uniform GTD anal. 1−6434
frequency dependent back-scattering of acoustic wave train in atmosphere 1−29440
Gaussian-distributed rough surface, perfectly conducting, shadowing function incorporation into anal. 1−29184
graded index fibres, backscatter attenuation meas. 1−19441
graded-index fibres with diameter variations; backscattering signatures 1−46562
ionosphere auroral backscatter, results on 42 MHz fading 1−27335
laser beams, backscattering against high energy electrons 1−29240
laser velocimeter, two-colour two-spot, backscatter, atm. wind aerosol vel. meas. appl. 1−6594
laser-produced plasma, anomalous absorption, backscatter and flux limitation, review 1−29853
mesospheric backscattering seen by VHF radar, depolarisation props. 1−22618
monomode optical fibre defect location using 1.3 μm semiconductor laser source, Rayleigh backscatt. signal obs. 1−33834
multimode optical fibre, waveguide struct. fluctuation meas. by backscatt. technique 1−41851
N-point processing of optical fibre backscatter signals using single heterostructure lasers 1−6493
ocean, Seasat-A scatterometer meas. evaluation rel. to wind meas. in marine surface layer 1−17700
opposition effect, visible radiation backscatter from surfaces 1−29214
optical fibre 1−11147
optical fibre backscatter system employing semicond. laser diodes and avalanche photodiodes, noise anal. 1−46576
optical fibre loss and splice loss meas. by backscatter method 1−29403
optical fibres, attenuation meas. system *(German)* 1−19451
optical fibres, backscatter-loss signatures, spectral attenuation meas. over wide range, correl. with fibre defects 1−11145
optical fibres, communication systems at long wavelength meas. *(German)* 1−19448
optical fibres access couplers for backscatter meas. *(German)* 1−19457
optical multimode fibre, backscatt. in high-power optical pulse propag. 1−6672
photon backscattering number albedo for Pb and Sn 1−28819
radar scatt. coeffs. of land, snow and sea ice, determ. using clutter model and Skylab meas. 1−27161
single mode fibres, backscattering meas. of bending-induced birefringence 1−46561
solar radiation backscattering by local interstellar medium, comparison with interstellar absorpt. meas. 1−27579
sound, sea surface backscatter at small grazing angles 1−37671
steel, grain size eval., with back scattered US pulses of Rayleigh waves *(German)* 1−8513
turbid river water, reflectance rel. to backscatter and absorption 1−44213
water droplet, backscattered radiance, elec. field effect 1−6457
Z-pinch, overdense plasma, laser light backscatter 1−46907
^{11}B, electric quadrupole exctiation of first excited state 1−41053
InP-InGaAsP heterojunction laser, emission polarization, internal strain effect 1−51483
SiC synthesis, in C implanted Si, RBS, IR and diffr. anal. 1−31393
backward wave oscillations *see backward wave tubes; electromagnetic oscillations*
backward wave tubes
see also carcinotrons
gyrotron, backward wave oscill., electron cyclotron maser instability effects 1−46270
bagging *see packaging*
balance (physiological) *see mechanoception*
balances
see also weighing
analytical balances, substance amount meas. and dosage method 1−31964
double integration of curves 1−50120
electronic microbalance using mechanotron sensor 1−237
gamma-ray attenuation belt weigher, accuracy and performance 1−23185
levitation correction device for weighing method of atomatic Czochralski cryst. growth 1−21340
magnetic suspension balances, geometry of suspension and means for stabilization 1−23186
micromass measurement errors and countermeasures 1−27934
pendulum balance, automated, for high temp. mag. susceptibility meas. 1−50180
piezoelectric, for surface diffusion studying method 1−18196
silicon spring balance, temperature coefficient, estimation of errors in gravimetric adsorption measurements 1−50106
single flat spring used as fulcrum of scale, analysis of deformation 1−23187
torsion vacuum microbalance, sputtering yield of meas. *(Japanese)* 1−27930
vacuum thermal balance with remote transmission of readings for operation in ionizing radiation field 1−44887
ball lightning *see lightning*
ballistics
see also impact (mechanical); military equipment
bow and arrow, modern working recurve ballistics, teaching 1−22979
bullet ballistics computation program 1−13999
ballistics continued
steel armour plate, texture influence on mech. and ballistic props. 1−43367
tilted plane gravitational field model 1−13976
balloons
see also aircraft
attitude control of balloon borne telescope *(Japanese)* 1−22680
construction and operation of data collection systems *(German)* 1−18205
mag. field from Sanriku coast to E.Japan Trench *(Japanese)* 1−22191
orientation system, high-altitude, single-chip microcomputer appl. 1−44405
pilot balloon position using double theodolite method, error anal. 1−22507
relay balloons for radiowave propag. in stratosphere *(Japanese)* 1−22505
satellite balloons, history 1−54347
superpressure balloons in atmosphere, response to gravity waves 1−49421
band gap *see energy gap*
band model of magnetism
see also Hubbard model
alkali metal intercalation compounds, Fermi surface obs. by Shubnikov-de Haas and magnetoreflection methods 1−47436
antiferromagnetic alloy, itinerant bulk susceptibilities 1−30924
disordered binary system, ten-fold degenerate d-electron correlation, metal-nonmetal transition 1−34848
disordered electron hopping systems, one-dimensional, exactly soluable 1−34852
doubly degenerate narrow band, kinetic exchange interaction, appl. to $Fe_{1-x}Co_xS_2$ and $Co_{1-x}Ni_xS_2$ 1−3168
exciton ferromagnet, impure, phase diagram 1−12296
ferromagnet, itinerant electron, effects of spin fluctuations 1−30959
ferromagnetic metals, invar phenomena, magnetovolume effect 1−3234
ferromagnetic semiconductor, simple-two band s-d model with hybridisation 1−43137
ferromagnetic semiconductors, magnetisation in electron quasiparticle energy in s-d model 1−42942
Hubbard model, magnetic structure for nonalternating lattices, vacancies *(Russian)* 1−30903
Hubbard model, one-dimensional, real space renormalisation half-filled band study 1−42941
itinerant electron magnetism, unified picture *(Japanese)* 1−34851
itinerant magnetism in hybridised degenerate electronic bands 1−47839
itinerant-electron antiferromagnet, mag. susceptibility spatial depend. 1−25900
metallic ferromagnets, RPA degenerate d-band complex magnons, spin polarity fluctuations 1−34849
mixed-valence systems, magnetic-nonmagnetic ground state model 1−52529
rare earth rhodium borides, RRh_6B_4, (R=Y, Lu, La, Eu^{3+}), itinerant electron ferromagnetism 1−30985
transition metals, broken-symmetry states, ferromagnetism 1−12252
transition metals, cohesion and mag. props., correl. effects 1−34850
weak itinerant ferromagnets, isotope effect on Curie temp. 1−3205
weak itinerant ferromagnets, isotope effect on Curie temp. 1−7856
Co, spontaneous magnetisation, modified Zener model 1−34864
Cu-Ni, X-ray absorpt. spectra, mag. moments, and band theories 1−26307
Fe, itinerant electron systems, single-site spin fluctuation theory 1−7846
Fe, spontaneous magnetisation, modified Zener model 1−34864
$Mn_5Pd_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
$Mn_5Rh_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
MnSi, helical spin density wave 1−12276
$MnSi_x$, band magnetism peculiarities, neutron diffr., magnetisation, and mag. susceptibility meas. 1−12262
Ni, itinerant electron systems, single-site spin fluctuation theory 1−7846
Ni, itinerant ferromagnetism and p-state supercond., coexistence 1−12228
Ni, spontaneous magnetisation, modified Zener model 1−34864
Pd_2MnSn Heusler alloy, spin dynamics 1−38941
$PrAl_2$, induced magnetism via conduction electron exchange 1−47868
TaS_2(1T), Mott versus Anderson localization 1−12034
$TiBe_2$, itinerant metamagnetism 1−25937
$TiBe_{2-x}Cu_x$, ferromag. transitions, mag. props. meas., itinerant electron model 1−47845
YNi_3, very weak itinerant ferromagnetism, neutron diffr. expts. 1−25884
$ZrZn_2$, itinerant ferromagnetism and p-state supercond., coexistence 1−12228
$ZrZn_2$, polycryst., high-field magnetoresist. meas. 1−30723
band-pass filters
see also crystal filters; vocoders
computerised tomography, filter for enhancement of spinal canal tissue reconstruction 1−26981
depth information pseudocolour encoding using Talbot effect 1−41601
ECG, optimal filter for QRS complex 1−32285
quartz, 55°-rotated y-cut, acoustic wave props. and device appls. 1−46621
SAW bandpass filter and its optical probing 1−6703
SAW devices, practical guide for use by engineers 1−41936
thin phase structure detect. under coherent illum., method classification 1−1506
wavelength-division multiplexers/demultiplexers, interference filters arrangement, for fibre-optic communication systems 1−33828
well logging instrumentation, active bandpass filter with cascaded sections *(Russian)* 1−27296
band structure
see also band structure of crystalline metals; band structure of crystalline semiconductors and insulators; band structure of semimetals; band theory models and calculation methods; Brillouin zones; conduction bands; degenerate semiconductors; electron energy states of amorphous solids; electron energy states of liquid semiconductors; energy gap; Fermi surface; many-valley semiconductors; valence bands
Bravais lattice operator in crysts., one-band approx. 1−38704
diamond lattice, generalised Ewald potential problem 1−47432
EELS determ. of electron energy band shapes, theory 1−47426
FCC crystallite, different shape, group theoretical principles *(German)* 1−52466
graphite, acceptor intercalated, band struct. model and electrostatic effects in stages 3 and 4 1−38703
graphite intercalation compound with AsF_5, magneto-oscillations 1−38763
graphite intercalation compounds, self-consistent charge densities, band structs., staging energies, calc. 1−38701

band structure continued
graphite intercalation compounds with AsF_5, HNO_3 and Rb, de Haas-van Alphen effect 1−42677
graphite intercalation compounds with HNO_3, $HFSO_3$, Br, Li, KHg, quantum oscillatory effects 1−42678
graphite-$FeCl_3$ intercalation cpd., stage I and stage II, low freq. plasmon spectra 1−47522
graphite-Ne intercalation cpd., conductivity reduction, tight binding calc. 1−47628
graphite-$SbCl_5$ intercalation cpd., optical reflection studies of electronic props. 1−48094
Hartree-Fock band theory used to study stability of metallic and insulating states 1−12012
infinite one-dimensional cryst. in elec. field, electron states, Stark ladders, wave functions 1−16263
line groups and band structure of polymers 1−7117
metal hydrides, props. and appls., conf., Colorado Springs, CO, USA (April 1980) 1−6
organic conductor, EPR meas. 1−42998
overlap reduced semiempirical tight binding and chem. pseudopot. methods 1−47430
photoemission, angle resolved, bulk energy band dispersions determ. methods, review 1−31301
photoemission, angle resolved, for band struct., surface states determ. 1−31300
trans-polyacetylene, quasi-1-dimens., synchrotron radiation spectrosc. 1−8088
polydiacetylene, quasi-1-dimens., synchrotron radiation spectrosc. 1−8088
pyrite type compounds, $d\gamma^1$ band config., electron correlation and band width, elec. and mag. props. 1−16423
rare earth metal hydrides, RH_x(R=La, Ce, Pr, Nd), metal-semiconductor transition, electronic band struct. model 1−20634
rare gas monolayers, lateral interactions, band struct. models and photoemission expts. 1−3037
semiconductor physics, conference, Kyoto, Japan (Sept. 1980) 1−44693
solids, band-gap opening and optical absorption under laser irrad. 1−15212
superconducting transition temp., pair susceptibility and coherence length 1−12225
surface, self-consistent electronic struct. in tight-binding *(French)* 1−52618
TCNQ salt, (N-methylphenazinium)$_x$(phenazine)$_{1-x}$TCNQ, two-band conductor with variable band filling 1−52465
TCNQ salt, $(NMP)_x(phenazine)_{1-x}$TCNQ, controlled band filling, Raman spectra 1−3410
tight-binding bands, theory of phys. props. and competing processes 1−25610
Au clusters, band struct., size depend., XPS study 1−42669
Cl chemisorbed on GaAs (110), two-dimens. band struct., angle-resolved photoemission spectra study 1−38828
FeS, K X-ray absorpt. spectra of sulphur, energy band and MO calcs. 1−39181
FeS_2, K X-ray absorpt. spectra of sulphur, energy band and MO calcs. 1−39181
Fe_2S_3, K X-ray absorpt. spectra of sulphur, energy band and MO calcs. 1−39181
$(H_n{:}Li)_x$, H chain doped with Li, electronic struct., HF calcs. 1−42668
H_xReO_3, electronic states of H, energy bands and proton Knight shift 1−21069
KC_8 intercalation cpd., electronic band struct. calc. 1−47433
La monopnictides, electronic struct. 1−20605
NiH, electronic struct., rel. to supercond. 1−25607
$(SN)_x$, quasi-1-dimens., synchrotron radiation spectrosc. 1−8088
TaS_2 (1T), band struct., angle-resolved photoemission study *(French)* 1−38700
TiC_xN_{1-x}, solid solution, distrib. of density of electron states 1−52464
$Ti_xV_{1-x}C$, solid solution, distrib. of density of electron states 1−52464
YSb, electronic struct. 1−20605
Zr hydrides, band struct. calc. 1−25608

band structure of crystalline metals
actinide metals, band struct. and cohesive props. 1−47443
actinides, f-electron bonding, review 1−47528
alloy, randomly substituted, Fermi surface 1−12019
alloy thin film, substitutionally disordered, electronic struct., CPA calc. 1−16386
alloys, disordered interstitial, band struct., single-site CPA calc. 1−16222
Bloch electrons, theory of nonlinear orbital magnetism *(Russian)* 1−3127
divalent metals, relation between dissociation enthalpy and heat of vaporisation 1−52270
Fermi surface local geometry 1−12020
ferromagnetic 3d-metals, local band definition, spin waves 1−25863
intermetallic compounds, atomic struct., electronic struct., mag. and supercond. props. *(Polish)* 1−52110
paramagnetic intermediate valence and Kondo compounds, spin fluctuation effects, low temp. props. 1−12258
positron annihilation spectroscopy, appl. to metals and alloys, book contrib. 1−39179
random alloys, conc. momentum distrib. of electrons 1−25609
random metallic alloys containing heavy elements, electronic struct., relativistic theory 1−25611
rare earth metals, electronic struct., binding energies, anal. 1−25626
rare earths, f-electron bonding, review 1−47528
d-state solids, universal LCAO calcs 1−12015
transition metal alloys, heats of form. from photoemission data 1−43243
transition metals, band struct., pseudopot., completely OPW calc. *(Russian)* 1−30621
transition metals, electronic configuration, model pseudopot., calc. 1−30625
Ag, band structure and eq. of state calc. *(French)* 1−16223
Ag-Cd, electron energy band struct., KKR-Ziman method 1−7515
Ag_xPd_{1-x}, electronic struct., KKR-CPA calcs. 1−25623
Al, UPS from oriented surface, plastic deform. enhanced, fatigue life depend. 1−16665
Al_2Au, electron struct., X-ray emission spectra and XPS 1−35123
$Al_2Au(Cu)$, electronic struct., multiple scatt. Xα cluster method with k-depend. boundary conditions 1−42681
Al_2Cu, electron struct., X-ray emission spectra and XPS 1−35123
AlFe(Co)(Ni), APW band struct., densities of states, complex dielec. function 1−7501
AlH_x, electronic struct. rel. to supercond. 1−2863
$Al_{80}Pd_{20}$, Auger spectra, depend. on band struct. 1−12627
Al(111) film, electronic struct. and surface states, self-consistent linearised APW method 1−47727
Au, clusters, vacuum deposited on C surfaces, band struct., photoelectron obs. 1−16654
Au, core-valence transitions, relativistic tight-binding calc. 1−7513
Au, energy band dispersion, photoemission from Fermisurface optical transitions 1−12635
Au, energy linearised scheme, relativistic band struct. calc. 1−20607
Au, photoemission, angle resolved, energy coincidence method 1−48235
Au, relativistic electron structure, APW method *(Ukrainian)* 1−38707
Ba, 4f-level position, lattice constant variation, supercond. props. 1−25625
Cd, many-body interactions in lattice dynamics, phonon dispersion curves 1−42484
Ce, band structure, Compton profile, and $\gamma \rightarrow \alpha$ transition 1−47445
Ce electronic struct., f-d hybridisation, cluster calc. 1−47444
Ce, isostructural γ-α transition, self-consistent linearised APW energy band calc. 1−42682
CeBe(Sb), magnetic anisotropy model, band struct. calcs. 1−42957
Co, electron and phonon spectra, press. depend. 1−34607
Co film, ultra-thin, spin polarised, self-consistent band struct. calc. 1−30623
$CoSn_{(2)}$, X-ray spectrum anal. of electronic struct. *(Russian)* 1−48197
Co_3Sn_2, X-ray spectrum anal. of electronic struct. *(Russian)* 1−48197
Cr (110), antiferromagnetic-paramag. phase transition, band structs., angle-resolved photoemission study 1−12633
Cr, antiferromag., electronic struct. 1−30624
CsCl-type alloys, effects of SRO and LRO on electronic struct. 1−2865
Cu (001), angle-resolved photoemission spectra, comparison with direct-transition theory 1−39216
Cu aggregated film, interband transitions, optical props. meas. 200 to 1000 nm 1−43197
Cu, electronic struct., multiple scatt. Xα cluster method with k-depend. boundary conditions 1−42681
Cu, X-ray emission line K$\beta_{2,5}$, deep-band probe, fine struct. 1−8165
Cu-Ni, X-ray absorpt. spectra, mag. moments, and band theories 1−26307
energy linearised scheme, relativistic band struct. calc. 1−20607
Er_6Mn_{23}, surface oxidation and electronic struct. 1−38708
Eu, helical spin ordering, role of electron Fermi surface 1−7506
Fe alloy, electronic structure from positron annihilation 1−12022
Fe, electron and phonon spectra, press. depend. 1−34607
Fe film, ultra-thin, spin polarised, self-consistent band struct. calc. 1−30623
α-Fe-Al(Si)(P)(B), dil., substitutional sp impurities, electronic struct. calc. 1−16253
Fe-Mn-Cr alloys, band struct. near Fermi level, elec. resist., thermo-EMF and mag. susceptibility meas. *(Russian)* 1−30622
FeTi, bulk band struct., PES study 1−20616
GdCd, magnetically ordered, elec. resistivity and thermal props. 1−30721
Ir, energy linearised scheme, relativistic band struct. calc. 1−20607
Ir, valence and conduction band energy dispersions, angle-resolved photoemission study 1−21326
La, FCC, electronic struct. and supercond. under press., linearised APW calc. 1−7514
$LaNi_5$ based alloys, surface oxidation and electronic struct. 1−38708
$LaNi_{5-x}Al_x$ (Pt_x), heat capacity, hydrogenation, influence of lattice and electronic factors 1−20418
$La_{1-x}Th_xNi_5$, heat capacity, hydrogenation, influence of lattice and electronic factors 1−20418
Li, band struct. studies, by OPW method *(Russian)* 1−47442
Li, band structure, effect of exchange interaction, self-consistent Green's method 1−20619
$Mg_{75}Pd_{25}$, Auger spectra, depend. on band struct. 1−12627
Mo, photoemission and electronic struct. 1−8193
Mo-Ti(Fe)(Cr)(V), electronic struct., X-ray spectra *(Russian)* 1−20620
Nb, band struct. calcs., short range order influence on elec. props. 1−25628
Nb-Mo alloy, band struct., Fermi surface and Compton profile 1−38709
Ni (110), transversely magnetised, spin-polarised photoelectron emission 1−31314
Ni, band struct. and chemisorption of H, extended CNDO calc. 1−47447
Ni, band structure, XPES calcs., LCAO method 1−21325
Ni, electron and phonon spectra, press. depend. 1−34607
Ni electron d-band width, surface photoemission, theory 1−2864
Ni, electronic structure, correlations, self-energy effects 1−38710
Ni, electronic structure, exchange splitting, correlation effects 1−34617
Ni film, ultra-thin, spin polarised, self-consistent band struct. calc. 1−30623
Ni, itinerant ferromagnetism, spin polarised photoelectrons from (110) surface 1−12632
Ni, self-consistent semi-relativistic energy band struct. calcs. 1−34616
Ni-Cu, electronic struct. theory 1−20618
Ni-P-B, amorphous and cryst., electronic struct. from photoemission, NMR and sp. ht. 1−25620
Ni-Zr alloys, d-band struct. and atomic arrangement 1−42683
NiS, metal, semimetal and magnetic phase transitions, interaction between correlated electronic bands 1−7838
NiSi, de Haas-van Alphen effect and LMTO band struct. 1−7512
NiTi, electronic struct. and X-ray emission spectra calcs. 1−30627
NiTi, energy spectrum, optical props., structural transform. 1−30626
Pb, electroreflectance spectrum, interband contrib. 1−52917
Pd, Auger spectra, depend. on band struct. 1−12627
Pd film, ultra-thin, spin polarised, self-consistent band struct. calc. 1−30623
Pd, Knight shift and band struct. calcs. 1−26061
Pd, relativistic KKR band struct. calcs. 1−16224
Pd-Ru-H, band struct. characts., mag. susceptibility, electronic sp. ht. and Mossbauer isomer shifts 1−20614
$Pd_{73}Ag_{27}$ random alloy single cryst., electronic struct., angle-resolved photoemission and KKR-CPA calc. 1−43242
PdIn, coloured intermetallics, interband absorpt. meas. 1−31148
Pt, core-valence transitions, relativistic tight-binding calc. 1−7513
PtH, band struct. calcs. possible high temp. supercond. 1−7511
Ru, photoemission and electronic struct. 1−8193
TbZn(Gd), mag. ordered, elec. resistivity and thermal props. 1−30721
Tc, short range order influence on elec. props. 1−25628
Th, optical props. in range 0.5-25 eV 1−3518
$ThPt_x$, x=1,2,3, valence bands and core levels, XPS study 1−43247
$TiBe_2$, self-consistent band calc., magnetism and supercond. 1−12023

band structure of crystalline metals continued
TiLi, energy band structure and wave functions *(Ukrainian)* 1−25622
TiRu, energy band struct. calc. *(Russian)* 1−20615
TiTc, energy band struct. calc. *(Russian)* 1−20615
α-U, electronic levels, occupied and empty, XPS and bremsstrahlung isochromat spectroscopy study 1−48227
U film, optical props. in range 0.6 to 25 eV, rel. to band struct. 1−12592
UAl_2, electronic struct., photoemission study 1−48230
U_xAu_3, x=1,2, valence bands and core levels, XPS study 1−43247
UCo_2, electronic struct., photoemission study 1−48230
UPd_3, metallic, 5f electron localisation 1−20651
UPt_x, x=1,2,3,5, valence bands and core levels, XPS study 1−43247
V-Fe, electronic structure from positron annihilation 1−12022
V-Fe-H, band struct. charcts., mag. susceptibility, electronic sp. ht. and Mossbauer isomer shifts 1−20614
W (001) single valence band X-ray photoemission study, direct transitions, phonon effects 1−20617
W, surface, clean and B covered, photo field emission spectroscopy, band struct. 1−21330
YAl_2, Fermi surface and energy band struct. 1−7507
YAl_2, self-consistent band calc., magnetism and supercond. 1−12023
Zn, energy-band dispersion for 3d states, angle-resolved photoemission 1−26365
Zn, many-body interactions in lattice dynamics, phonon dispersion curves 1−42484
ZrV_2, self-consistent band calc., magnetism and supercond. 1−12023
$ZrZn_2$, self-consistent band calc., magnetism and supercond. 1−12023

band structure of crystalline semiconductors and insulators
see also conduction bands; energy gap; valence bands
actinide 5f compounds, excitation spectrum, carrier conc. and temp. depend., CPA calc. 1−47469
alkali halides, electron states, crystal metric matrix inversion technique 1−20606
alkali metal intercalation compounds, Fermi surface obs. by Shubnikov-de Haas and magnetoreflection methods 1−47436
benzene diazonium salts, para-substituted, optical props., photodissociation *(Russian)* 1−3435
compound semiconductors, electron transport, book 1−32813
covalent insulator, self-energy corrections, first principles calc. 1−47448
covalent semiconductor, localised orbital method for electronic struct. calc. 1−7505
cubic semiconductors, dispersion laws of holes in Γ valleys 1−42773
diamond, band struct. calc. using LCAO SCF method, valence bond props. 1−47434
diamond, exptl. bulk energy bands using hv depend. photoemission 1−8189
diamond, ground state properties, LCAO SCF ab initio HF method 1−34609
diamond, LCAO calcs. in solid state, parameteristation 1−12014
diamond, self-consistent electronic struct. LMTO-ASA calcs. 1−20621
direct-gap crystals, two-photon absorpt. coeff., calc. 1−35003
electronic struct. and transport props. 1−47460
ferromagnetic semiconductor, cond. band struct. 1−34621
graphite:B, polycrystalline, elec. cond. and Hall coeff. 1−34724
graphite, band struct. calc. using LCAO SCF method, valence bond props. 1−47434
graphite, band structure calc., cellular method 1−52480
graphite, LCAO calcs. in solid state, parameteristation 1−12014
graphite, three-dimensional, energy band struct. 1−47453
graphite acceptor compounds, band struct. model, optical reflectivity 1−47462
graphite intercalation compounds, electronic energy bands 1−7520
heavily doped semiconductors, band tailing, scatt. and impurity conc. fluctuation effects 1−47471
hexahalogenobenzenes solid state, UV PES 1−53051
II-VI semiconductors, energy band structure, d-state effects, OPW calc. 1−34623
III-V mixed semiconductors, energy band struct. and lattice const. chart 1−24420
III-V semiconductors, electronic struct. using simple orbitals 1−20629
improper ferroelectricity theory, transitions, CDW 1−12465
intersubband dipole matrix elements of narrow-gap semiconductor films 1−52486
IV-VI compounds, cubic to rhombohedral phase transition, microscopic model 1−2384
IV-VI semiconductors, crystal potential fluctuation influence on electron spectrum 1−20631
Li intercalated graphite, electronic props. of various stages 1−2859
magnetic emiconductor, variation of energy gap, Green's function techniques 1−52483
metal hydrides, electronic struct. studies 1−20623
narrow band gap semiconductors, polarons, resonant and nonresonant 1−47508
one-electron description and many-body effects 1−16226
perovskite type oxides, XPS, semi-empirical calcs. 1−38718
piezoelectric degenerate semiconductor, transverse magnetoresistance depend. on nonparabolicity 1−7641
polar semiconductors, subband structure of n-channel inversion layers 1−47729
cis-polyacetylene, extended Huckel band struct. calcs. 1−7518
polydiacetylenes, electron states, ab initio calc. using cryst. orbital method 1−16227
polyethylene, band struct. calc. using LCAO SCF method, valence bond props. 1−47434
pressure effects on elec. props. of semiconductors and semimetals 1−30739
α-quartz, struct. and electronic props. from SiO_4 and Si_5O_4 models 1−20135
rare earth dicarbides, polycryst., Vickers hardness and pendulum hardness 1−25366
rare earth magnetic semiconductors, review, book contrib. 1−47657
semiconductor, thermochemistry, book contrib. 1−47260
semiconductors, band struct. information from EELS meas. 1−48201
semiconductors, conf., Wurzburg, West Germany (Oct. 1979) 1−44702
semiconductors, doped, single-particle energy levels below metal-nonmetal transition 1−47566
semiconductors, optical spectra, many-body effects 1−48106
semimagnetic semiconductors, review 1−47925
superlattice with minizones, selection rules and absorption lineshapes for electron transitions 1−43085

band structure of crystalline semiconductors and insulators continued
tetrahalogeno-p-benzoquinones, solid state, UV PES 1−53051
transition metal trichalcogenides, structure, band props., resistivity and charge density waves 1−42764
$AgGa(S_xSe_{1-x})_2$ solid solutions, band struct. calcs. *(French)* 1−12028
$AgSbTe_2$, optical props. and electronic struct. 1−8090
Ag_2Se low temp. phases, band struct. 1−34624
AlAs/GaAs superlattice electronic state localisation and complex bulk band structures 1−16351
$Al_xGa_{1-x}As$, epitaxy of varizone layers in temp. gradient field, forbidden bandwidth 1−43281
AlO_6^{9-} clusters, electronic struct., external field effects Xα calcs. 1−42690
Al_2O_3, electronic struct., AlO_4^{5-} and Al_6^{9} cluster, Xα calc. 1−42690
Ar, solid, energy bands, X alpha calc. 1−34620
AsF_5-graphite intercalates, band struct., optical props., structural energy 1−47463
Au/n-$GaAs_{0.6}P_{0.4}$ anode, illuminated, quasi-Fermi level and flat band pot. meas. method 1−34745
Au-$CdSnP_2$ surface barrier diodes, anisotropy of photovoltaic props. 1−8712
BN, band struct. calc. using LCAO SCF method, valence bond props. 1−47434
BaO, pressure induced metallisation, theoretical estimate of transition press. 1−16232
$BaTiO_3$, optical props., phase transition effects, tight-binding energy band calcs. 1−39059
BeO ceramic, thermoluminescence spectra, band struct. 1−3514
Bi_2Te_3, band struct. changes on hydrostatic compression *(Russian)* 1−34625
C_6Li intercalate, electronic band struct. 1−47461
$C_{16}(NO_3H)$, Fermi surface and band struct. 1−47437
CaF_2, electronic band struct., SCF LCAO calcs. 1−20628
CaF_2, reflectivity, fluoresc. and photoelectron spectra, 20 to 100 eV 1−3466
CaO, polarisable O^{2-} ion electronic charge distrib. 1−30632
$CdBr_2(Cl_2)(I_2)$, dielec. function and energy bands, EELS determ. 1−47464
$CdCr_2S_4(Se_4)$, electronic band struct., discrete variational Xα calc. 1−2869
$CdCr_2Se_4$, ferromag. semicond. with hybridisation, two band s-d model 1−43137
CdI_2, band struct. information from EELS meas. 1−48201
CdS(Se)(Te), energy band struct., OPW calc. 1−25629
CdSe:Mn, gigantic spin splitting of exciton states *(Russian)* 1−12042
CdTe, electronic charge densities, pseudopot. method 1−47465
CdTe/HgTe superlattice electronic state localisation and complex bulk band structures 1−16351
CeH_x, electron-phonon interaction, composition depend. phonon anomaly 1−42485
$CeH_2(H_3)$, electronic struct. APW calcs., LCAO calcs. 1−20627
$CsPbCl_3(CaCl_3)$, electronic struct. comparison with other perovskite struct. compounds, optical spectra 1−16230
CuBr, excitonic polaritons, dispersion, hyper-Raman scatt., theory and meas. 1−2880
CuBr, reflection spectra, band struct. rel. to CuCl 1−42687
CuCl, press.-induced phase transitions and absorpt. edge shifts 1−2619
$CuCrS_2$, vacuum UV reflectivity spectra, band struct. 1−21228
$CuGaS_2$, crystal growth, props. 1−16677
$CuGaTe_2$, UV reflectivity spectra 1−12526
CuI, reflection spectra, band struct. rel. to CuCl 1−42687
$CuInS_2$, crystal growth, props. 1−16677
$CuInSe_2$, UV reflectivity spectra 1−12526
$CuInTe_2$, UV reflectivity spectra 1−12526
Eu-ZZ 1−12029
Eu_xNbO_3, $EuMANb_5O_{15}$ (M=Ba, Eu, Sr; A=Na, K), energy level scheme *(French)* 1−20624
EuO(S), s-f model, CPA calcs. with Coulomb repulsion, density of states 1−42670
$Eu_{0.5}TaO_3$, $EuMATa_5O_{15}$ (M=Ba, Sr; A=Na, K), energy level scheme *(French)* 1−20624
Fe_{1-y}, semicond. props. at high temps. 1−7620
$Fe_2Cr_2S_4$, metal-semicond. transition, high temp. ferromagnetism *(Russian)* 1−34630
$FeNbO_4$, prep. and photoelectronic props. 1−34741
$Ga_{1-x}Al_xAs$, conduction band struct., deep levels, high-press. Hall effect meas. 1−2987
GaAs, electronic charge densities, pseudopot. method 1−47465
n-GaAs, Gunn effect threshold field decrease in strong mag. field *(Russian)* 1−42782
GaAs, high-field transport, Monte Carlo method and pseudopot. band struct. 1−47659
GaAs, laser induced damage, optical heating 1−15925
GaAs:Cr and undoped, energy structure parameters determ. by thermal effect of short light pulser *(Russian)* 1−52487
n-GaAs-$Al_xGa_{1-x}As$-GaAs graded interface barrier conductivity 1−16347
GaAsP, electron-core-hole interaction, energy derivative reflectance spectra 1−3430
$GaAs_{1-x}P_x$ modulated struct., tetragonal lattice distortions and elec. props. 1−42362
$Ga_xIn_{1-x}As$, direct gap, electron transport study 1−42792
$Ga_xIn_{1-x}As_yP_{1-y}$:Zn, valence band spin-orbit splitting 1−47459
GaP, resonance Raman scatt. at the indirect gap 1−52937
GaP:Te; deform. pot. constant determ. *(Russian)* 1−7522
GaP-InP-GaAs-InAs solid solns., energy band spectra and band gap depend. on comp. 1−20630
GaS(Se), layered crysts., electronic spectrum, press. effects, optical absorpt. and photoluminesc. meas. 1−52915
$Ga_2S_3(Se_3)(Te_3)$, energy bands and optical props. 1−47455
GaSb, energy gap temp. depend., electroreflectance spectra 1−48037
GaSb, energy-band dispersions, crit. points, and spin-orbit splittings, angle-resolved photoemission 1−12629
GaSb laser, band-to-band Auger effect 1−1568
GaSb:Se,Te, conduction band minima, elec. props., hydrostatic press. effects meas. 1−30631
ε-GaSe, two-photon photoemission, band symm. 1−42686
$GaTe_xSe_{1-x}$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
Ge, direct gap semicond., direct gap, temp. depend., pseudopot. calc. 1−47470
Ge, electron and phonon spectra, press. depend. 1−34607

band structure of crystalline semiconductors and insulators continued
Ge, electron transport in germanium at high pressures 1−30766
Ge, electronic charge densities, pseudopot. method 1−47465
Ge, laser induced damage, optical heating 1−15925
Ge, self-consistent electronic struct. LMTO-ASA calcs. 1−20621
Ge, two-photon absorption, band effects 1−1624
Ge/GaAs/CuBr heterojunction interface energy band discontinuity transitivity test 1−16346
Ge-GaAs (110) heterojunction, overlayer systems for ARUPS interface study 1−42852
Ge-Si alloys, electronic and optical props., effect of short range order 1−34615
GeS, photoconductivity spectra, exciton effects 1−20820
HfH_x, electronic struct., FCC-FCT lattice distortion, photoelectron spectra study 1−48233
HfS_2, electronic struct. and spectral features 1−34622
$HfS_3(Se_3)(Te_3)$, layered compounds, UV reflection spectra, band struct. 1−3433
$HgAl_2S_4$, energy band struct., pseudopotential calcs. 1−20632
$Hg_{1-x}Cd_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
$Hg_{1-x}Cd_xTe$, acceptor band theory *(Russian)* 1−47530
$Hg_{1-x}Cd_xTe$, two-photon absorpt., photocond., freq. depend. 1−3432
$Hg_{1-x}Mn_xSe$, energy struct. in strong mag. field 1−12128
α-HgS, cinnabar, photoluminesc., optical absorpt., and excitation spectra 1−3481
$(InAS)_{1-x}(CdTe)_x$, E_1 and $E_1+\Delta_1$ transition energies, comp. depend., electrorefl. spectra 1−21173
InAs laser, band-to-band Auger effect 1−1568
InAs/GaSb superlattice electronic state localisation and complex bulk band structures 1−16351
$InAs_xSb_{1-x}$, direct gap, electron transport study 1−42792
$In_{1-x}Ga_xAs$-$GaSb_{1-y}As_y$ superlattices, electroreflectance, band struct. 1−52916
InGaAsP, energy band struct., virtual cryst. model and electrorefl. spectra 1−2871
$In_xGa_{1-x}Se$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
In_2O_3:Sn films, RF reactively sputtered, optical props. *(Japanese)* 1−21284
InP, optical transmission, luminesc. and Raman spectra under hydrostatic press. 1−35007
InP_xAs_{1-x}, direct gap, electron transport study 1−42792
InSb, electronic charge densities, pseudopot. method 1−47465
InSb, laser induced damage, optical heating 1−15925
InSb, narrow-gap, electronic props. of n-channel inversion layers 1−47752
InSb, two-photon absorpt., photocond., freq. depend. 1−3432
InSe, layered crysts., electronic spectrum, press. effects, optical absorpt. and photoluminesc. meas. 1−52915
In_2Te_3, energy bands and optical props. 1−47455
KNO_2, X-ray photoelectron spectra, band struct. 1−39213
$KNbO_3$ crystal, electronic struct., mol. clusters, ferroelec. phase transitions 1−52485
KNb0$_3$, electronic struct. rel. to ferroelec. phase transitions 1−34626
$LaBO_3$, B=Ti, V, Cr, Mn, Fe, Co, electronic struct., XPS meas., calc. 1−38714
LaH_2, LaH_3, electronic struct., APW method 1−38715
LaH_x ($1.90 \leq x \leq 2.89$), optical absorptivity and photoemission 1−21157
$La_2S_4(Se_4)$, Jahn-Teller band transition, mag. props. 1−20679
LiBr, absorption spectra, band struct. from synchrotron rad. photoelectron spectra 1−26360
$MgAl_2O_4$-metal contact, photoemission, photocond., irrad. effects, band struct. 1−3017
$MgCl_2$, band struct. vacuum UV refl., XPS and UPS spectra 1−12625
MgF_2, self-consistent energy band struct. calc. using LCAO method 1−16228
MgO, electron states, crystal metric matrix inversion technique 1−20606
MgO, polarisable O^{2-} ion electronic charge distrib. 1−30632
α-MnS, optical absorpt. edge, blue shift, antiferromag. ordering effect 1−12523
$NaCrS_2$, vacuum UV reflectivity spectra, band struct. 1−21228
NaF, polarisable O^{2-} ion electronic charge distrib. 1−30632
$NaNO_2$, X-ray photoelectron spectra, band struct. 1−39213
Na_xWO_3, failure of rigid band model, XPS study 1−48234
$NbSe_3$, structure, band props., resistivity and charge density waves 1−42764
Ne, solid, energy bands and excitons, OPW calc. 1−38716
$Ni_{1-x}Co_xS_2$, electronic struct. and transport props. 1−47460
P, black, band struct., cryst. energies, and press. induced struct. transforms 1−47449
PaAs(N), f-electron contrib. to bonding 1−47059
$PbCl_2$, electronic struct. comparison with other perovskite struct. compounds, optical spectra 1−16230
$Pb_{1-x}Ge_xTe$, refr. index and opt. energy gap, anomalies of temp. coeffs. at ferroelec. transition 1−26163
PbS-Si heterojunction, capacitance-voltage and I-V characts., energy band diagram 1−30816
PbSnSe, phonon-plasmon coupled modes, band-to-band recombination 1−42710
$Pb_{0.93}Sn_{0.07}Se$ epitaxial film, band struct. 1−42689
$Pb_{1-x}Sn_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
$Pb_{1-x}Sn_xTe$, local states of Te vacancies, Hall effect *(Russian)* 1−2922
PdH, band struct., APW calc. 1−38717
Pr chalcogenides and pnictides, cryst. field, press. effects 1−20682
RbCl, thermoluminescence glow, optical absorpt. and emission 1−53002
SbSI, influence of press. on reflection spectra, band struct. *(Russian)* 1−21231
Se, band structure, overlap reduced semiempirical tight binding method 1−47430
Se, trigonal, energy spectrum, press. depend. 1−2866
Si, band struct., non-muffin-tin APW calc. 1−47451
Si, band struct. self-consistent calcs., Compton profiles, X-ray struct. factors 1−38711
Si, electron struct. at high press., struct. transition 1−2867
Si, electronically excited, valence band photoemission study 1−48220
Si, energy structure parameters, determ. by thermal effect of short light pulses *(Russian)* 1−52487
n-Si inversion layers, valley splitting and valley degeneracy factors 1−52479
Si, laser induced damage, optical heating 1−15925

band structure of crystalline semiconductors and insulators continued
Si MOSFET, many-body enhancement of valley splitting at finite temp. 1−52656
Si, self-consistent electronic struct. LMTO-ASA calcs. 1−20621
Si, Slater-Koster parameterisation and ideal-vacancy calc. 1−12024
SiO_x, cryst. and amorphous, chemical and electronic structs., XPS, UPS, and X-ray excited Auger spectra *(French)* 1−3578
$Si_xO_yN_z$ films for MIS struct., memory hysteresis meas. 1−3071
$Sm_xCe_{1-x}B_6$ solid solns., mag. and elec. props., temp. and comp. depend., carrier types 1−47841
SmS(Se)(Te), band struct. under press., semiconductor-metal transition 1−2872
α-Sn, electronic charge densities, pseudopot. method 1−47465
SnS, electronic band struct., pseudopotential calcs. 1−16229
p-$(SnTe)_{0.1}(PbSe)_{0.9}$ epitaxial layers, elec. props., band struct. *(Russian)* 1−38782
SrO, pressure induced metallisation, theoretical estimate of transition press. 1−16232
$SrTiO_3$:Nb, two-band supercond., tunnelling meas. 1−7785
Te, band structure, OPW calc. 1−12027
Te, electron and phonon spectra, press. depend. 1−34607
Te, trigonal, self consistent electronic spectrum, press. depend. of energy spectrum 1−12025
Te, trigonal, self-consistent electronic spectrum, charge and momentum density and compton profile 1−12026
TiC (111), (100), band crit. point energies, angle-resolved photoemission study 1−26367
TiC(N)(O), electronic struct. determ. by scattered-wave-method 1−30630
TiCx, optical absorptance and reflectance, 0.1 to 30 eV 1−26232
TiH_x, electronic struct., FCC-FCT lattice distortion, photoelectron spectra study 1−48233
TiN (100) cryst. energy band dispersion from ang. resolved PES 1−42688
Ti_2O_3, electron density study 1−52484
TiS_2, electronic struct. and spectral features 1−34622
TiS_3, layered compounds, UV reflection spectra, band struct. 1−3433
$TiSe_2$, angular resolved photoemission and band structure 1−48221
$TiSe_2$(1T), lattice instability, electron lattice interaction, band struct. calc. 1−7517
TlBr(Cl), self consistent ground state and optical props. 1−47454
$TlInX_2$-$TlRX_2$ (X=Se,Te), R=(Nd,Pr) systems, electrophys. and X-ray investigs., comp. depend. 1−52482
TlS(Se)(Te), $Tl_2S(Se)$, Tl_2Te_3 and Tl_5Te_3, XPS obs. for core and valence levels *(French)* 1−35145
Tm chalcogenides and pnictides, cryst. field, press. effects 1−20682
TmSe, electronic struct., f-d hybridisation, cluster calc. 1−47444
U monochalcogenides and monopnictides, cond. and valence band states, spin polarised photoemission study 1−47468
U pnictides (chalcogenides), electronic struct. and bonding 1−47466
UAsS, positron annihilation study of electronic struct. 1−8155
$UAs(S)(O_2)$, electronic levels, occupied and empty, XPS and bremsstrahlung isochromat spectroscopy study 1−48227
UN, electronic struct. and bonding 1−47466
US(Se)(Te)(Sb), electronic struct., optical functions 1−30629
USb, electronic struct. and Fano-type reson. effects, photoemission with synchrotron radiation 1−48226
$USb_2(P_2)$, positron annihilation study of electronic struct. 1−8155
UTe, ferromagnet, electronic struct., cluster MS calc. 1−47467
$U_xTh_{1-x}As(Sb)$, electronic struct., relativistic KKR-ATA calc. 1−47424
V compounds, multicomponent, valence band formation, p-d covalent mixing 1−34619
VC(N),(O), electronic struct. determ. by scattered-wave-method 1−30630
VD_x, X-ray K-absorption spectra and electronic struct. 1−43217
VH_x, X-ray K-absorption spectra and electronic struct. 1−43217
VO_2, optical prop. and elec. struct. temp. depend. 1−12527
VO_2, semiconductor to metal transition, UPS obs. 1−25632
V_2O_3, electron density study 1−52484
V_2O_3, semiconductor to metal transition, UPS obs. 1−25632
VSe_2, angular resolved photoemission and band structure 1−48221
WO_x, chemical and electronic structs., XPS, UPS, and X-ray excited Auger spectra *(French)* 1−3578
Y_4H_x (x=8,9,11,12), nonstoichiometric cubic, electronic struct. 1−20622
Zn_3As_2 crystals, oriented, reflectivity spectra, 0.24-1.2 μm waverange 1−3429
ZnO, surface electron struct. of polar and nonpolar surfaces 1−16336
Zn_3P_2 crystals, unoriented, reflectivity spectra, 0.24-1.2 μm waverange 1−3429
ZnS(Se)(Te), energy band struct., OPW calc. 1−25629
ZnSe, electronic charge densities, pseudopot. method 1−47465
ZnSe, pressure induced phase transition 1−47229
ZnSe, pressure-induced struct. transition, self-consistent pseudopot. study 1−25428
$ZnSiP_2$ crystal, exciton absorpt. spectrum 1−16234
ZrC(N)(O), electronic struct., cluster calc. using different mol. orbital methods 1−30628
ZrH_x, electronic struct., FCC-FCT lattice distortion, photoelectron spectra study 1−48233
ZrO_2, electronic struct., cluster calc. using different mol. orbital methods 1−30628
ZrS_2, electronic struct. and spectral features 1−34622
$ZrS_3(Se_3)(Te_3)$, layered compounds, UV reflection spectra, band struct. 1−3433

band structure of semimetals
nonlocal electron interaction effects in spontaneous current model *(Russian)* 1−42691
As, electron spectrum changes due to press. *(Russian)* 1−52481
α-B, rhombohedral, band struct. calc., muffin-tin orbitals method 1−47452
$Bi_{1-x}Sb_x$, cyclotron mass of cond. band near semimetal-semicond. transition, expt. 1−16218

band theory models and calculation methods
see also APW calculations; band model of magnetism; band structure; cellular method; free-electron approximation; Hubbard model; KKR calculations; k.p calculations; Kronig-Penney model; muffin-tin potential; nearly-free-electron approximation; OPW calculations; pseudopotential methods; relativistic band structure calculations; tight-binding calculations
band struct. calc. using LCAO SCF method, valence bond props. 1−47434
binary crystals with diagonal disorder, quadratic approx. appl. 1−34608

band theory models and calculation methods continued
crystal force matrix calc. in band theory *(Russian)* 1−42672
energy structure calculation for a cluster containing any number of atoms 1−25604
FCC crystallite, different shapes, band structure *(German)* 1−52466
metric matrix inversion technique 1−20606
noble gas crystals, nodal surfaces of ψ-function, band struct. calcs. *(Russian)* 1−47427
polymers, non-empirical atomic potentials, ground state calc. 1−19231
random systems with inhomogeneous concentration, config. average of ensemble treatment *(Chinese)* 1−20600
reconstructed overlayer systems, electronic states *(Chinese)* 1−25781
symmetry specification of bands in solids 1−2853
transition metal 3d alloys, electron energy spectra calcs. 1−52478
wave function normalisation by self-consistent Green's function method 1−2858
Na_xWO_3, failure of rigid band model, XPS study 1−48234
Si, energy band associated with dangling bonds, HF capacitance meas. 1−2916
TiC(N)(O), electronic struct. determ. by scattered-wave-method 1−30630
VC(N),(O), electronic struct. determ. by scattered-wave-method 1−30630
Zn blende semiconductors, two-photon absorpt. theory, three-band non-parabolic model 1−31160

bands (kink) *see kink bands*

bandwidth compression
see also vocoders
blind reading aids, automatic conversion of printed data *(Italian)* 1−53930

Bardeen-Cooper-Schrieffer theory *see BCS theory*

barium
see also nuclei with .....
atom, absorption spectrum, magnetic effects 1−10685
atom, double ionisation in 5p threshold region 1−46037
atom, double-K-vacancy production, correl. effects 1−24095
atom, doubly excited autoionising Rydberg states, electric field effect 1−1189
atom, electron scattering cross-sections *(Russian)* 1−19185
atom, hyperfine splitting in ground state of $^{137}Ba^+$ 1−46147
atom, in inert gas, absorpt., collision-induced dipole transitions 1−6187
atom, reson. radiation scatt. from superposition of Zeeman levels, Hanle effect, density depend. 1−14836
atom, VUV photoionisation angular distrib. meas. 1−28933
atom and ion, laser excited fluoresc., rel. spatial profiles 1−10691
atomic vapour, dense, laser excitation and ionisation 1−29830
atoms, collision broadening of principal series lines, in Kr atmosphere 1−19054
atoms, excitation, level crossing resonances, optical Hanle effect 1−51171
core-level spectra, XPS, enhanced multielectron effects 1−8188
high-freq. discharge lamp, at. absorpt. spectrometry obs. *(Japanese)* 1−10022
4f-level position, lattice constant variation, supercond. props. 1−25625
ocean Ba cycle, obs. of discrete suspended particles of barite ($BaSO_4$) 1−4509
radial injection experiment at 571 km, expanding plasma effect 1−40251
vapour, efficient near IR generation by four-wave mixing 1−29344
vapour, two-photon resonant four-wave mixing processes 1−19382
vapour IR laser line press. depend. 1−29260
vapour laser kinetics investigation using interferometric method 1−51457
XPS investig. 1−31311
XPS studies and oxidation 1−16653
Ba I and Ba II, autoionising and Auger levels, electron impact excitation, ejected-electron spectrum 1−24261
Ba II, (6P−5D) branching ratio 1−51157
Ba, titration, double-layer capacitance-pot. curves, computerised determ. using Kalousek type waveforms 1−48693
Ba^+ localised visible mono-ion oscillator, laser fluoresc. 1−2221
Ba^{2+}, energy curves for $^2\Sigma_u^+$ and $^2\Sigma_g^+$ mol. states calc. using multiconfig. VB method 1−24223
Ba^{2+} soln., stearic acid monolayers, Langmuir-Blodgett layer struct. *(French)* 1−30551
$Ba^+ + Ba$, resonant charge transfer cross sections calc. 1−24223
$Ba^+ + Ba^+ \rightarrow Ba + Ba^{2+}$, electron transfer cross sections 1−1363
^{133}Ba ion uptake in bone crysts., time differential perturbed angular correl. studies 1−48951
^{133}Ba nucleus excited state mag. moment meas. *(Russian)* 1−41339
^{140}Ba, induction of neoplasia in mice 1−53825
KBr:Ba, photoluminesc. and optical absorpt. of colour centres 1−3474
KCl:Ba^{2+}, impurity ion effect on lattice parameter 1−52122
KCl:Ba^{2+}, metastable phase form. during precipitation, density meas. 1−25443
KCl:Ba^{2+}, X-ray irrad., complex interstitial halogen H_3-type defect, ESR study 1−47946

barium alloys
see also barium compounds
Al-Ba, phase comp., calorimetric determ. 1−8273
Ba-Si(Ge)(Sn)(Pb), thermionic emission props. rel. to phase state 1−31298

barium compounds
see also barium alloys
$BaNiF_4$, condensed modes, group theoretical anal. 1−12461
specific heat and entropy 1−7347
β-Al_2O_3-BaO, fast divalent ion conduction 1−30461
BCl_3, isotopically substituted, vibr. freq., photochemistry appl. 1−6234
$(Ba,Mg)Si_2O_6$ low-sensitivity glass track detectors 1−51055
$(Ba,Sr)_3M_2Fe_{12}O_{22}$ (M=Zn, Cu, Cd), mag. props. and cation distrib. 1−47908
$BaAl_{12}O_{19}$:Mn single cryst. thin film, luminescent, LPE growth 1−53001
BaB_2O_4, alkoxy derived, form. and transform. 1−48309
$Ba_2Bi_4Ti_5O_{18}$, ferroelec. perovskite, high resoln. imaging 1−34209
BaC_6, prep. and phys. props. 1−35205
BaCN, visible spectra obs., atomisation energies meas. 1−1248
$(Ba_{0.98}Ca_{0.03}Zr_{0.02})(Al_{11}Ni_{0.48}Ti_{64})O_{16}$, hollandite type phase, struct. and chemistry 1−30149
$BaCl_2$, molten, X-ray diffr. intensities and partial struct. factors 1−11666
$Ba(ClO_4)_2.3H_2O$ single cryst. gamma irrad., H^+ spin-flip satellite lines, ESR study 1−7948
$BaCoF_4$, condensed modes, group theoretical anal. 1−12461
$Ba_{1-x}Cr_2Se_{4-x}$, thin sections prepared by microtomy, structure imaging of tunnel structs. 1−42270

barium compounds continued
Ba_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
BaF, $^2\Sigma$-radical, form., microwave spectra, rot. transitions, pot. and vibr. const. 1−10725
BaF_2, cryst. surfaces, struct. and props. 1−7436
BaF_2 crystals, kinetics of dissolution in HNO_3, HCl acid aq. solns. 1−20394
BaF_2, formation vol. of Frenkel pairs calc. 1−52132
BaF_2, high-temp. cond. and ionic disorder, thermodynamic anal. 1−34510
BaF_2, neutron dynamic scatt. from dynamic disorder 1−34508
BaF_2, neutron irrad. induced point defects, ^{20}F NMR study 1−2528
BaF_2, phase transition rel. to temp. depend. of conductivity 1−52291
BaF_2, repulsive hardness parameter anal. 1−30131
BaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
BaF_2 single crystal, strengthening by oxidation during annealing 1−21458
BaF_2, sputtered excited particle kinetic energies, secondary photon emission 1−16613
BaF_2, stimulated fluoresc. by ArF laser radiation 1−16592
BaF_2, thermal expansion and Gruneisen parameter, 2 to 90K 1−2661
BaF_2:Ce^{2+}, photocond. due to autoionis. of ce^{2+}, threshold shift *(French)* 1−52600
BaF_2:K^+, impurity absorpt. in VUV region 1−43143
BaF_2:Li(Na)(K)(Rb)(Cs), audiofrequency dielec. studies, 5.5. to 400K 1−31086
BaF_2:R^{3+} (R=La, Ce, Pr, Nd, Sm, Gd, Ho, Tm, Y), polarizable complexes, dielec. meas. 1−3321
BaF_2:Sm^{2+}, strain shifts of energy levels, second-order orbit lattice parameters 1−12077
BaF_2:Y^{3+} crystals, thermally treated, clustering of defects, ionic thermal current study 1−34722
BaF_2:Yb^{2+} configuration shift, metal-ligand exchange effects 1−12068
BaF_2-BaC_2 solid soln., carbide electrolyte suitability 1−12678
BaF_2-LaOF(GdOF)(YOF) solid solns., phase diagrams and cryst. growth by Bridgman technique 1−35241
BaF_2-ZnF_2-$RF_3(YF_3)$ fluoride glass system, isolation of new IR transmitters 1−19397
BaFCl-EuFCl, Eu^{2+} fluorescence and its application in medical X-ray intensifying screens, book contrib. 1−9014
BaF_2.HF, H-bonds, ^1H and ^{19}F NMR data, struct. anal. 1−6283
$BaFeF_4$, condensed modes, group theoretical anal. 1−12461
$Ba^{2+}Fe_2^{2+}Fe_{16}^{3+}O_{27}^{2-}$ W-hexaferrites, preferred Fe^{2+} sites, Mossbauer effect obs. 1−31065
$Ba_3Fe(II)_4Fe(III)_{28}O_{49}$ ferrite, specific saturation magnetisation meas. 1−38950
$BaFe_{12}O_{19}$, chemically coprecipitation form., DTA, X-ray and magnetic obs. 1−39290
$BaFe_{12}O_{19}$ ferrite, form. from $BaCO_3+Fe_2O_3$ roll scale, kinetics and mech. 1−39601
$BaFe_{12}O_{19}$, hexaferrite, magnetostriction and anisotropy energy, sublattice contribs. 1−52824
$BaFe_{12}O_{19}$, M-type hexaferrite, hyperfine struct., Mossbauer meas. 1−34962
$BaFe_{18}O_{27}$ ferrite, sintered, remanence, coercive force 1−38953
$Ba_5Fe_8S_{11}$, cryst. struct. and stability range 1−38351
$Ba_6(Fe_2S_4)_3$, one-dimens. struct., prep. and props. 1−13970
BaH_2 powder, UV photodecomposition kinetics 1−4108
BaI_2, equilib. geometry, force field and vibr. freq., electron diffr. determ. 1−29116
$Ba(IO_3)_2.H_2O$, cryst. data 1−30178
$Ba_2K_xNa_{1-x}Nb_5O_{12}$, Raman scatt. study of ferroelastic, paraelastic phases, Curie temp. 1−3405
$Ba_2K_xNa_{1-x}Nb_5O_{15}$, paraelastic and ferroelastic phases, Raman study 1−21185
$Ba_4Li_2Nb_{10}O_{30}$ crystals, dielec. props., ferroelec. transition, cryst. struct., meas. 1−52894
$BaMgF_4$, condensed modes, group theoretical anal. 1−12461
$BaMnF_4$, Brillouin and Raman study of phonons, commensurate-incommensurate transform. 1−43109
$BaMnF_4$, condensed modes, group theoretical anal. 1−12461
$BaMnF_4$, struct. and antiferromag. transitions, incommensurate modulation, theory 1−7325
$BaMoO_4$, spherulitic cryst. growth in silica gel media, SEM obs. 1−48246
$Ba(NO_3)_2$ cryst., phonon resonant absorpt. probed by acoustic-optic interaction 1−15991
$Ba(NO_3)_2$, pressure derivatives of second-order elastic consts. 1−15944
$Ba(NO_3)_2$, single crystals, ionic cond., 400 to 750K 1−2675
$Ba(NO_3)_2$, struct. change with temp., DC resist. and dielec. const. meas. 1−7323
$Ba(NO_3)_2$, thermal cond. and Umklapp relaxation 1−16113
$Ba(NO_2)_2H_2O$, piezoelec. and pyroelec. coeffs., absolute sense and model 1−31094
$Ba_2NaNb_5O_{15}$ crystals, Raman scatt. under uniaxial and hydrostatic stresses 1−21182
$Ba_2NaNb_5O_{15}$, incommensurate phases, X-ray diffr., birefr., and DTA meas. 1−34472
$Ba_2NaNb_5O_{15}$, low frequency polaritons 1−12044
$BaNpO_3$, magnetic susceptibility and transitions 1−47869
Ba_3NpO_6, optical spectra and magnetism, 4.2-300K 1−35068
BaO additions in alkali silicate glasses, low-temp. mech. relax., US obs. 1−52233
BaO, crystn. from metal chloride melts, solubility-temp. phase diagram anal. 1−21431
BaO, optical-optical double reson. spectra, spectral consts. 1−1262
BaO pressure induced metallisation, theoretical estimate of transition press. 1−16232
BaO, sub-Doppler optical-optical double reson. spectra 1−1261
BaO, surface states, UV diffuse refl. spectra 1−21227
BaO, XPS investig. 1−31311
BaO, XPS studies, rel. to Ba 1−16653
BaO:OH^- crystals, annealed, IR absorptions meas. 1−3443
BaO-B_2O_3, BaO-La_2O_3-B_2O_3 glasses, refl. coeff. and IR optical consts. 1−43092
BaO-B_2O_3 glasses, Ni^{2+} ions diffusion behaviour *(Japanese)* 1−20475
BaO-B_2O_3-SiO_2 glasses, liq. phase separated, tie line positions, heat treatment effects 1−39327
BaO-Fe_2O_3, amorphous films, crystallisation, RF sputtering prep. 1−30059
BaO-P_2O_5, vitreous, X-ray study of struct. 1−15809
BaO-SiO_2-Al_2O_3 melt, elec. cond., 1350 to 1550°C *(Japanese)* 1−47267

barium compounds continued
$BaO.6Fe_2O_3$, preferred orientation degree depend. on mag. props. 1−26501
$BaO.6Fe_2O_3$, synthesis by reaction of β-FeOOH with $BaCl_2$ solns. 1−35515
$Ba(PO_3)_2$-$Zn(PO_3)_2$ system, phase diagram and cpd. form. 1−31435
$BaPb_{1-x}Bi_xO_3$, critical superconducting transition temperature 1−20897
$BaPb_{1-x}Bi_xO_3$, lack of bulk sp. ht. anomaly at the supercond. transition temp. 1−47779
$BaPb_{1-x}Bi_xO_3$, Seebeck effect rel. to supercond. props. 1−47693
$BaPb_{1-x}Bi_xO_3$ superconducting oxide, new supercond. region, electron transport props. *(Japanese)* 1−38875
$BaPbO_3$, superconductivity study 1−20908
$(Ba_{1-x}Pb_x)TiO_3$, mixed perovskite crystal, successive phase transitions 1−8012
$BaPt(CN)_4$, TLD material, properties 1−957
$Ba_4R_3F_{17}$, R=Pr, Nd, Gd, Dy, cryst. struct., electron diffr. study 1−20145
$Ba_2R^{3+}Ir^{5+}O_6$ and $Ba_3R^{3+}Ir_2O_9$ (R=rare earth and Y) cryst. struct. and IR spectra *(German)* 1−38349
$Ba_3(ReO_5)_3Br$, IR and Raman spectra, ReO_5^{3-} vibr. spectra 1−8079
$Ba_3(ReO_5)_2O_2$, cryst. struct., evidence for O_2^{2-} anion *(French)* 1−20154
$BaRh_6O_{12}$, thick-film resistors, with small temp. coeff. of resist. 1−38771
BaS isotopic species in chemiluminescent flame, millimeter wave spectra, vibr. anal. 1−14872
BaS:Cu, photoluminesc., influence of Er 1−39133
$BaSO_4$ (barite) in oceans, obs. of discrete suspended particles rel. to Ba cycle in open ocean 1−4509
$BaSO_4$ and polyvinyl alcohol based coatings, spectrophotometric charact. 1−1658
$BaSO_4$, compressed submicron-sized particulates, anomalies refr. index meas. 0.400-1.105 μm, photometric standards 1−21155
$BaSO_4$, growth kinetics in suspension, scale prevention 1−53078
$BaSO_4$ paint bidirectional refl. factor meas. as contour plots 1−12468
$BaSb_2O_6$, vibrs., force field calcs., IR and Raman obs. *(French)* 1−31152
$BaSbO_2Cl$, cryst. struct., orthorhombic symm. *(French)* 1−20162
$BaSb_3O_5(OH)$, X-ray cryst. struct. determ. *(French)* 1−34293
$BaSiO_3$, crystn. from metal chloride melts, solubility temp. phase diagrams 1−21430
$Ba_{0.3}Sl_{0.7}Nb_2O_6$, ferroelec., photoelectret state investig. 1−43063
$BaSnO_3$ Mossbauer source effective thickness determ. method 1−36777
$Ba_3Sn(Pb)O$, perovskite-type struct., interphases between Zintl phases and real salts *(German)* 1−31442
$BaSn_2S_3$, X-ray cryst. struct. determ. *(French)* 1−30154
$Ba_{0.5}Sr_{0.5}Nb_2O_6$ thin film, dielec. nonlinearity, dielec. const. and electrooptical props. meas. 1−26127
$Ba_{0.5}Sr_{0.5}Nb_2O_6$:Fe^{3+}, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
$Ba_{0.55}Sr_{0.50}Nb_2O_6$ solid solns., elec. cond. to 1100°C, electron and ionic components, thermo-EMF 1−38818
$Ba_xSr_{1-x}Nb_2O_6$, mol. scatt. of light, elastic and photoelastic consts. 1−35067
$(Ba_xSr_{1-x})Nb_2O_6$ single cryst., diffused ferroelec. phase transition, hydrostatic press. effect 1−31105
$Ba_{0.9}Sr_{0.1}TiO_3$, cryst. growth by pulling method, pyroelec. and dielec. meas. 1−26139
$(Ba_{1-x}Sr_x)TiO_3$, barrier-dominated contact noise 1−52611
$(Ba_{1-x}Sr_x)TiO_3$, mixed perovskite crystal, successive phase transitions 1−8012
$Ba_xSr_{1-x}TiO_3$, Raman study of ferroelec. phase transition 1−21184
$Ba_{2-x}Sr_xZn_2Fe_{12}O_{22}$, Y-type ferrite, mag. struct. Mossbauer study 1−12264
$Ba_xTi_{8-2x}Ga_{10+2x}O_{31}$, cryst. struct., electron microscopy 1−30147
$Ba_xTi_{8-x}Ga_{2x}O_{16}$ hollandite, incommensurate superlattice ordering 1−30148
$Ba(Ti_{1-x}Hf_x)O_3$, mixed perovskite crystal, successive phase transitions 1−8012
$Ba_xTi_{8-x}Mg_xO_{16}ZZ$ 1−30148
$BaTiO_3$, ceramic, cond. depend. cathodoluminescence 1−35103
$BaTiO_3$ ceramic, domain configuration and equilibrium size 1−8022
$BaTiO_3$, ceramic, phase transition temps. determ. by acoustic emission 1−31104
$BaTiO_3$ ceramic, piezoelec. effect 1−31096
$BaTiO_3$ ceramic, semiconducting, PTC action of single grain boundary, direct exam. 1−2958
$BaTiO_3$ ceramic, TiO_2 aggregation during sintering 1−3673
$BaTiO_3$, cryst. struct. determ., X-ray diffr. profile anal. 1−25212
$BaTiO_3$, crystn. from metal chloride melts, solubility temp. phase diagrams 1−21430
$BaTiO_3$, Debye-Waller factor critical behaviour at ferroelectric transition 1−16533
$BaTiO_3$, depolarised polycryst. ferroelectrics, piezoelec. effect 1−31095
$BaTiO_3$, electrooptic effect mechanism 1−26170
$BaTiO_3$, epitaxial ferroelec. films, conditions of epitaxy 1−20577
$BaTiO_3$, ferroelec., struct. phase transitions, thermodynamic anal. 1−31099
$BaTiO_3$, ferroelec. transition, cubic anisotropy influence in dipole-dipole interactions, renormalisation group study 1−3341
$BaTiO_3$, ferroelectric, dipolar modes, temp. depend., IR refl. meas. 1−12501
$BaTiO_3$, ferroelectric, electrolum. emission during polarisation reversal 1−26276
$BaTiO_3$, first-order phase transition stimulated by external EM field 1−31102
$BaTiO_3$, high dielectric constant material, diffusion barrier 1−16684
$BaTiO_3$, hypersonic dispersion meas. by double-axis Brillouin scatt., dielec. function determ. 1−48104
$BaTiO_3$, influence of mag. field on phase boundary *(Russian)* 1−43075
$BaTiO_3$, kinetics of hydrothermal synthesis 1−35511
$BaTiO_3$, lattice dynamics and phase transitions 1−21141
$BaTiO_3$, nonreson. degenerate four-wave mixing for phase conjugating mirror with CW gain 1−29340
$BaTiO_3$, optical props., phase transition effects, tight-binding energy band calcs. 1−39059
$BaTiO_3$, perovskite type oxides, XPS, semi-empirical calcs. 1−38718
$BaTiO_3$, photoanodes for flash photoelectrolysis of water 1−26839
$BaTiO_3$ piezoceramics, anal., chromatographic separation of Ba from Na 1−13052
$BaTiO_3$, reduction mechanism, magnetochem. investig., vacancy model behaviour 1−43654
$BaTiO_3$, refr. indices determ. using polarisation by refl. 1−3348
barium compounds continued
$BaTiO_3$ single cryst., luminesc. during mech. switching 1−8144
$BaTiO_3$, size effect in phase transition 1−26144
$BaTiO_3$, very narrow quasielastic scatt. close to ferroelec. phase transition 1−26220
$BaTiO_3$, weakly first-order transition, compressible Ising system, theory 1−18169
$BaTiO_3$:Fe, dopant valence state, charge compensation, Mossbauer and gravimetric meas. 1−7185
$BaTiO_3$:H, positions of H impurities, IR absorpt. study 1−26185
$BaTiO_3$:La, defect struct. and O_3 diffusion coeff. 1−25494
$BaTiO_3$:Pt^{3+}, ESR spectrum, dynamic narrowing in rhombohedral phase, Jahn-Teller effect 1−52840
$BaUO_4$, heat capacity, 5 to 350K, thermodynamic props. to 1100K 1−31901
$BaUO_4$, intense luminesc. and cryst. struct. 1−21258
$BaUS_3$, atomic positional parameters, neutron diffr. powder method 1−15841
$BaVS_3$, metal-insulator-magnetic transitions, NMR study 1−47969
$BaWO_4$, crystn. degree from LiCl melt, evaluation by optical microscopy and chem. anal. 1−20087
$BaWO_4$, diffusion controlled growth from Na_2WO_4 melt, proximity between reacting partners 1−53077
BaY_2F_8:Dy^{3+} 3 μm laser action 1−6560
$BaYb_2F_8$:Ho^{3+} laser convertor with-micron output 1−51493
$BaZnF_4$, condensed modes, group theoretical anal. 1−12461
$Ba_2Zn_2Fe_{12}O_{22}$, relax. processes near mag. phase transitions, ferromag. reson. study 1−26044
$BaZnGeO_4$ crysts., growth and props. 1−12650
$BaZnGeO_4$, phase transitions, dielec. const. and X-ray precession photograph meas. 1−52281
$Ba_{(4-2z)}Zr_{(z+z/2)}F_{16}(0\leq z\leq 0.232)$, X-ray cryst. struct. determ. *(French)* 1−15848
$BaZrO_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
$BaZrS_3$, atomic positional parameters, neutron diffr. powder method 1−15841
$Bi_{0.765}Sr_{0.235}O_{1.383}$, superionic cond. and cryst. struct. *(French)* 1−38352
$Ca_3(VO_4)_2$-$Ba_3(VO_4)_2$, thermal and luminesc. props. 1−35083
K_2O-CaO-BaO-B_2O_3 glasses, refl. coeff. and IR optical consts. 1−43092
K_2O-CaO-BaO-B_2O_3 glasses, IR spectra and struct. interpretation 1−43128
K_2O-MO-B_2O_3 (M=Ca, Sr, Ba), optical absorpt. spectra of VO^{2+}, bonding modes *(Japanese)* 1−21235
$(La,Ba)CoO_3$ semiconductor electrodes, anodic O_2 evolution 1−16361
P_2O_5.Al_2O_3.BaO:Mn, X and gamma ray radiation induced struct. defect 1−52969
(Pb, Ba, Sr) (Zr, Ti)O_3, ferroelectric ceramics, lapped surface layer effect on dielectric props. 1−39022
$Pb_{5-x}Ba_xGe_3O_{11}$, ferroelectric, high press. studies 1−34995
$Pb_{2-x}Ba_xLi_{0.5}Nb_{1.5}O_6$ ceramic system, thermal expansion 1−11887
$(Pb_{1-x}Ba_x)Nb_2O_6$ solid solns., struct. features rel. to conc. in two-phase region *(Russian)* 1−12724
SiO_2Na_2O-CaO-MgO-Al_2O_3-K_2O-BaO glass, decolorisation, Na_2So_4 effect 1−12895
$Sr_{3-x}Ba_xWO_6$, nonlinear props., dielec X-ray and DTA meas. *(French)* 1−43073
ThF_4-BaF_2-MF_2 (M=Mn, Zn) glasses, IR transmitters *(French)* 1−3354
V_2O_5-BaO glasses, elec. props. and struct. 1−30743
ZnS-BaF_2 two-layer antirefl. coatings vac. deposited on GaAs items 1−37570
ZrF_4-BaF_2-YF_3-AlF_3 system, fluoride glass form. 1−34238
ZrF_4-ThF_4-BaF_2, mid-IR transmitting glass, gamma-irradiation effect 1−46471

Barkhausen effect
amorphous electrodeposited alloy films, Barkhausen noise 1−21012
grain boundaries, role in Barkhausen effect in oriented transformer sheets 1−52800
magnetic noise envelope charact. for QC of steel and cast Fe *(Russian)* 1−16458
magnetic wire for position sensing device *(Japanese)* 1−23165
Permalloy film, magnetoresistive response and Barkhausen noise charact. 1−7910
power spectrum of Barkhausen pulses of different shape 1−47902
steel, mild, monotonic and cyclic deform., positron annihilation, hardness and Barkhausen noise meas. 1−39382
Fe polycrysts., Barkhausen effect, influence of cyclic stressing 1−30988
$NaH_3(SeO_3)_2$ single cryst., domain struct. rearrangement and Barkhausen effect 1−8020
UGa_2 single crystal, anisotropy of power spectrum of Barkhausen noise 1−47903

Barnett effect *see gyromagnetic effect; magnetisation*

barometers
liquid helium level indicator 1−50149
oceanic wave height meas. system, using barometer mounted on buoy 1−40227
string millibarometer charact. *(Russian)* 1−44320

barometric pressure *see atmospheric pressure and density*

barrages *see dams*

barrel distortion *see aberrations*

barretters *see thermistors*

baryon-baryon interactions
see also baryon-baryon scattering; hyperon-nucleon interactions; nucleon-nucleon interactions
baryon antibaryon, baryon=p,n,Λ, energy levels, unitary symmetrical energy band 1−18505
$\Lambda\bar{\Lambda}$, energy levels, unitary symmetrical energy band 1−18505

baryon-baryon scattering
see also baryon-baryon interactions; hyperon-nucleon scattering; nucleon-nucleon scattering
charmed baryon scattering states, SU(1,4) as dynamical group 1−45153

baryon decay
see also baryon hadronic decay; baryon leptonic decay; hyperon decay
baryon resonance decay matrix elements, evidence against diquark clusters 1−50424
charmed baryons, weak gamma decays and the nonleptonic weak Hamiltonian 1−50425
charmed particles, semileptonic decay and weak form factors 1−10196

baryon decay continued
lepton and baryon number non-conservation, operator analysis, ν interactions, baryon decay 1−456
nucleon decay, effective Hamiltonian in SU(3)×SU(2)×U(1) 1−14254
nucleon decay, flavour mixing 1−45276
nucleon decay in supergrand unification 1−50358
proton 1−45181
proton decay rate in unified models 1−50428
proton lifetime uncertainties in SU(5) theory, review 1−23462
proton pionic decay rate in SU(5) grand unification, soft pion method 1−40992
proton stability, high-energy physics conf. Coral Gables, FL, USA (Jan. 1980) 1−44712
SU_5 grand unified theory, proton lifetime, neutrino mass 1−23461
SU(5) grand unification, proton decay exclusive modes, branching ratios 1−33142
SU(5) model, asymptotically free with three generation proton life-time, $\sin^2\theta$ 1−10129
Δ, odd parity resonances, masses and decay widths, quark model 1−50426
N, odd parity resonances, masses and decay widths, quark model 1−50426
N→KX lifetime, lower limit 1−14378
N→μX lifetime, lower limit 1−14378
n two body decays in various unification schemes, branching ratios 1−556
$\nu p \to \mu^- p \pi^+ (\mu^- \Delta^{++})$ S-200 GeV, Δ^{++} prod. and decay, cross sections 1−36856
p, decay in grand unified theories 1−50364
p, two body decays in various unification schemes, branching ratios 1−556
p decay, Georgi-Glashow SU(5) model, intermediate vector boson mass, lifetime, $\sin^2\theta_W$ 1−45193
p decay, μ^+ polarisation, probe of flavour mixing in O(10) unified models 1−45185
p decay branching ratio in SU(5) grand unification and SU(6) invariant quark model 1−33181
p stability, SU(3)×SU(2)×U(1) theories, future expts. 1−45278

baryon hadronic decay
decuplet baryon resonance decay in nonlocal quark model *(Russian)* 1−40993
dibaryon resources, retarded decay, quark model, GCM calc. 1−50427
proton decay in SU(6) symmetry, short range correlations 1−553
three-body spinless decay, democratic formalism, hyperspherical harmonics representation vel. to SU_3 1−18474
$\Lambda_c^+ \to pK^-\pi^+$, decay of Λ produced in neutrino interactions 1−23495
νN, Λ_c^+, D^+ and D^0 charm particle lifetimes 1−10199
Ω^- and hyperon nonleptonic weak decays in Weinberg-Salam model, MIT bag model 1−45277
Ω^- nonleptonic two body decays, quark diagram model 1−555
$p \to \pi^+\pi^+$, small P_T, quark fragmentation model in inclusive interaction 1−14325

baryon interactions *see baryon-baryon interactions; lepton-hadron interactions; meson-baryon interactions; photon-hadron interactions*

baryon leptonic decay
No entries

baryon mass
see also hyperon mass
beautiful baryon spectroscopy, mass splitting in SU(6) 1−5610
beautiful hadrons, mass formula, SU(5) symmetry 1−528
bottom hadrons, magnetic moments and hyperfine mass splittings 1−558
grand unified theories, effective Yukawa terms 1−45191
heavy hadrons, nonrelativistic additive quark model 1−50374
light baryon spectrum, bag model with variable bag pressure 1−45234
nonstrange baryon resonances, mass in quark model 1−5606
parton model, asymptotic freedom, light cone dynamics, p-n mass difference 1−45244
Planck constant/neutron mass ratio, precision determ. using modulation of polarised neutron beam 1−33365
proton mass doublet from nonlinear spinor field theory in general relativity 1−14380
quark interpretation of the combinatorial hierarchy 1−36854
quark model, mass systematics for baryons and mesons, charmed baryon sum rules 1−45206
Δ, odd parity resonances, masses and decay widths, quark model 1−50426
Δ, two coupled channels descript., mass shifts 1−50390
Δ leading resonance mass spectrum in low order QCD with Migdal regularisation 1−10182
$\Delta^- - \delta^{++}$ EM mass difference meas. from $\pi^+ d \to \pi^+\pi^- pp$ and $\pi^- d \to \pi^+\pi^- nn$ *(Russian)* 1−40995
$\Delta^{++} - \Delta^-$, mass difference, Dashen-Frautschi method calc. *(Russian)* 1−50430
$K^- d \to \sigma^- p \pi^+ \pi^-$, 1.45 to 1.65 GeV, $\Sigma^- p$ resonant struct., invariant mass distrib. 1−5647
N, odd parity resonances, masses and decay widths, quark model 1−50426
N leading resonance mass spectrum in low order QCD with Migdal regularisation 1−10182
n-p mass difference, QCD calc., radiative contrib. 1−45281
p-n, mass difference, Dashen-Frautschi method calc. *(Russian)* 1−50430

baryon photoproduction
see also hyperon production; neutron production; proton production
$\gamma N \to pX$, cumulative proton prod. invariant cross-section parameters, nuclear effects *(Russian)* 1−45494
$\gamma p \to \pi^- \Delta^{++}$, 2.4 to 4.8 GeV, differential cross section and Δ^{++} spin density matrix elements 1−5635
$\gamma p \to \pi^+ \Delta^0$, 2.4 to 4.8 GeV, differential cross section 1−5635
Λ_c^+ production, associated charm particle photoproduction in nuclear emulsion 1−50583

baryon production
see also baryon photoproduction; hyperon production; neutron production; proton production
diquark-quark recombination mechanism in baryon production at proton fragmentation region 1−33153
hadronic interactions of high energy cosmic-ray observed by emulsion chambers 1−14437
e^+e^-, annihilation, SPEAR Mark II results, $\psi'(3684)$ radiative decay, inclusive baryon prod. 1−10242
$\gamma p \to \Delta^{++}\pi^-$, backward photoprod., hard scatt. and Δ_δ exchange 1−28329
$K^+ p \to \Delta^{++} X^0$, 70 GeV/c, inclusive cross-section, evidence for Pomeron exchange and absorptive pion exchange 1−41018
N*, in $\nu p \to \mu^- p \pi^+$, parity violating effects 1−50413

baryon production continued
$\nu p \to \mu^- p K^- \pi^+ \pi^+$, Λ_C^+ charmed baryon prod. 1−50414
pN, 240 GeV, charged baryon and antibaryon prod. in fragmentation region 1−10276
pp, baryon distributions in fragmentation region, quark recombination model 1−14434
πΔ electroprod. and nondiffractive final states 1−45312
$\pi^- p \to X^0 n$, X=meson, 1400 to 3000 MeV/c, study of background events 1−18513
$\pi^+ p \to (\bar{p}p)_\Delta \Delta^{++}$, 9.8 GeV/c, narrow $\bar{p}p$ state search, meson exchange, multiquark exchange 1−28342
$\pi^P p \to \Delta^{++} \bar{p}p$, 10 GeV, narrow $\bar{p}p$ states 1−45342

baryon resonances
see also hyperon resonances
beautiful baryon spectroscopy, mass splitting in SU(6) 1−5610
colour manifestation in narrow baryon states 1−28293
decay matrix elements, evidence against diquark clusters 1−50424
dibaryon resonances in six-quark spherical bag model 1−28292
dibaryon resources, retarded decay, quark model, GCM calc. 1−50427
dibaryon signal in $\pi^+ d$ polarised elastic scatt. 1−41008
diffractive nucleon systems, mass enhancements, 5-quark exotic levels 1−18434
diquark constituents of baryons and baryonium 1−36842
hadron excited states in πN scatt., 2-9 GeV, Ericson fluctuations anal. 1−18514
heavy baryon spectroscopy in the QCD bag model 1−28294
light baryons, QCD models, spectra, SU(6) breaking 1−45241
narrowness of hadronic resonances, small parameter in $1/N_c$ expansion 1−36787
neutron weak spin rotation, exotic nuclear physics, weak forces, resonances 1−14316
nonstrange baryon resonances, mass in quark model 1−5606
postulated low mass dibaryons, expt. width constraint, $^3P_1$ and $^1S_0$ resonances 1−489
quark L-excitation for q^3 baryonic resonances and $\bar{q}q$ meson resonances, few body physics 1−50378
S=−1 baryons−an experimental review 1−10253
superconvergence and the structure of current vertices 1−18401
Δ, odd parity resonances, masses and decay widths, quark model 1−50426
Δ, photoprodouction in $\gamma p \to \pi^- \Delta^{++}$ and $\gamma p \to \pi^+ \Delta^0$ at 2.4 to 4.8 GeV 1−5635
Δ(1232), self energy, pion exchange contrib. in nuclear matter 1−50535
Δ(1232) resons. in deuteron *(Czech)* 1−45436
Δ(1236) resonance effects in backward pd scatt. 1−581
Δ(1236) resonance energy region, total hadron photoabsorption cross section of ^{12}C nucleus 1−18639
Δ leading resonance mass spectrum in low order QCD with Migdal regularisation 1−10182
$\Delta^- - \delta^{++}$ EM mass difference meas. from $\pi^+ d \to \pi^+\pi^- pp$ and $\pi^- d \to \pi^+\pi^- nn$ *(Russian)* 1−40995
$\Delta^{++} - \Delta^-$, mass difference, Dashen-Frautschi method calc. *(Russian)* 1−50430
$\gamma d \to np$, 80-600 MeV, cross section asymmetry *(Russian)* 1−572
$\gamma d \to pX$, 390 MeV, possible dibaryonic resonance at 2.23 GeV/c^2 1−33190
$\gamma d \to pX$, dibaryon resonance search in 2.23 GeV region 1−28331
$\gamma d \to pp\pi^-$, dibaryon resonance search in 2.23 GeV region 1−28331
$\gamma p \to \pi^0 p$, 500-800 MeV, recoil p polarisation, P_{11} (1470), D_{13} (1510), S_{11} (1535) resonances *(Russian)* 1−5633
$K^- d \to \sigma^- p \pi^+ \pi^-$, 1.45 to 1.65 GeV, $\Sigma^- p$ resonant struct., invariant mass distrib. 1−5647
Kp amplitude and evaluation of KN σ-terms inclusion of Σ(1385) 1−36878
$K^+ p \to \Delta^{++} X^0$, 70 GeV/c, inclusive cross-section, evidence for Pomeron exchange and absorptive pion exchange 1−41018
$K^+ p$, low p_T hadronic reactions and inclusive resonance prod., quark-parton model, review 1−10283
N, odd parity resonances, masses and decay widths, quark model 1−50426
N leading resonance mass spectrum in low order QCD with Migdal regularisation 1−10182
N*, in $\nu p \to \mu^- p \pi^+$, parity violating effects 1−50413
np phase shifts, resonance in isosinglet negative-parity state 1−41004
np phase shifts in momentum range 1.1 to 1.7 GeV/c, dibaryon resonance in I=0 system 1−45338
NΣK coupling constant from dispersion anal. of regeneration amplitude 1−584
νp charged current interactions, nonstrange resonance inclusive prod. 1−540
$\nu p \to \mu^- p \pi^+ (\mu^- \Delta^{++})$ S-200 GeV, Δ^{++} prod. and decay, cross sections 1−36856
pd, backward elastic scattering, intermediate Δ(1236) resonance effects 1−581
pn charge exchange cross section anal., possible isospin 0 NN resonance 1−14412
pp elastic scatt. partial wave, dibaryon resonances, inelastic thresholds 1−33199
$pp \to pp\pi^+\pi^-\pi^0$ ($pn\pi^-\pi^+\pi^-$), 4 GeV/c, Δ and ω^0 channels contribs., single particle distribs. *(Russian)* 1−23513
$pp \to \pi^+ d$, 400 to 800 MeV, phenomenological anal. and diproton resonances 1−582
$pp \to \pi^+ d$, 570 to 810 MeV, model-dependent, partial-wave analysis, $^3F_3$ enhancement, diproton resonance 1−14410
$pp \to \pi^+ d$, threshold to 578 MeV, partial wave anal., diproton resonances 1−50457
$\pi^+ p$, high energy πN phase shift anal., nucleon resonances 1−10252
$\pi^P p \to \Delta^{++} \bar{p}p$, 10 GeV, narrow $\bar{p}p$ states 1−45342
qqq mass, spherical bootstrap calc. using dual topology unitarisation 1−23486
Σ(1385) effect of Kp amplitude and evaluation of KN σ-terms 1−36878
$^1H(t,2np)$, 2.5 GeV/c, search for three baryon resonances in mass spectra *(Russian)* 1−23665

baryon scattering *see baryon-baryon scattering; lepton-hadron scattering; meson-baryon scattering; photon-hadron scattering*

baryon spin and parity
see also hyperon spin and parity
neutron weak spin rotation, exotic nuclear physics, weak forces, resonances 1−14316
parity nonconserving neutron spin rot. in Sn isotopes 1−28235

baryon spin and parity continued
spin structure valence quark distrib., magnetic moments, validity of SU(3) 1−14392
n, spin precession in homogeneous mag. field *(Russian)* 1−40946
np, 6-11.75 GeV, high p_T^2 elastic scatt., spin depend. with pol. p 1−14413
pp, 6-11.75 GeV, high p_T^2 elastic scatt., spin depend. with pol. p 1−14413

baryons
see also baryon resonances; baryon spin and parity; hyperons; nucleons
asymmetry in Universe, review 1−33150
asymmetry in Universe, review of cosmology and elementary particles 1−40586
bag model matrix elements of weak nonleptonic Hamiltonian 1−50395
baryon-antibaryon asymmetry creation in early Universe, implications of heavy right-handed neutrinos 1−54360
cosmological baryon asymmetries evolution, superheavy gauge boson role, SU(5) unification 1−27642
cosmological baryon asymmetry evolution, Higgs boson role 1−27643
cosmological baryon generation hierarchy 1−32784
cosmological baryon number, derivations from Dirac number and inertia free mechanics 1−27638
cosmological baryon production through superheavy fermions in grand unified theories 1−32785
diquark constituents of baryons and baryonium 1−36842
exotic baryons, level structures in joined spring model and statistics of quarks 1−45210
hadron spectroscopy and particle systematics baryon 70 multiplets and 0^{++} mesons 1−10183
light baryons, QCD models, spectra, SU(6) breaking 1−45241
low $p_\perp$ hadronic interactions, reaction mech. and baryon fragmentation distribs. model 1−45207
magnetic moments, mirror properties in constituent quark model 1−50434
magnetic moments, pion cloud contributions 1−23498
magnetic moments, single-quark and two-quark transitions in quark model 1−45287
magnetic moments considered in quark model, small contribs. due to configuration mixing 1−40997
minimal SU(5) model, baryon generation, K-M mechanism, superheavy Higgs boson decay 1−50362
N colour quark-cluster model for mesons, baryons and exotics 1−518
number violation, quark decays in the early Universe, matter-antimatter asymmetry 1−44682
octet magnetic moments in integer-charged quark oscillator model 1−33138
QCD_2, baryons and baryonium 1−23409
quark oscillatory modes, colour bond struct. 1−5570
spin structure valence quark distrib., magnetic moments, validity of SU(3) 1−14392
uncharmed baryons, mag. moments in SU(6), symmetry breaking effects 1−561
Universe, baryon asymmetry, kinetics of origin *(Russian)* 1−40588
weak and EM form factors at large momentum transfer 1−50435
Δ, two coupled channels descript., mass shifts 1−50390

barysphere *see Earth core*

BASIC
automated chemical analysis system 1−31919

basicity *see pH*

bathymetry
Arctic continental margin relief, genetic classification 1−54073
N.Atlantic, continental margin relief, genetic classification 1−54073
Atlantic Ocean, var. of depth through time 1−54071
Azores spreading centre and triple junction, tectonic pattern 1−32398
barotropic coastal current stability, effect of topography 1−54101
deep basin, effect of bathymetry on contaminant dispersion in near-shore zone *(Russian)* 1−17324
Gulf of Aden, floor evolution, seismic, gravity and mag. survey 1−13451
Gulf of California (mouth region), bathymetry and mag. survey 1−32428
Higashi-Izu-oki submarine volcanoes, Japan *(Japanese)* 1−44158
Indian Ocean triple plate junction position, mag. and bathymetric data 1−9143
Japan Sea and offshore sedimentary basins, comparison with Welsh geosyncline, fore-arc basins 1−22325
mid-ocean ridge topography, thermal-mechanical model 1−54052
mid-ocean ridges, bathymetry rel. to transform zones geometry 1−22319
Pacific, isostatic response of bathymetric features 1−32425
Pacific, TOPO test series, acoustic scattering meas. 1−32566
Pacific Basin geologic evolution and Cretaceous transgressions 1−54051
Pacific Ocean, bathymetry and geoid vars. rel. to planform of mantle convection 1−22318
Philippine Sea, isostatic response of bathymetric features 1−32425
planetary topographic waves in rotating stratified ocean, nonlinear modulation 1−54104
Red Sea, submarine geology and geophysics Red Sea and Aden Rifts *(Russian)* 1−32433
Reykjanes Ridge, bathymetry of active spreading zone 1−54072
sea straits, bottom topography parameterisation rel. to props. of enclosed seas. 1−27150
seismic profiling of shelf sediments, gases causing masking 1−17580
Sporadhes basin, Aegean Sea, struct. and evolution, explosion seismology data 1−22261
Sunda Trench slope struct., seismic study 1−32400
TOPO test series, acoustic scattering from Pacific bottom 1−32566
Welsh geosyncline of Silurian, evidence for fore-arc basin from tectonics 1−22325

batteries *see cells (electric); primary cells; secondary cells; solar cells*

Bauschinger effect
crystals and polycrystalline aggregates, cyclic loading, constitutive eqns. 1−3830
cyclic plasticity modelling using unified constitutive eqns., improvement in simulating Bauschinger effects 1−11804
shells, axisymmetrical, elasto/viscoplastic dynamic response, overlay model 1−29577
steel, Bauschinger effect in 40S2Kh and 60S2Kh, high-temp. thermomech. working influence 1−35332
steel, C, depend. on strain history 1−26546
steel, interaction between Bauschinger effect and strain ageing 1−12810
steel, two-ductile-phase, Bauschinger effect 1−16849
Al, stress/strain behaviour, effect of stress reversal and thermal recovery 1−16851

Bauschinger effect continued
β-Ti-Mn alloy, slip behaviour during reverse loading 1−20236
W lamp wire, Bauschinger effect 1−8391

Bayard-Alpert gauges *see ionisation gauges*

Bayes methods
Bayesian strategy for recognition of classes from indirect images 1−13619
isotope reactor surveillance using pattern recognition methods 1−23786

bays (magnetic) *see geomagnetic variations*

BCS theory
see also many-body problems
A-15 structures, appl. of BCS formula which includes mag. exchange interactions, transition temp. determ. 1−7774
amorphous metals, superconductivity pairing induced by two level systems 1−16400
anisotropic superconductors, paramagnetic impurities, BCS theory 1−42892
antiferromagnetic superconductor, spin density waves, supercond. crit. props., theory 1−12232
antiferromagnetic superconductors, BCS pairing, gap parameter, mean-field theory 1−52693
BRT function, calc. with programmable pocket calculator 1−42900
dirty superconductor, CPA, off-diagonal, energy gap and transition temp. determ. 1−12231
film, microwave surface resist. 1−52721
nuclear rotation, constrained Hartree-Fock-Bogoliubov equation derived from the double variational method 1−41067
superconducting transition temp., pair susceptibility and coherence length 1−12225
superconductor, BCS, gauge symmetry and its breakdown 1−30873
superfluid, nonuniform anisotropic, BCS ground state, current density 1−11944
^{164}Er, rot. spectra, BCS quasiparticle effects 1−624
Nb superconductor, surface resist. temp. and freq. depend. 1−52722
^{236}U fission with microscopic energy dissipation, single-particle spectrum, BCS theory 1−18704

beam choppers
No entries

beam-foil spectra
C foil, Cl ion beam impact, radiative electron capture 1−24236
fast ion-beam collisions, atomic struct. investigations, life time determ. 1−29105
Li ion, beam-foil excitation spectra, radiation 1−6368
molecular ion beams in thin foils, dissoc., effect of non-totally-symmetric vibr. modes 1−19176
Al, atomic X-ray emission excited by mol. ions 1−1355
Ar ions, 2-20 MeV, equilib. charge-state distribs. on thin C foil 1−46102
Be-like ions of elements from Mg to S, beam-foil lifetimes meas. 1−10704
C IV, beam foil excitation, relative level populations 1−46095
F VII, beam foil excitation, relative level populations 1−46095
Ge, atomic X-ray emission excited by mol. ions 1−1355
H_n, prod. by H^+ through thin C target, n=2 density operator 1−46077
H^++C-foil collisions, charge transfer to continuum and high Rydberg states 1−24233
He I, excitation by heavy ion impact, relative populations of Zeeman sublevels, depolarisation of transition obs. *(French)* 1−51280
Kr^{20+}+foil targets, L-shell ionisation, K X-ray yield, capture cross sections 1−29091
Li, double excited level lifetimes, beam foil technique 1−37160
Li I, fine structure of d^2D-terms, beam-foil quantum-beat spectroscopy 1−51304
Li I, quartet spectrum transitions 1−45923
Li^-, beam-foil excited, optical emission obs. 1−37317
Mo XIV, 4p $^2P_{1/2}$ and $^2P_{3/2}$ levels radiative lifetimes, beam-foil spectrosc. meas. 1−51167
N II, beam-foil populations, relative excitation functions 1−46101
N III, beam-foil populations, relative excitation functions 1−46101
N IV, beam-foil populations, relative excitation functions 1−46101
N V, beam foil excitation, relative level populations 1−46095
Ni, atomic X-ray emission excited by mol. ions 1−1355
O VI, beam foil excitation, relative level populations 1−46095
S ions, H-, He-, Li- and Be-like, beam-foil excited K X-ray transitions 1−10686
Si, atomic X-ray emission excited by mol. ions 1−1355
Xe VI, VII, VIII, beam-foil spectrum obs. 500 to 1550 Å 1−1153
Xe VIII, hydrogenic terms and ionization pot. 1−45882
Zn II, transition probabilities, beam foil decay curves 1−37161

beam-foil spectroscopy
UV grazing-incidence spectrometer, beam-foil efficiency calibration 1−355

beam handling equipment
see also particle beam diagnostics
2.5 GeV electron linac injector for KEK Photon Factory, accelerator struct., beam transport system 1−23872
5 m neutron polarising guide tube, design, test results 1−23918
35 MeV betatron electron beam slow discharge system 1−37031
accelerator heavy-ion, for nuclear track experiments 1−10599
accelerator supercond. magnet, quench behaviour 1−51005
ACO storage ring, superconducting undulator, visible and UV emission 1−23880
betatron bremmstrahlung and monoenergetic electron radiation alignment method 1−37032
CHEER magnetic solenoid polarisation rotators 1−37044
Chicago Cyclotron supercond. magnet, energy efficient, design and optimisation 1−45760
Daresbury Nuclear Structure Facility, isotope and recoil separators 1−10579
direct ion implantation, miniature apparatus with laser ion source 1−23369
doubly achromatic asymmetric 270° magnet system for 25 MeV therapy electron accel. 1−51021
electron beam acceleration, high efficiency reversible transformer 1−28776
electron beam projector design, zoom achromate and alignment technique, book contrib. 1−400
electrostatic accelerator ion buncher with pulsed distributed electric field 1−978
Energy Doubler, developments, review 1−51007
energy doubler satellite refrigerator magnet cooling system 1−45769

beam handling equipment continued
facility for charged particle continua meas. from neutron induced reactions 1−983
fast beam coaxial time pickoff system 1−28773
fast ion prod. in laser-irrad. spherical target 1−10048
fast ion production in laser irradiated plane target, electrostatic instability effects 1−10047
GSI online separator, Sn, Pb light nuclei, alpha-decay, mass 1−10360
heavy ion spectrometer system, large supercond. dipole magnet 1−45759
heavy-ion cyclotron magnet, coupled supercond. coils, independ. current control 1−45757
high efficiency bunching system for polarized beams 1−980
imaging system, development of high-resolution demagnifying image tubes with mag. focusing *(Czech)* 1−45767
ion-atom collision apparatus for low and intermediate energies 1−28126
ISABELLE−a progress report 1−51002
ISABELLE dipole and quadrupole coil configurations 1−45751
ISABELLE proton orbital accelerator first-cell supercond. magnet leads 1−51022
ISABELLE superconducting cosine θ magnet, beam heating studies 1−45752
lasers, free-electron, storage ring operation 1−1538
lens systems for decelerating intense ion beams to very low energies 1−23905
light nuclei, far from stability, isospin quintets, online mass separator expts. from (^{3}He,xn), (heavy ion,xn) 1−10316
low-current superconducting quadrupole magnet prototype 1−45768
magnet system, planar multipole field for multisegmented ring struct. *(Chinese)* 1−41268
microtron, race-track, single-cavity, 8 MeV 1−28758
muon spectrometer, 750 GeV, supercond. mag. system, design 1−45758
NESTOR storage ring, neutron guide tube props. 1−10562
online separator ISOCELE, prelim. results 1−10580
plasma electron sources, operation, working gas press. effects 1−25079
pneumatic transport system for rapid analysis of fission products *(French)* 1−23913
pulsed correction magnets for Fermilab Energy Saver 1−45750
quadrupole lens with permanent-magnet implicit poles 1−37037
reverse neutron time-of-flight diffractometer with Fourier chopper (ASTACUS) 1−25125
spin flipper with prolonged working area, expts. with neutron beams 1−45763
stripper, multiple scatt. effects on phase space of charged particle beam 1−982
SULTAN superconductor test facility 1−50923
superconducting analyser magnet for heavy-ion beam transport 1−45754
superconducting compensator magnets for high resolution spectrometer at SLAC PEP facility 1−45756
superconducting magnet development for beam lines and particle accelerator 1−51011
superconducting magnet for European hybrid spectrometer rapid cycling bubble chamber 1−51010
superconducting magnet two-cell Doubler systems test 1−51008
superconducting magnets, radiation heating, proton beam loss during accel. 1−51018
superconducting ondulator for synchrotron radiation light 1−51009
superconducting quadrupole magnet, high gradient, for polarized beam facility 1−45753
superconducting solenoid systems for high energy beam appls., design and fabrication 1−45755
superconducting undulator on ACO storage ring, light emission obs. *(French)* 1−41264
synchrotron radiation, minimum phase-space distortion, grazing incidence mirror surfaces derivation storage ring appl. 1−10565
thermal neutron filter, using cooled, large-mosaic pyrolitic graphite 1−33360
thin metal foil vacuum interface for low energy particle accelerators 1−23911
three-magnet beam-forming system for nuclear electron scatt. expts. 1−40894
TRISTAN online mass separator, ion source, data anal., recent developments 1−10581
UNISOR facility, radioactive decay spectroscopy, nuclei far from stability appls., new developments 1−10578
Be filt-r for kaon$^+$ beam enhancement 1−51013
C stripper foils for heavy ion accelerators, evaluation 1−23907
He jet ion guide for on-line isotope separator 1−45764
N_2 pulsed molecular beam source 1−50271
NbTi multifilamentary supercond. for ISR high luminosity insertion, charcts. 1−51006
Ne^+ metastable beam, state purification by collinear optical pumping 1−986

beam handling techniques
see also mass spectroscopy; particle beam diagnostics; particle optics
charged particle beams, intense, low energy, nonlinear space charge effects *(Chinese)* 1−18940
charged particle deflection in crystal 1−33361
electron beam lithography, variably-shaped electron beam system, beam shape and profile evaluation, book contrib. 1−401
electron cooling in accelerators for ions 1−18936
electron rings, relativistic, high-charge train super-klystron compression 1−10555
explosive-emission electron source, disengagement without removing static anode voltage 1−33363
high-modulation electron beams in storage rings 1−10561
inertial confinement fusion systems based on linear accelerators, feasibility 1−18879
ion beamlet steering by aperture displacement in two-stage accelerators 1−10574
ion beams, confinement in cylindrical trap, appl. to mass spectrometry, theory *(French)* 1−374
ion beams, confinement in cylindrical trap, appl. to mass spectrometry, experiment *(French)* 1−375
ion beams, pulsed, intense, generation and appl. to fusion research, review 1−33348
linear ion accelerators, EM field parameter control, stabilisation system 1−10554
low energy high intensity beam transport system calcs., step by step approx. *(Chinese)* 1−18939
neutron beam polarisation, coherent approach 1−37047

beam handling techniques continued
neutron beam refractive interactions with matter and fields, guidance and confinement 1−36979
positron intensities, moderated, effect of source window material and thickness 1−50273
positron spectroscopy, low energy, appl. to metal surface anal. 1−50272
positrons, low-energy, emission from MgO moderator 1−18328
radiation damage studies of alkali halides using two-accelerator facility 1−42434
recirculating electron accelerator, regenerative beam breakup optimal control 1−10572
relativistic charged particle beams, automatic control of unstable fast processes *(Russian)* 1−979
relativistic electron beam in ondulator, generation of coherent radiation 1−10570
storage ring, beam energy calibration based on meas. spin precession frequency of polarised particles 1−14712
stripping of uranium ions of energy over 60 GeV 1−28779
transverse electron beam oscill. swinging in accumulator *(Russian)* 1−989

beam-trapping *see self-trapping*

bearings (machine) *see machine bearings*

bells
see also musical instruments
tuned handbells, modes of vibration and sound radiation 1−29484

bending
see also bending strength; buckling; stress analysis; torsion
alloy MA15, bending, asymmetry effect on endurance with random loading 1−31558
bars, with various bends, dynamic stress concs. due to flexural waves, solns. of excitations in arbitrary directions 1−24718
beam, elastoplastic bending impulse of steel ball pushed against Al beam *(German)* 1−1847
beam, nonuniform warping, secondary effects, general formulation *(French)* 1−11332
beam in pure bending, crack opening, statically admissible stresses, asymptotic method *(French)* 1−24753
beam with round crack, stress-conc. factor determ. in bending 1−1896
beams, elastic stability under unilateral constraints 1−29584
beams and frames, large deflection, numerical results using elliptic integrals 1−29548
brass, notched specimen, fatigue strength under combined stress 1−12942
bulge test: a comparison of theory and experiment for isotropic and anisotropic films 1−35302
cantilevered three-layer plates, contour-stiffened, transverse bending 1−29562
circular plate bending problem semi-analytical finite element anal. 1−19570
composites, orthotropic, bending analysis using polarisation-optic method *(Russian)* 1−11316
crack tip fields, one-parameter charact. by HRR singularity 1−46709
cubic crysts., negative contraction ratios 1−8358
cylindrical specimen, notched, fatigue crack growth rate, effect of absolute dimens. 1−31620
edge-function method for thin anisotropic plate bending 1−29585
elastic moduli measurement, complex modulus, bending oscill. method *(German)* 1−33939
elastic systems interacting locally with strained material, bending and stability 1−11315
fatigue bending tests, calc. of stresses in wedge-shaped specimens 1−11363
ferromagnetic shells in magnetic field, bending, nonlinear thermoelasticity *(German)* 1−19573
finite element anal. of bending vibrations of straight-axed beam 1−19633
free vibration anal. of rotating shaft of variable cross section using finite element method 1−17997
glass fibre reinforced epoxy matrix, relaxation processes *(German)* 1−3815
local stresses in cylindrical shell loaded along an elliptical area 1−15408
metal beam with surface crack, stress intensity coeff. determ. in three-point bending 1−1895
metallic plate, circular clamped, deform. meas. by high speed Moire topography 1−37858
Mindlin plate bending element, hybrid-stress quadratic serendipity displacement 1−37809
mirror figure control improvement with edge appl. of forces and couples 1−46495
optical fibre microbend acoustic sensor, construction and charcts. 1−6662
Pfluger's rod, follower-force system, boundary-value eigenvalue problem soln. by Liapunov-like procedure 1−1830
pipe bends, creep behaviour under in-plane bending, ring element method 1−29578
pipes, curved, with reinforced edges, pure bending 1−19578
plane-strain sheet bending, finite element anal. 1−29568
plate, annular, in presence of concentrated in-plane edge load 1−15393
plate, rectangular edge loaded, struct. anal., bending problems 1−19583
plate bending, three-node triangular elements, review 1−24677
plate-rod contact, under tension and bending, discrete interaction 1−19654
plates, collapse problem in bending, limit anal. 1−15425
plates, elastoplastic bending, finite element anal. *(German)* 1−1846
plates, rectangular, bent into circular cylinder, creep transition 1−11320
plates, rectangular, clamped, deflection problems, finite difference solns. 1−24706
plates, rectangular, elastically supported, elastically restrained, flexure, adjoint diffential eqn. formulation 1−6762
plates, thin, anisotropic, numerical method 1−51700
plates, wide rectangular, elastic-plastic bending 1−33914
polymers, testing in cantilever cyclic bending under rigid loading, modified machine 1−16994
Prandtl's cantilever beam subjected to bending moment, stability behaviour 1−1869
Reissner's general bending-torsion theory 1−24670
sandwich-type shells cylindrical orthotropic, bending under arbitrary loading 1−33903
shell, complete spherical, polar dimpling, asymptotic soln. 1−6805
shell, curved triangular, finite element approach 1−6767
shell, cylindrical orthotropic sandwich-type, general bending theory 1−11317

bending continued
shell, elastic, in form of elliptic paraboloid supported on ribs, bending *(Polish)* 1−15400
shell cylindrical, mitred joint in bending, thin shell theory anal. 1−33908
shells, conical, cylindrical, buckling, postbuckling behaviour, bending 1−6801
shells, surface rigidity, as differential geometry problem 1−6768
shells, thin elastic, mixed tensor formulation, consistent theory 1−6782
skew plates, anal. by modified Rayleigh-Ritz method 1−41974
skew plates in flexure, simply supported, elastic stress parameters 1−19571
steel, C, brittle fracture susceptibility using new fracture criteria 1−16888
steel, C (0.45 wt.%), fatigue crack propagation cyclic stress hysteresis effect at elevated temp., strain ageing 1−26581
steel, high and medium C, crit. crack opening determ. in bending tests 1−21661
steel, Si, hot-rolled coil, welded joint fracture *(Chinese)* 1−53255
steel bar or tape scale transducers *(German)* 1−27947
steel plates, notched, combined axial force and bending, plane-strain general yielding 1−15412
stress calculations, stiffness matrix constructed using sliding interpolation 1−24687
supporting capacity, effect of uniform all-around compression 1−11357
thick plates, mathematical model of bending 1−19592
thin plate with overhang, large deflections and nonlinear bending 1−46678
uniform, Burgers circuit, torsion, dislocation density determ., differential geometry anal. 1−66
viscoelastic thin beams, large displacements calc., dynamic programming appl. 1−29572
Ag thin film, intrinsic stress and bending force meas. by cantilevered plate technique 1−34402
C fibre reinforced epoxide, failure under superposed press. in three-point bending 1−35339
$Cd_xHg_{1-x}Te$, plastic bending 1−12795
Ge, deformed, shallow dislocation states, thermal treatment effects 1−52522
Nb_3Sn multifilamentary wire, bend strain tolerance 1−52738
Ni superalloys, fatigue strength under combined mechanical and thermal loading 1−35387
WC-Co, fracture toughness and stress rupture behaviour 1−39439
WC-Co, VK8 and VK15, subjected to cyclic cantilever bending, residual porosity effect 1−12865

bending of light *see gravitation; light*

bending strength
ceramic masses, bending strength meas. after drying *(Polish)* 1−48447
ceramics, biaxial pressure test, improved 1−31771
concrete, compressive zone of flexural members, new testing method 1−43640
concrete 1−53234
corundum, freeze-drying prep., mech. props. 1−48306
fibre cable design and props. 1−11116
fibre reinforced composites, hybrid, appl. to loadbearing orthoses and prosthesis 1−49162
fibre reinforced plastic laminates, US data dispersion as meas. of hygrothermal effects 1−35455
fibre reinforced polymer composites, mech. props. after implantation as fracture fixation plates 1−26478
fibres, residual stresses and their reduction, in tape-type optical cable 1−1716
glass, TF3, effect of test specimen dimensions 1−24466
glass fibre reinforced epoxy, unidirectional, flexural fatigue in longitudinal direction 1−26615
E-glass fibre reinforced epoxy resins, loaded cracked, stress intensity factors 1−3824
glass fibre reinforced plastic laminates, flexural failure anal. 1−12800
glass fibre reinforced plastics, fatigue behaviour at 20°C and 50°C *(Japanese)* 1−26605
glass reinforced plastic box beams, creep behaviour 1−8369
graphite fibre reinforced epoxy unidirectional composite, tensile and flexure strength comparison 1−16867
graphite/epoxy composite, exposed to nonionizing space parameters, prop. changes 1−48615
laminate, unidirectional, complete mech. prop. charact. of single specimen 1−8374
mortar specimens, rel. between static and dynamic flexural strengths *(Japanese)* 1−26552
mullite, freeze-drying prep., mech. props. 1−48306
optical ceramic, type KO-1, mech. strength meas. 1−11054
oxide ceramic materials, effect of machining on strength 1−43457
paperboard beams, failure mechanism in bending 1−12796
plexiglass plate, stress intensity factor determ., semi-theoretical and expt. approach 1−3877
PMMA, tensile and Charpy impact tests, comparative study rel. to fracture mechanics 1−43503
polycarbonate, tensile and Charpy impact tests, comparative study rel. to fracture mechanics 1−43503
polymers, rigid, fatigue behaviour at 20°C and 50°C *(Japanese)* 1−26605
polypropylene, reinforced moulding compounds 1−53192
polypropylene fibre reinforced cement composites, mech. response, analogy with bone 1−12803
polypropylene fibre used as reinforcing medium in substrates 1−8396
β-sialon, hot-pressed, strength 1−21533
α-SiC:Al, powder, hot pressed, strength 1−21532
sitalls, SiO_2-Al_2O_3-Li_2O-TiO_2, bend strength, effect of bubbles and cavities 1−31561
steatite, freeze-drying prep., mech. props. 1−48306
steel, fibre reinforced polystyrene impregnated concrete, strength props. 1−43469
steel, line pipe, time-dependent ductile fracture 1−48516
steel, prismatic specimen, fracture surface microstruct., loading type effects 1−31628
steel, tool, high-speed, heat treated after forging without intermediate annealing, struct. and props. 1−48387
steel, V-Nb, micro-alloyed, mech. props., effect of external factors *(Slovak)* 1−12854
steel to Al explosive weldments, quality assessment by AE during bend testing 1−31775
Al-Mg alloy AMg6, unit crack propag. energy, depend. on chemical comp. 1−39449

bending strength continued
AlN, based high-density ceramic, prep., mech., thermal and dielec. props. 1−31390
Al_2O_3, bidisperse struct., fracture toughness and bending strength 1−53274
β''-Al_2O_3 ceramics, dense conductive, by spray-freeze/freeze-drying, props. 1−31541
Al_2O_3, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
Al_2O_3, sintered, influence of ZnO, NiO, Cr_2O_3, Sb_2O_5, V_2O_5, $AgNO_3$ and furfuryl alcohol on props. 1−31397
β_K''-Al_2O_3, stabilisation by MgO addition by K_2O vaporisation 1−30372
Al_2O_3-CaO-B_2O_3-SiO_2 system, corundum ceramic, B_2O_3 influence on sintering and mech. props. 1−31378
Al_2O_3-Cu, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
$2Al_2O_3.SiO_2$-Al_2O_3 mullite-corundum ceramic, heat resist. and strength rel. to fracture surface struct. 1−43476
C fibre reinforced plastic laminates, flexural failure anal. 1−12800
C/C composites, struct. and strength, review 1−48421
C/C composites, with pitch as matrix precursor, process parameters influence on mech. props. 1−35306
CaO-Al_2O_3-SiO_2 glass, annular specimens, bending strength determ. by radial compression 1−3867
CaO-ZrO_2, partially stabilized, mech. props. transformation toughened, aged 1−16894
CaO-ZrO_2 system, fracture mechanics study 1−21569
Cu-Be alloy strip, stress relaxation in bending 1−26527
Cu-C (graphite), hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
Fe sinters, magnetically soft, influence of P on props. 1−39476
Fe-Cr alloy, σ-phase, brittle fracture stress under high hydrostatic press. and high temp. 1−53295
Mg-Al spinel, Al_2O_3 rich, precipitation strengthening *(Japanese)* 1−26485
MgO, sintered, combined effect of ZrO_2, TiO_2, Al_2O_3, ZnO, LiF, MgF_2 and Al on props. 1−31396
MgO-ZrO_2, fully stabilized, mech. props. transformation toughened, aged 1−16894
Mn-Zn ferrite, dislocation climb controlled creep *(Japanese)* 1−43460
Ni-P-TiB_2 cermet, Ni-P binder, prep., props. 1−3688
Si, fracture toughness 1−3873
β-Si-Al-O-N, reaction sintered, strength *(Japanese)* 1−48448
SiC, hot pressed and sintered α-phase, high temp. dynamic fatigue 1−3872
SiC refractories, shape of powder grains effect on props. 1−31554
α-SiC, sintered in salt and oxidising environments, high temp. strength 1−39363
Si_3N_4, hot pressed, processing effect on microstruct. and mech. props. 1−16738
Si_3N_4, reaction bonded, microstruct. and mech. props. 1−16740
TiO, non-stoichiometric ceramics, physical props. *(Japanese)* 1−20415
WC-Co cemented carbide, bend-deform. behaviour and transverse-rupture strength at elevated temps. *(Japanese)* 1−26550
WC-steel US diffusion bonded joints, bending strength 1−35499
$Y_{0.4}(Si_{10.2}Al_{1.8})(O_{0.6}, N_{15.4})$, α-phase, strength 1−12797
ZrO_2, partially stabilised, subcritical crack growth 1−26592

berkelium
see also nuclei with .....
^{249}Bk:Cf, magnetic susceptibility meas. 1−20968

berkelium compounds
No entries

beryllium
see also nuclei with .....
adsorption of H on (0001), surface relax. and induced stress, SCF MO cluster calcs. 1−38659
atmospheric ^{7}Be at stratospheric levels, due to bombs and cosmic rays 1−49368
atom, electron correl. studies using many-body perturbation theory, use of even tempered Gaussian primitives 1−45865
atom, freq. depend. polarisability, multiconfigurational time depend. HF approx. 1−10624
atomic, resonance states, electron affinities and ionisation pot., calc. using coordinate rot. of electron propagator 1−6182
atomic HF wavefunctions, use of grid points of Gauss Legendre quadrature 1−33386
atoms, static dipole and quadrupole polarisability, HF and many-body perturbation theory calc. 1−51106
cast Be, hydroextruded at high temps., cell struct. study *(Russian)* 1−53217
cold isostatically pressed/hot isostatically pressed, deform. under shock compression 1−35340
conduction electron static struct. factor meas. using synchrotron radiation 1−16625
deformation zones influence on imbedded zones formation *(Russian)* 1−43422
dislocation patterns, leading to initiation of ductile fracture 1−30238
electron liquid, dynamical structure factor and local-field correction 1−2895
electron-electron correlations, X-ray scatt. meas. 1−34641
electronic distribution, X-ray Compton scatt. 1−26300
Fermi surface cross-sections, doppler-shifted acoustic cyclotron reson. 1−25615
film, quench-condensed, vol. depend. of supercond. T_c 1−25824
fracture mechanism, in-situ HVEM study of single cryst. 1−3898
fracture roughness determination from fractographic data 1−35367
isoelectronic sequence, dielectric recomb. rate 1−10620
isoelectronic sequence, relativistic multichannel quantum defect theory 1−1178
isoelectronic series, dielectronic recomb. rate coeff. 1−24245
isoelectronic series, mag. dipole and elec. quadrupole transition probabilities 1−28924
isoelectronic series ions, autoionis. states at. consts. 1−17947
K-shell X-ray prod. cross-section from light ion bombardment 1−8161
magnetic field influence on the electron-phonon relax. time *(Russian)* 1−42494
metastable alloy form. by ion implantation, channelling and TEM study 1−2486
molecule, bonding, analytic pot. functions 1−29071
molecule, pot. energy curves calc. using many-body perturbation theory, multi-config. SCF and CI method 1−1144

beryllium continued
ocean, residence time in deep water 1−32468
phonon dispersion relations, dielec. function effect 1−25384
plastic flow, imbedded zone form., obs. during creep *(Russian)* 1−3826
positrons and electrons, relative transmission 1−47130
proton irradiated, production of neutron beams for medical use 1−8998
quasifree-electron bremsstrahlung induced by H^+ bombardment projectile field 1−26349
scattering of 5-30 keV H^+,H^- from surfaces, recoil energy distrib. 1−16640
superplastic deform. process, electron-microscopic examination *(Russian)* 1−16839
surface, He beam passive pumping in presence of H beam 1−24995
target thickness and backstop material influence on radiotherapy neutron beams 1−8988
targets for neutron beam generation by the (p,n) reaction, radiation therapy appl. 1−8987
thin film, elastically reflected electrons, detachment depth, energy depend. determ. 1−53026
X-ray K emission and self-absorption edges 1−8163
X-ray Raman, Compton and plasmon scatt. obs. for Be and graphite targets using position sensitive proportional counter 1−28138
$Al_{0.25}Ga_{0.75}As$-GaAs:Be heterojunctions, growth conditions for mobility enhancement 1−3624
$Al_xGa_{1-x}As$:Be LPE layers, doping characts., elec. props. 1−15914
Be I, $2s3s^3S$ and $2s3d^3D$ state lifetime meas. 1−24059
Be I isoelectronic series, Ar XV to V XX, spectra of transitions within second shell 1−28914
Be II, nd ^2D and nf ^2F sequences, fine struct. studied using fast-beam level-crossing spectroscopy 1−24276
Be, machining damage effects obs. at high strain rates 1−8392
Be-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912
Be-like ions of elements from Mg to S, beam-foil lifetimes meas. 1−10704
$Be+H_2O$, ab initio molecular orbital calcs. 1−8540
$Be^{3+}+He^{2+}(H^+)$, electron capture collisions, continuum distorted wave approx. 1−1345
$Be^{4+}+H$, electron capture cross-sections, at. wavefunctions calcs. 1−10836
Be_n cluster (n=2-5), struct., ab initio calcs 1−46188
Be I-like spectra, $2s^m2p^k$ (m=2, 1, 0) config. energy level compilation 1−37089
^{7}Be distribution in troposphere, implications for stratospheric/tropospheric air exchange 1−17654
^{10}Be, abundance rel. to galactic cosmic rays age 1−4730
^{10}Be dating using accelerators, Australian Quaternary and environmental research 1−17690
^{242}Cm-Be, (α, n) source, neutron fluence-to-dose conversion factors 1−6066
^{244}Cm-Be, (α, n) source, neutron fluence-to-dose conversion factors 1−6066
(GaAl)As/GaAs solar cells−dopant study of Zn and Be 1−8719
InGaAsP:Be heterostructure, LPE synthesis and Be doping 1−39255
In_2O_3-Be-SiO_2-Si heterojunction solar cells 1−4206
InP:Be, ion implanted, elec. charact., implant temp. effect 1−7196
InP:Be,Fe, SIMS studies of dopant profiles, review 1−30268
^{239}Pu-Be, (α, n) source, neutron fluence-to-dose conversion factors 1−6066
Ra-Be neutron source, irrad. of silkworm eggs *(Chinese)* 1−32188
^{228}Ra-Be, (α, n) source, neutron fluence-to-dose conversion factors 1−6066

beryllium alloys
see also beryllium compounds
$Be_{35}Ti_{60}Si_5$, amorphous alloys, investigation of ternary alloys with high specific strength 1−12814
bronze wire electrode double-gap spark chamber 1−1008
Be-Cr alloys, struct. and mech. props. 1−16758
Be-Cu anisotropic crystals, impurity elec. resistivity *(Russian)* 1−47603
Be-Nb-Zr, supercond., ^{9}Be NMR study 1−34829
Be-Ni, phase diagram *(German)* 1−8278
Be-Ni, stabilisation of β-Be struct. at room temp. by rapid quench technique 1−12738
Be-Si eutectic alloys, supercond. transition temp. enhancement, cond. electron tunnelling into negative-U centres 1−20905
$Be_{20}Fe_{70}B_{10}$, amorphous alloys, investigation of ternary alloys with high specific strength 1−12814
$Be_{40}Sc_{55}B_5$, amorphous alloys, investigation of ternary alloys with high specific strength 1−12814
$Be_{30}Ti_{65}B_5$, amorphous alloys, investigation of ternary alloys with high specific strength 1−12814
$Be_{0.4}Ti_{0.5}Zr_{0.1}$, metallic glass, X-ray and neutron diffr. temp. depend., rel. to resist. 1−34241
$Be_{40}Ti_{50}Zr_{10}$, amorphous alloys, investigation of ternary alloys with high specific strength 1−12814
Cu-Be, local Be vibr. anharmonism *(Russian)* 1−52242
Cu-Be, precipitation, effect of Be content and prior plastic strain, TEM study 1−3759
Cu-Be, recrystallisation and ageing, high hydrostatic pressure effect *(Japanese)* 1−48379
Cu-Be (22.6 wt.%), secondary reaction associated with eutectoid transformation *(Japanese)* 1−26452
Cu-Be alloy dynode surfaces, ESCA, AES and SEM analysis 1−7434
Cu-Be alloy strip, stress relaxation in bending 1−26527
Cu-Be alloys, for electric connectors, stress relax. behaviour 1−43404
Cu-Be-Co (2, 0.05-1.0 wt.%), Co influence on vol. fraction of discontinuous precipitation cells *(Japanese)* 1−31461
Cu-Sn-Be, vol. changes, warping and residual stresses during heat treatment 1−3805
$ErBe_{13}$, crystal field parameters determ. by inelastic neutron scatt. 1−25675
Hf-Be alloy system, stable and metastable phase relations 1−21419
Ni-Be, interaction of solute atoms, with vacancies and interstitials 1−34367
Ni-Be alloys for electric connectors, stress relax. behaviour 1−43404
$TbBe_{13}$, mag. props. 1−30934
$Tb_xLa_{1-x}Be_{13}$, mag. props. meas., 1.6-300K 1−25939
$TiBe_2$ and related cpds., high field magnetisation 1−16426
$TiBe_2$, de Haas-van Alphen oscills. 1−16225

beryllium alloys continued
$TiBe_2$, enhanced paramagnetism, mag. props. and electronic sp. ht. study 1−47845
$TiBe_2$, self-consistent band calc., magnetism and supercond. 1−12023
$TiBe_{2-x}Cu_x$, specific heat anomaly, phason interpretation 1−12328
$TiBe_{2-x}Cu_x$, antiferromag., analogy with antiferroelectricity 1−8007
$TiBe_{2-x}Cu_x$, ferromag. transitions, mag. props. meas., itinerant electron model 1−47845
$Ti_{50}Be_{40}Zr_{10}$, amorphous, crystn. behaviour during continuous heating mode 1−30083
$Ti_{50}Be_{40}Zr_{10}$ glassy alloy, crystallisation, neutron irrad., resistivity meas. 1−2335

beryllium compounds
see also beryllium alloys
emerald, spin-lattice relaxation of Cr^{3+} ions 1−12395
salts, mol. absorpt. spectrosc. *(Japanese)* 1−48766
Al_4C_3-AlN-SiC-Si_3N_4-Be_2C-Be_3N_2, phase equilibria 1−31446
Al_4C_3-SiC-Be_2C, phase equilibria 1−31446
AlN-Si_3N_4-Be_3N_2, phase equilibria 1−31446
BEO thermoplastic cast slips, thermophys. props. 1−31401
Be halides, chemical bonding, ab initio calc., book contrib. 1−10657
$BeAl_2O_4$:Cr^{3+} alexandrite, tubable Q-switched laser emission 700 to 800 nm 1−51498
$BeAl_2O_4$:Cr^{3+} tunable laser, 701 to 818 nm range 1−29283
Be_2C, vapour press. and thermodynamics 1−26764
BeF radical in Kr(Ar) gas matrix, ESR and isolation spectra 1−24173
BeF_2 and $BeCl_2$, cryst. struct., stability and phase transition at high-press. 1−27155
BeF_2, electron-gas theory, many-body effects 1−47524
BeF_2 glass, ESR obs. of paramag. states and ferrimag. phases of Fe-group impurities 1−31019
BeF_2 glass, synchrotron radiation reflectance and photoelectron spectrum obs. 1−31166
BeF_2-CsF glass, ionic transport meas., cond. anomaly obs. 1−30455
BeH_2, susceptibilities and mag. shielding const., coupled HF calc. 1−33391
$BeH_2+H^-\rightarrow BeH_3^-$, complex formation reactions, ab initio calculations of potential energy surfaces 1−8543
$BeH_2+LiH\rightarrow LiBeH_3$, complex formation reactions, ab initio calculations of potential energy surfaces 1−8543
BeO, absorbing atom influence on photoelectric yield spectra, soft X-ray region 1−43244
BeO, adsorption of N_{10}-substituted isoalloxazines, quantum yields of fluoresc. and phosphoresc. *(Russian)* 1−4249
BeO, adsorption of riboflavin, quantum yields of fluoresc. and phosphoresc. *(Russian)* 1−4249
BeO ceramic, thermoluminescence spectra, band struct. 1−3514
BeO, dipole moments, polarisability and electron affinity, MBPT calcs. 1−33387
BeO exodetectors, dosimetric characteristics 1−14700
BeO films, evaporated on graphite substrates, TSEE dosimetry 1−968
BeO, low lying singlet states, MCSCF and CI calcs. 1−33403
BeO reflected $^{233}UNO_3$ solution in subcritical multiplication expts. 1−5909
BeO surface, H_2O doped, photon-stimulated desorption by core level excitation, density of states and extended fine structs. 1−38664
BeO thin film, preparation, optical and thermal props. 1−16206
BeO:Li, exodetectors, dosimetric characteristics 1−14700
BeO-SiC composites, obs. on nature of micro-cracking 1−39427
BeO-ThO_2 mixed oxide, thermal cond., 298 to 1000K *(Japanese)* 1−16115
$3BeO.Al_2O_3.6SiO_2$, beryl, form. reactions mechanism and kinetics 1−43646
$Be_3(PO_4)_2$, absorbing atom influence on photoelectric yield spectra, soft X-ray region 1−43244
$BeSO_4.4H_2O$, absorbing atom influence on photoelectric yield spectra, soft X-ray region 1−43244
$BeSiN_2$, struct. and chem. bonding 1−30168
$BeSiO_3$, absorbing atom influence on photoelectric yield spectra, soft X-ray region 1−43244
Be_2SiO_4, thermoluminescence and exoemission from surface layers *(Russian)* 1−21283
K_2O-BeO-B_2O_3 glasses, bonding mode of Be atoms by means of optical absorpt. spectra of VO^{2+} *(Japanese)* 1−21232
LiF-BeF_2 mixture, fusion reactor blanket, effect of Pb, Bi multiplication zones on ^{232}Th, ^{235}U fission rates 1−10525
$(NH_4)_2BeF_4$, noncommensurable ferroelectric, submillimeter spectroscopy 1−26314
NaF-BeF_2, excess enthalpy, high-temp. calorimetry 1−11885
$Si_{2.9}Be_{0.1}N_{3.8}O_{0.2}$ hot pressed ceramic, thermomech. props 1−3871

Bessel differential equation *see Bessel functions*

Bessel functions
corrosion pit, potential variation 1−16949
drift Brownian motion, Bessel functions *(French)* 1−32909
elliptic ducts, developing laminar flow characts. using Mathieu functions 1−29778
high-speed display using electro-optic light modulators 1−15259
impulse-generating filter, superresolution over restricted field 1−29222
solar eclipses phase determination, anal. of Bessel interpolation method and differential corrections method *(Italian)* 1−9349

beta-decay
see also beta-decay theory; beta-ray spectra; nuclear electron capture
A=80 to 115, non-normal parity states, level energies and wave functions 1−18556
A=12,16, β-decay and muon capture, axial meson-exchange currents in nuclear weak interactions 1−41079
A=14-41, Gamow-Teller β^+ and EC decays, $T_{1/2}$ 1−5741
A=53, spectroscopic and collective props. from shell model, β-decay 1−36896
A=90 to 100, neutron-rich nuclei, beta-decay energies, masses 1−10359
bacteria, myco-, incorporating beta-active radionuclides, dose-response curves *(German)* 1−44001
beta strength function fine struct., effect on fission, fusion, astrophysical superheavy elements 1−45465
beta-delayed fission, strength functs., branching ratios, low-lying struct. 1−50681
conference on nuclear spectroscopy and atomic nuclear struct., Riga, USSR (March 1979) 1−4
conference on nuclei far from stability, Nashville, TN, USA (Sept. 1979) 1−9766

beta-decay continued
deformed nuclei, reduced lifetimes for β-transitions between rot. bands 1−33242
double β decay expt., low-background scintillator set-up 1−1007
double β decay expt., proportional chamber set-up 1−1006
Earth antineutrino luminosity from β-decay, chemical composition 1−54088
forward and inverse beta decay, second class current effects 1−28415
internal atomic shell autoionisation by β-decay *(Russian)* 1−41354
nuclei far from stability, subjectivity 1−10356
short lived activities, γ-ray precision energy meas. 1−28416
stars, core collapse from Si burning termination onwards, lepton loss and entropy fraction 1−54473
superallowed Fermi β-transitions, upper limit on induced scalar interaction, CVC theory and G-parity transformations 1−45471
thermally stimulated emission of nuclear γ quanta in β-decay, plasma diagnostics *(Russian)* 1−18604
e^- emission, K-electron capture ratio, nuclear structure effect 1−14497
ν oscillation expts., beta strength function 1−50559
^{209}Tl β-decay, ^{209}Pb 1/2$^+$ state β-branching ratio, radial quantum no. selection rule 1−5743
^Ag, A=100,102, β$^+$-decaying isomer spins, β-strength functions 1−18605
^{99}Ag^{g,m} decay and levels, β$^+$/EC decay, ^{99}Pd levels 1−41072
^{24}Al, beta$^+$ decay, E2 transitions 1−50558
^{67}As β$^+$ decay, half life, ^{67}Ge levels, J$^\pi$ constant, transitions 1−14465
^{76}As, β$^-$ decay, ^{76}Se energy level struct., transitions and spins 1−10319
^{187}Au decay, ^{187}Pt excited levels and E0 transitions 1−660
^{11}Be beta decay and delayed particles 1−36930
^{210}Bi decay, β-particle longitudinal pol. 1−28459
^{82}Br decay, ^{82}Kr, gamma-ray transitions, levels and spins 1−14460
^{82}Br→^{82}Kr, excited states, lifetimes and levels 1−5693
^{51}Ca β-decay half-life, ^{51}Sc levels and γ-transitions 1−23609
^Ce, A=145, 146, gamma transitions, beta decay scheme and half lives 1−28410
^{252}Cf spontaneous fission fragments β-spectrum for 1-20 MeV *(Russian)* 1−18603
^{54}Co Gamow-Teller strength, levels and cross sections, DWBA anal. of ^{54}Fe(^{3}He,t) 1−5740
^{56}Co anomalous beta decay in Type I supernovae, effect on luminosity decay rate 1−27547
^{56}Co→^{56}Fe, gamma transitions and excited energy levels 1−28413
^{64}Cu, positron decay branch, K-shell ionisation 1−5738
^{155}Dy, β$^+$ decay, positron spectra 1−45466
^{159}Er decay, ^{159}Ho levels, γ-spectra and ICe$^-$ and e$^+$ 1−636
^{147}Eu, β$^+$ decay, positron spectra 1−45466
^{156}Eu decay, ^{156}Gd levels and transitions 1−33238
^{21}F, beta decay, branching, γ-ray energies, shell model comparison 1−50557
^Fr, A=224,226, β$^-$-decay, ^{224,226}Ra collective states, octupole deformation, J$^\pi$ and transitions 1−50486
^{71}Ga→^{71}Ge+γ decay, electric charge conservation study *(Russian)* 1−671
^{78}Ga decay, half life, ^{78}Ge levels, J$^\pi$ and γ-transitions 1−14464
^{146}Gd decay, ^{146}Eu levels 1−50560
^{147}Gd decay, ^{147}Eu level scheme, γ-transitions, IC spectra and eγ coincidences 1−45422
^{3}H β-energy spectrum, antineutrino mass meas. 1−45470
^{175}Hf→^{175}Lu decay, γ-ray transitions, level struct. of ^{175}Lu 1−36919
^{155}Ho β$^+$ decay, ^{155}Dy levels, γ-spectra and IC spectrum 1−33217
^{155}Ho decay, ^{155}Dy γ-rays, IC electrons and γγ coincidences 1−659
^I β$^-$ decay, A=127,129,131, ^{127,129,131}Sn levels, isomers and decay scheme 1−14463
^{137}I delayed neutron precursor decay, ^{137}Xe level structure and γ-transitions 1−638
In decay, Sn even nuclei, 0$^+$ states, E0 and E2 transition rates 1−33211
^In, A=105,106,108, β$^+$-decaying isomer spins, β-strength functions 1−18605
^{130}In decay, ^{130}Sn excited states, transition multipolarities and probabilities 1−41058
^{71}Kr, T$_z$=−1/2 mirror nucleus, β$^+$ decay, half-life, Gamow Teller matrix element 1−36929
^{140}La decay, ^{140}Ce level struct., multipole mixing ratios, J$^\pi$ and transitions 1−33219
^{11}Li, beta-delayed two neutron emission 1−10357
^{11}Li, β-delayed three neutron emission 1−14498
^{20}Mg decay, delayed p, ^{20}Mg lowest T=2 state mass excess 1−45414
^{21}Mg, Gamow-Teller giant resonance, shell model anal. 1−41088
^{89}Mo^g decay, ^{89}Nb levels and J$^\pi$ assignments, γ-transitions 1−45428
^{18}Ne→^{18}F, 0$^+$→0$^+$ β$^+$ decay, parity mixing, F$_\pi$ meas. 1−50555
^{18}Ne→^{18}F, 0$^+$→0$^-$ β$^+$ decay, parity nonconservation, meson-exchange 1−50556
^Np, A=250,252,256, beta strength function, microscopic calcs. 1−44580
^{240}Np, from ^{240}U beta decay, decay periods 1−50549
^{95}Pd long lived high spin isomer, β-delayed proton emission 1−23541
^{96}Pd decay, 2.0 min. half-life, isomers and gamma-ray spectra 1−662
^{146}Pr β$^-$-decay, emission probability of the 453 keV γ-ray 1−23597
Pt decay, ^{179,181,183,185,187}Ir levels and spectra 1−10351
^{241}Pu, half-life determ. by mass-spectroscopic meas. of decreasing ^{241}Pu/^{242}Pu ratios 1−18600
Rb, microscopic calc. up to r-process path, supernovae nucleosynthesis 1−44580
^{35}S beta decay, internal bremmstrahlung 1−33243
Sb decay, Sn even nuclei, 0$^+$ states, E0 and E2 transition rates 1−33211
^{42}Sc β$^+$ decay, isospin symmetry violating branch to ^{42}Ca O$^+$) 0837 keV level 1−14500
^{47}Sc, halflife meas. 1−23608
^Se, A=85-88, beta-decay, $^{85-88}$Br levels and decay scheme 1−41057
^{82}Se double beta decay, half life 1−14499
^{24}Si β-delayed proton decay, isobaric multiplet mass eqn. test, half life 1−5742
^{24}Si decay, delayed p, ^{24}Al lowest T=2 state mass excess 1−45414
^Sm, A=157, 158, fission product from ^{252}Cf course, gamma-rays and half-life 1−28411
^{81}Sr β$^+$ decay, ^{81}Rb levels, J$^\pi$, transitions and T$_{1/2}$ 1−14496
^{90}Sr→^{90}γ, beta irradiator, thermoluminescent dating use 1−6070
^{90}Sr decay, levels, J$^\pi$, transitions and IC coeffs. 1−36904
^{182}Ta decay, ^{182}W γγ-ang. correlation meas., levels, J assignments 1−45449
^{145}Tb isotope identified from X-ray and γ-ray spectra of daughter nucleus formed by electron capture and β-decay 1−45464
^{116}Te decay schemes from ^{116}Sn(^{3}He, 3n), ^{116}Sb levels 1−50509

beta-decay continued
^{130}Te neutrinoless double β-decay, T$_{1/2}$ and lepton charge nonconservation *(Russian)* 1−5744
^{240}U, from ^{244}Pu alpha decay, γ spectrum, decay schemes 1−50549
^{185}W beta decay, inner bremsstrahlung spectra 1−5739
^{88}Y decay, ^{88}Sr 1836 keV state deexcitation, e$^+$ search 1−669
^{90}Y beta decay, inner bremsstrahlung spectra 1−5739
^{161}Yb decay, ^{161}Tm levels, J$^\pi$ and γ-multipolarity 1−50507
^{78}Zn decay, half life, ^{78}Ga levels, J$^\pi$ and γ-transitions 1−23610

beta-decay theory
see also beta-decay; beta-ray spectra
double beta decay and lepton number conservation, review *(Russian)* 1−23605
exotic states of nuclei, beta instability and superheavy nuclei *(Polish)* 1−50554
internal bremsstrahlung accompanying beta decay, theory, spectral shapes and total yields 1−670
secondary effects, inner bremsstrahlung, review *(Russian)* 1−23606
β$^+$-delayed proton pair emission, twice β$^+$-delayed protons and α-particles *(Russian)* 1−18602
Au odd-mass nuclei, far from β-stable, shell, rotor models, systematic interpretation 1−10355
He isoelectronic sequence, atomic excitation probability accompanying β-decay, electronic correl. effect 1−14825
Hg odd-mass nuclei, far from β-stable, shell, rotor models, systematic interpretation 1−10355

beta-particles *see beta-rays*

beta-radiation *see beta-rays*

beta-ray absorption
see also electron absorption
micropowders, rapid method for particle-size distrib. determ. 1−9967

beta-ray angular distribution
see also beta-ray spectra
No entries

beta-ray detection and measurement
see also beta-ray spectrometers; radioactivity measurement
absorption measuring systems, effect of changes of beta radiation mass attenuation coefficient *(Polish)* 1−24003
bacteria, myco-, incorporating beta-active radionuclides, dose-response curves *(German)* 1−44001
channeltron, appl. to meas. of gaseous ^{3}H at low press. 1−6118
coincidence counting (β-γ), corrections 1−6110
liquid scintillation counting for beta-emitter standardisation 1−10595
low-level beta-emitting radioisotopes continuous monitoring system for gaseous radwaste 1−41258
nuclide volumetric activity meas. in gases, special state unit standard using proportional counter 1−23993
spark formation time meas. in spark chamber for α and β particles 1−1009
TLD, LiF:Mg, Cu, beta radiation dosimetry, theoretical and exp. comparison 1−6084
TLD, three element sandwich type, LiF:Al, extremity dose meas. 1−6086
TLD for measurement of βγ, γ and neutron dose 1−6054
tritium, maximum permissible concentration proportional response monitor 1−10547
wide range survey meter for estimating γ- and β-dose rates 1−50978
Ge semiempirical detector response to 4 to 8 MeV beta rays 1−28802
LiF TL phosphors appl. to T detection and dose assessment 1−41285
Si(Li) detectors as anticoincidence shield, low level α and β meas. 1−23969
^{99}Tc, liq. scintillation counting, evaluation of counting efficiency, container sorption and quenching characts. 1−37079

beta-ray effects
see also electron beam effects
biological effects of short-lived β-emitters on mice 1−13293
chemical and biological effects, inner shell ionisation in biomols. 1−53830
metabolism and somatic effects of β-emitting radioisotopes 1−53832
neonatal squirrel monkeys, evaluation after HTO administration throughout gestation 1−26955
ovary, mouse, effect of low level T exposure 1−22074
pituitary ablation by ^{90}Y β-rays, post mortem and clinical obs. 1−26945
^{210}Pb KX-rays, contrib. by ^{210}Bi β-ray induced breamsstrahlung *(Japanese)* 1−10687

beta-ray polarisation
No entries

beta-ray scattering *see beta-ray effects; collision processes; energy loss of particles; particle backscattering; potential scattering; transport processes*

beta-ray spectra
see also beta-decay theory
A=90 to 100, neutron-rich nuclei, beta-decay energies, masses 1−10359
Daresbury Nuclear Structure Facility, isotope and recoil separators, spectra 1−10579
^Sr, A=89, 90, determ. by strontium 1−37055
^{145}Tb isotope identified from X-ray and γ-ray spectra of daughter nucleus formed by electron capture and β-decay 1−45464
^{235}U(n,ef), beta spectrum absolute meas. 1−45551

beta-ray spectrometers
see also beta-ray spectra; electron spectrometers
magnetic electron separator for beta spectroscopy with a Ge(HP)-detector 1−28784
reference spectrometric conversion electron sources for uniform meas. in β-ray spectroscopy 1−23930

beta-rays
see also electrons
No entries

beta spectrometers *see beta-ray spectrometers*

betatrons
35 MeV betatron electron beam slow discharge system 1−37031
bremmstrahlung and monoenergetic electron radiation alignment method 1−37032
bremsstrahlung intensity stabilizer 1−51003
charged particle accelerators using pulsed superhigh magnetic fields 1−33357
impregnated-cathode injector design and bremsstrahlung intensity obs. 1−37021
parametric reson. of betatron oscills., effect of nonlinearity of external EM fields 1−23899
superposed magnetisation, correction network for reducing deviation of equilibrium orbit 1−18933

Bethe-Salpeter equation
bound states in field of plane EM field 1−50331
fermion-antifermion system, Bethe-Salpeter eqn., coupling consts., abnormal solns. 1−14228
harmonic oscillator exchange, relativistic and nonrelativistic regimes 1−50297
interacting particles, relativistic theory, covariant Bethe-Salpeter eqns. 1−50563
mesons, bound state, possible type of potential, straton model, Bethe-Salpeter, eqn. *(Chinese)* 1−18381
one-body limit of two-body Salpeter equation, Klein paradox in the modified Dirac equation 1−10060
positronium hyperfine splitting, second-order perturbation theory 1−37370
QCD, chiral-invariant, dynamical breakdown theory, π, K, η_0 appl. 1−14345
QCD, gravitational equivalent analogy appl. 1−14262
quark equation, Bethe-Salpeter type, describing effective quarks in meson 1−45198
relativistic two-particle bound state energies, gauge invariance, perturbation theory invariant subsets 1−5483
spinor Bethe-Salpeter equation with generalized ladder kernels and the Goldstein problem 1−50298
spinor-spinor Bethe-Salpeter eqn., spectral props. 1−430
three particle equation, three-dimens. reduction generating three body forces 1−28205
π, EM form factor and wave functions *(Chinese)* 1−40996
Bethe-Uhlenbeck equations *see quantum statistical mechanics*
bevatrons *see synchrotrons*
bicrystals
α-β brass, bicrystals, two-phase, deform. and fract. 1−15901
α-β brass, two-phase bicrystal, elastic incompatibility during deform. 1−31534
grain boundary energy, computed, vol. depend. 1−15906
interfacial torque and boundary structure 1−2466
Ag thin film bicrystals, gas bubbles generated by thermal aging, TEM study 1−38692
Ag thin film bicrystals, gas bubbles generated by thermal aging, nucleation and growth mechanism 1−38693
Ag, thin film bicrystals, twist grain boundaries, dislocation networks, TEM study 1−25278
Al bicrystals, Cu grain boundary diffusion at nonequilib. struct. state *(Polish)* 1−16089
Al, incompatible bicrysts., strain accommodation 1−21558
Al, plane-strain compression 1−21557
Al, plastic deform. of specimens having $\Sigma 7$ and $\Sigma 21$ coincidence tilt boundaries 1−8366
Cu, incompatible bicrysts., strain accommodation 1−21558
Cu-In (4.6 wt.%) bicrysts., discontinuous precipitation study *(German)* 1−3741
Ge, partial secondary dislocations in grain boundaries, periodic network case 1−42396
Ge, partial secondary dislocations in grain boundaries, reactions between external dislocations and boundary 1−42397
InP bicryst., lattice dislocations generation by migrating boundaries 1−20210
NiO, Co^{60} and Cr^{51} grain-boundary diffusion 1−25506
Si, low-frequency grain-boundary capacitance 1−30736
Si, struct. of grain boundaries, electron diffr. and microscopy studies 1−52151
Zn bicrysts. 1−15908
biexcitons *see excitonic molecules*
big-bang theory *see cosmology*
bimetallic strips *see bimetals*
bimetallic wire *see bimetals*
bimetals
adhesivity of layers, determ. method 1−16986
electrochemical method for revealing transition zone microstructure 1−39569
steel, high Mn to C steel, surface layer peeling, P conc. influence 1−43607
steel-stainless steel, bimetal tube, mech. props. eval. 1−26686
thermoelectric bimetal thermometer, principle and construction *(Japanese)* 1−36661
Cu-BrZr0.2-M2 bimetal transition layer combination on press. welding, struct. fracture *(Russian)* 1−3792
Cu-clad Nb wire thermometry below 1K using proximity effect 1−44922
Ti alloy-steel joints, contact phenomena, effect on strength 1−17021
binaries (stellar) *see binary stars*
binary stars
see also cataclysmic binary stars; eclipsing binary stars; X-ray binary stars
β1269, visual binary system containing abnormal stars, proper motions, radial vels. and spectral types 1−49736
A 1907+09, variable source, binary period determ. 1−5000
abundance in galaxy from model considering arm form. and evolution 1−40560
accreting white dwarf, Comptonized X-ray spectrum, photoelectric absorption 1−4914
accretion disc, time depend. evolution in mass transferring binaries 1−54557
accretion disc-satellite interactions, angular momentum and energy transfer rates 1−32614
accretion discs in black hole binary systems, turbulent mag. dynamo theory 1−13683
ADS 102, ADS 281, visual double stars, provisional orbits *(French)* 1−49727
ADS 10345 (μ Draconis), visual binary, provisional orbit *(French)* 1−9572
ADS 161, ADS 2236, ADS 8739, visual double stars, provisional orbits *(French)* 1−49728
ADS 7203 (σ_2 Ursae Majoris), binary, orbital elements, mass and ephemeris *(French)* 1−4941
o Andromedae, Be star, spectrum vars. during shell episode, (1973 to 1978) 1−44573
λ Andromedae, RS Canum Venaticorum binary, stellar surface phenomena model for asymmetric light curve 1−27561
R Aquarii, symbiotic star, changes in assoc. emission nebulosity 1−9537
UX Arietis, RS Canum Venaticorum type binary, IUE spectra of optical flare 1−9562
binary stars continued
α Aurigae, giant stars, outer atm., rot. activity link, UV spectral obs. 1−36275
B 912, southern double star, orbit determ. 1−36335
BD+24°692, BY Draconis variable, spectroscopic binary, surface phenomena, by photometry obs. 1−9519
BD+39°4403+AO 584, identification as common proper motion pair from astrometric study 1−9570
BD −0° 4234, high-vel. metal-poor double-lined spectroscopic binary, spectroscopic obs. 1−9564
blue stragglers, implications of obs. in NGC 7789 for binary star post-main-sequence mass-exchange hypothesis 1−27503
45 Cancri, spectroscopic binaries discovered from composite spectra, orbit and radial vel. 1−54547
EZ Canis Majoris (HD 50896), single-line Wolf-Rayet star, binary nature 1−9502
α Canis Majoris B (Sirius B) discovery and historical context rel. to gravitational red shift 1−44596
RS Canum Venaticorum systems, hard X-ray emission from optical identification of H0123+075 and (4U 1137−65) 1−4996
ζ Capricorni, Ba star, implications of binary nature for spectrum anal. and evolution 1−44561
ζ Capricorni, Ba star, optical double star, spectral and photometry obs. 1−49657
TU Cassiopeiae, classical Cepheid possible binary with circumstellar shell, visible obs. *(Russian)* 1−4916
V810 Centauri (=HR 4511), Cepheid binary, companion effect on primary, UV spectral obs. 1−36296
central star of planetary nebula NGC 6543, mass loss UV spectra 1−44572
β Cephei stars, effects of duplicity on stellar nonspherical symmetry and nonradial mode pulsation 1−27535
Cepheid variables, recent work on duplicity 1−40501
close, circulation in primary drives by tidal effects from secondary 1−44594
close binary systems evolution, props. of semi-detached systems before and after mass transfer 1−17868
in clusters, review of binaries in open and globular clusters 1−36341
composite spectra stars, O-G type binaries, component spectral type synthesis and obs. 1−54554
concentration analysis in open clusters 1−36343
contact binaries, contact discontinuity model, criticism 1−9565
COU catalogue of double stars discovered at Nice, 16th series *(French)* 1−36200
16 Cygni, anal. of A and B rel. to search for solar spectral analogues 1−54492
SS Cygni, dwarf nova, orbital parameters and period, visible spectra obs. 1−36288
47 Cygni, spectroscopic binaries discovered from composite spectra, orbit and radial vel. 1−54547
Cygnus X-1 (HDE 226868), transition from low to high X-ray state (1980 November 8 to 12) 1−17911
Cygnus X-3, gamma-ray flux obs. *(Russian)* 1−17908
Cygnus X-3, gamma-ray generation mechanism *(Russian)* 1−17909
Cygnus X-3, radio burst obs. (1980 September 26) 1−4997
HR Delphini (Nova Delphini 1967), 1977 and 1979 light variability 1−27515
double star fields, catalogue of relative proper motion *(Russian)* 1−4781
BY Draconis, new spectroscopic orbit for double-lined flare star 1−27555
χ Draconis, spectroscopic/astrometric binary star, speckle interferometry 1−9569
BY Draconis, spotted UV Ceti flare star, chromospheric Hα emission vars. due to binary star motion 1−9512
early-type stars, search for X-ray, binaries in quiescent phase 1−27560
evolution in globular cluster, initial binary distrib., Monte Carlo simulation 1−22845
fission origin 1−17824
formation, collapse, equilib. and fragmentation of rot. adiabatic protostellar clouds 1−40472
formation, fragmentation of rotating isothermal protostellar clouds 1−40471
formation, numerical study of fission hypothesis for rotating polytropes 1−40473
TV Geminorum, M type supergiant, UV continuum interpretation, possible binary, UV obs. 1−22796
in globular clusters, effects of binary stars on dynamics and evolution of core 1−36363
gravitational wave indirect evidence from binary star Z Chamaeleontis and binary pulsar *(German)* 1−9914
H 2252-035, light vars. periods from optical photometry 1−4999
hard binaries in globular clusters, form. and hardening *(Russian)* 1−54573
HD 101013, Ba star, spectroscopic binary orbit from photoelectric radial vels. 1−27498
HD 101379, RS Canum Venaticorum system, identification with hard X-ray source (4U 1137−65) 1−4996
HD 126269-70, 172712, spectroscopic binaries discovered from composite spectra, orbit and radial vel. 1−54547
HD 126313, Ba star binary system; distance, mass and absolute magnitude visible obs. 1−49657
HD 13756, Population II spectroscopic binary, mass and evolution, visible spectra obs. 1−44553
HD 14662(=HR 690) new Cepheid, radial vel. and photometry obs. 1−32702
HD 170737, spectroscopic binary orbit determ. from visual radial vel. obs. 1−49732
HD 195987, spectroscopic binary, orbit determ. 1−17873
HD 28363 (=vB 75=ADS 3248), binary in Hyades, lunar occultation 1−54569
HD 44179, red rectangle, photometric stability from UBV obs. 1−9580
HD 50896, WR+neutron star, periodic variability from UVB obs. 1−54517
HD 62001, control star of V-V 1-7, star nature rel. to nebula 1−27583
HD 8357, RS Canum Venaticorum system, identification with hard X-ray source (H0123+075) 1−4996
HD 96548, variable single-line Wolf-Rayet star with low-mass companion, photometry and spectrum 1−27508
HDE 245770 (A0535+26), obs. of Hα line in stellar spectrum *(Russian)* 1−9534
HDE 311884, massive Wolf Rayet binary, orbit and masses, visible obs. 1−49668

binary stars continued
Hdo 275, southern double star, orbit determ. 1−36335
DQ Herculis (Nova Herculis 1934) distance from shell obs., luminosity implications 1−40493
HR 2024, 6560, spectroscopic binaries discovered from composite spectra, orbit and radial vel. 1−54547
HR 2923, new double-lined spectroscopic binary, radial vels. 1−27486
HR 4249 A (=ADS 7967 A), visual binary, radial vel. and orbital elements 1−36340
HR 4453, anomalously bright UV source search in visual binary 1−27556
HR 6626, spectroscopic orbit from photoelectric radial vel. meas. 1−22836
HR 913, spectroscopic binary, mass and radial vel. from spectral obs. 1−13815
RW Hydrae (gM2+pec), symbiotic star and planetary nebula central star, IUE obs. 1−9507
I 215, southern double star, orbit determ. 1−36335
I 7, visual binary, orbit recomputation 1−40526
interacting binary systems, motion of apsidal line 1−13812
LS I 61° 303 binary star secondary, pulsar evidence, stellar wind interactions 1−36428
magnetic fields, role in prod. and propag. of galactic cosmic rays 1−36120
mass transfer, time scale of thermohaline mixing in mass-receiving star 1−27481
massive binary black hole in dense star cluster, stellar tidal disruption 1−36323
micrometer observations of double stars and new pairs, results 1−49730
T Monocerotis, Cepheid variable, companion star detect. from IUE obs. 1−49719
neutron star with super strong mag. field, accreting, gamma ray lines, origin 1−40577
neutron stars, numerical models of surface H and He burning flashes 1−4934
novae, CNO enrichment and envelope mass as determinants of speed class 1−9501
O-type stars, binary freq., mass ratio, visible spectra obs. 1−49718
occultations by Moon, duplicity as cause of fading occultations (1943 to 1977) 1−40313
occurrence frequency in NGC 2506 1−54561
in open clusters, effects of binary star form. on cluster dynamics 1−36352
orbital inclination determination, polarimetric accuracy required, appl. to U Sagittae 1−36339
μ Orionis B, identification as spectroscopic binary, components masses and mass-luminosity relation 1−49734
II Pegasi, RS Canum Venaticorum binary, stellar surface phenomena model for asymmetric light curve 1−27561
periods derivation for cyclic phenomena, improved method 1−27396
ϕ Persei, shell star, gas ring circumstellar envelope, from radial vel. data 1−54521
radioastronomy, recent developments, review 1−27742
recurrent novae, outbursts triggering by ^{3}He heating mechanism 1−9500
δ Scuti stars, effects of duplicity on stellar nonspherical symmetry and nonradial mode pulsation 1−27535
SEE 331, southern double star orbit determ. 1−36335
semi-detached binary stars, evolution 1−36332
southern spectroscopic binaries, new identifications and orbits, radial vel. catalogue anal. 1−36333
speckle interferometric meas. of 104 binaries or suspected binaries 1−9574
speckle interferometry, meas. of 217 binary stars 1−9576
spectroscopic and eclipsing binary systems, period distrib. and depend. on spectral type 1−17867
spectroscopic binaries incidence amongst metal deficient giants 1−54496
spectroscopic binary stars, obs. in near IR rel. to spectral classification of cool companions *(Russian)* 1−17877
SS 433, model of forced precession of neutron star 1−44585
SS 433, optical spectrum 1−4922
SS 433, radial vel. meas. rel. to rapid shortening of '165-day' period 1−22824
stability of tidal equilibrium 1−27554
Stein 2051, visual binary, parallax, proper motion and mass ratio astrometric meas. *(Italian)* 1−9579
supernova, Type I, dwarf nova close binary model, slow a accretion onto white dwarf 1−49695
supernovae, white dwarf models for Type I and quiet supernovae, and presupernova evolution 1−44583
V711 Tauri, RS Canum Venaticorum binary stars, 18 cm obs. of radio outburst 1−9568
θ' Tauri (=77 Tauri=vB 71=BS 1411) binary in Hyades, lunar occultation 1−54569
ϕ Tauri (=vB 57ϕ 342=BS 1391), in Hyades lunar occultation 1−54569
V711 Tauri (HR 1099), RS Canum Veneticorum binary star, TiO band system obs. rel. to starspot hypothesis 1−4940
4U/MXB 1735−44, X-ray obs. 1−9733
γ Velorum, spectroscopic binary radial velocities, visible spectra obs. 1−44595
visual binaries with 2.6 to 26.4 yr periods, radial vels. from visible spectra obs. 1−40527
visual binary orbit, laboratory exercise 1−22985
visual binary orbit from three fund. positions and the areal const. *(French)* 1−49722
visual double stars for the amateur 1−40533
white dwarfs, mass-accreting, collapse rel. to neutron star form. 1−49705
wide, with white dwarf, age, radial vels. and kinematics, visible spectra obs. 1−54546
HJ 3683 visual binary, orbit recomputation 1−40526

binding energy
see also lattice energy; nuclear binding energy; nuclear forces
acetylenes, substituted, electron withdrawing effects, binding energy, MO calcs., solid state and gas phase XPS 1−53049
acid phthalate crystals, X-ray reflection coeff. across oxygen K-edge region 1−26305
actinide metals, 5f electrons, presence and character 1−47529
actinide metals, band struct. and cohesive props. 1−47443
alkali chalcogenides, Van der Waals energies 1−47036
alkali halide molecules, interionic forces, Rittner's model 1−14974
alkali halides, dipole-dipole Van der Waals interaction 1−47039
alkali halides, photoemitted electron energies 1−12631
alkali metals, lattice static and dynamic props., pseudopot. study 1−7282

binding energy continued
alkaline earth chalcogenides, photoemitted electron energies 1−12631
alloys, s-p electronic materials, heat of formation 1−48721
atom, Z=72-83, core level binding energies 1−33557
atomic HF binding energies calc. by scaled model system 1−33379
atoms, core-level lifetimes, XPS meas. 1−6218
atoms, positron scatt., ionisation pot., binding energy, dispersion relation 1−46117
atoms, screened Coulomb pot., Pade approx. and perturbation theory 1−45816
atoms, Thomas-Fermi model, leading corrections 1−14817
atoms and ions, Thomas-Fermi limit expectation values 1−45847
Au overlayers on Ni, core level binding energy shifts 1−52104
azolidines, substituted, mol. struct., XPS characterisation 1−46019
binding energy and geometry, SINDO1 SCF MO and INDO calcs. 1−37120
chalcogenides, binary glass-forming, enthalpy of atomisation and bond energy 1−39667
chemisorption of simple gases on transition metal surface 1−20566
chemisorption of simple gases on transition metal surfaces binding energies 1−20565
diamond, ground state properties, LCAO SCF ab initio HF method 1−34609
dichalcogenide anions, electric struct. 1−12075
dilute alloys, XPS core level binding energy shifts rel. to heat of formation 1−43249
dipnictide anions, electric struct. 1−12075
electron affinity prediction, using 1/Z expansion theory 1−46148
electron spectroscopy, energy calibration, reference electron binding energies re-determ. 1−28128
electron-quark system, bound, neutral, uuuee, and H_3^+ 1−19001
ethane, and hindered rotamers, electron binding and relax. energies 1−37255
ethylene, and hindered rotamers, electron binding and relax. energies 1−37255
exciton matter, crystallised state possibility 1−25639
F 1−41441
fermium, electron binding energy 1−45810
first row atoms, pseudopotentials and density functionals combination calcs. 1−51101
first-row hydrides, ground and core hole states, LCAO MO SCF calcs. 1−19028
graphite intercalation compounds with Li, K, Rb, Cs, UPS, XPS and AES studies 1−48238
group IV semiconductors and semimetals, core-level binding shifts, Born-Haber cycle 1−47037
ice, phase transition, thermodynamic energy computed using Monte Carlo methods 1−38511
inert gas atoms, excited states, photoionisation 1−14853
inert gases, adsorbed on metals, work function and bonding energy 1−47724
ion+ion, electron charge exchange cross section, incident ion charge effect 1−51288
metal, energy-wave number characts., phonon spectra 1−11824
metal, simple, screened polarisation waves and total energy, formulation 1−52516
metal chelates, metal bridge effect, SCF and LCAO calcs. 1−1111
metallic glass, elastic props. rel. to those of cryst. 1−7234
metals, core level binding energies 1−30130
methylene, core ionised states, CI and LCAO MO SCF calcs. 1−19035
molecular clusters, photoionisation, binding energies, spectra, mol. beam expts. 1−37273
molecular ground states, containing C(N)(O) atoms, mol. geometries, IP, binding-energies and dipole moments, SINDO1 calc. 1−37121
molecular ground states, containing F(Be)(B)(Li) atoms, mol. geometries, binding energies, IP and dipole moments, SINDO1 calc. 1−37122
molecules, weakly bound system, intense EM field effect 1−14969
organic crystal cohesive energy and ionicity [organic crystals] 1−42712
PMMA, electron penetration, Monte Carlo methods 1−42438
polar crystals, binding energy of D^- centres 1−42706
polariton effect influence on excitonic molecules 1−30644
polyethylene, deformation, ab initio MO calcs. 1−7549
rare earth metals, electronic struct., binding energies, anal. 1−25626
second row atoms, pseudopotentials and density functionals combination calcs. 1−51101
semiconductor, cubic, binding energies of excitons and acceptors, analytical expressions 1−25640
semiconductors, dislocation interaction with electron-hole drops *(Russian)* 1−52500
semiconductors, surface and bulk props., pseudopot. theory, review 1−47429
third row atoms, pseudopotentials and density functionals combination calcs. 1−51101
3d transition metal alloys, cohesive props., rel. to mag. props. 1−52102
transition metal binary alloys, struct. stability in terms of cryst. struct. maps 1−15831
transition metal borides, nitrides and silicides, surface states, ESCA investig., reduction effect 1−53045
transition metal complexes, hexamine and hexa-aquo complexes, electronic struct. and parametrisation, CNDO/2 calcs. 1−1110
transition metal dimers, pot. energy curves, MCSCF calcs., binding energies 1−41303
transition metal negative ions, binding energies and struct. 1−45915
transition metals, cohesion and mag. props., correl. effects 1−34850
transition metals, surface core level binding energy shifts 1−20113
Ag-Rh(Ir), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
AgBr, luminescence of excitonic molecules, meas. 1−43174
AgBr(Cl), binding energy of D^- centres 1−42706
Al alloy, H_2 charged, internal friction meas. 1−53226
Al, electron penetration, Monte Carlo methods 1−42438
Al, lattice mechanical and electronic props., unified calc. 1−42488
Al-Zn, dil., impurity-vacancy complex binding energy, pseudopot. method *(Russian)* 1−15921
AsF_3 vapour, core level binding energy XPS for dopant mols. in conducting polymers 1−29036
AsF_5 vapour, core level binding energy XPS for dopant mols. in conducting polymers 1−29036
Au, adsorption of ^{3}He or ^{4}He, binding energy meas. by dynamic gas diffusion technique 1−42604

binding energy continued
Au-Pd(Pt)(Rh), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
B, binding energy to austenite grain boundaries, calc. from autoradiography 1−15904
Be_2, bonding, analytic pot. functions 1−29071
Be_n cluster (n=2-5), struct., ab initio calcs 1−46188
Bi atoms, Rayleigh γ-scatt. cross section, anomalous energy depend. 1−45921
Ca_2, bonding, analytic pot. functions 1−29071
CaF_2, cohesive props., equation of state, lattice parameters, LMTO calc. 1−20109
$Cd_xHg_{1-x}Te$, sputtering yield for Hg ion bombardment, 200 to 800 eV 1−43235
CdSe, ionised donor-exciton complexes in polar crysts., binding energy 1−7528
CdTe, ionised donor-exciton complexes in polar crysts., binding energy 1−7528
CsCl(Br)(I):$Li^+(Na^+)$, impurity ion off-centre displacements, defect energies 1−11772
CsSn thin film, electronic props. 1−25813
Cu, adsorption of ^3He or ^4He, binding energy meas. by dynamic gas diffusion technique 1−42604
Cu clusters, struct. and electronic props., binding energy, ab initio LCAO-MO-SCF study 1−41304
Cu-Rh(Pt), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
Cu-Sc, dil., vacancy-Sc binding energy 1−7206
Cu-Ti, glassy, d-band splitting, UPS and XPS study 1−12636
F bonded molecules, 3d polarisation function, bond function 1−6134
Fe-B-M, (M=B, C, Si, P, Ge), metallic glasses, microhardness 1−48472
Fe-P-M, (M=B, C, Si, P, Ge), metallic glasses, microhardness 1−48472
$Fe^{7+}+He^{2+}(He)$, one electron ion 2s-2p excitation cross section, plane wave Born approx. 1−15003
$Fe_{80-x}H_xP_{13}C_7$ (H=Zr, Nb, Mo, Ru, Rh, Pd, B, C, Si, P, As, Sn, Sb), thermal stability and related props. 1−20066
Fe(110), chemisorbed CO, angle-resolved photoemission 1−3575
Ga-Mo interface, field ion microscopy, struct. of Ga, field emission current *(Japanese)* 1−31319
Ga-W interface, field ion microscopy, struct. of Ga, field emission current *(Japanese)* 1−31319
GaAs, chemisorption of Al and Ga 1−16171
GaAs unrelaxed (110) surface Ga core exciton effects 1−16330
GaAs-AlAs (110) interface deep substitutional sp^3-bonded impurity levels and Frenkel core excitons 1−16344
$GaAs_{1-x}P_x$:N trap states, zero-phonon excitonic struct., luminesc. and reson. excitation study 1−47538
GaSe crystals, optical props. of band edge exciton, 10K 1−35002
Ge, energy parameter estimates of defect complexes 1−42720
Ge, shallow acceptor spectra, even parity excited states, central cell effects, calc. 1−47533
Ge-Se amorphous obliquely-deposited films, photo-induced effect, XPS 1−35144
H atoms, adsorption on ^4He liquid surface 1−2733
H, binding energy on liq. ^4He, zero-field hyperfine reson. study 1−48734
H_2, adsorpt. on Mg(0001), dissoc., pot. energy surface calcs. 1−42633
H_2 recomb. energy distrib. on interstellar dust surface *(Russian)* 1−49782
H_2, solid, insulator hydride with H atom impurities, props. 1−38614
HCl, electron ionisation, binding energies at different orbitals momenta 1−1392
HCl, valence orbitals, momentum distrib., ionisation pot., binding energy spectra 1−6317
HF, valence orbitals, momentum distrib., ionisation pot., binding energy spectra 1−6317
H_2O, B_1 Rydberg states, electron correl. effects 1−45874
H_2O exchange in first solvation shell of hydrated cations, transition state model, binding energies 1−48649
Hg, free atom, Auger electron spectra 1−1194
HgI_2, magneto-Raman scatt., exciton state study 1−47493
In_2O_3:Sn RF reactively sputtered films, elec. props. *(Japanese)* 1−20882
Ir (110), coadsorption of H_2 and CO 1−7466
K, local spin density correlation energy functional, influence on cohesive energy 1−20644
KCl, lattice mechanics in point-dipole approx., perturbation theory 1−25383
Kr, solid, insulator hydride with H atom impurities, props. 1−38614
LI, local spin density correlation energy functional, influence on cohesive energy 1−20644
Li^+, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
Li-Pb, liq., low energy photoemission spectra meas. 1−31312
Li_2 and Li_{35} BCC cluster, Boyd-Whitehead CNDO parametrisation 1−45853
$LiCl_A^+$, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
$LiCl_n$, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
LiF, F-centre energy levels, variational convergence, SCFMO calcs. 1−47559
Mg_2, bonding, analytic pot. functions 1−29071
Mn, atomic and metallic, $L_{2,3}MM$ Auger electron spectra 1−37164
Mo single crystal, localised pinning point interaction with dislocations 1−38377
N, inner-core energy levels, semiempirical studies, ESCA shifts studied by SCC-MO method 1−6154
N_2 crystal, lattice dynamics with ab initio intermol. pot. 1−38476
NH_3 crystal, wave function and electronic energy, ab initio SCF calc. *(French)* 1−12055
Na, local spin density correlation energy functional, influence on cohesive energy 1−20644
NaCl, lattice mechanics in point-dipole approx., perturbation theory 1−25383
NaCl type alkali halides, relation between elastic modulus C_{44} and covalency 1−38430
NaCl:Ca^{2+}, impurity-vacancy pair clustering, activation energy 1−52171
$Na_2(Na^{2+})$, ground state props., pot. energy curves calc. within local spin-density approx. 1−24062
Nb (110), adsorption/absorption of H_2, angle-resolved photoemission study 1−3568
Ni (001) with CO monolayer, CO ejection due to ion irrad. 1−8177
binding energy continued
Ni clusters, electronic struct. calc. using ab initio effective core pot. SCF method 1−24305
Ni overlayers on Au, core level binding energy shifts 1−52104
Ni-H, dil., electronic struct. and ordering of H 1−38746
Ni-Nb(Ta), glassy, d-band splitting, UPS and XPS study 1−12636
Ni-Si(Ge)(Be), dil., interaction of solute atoms with vacancies and interstitials 1−34367
NiAu dilute alloys, core level binding energy shifts 1−52104
O_2, binding energies, vibrational branching ratios photoelectron time of flight obs. 1−19133
OCS, molecular beam ionisation 1−41441
$(OCS)_2$, molecular beam ionisation 1−41441
$OCS.CS_2$, molecular beam ionisation 1−41441
Pb atoms, Rayleigh γ-scatt. cross section, anomalous energy depend. 1−45921
Pd, cold-worked, diffusion of ^3H 1−20460
Pd-H, dil., electronic struct. and ordering of H 1−38746
Pd_xAg_{1-x}, thermochemical anal. from XPS core level binding energy shifts 1−48236
Rb, local spin density correlation energy functional, influence on cohesive energy 1−20644
SbF_5 vapour, core level binding energy XPS for dopant mols. in conducting polymers 1−29036
Si (111)2×1, core-level binding energy shifts due to surface reconstruction, photoemission spectra 1−16659
Si, shallow acceptor spectra, even parity excited states, central cell effects, calc. 1−47533
$Si^{12+}+He^{2+}(He)$, one electron ion 2s-2p excitation cross section, plane wave Born approx. 1−15003
Sr_2, bonding, analytic pot. functions 1−29071
Ta (100) and (110), chemisorption of N, electronic struct. and binding energy extended Huckel MO calc. 1−38832
TiO(C), energetic-vacancy stabilisation mechanisms 1−2914
TlBr(Cl), self consistent ground state and optical props. 1−47454
transition metal-H system, intrinsic embrittlement 1−21577
UO_2, cohesive props., equation of state, lattice parameters, LMTO calc. 1−20109
UO_2, cohesive props., self consistent muffin-tin orbital calc. 1−47523
UPd_3, metallic, 5f electron localisation 1−20651
$UPt(Pt_2)$, binding energies, work function changes, and saturation moments 1−53052
W (001) single valence band X-ray photoemission study, direct transitions, phonon effects 1−20617
W (110), electron-stimulated desorption of O, excitation mechanism and binding sites of O^+-yielding species 1−47377
W (110) stepped surface, chemisorption of O, LEED intensities, Monte Carlo calc. 1−47385
W adsorption of Ag, AES, LEED and contact pot. difference 1−42625
ZnO, desorption of Zn, binding states, surface cond., LEED, and AES meas. 1−7470
ZnSe, ionised donor-exciton complexes in polar crysts., binding energy 1−7528
ZnSe, pressure-induced struct. transition, self-consistent pseudopot. study 1−25428
ZnTe:Cu, donor-acceptor pair spectra, luminesc. 1−12576
Zr-Fe(Co)(Ni)(Cu)(Pd)(Pt), glassy, d-band splitting, UPS and XPS study 1−12636

Bingham plastics and solids *see rheology*

bioacoustics
see also biological effects of acoustic radiation; biomedical ultrasonics; hearing; sonar
airway area, meas. by acoustic reflections at the mouth 1−13296
ambient background noise in Timor Sea of biological origin 1−11224
bat sonar, echo phase perception 1−49019
bones, tibial, of athletes, dosed phys. loads effect by US method 1−13275
collagen, US propagation props. obs. 1−8898
cutaneous wound tissue, acoustic microscope obs. with age 1−49082
eardrum AF microscopic motion mes. by laser speckle vibrometry 1−44062
eardrum of guinea-pig, acoustic response meas. by laser speckle vibrometry 1−44061
human stress effects due to impulsive noise 1−15346
Korotkov sounds, generation mechanism 1−26934
lung, sound speed in the upper airways 1−26937
mathematical estimation of media acoustic characteristics *(Japanese)* 1−46622
myocardial tissue, relation between collagen and US backscatter 1−49083
sclerotic coat of eye, US velocity topographic distrib. 1−17453
skin aging, US characterisation, mouse expts. 1−35923
sonotubometry, accurate meas. of Eustachian tubal opening using sound transmission through to external auditory canal 1−4342
tissue acoustic imaging principles and techniques 1−43894
tuberculosis patients, respiratory sound, disease detect. appl. 1−17466
US absorption in biological tissue, harmonic generation in focused US fields 1−51651
US spectroscopic scattering expts. 1−39584

biocommunications
see also biocybernetics; hearing; speech
firefly, colour perception rel. to colour of bioluminescence 1−49179

biocontrol
see also biocommunications; biocybernetics
above-knee prothesis, microcomputer-controlled 1−22168
arm prosthesis, microprocessor controlled 1−13354
artificial heart with independent energy source 1−44045
blood pressure control, automatic, in dogs by hypotensive drug injection system 1−9048
body-substrate-distance regulation in stick insect, sinusoidal stimulation responses 1−49024
circulatory assist system for severe ventricular failure, automatic control 1−32308
eye, servo controlled, response to focal perturbations 1−32124
eye movement physiological functions and control mechanisms *(Japanese)* 1−26901
femur-tibia-control-system in stick insect, neural basis 1−17370
foetal eye lens and cornea growth control algorithm 1−8853
glissadic eye movements, undershoot and overshoot rel. to pulse width errors 1−8860
hand prothesis, multifunctional, control methods using EMG signals, computer simulation system *(Japanese)* 1−13352

biocontrol continued
handwriting, oscillation theory 1−49025
heart, artificial, automatic control 1−35916
heart, artificial, microcomputer control system 1−32317
heart-rate control by arterial baroreceptors, physiology in man and animals, book contrib. 1−32151
myocybernetics, neuromuscular control development 1−48941
oculomotor control, slow, effect of expectations, unpredictable target displacements guessing 1−39931
prosthesis, above-knee, microcomputer-controlled, and gait anal. system 1−13356
prosthetic arm, simultaneous multiple axis control, lab. evaluation of unified theory 1−22166
saccadic eye movement inequalities, vergence interactive effect model 1−8859
saccadic eye movements, natural and drug-induced variations of velocity and duration 1−48987
sensory transduction in insect mechanoreceptor linear and nonlinear props. 1−17408

biocybernetics
see also artificial intelligence; brain models; man-machine systems; neural nets
figural elements identification in visual domain 1−32126
gas exchange in the lungs, math. anal. 1−4242
Gibbs function flows from nucleotide pools 1−39863
image quality evaluation process in human visual system 1−8875
information content of intracellular water and its accumulation in embryo and phylogenesis *(German)* 1−39862
lung washout during spontaneous breathing 1−4307
myocybernetics, neuromuscular control development 1−48941
Nagumo nerve equation solutions, existence and stability 1−48978
psychophysical model for predicting the visibility of displayed information 1−8873
retina, continuous medium model, instabilities 1−39920
visual perception, effect of image quality 1−8874
visual space-time, apparent motion perception 1−39929
visual system models 1−8847
visual system processing of spatial information, image evaluation and display design 1−8872

biodiffusion
airways, augmented diffusion, support of pulmonary gas exchange 1−26923
cochlear fluid mechanics, signal anal. in terms of statistical hydromechs. and functional calculus 1−32148
electrolyte diffusion through cellophane membranes, US effect 1−39687
erythrocyte cytoplasmic membrane surface, protein rotational diffusion meas. 1−21991
exciton diffusion in green plant antenna chlorophyll, ps fluorometry 1−35760
haemoglobin, diffusion coeffs. by intensity fluctuation spectroscopy, pH and ionic strength effects 1−32087
lipid bilayer electrical breakdown by diffusion pot. 1−17355
lipid bilayer membrane, struct. and dynamics studied using NMR, book contrib. 1−13217
lysozyme aqueous solution, diffusion coeff. meas. using optical beating spectroscopy 1−17441
pion irradiated patients, diffusion rates of positron emitters 1−9000
respiration, single-breath diffusing capacity and lung vols. in small laboratory mammals 1−22029
rhodopsin, lateral diffusion in photoreceptor cells meas. by fluoresc. photobleaching and recovery 1−39909
rodlike macromolecules, sterically interacting, rot. diffusion meas. 1−21976
skin, human, appl. of dual sorption model to drug transport 1−32083
O_2 diffusion from capillary layers 1−4316
O_2 diffusion into heterogeneous tissue with combined O_2 consumption kinetics 1−32102
O_2 distribution in Krogh cylinder, perturbation calc. for linear oxyhaemoglobin dissociation 1−26871

bioelectric phenomena
see also bioelectric potentials; biomagnetism
380 kV power transmission lines, biological effects on people in neighbourhood *(Dutch)* 1−8896
Aplysia giant neuron, quantitative aspects of the light response and its kinetics 1−22065
articular cartilage, polyelectrolyte behaviour obs. 1−22004
asialoglycoprotein receptor, voltage-dependent translocation across lipid membranes 1−21990
axons, crayfish, internally perfused, gating charge immobilisation and Na current inactivation 1−8840
bilayer lipid membranes, elec. noise of ion channels formed by amphotericin B 1−17354
bilayer lipid membranes, generation of higher alternating-current harmonics 1−17353
blood cell suspension in conc. electrolyte soln., repulsive forces and aureoles form. 1−8827
body, human, elec. field problems, simulation by finite element method *(Japanese)* 1−13226
bone, photoelectromagnetic effect rel. to p-n junction characts. 1−48975
bone, unstressed, elec. characts. 1−32108
bone, wet, role of fluid in dielec. props. 1−13231
bone electromechanical effect, influence of dielec. props. 1−13230
bone/porous implant interface, effects of DC stimulation on tensile strength 1−32105
bone/porous metallic implant interface, effect of DC stimulation 1−32309
brain, current density vector measurement apparatus under direct computer control 1−32337
brain, dielec. props., mouse, use of time domain spectroscopy for meas. 1−27041
brainstem electrical stimulation, effects in the anaesthetised rat 1−22006
cardiac membrane vesicles, current generation by Na^+-Ca^{2+} exchange activity 1−32103
cardiac muscle, anisotropic, representation of elec. sources 1−32111
cardiac muscle, fast Na^+ current, quantitative description 1−13225
cardiac muscle cells, rabbit, Na^+-Ca^{2+} exchange obs. 1−26885
cardiac Purkinje fibres, canine, membrane currents following activity 1−39901
cells and tissues, struct. anal. of elec. props. 1−39904
ceramic models for piezoelec. in dry bone 1−4257
chemical capacitance, critique of concept 1−39900

bioelectric phenomena continued
collagen membrane, elec. field control of permeability 1−13218
dielectric behaviour of selected animal tissues in vitro at freqs. from 2 to 4 GHz 1−53777
dielectric properties, UHF and microwave, of normal and tumour tissues 1−26939
DNA soln., nonlinear electric props. *(French)* 1−53747
dynamic receptor pattern generation model, flux model 1−48973
electric shocks, physiological and pathological aspects *(French)* 1−4258
electro-mechanical wave propagation in long bones 1−53778
electrogenic membrane transport in plants, review 1−21997
electrophysical factors influence on biological objects *(Russian)* 1−48976
electrophysiological methods for the study of muscle, review 1−32268
electrostatic forces in muscle and cylindrical gel systems 1−8792
enkaryotic cell system perturbation, associated 60 Hz elec. field parameters 1−49060
epileptic focus, chronic, in a primate, effects of cerebellar stimulation on unitary activity 1−26889
ERG bioelectric field, numerical soln. 1−43872
eye lens, elec. props. at microwave freqs. 1−43897
giant synapse, squid, presynaptic Ca^{2+} current rel. to postsynaptic pot. 1−53767
hospital equipment, electrical injuries, types and legal aspects *(Italian)* 1−35848
HV pulses, lethal effects on E. coli K12 1−48970
HV transmission line elec. fields effects 1−4321
hyperthermia with implanted electrodes 1−40023
impedance plethysmographic field calcs., generalisation of the Geselowitz relationship 1−22098
impedance plethysmography, base impedance rel. to its time derivative 1−40020
impedance technique for recording oviductal and uterine activity 1−32324
impedance techniques appl. to human placental blood flow meas. 1−22155
insects, elec. stimulated visible emission rel. to nonlinear radiation scatt. and UFO sightings 1−4320
interictal epileptiform discharges, discriminating characts. and clinical correls. 1−21998
LF electric and magnetic fields, biological and clinical effects 1−17452
lipid bilayer electrical breakdown by diffusion pot. 1−17355
lipid bilayer ion transport, effect of lipid phase transition 1−17356
lipid bilayer membranes, electron transfer, appl. to microelectronics 1−8826
lipid bilayers, curvature induced conductive and displacement currents 1−48968
liver homogenate paramagnetic species, rat, effects of pulsed elec. fields 1−32182
lung oedema and congestion, meas. by peribronchial elec. admittance, method and dog expts. 1−27019
membrane, lipid bilayer modified with mitochondrial Ca^{2+}-binding glycoprotein, elec.-parameters 1−35756
membrane electron transfer thermodynamics and its coupling to vectorial processes 1−13216
mitochondria and submitochondrial particles, surface charge density change on energisation 1−39898
muscle afferents, reflex effects on antagonist, single firing motor units investigation 1−48977
myoglobin electrostatic stabilisation, sperm whale and harbour seal obs. 1−8793
nerve electrical conduction, biological superconductors and retrieval and storage of information 1−8844
nerve membrane, current-coupled ion channels, statistical model 1−53780
nervous activities of squid giant axons, spontaneous repetitive firing of action potentials electrical and computer simulations 1−8837
neural discharge discrete input models, Markov renewal eqn. 1−26892
neurons, Mollusk, gating mechanism of Ca channels, steady-state characts. and kinetics 1−17372
olfactory bulb electrical activity, meas. in free swimming carp by underwater telemetry systems 1−27031
personnel protection from electric shocks, protective measures and effects of current passage through body 1−39906
phosphenes, electro- and magneto-comparative study 1−13232
pineal organ cells, mag. field influence on elec. activity 1−26893
protonic theory on the origin of neural excitability 1−22005
purple membrane of Halobacterium halobium, elec. dichroism obs. 1−39959
purple membranes, surface charge changes rel. to bacteriorhodopsin photoreaction cycle 1−21992
relaxation oscillators, coupled synthesised populations representing biological rhythms 1−35737
sea anemone, elec. activity following cellular recognition of self and nonself 1−32109
serum albumin solution, bovine, linear AC electrode polarisation impedance meas. 1−43864
shocks, reaction of human body *(Portuguese)* 1−4256
skeletal muscle fibres, sarcoplasmic regions, non-uniform ion distribs. and elec. pots. 1−48981
skin, admittance variations of the cutaneous effector in the galvanic skin response *(French)* 1−8838
spinal ganglion neuron somatic membrane, newborn rats, ion currents and action pot. obs. 1−17371
visual perception model, pattern stimulus reproduction on neurons screen, model 1−48997
visual stimuli, responses of single cells in the LGN and visual cortex, cat obs. 1−4273
voltage clamping with microelectrodes 1−49170
voltage noise accompanying chemically induced depolarisation of insect photoreceptors 1−48985
Ca^{2+}, presynaptic currents in squid giant synapse 1−53766
K^+ currents and conductance, comparison between motor and sensory myelinated fibres 1−26886
Na^+, single channel currents, obs. on cultured rat muscle cells 1−8839

bioelectric potentials
see also contact potential; electrocardiography; electroencephalography
acoustic nerve and cochlear nucleus evoked pots., changes due to repetitive stimulation 1−4290
action potential recording, elec. characts. of C fibre microelectrodes 1−27036
air ionisation biopotential electrode 1−27016
ankle jerk conditioning, event-related slow pots. evoked in adults 1−4300

bioelectric potentials continued
auditory brain stem evoked potentials, computer identification 1−17509
auditory event-related potentials, age-related changes 1−17401
auditory evoked potential, middle latency, evidence for a primary cortical origin in cats 1−49003
auditory evoked potential, signal statistics in objective detect. by the phase spectral method 1−32269
auditory evoked potentials, algorithm for accelerated recording 1−44035
auditory evoked potentials, averaged, rel. to AM stimuli 1−32135
auditory evoked potentials, early, effect of varying stimulus polarity 1−49081
auditory evoked potentials, human, binaural interaction 1−17404
auditory evoked potentials of schizophrenics, P3 reduction obs. 1−26909
auditory evoked response middle components, effects of stimulus rise/fall time and equivalent duration 1−43883
auditory evoked responses in brainstem and auditory cortex after total destruction of cochlear receptor 1−53795
auditory evoked responses in the brain stem, suprathreshold tone-burst stimuli 1−26912
auditory frequency following response, suppression during visual attention, cat expts. 1−17405
brain electrical potentials, anal. in the 1980s 1−32287
brain events underlying detect. and recognition of weak sensory signals 1−49016
brain potentials, endogenous, associated with selective auditory attention 1−17402
brain potentials due to applied elec. stimulation, finite element modelling 1−32113
brain stem auditory evoked potentials for monaural and binaural stimuli 1−17403
brain stem auditory evoked response, mastoid electrode contribution 1−43882
brainstem auditory evoked potentials, monaural versus binaural stimulation, multiple sclerosis detect. 1−49002
brainstem auditory evoked pots., cat, effects of temp. and acute alcohol intoxication 1−4291
brainstem auditory evoked pots., latency differences, ipsilateral rel. to contralateral stimulation 1−49001
brainstem auditory evoked pots., the use of noise estimate 1−32266
brainstem auditory evoked response, abnormalities in severely and profoundly retarded adults 1−32136
brainstem auditory evoked responses recording, determ. of earphone acoustic condensation and rarefaction 1−22083
cardiac action potentials, simulated propagation 1−8834
cardiac electrical activity, changes in rate and rhythm, review 1−8842
click evoked brainstem potentials, effect of click intensity 1−32141
cochlear microphonic potential, source along the basilar membrane 1−26910
cochlear nonlinear mechanics affected by alteration of endolymphatic pots. 1−49015
cochlear nonlinear microphonic pots. rel. to acoustic intensity variation rate 1−49014
composite, fourth order synthesised relax. oscill. representation 1−32112
compound EMG signal processing, diagnostic tool for motor system in man 1−35907
contingent negative variation brain pot., synthesis from noncontingent stimulus and motor elements 1−8843
corneal endothelial cells, intracellular pots., rabbit culture, response to temp. and ouabain 1−35780
corneo-retinal, saccadic eye movements quantification, mini computer technique 1−53916
cortical potentials following voluntary and passive finger movements 1−49018
cortical visual evoked potential from healthy humans 1−17961
cortical visual evoked potentials in healthy humans, annotated bibliography, 1974-8 1−44736
cortical visual evoked pots. in healthy humans, annotated bibliography 1−31
diaphragmatic EMG and occlusion press. response to elastic loading, human CO_2 rebreathing expts. 1−22038
electrooculography, automated, microprocessor appl. example 1−35901
EMF of gibbon forelimb muscle chains, telemetered obs. in brachiation 1−4260
EMG, automatic anal., technique and results in healthy and ill subjects *(French)* 1−27013
EMG, depth, during fatigue, dT-dL anal. 1−22003
EMG, digital sequential processor 1−35915
EMG, gait exam. in clinical routine, microcomputer implementation 1−32280
EMG, pattern recognition anal., parturient labour monitoring 1−53922
EMG, surface, during fatigue, dT-dL anal., difference between hands 1−22000
EMG, surface, during fatigue, dT-dL anal., dT-N histogram of left hand 1−17378
EMG, surface, during fatigue, dT-dL anal., dT-N histogram of right hand 1−22001
EMG, surface, during fatigue, dT-dL anal., dT-N histograms of right and left hands 1−22002
EMG, surface, rel. to muscle force at low force levels 1−8832
EMG derived data storage device and output unit *(German)* 1−35894
EMG in neuromuscular disease diagnosis, review *(German)* 1−22160
EMG LF power spectra, effects of synchronisation and double discharge 1−53769
EMG of trapezius and rhomboideus major muscles during respiration 1−53772
EMG response to human forearm displacement, stretch reflex identification 1−44037
EMG study of neck torsion in cats after cholinergic stimulation 1−53773
EOG, eye movements quantitative anal. using computer-based system 1−32283
epileptic cat cortex, unit spontaneous bursting activity, microcomputer anal. method 1−4393
event-related potentials, age differences in P3-reaction time associations 1−17373
evoked, method for identifying noise-free components 1−32086
evoked action potentials in posterior auricular muscle, facial nerve normal latency values 1−53770
evoked brain potentials, enhanced average, method of computing 1−32085
exocrine gland of snail, propagated action potentials 1−4261
guessing and detection tasks, emitted P300 and slow wave event-related pots. 1−4254

bioelectric potentials continued
hand prothesis, multifunctional, control methods using EMG signals, computer simulation system *(Japanese)* 1−13352
hemispheric potentials evoked by speech sounds during discrimination tasks 1−4293
Hoffmann reflexes, multi-electrode recording 1−32267
inhibitory postsynaptic potential lifetime of central neuron 1−4259
lipid bilayer electrical breakdown by diffusion pot. 1−17355
macro EMG, signal representation, anal. appl. 1−35905
magnetocardiogram, human, computer simulation 1−8887
membrane potential contribution to energy transfer in photosynthesis 1−39895
microcomputer data processing system fdr medical time series signals *(Japanese)* 1−40015
motor unit potential, synthesis based on sequential firing of muscle fibres 1−13227
motor unit potentials recorded by semiautomatic and manual methods, comparative statistical anal. 1−53774
motor units potentials, influence of muscle struct. features 1−21999
movement-related cortical pots., components and their scalp topography 1−17409
myoelectric activities of lip musculature, linguistic significance 1−32292
myoelectric signals, effect of load, ARIMA representation 1−35762
myoelectric signals, statistical modelling 1−22007
nerve action potential, calc. of mag. field 1−13262
neuroelectrical signals measurement 1−44040
neuron myelination, elec. and mag. fields of axon's action pot. 1−13229
rapid eye movement and elec. activity in dorsal pons of rat 1−26894
recording, effects of sampling rate on S/N ratio 1−22178
rhodopsins, bacterial and visual, similarity of props., light to elec. pot. conversion 1−17365
sciatic nerve, frog, action pot. propagation meas. by SQUID magnetometer 1−4304
sensory transduction in insect mechanoreceptor linear and nonlinear props. 1−17408
sleep research, pattern recognition appl. 1−53923
somatosensory evoked potential, waveform of group mean of normal human subjects 1−17412
somatosensory evoked potentials, abnormalities with remote focal brain lesions 1−4299
somatosensory evoked potentials, short latency, focal neurological disease patients 1−17410
somatosensory evoked potentials and afferent conduction times 1−26916
somatosensory evoked potentials in children with CNS degenerative disease 1−26915
somatosensory evoked potentials recorded over the spinal cord and brain of man, characts. 1−32152
somatosensory potentials, mech. and elec. evoked, effects of stimulus presentation rate 1−17411
somatosensory responses evoked by tapping tongue and finger, spatial distrib. in humans 1−32149
somatosensory scalp recorded pots., topography, elec. stimulation of digits 1−26917
speech sounds, summated evoked pots., cerebral dominance for language determ. 1−4292
spinal ganglion neuron somatic membrane, newborn rats, ion currents and action pot. obs. 1−17371
squid giant axons, interfacial double layer pot. differences and periaxonal accumulation of potassium 1−32107
sucrose gap measurement, correction factors and their practical appls. 1−32106
synaptic potentials recording, recovery of random variable from a noisy record 1−9060
tumour, magnetic field appl., bioelec. pot. changes 1−8941
visual electrically evoked potential, recording system 1−27015
visual evoked negative cortical pots., rel. to attention to pattern orientation 1−26904
visual evoked potentials, averaged, long-term effects of moderate X-ray doses, rabbit 1−32194
visual evoked potentials, healthy humans, annotated bibliography 1974-8 1−30
visual evoked potentials, ocular refraction meas. *(German)* 1−4371
visual evoked potentials, spatial and temporal characts. 1−17390
visual evoked potentials in infancy and early childhood, longitudinal study of development 1−26899
visual evoked potentials in multiple sclerosis, checkerboard and foveal stimulation 1−26900
visual evoked potentials to dynamic random-dot correlograms in man and monkey, cyclopean perception 1−39917
visual evoked response rel. to temporal summation of suprathreshold sinusoidal gratings 1−32119
visual receptor potential, correl. with light-induced transient Ca^{2+} conc. increase, Limulus 1−22009
zeta potential meas. for rectangular flow cell disassembly for surface anal. of adsorbed protein 1−17535

bioenergy conversion
acid hydrolysis of biomass for prod. of xylose and glucose sugars 1−35670
alcohol fuels, production and use, global picture 1−53527
alternatives for heat supply in biomass energy conversion systems 1−53682
biogas production methods from manure *(German)* 1−13178
biogas renewable fuel utilisation in the rural development of India 1−17149
biomass, energy prod. abstracts of individual reports 1−17187
biomass, review of R and D 1−39834
biomass biological conversion to liquid fuels, methods and economics 1−53683
biomass conversion, US R and D 1−13114
biomass for alcohol production, use of hybrid poplar trees 1−39832
biomass from marine macroscopic plants 1−13113
biomass thermochem. conversion in clean fuels and chem. feedstock, US DOE R and D 1−35668
chemical production from biomass, US R and D 1−13112
chloroplast photoelectrochemical cells for solar energy conversion 1−43784
conference, UMR-DNR, Rolla, MO, USA October 1979 1−32805
Czechoslovakia, energy resources and their utilisation *(Czech)* 1−32001
energy sources, renewable, world wide financing *(French)* 1−8648

bioenergy conversion continued
ethanol fuel production as gasoline replacement, terrestrial resource potential 1−53680
ethanol fuel production from biomass, lignocellulosic conversion, energy requirements 1−53681
ethanol production by acid hydrolysis of biomass, economic eval. 1−35671
ethanol production from biomass for energy storage *(German)* 1−35666
fermental alcohol production from biomass feedstocks as petroleum substitute 1−53684
low temperature thermoconversion of biomass to organic chemicals in the presence of aluminum chloride 1−53641
marine biomass energy project, methane prod. using California Giant Kelp 1−43806
methane production from biomass for energy storage *(German)* 1−35666
photosynthesis, model systems, hydroquinones used as electron donors for chlorophyll+methy viologen reaction 1−8593
primary energy-transformations in biological systems 1−39894
refuse conversion to CH_4, anaerobic digestion facility 1−32050
solar energy, future prospects *(French)* 1−26821
water biophotolysis, energy storage and H evolution *(German)* 1−35666
World energy conference report, critical summary *(Spanish)* 1−31970
NH_3 synthesis gas prod., alternative biomass feedstock for synthesis gas from manure process 1−35669

biographical dictionaries *see biographies*

biographies
Adams, Walter S. (1876-1956), Sirius B and gravitational redshift 1−44596
Draper, Dr. John William (1811-82), pioneer of photography and spectroscopic anal. 1−36483
Elger, Thomas Gwyn Empey (1837-97), lunar astronomer, diaries, life and work 1−17982
Fourier, Joseph, the legacy 1−5064
Geikie, Sir A., geological work and Whig historiography of science 1−5069
Halley, Edmond, discovery of NGC 6231 and hazards of early star nomenclature 1−36484
Herschel, Alexander Stewart, 1836 to 1907, astronomical research 1−44749
Herschel, Sir John Frederick William (1792-1871), astronomer 1−32824
Herschel, Sir William (1738 to 1822), solar apex determ. 1−32633
Herschel, Sir William (1738-1822), family life and astronomy 1−5063
Herschel, William, discovery of Uranus and establishment of Herschelian discovery 1−36485
Lacaille, Nicolas, (1713-62) 1−47
Milne, Edward Arthur (1896-1950) and development of modern astrophysics 1−44
Mulliken, R.S., scientific activities, rel. to J.H. Van Vleck 1−13986
Ptolemy, obs., doctored to agree with theory 1−44451
Secchi, P. Angelo, S.J., 1818-78, pioneer astrophysicist, solar and stellar work 1−13985
Stefan Smerd (1916-1978), solar physicist, memorial lecture 1−45
Walther, Bernard (1430 to 1504), astronomical obs. 1−27757
Werner, A.G., geological theories, importance of regional geology 1−5062

biological cybernetics *see biocybernetics*

biological effects of acoustic radiation
see also biomolecular effects of radiation; cellular effects of radiation
1.5 MHz US cavitational bioeffects 1−39963
blood chemical and haematological effects in mice, US irrad. 1−53819
DNA, acoustic phonon effects on energy fluctuations 1−39961
Drosophila eggs, US effects, heating mechanism obs. 1−8903
electrolyte diffusion through cellophane membranes, US effect 1−39687
erythrocytes, human, exposed to US activated gas-filled pores, ATP release, photometric obs. 1−8902
hearing, action of ultrasound in MHz range on aural labyrinth 1−39962
hepatocytes, reproducible subcellular alterations resulting from US 1−8901
hyperthermia, localised, US induction, preclinical and clinical studies 1−53820
mammalian cells, modification of US induced changes 1−4323
plant leaves, acoustic energy absorpt. 1−37738
recreational noise, occupational hazard for audio engineers 1−43880
US effects, similarities with lasers 1−8909
US irradiation of mouse tissues and human amniotic cells 1−53818
US toxicity in mice, neonatal studies 1−13286
yeast cells, combined action of US and ionising radiation 1−13287

biological effects of gamma-rays
see also biomolecular effects of radiation; cellular effects of radiation
anorexia induced in Syrian hamsters 1−32207
bone marrow stem cells, absence of late radiation effects 1−32202
brain tumour cells, synchronized, rat, response to ^{137}Cs γ-rays 1−26958
carrot root, radiosensitivity of different tissues at different phases of growth in culture 1−26952
cartilage matrix calcification, mouse metatarsal expts. 1−43910
cells, comparative effects on cycle time and mitotic duration 1−22075
cerebellum, pigeon, effects of sublethal γ-irrad. on acid phosphatase levels 1−26947
dipeptides, γ-irrad., ESR of spin-trapped radicals 1−48958
diploid fibroblasts, human, rapid recovery after ^{60}Co γ-irrad. 1−22071
DNA, identification of chem. modifications of adenine moiety 1−4335
DNA radiation damage, natural tissues characterized by different radiosensitivities, EPR obs. 1−17456
E coli, UV, X and γ produced photoreactivable DNA damage 1−17458
erythrocyte membranes, human, struct. modification following γ-irrad. 1−8917
fibroblasts, human HF 19 line, radiosensitivity and radiation damage repair obs. 1−8918.
gamma-irradiating unit for biological objects *(Ukrainian)* 1−27047
KHT sarcoma cells, ^{137}Cs γ-ray induced changes in the in vivo growth rate 1−8924
liposomal membranes, radiation-induced lipid peroxidation and membrane permeability 1−32198
LL tumour cells nature of paramag. centres formed on γ-irrad. 1−35830
lung surfactant system, rabbit, effects of ^{60}Co radiation 1−35834
lymphoblastoid cells (diseased), DNA and $(ADP\text{-}ribose)_n$ synthesis following γ-irrad. 1−13222
macrophages, cultured, effect of irrad. on lysosomal enzyme activation 1−4330
monkey, rhesus, ^{60}Co γ-ray chronic irradiation at low dose rate, estimation of damage to humans 1−32210
N-acetyl amino acids, γ-irrad., ESR of spin-trapped radicals 1−48958

biological effects of gamma-rays continued
plant cultivars of wheat and sorghum, acute irrad., growth and yield obs. 1−8913
poliovirus, mechanisms of inactivation by direct and indirect effects of ionising radiation 1−17462
polycrystalline amino acids, γ-irrad., ESR of spin-trapped radicals 1−48958
RBE of a high energy modulated proton beam to γ-rays, murine tumour obs. 1−35836
roses, somatic mutations induction 1−35832
Sarcoma 180 cells from mice, effect of ^{60}Co γ-rays exposure *(Chinese)* 1−32196
silkworm eggs, small dose irrad. with Ra-Be neutron source, ^{60}Co γ-ray source, ^{147}Pm β-ray source *(Chinese)* 1−32188
slime mould Physarum polycephalum, radiosensitivity obs. 1−8914
testicular stem cells, mouse, survival after neutron or γ-irrad. 1−22077
thymine-(methyl-^{14}C), solid, autoradiolytic and γ-induced demethylation 1−4331
Tradescantia clone 02, freq. of micronuclei, in roof-tips, effects of diurnal temp. difference and ^{60}Co γ-rays 1−35833
whole-body irradiation, rats, variation in cyclic nucleotide levels and lysosomal enzyme activities 1−26959
yeast cells, combined action of US and ionising radiation 1−13287
^{60}Co irradiation, some effects of 260 rads on dogs *(Chinese)* 1−32195

biological effects of ionising particles
see also biomolecular effects of radiation; cellular effects of radiation
bacterial DNA-membrane complexes, stimulation of DNA synthesis after low doses of ionising radiation 1−13289
beta-decay, chem. and biological effects, inner shell ionisation in biomols. 1−53830
beta-emitting radioisotopes, metabolism and somatic effects 1−53832
beta-rays, effects of short-lived β-emitters on mice 1−13293
betatron irradiation, induced radioactivity in patients 1−32191
bone marrow lymphocytes, X-ray and electron irrad., chromosome aberrations rel. to lethal injury 1−8927
cells, alpha-particle effects on intracellular energy metabolism 1−22076
Chinese hamster V-79 cells, cell cycle progression changes, high-LET charged particles irrad. 1−26963
Chlamydomonas reinhardi, rapid repair of ionising radiation injury 1−17460
CHO cells, synchronised, effects of Ar ions 1−43914
DNA break rejoining capacity obs. after irrad. by accelerated ions in the spread Bragg peak 1−8919
DNA double-strand breaks, formation and repair in superinfecting phage λ, electron irrad., E coli hosts 1−22079
E. coli DNA, influence of membrane fluidity on radiation induced changes 1−22070
electron beam interactions with living spores 1−43906
health risks due to nuclear power production, assessment 1−23859
heavy ion beam model for radiobiology 1−26950
human cells, cell-survival rel. to depth for high-energy Ar ion beam 1−43915
intestinal crypt cells, survival after exposure to high Z, high energy charged particles 1−26961
low-temp. neutron activation anal. 1−32209
lymphocytes, human, induction of chromosome aberrations by ^{239}Pu α-irrad. 1−13291
lymphocytes, human, induction of chromosome aberrations by α-particles 1−4332
lymphocytes, human G_O, recovery kinetics of chromosome aberrations 1−43922
mammalian cells, π^- irrad., DNA strand breakage, repair and cell survival 1−22067
metabolism and biological effects of α-emitting radioisotopes 1−53833
neonatal squirrel monkeys, evaluation after HTO administration throughout gestation 1−26955
nucleotides, cyclic, reduction in levels in brain after high dose of ionising radiation 1−4339
ovary, mouse, effect of low level T exposure 1−22074
pion$^-$, radiobiological studies using mouse L5178Y cells 1−35835
pituitary ablation by ^{90}Y β-rays, post mortem and clinical obs. 1−26945
purple membrane, Halobacterium halobium, radiation damage at low temp. 1−32211
RBE of a high energy modulated proton beam to γ-rays, murine tumour obs. 1−35836
secondary neutrons, radiation burden calc., from proton irrad. on tumours 1−9041
seeds, dry, Chloris distichophylla, effects of 6 MeV protons 1−53829
silkworm eggs, small dose irrad. with Ra-Be neutron source, ^{60}Co γ-ray source, ^{147}Pm β-ray source *(Chinese)* 1−32188
skin, electron irrad., high dose-rate dependence of early reaction, mouse leg obs. 1−8916
spatially correlated ions, anal. of cell survival data for diatomic deuterium 1−26951
thabdomyosarcoma tumour, rat, C and Ne ion irrad., cell survival and vol. renponse characts. 1−8922
TLDS, ^6LiF, ^7LiF, response in tissue equiv. phantoms in 14 MeV neutron field 1−6090
track structure rel. to effects 1−49079
VVER, experiment of channel, dosimetry, thermal neutron capture, radiation therapy expts. *(Czech)* 1−942
yeast cells, synthesis of inducible enzymes, inhibition by ionising radiation 1−13290
^{222}Rn, health hazard in geothermally active areas and spas 1−4329

biological effects of microwaves
see also biomolecular effects of radiation; cellular effects of radiation
brain, selective irrad., time-temp. profiles in rats 1−35813
cancer treatment, 915 to 2450 MHz *(Spanish)* 1−35866
cell genetic processes, effects on Aspergillus nidulans and Physarium polycephalum 1−4324
cerebrovascular permeability to sucrose in the rat exposed to 2450-MHz microwaves 1−26941
electromagnetic fields, sources and biological effects, protective health measures and regulations *(Portuguese)* 1−49065
eye lens, elec. props. at microwave freqs. 1−43897
hepatic lysosomes, irrad. rel. to in vitro release of enzymes 1−32187
limbs, human, realistic cylindrical models 1−22066
nerve function, pulsed and CW microwave energy effects detected by birefringence meas. 1−8905
neuroendocrine responses, delineating and acute, rat expts. 1−22064

biological effects of microwaves continued
physiological and behavioural effects on rats exposed to 915 MHz microwaves 1−4326
RF health hazard controvery and modification of standards 1−43896
Satellite Power System Microwave Power Transmission System environmental effects 1−53707
short waves and microwave application dangers, protective measures *(Italian)* 1−35852
six-port measurement technique for determ. of biological effects of microwave radiation 1−22179
spleen cells, mouse, threshold conditions for induction of increase in CR^+ cells 1−8912
temperature measurement by Cu-constantan thermocouples 1−27029
thermal stress, some approaches to modelling 1−35810

biological effects of radiation
see also biological effects of acoustic radiation; biological effects of gamma-rays; biological effects of ionising particles; biological effects of microwaves; biological effects of ultraviolet radiation; biological effects of X-rays; biomolecular effects of radiation; cellular effects of radiation; dosimetry; radiation therapy
380 kV power transmission lines, biological effects on people in neighbourhood *(Dutch)* 1−8896
analysis using models 1−17455
antenna, thin-wire, effects on neighboring biological body calc. and obs. 1−22058
aquatic organisms, effects of low-level chronic irrad. *(Japanese)* 1−26966
aquatic organisms reproduction, effects of radioisotopes, review of Japanese studies 1−53835
bibliography of AECL publications 1−17967
bibliography of radiation effects on whole organisms, populations and ecosystems 1−13954
bilirubin, laser flash photolysis study 1−35827
bone cancer from ^{226}Ra, beagle expts. 1−4340
bone tissue, irradiation injury study, vital microscopic method 1−44050
brain injury rel. to therapeutic irrad., review 1−35837
cancer induction, review 1−39969
cancer risk attributable to radiation exposure: some practical problems 1−53827
cancer risk from low-level radiation 1−17457
cancer risks from low doses of ionising radiation 1−39970
cervical and thoracic radiation myelopathies, dose effect relationships 1−53901
chicory, induction by laser light of in vitro flowering 1−8910
conference, New Orleans, USA (June 1980) 1−13922
conference, radiation and environmental biophysics, Aachen, Germany (Oct. 80) 1−17934
conference, Tokyo, Japan (May 1979) 1−44717
dose response curves for effects of low-level radiation 1−40011
dose-effect relations, nonparametric representation 1−44025
dosimetry, low-level radiation effects on human beings, therapeutic appls. and irrad. of materials 1−27002
EM fields, environmental effects with varying freq. intensity and exposure times *(German)* 1−49066
EM near-field simulator based on variable vol. resonant cavity system for irrad. of biological specimens 1−17527
EM radiation, effects on humans and safety limits *(German)* 1−13288
ESR and ENDOR of irradiated solids of biological significance 1−26949
eye, degerative retinal diseases rel. to light exposure, epidemiological study methods 1−35823
eye, private cones, differential spectral photic damage 1−35820
eye , light damage, review of macaque model 1−35819
eye spectral acuity anal. 1−43901
hazards from radiation, 25 years of collaborative research 1−44687
health effects, high background radioactivity area of China 1−32208
Hiroshima and Nagasaki: a review of 30 years of study 1−49077
HV transmission line elec. fields effects 1−4321
intense light hazards, conf., Houston, USA (Oct. 1979) 1−32799
laser effects, similarities with US 1−8909
laser heating, radiometric monitoring of exposure-site temp. 1−49175
laser radiation standards 1−53821
lasers, medical optics and photonics, conf., Strasbourg, France (Nov. 1979) 1−5022
leukemia among atomic bomb survivors 1−49078
LF electric and magnetic fields, biological and clinical effects 1−17452
light-shade adaptation of a hermatypic coral from the Gulf of Eilat 1−35815
liver, rabbit, CO_2 laser irrad., thermal damage 1−22062
liver homogenate paramagnetic species, rat, effects of pulsed elec. fields 1−32182
low doses of ionising radiation 1−39971
low level laser light long term effects 1−43900
low-level radiation effects 1−53826
medical radiation exposure, evaluation of risks, thyroid effects review 1−53892
myelopathy in bronchus carcinoma patients treated using a 6 fraction regime 1−32189
neutrons, fast, detector for direct meas. of recoil particles LET distribs. 1−17536
non-ionising radiation effects Canadian safety standards for freq. range 10 MHz to 300 GHz 1−49064
non-ionising radiations, energies and hazards 1−43898
non-stochastic effects, conf. (Mar. 1980) 1−27650
nuclear power production, review of health hazard 1−39973
ocular damage from multiple-pulse laser exposures 1−43895
photobiologically effective radiation, quantities and their meas. 1−8911
photobiology, basic considerations and open problems 1−35825
photoelectrical sensors for meas. of photobiologically effective radiation 1−9064
photoperiodicity in the male albino laboratory rat 1−39964
pigment epithelium, frog. effect of long-term constant light 1−35821
plant responses to laser light 1−8904
prostatic carcinoma, irrad. by Nd:YAG laser 1−8908
radioactive environment, background radiation level, human contrib., harmful effects on humans *(Danish)* 1−13188
retinal damage produced by intracolar fibre optic light 1−35817
retinal light damage, role of protection by ocular pigmentation 1−35892
retinal radiation damage, nature, dependence on wavelength, power level and exposure time 1−35818
RF dielectric heaters elec. and mag. field intensity meas. in region near device, survey 1−4325

biological effects of radiation continued
risk assessment of exposure to radioactivity 1−35829
serum albumin, human, photoinduced modification during phototherapy of jaundiced newborns 1−35826
skin, mouse, late effects following single and multifractionated doses 1−43905
tissue response to heat alone or in combination with radiation 1−53763
visible light, common misconceptions 1−35824
visual acuity-colour discrimination relationship after ruby laser treatment of CSR patients 1−48993
^{140}Ba, induction of neoplasia in mice 1−53825
^{144}Ce inhaled by dogs, effects on cardiopulmonary function and histopathology 1−43919
I_2 inhalation, iodine tablets as thyroid protection after reactor accident *(German)* 1−44027
Pu intake by humans, estimation of risks 1−53834
^{222}Rn and decay products, estimate of risk from environmental exposure 1−53828
^{222}Rn from insulation of buildings, health effects 1−43904
^{90}Sr, age and dose related carcinogenicity 1−43903

biological effects of ultraviolet radiation
see also biomolecular effects of radiation; cellular effects of radiation
arc-welding, UV radiation hazzards to welders meas. 1−22082
arthropods, kinetics of avoidance of simulated solar UV radiation 1−26944
cell malignant transformation of BALB/3T3-A31 variants 1−26967
Dictyostelium discoideum, comparative sensitivity of spores and amoebae to UV light 1−26962
DNA photobiology, production and repair of damage, enzymatic pathways 1−35839
E coli, exponentially growing, sensitivity to photo-induced psoralen-DNA interstrand crosslinks 1−32193
E. coli, inducible repair of near-UV radiation lethal damage 1−35838
E coli, UV, X and γ produced photoreactivable DNA damage 1−17458
eye, rabbit, additive effects of irrad. 1−43902
ferricytochrome c, mechanism of direct photoreduction 1−26946
laser, survey of acute effects on human and animal skin 1−35840
laser irradiation of pigmented and unpigmented mammalian skin, nerve fibre effects 1−35841
laser microbeam irrad., technique for selective cell destruction and precise neurite transection 1−27038
liposomal membrane, UV- and sunlight-induced lipid peroxidation 1−17461
liver, DNA repair of UV damage in heterochromatin and euchromatin, rat obs. 1−8920
liverwort, Fimbriaria pathankotensis, UV radiation induced sterility 1−49076
nucleotides adsorbed in Al-AlO_2-Pb tunnel junction surface, UV radiation damage, inelastic electron tunnelling spectra 1−4334
phage λ, UV irrad., W-reactivation in X-irrad. mutants of E coli K-12 1−8926
photobiology, basic considerations and open problems 1−35825
photorecovery in human skin 1−35842
xeroderma pigmentosum human cells, newly synthesised DNA, size and freq. of gaps after irrad. 1−32192
yeast cells in suspension, predominance of membrane damage with 163 nm VUV irrad. 1−22078

biological effects of X-rays
see also biomolecular effects of radiation; cellular effects of radiation
Arabidopis seeds, dose-response curves after neutron or X-ray irrad. 1−35831
bone marrow cell changes after localised acute and fractionated X-irrad. 1−43908
bone marrow lymphocytes, X-ray and electron irrad., chromosome aberrations rel. to lethal injury 1−8927
brain, rat, late changes in blood vessel architecture after irrad. 1−26942
C3H-10$T^1/_2$ cells, modification of X-ray effects by hyperthermia and 5-bromodeoxyuridine 1−39974
cartilage, baby rat, growth inhibition by combined hyperthermia and X-rays 1−22068
cell biology of hyperthermia and radiation 1−53831
cell micronuclei frequency as meas. of cell survival 1−8921
cells, flow cytometric data anal. 1−49075
cellular heat and radiation sensitivity obs. 1−39967
Chinese hamster cells, cell-cycle progression delays, ^{238}Pu α-particles rel. to X-rays 1−43907
CHO cells, X-irrad. effects on DNA synthesis in synchronous cells 1−8925
CHO cells, X-ray induction of 8-azaguanine-resistant mutants 1−4337
DNA synthesis and cell cycle progression of synchronised L-cells after irrad. 1−49074
E coli, UV, X and γ produced photoreactivable DNA damage 1−17458
fibroblasts, human cultures, radiosensitivity data 1−32200
hair follicles, radiosensitivity in mouse dorsum and tail 1−43911
leukemic lymphoblast, murine, correl. of survival with restoration of DNA struct. 1−26960
liver, rat, chronological development of late injury 1−22080
lung, pneumonitis and fibrosis, mouse, respiratory freq. and histology assay 1−43913
lung tumour formation in RFM mice, effects of split doses of X-rays or fission neturons 1−4336
lymphatic spread of KHT sarcoma, enhancement by localised preinoculation irrad., mouse expts. 1−26953
lymphocytes, human, chromosome aberrations induced by ultrasoft Al_K and C_K X-rays 1−32199
lymphocytes, human G_O, recovery kinetics of chromosome aberrations 1−43922
malate synthase, X-ray induced aggregation, small-angle X-ray scatt. studies 1−32205
mammalian cells, exchange aberrations rel. to C ultrasoft X-rays 1−22073
mammalian cells, response to 30 MV X-irrad. in presence of 20 kilogauss mag. field 1−13292
mammalian DNA polymerases, differential inhibition by X-irrad. DNA 1−22072
nuclear envelope, radiation-induced invagination, Chinese hamster and mouse cells 1−26957
ocular lens epithelium and radiation cataracts, meridional rows interface death 1−43912
oncogenic transformation and hyperthermia, mouse embryo cells 1−21987

biological effects of X-rays continued
parotid gland, function after irrad., rel. to biological parameters 1−26954
phage λ, UV irrad., W-reactivation in X-irrad. mutants of E coli K-12 1−8926
radioresistant rat-mouse hybrid cell line, sudden reversion to normal radiosensitivity 1−4338
Rauscher leukemia, model for cancer therapy, response to acute and fractionated irrad. 1−26964
rectum of rat 1−49069
red cells deficient in glucose-6-phosphate dehydrogenase, survival time shortening by irrad. 1−22081
skin, mouse, comparison of different X-ray treatment regimes on visual appearance and mech. props. 1−26943
skin, mouse foot, explanation of dose-rate and split-dose effects 1−43916
stamen hairs of Tradescantia, somatic aberrations rel. to lethality 1−22069
stem cell kinetics in spleen and bone marrow after irrad. of infant mice 1−49073
thymocytes, rat, changes in surface morphology accompanying interface death 1−26948
tigroid substance formation in mouse brain after pre- and perinatal X-irrad. 1−43921
Tradescantia stamen hairs, OER may reach unity at very low doses 1−43918
tumour, experimental, simultaneous and sequential hyperthermia and radiation treatment, mice 1−39966
tumour cells, human, post-repair DNA damage 1−32197
tyronine aminotransferase in mouse liver, cumulative effects of X-irrad. and inflammatory reaction 1−4328
visual evoked potentials, averaged, long-term effects of moderate X-ray doses, rabbit 1−32194
yeast, cytokinetic investigations with X-irrad. and hyperthermia 1−13294
yeast cells, synthesis of inducible enzymes, inhibition by ionising radiation 1−13290

biological fluid dynamics
see also biorheology; haemodynamics
cerebrospinal fluid, elevated press. as cause of pulmonary venoconstriction, dog expts. 1−17420
cochlea, hydroelastic model, LF asymptotics 1−32145
cochlear fluid mechanics, math. theory 1−22041
cochlear fluid mechanics, signal anal. in terms of statistical hydromechs. and functional calculus 1−32148
cochlear model, holographic investigation of hydroelastic modes and waves 1−8882
dives, no-compression, simulated expts., responses of foetal sheep 1−13268
head-neck model system, expt. cavitation studies 1−49033
heart and ear 1−8895
hip joint, human, elastohydrodynamic lubrication, quantitative anal. 1−13277
intracranial pressure monitoring device, construction and operation 1−27021
lymph, clinical study of flow in the lower extremity using ^{99m}Tc-MDP *(Japanese)* 1−32179
perivascular interstitium, press.-vol. behaviour, isolated dog lung obs. 1−22025

biological macromolecules *see macromolecules; molecular biophysics*

biological sciences *see biology*

biological specimen preparation
beveled sections for electron microscopy 1−45082
bipolymers, electron microscope specimen prep. using high resolution metal coating, vacuum deposition 1−17541
conductive staining in SEM rel. to tissue transparency 1−23382
coverslip holder for critical point drying of cell cultures 1−32323
cryo-ultramicrotome sections of 35 nm thickness monitored by myofibrillar fine structure 1−27034
Electron Microscopy Society of America Annual Meeting, San Francisco, CA, USA (Aug. 1980) 1−40602
ferritin macromolecules, Penning sputtering of ultra thin Au coatings for high resolution TEM and SEM 1−17540
fragile protoplasts for electron microscopy 1−27033
optical microscopy, high resolution, animal tissues 1−9062
SEM, mouse embryo prep. 1−27046
SEM, rat intestinal mucosal epithelium 1−27045
SEM preparation for coloured SE and BSE images 1−23377
SIMS specimen preparation and applications 1−4380
TEM, simple method for removing stain precipitates from biological sections 1−35919
tubulin protofilaments, Penning sputtering of ultra thin Au coatings for high resolution TEM and SEM 1−17540

biological techniques and instruments
see also biological specimen preparation; biomedical equipment; biomedical measurement; microelectrodes; specimen preparation
A/D convertor, for microprocessor peripheral *(Spanish)* 1−22175
ACTA, automated image anal. system for absorpt., fluoresc. and phase contrast studies of cells 1−32332
aerosols, PuO_2, system for administration in mice to study pathological effects in lung 1−49169
annual review of physical chemistry (book) 1−9789
autoradiography, α and fission fragments, superimposed tissue images in CR-39 plastic 1−27040
batch fermentation model parameter estimation and math. props. 1−31824
bioelectric measuring systems, prominence of the electrode 1−17534
biomechanical system segments, technique for determ. of spatial kinematic parameters from cinematographic data 1−4396
biotelemetry data, long term physiological monitoring using an on-line real-time system 1−32335
blood, human, isotope ratios of Ca and Fe, SIMS determ. 1−32329
blood typing, electrochem. method using affinity membranes 1−22172
body fluid changes monitoring by body impedance change meas. *(Swedish)* 1−35918
botanical materials, element localisation by SIMS 1−32330
brain, current density vector measurement apparatus under direct computer control 1−32337
brain, mechanical properties in vivo, method for determ. 1−32175
brainstem implantation, X-ray control, monkey expts. appl. 1−9061
capacitive transducer, small vol. plethysmographic recordings 1−35927
cathodoluminescent SEM investigations at liquid He and liquid N_2 temps. of human lymphocytes and erythrocytes 1−22060
centrifugal assessment of cell adhesion 1−53943

biological techniques and instruments continued
circular dichroism spectroscopy and the vacuum ultraviolet region, review 1−10871
coated tube assay for plasma renin activity 1−53946
conference on engineering in medicine and biology 1−40603
crocidolite asbestos defects, transmission electron microscopy for studies of biological significance 1−32321
crossed TM_{110} bimodal cavity for dispersion EPR and ST-EPR meas. of biological materials 1−44059
cytology, automated image anal., microcomputer-controlled X-Y scanning stage for light microscopy appls. 1−53950
detector for direct meas. of recoil particles LET distribs., fast neutrons irrad. 1−17536
dielectric constant, complex, broadband meas. at microwave freqs., appl. to human blood 1−53951
digital operation deceptivity in squid giant axon membrane expts. 1−9054
digitized scanning transmission electron microscopy 1−53941
direct SEM method of frozen fracture surface, appl. to yeast suspension 1−23381
drug testing, broad-spectrum, using thin layer chromatography 1−53501
dual-nuclide studies, comparison of ^{114m}In and ^{111}In each in the presence of ^{51}Cr 1−32319
dye continuous picosecond spectroscopy, appl. as biophysical struct. labels 1−11000
dynamic isotopic techniques, appl. to flowing blood-artificial surface interactions 1−40026
electric signal recording, effects of sampling rate on S/N ratio 1−22178
electrical impedance technique for recording oviductal and uterine activity 1−32324
electrode absorption method for enzymatic activity meas. 1−35926
electromechanical transducer, negative feedback-controlled, for oscill. and stretch of muscle 1−13370
electron micrograph image processing, struct. studies of biomacromolecular assemblies 1−43851
electron micrographs, computer meas. of cell membrane particle diameters 1−32327
electron micrographs, unified processing for periodic and non-periodic specimens 1−53940
electron micrographs of negatively stained protein mols., fidelity of struct. representation 1−21983
electron microscopic imaging techniques and high-resolution instruments 1−36776
electron microscopy, appl. of local image transformation 1−53947
electron microscopy conference, Melbourne, Australia, (Feb. 1980) 1−27655
electron microscopy of stained biological objects, phase and amplitude contrast 1−44060
Electron Microscopy Society of America Annual Meeting, San Francisco, CA, USA (Aug. 1980) 1−40602
electron microscopy treatment of images, conf., Poitiers, France (June 1980) 1−49875
electronic brain stimulator, implantable, for small animals 1−32334
electronic clamp device for differential meas. of PD across biological membranes 1−289
electronically controlled stimuli system, learning techniques in laboratory animals appl. *(Spanish)* 1−4400
electrophoresis microscope, computer-controlled, for cell mobility meas. 1−53948
EM flowmeter characts., computation from mag. field data 1−46830
EM near-field simulator based on variable vol. resonant cavity system for irrad. of biological specimens 1−17527
epileptic cat cortex, unit spontaneous bursting activity, microcomputer anal. method 1−4393
EPR spectral broadening method for meas. of spin-lattice relax. of 2Fe-2S proteins 1−22171
fatigue characteristics of avian leg tendons, expts., apparatus and testing procedures 1−13279
fibre optic microfluorimetry for acute and chronic in-vivo animal studies 1−22177
field emission, conf., Albuquerque, NM, USA (July 1978) 1−17935
flagellated microorganism motion study using quasi-elastic light scatt. 1−4398
flow cytometers for cell biology, review *(Japanese)* 1−27030
flow cytometry , dual-laser, high-resolution *(German)* 1−22173
flow pulse cytofluorimeter with enhanced sensitivity 1−44051
fluid electron microprobe analysis, standard soln. choice and calibration curve linearity 1−4401
fluids, quantitative X-ray microanalysis, picolitre droplets 1−17533
fluorescence correlation spectroscopic method for fluorophore flow meas. 1−22169
fluorescence microscopy, instrumental problems, special reference to immunofluoresc. 1−33051
fluorescence photobleaching recovery: control of laser intensities with an acousto-optic modulator 1−53936
Fourier transform IR spectroscopy, appl. to study of natural and model membranes 1−13362
gamma-irradiating unit for biological objects *(Ukrainian)* 1−27047
gate circuit, low cost, for US pulse-echo studies 1−27039
haemoglobin-H_2O proton system, NMR hybrid relax. rates, chemical, physical and spin exchange 1−16496
heat-sterilisable pH glass electrodes and Clark-type D_2 sensors 1−32331
heavy ion nuclear tracks in solids, appls. 1−47120
heavy ion-induced desorption mass spectroscopy for biochemistry 1−27042
HV free flow electrophoresis, use for cell separation 1−17532
hydrostatic weighing of human body at residual vol. and functional residual capacity 1−17528
image reconstruction, 3-D structure 1−53751
immersion weighing method for recording the flows through macroscopic membranes 1−13364
inductively coupled Ar plasma, anal. of trace elements in biological fluids *(French)* 1−40031
interactive digital image processing system, on-line, TEM *(French)* 1−53939
interrupter method for measurement of airway resistance in small animals 1−22170
interval timer, high-resolution, and buffered storage system for neurophysiological expts. 1−13368
ion selective electrode, for intracellular Mg^{2+} activity obs. 1−53493
IR difference spectroscopy of aq. model and biological membranes using IR data station 1−9058

biological techniques and instruments continued
isotachophoresis systems involving single or multiple counterions, separation of macromols. 1—13363
lanthanide NMR shift probes, strategies for use in determ. of protein struct. in soln. 1—9055
laser appls., conf., Pont-a-Mousson, France (Apr. 1980) 1—22942
laser Doppler blood flow meter for use with optical plethysmograph 1—2114
laser Doppler cytopherometer for meas. of biparticle electrophoretic mobility 1—44058
laser Doppler spectroscopy: applications to cell and particle electrophoresis 1—50225
laser Doppler spectroscopy, mapping of cerebral cortical strokes in rhesus monkeys 1—13365
laser Doppler velocimeter for marine biological appls., microcomputer-based 1—2113
laser interferometer for meas. of tympanic membrane displacements to various acoustic stimuli 1—9066
laser speckle vibrometry meas. of eardrum AF microscopic motion 1—44062
laser speckle vibrometry meas. of guinea pig eardrum acoustic response 1—44061
laser uses in biological and medical fields, expt. results for CO_2 laser scalpel *(Czech)* 1—32221
lasers in biomedical technologies *(French)* 1—26975
lasers in medicine and biology, conf., Florence, Italy, (Sept. 1979) 1—32806
light scattering as fast non-destructive probe, biological particles as irregularly shaped scatterers 1—8900
lipoprotein size distributions from the analytical ultracentrifugation of serum and lipoprotein samples 1—13369
liposomes, struct., temp.-induced changes studied using fluoresc. prod. of peroxide oxidation 1—4251
liquid absorption into biological tissues, apparatus for investigation of dynamics 1—49167
liquid scintillation counting procedure for tritiated compounds on glass-fibre filter discs 1—27032
low-temp. neutron activation anal. 1—32209
macromolecule buoyant density small differences determ., analytical density gradient equilib. centrifugation 1—13361
maximum reach estimation, 3D, comparison of techniques 1—17530
mechanical system, microprocessor-based, for bi-axial testing of soft tissues 1—32320
mechanical test apparatus, thoracic aorta tissue appl. 1—17424
microanalytical ultracentrifuge for examination of cell suspensions 1—4399
microcalorimetry of biological systems, book contrib. 1—13371
microcoaxial probes, appl. to meas. of dielectric parameters of biological media in microwave band 1—22180
microcomputer analysis of American Crayfish mechanoreceptor units response to sinusoidal stimuli 1—35789
microelectrode, almost completely shielded 1—49171
microelectrode fabrication, use of UV setting glue 1—49173
microphotometric images of splencytes and lymphocytes from leukemic mice, computer discrimination 1—35922
microphotometry, improvements by digital signal processing, cytological example 1—33034
microprocessor-based pulmonary diagnosis system 1—4395
microscopy, cell organelle 3D display, stereometric study and automatic graphical reconstruct. 1—9065
microspectrofluorophotometer calibration in absolute units of radiation 1—10018
microthermocouple for soft tissue temp. determ. 1—53937
microwave Doppler radar activity monitor for measuring activity of moving animals 1—44054
microwave radiation effects, dual six-port automatic network analyser meas. appl. 1—22179
minicomputer with interactive graphics system, exptl. appl. *(Russian)* 1—49165
molecular filtration, high vol., for large scale isolation of human erythrocyte membranes 1—53944
muscle stiffness measurement instrument, mammal appls. 1—4394
muscular moments of lower limb joints, evaluation by on-line processing 1—53938
MWPC parallel readout for time resolved X-ray diffr. expt. on muscle 1—14729
MWPCs in JINR molecular biology devices 1—14728
neutron spin echo use in studies of biological systems 1—35925
NMR, 2-dimens., biochem. imaging appl. 1—17531
NMR and X-ray studies of tRNA, struct. and dynamics, book contrib. 1—13209
NMR relaxation studies of solute-solvent interactions in aqueous protein solutions, book contrib. 1—10761
ocular focusing on visual task, ergonomic problem meas. by laser beam *(Italian)* 1—4392
optical diffraction and spatial filtering of electron micrographs of biological materials 1—53949
optical diffusion technique *(French)* 1—35920
optical filtration simple method for electron micrographs of periodic structures 1—19282
optical measurements on perfused organs *(Japanese)* 1—49166
optical microscopy, tissue selection anal., pattern recognition 1—35921
optical system for vision research, quasi Maxwellian-view stimulator and ophthalmoscope 1—32325
osteoclast for whole bone testing, appl. to aircraft ejection seat operations 1—13372
paramagnetic probes, appl. to NMR and EPR studies of membrane enzymes 1—9059
peak-holder of high accuracy for nerve-muscle prep. contract. anal. *(Japanese)* 1—40029
peripheral vision monitor 1—44052
photoelectrical sensors for meas. of photobiologically effective radiation 1—9064
photography, medical and biological illustration, conf., London, England (1980) 1—13905
picosecond studies of primary charge separation in bacterial photosynthesis 1—17367
piezoelectric bimorph elements, mech. stimulation and micromanipulation appl. 1—49172
PIXE, trace element microanalysis of mineralogical and biological samples using proton microprobe 1—21826

biological techniques and instruments continued
protein crystals, data processing method from linear position-sensitive detector, automated peak fitting procedure 1—32318
protein determ. in organic solids, ^{1}H enhanced magic angle sample spinning ^{13}C NMR 1—17134
proton activation in vivo 1—43994
protons, accelerated, for medicine and biology 1—43993
radiographical method for meas. of bone axial rotation 1—13366
radioimmunoassay of brain tissue and cell nuclear corticosterone 1—27037
radioisotope labelling, detect. of DNA strand breaks in human cells 1—22174
radioisotope method for mitrochondrial inner compartment vol. meas. 1—44055
radiometric monitoring of exposure-site temp. during laser irrad. 1—49175
regular biological objects, 3D image reconstruction technique 1—40034
rheological testing device for dynamic props. determ. of soft tissues 1—44056
sarcomere dynamics in striated muscle, pattern recognition techniques 1—4402
secondary ion emission microanalysis 1—32328
SEM, biophysical aspects, specimen charcts., contrast mechanisms and image interpretation 1—17537
SEM, use of specimen biasing for obtaining converted backscattered electron images 1—17542
SEM appls. to human cell culture studios 1—27043
SEM surface morphology of suspended cells, methodological aspects 1—27044
semi-thin section obs., comparison of light microscopy with SEM in backscattered electron mode 1—17543
servo system for cardiac mechs. expts. 1—13374
signal processing appls. in visual psychophysics 1—49176
soft X-ray microscopy and diffr. advantages and problems for biological imaging 1—40033
spectrophotometer system, computerised, for data correl. in conformation transition 1—9057
spectroscopy, blood rheology appl. *(French)* 1—40030
spinning cell for Raman backscattering spectrosc. of micro samples 1—50223
SQUID magnetometer and toroidal coil system, meas. of isolated nerve mag. field 1—32336
SQUID magnetometer method for meas of mag. fields of frog nerve action pots. 1—4304
STEM, imaging modes, energy loss spectroscopy, appl. to struct. characterisation of ferritin macromolecule 1—17346
STEM, nervous system ultrastruct., direct anal. using software control of electron beam 1—17538
STEM, optimal imaging techniques in mol. study 1—9063
STEM imaging of semi-thick biological sections, use of mid-range signal expander-resynthesizer 1—17539
stereology, expt. clinical research illustrations 1—36771
stimulus-switching apparatus for the study of a nerve-muscle preparation *(Japanese)* 1—40028
strain gauges, new appl. to hand-grip force meas. 1—32326
structural analysis, appl. of image treatment 1—53942
subpicosecond spectroscopic techniques in biological materials 1—9067
synaptic potentials recording, recovery of random variable from a noisy record 1—9060
synchrotron radiation as a light source for radiation research 1—53952
telemetry, domestic and wildlife appls., review 1—32333
telemetry, underwater systems, meas. of olfactory bulb elec. activity in free swimming carp 1—27031
telemetry of regional tissue blood using H_2 clearance 1—13373
telemetry pH measuring system, cattle stomach appl. *(German)* 1—17526
time domain spectroscopy, use in meas. of dielec. props. of mouse brain 1—27041
time-resolved fluorescence study of tryptophan and simple peptides 1—21986
tissue culture system for studying lens cell differentiation 1—35924
tissue stereopsis, recording and projecting stereo pairs of scanning electron micrographs 1—22176
tissue thickness measurement, using HV electron microscopy 1—45083
topical mag. resonance techniques for biochem. research on live animals 1—4397
total internal reflection fluoresc., meas. of biomols. surface dynamics 1—53935
transducer for in vivo meas. of arterial inner diameter in lab. animals. 1—44057
transducers, miniaturised, for animal myocardial research 1—40032
twist drill bit, feed rate rel. to point angle when drilling bone 1—49168
US characterisation of aging in skin tissue, mouse expts. 1—35923
US hyperthermia system for tumour irrad. 1—49174
US monitor for locomotor activity detect. within air or an aquarium 1—44053
US tissue characterisation, microprocessor-based system 1—13367
UV laser microbeam irrad., technique for selective cell destruction and precise neurite transection 1—27038
vapour pressure osmometer, use in meas. of brain osmolality 1—27035
VHF/UHF EM field meas. by electrodeless insulated probes 1—32299
visibility meter, contrast reducing, using consensual pupillary response 1—9056
vital microscopic method for study of bone tissue irrad. injury 1—44050
voltage clamping with microelectrodes 1—49170
water tunnel, low velocity, for hydrodynamics research of marine botany 1—13360
X-ray biplane images, immediate recording of metal heart marker position 1—32245
X-ray measurement of joint kinematics in vivo, improvement in the results 1—17529
X-ray method for meas. of cardiac dimensions and intramural deforms. 1—53945
X-ray sensitive vidicon, construction and charcts., appls. *(Czech)* 1—18352
zeta potential meas. for rectangular flow cell disassembly for surface anal. of adsorbed protein 1—17535
H^+ NMR two dimens. correl. spectroscopy of macromols. 1—19219
$HT^{18}O$ method, appl. to study of water budget of coccinella larvae 1—40027
^{31}P NMR for metabolite localisation, new nonsurgical method 1—8956
^{133}Xe bolus technique, appl. to cerebral blood flow meas. in young and adult rats 1—53934

biology
see also biological fluid dynamics; biological techniques and instruments; biophysics; blood; cardiology; ecology; evolution (biological); medicine; physiology; zoology
Arctic Ocean in Pliocene and Pleistocene, existence of coccoliths, climatology implications 1−54247
Atlantic Ocean, biological productivity, rel. to ^{228}Ra and ^{228}Th concs. in GEOSECS surface waters 1−27171
S. Atlantic Ocean origin, Late Cretaceous Palaeo-oceanology and palaeobiogeography 1−35968
bacterial respiration in North Atlantic Deep Water, O isotopic fractionation during O_2 consumption 1−4537
Bay of Bengal, bacterial respiration in sediment fan rel. to role as nutrient source for Indian Ocean 1−4539
benthic foraminifera isotopic equilib. rel. to deep equatorial Pacific circulation 1−49289
bivalve molluscs, hydrocarbon concs. anal. after marine gasoline spill 1−53714
computing methods in applied sciences and engineering, conf., Versailles, France (Dec. 1979) 1−18
conference on origin of life and related chemistry, College Park, USA (Oct. 1978) 1−44699
life, existence in extremes of temp. and press. 1−48940
ocean floor infauna, bioturbation effects on freq. sensitivity of sediments climatic record 1−9240
oceans, biochemical processes rel. to suspended barite ($BaSO_4$) particles and oceanic Ba cycle 1−4509
oceans, particulate suspension, optical attenuation for biology research 1−35995
polar regions, review of research 1−27167
potato blight management, application of model of daily weather 1−54184
Precambrian sediment, S isotope ratio, implication for early life 1−9137
primordial atmosphere comp., effect of early organisms 1−13546
SIMS applications, conference, Stanford, CA, USA, (Aug. 1979) 1−27666

biology computing
see also computerised instrumentation; computerised signal processing
American crayfish inner flagellum, mechanoreceptor units response charcts. to sinusoidal wave stimuli anal. 1−35789
biomacromolecular structures using image processing of electron micrographs 1−43851
biophysics experiments, appl. of minicomputer with interactive graphics system *(Russian)* 1−49165
education at OPE lab., via computer simulated expt. 1−36475
human lung, simulation of gas transport and mixing, in FORTRAN 1−35791
larynx source, evaluation of state in cases involving pathological changes in vocal folds 1−17463
larynx tone, automatic determ. of freq. behaviour by method of linear prediction 1−15331
lipoprotein size distributions from the analytical ultracentrifugation of serum and lipoprotein samples 1−13369
muscular moments of lower limb joints, evaluation by on-line processing 1−53938
non-Newtonian blood flow models, numerical simulation by finite element method 1−8894
ribosome subunit, 30S, computer model for protein location 1−13210

biomagnetism
auditory evoked magnetic field of the human brain 1−4303
bacterial cells, magnetotactic and nonmagnetotactic, magnetisation 1−8888
bacterial reaction centres, Fe^{2+} electronic structure, static magnetisation obs. 1−26877
blood of rhesus monkeys, effects of in vivo exposure to 20 kG steady mag. field 1−43891
brain, human, mag. auditory responses 1−26918
fibrin gels, oriented, formed by polymerisation in strong mag. fields 1−32181
finite element analysis *(Japanese)* 1−4305
human brain, right side, late auditory evoked mag. fields, source localisation 1−49021
human magnetic field sensing ability 1−49022
immune processes at mag. electrodes, implications from mag. monopole currents in flowing water obs. 1−16456
LF electric and magnetic fields, biological and clinical effects 1−17452
luminescence yield of Chr. minutissimum and photosystem II of green plants, mag. field effect, pheophytin state 1−17415
lymphocytes, human, K-Na exchange, appl. of time-dependent Ising model and its hydrodynamic soln. 1−13264
magnetocardiogram, human, computer simulation 1−8887
magnetocardiography, SQUID system obs. 1−43933
mammalian cells, response to 30 MV X-irrad. in presence of 20 kilogauss mag. field 1−13292
nerve, isolated, mag. field meas. using SQUID magnetometer and toroidal coil system 1−32336
nerve action potential, calc. of mag. field 1−13262
nerve conduction, steady mag. field strength required to influence 1−26935
nerve impulse, mag. field, frog obs. 1−4306
neuron myelination, elec. and mag. fields of axon's action pot. 1−13229
phosphenes, electro- and magneto-comparative study 1−13232
photosystem II, chlorophyll a delayed fluoresc., mag. field-induced increase 1−53815
pigeons, homing, mag. orientation 1−13263
pineal organ cells, mag. field influence on elec. activity 1−26893
review 1−35790
sciatic nerve, frog, action pot. propagation meas. by SQUID magnetometer 1−4304
superconducting instrumentation for biomagnetic meas. 1−53851
susceptometry of human Fe store, 1−8940
trypsin activity, investigation of mag. field effect 1−49059
tumour, magnetic field appl., bioelec. pot. changes 1−8941

biomass conversion *see bioenergy conversion*

biomechanics
see also biological fluid dynamics; biorheology
Achilles tendon reflex, quantitative estimation using an accelerometer *(Japanese)* 1−40018
anatomical joints, kinematic modelling technique 1−49054

biomechanics continued
angle-angle diagrams in above-knee amputee and cerebral palsy gait 1−17416
aorta and its branches, elastohysteresis props. 1−17440
apatite crystals, orientation rel. to muscle attachment in the mandible, bone stresses 1−17337
arm-swinging locomotion, gibbon, electromyography of arm muscles 1−4260
arterial point strain, appl. to pulse meas. 1−35903
arterial segments, elastic response, dog aorta expts. 1−32163
arteries, large human, stress-deform. relationships 1−49043
arteries, mech. props. rel. to topography and age 1−39947
arteries relaxed by counterpressure, human, viscoelastic props. 1−32170
articulating joints, apparatus for meas. of kinematic charcts. 1−22152
bilayer membrane, elastic model 1−39890
biological materials, solid, linearization of relaxation and creep curves 1−3811
biting, bilateral static, forces acting on the mandible 1−17432
blood vessel tone model 1−49045
blood vessels, deform. on stretching, internal pressure and torsion 1−49042
body acceleration distribution and O_2 uptake in humans during running and jumping 1−53806
body sway rel. to foot press. in normal man 1−35801
bone, axial rotation, radiographic method of meas. 1−13366
bone, human tibial, creep props., nonuniformity of distrib. under tensile testing 1−17436
bone, intracortical stress fields calc. from in vivo stress meas. 1−22050
bone, thigh-bone cap tissue, strength under reduced blood supply conditions 1−32177
bone demineralisation, holographic determ. in osteomalacia 1−8964
bone drilling, feed rate rel. to point angle for a twist drill bit 1−49168
bone electromechanical effect, influence of dielec. props. 1−13230
bone matrix demineralised tissue, mech. indices, age-related changes 1−13276
bone strength, non-invasive determ. using US vel. meas., equine expts. 1−13281
bone structure inhomogeneities devolution, predictions of adaptive elasticity theory 1−49052
bone tissue, compact human, deform., X-ray diffr. study 1−49047
bone tissue, mechanics, math. model as porous-elastic piezoelec. material 1−13274
bone/porous implant interface, effects of DC stimulation on tensile strength 1−32105
bones, tibial, of athletes, dosed phys. loads effect by US method 1−13275
brain, mechanical properties in vivo, method for determ. 1−32175
Brillouin scattering and elastic properties of biological materials 1−32180
calf muscle, human, effect of contract. force and freq. on postexercise hyperemia 1−22036
cardiac muscle, deform. and activation interrelationship 1−49044
cardiac muscle, isolated, appl. of Maxwell and Voigt models 1−22051
cardiac muscle contractility, review 1−39954
cardiac muscle mechanics and energetics model 1−32161
cardiac radionuclide kymography, computer method 1−35879
cardiac wall stress rel. to apexcardiogram 1−8893
cardiokymograph, stabilisation and charcts. *(Japanese)* 1−35910
centre of mass, whole body and segment, determ. from kinematic data 1−17425
ceramic models for piezoelec. in dry bone 1−4257
cerebral arteries, human, mech. props. 1−39945
chest wall motion and inspired gas distrib., anaesthetised supine dogs 1−26926
cineangiograms plan-guided anal. for meas. of dynamic behaviour of heart wall 1−22113
collagen fibres, isometric hydrothermal denaturation 1−32173
computer programmed system for anal. of active and passive isokinetic movements 1−35904
conference, Strasbourg, France (Sept. 1979) 1−13913
contact lens, forces retaining it on eye between blinks 1−17417
cytokinesis in animal cells, biomech. theories 1−48969
dura mater, human, preserved in glycerol, uniaxial mech. props. 1−49026
echo-polymechanocardiography for clinical diagnosis 1−22085
elbow forces due to high-speed forearm movements 1−35795
elbow joint, human, electrogoniometer for rotation meas. 1−49149
elbow joint force predictions for some strenuous isometric actions 1−17433
electro-mechanical wave propagation in long bones 1−53778
electro-pneumatic press. sensor for routine use 1−49141
electromechanical transducer, negative feedback-controlled, for oscill. and stretch of muscle 1−13370
energy expended during O_2 deficit period of submax. exercise is man 1−13267
fatigue characteristics of avian leg tendons, expts., apparatus and testing procedures 1−13279
femora, proximal, basic dimensional anal. in normal humans 1−17447
femoral fractures, single- and double-plated, plate and bone stresses anal. 1−53810
femoral head stress patterns, hyman, effects of hip contact aberrations 1−32154
femur, canine, plated and unplated, stress field calcs. from in vivo strain meas. 1−53811
femur, mechanisms of fracture 1−17429
femur, proximal, meas. of strain with total hip arthroplasty 1−22046
finger joint loads resulting from selected activities 1−32166
flexible disc bonded to an elastic half space, deform., lung appl. 1−22047
foot-floor contact patterns during gait, electronic meas. system 1−35899
force vector ballistocardiograph for meas. of thoracic recoil forces *(German)* 1−4372
Fourier series, optimally regularised, for estimating higher-order derivatives of noisy biomech. data 1−53743
gait analysis, new automatic on-line method 1−49086
gait analysis system and microcomputer-controlled above-knee prosthesis 1−13356
gait examination in clinical routine, microcomputer implementation 1−32280
gait measurement reproducibility using the Lamoreux goniometer 1−53921
gait simulation, use in evaluation of a spring-loaded knee joint orthosis 1−44049
gait stance phase, overall principle of lower limb support 1−32160
gastropod crawling, metabolic cost 1−4318

biomechanics continued
gravitational profiles, effects on rats thermoregulatory response to cold 1−22037
hand position stabilisation under slight perturbation, role of forearm muscle viscoelasticity 1−32174
hand-grip force measurement, new appl. of strain gauges 1−32326
head impact, rotational meas. and freq. response obs. 1−4314
heart dynamics determ. from X-ray and US image sequences 1−53850
hip, total replacement, femoral component loosening, sheep expts. 1−17446
hip cartilage, human, changes in deformational behaviour with age 1−22045
hip joint, human, geometry obs. 1−17445
hip joint, transverse load 1−49027
hydrostatic weighing of human body at residual vol. and functional residual capacity 1−17528
impulsive whole-body vibration, effect on human discomfort 1−13265
insect cuticle, electron microscopy of fibril-matrix interactions 1−35793
internal carotid artery, active reactions under tension 1−17437
intervertebral disk, mech. behaviour of a simple model under compressive loading 1−35799
intervertebral lumbar discs, prolonged static compression effect on mech. props. 1−32172
jaw osteosynthesis, accurate iconics studies of force lines using holographic interferometry 1−8962
joint kinematics, in vivo, improvement in the results, X-ray meas. 1−17529
joint rotation meas., justification for use of triaxial goniometer 1−49143
kinematics, error magnification in centre and angle of rot., statistical approach 1−13344
knee, function of primary ligaments in anterior-posterior and medial lateral motions 1−17434
knee, function of primary ligaments in varus-valgus and axial rotation 1−17435
knee angle, continuous recording instrument 1−44039
knee joint, 3D math. model 1−17427
knee joint, human, contrib. of cruciate ligaments to load-displacement characts. 1−49051
knee joint loads assessment 1−43889
knee motion kinesiologic studies, FM/FM radio telemetry system 1−13307
left ventricular aneurysms development, mech. anal. 1−49032
left ventricular kinetics, phase plane anal. as a sensitive indicator 1−13283
leg long bones, mech. characts. in torsional loading 1−17426
ligament, canine anterior cruciate, load elongation behaviour 1−22044
limb segment, method for angular vel. vector determ. 1−49036
lipid membranes, capillary waves, photon correlation spectroscopy 1−32101
locomotion, energy cost and heat balance during rest and running, 0-55°C, patas monkey 1−48964
locomotion, human, integrated biomech.-bioenergetic technique for evaluation 1−17511
locomotion assessment, use of angle-angle diagrams 1−8889
locomotor activity monitoring in air or an aquarium, US monitor 1−44053
lungs and chest wall, mech. props. during spontaneous breathing 1−26929
maximum reach estimation, 3D, comparison of techniques 1−17530
motor evaluation procedure for anal. of gait, areas of utilization 1−53814
movement, linear homeomorphic model for human movement 1−22024
muscle, forearm, viscoelasticity, role in human hand position stabilisation under slight perturbation 1−32174
muscle, skeletal, mechanomath. model 1−17439
muscle, skeletal, struct. as a biomech. system 1−17438
muscle, tone measurement using printed motors as torque generators 1−49142
muscle contraction, active fibers number influence 1−49046
muscle fibres, relaxed skinned, quantitative anal. of elastic, entropic, electrostatic and osmotic forces 1−49023
muscle force modulation by recruitment during intramuscular stimulation 1−26919
muscle force rel. to surface EMG at low force levels 1−8832
muscle forces, optimal solns. 1−22057
muscle stiffness measurement instrument, mammal appls. 1−4394
muscular moments of lower limb joints, evaluation by on-line processing 1−53938
myocardial animal research, miniaturised transducers 1−40032
myocardial contractility measuring system, microcomputer-based 1−32271
myocardial fibre stiffness, eqn. derivation based on laminated composite theory 1−22049
myocardium model, biventricular mech. behaviour studies 1−32158
myoelectric signals, effect of load, ARIMA representation 1−35762
neck torsion in cats after cholinergic stimulation, EMG study 1−53773
occupational vibration, study, USA 1−43890
oesophageal biaxial accelerometry, cardiovascular effects, dog expts. 1−13282
orthodontic appliances, force systems, analytical and expt. comparison 1−49053
osteoclast for whole bone testing, appl. to aircraft ejection seat operations 1−13372
Paramecium caudatum, most probable mechanism of negative geotaxis, expt. obs. 1−13224
phalangeal fractures fixation, optimisation of rigidity 1−13348
piezoelectric high polymer foils as physiological mech.-elec. energy convertors 1−35906
plant stress detection by chlorophyll fluoresc. remote meas. 1−13219
pole vault dynamics, nonlinear differential eqns. 1−32165
posture, influence on hepatic blood flow 1−4309
posturography, quantitative, role of dynamic models 1−9050
pressure contours inside a plaster cast, monitor for plotting 1−49140
pressure transducer for meas. of press. distrib. between man and seating furniture *(German)* 1−17505
prosthetic knee joints, mech. strength of the prosthetic-methylmethacrylate-bone bond 1−17525
running on skis downhill, optimum descent time 1−32162
saccadic eye movements and body sway 1−4270
sarcomere dynamics in striated muscle, pattern recognition techniques 1−4402
sclerotic coat of eye, US velocity topographic distrib. 1−17453
segmental muscle stretch reflex, multiloop representation 1−8835
shoulder complex, resistive force, moment and torque data obs. 1−4312

biomechanics continued
skateboarding, human control, dynamics 1−17431
skeletal muscle, contract. vel. rel. to activation and fibre composition, math. model 1−4310
skeletal muscle, frog, time-resolved X-ray diffr. obs. during shortening 1−13285
skin, mouse, comparison of different X-ray treatment regimes on visual appearance and mech. props. 1−26943
skin, regional and age-related properties, rel. to collagen bundles thickness 1−32176
snow ski bindings, actively controlled, biomech. model 1−49056
spherocytes, hereditary, abnormalities in membrane material props. 1−22048
spinal-cord-injury patients, biomech. basis for recommendation of transurethral sphincterotomy 1−32167
spine, human, energy absorpt. obs. 1−22052
stress transmission anomalies in femoral heads altered by aseptic necrosis 1−17428
stretch reflex identification, EMG response to human forearm displacement 1−44037
swimming, teaching approach 1−13974
system segments, technique for determ. of spatial kinematic parameters from cinematographic data 1−4396
tendon, turkey, precalcified, tensile strength and age 1−17430
tendon crimping, struct. mech. model 1−35798
thoracic aorta tissue, steer, 2D passive stress/strain elasticity relationships 1−17424
tibial lengthening apparatus with distractive force meas. system 1−32310
tongue force in normals and in dysarthric patients with amyotrophic lateral sclerosis 1−49017
tooth enamel, natural fibrous composite, toughness 1−35794
trabecular bone, anisotropic props. obs. 1−13278
valve-aorta xenocomplex, mechanics 1−32169
vascular walls, vibr. regimes anal., flow rate effect 1−32171
vertebrae, human, assessment of crit. shock rate causing fracture 1−32178
vertebrate skeletal muscle, myofilament extensibility, rigor muscle fibre stretching obs. 1−17442
vibration effect on ankle stretch reflex in man 1−4308
walking, energy generation, absorpt. and transfer amongst segments 1−35796
walking fly, body movements and retinal pattern displacements 1−39913

biomedical applications of computing *see medical computing*

biomedical electronics
see also electrocardiography; electroencephalography; microelectrodes; patient monitoring; patient treatment; prosthetics; sensory aids
auditory multichannel prosthesis, implantable, fabrication and packaging 1−32313
bioelectronic systems, using brain/computer analogy 1−8841
ECG, dynamic CRT display for 24 hour anal., representation based on contour method, microprocessor-based system 1−53925
ECG electrodes on-line testing 1−40022
EEG spike and wake activity, high-speed automatic anal. 1−4373
endoscopic system for simultaneous visual exam. and electronic detect. of cancer cell fluores 1−13310
gamma camera systems, computerised, adjustable zoom-mode gain control 1−8983
heterodyne US blood vel. meter 1−32216
IC temperature transducer for clinical use 1−23232
implantable telemetering system for use in long-term post-operative monitoring of temp. 1−13314
ISFET, catheter-tip, appl. for continuous in vivo pH meas. 1−13337
linear displacement transducer by means of photo-potentiometer *(Japanese)* 1−39984
medical electronic equipment manufacture, investment and general aspects 1−17510
microprocessor-based complex waveform generator 1−32293
piezoresistive miniature pressure transducer 1−32300
pressure transducer for meas. of press. distrib. between man and seating furniture *(German)* 1−17505
pressure-sensitive transistor spirometer for assessment of human ventilatory capacity 1−13338
tactile-output paging communication system for the deaf-blind 1−32316
US Doppler returns from foetal heart, electronic processing method 1−32213
US Doppler systems, S/N ratios and mixers, meas. and standards 1−22090
US echo reinforcement system for the blind 1−17465
vision aid, medium range, for blind 1−4386
visual flicker sensitivity meas. using precise LED stimulus under feedback control 1−17469

biomedical engineering
see also biomedical electronics; biomedical equipment; orthotics; patient treatment; prosthetics; sensory aids
artificial vision based on visual cortex stimulation, development prospects 1−22163
conference, Cambridge, USA (Mar. 1980) 1−9770
conference, Washington, USA (Sep. 1980) 1−27683
conference on engineering in medicine and biology 1−40603
education, enrollment, courses, degrees and employment 1−32816
education and transfer of bioengineering technology 1−13958
electrical safety and reliability of health care facilities equipped with class I equipment *(Japanese)* 1−13333
electrooculography, automated, microprocessor appl. example 1−35901
historical perspectives, basic research 1−5072
historical review of 20 years 1−5073
image segmentation survey 1−35861
neuropsychiatry, appl. of bio-technology 1−13334
ophthalmology, optoelectronics and lasers *(Japanese)* 1−39983
patient-simulator for medical education of extraordinary reflex 1−36481
piezoelectric high polymer foils as physiological mech.-elec. energy convertors 1−35906
projects at University of Hong Kong, engineers' contributions 1−4376
recording methods, review 1−17506

biomedical equipment
see also biomedical electronics; biomedical measurement; orthotics; prosthetics; radiography; radioisotope scanning and imaging; sensory aids
2450 MHz slab-loaded direct contact applicator with choke 1−26973

biomedical equipment continued
acoustic impedance meters, real-ear calibration of ipsilateral acoustic reflex stimuli 1−26972
air ionisation biopotential electrode 1−27016
ambulatory ECG recording instruments, distortions in the ECG 1−22145
ambulatory physiological surveillance equipment, long term 1−22144
Anger scintillation cameras, new, with improved count rate capability 1−9007
angiography, asymmetric screen pair 1−17488
angiohaemodynamical X-ray unit by Medicor Works 1−17485
Angioskop biplane system, advantages in angiocardiography and coronary angiography 1−43946
articulating joints, apparatus for meas. of kinematic characts. 1−22152
audiometers of Medicor Works 1−17464
blood, circulating, meter for vol. meas. using scintillation counting 1−39992
blood pressure control, automatic, in dogs by hypotensive drug injection system 1−9048
calorimeter measuring vial, method for calc. of heat flows 1−49135
cancer early detection enhancement, using dual-mode microwave system 1−53852
capacitive blood pressure transducer 1−35898
capnography, IR spectroscopic equipment 1−17467
cardiac arrhythmia bedside moniter 1−17516
cardiac arrhythmia monitor IGB.MAC2, closed loop evaluation 1−17517
cardiac measuring system, non-invasive 1−17513
cardiokymograph, stabilisation and characts. *(Japanese)* 1−35910
catheter press. transducer, integrated, construction and performance *(Russian)* 1−49147
cell sorting system, automated, based on laser light scatt. *(Japanese)* 1−26976
clinical linear accelerator, model ML-15MIII *(Japanese)* 1−17520
coded cephalometer for interactive multiple measurements of biparietal diameter 1−8939
cold-light source and binocular viewer with fibre-optics illumination for neurosurgery 1−8950
collimation of ^{127}Xe, ventilation studies appl. 1−53887
collimators for imaging positron emitting radionuclides with gamma cameras *(German)* 1−4357
colour video enhancement terminal for computerised tomography 1−49122
colour vision testing device, the colour rule 1−13305
computer programmed system for anal. of active and passive isokinetic movements 1−35904
computer/thermograph interface improvement 1−8957
computerised tomographic scanner for radiation therapy treatment planning 1−22125
computerised tomography, dynamic spatial reconstructor, appl. to 3D imaging of heart, lungs, and circulation 1−49123
computerised tomography, high-speed three-dimensional system, dynamic spatial reconstructor 1−17492
computerised tomography scanner selection and specification for radiation therapy 1−8993
computerised tomography scanners, software-hardware struct. 1−13321
computerised tomography scanners intercomparison 1−40003
CW US Doppler equipment, mixers, sensitivity and directional discrimination 1−22091
dental lamp for oral cavity illumination 1−17468
dental radiography, a range of equipment 1−17484
detector array, ultrapure Ge, for quantitating 3D distrib. of a radionuclide 1−13317
diagnositc instrumentation evaluation methods 1−43923
diagnostic imaging instrumentation, generalised comparison methodology 1−17495
diagnostic oesophagoscope, Puchok-MT2 1−4353
diagnostic X-ray 1−26978
diagnostic X-ray detectors, Monte Carlo simulation of spectra meas. 1−26988
diagnostic X-ray equipment, performance specifications 1−43990
diagnostic X-ray units, performance testing 1−43975
dielectric-loaded waveguides, electrical characts. for microwave thermography and local hyperthermia 1−43939
digital thermometer 1−22143
display methods, review 1−9046
Doppler US flow velocity meter, optimum freq. and ionisation angle 1−8932
Doppler US system for peripheral artery disease diagnosis 1−13299
doubly achromatic asymmetric 270° magnet system for 25 MeV therapy electron accel. 1−51021
drift chamber imaging systems, description and biomedical appl. 1−39998
dual photon absorptiometry system, meas. of mineral content of human hip an vertebrae 1−22124
Duplex Scanner III, detect. of peripheral vascular disease 1−8933
earphones, acoustic condensation and rarefaction determ., brainstem auditory evoked responses appl. 1−22083
ECG department equipping, review 1−17507
ECG monitor, microprocessor-based, for ambulatory patients 1−17514
ECG monitor, ROM based 1−13335
echocardiogram, mode convertor fabrication 1−22087
echocardiographic tracking system, dynamic, variable gate width, microprocessor-based 1−32219
EEG devices for nervous system exam. 1−17512
EEG study system, appl. to delta rhythm topography during sleep 1−27014
elastometric instruments, meas. transducer 1−44034
electric scalpels, dangers and safety measures *(Italian)* 1−35849
electrical injuries from hospital equipment, types and legal aspects *(Italian)* 1−35848
electro-mechanical device for meas. of slopes of recorded curves *(German)* 1−17504
electro-pneumatic press. sensor for routine use 1−49141
electrocapillary flowmeter usable as a quantitative sweat detector 1−27020
electrogoniometer for human elbow joint rotation meas. 1−49149
electrophoresis microscope, computer-controlled, for cell mobility meas. 1−53948
electroroentgenographic plate characteristics 1−39990
EM flow probes for mitral flow meas. *(Japanese)* 1−13306
EMG derived data storage device and output unit *(German)* 1−35894
EMI CT scanners, survey of 29 British machines 1−49099
EMI early scanners, improved image display 1−13318
biomedical equipment continued
emission computerised tomography, recent developments of instrumentation 1−32238
endoscopic system for simultaneous visual exam. and electronic detect. of cancer cell fluores 1−13310
endoscopy, developments in optical instrumentation 1−49093
eye movements analysis system, EOG quantification during diverse activities by computer 1−32283
fibre optic diagnostic instruments, illuminator 1−8949
fibre-optic cold light endoscopes, Xe lamp light source 1−4352
fibre-optic diagnostic apparatus, comparative anal. of light-optics illumination systems 1−6627
fibre-optic endoscopes, flexible, optical props. 1−8947
fibre-optic endoscopes used in the USSR, review 1−8946
fibre-optic endoscopes with structureless images 1−4350
fibre-optic liquid cryst. catheter for O_2 saturation and blood flow meas. 1−32227
fibrogastroscope attachment for motion picture filming, diagnosis appl. 1−4351
filters for chest radiography 1−43979
flattening filters, design based on intracavitary absorbed dose meas. in external radiotharpy 1−53858
Fletcher applicator using ^{137}Cs, evaluation 1−43951
fluorescent lamps, comparison of various types in colour vision testing 1−8944
fluoroscopy system, low dose, low cost, with multi-image camera 1−43971
flying spot television ophthalmoscope 1−32228
flying spot TV ophthalmoscope 1−8943
FM/FM radio telemetry system for knee motion kinesiologic studies 1−13307
foot-floor contact patterns during gait, electronic meas. system 1−35899
force vector ballistocardiograph for meas. of thoracic recoil forces *(German)* 1−4372
gait analysis system and microcomputer-controlled above-knee prosthesis 1−13356
gamma camera non-uniformity meas., usefulness of indices 1−43965
gamma camera systems, computerised, adjustable zoom-mode gain control 1−8983
gamma camera/data analysis system, correct. for deadtime losses 1−8980
goniometer for continuous recording of knee angle 1−44039
head control biofeedback device with Hg switch 1−4384
high-power laser development and appls. *(Japanese)* 1−51502
histological image analysis, recent developments *(French)* 1−53924
hybrid emission tomograph, HEADTOME-I, clinical appls. *(Japanese)* 1−32235
hyperthermia producing system, inexpensive, variable freq. microwaves 1−22106
impedance plethysmograph for vascular studies, dual-channel, self-balancing 1−44036
intensifying screens, high-definition, use of rare-earth luminesc. materials 1−18345
intracranial pressure monitoring device, construction and operation 1−27021
intraocular photography using the RETINOPHOT 211 fundus camera 1−35856
IR array radiometer with automatic pattern recognition for medical thermography 1−13313
isothermal-H_2 clearance combination system for local tissue flow meas. 1−53914
isotope assay calibrator, modification for use with SI units 1−53860
laser Doppler anemometer for meas. of retinal blood vel. 1−8965
laser Doppler techniques for sizing particulate pollutants and therapeutic aerosols 1−43841
laser Doppler velocimeter, fundus camera based, for retinal blood flow meas. 1−39978
laser Doppler velocimetry meas. of retinal blood flow, clinical instrument development 1−43934
laser photocoagulating dielectric waveguide scalpel 1−35853
laser use in medicine, suitability of He-Ne lasers *(Czech)* 1−32225
light sources, high intensity, safety standards and meas. techniques 1−35893
lung, preservation and ventilation system, prior to transplantation 1−22161
mammographic tubes, W- and Mo-anode, voltage waveform effects on output and penetration 1−49119
mechanical hazards in clinical equipment, preventive maintenance, risk classification and safety 1−13336
medical electronic equipment manufacture, investment and general aspects 1−17510
Medicor CT 0100 and 0150 X-ray generator 1−13322
Medicor Works' whole-body computer tomograph model 0100/0150 1−13320
microcomputer system for gait exam. in clinical routine 1−32280
microcomputer-based instruments, modular design 1−49145
microcomputers in arrhythmia monitoring 1−9047
microprocessor analyser of cardiostimulating impulses *(Bulgarian)* 1−49158
microprocessor system for automated sensory irritation studies 1−32295
microprocessor system for EEG anal. *(Bulgarian)* 1−13330
microprocessor-based real time system for eye motion analysis 1−49087
microscope stage, programmable, temp.-controlled for biomedical investigations 1−35855
microspectrophotometric screening system with multi-fibre scanning, vervical lesion diagnosis appl. 1−4356
microstrip radiator for local tissue heating in medical therapy 1−26974
microwave applicator, small-opening, for noninvasive diagnosis and monitoring 1−43941
microwave applicators for localised hyperthermic treatment of prostatic cancer 1−43938
monitor for plotting press. contours inside a plaster cast 1−49140
multiple photopeak analysers, effects on imaging of outputs misalignment 1−17477
muscle stiffness measurement instrument, mammal appls. 1−4394
MWPC for positron imaging in nuclear medicine 1−28790
myocardial contractility measuring system, microcomputer-based 1−32271
NMR cylindrical blood flowmeter, in vitro evaluation 1−35858
NMR flowmeter, ranging for individual artery flow 1−35877
nuclear medical device for regional cerebral blood flow meas. 1−27000
nuclear medicine, ECG synchronised system for γ-camera cardiac studies 1−9001

biomedical equipment continued
nuclear medicine collimator, influence of penetrating radiation on performance 1−43962
nuclear stethoscope, use in left ventricular function assessment 1−8979
oculoplethysmograph, fluid filled, in vitro evaluation 1−13342
Ocuscan 400, performance evaluation with the ECHOSIMULATOR 1−35843
oesophageal balloon, improved technique for use in infants 1−22151
ophthalmic devices, pot. hazards due to retinal light exposure 1−35816
ophthalmic instruments, microprocessor applications 1−49148
ophthalmological instruments, appls. of fibre-optic elements for ocular illumination 1−22102
ophthalmological measurements, realisation of instruments *(Rumanian)* 1−13340
ophthalmoscope, new version with Porro's prisms 1−8945
ophthalmoscope and related instruments, review of optical principles 1−22105
opthalmoscope, indirect 1−35860
optical fibre systems for medical endoscopic instruments *(Czech)* 1−32224
optical instrumentation, conf., Las Vegas, USA (Apr. 1980) 1−40597
organ Cd level meas. system, portable, using neutron activation anal. 1−8976
organ size estimation accessory, γ-camera images appl. 1−49109
orthodontic appliances, force systems, analytical and expt. comparison 1−49053
orthopaedic stimulator for treatment of delayed union in long bones 1−13304
osmometer, automatic, model OMKA1Ts-01 1−49134
oximeter, tissue reflectance, noninvasive instrument for haemoglobin O_2 saturation meas. 1−32220
parsing system for medical waveform anal. 1−32275
particle accelerators for medical use, state-of-the-art *(Japanese)* 1−49117
peak expiratory flow meas. instruments, calibration 1−35902
perimeter for automatic subjective and objective studies 1−8955
phantom for γ camera system, resolution at depth assessment 1−49100
phased-array US imaging system based on new type of delay compensation, focalisation props. 1−8928
photo-electronic radiology, digital acquisition system 1−43972
photoelectric instruments for clinical diagnostic labs. 1−43936
photography, medical and biological illustration, conf., London, England (1980) 1−13905
physiological data recording/decoding system 1−4378
physiotherapeutic generator, high-power short-wave *(Bulgarian)* 1−53928
pinhole collimators used with γ-cameras, resolution obs. 1−8994
plasma oncotic pressure, device for routine meas. 1−53920
Polaroid Type 611 video image recording film for medical diagnostics 1−33072
positron scanner, linear, non-tomographic, for whole body studies, theory and construction *(German)* 1−8975
projection device for use with EMI scan transparencies 1−22100
proportional chamber positron camera for medical imaging 1−14732
radiation therapy ^{60}Co machines, discrepancy between in-air and in-water calibration 1−8990
radiochromatogram scanner with analogue and digital output, design and validation 1−49112
radiocirculographic attachments set for radioisotope laboratories 1−39997
radiographic cassettes and graphite and conventional table tops, evaluation under clinical conditions 1−43988
radiographic equipment, performance characts., compliance with US Federal regulations 1−53864
radiographic screen-film systems, large area contrast prediction 1−40916
radiographic screen-film systems, typical, relative efficiencies of energy to photographic density conversions 1−22123
radiographic screen/film systems, comparison of methods used to measure characteristic curve 1−40913
radiography, antiscatter grids, improved, performance characts. 1−8991
radiography, optical density meas. device for wide-format films 1−39995
radiography, rare earth screens, compatibility with automatic exposure control systems 1−43981
radiotelemetry system, 2-channel, for foetal monitoring 1−22103
radiotherapy accelerator, 25 MV X-rays, neutron contamination obs. 1−9025
rare-earth film-screen combinations, evaluation 1−53857
recording system for visual elec. evoked pots. 1−27015
reliability, bibliography of literature 1−22963
respiratory valve, dead space rel. to tidal vol. 1−22149
rotary seal for extracorporeal blood processing system 1−4377
rotating aperture devices in X-ray tomography 1−43969
rotating aperture wheel device for improved contrast in special radiographic procedures 1−40004
scintillation camera, small, for 1D imaging 1−49110
scintillation camera collimators with straight parallel holes, geometric transfer function component 1−26994
scintillation cameras, correction for field nonuniformity by removal of spatial distortion 1−8982
scintillation cameras, evaluation by spherical lesion detectability 1−53881
scintillation cameras, field uniformity corrections, various parameter effects 1−35885
scintillation cameras, high resolution, performance and clinical appls. *(Japanese)* 1−32237
scintillation cameras, quantitative assessment of linearity 1−17489
scintographic medical imaging using superheated supercond. γ-ray detector, cryostat design 1−8978
Spiroscreen model SP-21, pulmonary diagnostic device 1−17518
Standard CEI 62-5, requirements *(Italian)* 1−35896
stereomicroscopy, continuous magnification variator for medical building-block system 1−49089
stereophotogrammetry marking and serialising, a simple technique 1−13308
stethophonendoscope SFON-1, Watchall-type 1−22084
stomatalogical instruments with fibre light pipes 1−8951
strain gauge analyser for blood microclots 1−49136
TESLA intensive and intermediary care unit central equipment 1−35913
test phantom for radiotherapy simulators and rotational treatment units 1−26977
thermal imaging system for diagnostic thermography 1−8969
thermovision, Soviet, apparatus and results 1−8974
tooth pulp vitality tester, constant-current pulse generator 1−44038
transmolybdenum fluorescent anodes for mammography 1−43980
transverse-continuous-rotate CT scanners, design constraints and reconstruction algorithms 1−49104

biomedical equipment continued
tumour scanning supercond. magnets for π^- therapy test facility 1−49125
TV-fluoroscopic visualisation of Mv therapeutic X-ray beams 1−17476
urological endoscopes, standardised designs in the Soviet Union 1−4349
US, infinite gate pulse Doppler 1−53845
US blood velocity signals, directional, system for real-time spectrum anal. and display 1−26969
US broadband focused transducers, pulse-echo beam width and axial response approxs. 1−53847
US catheter for intravascular blood flow meas. 1−26968
US coupler for linear array transducers and neonate heads, brain scanning appl. 1−53843
US diagnostic instruments, review 1−49085
US Doppler blood-flow probes, directional charcts. 1−53846
US hyperthermia treatment, computer controlled system 1−13302
US pneumotachometer, design and construct. 1−8931
US scanner, multimode real time 1−8938
US system, colour digital echo/Doppler image presentation 1−53844
vacuum extractor cup for fetal EEG and ECG recording during delivery 1−4375
Varian Clinac 6-100 linear accelerator, X-ray beam charcts. 1−26990
vestibular testing, clinical instrumentation system, eye movements anal. 1−13341
viewer, 3D, for multiple scan sections interpretation, brain biopsy appls. 1−17493
visual acuity determination, automatic instrument 1−22142
voice operated transducer for the disabled 1−13347
waveguide antennas, rectangular, open-ended, for medical diagnostics 1−4354
wedge design and dosimetry for 25-MV X-rays 1−17486
white finger diagnosis equipment, Danish *(Danish)* 1−35908
workload evaluation in Spacelab environment, bioinstrumentation 1−49133
X-ray diagnostic apparatus, selection of voltage control steps 1−39989
X-ray equipment, design advances, review 1−26980
X-ray equipment, technical aspects and installation, for patient diagnosis *(Portuguese)* 1−17472
X-ray image intensifier systems in 1980 1−43978
X-ray intensifying screens, appl. of Eu^{2+} fluoresc., book contrib. 1−9014
X-ray screens, method for expt. determ. of detective quantum efficiency 1−40914
X-ray systems, imaging quality anal. using ROC method *(German)* 1−9005
X-ray transaxial tomography using an incoherent optical processor 1−39987
xeroradiographical equipment, Soviet ERGA apparatuses 1−39994
y 1−8999
CdTe γ-ray detectors, medical appls. *(Italian)* 1−53856
Pb electroplated collimator for gamma-ray imaging 1−35909

biomedical measurement
see also biological techniques and instruments; biomedical equipment; electrocardiography; electroencephalography; radiography; X-ray apparatus
Achilles tendon reflex, quantitative estimation using an accelerometer *(Japanese)* 1−40018
airway area, meas. by acoustic reflections at the mouth 1−13296
airways, central, comparison of direct and acoustical meas. in physical models 1−13297
arterial cast haemodynamic meas., human, correl. with histology and luminal area 1−22107
articulating joints, apparatus for meas. of kinematic charcts. 1−22152
astigmatism, subliminal, detect. using a laser refractor 1−8942
biotelemeter for meas. of strain on surface of complete maxillary denture 1−49088
biotelemetric power meas. systems and possible applications 1−32298
blood coagulation, thermoconductometric method of study 1−44033
blood flow detection using flat crossed-coil NMR flowmeter 1−35854
blood flow through large vessel, determ. using computerised tomography 1−49101
blood manometry, noninvasive, new approach using interaction between US and bubbles 1−32215
blood pressure automatic meas. method 1−32301
blood/muscle interface detect. using Doppler power returns, dynamics and limitations 1−8930
body fluid changes monitoring by body impedance change meas. *(Swedish)* 1−35918
body kinematics, error magnification in centre and angle of rot., statistical approach 1−13344
bone, trabecular, mineral conc. assess. by coherent γ-ray scatt. 1−26992
bone demineralisation, holographic determ. in osteomalacia 1−8964
bone density determination by coherent-Compton scatt. 1−26991
bone mineral content of human vertebrae and hip, meas. by dual photon absorptiometry system 1−22124
brain, regional cerebral circulation meas., mobile device 1−27000
brain Hg levels determ. by neutron activation anal. 1−17474
bronchial tree, human, technique for meas. of α-activity on mucosal surface 1−17473
capacitive blood pressure transducer 1−35898
capillary radioimmunoassay for insulin 1−43949
cardiac frequency, digital meas. by microprocessor *(Spanish)* 1−22159
cardiac measuring system, non-invasive 1−17513
cardiac movement detection, theoretical anal. of EM interaction between resonator and lossy dielec. body 1−22104
cardiac output determination, theoretical validation of the thermal dilution method 1−9051
cardiac stroke volume, on-line computation 1−40016
cardiac upstroke, automatic detect. from peripheral pulse waveforms 1−53919
cell electrophoretic, mobility meas. with computer-controlled electrophoresis microscope 1−53948
cervical cells, model for low resolution slit scan meas. 1−35862
cervical spinal cord trace elements, α-particle excited X-ray fluoresc. anal. 1−53880
cineangiograms plan-guided anal. for meas. of dynamic behaviour of heart wall 1−22113
coded cephalometer for interactive multiple measurements of biparietal diameter 1−8939
colour vision testing, comparison of various types of fluoresc. lamps 1−8944

biomedical measurement continued
coronary artery diameter and contrast medium conc., determ. from angiograms 1−53874
dentures, complete upper set, holographic method for meas. of deforms. 1−8967
di-chromatic differential absorptiometry for assessment of lymphedema 1−26983
electro-pneumatic press. sensor for routine use 1−49141
electrogoniometer for human elbow joint rotation meas. 1−49149
electrohaemodynamics, basic principles, cardiac output meas. 1−53915
electrophysiological methods for the study of muscle, review 1−32268
EM blood flowmetry, multivessel models for quantitation and anal. of flow-induced signals 1−35740
EM flow probes for mitral flow meas. *(Japanese)* 1−13306
erythrocytes density distribution, influence of temp. on meas. 1−35895
facilities and metrological maintenance problems 1−32297
flow cytometry, review 1−27022
foetal biparietal diameter meas., linear-array hand-held scanner compared to compound scanner 1−53848
foetal movements, meas. by moving-coil transducer 1−27017
force vector ballistocardiograph for meas. of thoracic recoil forces *(German)* 1−4372
gait analysis, new automatic on-line method 1−49086
gait measurement reproducibility using the Lamoreux goniometer 1−53921
hand-grip force measurement, new appl. of strain gauges 1−32326
hearing aid measuremnts using revised standard (ANSI S3.22-1976) 1−4389
heat losses, regional, method for meas. in man 1−22150
histopathology, automated, scene segmentation, techniques evolved from cytology automation 1−35863
Hoffmann reflexes, multi-electrode recording 1−32267
holographic interferometry methods in dental medicine *(Czech)* 1−32226
holography and holographic interferometry appls. in medicine *(Czech)* 1−32223
impedance plethysmographic field calcs., generalisation of the Geselowitz relationship 1−22098
impedance plethysmography, base impedance rel. to its time derivative 1−40020
IR thermograms of bone and joint pathology, computer processing 1−8970
jaw osteosynthesis, accurate iconics studies of force lines using holographic interferometry 1−8962
joint rotation meas., justification for use of triaxial goniometer 1−49143
knee motion kinesiologic studies, FM/FM radio telemetry system 1−13307
laser Doppler flowmeter for tissue blood flow meas., evaluation 1−8952
laser use in medicine, suitability of He-Ne lasers *(Czech)* 1−32225
locomotion, human, integrated biomech.-bioenergetic technique for evaluation 1−17511
lumbar vertebrae mineral content meas., dual photon absorptiometry, baseline error evaluation 1−49094
lung oedema and congestion, meas. by peribronchial elec. admittance, method and dog expts. 1−27019
magnetic susceptometry of human Fe store, 1−8940
membrane separation processes, boundary layers meas. by holographic interferometry 1−8615
microwave thermography, tissues diagnosis based on thermal noise meas. *(French)* 1−35859
middle, press. meas. by single transducer and a half-wavelength transmission line 1−43928
Moire Contourgraph, accuracy anal., scoliosis detect. and anal. appl. 1−4355
moire topography, appl. to live human body *(Japanese)* 1−49092
muscle, tone measurement using printed motors as torque generators 1−49142
muscle stiffness measurement instrument, mammal appls. 1−4394
N, total amount in body, accuracy of determ. by neutron activation anal. 1−8997
neuroelectrical signals measurement 1−44040
ocular refraction measurement using visual evoked pots. *(German)* 1−4371
oculometric errors caused by movements of the observer's head 1−13311
ophthalmological measurements, realisation of instruments *(Rumanian)* 1−13340
optics and photonics, conf., Strasbourg, France (Nov. 1979) 1−5022
optoelectronic method for evaluation of cutaneous vasoconstriction and vasodilatation *(German)* 1−35851
oral mucous membrane temp. meas. in cryotherapy of precancerous disease 1−32305
organ Cd level meas. system, portable, using neutron activation anal. 1−8976
organ volume and surface area, estimation from 2D echocardiography 1−53840
photography, medical and biological illustration, conf., London, England (1980) 1−13905
photoplethysmography, noninvasive method for assessing lower extremity venous function 1−39985
placental blood flow, human, meas. by elec. impedance techniques 1−22155
plasma oncotic pressure, device for routine meas. 1−53920
posturography, quantitative, role of dynamic models 1−9050
pressure contours inside a plaster cast, monitor for plotting 1−49140
pressure recordings from corresponding sites of dura mater and brain *(German)* 1−17503
pulmonary dynamic compliance, computer meas., technique and reproducibility in man 1−13331
pulmonary functional residual capacity determ., patient-referred appl. of new analytical method 1−22146
pulmonary perfusion, meas. using a digitised ECG-triggered γ-ray absorpt. technique 1−49118
pulse, meas. form arterial point strain 1−35903
radiation therapy meas., computer appls. 1−22127
radioimmunoassay in vitro tests, Japan 79, 2nd quality control survey 1−53885
respiratory flow, US meas., review 1−8929
respiratory gas, anal. of small discrete samples by mass spectrometer 1−13303
respiratory impedance and source press., new meas. method 1−32286
retinal blood cell flow meas., using fundus camera laser Doppler velocimeter 1−39978
biomedical measurement continued
retinal blood flow meas. with laser Doppler velocimetry, clinical instrument development 1−43934
retinal blood velocity, laser Doppler anemometer for meas. 1−8965
saccadic eye movements quantification, mini computer technique 1−53916
saline and thermal diffusion flow meas., evaluation using an open hydraulic model 1−53918
scanning moire method for automatic 3-dimens. shape meas., scoliosis screening appls. 1−40753
secondary ion emission microanalysis 1−32328
skin, reflectance of different sites, He-Ne laser screening 1−43940
sonotubometry, accurate meas. of Eustachian tubal opening using sound transmission through to external auditory canal 1−4342
specific gravity measurement rel. to computerised tomography numbers 1−43964
spinal Ca, in vivo activation anal. using 25 keV neutrons 1−22118
stretch reflex identification, EMG response to human forearm displacement 1−44037
superconducting instrumentation for biomagnetic meas. 1−53851
teeth, PIXE studies on children 1−17471
therapeutic aerosol size distrib. and lung retention, laser Doppler meas. techniques 1−43841
thoracic gas volume, computer determ. using plethysmographic thoracic flow 1−13332
thyroid absolute activity in intravenous ^{123}I uptake tests, new method for calc. 1−26987
tissue blood perfusion rate, estimation from diffusible indicator meas. 1−22153
tissue haemoglobin O_2 saturation meas., noninvasive reflectance oximeter 1−32220
tissue local blood flow meas., combination isothermal-H_2 clearance system 1−53914
US probes, power meas. using a strain gauge technique 1−43925
ventilation measurement, comparison of 2- and 4-magnetometer methods 1−22099
ventilatory capacity, human, press.-sensitive transistor spirometer for assessment 1−13338
visual, colour discrimination, illumination of the Farnsworth-Munsell 100-hue test 1−43935
visual photometry, MDB technique and its historical background *(Italian)* 1−4348
Cd in human kidney cortex, in vivo meas. by X-ray fluoresc. anal. 1−43960
O_2 net transport, noninvasive meas., heat conductance model 1−13345
^{31}P NMR for metabolite localisation, new nonsurgical method 1−8956

biomedical phenomena
see also biomagnetism
heart disease, NMR study of mitochondrial water in myocardial ischemia 1−4252

biomedical ultrasonics
B-mode registration, new procedure for errors anal. 1−22086
B-scan imaging, real-time 2D, review of principles 1−43926
backscatter angular scatter, model studies 1−33850
bibliography 1−32815
bibliography from 1st Jan. 71 1−49894
bile duct diagnosis, current radiological situation *(German)* 1−9002
bilharzial polyps, US reflections and a means for treatment using microwaves 1−13300
biopsy procedures in brain, multiple scan sections interpretation, 3D viewer 1−17493
blood/muscle interface detect. using Doppler power returns, dynamics and limitations 1−8930
bones, tibial, of athletes, dosed phys. loads effect by US method 1−13275
brain scanning, simple device to couple linear array transducers to neonate heads 1−53843
brain tumour removal by acoustic irradiation, in vitro expts. at 10 to 40 kHz *(German)* 1−13295
cardiac disorders visual diagnosis using noninvasive 2-D echocardiography 1−26970
cardiac valve motion obs. by real-time US image reconstruction 1−43932
coded cephalometer for interactive multiple measurements of biparietal diameter 1−8939
colour digital echo/Doppler image presentation 1−53844
computerised tomography, US attenuation, appl. of phase insensitive detect. and freq.-dependent meas. 1−53839
computerised tomography, using transmissive US, breast cancer appl. 1−53838
computerised ultrasonic tomography *(German)* 1−35911
cutaneous wound tissue, acoustic microscope obs. with age 1−49082
CW US Doppler equipment, mixers, sensitivity and directional discrimination 1−22091
diagnostic applications, review *(Danish)* 1−39975
diagnostic equipment, real-time slow motion display 1−13298
diagnostic instruments, review 1−49085
digital synthesis of US images 1−39976
Doppler, blood flow meas., mean and peak vel. extraction 1−22094
Doppler, signals of moving blood, directional information extraction 1−22093
Doppler blood-flow probes, directional characts. 1−53846
Doppler flow velocity meter, optimum freq. and ionisation angle 1−8932
Doppler imaging, moving blood appl. 1−22096
Doppler monitoring of foetal heart rate, improved method 1−43927
Doppler returns from foetal heart, electronic processing method 1−32213
Doppler signals, real-time calc. of pulsatility index 1−32214
Doppler signals, spectrum anal. 1−22095
Doppler signals, spectrum rel. to time interval histogram 1−53849
Doppler systems, S/N ratios and mixers, meas. and standards 1−22090
Doppler systems, technology, conf., London, England (Oct. 80) 1−17941
Doppler transducers, reproducibility and output meas. 1−22097
Doppler US system for peripheral artery disease diagnosis 1−13299
Doppler-shift waveforms, physiological interpretation, clinical results 1−8935
Doppler-shift waveforms, physiological interpretation, common femoral artery appl. 1−8934
Duplex Scanner III, detect. of peripheral vascular disease 1−8933
echo reinforcement system for the blind 1−17465
echo-polymechanocardiography for clinical diagnosis 1−22085
echocardiogram, mode convertor fabrication 1−22087
echocardiographic method for estimation of organ vol. and surface area 1−53840

biomedical ultrasonics continued
echocardiographic tracking system, dynamic, variable gate width, microprocessor-based 1—32219
echoencephaloscopy for diagnosis of structural abnormalities by determ. of brain midline 1—32212
fetal cardiovascular dynamics, review, book contrib. 1—4346
foetal biparietal diameter meas., linear-array hand-held scanner compared to compound scanner 1—53848
foetal monitoring using US image analyser for dimensional quantification 1—15335
heart dynamics determ. from X-ray and US image sequences 1—53850
heterodyne US blood vel. meter 1—32216
hyperthermia, localised, US induction, preclinical and clinical studies 1—53820
hyperthermia system for tumour irrad. 1—49174
hyperthermia treatment, computer controlled system 1—13302
image detail improvement by using wide aperture, focused transducers 1—22088
incoherent insonification method for US transmission imaging 1—39977
infinite gate pulse Doppler 1—53845
intravascular blood flow meas. using US catheter 1—26968
lung, contrast clearance investigation, microbubble dynamics obs. 1—8937
lung, transmission US, appl. to lung tissue study 1—13301
muscle diseases diagnosis, appl. of wave scatt. theory 1—49084
myocardial tissue, relation between collagen and US backscatter 1—49083
neurosurgery, new technologies using lasers and US 1—8959
nonlinear acoustical effects demonstration at biomedical freqs. and intensities 1—33846
nonlinear effects at biomedical freqs. and intensities 1—33845
obstetrics and gynecology, diagnostic procedures *(Japanese)* 1—49156
Ocuscan 400, performance evaluation with the ECHOSIMULATOR 1—35843
optics applications in medical US 1—43930
phased-array US imaging system based on new type of delay compensation, focalisation props. 1—8928
pneumotachometer, design and construct. 1—8931
probes, power meas. using a strain gauge technique 1—43925
prop. vels. in biological tissue, estimation from unwrapped phase spectra using computer based technique 1—6740
pulse echo and Doppler reconstructive tomography 1—53854
pulse-echo beam width and axial response approxs. for broadband focused transducers 1—53847
pulsed Doppler systems, range increase for blood flow meas. 1—8936
pulsed US transducers, anal. of beam patterns using linear systems theory 1—37641
range gating, pros and cons 1—22092
reflectivity 3D imaging, exact inverse scatt. solns. for plane, cylindrical, and spherical apertures 1—51656
respiratory flow measurement, review 1—8929
review and comments on medical US, book 1—20
review of clinical and experimental appls. *(German)* 1—32218
review of new clinical appls., book contrib. 1—4345
review of new techniques, book contrib. 1—4344
safety, review, book contrib. 1—4347
scanner, multimode real time 1—8938
spectral analyser, high-speed time-domain, appl. to Doppler-shifted signals from blood vessels 1—43929
spectroscopic scattering expts. 1—39584
system for real-time spectrum anal. and display of directional Doppler US blood vel. signals 1—26969
thermoelastic generation of US waves, NDT appl. 1—26710
tissue acoustic imaging principles and techniques 1—43894
tissue characterisation, review, book contrib. 1—4343
tissue characterization, US scattering theory 1—6701
tomograms of attenuation, ultrasound transmission, coherent optical reconstruction 1—53842
tomography, state-of-the-art review *(Japanese)* 1—26971
tumour treatment, moderate hyperthermia 1—35846
US attenuation tomography, reconstruction with correction for refr. errors 1—53841
US phased array delay lines, quadrature sampling 1—24602
vertebral artery flow, non-invasive techniques recording 1—35844
vertebral artery imaging, technique using pulsed Doppler US 1—35845

biomembrane transport
see also osmosis
annual review of physical chemistry (book) 1—9789
asialoglycoprotein receptor, voltage-dependent translocation across lipid membranes 1—21990
bacteria, energised state stabilisation by Na^+/K^+ gradient 1—17368
bacteriorhodopsin and visual pigments, light energy transduction, review 1—13215
cardiac membrane vesicles, current generation by Na^+-Ca^{2+} exchange activity 1—32103
cardiac Purkinje fibres, canine, membrane currents following activity 1—39901
collagen membrane, elec. field control of permeability 1—13218
digital operation deceptivity in squid giant axon membrane expts. 1—9054
electric noise of ion channels formed by amphotericin B in bilayer lipid membranes 1—17354
electrogenic membrane transport in plants, review 1—21997
electrolyte diffusion through cellophane membranes, US effect 1—39687
electron transfer thermodynamics and its coupling to vectorial processes 1—13216
erythrocytes, human, effect of hydrostatic press. on ion transport and metabolism 1—26884
immersion weighing method for recording the flows through macroscopic membranes 1—13364
lipid bilayer electrical breakdown by diffusion pot. 1—17355
lipid bilayer ion transport, effect of lipid phase transition 1—17356
lipid bilayer membrane, struct. and dynamics studied using NMR, book contrib. 1—13217
lipid bilayer membranes, electron transfer, appl. to microelectronics 1—8826
muscle K^+ channel, gating and its dependence on the permeating ion species 1—43859
myelinated nerve membrane, increased charge displacement at reduced extracellular pH 1—8833
nerve membrane, current-coupled ion channels, statistical model 1—53780
p-nitophenylphosphatase in erythrocyte membrane, high press. nervous syndrome 1—43856

biomembrane transport continued
nonequilibrium in transport through pores 1—48967
spinal ganglion neuron somatic membrane, newborn rats, ion currents and action pot. obs. 1—17371
thermodynamics, irreversible, of steady state, collinearity and disequilibrium 1—208

biomembranes
see also biomembrane transport; lipid bilayers
bacterial, circular intensity differential light scatt. from helical structs. 1—29207
bacterial DNA-membrane complexes, stimulation of DNA synthesis after low doses of ionising radiation 1—13289
basilar membrane nonlinear model, two-tone suppression meas. *(Japanese)* 1—49000
bilayer lipid membranes, generation of higher alternating-current harmonics 1—17353
cell membrane particle diameters, computer meas. from electron micrographs 1—32327
cell membranes, stability to short and long wavelength perturbations 1—30528
chemical capacitance, critique of concept 1—39900
cholesteryl palmitate, in vesicle model membrane, D and ^{31}P NMR investig. 1—52848
cytokinesis in animal cells, biomech. theories 1—48969
dynamic rheological props. in biaxial elongation, testing device 1—44056
E. coli DNA, influence of membrane fluidity on radiation induced changes 1—22070
eardrum AF microscopic motion mes. by laser speckle vibrometry 1—44062
eardrum of guinea-pig, acoustic response meas. by laser speckle vibrometry 1—44061
E.coli membranes, protein-lipid interactions 1—39899
elastic bilayer membrane, model 1—39890
electron microscopy, structural anal., image treatment 1—53942
enzymes, paramag. probes in NMR and EPR studies, review 1—9059
erythrocyte cytoplasmic membrane surface, protein rotational diffusion meas. 1—21991
erythrocyte membranes, human, large scale isolation by high vol. mol. filtration 1—53944
erythrocyte membranes, human, struct. modification following γ-irrad. 1—8917
erythrocyte membranes, oligosaccharide motion, ps fluoresc. polarisation and ms dichroism of optical probe 1—53764
erythrocyte membranes, spin-label studies of lipid and protein components 1—43857
fluorescence resonance energy transfer on surfaces, calc. 1—26881
Fourier transform IR spectroscopy, appl. to study of natural and model membranes 1—13362
haemagglutinin membrane glycoprotein of influenza virus, struct. at 3 Å resolution 1—43849
IR difference spectroscopy of aq. model and biological membranes using IR data station 1—9058
lipid bilayer modified with mitochondrial Ca^{2+}-binding glycoprotein, elec.-parameters 1—35756
liposomal membrane, UV- and sunlight-induced lipid peroxidation 1—17461
liposomal membranes, radiation-induced lipid peroxidation and membrane permeability 1—32198
liposomes, struct., temp.-induced changes studied using fluoresc. prod. of peroxide oxidation 1—4251
liquid thin film thickness var. meas. using interference method 1—32958
liver, rat, phase transition temps., dietary fatty acid intake effect 1—39893
multicomponent system phase transition 1—43855
p-nitophenylphosphatase in erythrocyte membrane, high press. nervous syndrome 1—43856
nuclear envelope, radiation-induced invagination, Chinese hamster and mouse cells 1—26957
oral mucous membrane temp. meas. in cryotherapy of precancerous disease 1—32305
phospholipid bilayer model, phase transitions, critical indices 1—35758
phospholipid bilayers, correl. length and compressibility in presence of thermodynamic density fluctuations 1—8825
phospholipid vesicles, small, internal press., surface tension and surface free energy 1—8828
photon correlation spectroscopy of lipid membranes 1—32101
photosynthesis, membrane pot. contrib. to energy transfer 1—39895
purple membrane, Halobacterium halobium, radiation damage at low temp. 1—32211
purple membrane of Halobacterium halobium, elec. dichroism obs. 1—39959
purple membranes, surface charge changes rel. to bacteriorhodopsin photoreaction cycle 1—21992
spherocytes, hereditary, abnormalities in membrane material props. 1—22048
structural transitions, thermo-induced, animal organ expts. 1—35757
submicroscopic research, benefit of topo-optical reactions 1—35814
thin lipid membranes, discrete resistance changes 1—21989
tympanic membrane displacements to various acoustic stimuli, laser interferometer for meas. 1—9066
vertebate photoreceptor membrane preparation, rapid photo-induced changes in light scatter 1—35811
vertebrate photoreceptor membrane preps., rapid photo-induced changes in light scatter of retinal rods 1—35812
yeast cells in suspension, predominance of membrane damage with 163 nm VUV irrad. 1—22078

biomolecular effects of radiation
see also biological effects of .... (type of radiation)
see also photosynthesis
bacteriorhodopsin, direct and reverse photoreactions at low temps., ps time scale 1—35752
bacteriorhodopsin, new pathway in photoreaction pathway 1—48956
bacteriorhodopsin, picosecond spectroscopy at room, low temp., photoproduct form. 1—4248
carbonmonoxyhaemoglobin, sub ps photodissociation and time resolved spectroscopy of recombination processes 1—35753
dipeptides, γ-irrad., ESR of spin-trapped radicals 1—48958
DNA, γ-irrad., identification of chem. modifications of adenine moiety 1—4335
DNA, acoustic phonon effects on energy fluctuations 1—39961

biomolecular effects of radiation continued
DNA and RNA components, selective interaction of ultrashort UV laser pulses 1−35746
DNA molecules in situ in normal and neoplastic mouse tissues, radiation sensitivity 1−53824
ferricytochrome c, mechanism of direct photoreduction 1−26946
fibroblasts, Chinese hamster lung, UV-B exposure, effects on DNA 1−4333
laser selective photobiology, dye-biomol. complexes 1−35828
liver, DNA repair of UV damage in heterochromatin and euchromatin, rat obs. 1−8920
N-acetyl amino acids, γ-irrad., ESR of spin-trapped radicals 1−48958
nucleic acid components, selective action by ps light pulses 1−39965
nucleotides adsorbed in Al-AlO_2-Pb tunnel junction surface, UV radiation damage, inelastic electron tunnelling spectra 1−4334
photodynamic action, mol. biology 1−35748
photosynthesis, model systems, hydroquinones used as electron donors for chlorophyll+methy viologen reaction 1−8593
poliovirus, mechanisms of inactivation by direct and indirect effects of ionising radiation 1−17462
polycrystalline amino acids, γ-irrad., ESR of spin-trapped radicals 1−48958
thymine-(methyl-^{14}C), solid, autoradiolytic and γ-induced demethylation 1−4331

biomolecules *see macromolecules; molecular biophysics*

bionics *see biocybernetics*

biophysics
see also aerospace biophysics; biological fluid dynamics; biomechanics; cardiology; cellular biophysics; haemodynamics; hearing; molecular biophysics; speech; vision
bioluminescence in marine animals, bacterial origin 1−4404
bioluminescence of squid, diel colour change during counterillumination 1−4405
bioluminescent midocean animals, counterillumination and depth limits 1−49177
biopolymers, conduction mechanism 1−47649
conference, Denver, USA (Feb. 1981) 1−36447
conference on physics in medicine and biology, Pretoria, South Africa (Apr. 80) 1−49874
EM energy deposition, numerical calc. for realistic model of man, comment 1−4322
EM energy deposition dependence on angle of incidence calc., for inhomogeneous block model of man 1−49062
EM-energy deposition in inhomogeneous block model of man 1−26936
extraocular photoreceptive areas on genitalia of buttergly Papilio xuthus 1−32185
gamma-ray spectra measured in a tissue-equivalent medium irradiated with neutron radiotherapy sources 1−53817
human body polarisation effect on radiation pattern of small local antennas, meas. and calc. methods *(German)* 1−13284
kernels, higher order Wiener and Volterra, characterising features estimation, biological appl. 1−21973
maser-like stimulated IR emission from water vapour doped with NH_3 and insect pheromone 1−17454
microdosimetry, proximity functions for electrons up to 10 keV 1−43892
muscle, single skeletal fibres, quasi-elastic light-scatt. studies 1−32184
nonlinear dynamic models, wave props. 1−53744
RF power absorption in spheroidal human and animal phantoms exposed dipole source near field 1−53816
thermodynamics, irreversible, of steady state, collinearity and disequilibrium 1−208
time in biological systems, geometry (book) 1−9775
tissue-blood partition coeff. for Xe, temp. and haematocrit dependence 1−27048
tissue-equivalent gas, stopping powers for 40-200 keV protons 1−8899
X-ray attenuation coefficients at 9.88-59.32 keV for 44 materials and tissues 1−43893
^{20}Ne ions, energy deposition in tissue in nm regions 1−22059

biorheology
airways, augmented diffusion, support of pulmonary gas exchange 1−26923
DL-alanine in acetonitrile-H_2O mixture, viscosity and density determ. between 25 and 40°C 1−22023
arterial wall, ^{125}I-albumin transport, influence of transmural press. and shear 1−49040
arterial wall tissue and elastomers, microrheology 1−49041
arterial wall viscoelasticity, model for predicting pulse waves 1−49055
atherosclerosis initiation, effects of drag reducing polymers 1−53813
bile salt, sodium deoxycholate, viscoelastic effects, US meas. 1−26920
blood, arteriole pulsatile flow, theoretical anal. 1−53803
blood, flow in transfusion systems 1−53804
blood, Maxwell fluid behaviour at low shear rate 1−53800
blood, peripheral layer viscosity, effect on arterial flow in mild stenosis 1−32157
blood, rheology of normal samples artificially modified *(French)* 1−35805
blood, whole, human, comparison of constitutive rheological functions 1−39948
blood flow in capillary tubes, curvature and gravity effects 1−53799
blood microclots, strain gauge analyser 1−49136
blood propagation characteristics in distensible tubes containing a viscoelastic fluid 1−53809
blood rheological and ultrastruct. props. in liquid state storage, abnormal cell forms *(French)* 1−39956
blood rheological transfer function, multiparametric model *(French)* 1−35803
blood rheology, principles and appls. *(French)* 1−35802
blood spectroscopy *(French)* 1−40030
blood transfusion, effect on haemoglobin flow and O_2 delivery, sickle cell anemia patients 1−13272
blood viscosity at low shear rate in diabetes 1−53801
body fluid changes monitoring by body impedance change meas. *(Swedish)* 1−35918
bronchial bifurcation model, mass transport obs. 1−17443
bronchial secretion, rheological props. and mucociliary transport 1−49039
capillary blood flow and struct., response to hyperthermic local tumour heating 1−53761
cardiac muscle, excised quiescent, study and parameters identification of rheological model 1−53808
cerebral cortical strokes, mapping by laser Doppler spectroscopy 1−13365

biorheology continued
compact bone, dog, dynamic viscoelastic props. variation during fatigue process 1−13266
electrocapillary flowmeter usable as a quantitative sweat detector 1−27020
erythrocyte deformability, optical diffusion technique for study *(French)* 1−35920
erythrocyte sedimentation, hydrodynamic theory 1−49048
erythrocytes, sedimentation vel. rel. to temp. 1−35792
fibre optic microfluorimetry for acute and chronic in-vivo animal studies 1−22177
fibrinogen-thrombin solutions, anal. of clotting curves of complex dynamic rigidity 1−39950
fluid transport across the canine tracheal epithelium 1−49029
glycine in acetonitrile-H_2O mixture, viscosity and density determ. between 25 and 40°C 1−22023
haemoglobin gels, unsheared, solid-like behaviour in sickle cell disease 1−26932
haemolysis during filtration through micropores 1−39953
haemorheology of turbulence 1−53797
hysteresis rheogram of human blood, math. anal. 1−53805
intervertebral discs, creep behaviour under a constant axial compressive load 1−32164
liquid breathing, ventilation-perfusion lines and gas exchange, theory 1−26924
lung, microcirculation and material exchange, O_2 transfer *(Japanese)* 1−43888
lung, regional perfusion, dog, effects of pulmonary oedema 1−49028
lung, ventilation-perfusion ratio distributions of foreign gas intravenously infused 1−26931
lysozyme aqueous solution, diffusion coeff. meas. using optical beating spectroscopy 1−17441
microcirculatory haemodynamics and theology *(Japanese)* 1−39955
microcirculatory structure and flow, microscopic appearance *(Japanese)* 1−8890
microvascular pressures in the isolated perfused dog lung, direct meas. 1−49050
models, 2 closed 2-compartment models with time-delay 1−21972
mucus, tracheal and bronchial, vel. obs., rel. to lung clearance 1−22026
mucus viscoelasticity rel. to ciliary transport in guaran gel/frog palate model system 1−39949
muscle contraction, active fibers number influence 1−49046
ocular blood flow, radionuclide studies 1−26982
perfusion heterogeneity, influence on indicator extraction 1−39957
pericardial effection, influence on the heart 1−22055
placental blood flow, human, meas. by elec. impedance techniques 1−22155
polycythaemic blood in transient flow, rheological study *(French)* 1−35804
pulmonary perfusion, meas. using a digitised ECG-triggered γ-ray absorpt. technique 1−49118
red cell permeability, effect on transcapillary tracer transport 1−32156
retinal blood cell flow meas., using fundus camera laser Doppler velocimeter 1−39978
retinal blood flow meas. with laser Doppler velocimetry, clinical instrument development 1−43934
retinal macular capillaries, blue field entoptic phenomenon and blood velocity 1−17387
review of biorheology, past, present and future 1−8891
rheography, direct, routine diagnostic exam. of blood flow disturbances 1−44041
soft tissues, dynamic rheological props. in biaxial elongation, testing device 1−44056
soft tissues, nonlinear viscoelastic constitutive eqn. 1−4311
sputum, relax. behaviour, raised cosine pulse method obs. 1−53802
synovial fluid, rheological behaviour 1−53798
tendon, human hand, dynamic viscoelastic behaviour in vitro 1−35800
tendon, mammalian, microstruct. model for rheology 1−49057
textured lamellar system, rheology of water-natural lecithin *(French)* 1−8892
tissue blood perfusion rate, estimation from diffusible indicator meas. 1−22153
tissue local blood flow meas., combination isothermal-H_2 clearance system 1−53914
vascular rheology, compressibility study 1−35807
vascular tissue, math. characterisation of the nonlinear rheological behaviour 1−39946
xanthomonas campestris polysaccharide, conform. and shear stability 1−49049
O_2 diffusion from capillary layers 1−4316

Biot-Savart law *see electromagnetism*

biothermics
2450 MHz slab-loaded direct contact applicator with choke 1−26973
bacteriophage T4-coded gene 32 protein, cooperative binding to nucleic acid lattices 1−8799
bird, radiative heat load, body posture and colour effects 1−4250
brain, selective microwave irrad., time-temp. profiles in rats 1−35813
brainstem auditory evoked pots., cat, effects of temp. and acute alcohol intoxication 1−4291
breast cancer, appl. of microwave (9 GHz) radiothermometry 1−8973
breast cancer screening, stress thermography, IR meas. 1−13312
breast thermographs, direct meas. and on-line automatic interpretation 1−43943
brown adipose tissue and diet-induced thermogenesis 1−48966
brown adipose tissue thermogenesis, activation by ventromedial hypothalamus, rat expts. 1−39886
C3H-10T$^1/_2$ cells, modification of X-ray effects by hyperthermia and 5-bromodeoxyuridine 1−39974
cancer early detection enhancement, using dual-mode microwave system 1−53852
cancer therapy by hyperthermia and radiation, basic problems *(Japanese)* 1−53884
cancer therapy using hyperthermia, implantable radiators, types and problems *(Czech)* 1−43944
cancer treatment, using microwave radiation (915 to 2450 MHz) *(Spanish)* 1−35866
cardiac output determination, theoretical validation of the thermal dilution method 1−9051
cartilage, baby rat, growth inhibition by combined hyperthermia and X-rays 1−22068

biothermics continued
cell biology of hyperthermia and radiation 1−53831
cell hyperthermia by water bath and HF waves, differences between 42°C and 44°C 1−53822
cell killing, heat-induced, comparison of 2 math. models 1−21995
cell survival and phase response following ionising radiation and hyperthermia 1−43917
cellular heat and radiation sensitivity obs. 1−39967
CHO cells, interaction of hyperthermia and radiation 1−32190
corneal endothelial cells, intracellular pots., rabbit culture, response to temp. and ouabain 1−35780
cryosurgical system, cooling power 60 W at −195°C *(Czech)* 1−44926
cytochrome P-450, thermal inactivation 1−35754
DNA, differential scanning calorimetry studies on dehydration 1−48963
DNA, psi-transition, scaling theory 1−38231
DNA, short restriction fragments, melting curves calcs. 1−35755
DNA, stability in nucleosomes, calorimetric obs. 1−13223
DNA restriction fragments containing lactose operon promoter sequence, helix-coil transition, differential melting curve 1−39872
Drosophila eggs, US effects, heating mechanism obs. 1−8903
energy expended during O_2 deficit period of submax. exercise is man 1−13267
energy expenditure during O_2 deficit of submax. concentric and eccentric exercise 1−17366
erythrocytes, sedimentation vel. rel. to temp. 1−35792
erythrocytes density distribution, influence of temp. on meas. 1−35895
gastrointestinal haemorrhage thermocoagulation by convective heat transfer, efficacy obs. 1−4383
haemoglobin, human, energetics of subunit assembly and ligand binding 1−8797
hyperthermia, alterations in tumour microvasculature 1−39888
hyperthermia, effect on vascular function, pH and cell survival 1−53760
hyperthermia, effects on normal and tumour microenvironment 1−39889
hyperthermia, fractionated, mouse foot reaction after equal doses 1−39884
hyperthermia, inexpensive variable-freq. microwave system 1−22106
hyperthermia, localised, US induction, preclinical and clinical studies 1−53820
hyperthermia, physiological effects 1−39887
hyperthermia, response of a spontaneous murine tumour 1−17352
hyperthermia, response of capillary blood flow and struct. to local tumour heating 1−53761
hyperthermia, thermal interactions between normal and neoplastic tissue, animal obs. 1−8823
hyperthermia application, thermal distrib. near a hot sphere *(French)* 1−8822
hyperthermia with implanted electrodes 1−40023
IC temperature transducer for clinical use 1−23232
imaging system for diagnostic thermography 1−8969
implantable telemetering system for use in long-term post-operative monitoring of temp. 1−13314
infants, prematurely born, study of critical time exposure to cold environments 1−32100
IR imaging, medical optics and photonics, conf., Strasbourg, France (Nov. 1979) 1−5022
IR thermograms of bone and joint pathology, computer processing 1−8970
laser heating, radiometric monitoring of exposure-site temp. 1−49175
laser irradiated tissue, thermal effects due to a CW CO_2 laser beam 1−8907
life, existence in extremes of temp. and press. 1−48940
life at low temp. and water levels 1−8824
limbs, human, realistic cylindrical models, microwave heating 1−22066
liposomes, struct., temp.-induced changes studied using fluoresc. prod. of peroxide oxidation 1−4251
liver, rabbit, CO_2 laser irrad., thermal damage 1−22062
liver membranes, rat, phase transition temps., dietary fatty acid intake effect 1−39893
locomotion, energy cost and heat balance during rest and running, 0-55°C, patas monkey 1−48964
mammary carcinoma cells, effect of hyperthermia on hypoxic fraction 1−48962
medical digital thermometer 1−22143
membrane electron transfer thermodynamics and its coupling to vectorial processes 1−13216
membrane structural transitions, thermo-induced, animal organ expts. 1−35757
microcalorimetry of biological systems, book contrib. 1−13371
microstrip radiator for local tissue heating in medical therapy 1−26974
microwave applicators for localised hyperthermic treatment of prostatic cancer 1−43938
microwave hyperthermia, use of liquid dielectrics to obtain spatial thermal distribs. 1−8954
microwave irradiated biological material, temp. meas. by Cu-constantan thermocouples 1−27029
microwave irradiation, some approaches to modelling of thermal stress 1−35810
microwave radiometry, physical basis and technology 1−8971
microwave thermography, clinical appls. 1−8972
microwave thermography, subcutaneous human tissue, waveguide probe modelling, thermal pattern recognition 1−22108
microwave thermography, tissues diagnosis based on thermal noise meas. *(French)* 1−35859
oncogenic transformation by X-rays and hyperthermia, mouse embryo cells 1−21987
oxycobalt-myoglobin, freezing induced change in ligand orientation 1−21982
phospholipid bilayers, correl. length and compressibility in presence of thermodynamic density fluctuations 1−8825
phospholipid vesicles, small, internal press., surface tension and surface free energy 1−8828
physiological responses of men and women to humid and dry heat 1−17351
plant canopy, thermal IR exitance model 1−49061
polyadenylic acid, differential scanning calorimetry studies on dehydration 1−48963
proteins, globular, thermodynamics of small-amplitude conformational fluctuations 1−53755
regional heat losses, method for meas. in man 1−22150
respiratory heat loss, airway effects in normal subjects 1−48965
retinal PII responses, rat, light adaption and temp. effects 1−13239
biothermics continued
retinal temperature rise due to long-term laser irrad., rhesus monkey obs. 1−22063
RF hyperthermia, absorbed power in agar phantom expts., cancer therapy appl. 1−26938
RF hyperthermia for malignant tumour therapy 1−43937
rhodopsin and its photoproducts, octopus, behaviour at very low temps. 1−8863
t-ribonucleic acid, struct. and dynamics, high resolution NMR and X-ray anal., book contrib. 1−13209
ribosomal 16S RNA from E. coli, microcalorimetric investigation of melting 1−17350
sensory-motor system of the normal man, aging effects *(French)* 1−8886
skin, temp. elevation and heat diffusion with electrosurgical currents 1−39885
soft tissue temperature determ., microthermocouple 1−53937
somatosensory evoked potential, waveform of group mean of normal human subjects 1−17412
somatosensory evoked potentials, abnormalities with remote focal brain lesions 1−4299
somatosensory evoked potentials, method for identifying noise-free components 1−32086
somatosensory evoked potentials, short latency, focal neurological disease patients 1−17410
somatosensory evoked potentials and afferent conduction times 1−26916
somatosensory evoked potentials in children with CNS degenerative disease 1−26915
somatosensory evoked potentials recorded over the spinal cord and brain of man, characts. 1−32152
somatosensory potentials, mech. and elec. evoked, effects of stimulus presentation rate 1−17411
somatosensory scalp recorded pots., topography, elec. stimulation of digits 1−26917
thermoconductometric method of studying blood coagulation 1−44033
thermoregulation, anal. of influences on heart-rate variability 1−32099
thermoregulation during rest and exercise in different postures in a hot humid environment 1−21988
thermoregulation in doves, a novel oesophageal heat exchanger 1−53762
thermoregulatory response to cold, rat, effects of gravitational profiles 1−22037
tissue response to heat alone or in combination with radiation 1−53763
Tradescantia clone 02, freq. of micronuclei, in roof-tips, effects of diurnal temp. difference and ^{60}Co γ-rays 1−35833
transfer of heat and mass through coats and clothing, windspeed effects 1−8821
tumour, experimental, simultaneous and sequential hyperthermia and radiation treatment, mice 1−39966
US hyperthermia system for tumour irrad. 1−49174
US hyperthermia treatment, computer controlled system 1−13302
US tumour treatment, moderate hyperthermia 1−35846
yeast, cytokinetic investigations with X-irrad. and hyperthermia 1−13294
yeast metabolism, flow-calorimetry of aerobic batch cultures 1−48971
O_2 net transport, noninvasive meas., heat conductance model 1−13345

biotite *see mica*

biotransport
see also biodiffusion; biological fluid dynamics; biomembrane transport; cellular transport and dynamics; neurophysiology
bronchial bifurcation model, mass transport obs. 1−17443
ciliary transport rel. to mucus viscoelasticity in guaran gel/frog palate model system 1−39949
fluid transport across the canine tracheal epithelium 1−49029
gas exchange in the lungs, math. anal. 1−4242
Hippuran, extended 3-compartment model for transport and distrib. 1−48942
O_2 net transport, noninvasive meas., heat conductance model 1−13345

bipolar transistor circuits
Used for general papers and papers where use of bipolar transistors is significant
low DC generation by nonlinear matched pairs of bipolar transistors 1−28026
thermometer, using monolithic dual transistors and digital voltmeter indication 1−18223

bipolar transistors
heavily doped emitter region, minority carrier injection and storage, approx. soln. for Auger recomb. 1−34781
hot electron diffusion across base 1−34780
lifetimes and recombination currents determ. 1−32016
n-p-n, X-ray effects on conduction mechanisms and LF noise 1−7683
VMOS power transistors, radiation effect expts. 1−2503

bipoles *see network analysis; network synthesis*

birefringence
see also flow birefringence; Kerr electro-optical effect; light polarisation; magneto-optical effects; mechanical birefringence; optical constants; optical rotation
n-alkane liquids, mol. orientational correl. and local order 1−52040
ammonium Rochelle salt crystal, paraelec., nonlinear temp. changes of optical characts. *(Russian)* 1−52914
ammonium Rochelle salt-Rochelle salt system, optical, dielec., piezo-optical, piezoelec. props. 1−8006
anisotropic spectral holes, laser pulse shaping device based on Fourier synthesis using optical anisotropies produced by spectral hole burning 1−46407
biaxial crystal, approximate soln. of ellipsometric eqns. 1−15071
cholesteryl laurate crystals, birefringence and mol. arrangement 1−16548
crystals, birefringent, optical activity and absorption for various azimuths of incident light polarisation 1−31122
4,4'-dialkylazoxybenzenes, unsymmetrical, synthesis and phys. props. 1−2316
extraordinary ray trajectory as crystal rotates, general formulae *(Chinese)* 1−43093
ferrofluids, magnetic birefringence 1−26174
fibres, optical, polarisation 1−11101
field-gradient induced birefringence in liquids, meas., comparison of two electrode systems 1−33030
film fabrication by applying controlled stress 1−24530
gas, optical anisotropy in stimulated Raman scatt. 1−1650
heterodispersed systems, mag. induced optical anisotropy 1−10916
hexagonal crystals, polarised luminesc. calc. of anisotropic centres 1−35088

birefringence continued
Iceland spar, extraordinary ray trajectory as crystal rotates *(Chinese)* 1−43093
intracavity polarisation spectroscopy, Doppler-free, competition effects 1−14187
Jones matrix formalism extension to refl. problems and mag. materials 1−29208
lens, birefringent, HF enhancement by subtraction of focused, defocused images 1−46237
liquid crystals, optical, mech. and elec. props. rel. to mol. ordering, book contrib. 1−38271
lithium formate crystals, biaxial nonlinear, vector interactions and non-linear conical refr. 1−6601
measurement technique using sinusoidal digital lock-in system 1−18272
multifunction light-polarisation convertor with birefringent polymer film 1−29372
multimode birefringent fibres, polarisation presentation 1−46558
naphthalene, birefringence and Kerr const., quadrupole moment 1−46165
β-naphthol, birefringence temp. depend. 1−16546
nerve function, pulsed and CW microwave energy effects detected by birefringence meas. 1−8905
4-n-octyl-4′-cyanodiphenyl/4-n-decyl-4′-cyanodiphenyl mixture, smectic A-nematic phase transition 1−2606
optical fibres, long single-mode, polarisation mode coupling 1−11104
optical fibres with very small or very large birefr. for polarisation depend. appls. 1−41848
paraffin crystal, polarisability tensor of the methylene group birefringence 1−35010
photodichroic silicate glass surface laser recording material, recording effects 1−6626
photographic emulsion, polarisation sensitive, interferogram of light vibrs. 1−50200
photon statistics and self-induced gyrotropic birefringence 1−10949
polarisability orientational pair correlations, Kerr and Cotton-Mouton effects, local electric field theory 1−37362
polarisation-optical exam. using a full-wave plate in subparallel position 1−33036
polyethylene, injection moulded, crystn. and amorphous orientations 1−43366
polymer soluctions, dynamic elec. birefringence meas. using sinusoidal digital lock-in system 1−18272
polyvinyl alcohol fibres, refr. index and birefringence meas., comparison of meas. methods 1−33039
prisms with variable splitting angle, props. 1−11069
quartz, anomaly in β-phase near α-β transition 1−25424
radial birefringent element, laser resonator design appl. 1−11074
self-focusing optical elements, polarisation props. 1−6623
SHG, near field index inhomogeneities 1−41776
single mode fibres with asymmetrical refractive index pits on both sides of core 1−46560
small doubly refracting crystals, principal refr. index determ., Duc de Chaulnes method refinements 1−328
Solc elements in Lyot-Ohman filters 1−6640
solid-solid transform, hysteresis loop monitoring with photometer addition to polarising microscope 1−47223
Teflon and correl. with edge elec. breakdown due to electron beam 1−34984
thiourea, elec. field phase diagram, optical birefringence study 1−48015
thiourea crystal, birefringence temp. depend. 1−16547
1,3,5-trifluorobenzene, orientational correl. param. 1−30023
1,3,5-trimethylbenzene, orientational correl. param. 1−30023
tunable narrow-band optical filters based on selective interference of polarized beams 1−6639
twisted dielectric media, Brillouin diagrams for optical wave propag., group theoretical treatment 1−51373
US birefringence technique for stress meas. in orthotropic materials, stress-acoustic relations 1−24582
viscoelastic, birefringence in unloading process under combined stresses 1−43094
zero crossing birefringent filters 1−19412
$Ba_2NaNb_5O_{15}$, incommensurate phases, X-ray diffr., birefr., and DTA meas. 1−34472
$BaTiO_3$, optical props., phase transition effects, tight-binding energy band calcs. 1−39059
$BaTiO_3$, refr. indices determ. using polarisation by refl. 1−3348
$Bi_{12}GeO_{20}$, optically active cryst., dislocation and subboundary obs. using refl. birefringence topography *(Chinese)* 1−48026
$C_6H_5SM(CH_3)_3$, M=C, Si, Ge or Sn, elec. birefringence, dipole moment, soln. conform. obs. 1−24279
CS_2, quadrupole moment, mag. anisotropy, birefringence const. 1−46164
$CdGa_2S_4$ single crystals, birefr. in 0.4-2 μm region 1−43096
$CsCoCl_3$, one-dimens. antiferromag., short-range-order, optical birefringence obs. 1−12304
CsH_2AsO_4, electrooptical props. near Curie point 1−12476
CsH_2PO_4, ferroelec., birefringence meas. 1−21165
$CsNiCl_3$, one-dimens. antiferromag., short-range-order, optical birefringence obs. 1−12304
Fe_3O_4, ferrofluid, magneto-optical effects 1−26175
Hg_2Cl_2, ferroelastic phase transition, biaxial behaviour and spontaneous birefringence 1−25426
$KTaO_3$:Li, birefringence meas. 1−35009
$LiNbO_3$, refractive index, temp. depend., transition metal impurity effects 1−12469
$LiNbO_3$:Ti wavelength TE to TM mode convertor with low drive voltage 1−11183
$(NH_4)_{1-x}A_xBr$, A=Cs, Rb, K, order-disorder transitions obs. *(German)* 1−52292
$(NH_4)_{1-x}A_xCl$, A=Cs, Rb, K, order-disorder transitions obs. *(German)* 1−52292
Na, polarisation spectroscopy, optical pumping theory 1−51170
NaF, polarisation spectroscopy meas. of homogeneous linewidth of inhomogeneously broadened N_1-centre band 1−26245
PLZT polycrystalline solid solns., birefringence mechanism in longitudinal electrooptical effect conds. *(Russian)* 1−48032
$Pb_{1-x}Ge_xTe$, refr. index and opt. energy gap, anomalies of temp. coeffs. at ferroelec. transition 1−26163
$Pb_3(PO_4)_2$, ferroelastic, temp. depend. of spontaneous birefringence 1−3363
$Pb_3(PO_4)_2$-$Pb_3(AsO_4)_2$, ferroelastic phases, X-ray and optical studies 1−48330
birefringence continued
$RbNiCl_3$, one-dimens. antiferromag., short-range-order, optical birefringence obs. 1−12304
$Ta_2O_xN_y$, birefringent thin-film waveguide with taper, TM_0-TE_0 conversion 1−11180
ZnS, Brillouin scatt. by injected acoustic domains 1−16576

bismuth
see also nuclei with .....
adsorption and initial film growth on Si (111), first adlayer struct. effect on sticking coeff. 1−47386
amorphous film, elec. resist., temp. depend. meas. 1−30745
anomalous skin conditions, nonlinear effects, review 1−7652
atom, electron impact L-subshell ionisation cross-sections, 60-600 keV 1−1388
atom, M X-ray production cross sections for proton impact 1−24265
atom, parity nonconservation, optical rotation obs. 1−46151
atomic vapour, optical activity, parity nonconservation, weak interaction neutral currents *(Russian)* 1−11510
atoms, electron affinities, PES 1−46149
atoms, Rayleigh γ-scatt. cross section, anomalous energy depend. 1−45921
black coatings with high elec. resist., for IR and visible detectors 1−37564
dielectric function based on two-band model 1−52510
electron Fermi energy, at high temp., numerical iteration technique 1−34618
electron Fermi surface hydrostatic press. effect 1−52470
film, amorphous, temp. depend. of elec. resist., supercond. fluctuations *(Russian)* 1−20920
film, cyclotron resonance at optical freq. in superstrong mag. field *(Russian)* 1−26041
film, deposition on cleaved surface of stearic acid single crystal *(Japanese)* 1−2838
film, opt. props. in near IR 1−3515
film, temp. depend. of kinetic coeffs., Hall const. and thermo-EMF meas. *(Russian)* 1−42873
films, amorphous, vacuum-deposited, superconducting transition, crystn. 1−47776
geochemistry of crustal rocks, Cd, Bi, Tl, Pb, Zn Rb contents 1−40095
germanate glass:Bi^{3+}, $^3P_1$ and $^3P_0$ excited states, time-resolved laser-induced fluoresc. band narrowing study 1−3483
germanate glass:Bu^{3+}, Eu^{3+}, interaction mech. in Bi^{3+}-Eu^{3+} energy transfer at low temps. 1−52982
giant quantum sound attenuation below 1K, Fermi and Landau levels 1−47435
giant quantum ultrasonic attenuation, anomalous freq. depend. below 1K 1−2571
heating and energy relaxation time of electrons and holes *(Russian)* 1−34725
laser irradiated, effect of thermophysical props. on evaporation conditions 1−21296
liquid, double hard sphere model 1−30040
liquid, elec. resist. anomaly at high press. and temp., melting curve form 1−20721
liquid, electrical resistance meas., high press. studies 1−42739
liquid, transport coeff. calc. from effective interatomic pot. 1−30692
liquid, with Sb additive, liq. metal embrittlement of Cu 1−35365
liquid and noncrystalline solid, structure factors, X-ray diffraction study 1−30034
longitudinal magnetostricton above last quantum limit 1−31006
longitudinal thermopower meas. mag. field depend. *(Russian)* 1−20781
magnetic susceptibility, 90 to 540K, temp. depend. 1−25866
multiplication zones, in LiF-BeFe fusion reactor blankets, effect on ^{232}Th, ^{235}U fission rates 1−10525
nonlinear characteristics, quantum oscills. under strong electron heating 1−25741
parity violation, atomic physics checks 1−10856
phonon-subband exciton interaction, magneto-far IR studies 1−30641
polycrystalline sample, magnetoresist. and circulating Hall currents meas. 1−30771
quantum-electromagnetic excitations, semiclassical approach 1−42806
resistance increase on deformation at low temp. *(Russian)* 1−30795
Shubnikov-de Haas oscills. freq. charge during dilation 1−20298
spatially inhomogeneous current transport in mag. field 1−2944
strain amplitude of US travelling wave at He temps. 1−19524
transition pressures, I-II and II-III, temp. coeffs. 1−2613
transverse Nernst-Ettingshausen coeff. temp. depend. *(Russian)* 1−52546
trigonal, thermal cond. and thermopower, size depend. at liq. He temp. 1−42803
Bi I and Bi II, transition probabilities, exptl. determ. 1−51161
Bi, molten, X-ray diffr. investig. *(German)* 1−52050
Bi^-, PES 1−46149
Bi^{3+} in solids, luminesc. levels 1−8107
Bi/Ag bilayer films, elec. resist., temp. depend. 1−38872
Bi-$BiBr_3$ mixture, molten, press. effect on elec. cond. and US vel. near miscibility gap, metal-nonmetal transition 1−25772
Bi-$BiBr_3$ mixture, molten, ^{209}Bi NMR obs. in metal-nonmetal transition range 1−26053
Bi-CdTe pair superlattice, elec. optical and struct. props. 1−38846
Bi-Fe amorphous sandwiches, supercond., proximity effect and transition temp. meas. 1−42919
Bi_n, (N≥2), matrix Raman spectra 1−41383
Bi_n (n=1,2,3,4), inert gas matrices, Raman obs. 1−14904
^{207}Bi light pulser for stabilization of scintillation and lead glass Cherenkov detectors 1−1025
^{209}Bi+^{209}Bi, 1 GeV, MO X-ray ang. distribs., Doppler shift and anisotropy 1−6354
C-Ge(Si):B, double layer struct., implanted ion distrib. backscattering meas. 1−7201
CaO:Bi^{3+} 1−12076
CdI_2:Bi, optical props., absorpt. and emission bands *(Russian)* 1−43148
CeSb:Bi(As), magnetization and neutron diffr. studies 1−47915
Ge:Bi, even parity excited donor states from bound exciton two-electron transitions 1−48143
Nb-Bi-Nb semimetal-barrier quasi-planar Josephson junction 1−47813
Pb-Bi thin film struct., low temp. reactions 1−34523
PbI_2:Bi^{3+}, vacancy transport, impurity-vacancy dipole props., ionic cond., dielec. loss and ionic thermocurrent meas. 1−2681

bismuth continued
PbO:Bi, single crystal growth *(Japanese)* 1−3599
Si-Ge:Bi, double layer struct., implanted ion distrib. backscattering meas. 1−7201

bismuth alloys
see also bismuth compounds
Al-PbBi heterojunction spectrometer for studying bremsstrahlung and recombination phonons 1−15975
Al-PbBi tunnel junctions, normal and supercond., thermoelec. effect 1−20926
Bi-bearing binary substitutional solns., thermodynamics 1−30426
Bi-Ga, preparation in quasi-weightless conditions *(Russian)* 1−16712
Bi-Ga-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
Bi-Ga-Zn, partial free energy, liquidus surface, enthalpies of form. 1−53456
Bi-In alloys, molten, US vel. and absorpt. *(German)* 1−52232
Bi-In molten, X-ray diffr. investig. *(German)* 1−52050
Bi-MnBi composite, mag. props., effects of plane-front solidification and heat treatment 1−12345
Bi-Pb-Cd system, sign inversion of Pb effective charge *(Slovak)* 1−12720
Bi-Pb-Cd system, sign inversion of Pb effective charge, exptl. proof *(Slovak)* 1−48327
Bi-Pr superconductor, tunnelling, cryst. elec. field manifestations 1−25842
Bi-Sb, heat cond. at low temp., scatt. mechanism 1−52539
n-Bi-Sb, magnetoplasma waves propagated along trigonal axis, magnetoresist. tensor 1−20794
Bi-Sb alloy monocrystal growth from cooled seed 1−53085
Bi-Sb-Te, electron Fermi surface hydrostatic press. effect 1−52470
Bi-Tl, heat cond. at low temp., scatt. mechanism 1−52539
Bi-Tl, liq. alloys, activity of O 1−42553
Bi-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
$Bi_{0.9}Sb_{0.1}$:Te, RF response due to magnetoplasma anisotropy, meas. 1−7651
$Bi_{1-x}Sb_x$, cyclotron mass of cond. band near semimetal-semicond. transition, expt. 1−16218
$Bi_{1-x}Sb_x$ cyclotron reson., helicon wave contrib., Fermi surface anisotropy effects 1−34612
$Bi_{1-x}Sb_x$, dielec. props. at semicond.-semimetal transition 1−26112
$Bi_{1-x}Sb_x$ overlayer on Ag film, influence on annealing behaviour 1−34809
Cd-Bi, sporadic deviations from regular growth of eutectic compositions *(Russian)* 1−31447
CeBi, magnetic anisotropy model, band struct. calcs. 1−42957
CeBi, thermal and elastic props. 1−20433
Cu-Bi, striation and faceting of grain boundaries due to Bi 1−52150
GdFeBi-CdS.Cu.Cl photoconductor sandwich, thermomagnetic switching effect 1−25944
In-Bi dil., supercond., ultrasonic attenuation rel. to annealing time, mag. field 1−34828
In-Bi(2.5 at.%), supercond., depend. of resistive losses on mag. field meas. *(Russian)* 1−20930
Li-Bi, liq., DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
Mg_3Bi_2 semiconducting liq. alloy, struct. and evidence for ionic bonding 1−25149
MnBi, mictomag. and superparamag. props., high press. effect 1−30942
MnBi-Bi eutectic alloys, directionally solidified, depend. of fibre spacing on growth parameters 1−8290
$Mn_3Pd_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
$Mn_3Rh_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
Na-Bi, liq., DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
Ni-Bi, striation and faceting of grain boundaries 1−52150
Pb-Bi, effect of superconducting transitions on plasticity *(Russian)* 1−42879
$PtBi_2$,r, cryst. struct. determ. *(German)* 1−2397
$Sb_{1-x}Bi_x$ ($x \leq 0.2$) amorphous films, crystn. 1−42301
$Sb_{1-x}Bi_x$, supercond. at high press., up to 14 GPa 1−3090
Sm_4Bi_3, mixed valent, phase transition at 2.7K revealed by sp. ht. meas. 1−25432
Tl-Bi, liq., mag. nucl. spin relax. 1−31053
Zn-Bi, sporadic deviations from regular growth of eutectic compositions *(Russian)* 1−31447
Zn-Bi immiscible alloys, microgravity influence on solidification 1−16768
Zn-Bi-In alloys, solid-liquid interfaces, isothermal faceted to non-faceted equilib. transition 1−16154

bismuth compounds
see also bismuth alloys
$(Bi_{0.4}Sm_{1.6}Tm_{2.6-x})(Ga_{0.8}Fe_{4.2})O_{12}$ ferrite-garnet epitaxial films, domain struct. *(Russian)* 1−3224
$(Bi_2Sb)_2(Te,Se)_3$, preparation and properties 1−53144
$(Bi,Sb)_2(TeSe)_3$, thermoelectricity, phase diagrams and imperfection struct. 1−52589
Bi-BiBr, mixture, molten, press. effect on elec. cond. and US vel. near miscibility gap, metal-nonmetal transition 1−25772
Bi-BiBr, mixture, molten, ^{209}Bi NMR obs. in metal-nonmetal transition range 1−26053
Bi-S dilute solns., Gibbs free energy 1−16061
Bi-Sb alloy electronic thermal cond. obs., 77 to 300K 1−12104
BiF, vibr. and rot., electronic transitions, spectra 1−24120
$Bi_{12}(Fe_{1/2}X_{1/2})O_{20}$ sillenite-type phases, Bi^{5+} tetrahedral radius determ. *(French)* 1−52113
$Bi_{12}(Ga_{1/2}X_{1/2})O_{20}$ sillenite-type phases, Bi^{5+} tetrahedral radius determ. *(French)* 1−52113
$Bi_{12}GeO_{20}$, bulk photogalvanic effects 1−25761
$Bi_{12}GeO_{20}$, dielectric prop. temp. variation 1−3313
$Bi_{12}GeO_{20}$ electro-optic semicond. crysts., information recording with electron beams, surface effects 1−29384
$Bi_{12}GeO_{20}$ films fabrication by RF sputtering 1−3623
$Bi_{12}GeO_{20}$ monocrystal, controllable transparency for image contouring *(Russian)* 1−51378
$Bi_{12}GeO_{20}$, NQR freq., relax. times and heat capacity, temp. depend., 4.2 to 300K *(Russian)* 1−31058
$Bi_{12}GeO_{20}$, optically active cryst., dislocation and subboundary obs. using refl. birefringence topography *(Chinese)* 1−48026
$Bi_{12}GeO_{20}$, piezoelectric powder, amplified and saturated readout echo 1−8004
$Bi_{12}GeO_{20}$, Raman spectrum, optical phonon freqs., linear wave-vector depend. near Brillouin zone centre 1−39091
$Bi_{12}GeO_{20}$, static and impulse photocond. obs. 1−20799
$Bi_{12}GeO_{20}$, two-pulse electroacoustic and nuclear quadrupole echo 1−21081
$Bi_{12}GeO_{20}$:Al(B), dark cond. and photocond., doping effect 1−30782
$Bi_{12}GeO_{20}$:Cr(Mn)(Cu)(Ni), Czochralski growth method, dopant distrib. 1−21339
$Bi_4(GeO_4)_3$, cryst., thermal props., Debye temp. and Gruneisen coeffs. 1−38558
$Bi_4(GeO_4)_3$, dielectric prop. temp. variation 1−3313
$Bi_4Ge_3O_{12}$:Nd^{3+}(Er^{3+}), crystal field anal., optical spectra 1−38752
BiI_3, exciton-phonon interaction, exciton absorpt. spectra, 93 to 291K *(Russian)* 1−42700
$Bi_{2-x}La_xWO_6$ ($0.4 \leq x \leq 1.0$), X-ray crystallographic data 1−11732
Bi_2MoO_6, polymorphic transform. and relative stability 1−39332
γ-Bi_2MoO_6 single crystal synthesis and growth under hydrothermal conditions 1−3588
$(BiNdYb)_3Fe_5O_{12}$, garnet film stripe domain control, laser beam deflection 1−11077
Bi_2O_3, $6Bi_2O_3.GeO_2$, melt, kinetics of solution of Pt 1−16044
Bi_2O_3, allotropic variations, influence on I-V characteristics of ZnO-Bi_2O_3 varistors *(French)* 1−20148
Bi_2O_3 containing borate and germanate glasses, glass-forming regions and optical props. 1−42320
δ-Bi_2O_3, phase stabilisation by rare earth oxides, R_2O_3, elec. cond. and struct. studies 1−34512
Bi_2O_3 polymorphs, Sb_2O_3-stabilised, thermal expansion 1−38563
δ-Bi_2O_3, thermogalvanic power and fast ion cond. 1−34513
Bi_2O_3 thin film, elec. props. *(Japanese)* 1−30858
Bi_2O_3-Dy_2O_3 sintered oxides, high O^{2-} ion cond., phase diagram 1−47286
Bi_2O_3-Er_2O_3, O^+ ion conductors, prep. and props. for low temp. use 1−16088
Bi_2O_3-MoO_3 complex oxides, with the anion deficient pyrochlore struct., existence 1−3685
Bi_2O_3-MoO_3 system, flux growth 1−35160
Bi_2O_3-WO_3 complex oxides, with the anion deficient pyrochlore struct., existence 1−3685
δ-$(Bi_2O_3)_{0.75}(R_2O_3)_{0.25}$, R=rare earth, thermogalvanic power and fast ion cond. 1−34513
δ-$(Bi_2O_3)_{1-x}(Y_2O_3)_x$, thermogalvanic power and fast ion cond., appl. to O_2 gauge 1−34513
$(Bi_2O_3)_{1-x}(Yb_2O_3)_x$, δ-phase stabilisation, elec. cond. and struct. studies 1−34512
$BiRWO_6$ and solid solutions, synthesis and lattice parameters 1−20159
Bi_2S_3 thin film, chem. deposition, struct., and elec. props. 1−16700
$Bi_{1-x}Sb_x$, energy gap, temp. depend. 1−20625
$Bi_{1-x}Sb_x$, magnetic freezeout study in region of direct and inverted spectra 1−25745
$Bi_{0.5}Sb_{1.5}Te_3$, solid solution, growth in direction of principal crystallographic axis 1−16679
Bi_2Se_3 thin film deposition, chemical method 1−12674
Bi_2Se_3-InTe, solid neutrons, range of existence, elec. cond., thermo-EMF, and thermal cond. meas. 1−30741
$Bi_{12}Si(Ge)O_{20}$-dielectric struct., image characts. during electron beam irrad. 1−42869
$Bi_{12}SiO_{20}$ 2×2 optical switch for multimode fibre closed-loop data-bus systems 1−11177
$Bi_{12}SiO_{20}$, bulk photogalvanic effects 1−25761
$Bi_{12}SiO_{20}$ crystals, diffr. efficiency and energy transfer in two-ware mixing expts. 1−46423
$Bi_{12}SiO_{20}$ crystals, holographic writing and image processing 1−19296
$Bi_{12}SiO_{20}$ crystals, speckle-free imaging in four-wave mixing expts. 1−6614
$Bi_{12}SiO_{20}$ crysts. for real-time displacement and tilt anal. by speckle technique 1−6511
$Bi_{12}SiO_{20}$ electro-optic semicond. crysts., information recording with electron beams, surface effects 1−29384
$Bi_{12}SiO_{20}$, holographic image conversion 1−33642
$Bi_{12}SiO_{20}$, impurity levels, TSC meas. 1−25660
$Bi_{12}SiO_{20}$, NQR freq., relax. times and heat capacity, temp. depend., 4.2 to 300K *(Russian)* 1−31058
$Bi_{12}SiO_{20}$ optically controlled space-time light modulator, transients 1−33797
$Bi_{12}SiO_{20}$ photorefr. crysts., dynamic holography and coherent four wave mixing 1−15229
$Bi_{12}SiO_{20}$ photorefractive crystal, dynamic joint-Fourier-transform correlator by Bragg diffr. 1−51384
$Bi_{12}SiO_{20}$, single crysts., impurity distrib. over crystallisation front 1−25188
$Bi_{12}SiO_{20}$, spatial modulation of light image form. 1−1688
$Bi_{12}SiO_{20}$:Cr(Mn)(Cu)(ni), Czochralski growth method, dopant distrib. 1−21339
$Bi_4(SiO_4)_3$, cryst., thermal props., Debye temp. and Gruneisen coeffs. 1−38558
$Bi_{1/3}TaO_3$, synthesis and X-ray diffr. study 1−3684
Bi_2Te_3, anodic film growth obs. by photoacoustic technique 1−26642
Bi_2Te_3, band struct. changes on hydrostatic compression *(Russian)* 1−34625
p-Bi_2Te_3, galvanomagnetic, high field transport props. 1−16301
Bi_2Te_3, photoelectron spectra, core-level peak intensity, extended fine struct. 1−8192
Bi_2Te_3-InS, thermoelectric props. of Bi_2Te_3-based solid solutions, phase diagram 1−34730
$(Bi_2Te_3)_{1-x}$-$(La_2Te_3)_x$ solid solns., electrophys., temp. and conc. depend. 1−38775
n-BiTeBr single crysts., IR spectra, Hall coeff. 1−20772
$Bi_4Te_3O_{12}$ single cryst., prep., struct. and dielec. props. 1−39021
$Bi_2(Te_{1-x}S_x)_3$ thin cleaved crysts., cond. and carrier conc. obs. in localisation region 1−7618
$Bi_2(Te_{1-x}S_x)_3$ thin cleaved crysts., variable range hopping in localisation region 1−7619
$Bi_{12}TiO_{20}$, bulk photogalvanic effects 1−25761
$Bi_{12}TiO_{20}$ single cryst., optical absorpt. and reflectivity 1−52967
$(BiTm)_3(FeGa)_5O_{12}$ epitaxial films, domain struct. investigation in spin reorientation region 1−25997
$BiVO_4$ single cryst., ferroelastic phase transition 1−7320

bismuth compounds continued
$BiVO_4$, structural refinement of neutron and X-ray data by Rietveld method 1−29960
Bi_2WO_6, photocond. and photovoltaic props. 1−20798
$Bi_{12}(Zn_{1/3}X_{2/3})O_{20}$ sillenite-type phases, Bi^{5+} tetrahedral radius determ. *(French)* 1−52113
$Bi_4[Fe(CN)_6]_3.6H_2O$, Mossbauer effect 1−52879
CC BiO_3, mass spectroscopic study of gas-phase equilibria 1−39666
$CsBi_3S_5$, synthesis and crysts. struct. 1−30189
GeTe-(Bi, Sb)$_2$Te$_3$ boundary, reactive diffusion processes 1−11919
GeTe-Bi_2Te_3-Sb_2Te_3 system, elec. resist. and thermoelec. props. 1−47692
$(GrTe)_{0.94}Bi_{0.05}Cu_{0.01}$ solid soln., Cu impurity entrainment by nonuniform temp. field 1−30484
$(K_{3/4}Bi_{1/4})(Zn_{1/6}Nb_{5/6})O_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
$Li_{0.5}Fe_{2.5}O_4$-Bi_2O_3, high-dispersity powders prep., sintering and mag. props. 1−26412
$(Na_{0.5}Bi_{0.5})TiO_3$-$CdTiO_3$, lattice dynamics and phase transitions 1−21141
$(Na_{0.5}Bi_{0.5})TiO_3$-$CdTiO_3$ system solid solns., synthesis, struct. and dielec. props. 1−39042
$PbBi_{0.2}Mo_6S_8$, superconducting coatings, props. and struct. 1−30871
$Pb_{1-x}Bi_xMo_6S_8$, struct., elec. and supercond. props. 1−42884
$PbBi_4Ti_4O_{15}$, mixed oxide ferroelec. with layer type struct., X-ray powder diffr. obs. *(Chinese)* 1−47051
$PbBi_4Ti_4O_{15}$, with layer type struct., degree of preferred orientation after hot pressing, X-ray determ. method *(Chinese)* 1−48364
PbO-SiO_2:Bi_2O_3 glasses, surface cond., effect of impurity 1−30803
RbF-PbF_2-BiF_3 system, phase diagram as target salt in accelerator breeder 1−28592
$SrBi_4Ti_4O_{15}$, mixed oxide ferroelec. with layer type struct., X-ray powder diffr. obs. *(Chinese)* 1−47051
$SrTiO_3$-$Bi_{2/3}TiO_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
$SrTiO_3$-$Na_{0.5}Bi_{0.5}TiO_3$ solid solns., Curie point, dielec. const. and phase diagram 1−39043
Tl-Bi-Te system compound selection and synthesis for acousto-optic device appl. 1−15236
$(YBi)_3(FeGa)_5O_{12}$ epitaxial garnet film, domain wall reson., light effect 1−30997
$Y_{3-x}Bi_xFe_5O_{12}$, single cryst. growth from Bi_2O_3-PbO-B_2O_3 flux systems *(Chinese)* 1−48245
$(YGdYbBi)_3Fe_{5-x}Al_xO_{12}$, ferrite garnet epitaxial film, noncollinear mag. state 1−25995
$(YGdYbBi)_3.(FeAlGa)_5O_{12}$ magnetic garnets, epitaxial films and non-through domains 1−30996
ZnO-Bi_2O_3 ceramic, sintering and varistor charcts. 1−3675
ZrO_2-CaO-Bi_2O_3, O^+ ion conductors, prep. and props. for low temp. use 1−16088

bistable multivibrators *see flip-flops*

Bitter patterns *see magnetic domains*

bitumen *see materials*

BL Lacertae-type objects
1218+304 (=2A 1219+305), optical-IR spectrum, spectral flux distrib. 1−54603
2A 1219+305, variable X-ray spectra obs. 1−49784
gamma-ray emission, contribs. to diffuse gamma-ray background in Hoyle-Narlikar cosmology 1−32775
inhomogeneous accretion onto massive black holes, as model for active galactic nuclei 1−44626
JHK observations, colour, relevance to IR Hubble diagram 1−54656
BL Lacertae, eclipse phenomenon during radio emission flare 1−13874
BL Lacertae, flux density variations at 33.5 GHz 1−54648
Markarian 421, continuous spectrum, X-ray satellite obs. 1−36381
Markarian 501, emission mechanism, X-ray to SHF obs. 1−54609
OJ 287, polarisation and photometric behavior during (1971-76) 1−36388
OV−236, optical obs. 1−40570
PKS 0548−322, variable X-ray spectra obs. 1−49784
polarimetry obs. 1−40571
QSO 0235+164, correlated radio-optical outburst, SHF obs. 1−13871
radiation force on relativistic plasma near Eddington limit, Compton rocket effect 1−54361
radio emission from twin jet structure, highly relativistic particles 1−17903
supermassive accretion disks and giant flares, polarization and energetics 1−22829
X-ray observations with Einstein Observatory 1−54602

black holes
see also gravitational collapse
accretion, quasispherical, maximum efficiency 1−18113
accretion, stationary spherical, hydrodynamics and radiation transfer through gas 1−44588
accretion, steady state relativistic optically thick case 1−9557
accretion, time-dependent, optically thick, relativistic hydrodynamics code 1−9556
accretion disc around black hole, temp. profile solns. 1−40517
accretion disc outer part, selfgravitation, fragmentation, star form. and orbits *(Russian)* 1−22788
accretion discs, models of thick discs with super-Eddington luminosities 1−49706
accretion discs, turbulent mag. dynamo theory 1−13683
accretion disk, stationary, stability 1−4938
accretion disk orbiting supermassive black hole, quasar luminosity 1−22920
angular momentum, asymptotically flat spaces, near and far field regions 1−18101
astrophysics, book contrib. 1−22830
asymptotically free quantum gravity and black holes 1−44832
bimetric general relativity appl. to star collapse 1−5168
charged black holes, non-existence of eqn. configurations 1−4937
charged particle motion in EM fields surrounding black holes, general relativistic anal. 1−44816
collapse processes, black hole form. models, gravitational waves 1−18116
cosmic censorship, black holes, particle orbits 1−44805
cosmology, black hole view of Friedmann universe and world potential 1−54671
cosmology, bright Universe 1−17922
Dirac particles, Hawking evap. problem *(Chinese)* 1−49709
early Universe, lepton and hadron formation, black holes, quantum gravity 1−22938

black holes continued
energy and linear momentum of space-times in general relativity, positive mass conjecture 1−49999
Euclidean quantum gravity, black hole uniqueness, theorems 1−14060
evaporating black holes, angular-momentum loss 1−36325
evaporation, validity of quasistatic approx. 1−49711
evaporation in curved space, quantum field theory 1−18135
evaporation of solar mass hole 1−27549
exploding black holes, particle production effects *(German)* 1−9897
force on a static charge outside a Schwarzschild black hole 1−146
formation mechanism is early Universe, mass spectrum and cosmological consequences 1−49708
galactic nuclei evidence for black holes *(Chinese)* 1−9674
galaxies active nuclei, model of inhomogeneous accretion onto massive black holes 1−44626
general relativity, book 1−17952
general relativity and gravitation, book 1−17948
general relativity and gravitation, book 1−17949
general theory, book contrib. 1−18117
in globular cluster, reinvestigation of standard model of massive black hole dynamics 1−49707
in globular clusters, effects of central black hole on dynamics and evolution of core 1−36363
gravitational lens, construction for demonstrations 1−9812
gravitational radiation scattering by Kerr black holes 1−23078
gravitational singularities, elimination within framework of Einstein general theory of relativity 1−54359
gravitational synchrotron radiation in gravitation metric theory 1−22676
gravitational wave burst emitted by radially imploding particle, struct. 1−32883
Gribov vacua in SU(2) Yang-Mills theories, from Einstein eqn. solns. 1−32896
growth of single primordial holes and ensembles 1−54542
high density hadronic matter, thermodynamic model, Hagedorn's bootstrap, cosmological predictions 1−18456
historical background and current situation 1−18105
Kerr, spinning particle equatorial accretion, cosmic censorship 1−13798
Kerr black hole, gravitational perturbations 1−4936
Kerr geometry, monochromatic axially symmetric scalar waves, imploding on rotating black hole 1−9893
Kerr metric, perturbations, Maxwell and Dirac eqns. soln., black holes 1−18108
Kerr metric source, Newtonian model 1−32886
Kerr naked singularity, dust shell motion and equatorial circular orbits 1−9559
Kerr-Newman metric, photon trajectories 1−5185
Klein-Gordon equation and rotating black holes 1−23080
M87, central black hole possibility inferred from visible and UV obs. 1−13852
magnetoids 1−44641
massive accretion discs, effects of nuclear burning on mass inflow 1−32722
massive binary black hole in dense star cluster, stellar tidal disruption 1−36323
in NGC 4151, Seyfert galaxy, mechanism for gamma ray emission 1−9664
no-hair conjecture in supergravity 1−23081
perturbations, imaginary-frequency interior modes 1−9561
pregalactic black hole accretion, radiation contrib. to 3K background 1−44680
primatons (black-hole like photons), possible ylem constituents 1−49873
primordial, motion in early Universe, present likely distrib. 1−49710
primordial black holes, effects on D abundance 1−13893
primordial black holes, masses from model of galaxy form. in explosion-dominated intergalactic medium 1−54619
primordial black holes as a cosmological test of grand unification 1−22935
primordial black holes explosions, new upper limit on optical bursts 1−36324
primordial black holes formation, hydrodynamics and depend. on eqn. of state 1−13799
primordial black holes growth rate, locally inhomogeneous solns. in Robertson-Walker background 1−49864
quantum field theory in curved space-time, unquantised gravity, cosmology, black hole appls. 1−18118
quasars and galaxy cores, central object distinguished by neutrino/gamma ray flux obs. 1−36431
relativistic gravitational collapse, equilibrium configuration explosion and reorganisation 1−23074
review, black holes and pulsars 1−4939
rotating black hole in a strong magnetic field 1−44817
singularities and horizons, review, book contrib. 1−18115
spectral line shifts, theory of red and blue shifts near compact object 1−36171
SS 433, accretion disc around black hole, cooling regions, stimulated recomb. emission 1−36307
SS 433, slaved disc model with beams normal to accretion disc in binary system 1−27528
star clusters massive central black holes, effects on cluster dynamical evolution 1−9583
star clusters with central black hole, adiabatic numerical models 1−49740
static black hole, massless scalar field of point charge 1−9560
stationary EM fields around black holes, current loops near Reissner-Nordstrom black hole 1−23091
in stellar systems, effects of central black hole on kinetic instabilities 1−13819
supermassive accretion disks and giant flares, polarization and energetics 1−22829
surface gravity and thin shells 1−44812
thermal evaporation, null geodesic propag., Hawking radiation 1−40691
thermodynamics, in undergraduate level course 1−27706
thermodynamics of non-extensive entropies, superadditivity condition 1−27906
thermodynamics of non-extensive entropies, superadditivity condition appl. to generalised gas and black hole system 1−32942
third law of black hole mechanics 1−17865
time asymmetry, macroscopic processes, rel. to singularities 1−18109
transonic disc accretion in X-ray binaries 1−9558
universal upper bound on the entropy-to-energy ratio for bounded systems 1−44814

black holes continued
Universe Big Bang, primary black holes as indicators of contemporary conditions *(Russian)* 1−13897
white holes containing charged fluid, emitted EM radiation, spectral props. 1−36326

blast waves *see shock waves*

bleaching, optical *see optical saturable absorption*

blending
multicomponent solid, appl. of nonparametric statistics to mixing 1−20400

Bloch walls *see magnetic domain walls*

blood
see also haemodynamics
^{133}Xe partition coefficients between human blood and bone 1−43963
arteriole pulsatile flow, theoretical anal. 1−53803
blood vessel detection and tracking in cine-angiograms 1−53894
capillary blood flow and struct., response to hyperthermic local tumour heating 1−53761
cell suspension in conc. electrolyte soln., repulsive forces and aureoles form. 1−8827
cerebral cortical strokes, mapping by laser Doppler spectroscopy 1−13365
circulating, meter for vol. meas. using scintillation counting 1−39992
coagulation, thermoconductometric method of study 1−44033
erythrocyte cytoplasmic membrane surface, protein rotational diffusion meas. 1−21991
erythrocyte deformability, optical diffusion technique for study *(French)* 1−35920
erythrocyte membranes, human, large scale isolation by high vol. mol. filtration 1−53944
erythrocyte membranes, human, struct. modification following γ-irrad. 1−8917
erythrocyte membranes, oligosaccharide motion, ps fluoresc. polarisation and ms dichroism of optical probe 1−53764
erythrocyte membranes, spin-label studies of lipid and protein components 1−43857
erythrocyte sedimentation, hydrodynamic theory 1−49048
erythrocytes, human, cathodoluminescent SEM investigations at liquid He and liquid N_2 temps. 1−22060
erythrocytes, human, effect of hydrostatic press. on ion transport and metabolism 1−26884
erythrocytes, human, exposed to US activated gas-filled pores, ATP release, photometric obs. 1−8902
erythrocytes, sedimentation vel. rel. to temp. 1−35792
erythrocytes and sera, human, broadband meas. of complex dielec. const. at microwave freqs. 1−53951
erythrocytes density distribution, influence of temp. on meas. 1−35895
ferrokinetic changes in mice after ^{90}Sr-^{90}Y exposure 1−32206
fibre optic microfluorimetry for acute and chronic in-vivo animal studies 1−22177
fibrin, molecular struct., electron microscopy study 1−39881
fibrinogen, molecular struct., electron microscopy study 1−39881
fibrinogen-thrombin solutions, anal. of clotting curves of complex dynamic rigidity 1−39950
flow in capillary tubes, curvature and gravity effects 1−53799
flow in transfusion systems 1−53804
gas exchange in the lungs, math. anal. 1−4242
gastrointestinal haemorrhage thermocoagulation by convective heat transfer, efficacy obs. 1−4383
haemodialysers, theory vs. practice with residual blood loss 1−22167
haemodialysis treatment, system dynamic modelling 1−21975
haemolysis during filtration through micropores 1−39953
haemorheology of turbulence 1−53797
human, visible Fourier transform photoacoustic spectrosc. 1−18301
hysteresis rheogram of human blood, math. anal. 1−53805
isotope ratios of Ca and Fe, SIMS determ. 1−32329
lung, regional perfusion, dog, effects of pulmonary oedema 1−49028
lung, ventilation-perfusion ratio distributions of foreign gas intravenously infused 1−26931
lymphocyte in vivo circulation, RF effects in mice 1−4327
lymphocytes, human, cathodoluminescent SEM investigations at liquid He and liquid N_2 temps. 1−22060
lymphocytes, human, chromosome aberrations induced by ultrasoft Al_K and C_K X-rays 1−32199
lymphocytes, human, induction of chromosome aberrations by ^{239}Pu α-irrad. 1−13291
lymphocytes, human, induction of chromosome aberrations by α-particles 1−4332
lymphocytes, human, K-Na exchange, appl. of time-dependent Ising model and its hydrodynamic soln. 1−13264
lymphocytes, human G_0, recovery kinetics of chromosome aberrations 1−43922
magnetic field exposure effects, steady 20 kG, rhesus monkeys 1−43891
Maxwell fluid behaviour at low shear rate 1−53800
microcirculatory haemodynamics and theology *(Japanese)* 1−39955
microcirculatory structure and flow, microscopic appearance *(Japanese)* 1−8890
microclots, strain gauge analyser 1−49136
microparticles in human blood, size and refr. index, two-parameter phase function for light scatt. 1−10918
microphotometric images of splencytes and lymphocytes from leukemic mice, computer discrimination 1−35922
microvascular pressures in the isolated perfused dog lung, direct meas. 1−49050
muscle/blood interface detect. using Doppler power returns, dynamics and limitations 1−8930
neutron spin echo obs. of internal motions in biological systems 1−35925
ocular blood flow, radionuclide studies 1−26982
perfusion heterogeneity, influence on indicator extraction 1−39957
pH, continuous in vivo meas., appl. of catheter-tip ISFET 1−13337
PIXE ion beam technique for detecting elements in ppm range *(Japanese)* 1−48212
placental blood flow, human, meas. by elec. impedance techniques 1−22155
plasma oncotic pressure, device for routine meas. 1−53920
plasma separator, miniaturisation, for wearable artificial kidney *(Japanese)* 1−4388
polycythaemic blood in transient flow, rheological study *(French)* 1−35804
pressure automatic meas. method 1−32301

blood continued
propagation characteristics in distensible tubes containing a viscoelastic fluid 1−53809
pulmonary perfusion, meas. using a digitised ECG-triggered γ-ray absorpt. technique 1−49118
pumping systems optimisation 1−35914
red blood cell, ATP conc. and energy metabolism regulation 1−39897
red cell permeability, effect on transcapillary tracer transport 1−32156
red cells deficient in glucose-6-phosphate dehydrogenase, survival time shortening by X-irrad. 1−22081
rheography, direct, routine diagnostic exam. of blood flow disturbances 1−44041
rheological and ultrastruct. props. in liquid state storage, abnormal cell forms *(French)* 1−39956
rheological constitutive functions, comparison for whole human blood 1−39948
rheological spectroscopy *(French)* 1−40030
rheological transfer function, multiparametric model *(French)* 1−35803
rheology, principles and appls. *(French)* 1−35802
rheology of normal samples artificially modified *(French)* 1−35805
sickle cell disease, solid-like behaviour of unsheared haemoglobin gels 1−26932
spherocytes, hereditary, abnormalities in membrane material props. 1−22048
tissue blood perfusion rate, estimation from diffusible indicator meas. 1−22153
tissue local blood flow meas., combination isothermal-H_2 clearance system 1−53914
tissue-blood partition coeff. for Xe, temp. and haematocrit dependence 1−27048
trace elements analysis using an inductively coupled Ar plasma *(French)* 1−40031
transfusion, effect on haemoglobin flow and O_2 delivery, sickle cell anemia patients 1−13272
typing, electrochem. method using affinity membranes 1−22172
US irradiation of mice, blood chem. and haematological effects 1−53819
viscosity at low shear rate in diabetes 1−53801
white blood cells in space−an experiment for the first Spacelab mission 1−32265
O_2 diffusion from capillary layers 1−4316
O_2 distribution in Krogh cylinder, perturbation calc. for linear oxyhaemoglobin dissociation 1−26871
O_2 net transport, noninvasive meas., heat conductance model 1−13345

blood circulation *see haemodynamics*

blood dynamics *see haemodynamics*

blood flow *see haemodynamics*

blood platelets *see blood*

blue brittleness *see brittleness*

boilers
AGR and Magnox power stations, appl. of 2-D boiler model to design and operation problems 1−28559
AGR boiler, estimation of steady-state temp. distrib. from external meas. 1−28584
AGR boiler dynamic stability limits, prediction using DYMEL code 1−28582
AGR boiler systems, commissioning experience 1−28588
AGR boilers, feed flow limit cycling 1−28561
AGR steam generator, tube to tube excursive instability−sensitivities and transients 1−28564
bayonet-type steam generator stability at variable loads 1−28568
CANDU natural circulation steam generator, space dependent dynamic model 1−28554
coal fired MHD power plants, NO_x emission prediction, boiler parameters correlations, math. model 1−53631
collision of flow in boiler combustion chambers *(Hungarian)* 1−26743
counter-flow steam generators, two-phase flow dynamics modelling 1−28571
cross-flow heat exchange with primary fluid mixing, CROSSMIX 2-D model 1−28585
development of steam generator components for open-cycle MHD 1−48876
dropwise condensation of steam in vertical tubes, heat transfer 1−37915
Ekibastuz coal with 50% ash content, experimental combustion 1−31976
feedwaters with low conductivity, computerised pH meas. appl. 1−27944
GCFR, once-through steam generator dynamics and automatic control 1−28580
HTGR, downflow boiler design 1−10417
hydrodynamic stability tests and analytical model development for once-through sodium heated steam generator 1−28560
Kuznetsk coal, combustion in dry-bottom furnaces 1−31977
KWU boiling water reactors, control-rod-scheduling computer appl. *(German)* 1−45639
LMFBR, steam generators, computer simulation of severe transients, BESBET II code 1−28574
LMFBR, transient calcs. of a 45 MW(th) steam generator model 1−28676
LMFBR, verification of a dynamics model of a sodium heated steam generator 1−28555
LMFBR boiler control system design anal., appl. of multivariable freq. response methods 1−28577
LMFBR power plant, Benson system cycle, grid, disconnection trip 1−28675
LMFBR steam generators, correlation of critical heat flux data−sodium-heated boiling water 1−28545
LMFBR steam generators, dynamic analysis and control systems 1−28575
LMFBR steam generators, meas. of acoustic background noise 1−50715
nuclear power station boiler dynamics and control, conf. Bournemouth, England (October 1979) 1−27670
nuclear reactor steam generator tube diagnostics−the B&W approach 1−45708
nuclear steam generators, linearised transient anal. 1−5831
nuclear steam supply systems, steam generator feedwater pipe cracking 1−50767
once through boiling system, flow instability, computer anal. modified DYNAM code 1−741
Peach Bottom II turbine trip test analysis 1−28677
PFR boiler feedwater control systems 1−28587
PWR bayonet tube steam generator, frequency domain anal. of void-flow instability 1−28563

boilers continued
PWR natural circulation steam generators, hydrodynamic stability anal. 1−28566
PWR once-through steam generator, flow instability anal. 1−28562
PWR once-through steam generator dynamics anal., NUMEL computer aided design 1−28581
PWR steam generator, water level adaptive control 1−28579
PWR steam generator inspection using photographic techniques 1−45709
PWR steam generators, automatic control of low load level 1−28578
PWR steam generators, heat transfer and 3-D flow distrib. 1−28586
PWR steam generators, preoperational chemical cleaning, American experience 1−759
PWR steam generators, thermohydraulic performance, test rigs 1−50713
PWR transients, heat removal in steam generators, modelling 1−50805
PWR U-tube steam generator, expt. simulation studies of fluid modelling and flow visualisation 1−28556
PWR U-tube steam generator dynamics modelling and verification 1−28553
PWR U-tube steam generator modelling: application to level control and comparison with plant data 1−28674
shellside velocity measurements in a steam generator flow model 1−29811
SNR-300, experimental determination of density-wave oscillations in full-scale sodium-heated steam generators 1−28567
solar once-through subcritical steam generator, nonlinear dynamic model 1−43742
start-up consideration in utility use of a refuse derived fuel 1−53530
steam generating channel, vibr. instability from LF press. fluctuation 1−11369
steam generators, dynamic modelling 1−28573
Super Phenix steam generators, control and operation 1−28576
Super-Phenix steam generator, 45 MW scale model, digital simulation of transient conditions 1−28558
Super-Phenix steam generator, 45 MW scale model, prediction of dynamic stability limits 1−28565
Surry Unit 2 steam generator replacement 1−50711
thermal analysis, improved calculation procedures for heat transfer and associated pressure drop analysis 1−28569
transient two phase flow in a forced circulation Freon test rig 1−28557
tubes with internal helical finning, heat removal intensification 1−37773
waste heat utilization from boilers 1−35608
$CaSO_4$ deposit patterns on steam generator tubes, determ. using radioactive ^{35}S 1−43728

boiling
see also boiling point
alkali halide, boiling from ionic to mol. phases 1−25418
annuli with turbulence promoters, pressure drop in boiling 1−29677
binary solvent evaporation from water-butyl alcohol-benzylpenicillin system, heat exchange kinetics *(Russian)* 1−7301
bubble boiling, dynamic effects 1−11290
bubble boiling, merging of bubbles, conditions for reduced heat transfer following step function heating 1−15485
bubble emission at nucleation site, interaction nature 1−37925
BWR, subcooled boiling and slip ratio 1−5907
channel, internally heated annular, in parallel flow, saturated convective boiling, critical heat flux 1−19710
channel flow stability, multivariate hydrodynamic anal. from inherent noise meas. 1−19782
cryogenic liquid, forced convection heat transfer, bubble form. 1−15479
cyclohexane liquid boiling induced by bulk absorpt. of CO_2 laser radiation 1−42524
ebulliometer modification for accurate determ. of vapour-liq. equil. 1−28151
ethylene glycol-water mixtures, boiling, heat transfer, Prandtl number effect 1−1953
film boiling on horizontal plate 1−33880
forced convection boiling in vertical concentric annuli, critical heat flux 1−33882
fracture toughness testing, DCB clip-in displacement gauge modification 1−36666
immiscible liquid mixtures, hydrodynamic aspects of stratification and mixing 1−5972
ionic to molecular phase transitions, occurrence and consequences 1−30371
Leidenfrost boiling, of saline soln. drops, discovery and examination of charge-carrying particles 1−1807
Leidenfrost boiling, of saline soln. drops., elec. props. of Leidenfrost drops 1−1808
LMFBR, determ. of incipient boiling propagation, simulated assembly tests 1−28541
LOCA, quenching, precursory cooling effect, three-region model 1−811
LWR, forced convective subcooled boiling in heated annular channels 1−14577
nucleate boiling, effects of precise arrays of pits 1−33884
nucleate boiling heat transfer in forced convection 1−33881
oils, boiling, heat exchange and heat flux densities *(Russian)* 1−1817
pool boiling heat flux, criteria for minimisation 1−37924
post critical heat flux boiling, vapour superheat meas. 1−38000
rods, heated, heat emission following boiling *(Russian)* 1−1810
spherical geometries, minimum film boiling conditions 1−24657
surfaces, heat-exchange, superheat, first boiling crisis, free convection conditions 1−15366
Taylor instability in boiling, melting and condensation or evaporation 1−19702
transparent liquids containing absorbing particles, refr. index, laser radiation effect 1−1610
underheated liqs. in channels, hydraulic resist. calcs. *(Russian)* 1−6858
uniformly heated vertical tubes, forced convection boiling, critical heat flux 1−19706
vapour film on vertical surfaces during film boiling, interfacial instability 1−34553
vapour-liquid nonideal system, diffusion coeff., conc. depend. 1−16074
void fraction, prediction in subcooled and low-quality boiling regions 1−33870
volatile liquid, statistical thermodynamics of formation of new phase during boiling up 1−36597
water, boiling in boundary layer, temp. profile and local vapour content 1−11397
water, forced convection boiling, thermoacoustic oscillations in annuli 1−29681
wave processes on heat generating surfaces in pool boiling 1−33879

boiling continued
He, liq. boiling mechanisms, study by high-speed filming 1−37771
He, liquid, boiling in tubes, burnout 1−37772
He transient pool boiling with electronic temp. controller 1−46666
^4He, liq., boiling, transient heat transfer obs. 1−52380
^4He, superfluid, film-boiling states, heat flux and temp. fluctuation obs. 1−47323
Hz, subcooled, boiling heat transfer and vapor bubble dynamics 1−47215
Kr, liquid, superheated, spontaneous nucleation freq. 1−52268
N_2 at pressures below atmospheric, heat transfer intensification 1−37774
N_2-Ar mixture, liquid, bubble growth rate during boiling 1−34467
^{222}Rn, liquid, thermophysical props., Lennard-Jones parameters 1−47275
Si surfaces, heat transfer 1−7455
Xe, liquid, superheated, spontaneous nucleation freq. 1−52268

boiling point
see also boiling; heat of vaporisation
alkali halide, boiling from ionic to mol. phases 1−25418
alkylbenzenes, thermodynamic props. modelling, chemical graph theory 1−4117
ionic to molecular phase transitions, occurrence and consequences 1−30371
process stream boiling point monitor using microcomputer for data correl., hydrocarbon stream 1−23240

bolometers
adiabatic demagnetisation, tempt. stabilised, for space appl. 1−36664
back diode amplifiers for fast resistance bolometers 1−14180
microbolometer, SiO_2 film microbridge on Si substrate with sputtered Pt film forming microheater 1−33055
overheating of axle detector and indicator *(German)* 1−50210
radiant flux detectors for machinery element thermal conditions 1−28063
RF attenuation meas. using low-noise bolometers in mixer of precision receiver in test installation 1−23262
superconducting, characterization of self-heating effect using superfluid He film 1−50208
TFR 600, bolometric appls. 1−29907
UHF power measurement, bolometric method, multielement waveguide transducers, substitution error 1−23261
^3He portable cryostat for astrophysical IR bolometers 1−49518
InSb cooled bolometer energy meas. of CO_2 clustered mol. beam 1−23228
Ni thin film bolometer for IR radiometers in unmanned interplanetary space stations 1−10016
Zn thin-film superconducting phonon detector, energy-selective 1−15977

Boltzmann equation
see also transport processes
alebraic invariants for Boltzmann type equations *(French)* 1−9950
boundary conditions, non-equilib., Boltzmann eqn., kinetic scatt. kernels, statistical theory 1−201
charged particle swarms in neutral gases, kinetic theory, review 1−15565
charged particles, electric and magnetic fields, transport theory 1−5254
chemically reacting gases and mixed gases, fluctuating hydrodynamic equations 1−38019
collision operator in basis determined by anisotropic Maxwellian weight function 1−14075
collisions with relative acceleration and cross sections in velocity space 1−36587
conductance and transverse magnetoresist., quantum mechanical Boltzmann equation *(French)* 1−12085
diamond difference approximation, resolution of singularities 1−36978
diatomic gas, Boltzmann eqn., asymptotic soln. 1−42121
distribution function, time-dependent distortion 1−202
drag on sphere, kinetic theory, generalised normal soln. method 1−24844
electron distribution function calc. by NOMAD 1−196
electron gas in DC discharge plasma, Boltzmann eqn. numerical soln. 1−15598
electron transmission through thin self-supporting metallic targets, splitting-up resolution method 1−50071
electrons, relativistic, in moving Newtonian fluid, transport equations 1−19873
equilibrium particle gas, linear Boltzmann eqn. Green function 1−5256
existence and uniqueness theorems for solutions 1−27904
free electron laser, coupled Maxwell and Boltzmann eqns., coherent transient effects 1−10957
gas cooling by light, total velocity distrib. as Boltzmann eqn. soln. 1−19856
gas mixture, dielectric strength calc., test for $\bar{\eta}$-synergism 1−6921
gas mixture, nonlinear Boltzmann eqn. solutions 1−19857
general soln., Maxwellian tail formation 1−27903
hot atom reactions, time depend. theory, Boltzmann eqn. soln. 1−48662
ion diffusion coeffs. in electron-proton gas, Boltzmann-Fokker-Planck eqns. 1−49486
ion slowing down approx. to Boltzmann eqn., appl. to energy deposition and ion implantation 1−52196
ion swarm in weakly ionised gas, vel. distrib. function in const. mean-free-time encounter region 1−42120
irreversible thermodynamics and modified moment method 1−5259
kinetics, Rayleigh problem, multiple collision representation method soln. 1−5820
linear, solns., decreasing like powers of vel. in neutron thermalisation and hard sphere interaction cases *(French)* 1−36585
linear neutron transport, linear Boltzmann operator in $L^1(R^6)$ and $L^2(R^6)$, eigenvalue spectrum 1−36977
linearised, for neutron thermalisation and hard sphere interactions, power-like decreasing solns. 1−18710
Lorentz gas, runaway effect 1−40731
Maxwell interactions and singular angle-dependent cross sections 1−9953
Maxwell molecules isotropic scatt. Boltzmann eqn. 1−46078
Maxwellian gas, nonlinear Boltzmann eqn. solutions, struct. and classification 1−24914
metal, disordered, quantum diffusion and divergent fluctuations 1−47599
metals, impurity electromigration, phonon drag effect *(German)* 1−42582
metals and alloys, thermal conductivity minimum, variational calc. 1−42742
methane, electron impact excitation, dissoc., attachment and ionisation, cross sections, Boltzmann eqn. 1−37339
monocomponent gases, direct simulation using Boltzmann eqn. 1−18176
MORSE code to solve Boltzmann eqn. for neutron-photon transport 1−18182
multicomponent gas mixture, direct simulation using Boltzmann eqn. 1−23128

Boltzmann equation continued
multiple collision method for time-depend. test particle transport 1−44862
neutron flux perturbations, high-order, differential functional approach 1−45582
neutron-photon transport calcs. by Monte Carlo method, MORSE code 1−18184
nonequilibrium statistical mechanics, Pierre Resibois' work 1−40639
nonlinear Boltzmann equation, distribution function of Krook-Wu model 1−9952
nonlinear Boltzmann equation, relaxation to equilibrium and build-up of high-energy tails 1−40730
nonlinear Boltzmann solns., describing relax. to equilib. for Maxwell model gas mols. 1−14082
nonlinear Poisson-Boltzmann equation, appl. 1−14077
nuclear reaction theory, physical assumptions for validity of master equations 1−18608
plane Couette flow, soln. using model eqn. of Boltzmann eqn. *(Chinese)* 1−1999
plasma, weakly ionised, collision dominated, soln. of nonstationary electron Boltzmann eqn. 1−15600
plasma, Weibel instability mechanism rel. to mag. field generating thermal instability 1−46885
polar semiconductor, coupled LO phonon-plasmon system, linear dispersion relation and stationary energy-transport velocity 1−25653
polyatomic gas mixtures, kinetic modeling 1−51893
polynomial moment equations, soluble, for class of kinetic eqns. 1−40735
power like decreasing solutions corresponding to Maxwellian interaction 1−9956
radiation shielding, Monte Carlo analysis *(Japanese)* 1−33354
rarefied gas flow, hydrodynamic regime, drag on sphere or cylinder 1−37971
rough sphere gas, direct simulation using Boltzmann eqn. 1−18177
semiconductor with closed isoenergetic surfaces, transverse reluctance in strong nonquantizing mag. field 1−20779
semiconductors, semiclassical Boltzmann transport theory 1−16283
solid, radiation cascades of atomic collisions in case of arbitrary interatomic interaction pot. 1−52174
soluble model Boltzmann equation interrelations with deterministic or stochastic scatt. law 1−40736
spatially discrete model 1−5252
superconductor, charge imbalance generation by temp. gradient 1−20913
AgBr(Cl), streaming motion of hot polarons 1−47505
Ar, electrons average energy loss factor, transport equations 1−11523
Ar, steady-state swarm behavior 1−11522
CO+Xe(Kr)(Ar), electron cond., drift velocity, cross sections, Boltzmann eqn. calcs. 1−38046
GaAs:C, electron scatt. at localised impurity pots. 1−47635
He, discharge at intermediate press., level population density and line intensity 1−42232
He, electrons average energy loss factor, transport equations 1−11523
He, steady-state swarm behavior 1−11522
^{4}He, liq., surface, cyclotron reson. lineshapes under hot electron conditions 1−7419
N_2, electron swarm expt., extended Boltzmann anal., distrib. function and transport coeff. calc. 1−24911
N_2, transport and rate coeffs., excitation and ionisation, electron swarm expts., Boltzmann anal. 1−37367
N_2+Ar, electron cond., drift velocity, cross sections, Boltzmann eqn. calcs. 1−38046
Ne, electrons average energy loss factor, transport equations 1−11523
Ne positive column, diffusion-determined plasma, microphysical description *(German)* 1−42221
Ne, steady-state swarm behavior 1−11522
O_2, nonequilibrium, selfconsistent electron energy distrib. function, dissoc. rate effect 1−2261
Si:As(B)(P)(Sb), ion range and damage distrib., Boltzmann transport equation 1−42439

Boltzmann-Vlasov equation *see Vlasov equation*

bond angles
A-X-Y-B mol. system struct., lone pair orbital interaction 1−51074
benzene undistorted rings in diphenyl sulphide 1−29136
benzosemiquinone radical anion, struct. and spin densities, INDO calcs. 1−4103
1,2-benzosemiquinone radical anion, struct. and spin densities, INDO calcs. 1−4104
carbonic acid, struct. and conformational anal., ab initio calcs. 1−51077
carbonyl bromide, mol. struct., gas phase electron diffr. 1−46123
carboxyl group, H bonding effect on bond lengths and angles 1−24283
1-chloro-2,4-dinitrobenzene, dipole moment orientation by ^{13}C NMR 1−10754
dichlorodimethylsilane, geometry, electron diffr. study 1−33574
gem-dihalides and rel. mol., alicyclic and acyclic, bond relax. and nonbonded distances, MINDO calc. 1−51307
dimethyl ether-boron trifluoride complex configuration, ab initio SCF-MO calcs. 1−28864
glasses, network dynamics, bonds vibrational states 1−11831
methyl formate in gas phase, mol. struct. determ. by electron diffr., bond lengths and angles determ. 1−24257
minimal val. basis sets with coreless HF effective pot., uses, reliability of props. calc. 1−37099
oligopeptide conformation, Monte Carlo studies 1−39874
organophosphorus compounds, cyclic, ^{31}P chemical shift tensor, NMR effects 1−34950
phenols, internal angles in benzene ring and external C-C-O angles determ. by MNDO method and X-ray diffr. 1−28877
polyacetylenes, cis-trans isomerism, ab initio study of equilib. struct. 1−47020
protein ligand complexes, high press. effects 1−41529
silyl chloroacetylene, gas phase mol. struct., electron diffr. obs. 1−46125
silyl formate, gas phase mol. struct., electron diffr. 1−1402
smectic liquid crysts., bond orientational order, mean-field model 1−34232
triatomic linear molecules, orbital angular momentum, vibronic corr. and anharmonic effects 1−10623
B_2O_3, electronic and geometric struct., ab initio calc. 1−51115
$Cs_2NpO_2Cl_4$, crystal struct. 1−47061
H_2O adsorption on metal surfaces, LCAO calcs. 1−34576
H_4SiO_4, $H_6Si_2O_7$, geometries and charge distribs., ab initio STO-3G MO calcs. 1−41316

bond angles continued
ND_2SO_3, struct. study by ENDOR-detected NMR, bond angles, neutron diffr. data 1−39008
NO_2^-, vibr., photodetachment, cross sections, struct. consts., least squares approx. 1−37281
$Na_8(Al_6Si_6O_{24})I_2$, cryst. struct. and thermal expansion, distance least squares modelling 1−42360
$NaHCO_2{:}NO_2^-$, $^{1,3}B_1$-$^1A_1$ electronic transition, IR absorpt., fluoresc. and phosphoresc. spectra 1−30658
$(SiH_3)_2O$, electronic struct., rel. to silicates 1−14813

bond lengths
A-X-Y-B mol. system struct., lone pair orbital interaction 1−51074
actinides, bonding and struct. props. using inclined W systematics 1−47040
adsorption bond lengths, calc. from LEED data 1−34567
alkaline earth dihalides, gaseous mols., bonding and spectroscopic props. 1−6240
antimonites, empirical relations of O coord. at *(German)* 1−34279
benzene undistorted rings in diphenyl sulphide 1−29136
benzosemiquinone radical anion, struct. and spin densities, INDO calcs. 1−4103
1,2-benzosemiquinone radical anion, struct. and spin densities, INDO calcs. 1−4104
1:1 binary mixtures, ^{13}C and ^{2}H relax. times, correl. times, isotope effects 1−41401
butyne, spherically averaged momentum densities by Fourier analysis 1−41431
carbonic acid, struct. and conformational anal., ab initio calcs. 1−51077
carbonyl bromide, mol. struct., gas phase electron diffr. 1−46123
carboxyl group, H bonding effect on bond lengths and angles 1−24283
crystals, O-H...O bond geometry, neutron diffr. determ. 1−30129
cyanides, stretching force constants, harmonic and anharmonic, ab initio struct. study 1−10649
cyclopropyl isocyanide dipole moment and microwave spectra 1−28961
diatomic molecule, internuclear distances and potential energy calcs. 1−14833
diatomic molecules, dissoc. energy, bond lengths, GO calcs. 1−10633
dichlorodimethylsilane, geometry, electron diffr. study 1−33574
dimethyl ether-boron trifluoride complex configuration, ab initio SCF-MO calcs. 1−28864
diphenylhexatriene, vibronic spectra calcs. 1−10744
electron transfer reactions, potential energy diagrams 1−5053
EXAFS, structural anal., short range order 1−31238
hydrocarbon nonspherical solutes, hydrophobic solvation 1−8599
hydrocarbons, saturated, bond lengths, MINDO/3 and MNDO quantum chemistry calcs. 1−41320
ices, Raman spectra of polarisability derivative, O-D bond stretching coord. 1−35023
isocyanides, stretching force constants, harmonic and anharmonic, ab initio struct. study 1−10649
isoelectronic series, fourteen electron diatomic mols., bond lengths, dissoc. energies, force consts. calcs. 1−46160
metal surfaces, chemisorption, bond lengths and geometrical structs. 1−16189
methanes, substituent effects on bond length, electrostatic and orbital interaction, ab initio calcs. 1−19020
methyl formate in gas phase, mol. struct. determ. by electron diffr., bond lengths and angles determ. 1−24257
mica, vermiculite, X-ray K-absorpt., Fe^{2+}/Fe^{3+} ratio and Fe-O bond length, heat treatment effect 1−31230
minimal val. basis sets with coreless HF effective pot., uses, reliability of props. calc. 1−37099
molecular anion, bonded group interactions, substituent effect 1−10653
molecules, bonding, relativistic effects calcs. 1−45868
neutral molecules, bonded group interactions, substituent effect 1−10653
noble gas difluorides, relativistic pot. energy curves, SCF calcs. 1−6186
phosgene, mol. rot. and struct., bond lengths, isotope effects, microwave obs. 1−14875
phosgene, mol. struct., isotope effects, bond lengths, rot., electron diffr. obs. 1−15008
polyacetylenes, cis-trans isomerism, ab initio study of equilib. struct. 1−47020
protein ligand complexes, high press. effects 1−41529
pyrazine, lowest excited singlet states, electronic struct. and geometries calcs. 1−14819
rare earth-manganese intermetallic compounds, RMn_2, (R=Ga, Tb, Dy, Ho, Er, Tm, Lu), X-ray absorption spectroscopic study 1−43219
retinal, deformed excited state bond length 1−48955
selenophene, vibr. and struct. in nematic phase, isotope effects, proton NMR obs. 1−19114
silyl chloroacetylene, gas phase mol. struct., electron diffr. obs. 1−46125
silyl formate, gas phase mol. struct., electron diffr. 1−1402
solids, H bonds, H^+ chemical shift tensors, D quadrupole coupling and bond distances correl. 1−3276
tellurium, empirical relations of O coord. at Te(IV) *(German)* 1−34279
tetramethylammonium silicate hydrate, ^{29}Si NMR, shielding tensor and Si-O bond length correl. 1−34959
tetraphenyltin, geometrical parameters determ. by gas phase electron diffr. 1−51294
1,3,4-trichlorobenzene, oriented r_α struct., ^{13}C satellites in NMR spectra 1−41404
vanadocene, X-ray structural study 1−7157
$[Rh(NH_3)_6]_3[Rh(SnCl_3)_4(SnCl_4)][SnCl_6].4H_2O$, crystal and mol. struct. 1−25215
Au (100) surface reconstruction, struct. determ. by LEED intensity anal. 1−47345
Au_2 model systems, relativistic bond contraction 1−6401
AuCl model systems, relativistic bond contraction 1−6401
AuH, model systems, relativistic bond contraction 1−6401
AuH, relativistic contraction of bond lengths, orbital contraction effect 1−6402
BH, SCF theory, Hellmann-Feynman force 1−6135
B_2O_3, electronic and geometric struct., ab initio calc. 1−51115
CF_3SCF_3, geometry and internal rot., gas electron diffr. 1−29140
C_2H^+ bond lengths and rot. consts. rel. to microwave spectra 1−27365
C_3H^+, bond lengths and rot. consts. rel. to microwave spectra 1−27365
C_4H^+, bond lengths and rot. consts. rel. to microwave spectra 1−27365
ClB=S, mol. rot., moments and configs., bond lengths, isotope effects, microwave obs. 1−14876
CS_2, mol. struct. factor, bond lengths, neutron diffr. exam. 1−42286

bond lengths continued
$CaMn_7O_{12}$, bond lengths, Jahn-Teller distortion of Mn^{3+} octahedra 1−15878
CaO, atomic correl. and bond length, ab initio MO calcs. 1−28856
$Ca_6[Si_2O_7(OH)_6]$, ^{29}Si NMR, shielding tensor and Si-O bond length correl. 1−34959
$ClSCF_3$, geometry and internal rot., gas electron diffr. 1−29140
$Cs_2NpO_2Cl_4$, crystal struct. 1−47061
D_2, magnetisability calcs., rot. vibr. and isotopic substitution effect 1−24056
D_2, polarisability calcs., rot. vibr. and isotopic substitution effects 1−24055
Dy_2O_3, L_{III} X-ray absorpt. discontinuity 1−48196
$FSCF_3$, geometry and internal rot., gas electron diffr. 1−29140
GaAs (110) surface atomic geometry, LEED obs. 1−20521
$GaSe_{1-x}S_x$, mixed crystal, polytype depend. of intralayer bond length 1−47038
Gd_2O_3, L_{III} X-ray absorpt. discontinuity 1−48196
H_2, magnetisability calcs., rot. vibr. and isotopic substitution effect 1−24056
H_2, polarisability calcs., rot. vibr. and isotopic substitution effects 1−24055
HCl^-, negative ion states, electronic struct. 1−37126
HD, magnetisability calcs., rot. vibr. and isotopic substitution effect 1−24056
HD, polarisability calcs., rot. vibr. and isotopic substitution effects 1−24055
HF, ($X^1\Sigma^+$) state, mol. props. and basis set quality, information theory 1−51091
H_4SiO_4, $H_6Si_2O_7$, geometries and charge distribs., ab initio STO-3G MO calcs. 1−41316
HeH^+, Coulomb holes, position space, internuclear separation, electron correls. 1−41326
HfI_4, X-ray struct. anal., IR and Raman spectra *(German)* 1−34308
InP (110) surface atomic geometry, LEED obs. 1−20521
InSb (110) surface atomic geometry, LEED obs. 1−20521
Ir (100) surface reconstruction, struct. determ. by LEED intensity anal. 1−47345
Li_2, Boyd-Whitehead CNDO parametrisation 1−45853
LiH, SCF theory, Hellmann-Feynman force 1−6135
N_2, ground state, unrestricted Hartree-Fock description 1−6156
NO_2^-, vibr., photodetachment, cross sections, struct. consts., least squares approx. 1−37281
$Na_8(Al_6Si_6O_{24})I_2$, cryst. struct. and thermal expansion, distance least squares modelling 1−42360
Nd_2O_3, L_{III} X-ray absorpt. discontinuity 1−48196
NiH, electronic struct., ab initio SCF and CI calcs. 1−45812
O_2 on Al(111) surface, oxidation, EXAFS study 1−26306
O_2^- species in KNO_3, Raman spectra, force const., internuclear distance 1−28973
PdH, electronic struct., ab initio SCF and CI calcs. 1−45812
Pt (100) surface reconstruction, struct. determ. by LEED intensity anal. 1−47345
Pt(II) complexes, tetragonal planar, self-consistent extended Huckel calcs., relativistic effects 1−28879
S SF_6, ^{19}F NMR lineshapes, bond distances and ^{19}F chemical shielding anisotropies determ. 1−14921
SO_2, IR spectra intensities, parametric anal. 1−46025
SeF_6, ^{19}F NMR lineshapes, bond distances and ^{19}F chemical shielding anisotropies determ. 1−14921
Si_4Br_8, IR and Raman spectra 1−1223
Si_4Cl_8, IR and Raman spectra 1−1223
Si_nH_m, bond lengths, MINDO/3 and MNDO quantum chemistry calcs. 1−41320
$(SiH_3)_2O$, electronic struct., rel. to silicates 1−14813
Sm_2O_3, L_{III} X-ray absorpt. discontinuity 1−48196
TeF_6, ^{19}F NMR lineshapes, bond distances and ^{19}F chemical shielding anisotropies determ. 1−14921
TiO_2-SiO_2 glass, Ti^{4+} coordination geometry, X-ray absorpt. spectra study 1−31228
TlH, relativistic contraction of bond lengths, orbital contraction effect 1−6402
β-$VO(PO_3)_2$, chain polyphosphate, crystal struct. 1−34303
W complex, tetrahydro-tetrakis(diphenylethylphosphino) tungsten, X-ray structural study 1−7158
Yb_2O_3, L_{III} X-ray absorpt. discontinuity 1−48196
ZnO (1010) surface atomic geometry, LEED obs. 1−20521
ZnTe (110) surface atomic geometry, LEED obs. 1−20521

bonds (adhesive) *see adhesion*

bonds (chemical)
see also binding energy; bond angles; bond lengths; crystal binding; hydrogen bonds; intermolecular forces; lattice energy
acetylene bonding in Ni complexes with carbonyl and isocyanide ligands, HF-slate-LCAO calc. 1−37097
acousto-optic material modelling techniques 1−15238
actinides, f-electron bonding, review 1−47528
adsorbate bonds, activation by chemisorbed O_2 1−2800
aldehydes, ^{18}O isotope shift in ^{13}C NMR spectra 1−14961
alkali halides, bond polarities determ. using dipole moment model 1−10862
alkali silicate glasses, hydrated, synthesis kinetics and props. of products 1−31412
alkoxy radicals, γ H^+ hyperfine coupling 1−4106
alloys, bombardment-induced surface comp. changes, mass and chem. bonding effects 1−16648
$(amide)_4TeBr_6$, mol. struct., spectra, bonding *(German)* 1−24122
aminophosphines, ^{15}N, ^{31}P and ^{13}C NMR of electronic distrib. *(French)* 1−10752
amorphous semiconductor, chemical bond approach to atomic and electronic struct. *(Japanese)* 1−42680
amorphous semiconductors, electronic struct., review 1−30615
annual review of physical chemistry (book) 1−9789
aromatic sulphides, sulphoxides and sulphones in polystyrene matrix, relax. processes 1−7057
aromatics, positron annihilation characts. 1−16623
aryl bromides, triplet lifetimes, temp. depend. 1−1135
aryl iodides, triplet lifetimes, temp. depend. 1−1135
azulene, gas phase vibr. energy transfer 1−51275
azulene and derivatives, energy gap, radiationless transition rate depend. 1−19127
bonds (chemical) continued
bacteriophage lysogens under high press. 1−43858
benzene sterically hindered derivatives, conformations by UV spectra and CNDO/S calcs. 1−6167
bicyclobutane, ab initio charge deformation density from extended Guassian basis 1−33371
binary compounds, AB-type systematisation of stable cryst. struct., pseudopot. orbital-radii approach 1−34260
binuclear transition metal carbonyls, metal-metal bonding, extended CNDO calcs. 1−51130
binuclear transition metal carboxylates, metal-metal bonding, extended CNDO calcs. 1−51130
biological systems, metal ligand complexing 1−12966
bonding, ab initio calcs., book contrib. 1−10657
boron hdride clusters, approx. symmetry classification and energy ordering, bonding 1−37378
brittle failure kinetics, chem. bond rupture 1−2564
bromoacetyl bromide 1−1404
bromoacetyl chloride, mol. struct. and conformation, gas phase electron diffr. 1−1404
carbonyl chlorofluoride, gas phase mol. struct. 1−24249
carbonylhalogenides, ^{13}C and ^{19}F NMR and chemical shift 1−45994
chalcogenides, binary glass-forming, enthalpy of atomisation and bond energy 1−39667
chemisorption of simple gases on transition metal surface 1−20565
chemisorption of simple gases on transition metal surface 1−20566
complexation reactions, thermodynamic quantities, physico-chemical model 1−12967
conjugated molecules, π excited states, convergence problems and energetic regions 1−6185
covalent bonding in heavy elements, relativistic modifications 1−6120
cryptate inclusion complexes, solute-solute and solute-solvent interactions, effects on ionic reactivity 1−8569
crystal, bond energy, quantum chemical model 1−11718
cyano diamagnetic complexes, ^{15}N-^{13}C coupling consts., $^{15}N/^{14}N$ isotope effects on ^{13}C chemical shielding 1−41329
deformations, around a bond, in terms of torsion angles 1−24281
dialkyl peroxo compounds, conformational anal. 1−6399
dialkyl selenides, unbranched, vibr. spectra and conformations 1−1224
diamond (100) surface reconstruction, dimer bond form., cluster calc. 1−52408
diatomic metals and metallic clusters, stability, bond and dissoc. energy 1−46153
diatomic molecules, weakly bound, virial theorem appls. 1−37143
1,1-dichlorobutane, vibr. anal., IR and Raman spectra 1−31144
gem-dihalides and rel. mol., alicyclic and acyclic, bond relax. and non-bonded distances, MINDO calc. 1−51307
dihydro[5]helicene, vibr. optical activity and IR circular dichroism, dynamic polarisation model 1−10766
dimer formation, chemical bonds, computer experiment 1−17045
dimethyl aluminium hydride dimer, bridge bonding, MO calcs. 1−28868
dimethyl ether-formaldehyde complex, in solid N, IR spectra 1−1229
2,4-dinitrophenyl hydrazine, intramol. motion, PMR 1−34947
diphosphine disulphides, substituted, UPS study, S-S nonbonded interactions 1−41432
1,3-disilacyclobutane-1,1,3-d_3(d_4), IR ring-puckering combination band spectra 1−37199
EELS, surface analysis technique, industrial appl. *(French)* 1−31250
electronically excited states, electron-dipole rotor system, crit. binding 1−33374
equilib. and kinetic investigations, binding parameter, UV spectra 1−17095
ethylene+$HF(F_2)$, γ-electron mol. complex formation, MO CNDO/2 calcs. 1−35506
even-electron ions, collision-induced fragmentation 1−8546
first-row dihydride systems containing 4 valence electrons, geometries from CNDO/2 method 1−33399
formamide-He, van der Waals mols. and dimer formation in jet cooled expansions 1−48664
formyl radical isomers, pot. energy surface, ab initio CI calcs. 1−4048
furan, localised mol. orbitals and chem. binding 1−45837
furan, mol. charge distrib. and chem. binding 1−45836
furanose, five-membered saturated ring, puckering 1−29138
glass, silicate, XPS study of bonding and leaching properties, radioactive waste immobilisation 1−31313
hexamethylbenzene-tetracyanoethylene CT complex, IR spectra at high press. 1−48089
n-hexatriacontane, polyethylene sublattice, polarised Raman spectra 1−16561
homonuclear diatomic molecules, models for calc. of dissoc. energies 1−41518
β-hydroxyacrolein, planar conformers, geometries and energies, ab initio calcs. 1−45838
1-p-hydroxyphenylthianium perchlorate, X-ray cryst. struct. determ., IR spectra 1−2420
III-V native oxides, local atomic order and bond stability 1−16923
IIIB compounds, electron orbit struct. and superconducting transition temp. 1−25196
inert gases, adsorbed on metals, work function and bonding energy 1−47724
ionic and covalent crystals, optical dispersion connection with lattice and bonding props. 1−39058
ionic crystal, stability of surface struct. *(German)* 1−52410
isobutylene, vibr. phase relax. and freq. shift, solvent effects 1−10707
isoxazole, photochemical isomerisation, ab initio CI calcs. 1−1122
IV-VI compounds; cryst. struct. and cubic/rhombohedral phase boundary 1−2404
ketones, ^{18}O isotope shift in ^{13}C NMR spectra 1−14961
lanthanide monoxides, dissoc. energies mass spectra results correl. 1−17044
laser selective chemistry 1−31884
liquid alloy, structural disorder theory, band struct. 1−46987
local and normal modes, nonlinear mechanics 1−37134
localised MOs, kinetic, self-interaction, Coulomb, exchange interaction energies transferability 1−1093
low dimensionality solids, chemical bond anisotropy *(French)* 1−38324
malonyl gramicidin micelles, multisite ion binding ^{23}Na NMR 1−43713
metal carbonyl molecules, CO-metal bond, IR intensity 1−28964
metal chelates, metal bridge effect, SCF and LCAO calcs. 1−1111
metal hydrides, electronic struct., bonding and chemisorpt. for H_2 storage appls. 1−2807

bonds (chemical) continued
metals, nonsimple, electron pairing centre contrib. to normal state resist. and supercond. 1−12227
methanol, trans lone pair effect, CNDO/2 SCF perturbation anal. 1−51131
N-methyl benzaldimine, imine bond, photochemical behaviour, ab initio CI calcs. 1−1121
N-methyl dithiocarbamate, mol. vibr. and conformation, IR and PMR spectra 1−45965
methyl uracil, mol. force fields, reson. Raman intensity, Wilson G-F calcs. 1−24152
N-methylacetamide complexes of alkali and alkaline earth metals, structure and bonding, review 1−52126
methylamine, trans lone pair effect, CNDO/2 SCF perturbation anal. 1−51131
methylene cation geometry from CNDO/2 method 1−33399
N-methylimidazole, struct. and conformation, NMR spectra 1−28995
methylvinylsilanes, mesomeric interaction, ^{1}H, ^{13}C and ^{29}Si NMR obs. 1−1255
mica, vermiculite, X-ray K-absorpt., Fe^{2+}/Fe^{3+} ratio and Fe-O bond length, heat treatment effect 1−31230
minerals, X-ray spectra, of Fe atoms 1−12603
Mo binary systems, phase diagrams, thermodynamic data 1−22
molecular conformations and biopolymer bindings in soln., solvophobic theory 1−1072
molecule organic, Li projectile stopping cross sections meas., bonding influence 1−24222
molecules, bonding, relativistic effects calcs. 1−45868
molecules, laser isotope separation, review 1−31885
MSb_2O_6, (M=Pb, Ca, Sr, Ba, Cd), vibrs., force field calcs., IR and Raman obs. *(French)* 1−31152
multienzyme proteins, charged, ligand binding props., phase transition 1−39878
nicotinamide adenine dinucleotide, UV excitation, fluorescence-free reson. Raman spectra 1−33469
non-crystalline solids, chemical bonding, internal surfaces and topology 1−11686
nucleotides adsorbed in Al-AlO_2-Pb tunnel junction surface, UV radiation damage, inelastic electron tunnelling spectra 1−4334
O anomalies, composition depend. 1−38288
odd-election ions, collision-induced fragmentation 1−8546
olefins, protonated, gas and soln. phase, struct. and stability 1−51110
oligoradicals, hypothetical, strain-free 1−51086
organic solids, shock induced chem. reactions, phonon relax. effects 1−17058
organoboranes, B chemical shift, gauge invariant atomic orbital semiempirical theory 1−14934
organosilicon molecules, force consts. of Si-O bonds rel. to electron struct., MO LCAO calc. 1−41520
oxides, bombardment-induced surface comp. changes, mass and chem. bonding effects 1−16648
pentahaloethanes, conformations and CH stretching IR overtone spectra, local mode description 1−51195
n-pentatriacontane, polyethylene sublattice, polarised Raman spectra 1−16561
phenylethanes, conformational preferences about exocyclic C-C bonds, PMR obs. 1−51223
phthalocyanine redox equilib., solvent effect 1−10857
polyacetylene, neutral kinks, ground state struct. 1−6415
trans-polyacetylene, optical modes and bond stretch force const. 1−46178
polyacetylene, soliton excitations 1−1424
polyacetylene, undoped, effect of disorder on electronic struct. 1−20610
polyatomic molecules, bond functions for ab initio calcs., mols. containing C, N, O and H 1−45807
polyatomic molecules, vibronic spectra calc., absorpt. coeffs., spectral distrib. curves, correl. for C-C and C-H bonds 1−28958
polycyclic aromatic aldehydes, CO vibr. props. correl. with hydrocarbon electronic props. 1−51132
polyenes, infinite, energy spectrum, long-range Coulomb interaction effect 1−15051
polyimide film, aromatic, surface anal. using ESCA 1−8638
polyoximurethane, photochem. reactions, N-O and C-O bond scission 1−17083
polypropylene, molecular deform., IR spectra 1−11802
post-transition (p-block) hydrides, bond polarities determ. using dipole moment model 1−10862
potassium fumarate, dihydrated, IR spectra and bonds *(French)* 1−2392
praseodymium fluoro β-diketonates, interelectronic repulsion, spin-orbit interaction bonding, IR spectra 1−51197
pyridazine, π excited states, convergence problems and energetic regions 1−6185
pyrrole, localised mol. orbitals and chem. binding 1−45837
pyrrole, mol. charge distrib. and chem. binding 1−45836
pyrylium cations, substituted, electronic struct., solvation and counterion perturbations, bonding, electrochemical props. 1−10638
rare earth arsenides, bismuthides, bonding model, heats of form., melting points, theory 1−20110
rare earth dicarbides, polycryst., Vickers hardness and pendulum hardness 1−25366
rare earth intermetallic hydride formers, atomic volume contraction 1−20125
rare earth metals, Curie-Weiss law and chem. bonds 1−25911
rare earths, f-electron bonding, review 1−47528
reactivity and bond energies 1−10861
review, chemical bonding theory in mols. 1−10625
second-row dihydride systems containing 4 valence electrons, geometries from CNDO/2 method 1−33399
seleno difluoride, mol. struct. and rot. consts., electron diffr. 1−1405
selenocarbonylhalogenides, ^{13}C and ^{19}F NMR and chemical shift 1−45994
selenoketene, ^{13}C labelled, microwave spectra 1−51184
semiconducting liq. alloy, struct. and evidence for ionic bonding 1−25149
semiconductor surfaces and interfaces, and defects, electronic struct., review 1−30802
semiconductors, hypovalent two cation, rel. between lattice thermal cond. and chemical bond 1−11925
semiconductors, molten, double hard sphere model 1−30040
semimetals, molten, double hard sphere model 1−30040
silicate glass, thermal expansion coeff., calc. from structure-energy characteristics 1−16071
bonds (chemical) continued
silicate melts, anionic struct. rel. to viscosity, Raman obs. and role in magma processes 1−16079
silicates, straight Si-O-Si bridging bonds 1−11716
single-particle density, role in chemistry, review 1−37357
solid, hard, shock effect on flexible bonds, incl. external medium press. *(Russian)* 1−37831
solid solutions, in multicomponent systems, ferroelec. props. rel. to crystal chem. parameters 1−34993
supports for gas chromatography expand capability 1−39701
tetraaza-macrocyclic ligands complex, macrocyclic effect 1−13030
tetraethynyltin, mol. struct., gas phase electron diffr. 1−1401
tetrahaloethanes, conformations and CH stretching IR overtone spectra, local mode description 1−51195
tetramethylammonium silicate hydrate, ^{29}Si NMR, shielding tensor and Si-O bond length correl. 1−34959
thiocarbonyl difluoride, mol. struct. and rot. consts., electron diffr. 1−1405
thiocarbonylbromide, mol. struct., electron diffr. 1−1406
thiocarbonylhalogenides, ^{13}C and ^{19}F NMR and chemical shift 1−45994
thiopene, localised mol. orbitals and chem. binding 1−45837
thiophene, mol. charge distrib. and chem. binding 1−45836
2-thiophenesulphonyl chloride, conformation and geometry, electron diffr. 1−1403
bis(p-toluene sulphonate)diacetylene, monomeric and polymeric cryst., optical spectra 1−8085
transition metal μ-oxo-decahalides, reson. Raman, IR and electronic spectra 1−19100
transition metal borides, nitrides and silicides, surface states, ESCA investig., reduction effect 1−53045
transition metal clusters, approx. symmetry classification and energy ordering, bonding 1−37378
transition metal complexes, hexamine and hexa-aquo complexes, electronic struct. and parametrisation, CNDO/2 calcs. 1−1110
transition metal dimers, pot. energy curves, MCSCF calcs., binding energies 1−41303
transition metal halides, second order energy and geometry, modified PCILO method 1−41319
transition metal surface, adsorbed H atoms, adsorbate vibr. spectra, theory 1−16186
triatomic molecules, AB_2 type, average and equilib. internuclear distances relationships 1−51076
triethynyltin iodide, mol. struct., gas phase electron diffr. 1−1401
trimers, hard core square well clusters, three body partition function 1−24306
unsaturated chromophore excitation influence on feasibility and selectivity of σ-bond cleavage 1−48648
water, electron distrib. by high-energy electron scatt. 1−1365
XY_3 systems, pyramidal and planar, intramol. force fields and mean amplitudes of vibr. 1−41360
$[ClF_6][CuF_4]$, growth by detonation synthesis, cryst. struct. 1−25224
$[(NH_4)_{1-x}Rb_x]_2SO_4$, ferroelectric crystals, dielectric and nonlinear optical props. 1−1643
Ag-Ge system, metastable phase, enthalpy of form. determ. *(German)* 1−31896
AgI, ionic crysts., covalent bonds 1−20106
Al adsorbed on GaAs (110), bonding and adatom-adatom interaction 1−16172
Al, clean and oxidised, adsorption of NH_3, UPS and XPS study 1−3577
Al, polycryst., chemisorption of methanol, UPS, XPS 1−21778
Al-CH_3, bond investig., nonempirical quantum mech. method 1−6145
Al=CH_2, bond investig., nonempirical quantum mech. method 1−6145
Al≡CH, bond investig., nonempirical quantum mech. method 1−6145
As-S, melts and glasses, valence struct., viscosity and elastic props. 1−16080
As_2Se_3, glassy, struct. defect states 1−52525
As_2Se_3, thin film, spectral sensitivity *(Russian)* 1−48183
AsSeI, cryst. struct. determ. and synthesis 1−25231
Au with submonolayer Ag deposits, Raman intensity enhanced from adsorbed pyridine and cyanide 1−35049
Au(I) compounds, $(AuX_2)^-$ (X=CN, Cl, F), electronic struct. and Mossbauer hyperfine interactions 1−19124
B hydrides, B chemical shift, gauge invariant atomic orbital semiempirical theory 1−14934
BH_3NH_3, microwave spectra and dipole moment, Stark effect anal. 1−45938
BaO-P_2O_5, vitreous, X-ray study of struct. 1−15809
$Ba_2R^{3+}Ir^{5+}O_6$ and $Ba_3R^{3+}Ir_2O_9$ (R=rare earth and Y) cryst. struct. and IR spectra *(German)* 1−38349
Be_2, bonding, analytic pot. functions 1−29071
$BeSiN_2$, struct. and chem. bonding 1−30168
n-BiTeBr single crysts., IR spectra, Hall coeff. 1−20772
C black, graphitised, direct obs. of tetrahedral bonding, by high resoln. electron microscopy 1−2391
C, electron energy states, Auger, energy loss and X-ray spectroscopies 1−12167
C/C composites, struct. and strength, review 1−48421
CO, adsorpt. on ZnO (10$\bar{1}$0) surface, bonding geometry, angle-resolved UV photoemission obs. 1−12622
CO adsorption on transition metals, binding and dissociation, calc. 1−42635
CO_2+$Cl^-(I^-)(NO_2^-)(CO_3^-)(SO_3^-)$ reactions, gas phase cluster prod. 1−4061
CO_3 struct., ab initio electron correl. calcs. 1−10675
Ca_2, bonding, analytic pot. functions 1−29071
$Ca_2Al_3(OH)(SiO_3)_4$, zoisite, low-energy OH valence vibr., H-D isotope effect on IR spectrum 1−21180
$Ca_6[Si_2O_7(OH)_6]$, ^{29}Si NMR, shielding tensor and Si-O bond length correl. 1−34959
$CdI_2(Br_2)$, interlayer and intralayer bonds, layer displacement modes 1−38326
$CdSiAs_2$, $CdGeAs_2$, $CdSnAs_2$, thermal dissociation, mass spectra 1−17040
Ce, f-electron bonding, electronic struct. and phase transitions 1−47431
Co II complexes, X-ray K-absorpt. spectra 1−12601
Co III complexes, X-ray K-absorpt. spectra 1−12601
$Co_2(CO)_8$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
$CoCl_4^{2-}$, spin density, HF calcs., rel. to neutron diffr. results 1−6136
$Cs_2ZrCl_6(Br_6)$:Re^{4+}, IR interconfigurational and mag. circular dichroism spectra 1−31170

bonds (chemical) continued
$Cs_3[Mo_2O_8F_3]$, cryst. struct. and vibr. spectra 1−34314
Cu, adsorbed CO, core-level XPS spectrum, MO cluster model study 1−53053
Cu complex, bis(biuretato)Cu(II,III), Raman and IR spectra, normal coord. anal. 1−1244
Cu complex bis(oxamidato)Cu(II,III), Raman and IR spectra, normal coord. anal. 1−1244
Cu complex with L-citrulline amino acid, ESR linewidth, bonding, mag. susceptibility, hyperfine struct. 1−52834
Cu halides, ionic crysts., covalent bonds 1−20106
$CuHg(NCS)_4$, and complexes, synthesis, struct. and softness parameter 1−8565
$CuHg(NCS)_2(NCSe)_2$, and complexes, synthesis, struct. and softness parameter 1−8565
$CuHg(NCSe)_4$, and complexes, synthesis, struct. and softness parameter 1−8565
n-D_2 supercritical phases and cryst. solids under high press., Raman spectra 1−39108
F, Kα X-ray satellite intensities, chem. bond effects 1−1160
F_2+B(Al)(Ga)(In)(Tl) reactions, chemiluminesc., beam-gas study 1−48667
Fe chelate, therapeutic agents, Fe binding, EHT calcs. 1−1118
Fe surface (111), O_2 interaction, AES study 1−43704
Fe-B amorphous alloy, correl. between atomic and electronic struct. 1−30084
Fe-M(3d) molecules (M=Mn, Fe, Co, Ni, Cu), matrix isolation and Mossbauer spectra, electronic struct., isomer shift 1−41370
Fe-Mg silicates, s-electron density, molecular orbital calculation rel. to isomer shift 1−11719
Fe-Se-Te solid solution, mag. props. in ferrimagnetic and paramagnetic ranges 1−52776
$Fe_2(CO)_9$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
$(FeO_4)^{5-}$, s-electron density, molecular orbital calculation rel. to isomer shift 1−11719
Fe_2O_3 $[Na_2O.2SiO_2]_{1-x}[Fe_2O_3]$, glass, IR study of crystallisation 1−2336
FeOCl intercalation compounds, hyperfine interactions, van der Waals lattice modes 1−38751
Ga adsorbed on GaAs (110), bonding and adatom-adatom interaction 1−16172
GaAs, amorphous film, EXAFS study of disorder effects 1−35118
GaAs, chemisorption of Al on (110) surface, adsorption mechanisms and bond calcs. *(Chinese)* 1−47364
GaAs, surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
GaP, amorphous film, EXAFS study of disorder effects 1−35118
GaP, surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
GaSb, surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
Ge, amorphous/metal system, short range order modelling and bonding 1−25169
Ge, dangling bonds during laser irrad. 1−12060
Ge-Se amorphous obliquely-deposited films, photo-induced effect, XPS 1−35144
GeS (001), site specific valence band densities, XPS and Auger spectra 1−16656
GeSe (001), site specific valence band densities, XPS and Auger spectra 1−16656
H chemisorbed on W (001) surface, vibrational modes 1−20564
H-negative charge system, diatomic interactions, binding/antibinding anal. 1−37286
n-H_2 supercritical phases and cryst. solids under high press., Raman spectra 1−39108
H_2 to Lw_2 molecules, models for calc. of dissoc. energies 1−41518
HF, electronic property density function, nuclear mag. shielding density 1−33404
HHe^{2+}, binding and antibinding contributions, electron density in chemical bonding 1−24285
H_2O adsorption on metal surfaces, LCAO calcs. 1−34576
H_2O exchange in first solvation shell of hydrated cations, transition state model, binding energies 1−48649
He^++dimethyl sulphite, S-O bond determ. using low energy particle accelerator 1−1332
He^++SO_2, S-O bond determ. using low energy particle accelerator 1−1332
HeH^{2+}, binding and antibinding contributions, electron density in chemical bonding 1−24285
HeI_2 van der Waals mol., vibr. predissoc., rot. effect 1−10708
HfC_x, LCAO-CPA studies of C vacancies 1−2856
HfS_2, electronic struct. and spectral features 1−34622
Hg-As-S-I system, glass form. processes, Raman spectra 1−34239
I, amorphous semiconductor, onefold-coordinated, Raman spectra 1−35036
$IrNbSe_4$, low dimensionality, chem. bond anisotropy *(French)* 1−38324
K_2, chemical bonding, classical nonlinear field theory 1−41292
KCl:$(LiH)^+$(AgH^+) centres, EPR 1−3258
K_2O-BeO-B_2O_3 glasses, bonding mode of Be atoms by means of optical absorpt. spectra of VO^{2+} *(Japanese)* 1−21232
K_2WO_4.5-7WO_3, bonding, phase range, and anion struct., Raman spectra study *(German)* 1−35025
KY_3F_{10}:Eu^{3+}, trend of Eu^{3+} ligand bonding, ionicity influence 1−25195
KrHF quasimolecules, rot. spectra, nuclear spin-spin coupling, nuclear quadrupole coupling and mol. struct. 1−33478
La, f-electron bonding, electronic struct. and phase transitions 1−47431
$LaBO_3$, B=Ti, V, Cr, Mn, Fe, Co, electronic struct., XPS meas., calc. 1−38714
$LaCl_3$:Eu^{3+}, trend of Eu^{3+} ligand bonding, ionicity influence 1−25195
Li_2, chemical bonding, classical nonlinear field theory 1−41292
α-$LiIO_3$, cryst. struct. and phase transitions *(Chinese)* 1−25206
$2LiIO_3.HIO_3$, cryst. struct. and phase transitions *(Chinese)* 1−25206
$LiMF_4$, M=rare earth ions, f^n electron system, cryst. field param., angular overlap model 1−30686
Li_2O, lattice energy 1−7126
Li_2O-Al_2O_3-SiO_2(B_2O_3)(P_2O_5) glasses, elastooptical props., effect of nature of chem. bonds 1−16549
$LiYF_4$:M^{3+}, M=rare earth ions, f^n electron system, cryst. field param., angular overlap model 1−30686
MO_2, electron correlation and sextuple bond nature 1−6172
Mg_2, bonding, analytic pot. functions 1−29071
$MgGeN_2$, struct. and chem. bonding 1−30168
MgO-SiO_2-H_2O system, hydrosilicates low pressure hydrothermal synthesis *(German)* 1−39285
$MgSiN_2$, struct. and chem. bonding 1−30168
$Mn_2(CO)_{10}$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
Mo surface, adsorbed Ga, Sn, field evaporation, binding states 1−30570
Mo_2, compounds containing central $(M{\equiv}M)^{6+}$ unit, dynamic and static stereochemistry 1−41509
$(Mo_6Cl_8)Cl_4$ cluster, SW Xα calcs. and XPS 1−6416
$(N_2)_2$, electronic struct. and normal vibr. freqs., CNDO/BW calcs. 1−24052
N_nF_m, s-p separation model, CNDO-MO calcs. 1−1109
$NF_3(NCl_3)$, inversion barriers calc. using ab initio mol. orbital theory 1−10863
NH_3:^{119}Sn, Sn binding, Mossbauer spectra 1−47981
$NH_nD_{4-n}NO_3$, (0<n<4), phase IV, IR and Raman vibr. spectra, heteroionic coupling 1−3379
$(NH_4)_3[Mo_2O_2F_9]$, $(NH_4)_2[MoOF_5]$, cryst. struct. and vibr. spectra 1−34314
Na_2, chemical bonding, classical nonlinear field theory 1−41292
Na_2O-ZnO-SiO_2 glasses, strength, effect of ZnO 1−16792
Na_xWO_3 (100), surface struct. and comp., LEED and AES study 1−30533
NbC, LCAO-CPA studies of C vacancies 1−2856
$NbOAsO_4.2H_3AsO_4.5H_2O$, cryst. synthesis and charact., thermal decomp. products 1−38341
$NbSe_3$, low dimensionality, chem. bond anisotropy *(French)* 1−38324
Nd-Pb-Se system, phase diagram of Nd_2Se_3-PbSe cross section, complex phases existence and bond scheme 1−53162
Ne_3, exchange repulsion nonadditivity, many-orbital cluster expansion calcs. 1−28869
Ni, chemisorption of acetylene, cluster model, HF-Slater-LCAO calc. 1−39682
Ni complex, bis(diethyldithio-carbamato)-Ni(II), IR matrix and polarised spectra 1−3388
Ni complexes with carbonyl and isocyanide ligands, bonding of acetylene, HF-slate-LCAO calc. 1−37097
Ni, substitutional chemisorption of organic mols., XPS study 1−17107
Ni-H, electronic struct. of interstitial H by cluster-in-condensed-matter technique 1−20653
Ni_2, bonding, ab initio effective core pot. 1−1095
NiO-Al_2O_3 system, bonding at temp. of reduction, thermogravimetry anal. DTG curves 1−26785
$OGeF_2$, IR spectra, prod. from GeO+F_2 matrix reaction *(German)* 1−31850
$PF_3(PCl_3)$, inversion barriers calc. using ab initio mol. orbital theory 1−10863
PaAs(N), f-electron contrib. to bonding 1−47059
PbI_2, interlayer and intralayer bonds, layer displacement modes 1−38326
$Pb_9K_2(PO_4)_6$, apatites without hexad anion, cryst. struct. 1−34322
PbO-Al_2O_3-B_2O_3(P_2O_5)(SiO_2) glasses, elastooptical props., effect of nature of chem. bonds 1−16549
PbO-SiO_2 glasses, electronic struct. and resonant covalence 1−30616
PbS(Se)(Te), liq., elec., thermal, mag. and physio-chem. props. 1−20722
Pd, substitutional chemisorption of organic mols., XPS study 1−17107
Pd_2Si, chemical bonding and electronic struct., UPS and AES study 1−26366
Pt (111) surface, adsorption of acetylene, EHT study 1−16185
Pt, chemisorbed H, Pt-H bond, NMR 1−34943
Pt complex ions, electronic struct. and bonding, quasirelativistic SCF EHT calcs. 1−1117
Pt, flat and stepped surfaces, chemisorption of ethylene, orbital phase study 1−2821
Pt-Si (111) interface, electronic struct. of cpds. formed 1−43250
ReO_3^{3-}, vibr. spectra from $Ba_5(ReO_5)_3Br$ IR and Raman spectra 1−8079
Ru (0001), electronic struct. of carbidic and graphitic overlayers 1−52637
$(SCH)_2$, fluoro and cyano-substituted counterparts, bonding mode, ab initio calc. 1−45820
S_2F_{10}, IR and Raman vibr. spectra and pot. consts. 1−1236
SF_5Cl, electronic struct., SCF DVM Xalpha calcs. 1−33396
$(SN)_x$, bonding mode, ab initio calc. 1−45820
SO_2+Cl^-(I^-)(NO_2^-) reactions, gas phase cluster prod. 1−4061
Sb adsorbed on GaAs (110), bonding and adatom-adatom interaction 1−16172
Se, magnetic susceptibility, 800 to 1200K, temp. depend. 1−34853
Si (100) surface reconstruction, dimer bond form., cluster calc. 1−52408
Si (111), adsorption sites and relative stabilities of 3×1 and $\sqrt{3}$ phases of Ag 1−7471
Si, bond charges, X-ray determ. 1−25194
Si, dangling bonds during laser irrad. 1−12060
Si, semi-insulating polycryst. deposition, model based on IR spectroscopic anal. 1−20580
Si, structure of kinks on 90° partial, strained-bond model for dislocation motion 1−7171
Si surface reconstruction, chemical pseudopotential theory 1−52402
Si:F, amorphous, chem. bonding struct., IR absorpt. and XPS study 1−52942
Si:F, amorphous, RF sputtering prep., elec. and optical props. 1−53090
Si:F,H amorphous films, bonding of F, IR spectra study 1−39095
Si:H, crystalline and amorphous, bombardment-produced disorder and SiH bonds 1−34379
α-Si:H, quantum well model 1−7510
Si-Al interface, PES and Auger studies 1−53046
Si-O-Si bridging bonds, in silicates and SiO_2 polymorphs 1−11716
Si-SiO_2 interface, defect states, chem. bonding approach 1−52659
Si-SiO_2 interface, struct. and electronic props. of SiO_x region 1−20576
Si_2, electronic energy, scaled single zeta basis set, valence bond description 1−51133
Si_xC_{1-x}:H, amorphous system, chemical bonding states, XPS and IR study 1−52103
SiN plasma deposited films, structural and elec. props. 1−16391
SiN_x:H plasma-deposited films, ESR study 1−42994
SiO_2, amorphous, synthesised by shock compression of α quartz, physical props. 1−11815
SiO_2 glass, molecular dynamics simulation 1−52075
SiO_2 polymorphs, straight Si-O-Si bridging bonds 1−11716
SiO_2-Au(Al), interface reactions, XPS study 1−38674
Sr_2, bonding, analytic pot. functions 1−29071
SrO-P_2O_5, vitreous, X-ray study of struct. 1−15809

bonds (chemical) continued
$SrTiO_3$, H species characterization by electron-excited Auger stimulated desorpt. 1−34577
TaC_x, LCAO-CPA studies of C vacancies 1−2856
Te, trigonal, self-consistent electronic spectrum, charge and momentum density and compton profile 1−12026
$ThFe_4P_{12}$, cryst. struct. 1−34309
$ThOs_4P_{12}$, cryst. struct. 1−34309
$ThRu_4P_{12}$, cryst. struct. 1−34309
Ti-M-C-N, M=Zr, V, Nb or Hf, solid solutions, microhardness and elastic props. 1−35347
TiC(N)(O), electronic struct. determ. by scattered-wave-method 1−30630
TiO_2, H species characterization by electron-excited Auger stimulated desorpt. 1−34577
TiS_2, electronic struct. and spectral features 1−34622
$TiS_2(TiSe_2)$, 1T layer compounds, self-consistent valence charge density, Xalpha, OPW and LCAO calc. 1−12013
TlBr, photofragmentation UV time of fli-ht spectra 1−53436
TlCl, photofragmentation UV time of fli-ht spectra 1−53436
TlH, covalent bonding calcs., relativistic modifications 1−37131
TlH, electronic struct. for ground state from relativistic multiconfig. SCF calcs. 1−37098
TlI, photofragmentation UV time of fli-ht spectra 1−53436
$TlInX_2$-$TlRX_2$ (X=Se,Te), R=(Nd,Pr) systems, electrophys. and X-ray investigs., comp. depend. 1−52482
$Tm(SO_4)_3.8H_2O$, Tm^{3+} Slater-Condon and spin-orbit param. 1−34670
U halides and oxyhalides, electronic struct., XPS study 1−48228
U pnictides (chalcogenides), electronic struct. and bonding 1−47466
$U(BH_4)_4$, NMR, IR and Raman vibr., electronic spectra 1−51229
UN, electronic struct. and bonding 1−47466
V compounds, multicomponent, valence band formation, p-d covalent mixing 1−34619
VC(N),(O), electronic struct. determ. by scattered-wave-method 1−30630
W (110) and (111), adsorption of Cl, surface ionisation mechanism, thermal desorption, work function, and LEED meas. 1−2826
W surface, adsorbed Ga, Sn, field evaporation, binding states 1−30570
W_2 compounds containing central $(M{\equiv}M)^{6+}$ unit, dynamic and static stereochemistry 1−41509
WO_3 (100), surface props., LEED and AES study 1−30534
XeF radical, decomp. kinetics in polycryst. XeF_2 (XeF_4) matrices 1−39658
XeHCl van der Waals mol., rot. microwave spectra and ^{131}Xe NQR 1−10755
$YAsO_4$:Eu^{3+}, trend of Eu^{3+} ligand bonding, ionicity influence 1−25195
YAu(g), thermodynamic stability, high temp. mass spectra 1−17092
YIr(g), thermodynamic stability, high temp. mass spectra 1−17092
YPO_4:Eu^{3+}, trend of Eu^{3+} ligand bonding, ionicity influence 1−25195
YVO_4:Eu^{3+}, trend of Eu^{3+} ligand bonding, ionicity influence 1−25195
$ZnGeN_2$, struct. and chem. bonding 1−30168
ZnS:Tm^{3+} Slater-Condon and spin-orbit param. 1−34670
$ZnSiAs_2$, $ZnGeAs_2$, $ZnSnAs_2$, thermal dissociation, mass spectra 1−17040
ZnTe(110) surface structure determ. from dynamical anal. of LEED intensities 1−11962
ZrC(N)(O), electronic struct., cluster calc. using different mol. orbital methods 1−30628
ZrO_2, electronic struct., cluster calc. using different mol. orbital methods 1−30628
ZrS_2, electronic struct. and spectral features 1−34622
$ZrS_2(ZrSe_2)$, 1T layer compounds, self-consistent valence charge density, Xalpha, OPW and LCAO calc. 1−12013

bone
^{133}Xe partition coefficients between human blood and bone 1−43963
apatite crystals, orientation rel. to muscle attachment in the mandible, bone stresses 1−17337
axial rotation, radiographic method of meas. 1−13366
cancer from ^{226}Ra, beagle expts. 1−4340
ceramic models for piezoelec. in dry bone 1−4257
compact bone, dog, dynamic viscoelastic props. variation during fatigue process 1−13266
compressional wave propag., long wavelength approx. to lowest mode 1−24548
crystals, ^{133}Ba ion uptake, time differential perturbed angular correl. studies 1−48951
deformation of compact human bone tissue, X-ray diffr. study 1−49047
demineralisation, holographic determ. in osteomalacia 1−8964
density determination by coherent-Compton scatt. 1−26991
dielectric properties, role of fluid in wet bone 1−13231
drilling, feed rate rel. to point angle for a twist drill bit 1−49168
electric characteristics of unstressed bone 1−32108
electro-mechanical wave propagation in long bones 1−53778
electromechanical effect, influence of dielec. props. 1−13230
femora, proximal, basic dimensional anal. in normal humans 1−17447
femoral fractures, single- and double-plated, plate and bone stresses anal. 1−53810
femoral head stress patterns, hyman, effects of hip contact aberrations 1−32154
femur, canine, plated and unplated, stress field calcs. from in vivo strain meas. 1−53811
femur, mechanisms of fracture 1−17429
hip joint, human, geometry obs. 1−17445
hip joint, transverse load 1−49027
human tibial, creep props., nonuniformity of distrib. under tensile testing 1−17436
implant of porous metal, effect of DC stimulation on interface 1−32309
intracortical stress fields calc. from in vivo stress meas. 1−22050
IR thermograms of bone and joint pathology, computer processing 1−8970
irradiation injury study, vital microscopic method 1−44050
jaw osteosynthesis, accurate iconics studies of force lines using holographic interferometry 1−8962
leg long bones, mech. characts. in torsional loading 1−17426
lumbar vertebrae mineral content meas., dual photon absorptiometry, baseline error evaluation 1−49094
marrow cell changes after localised acute and fractionated X-irrad. 1−43908
marrow lymphocytes, X-ray and electron irrad., chromosome aberrations rel. to lethal injury 1−8927
marrow stem cells, absence of late radiation effects 1−32202
matrix demineralised tissue, mech. indices, age-related changes 1−13276
mechanics, math. model as porous-elastic piezoelec. material 1−13274

bone continued
mineral content of human vertebrae and hip, meas. by dual photon absorptiometry system 1−22124
neutrography of the skeleton 1−17475
orthopaedic stimulator for treatment of delayed union in long bones 1−13304
phalangeal fractures fixation, optimisation of rigidity 1−13348
photoelectromagnetic effect rel. to p-n junction characts. 1−48975
porous implant interface, effects of DC stimulation on tensile strength 1−32105
radionuclide scans, significance of photon-deficient areas 1−49108
stem cell kinetics in spleen and bone marrow after irrad. of infant mice 1−49073
strength, non-invasive determ. using US vel. meas., equine expts. 1−13281
stress transmission anomalies in femoral heads altered by aseptic necrosis 1−17428
structure inhomogeneities devolution, predictions of adaptive elasticity theory 1−49052
temporal, high resolution CT-scan 1−43958
temporal-bone imaging, manipulation of computerised tomography data 1−53888
thigh-bone cap tissue, strength under reduced blood supply conditions 1−32177
tibial, of athletes, dosed phys. loads effect by US method 1−13275
tibial lengthening apparatus with distractive force meas. system 1−32310
trabecular, mineral conc. assess. by coherent γ-ray scatt. 1−26992
trabecular bone, anisotropic props. obs. 1−13278
vertebrae, human, assessment of crit. shock rate causing fracture 1−32178
^{A}Pu, A=239, 240, fallout concs. in human tissues from New York City 1−4370
^{90}Sr, content in human bone of West German residents 1−17500

Boolean algebra
see also Boolean functions; formal logic
No entries

Boolean functions
No entries

Boolean lattices *see Boolean algebra*

boosters (electric generators) *see exciters*

bootstrap models *see bootstrapping*

bootstrap theory *see bootstrapping*

bootstrapping
1+1 dimensional field models, with soliton behaviour, bootstrap program, S-matrix derivation 1−28215
boson system, exponential mass spectrum, statistical bootstrap, condensation 1−18591
dual topological unitarisation of planar SU(N) singlet reggeons 1−40973
hadron-quark 'phase transition', statistical bootstrap model 1−18451
high density hadronic matter, thermodynamic model, Hagedorn's bootstrap, cosmological predictions 1−18456
hot hadronic matter and nuclear collisions, bootstrap model and hadronic fireballs 1−18455
meson mass, self-consistent planar bootstrap calc. 1−50406
multicolour QCD, loop average bootstrap form, self consistent area law 1−18444
nuclear matter, thermodynamics, statistical bootstrap model, fireball volume 1−18590
phase transitions in the statistical bootstrap model with an internal symmetry 1−5607
quadratic mass relations in topological bootstrap theory 1−23485
rishon constituents, lepton and quark internal quantum numbers, bootstrap approach 1−50393
spherical bootstrap calc. using dual topology unitarisation, qqq baryon multiquark hadron mass 1−23486
SU(N) group, Lagrangian model, large N and non trivial dynamics 1−23420

bootstraps *see bootstrapping*

borate glasses
see also borosilicate glasses
alkali, temp. depend. of B coordination, second order transition 1−30363
alkali earth borate glasses, molten, free volume theory appl. to transport phenomena *(Japanese)* 1−25481
alkali metal oxide-B_2O_3, alkali ion mobility 1−16085
alkali-B_2O_3 glasses, S states 1−26227
alkaline earth borate glasses, molten, free volume theory appl. to transport phenomena *(Japanese)* 1−25481
composite resistive films based on PbO-B_2O_3-SiO_2 and BaO-B_2O_3-SiO_2 sintered glass, electrical props. *(Slovak)* 1−53304
density and refr. index rel. to struct., high and low press. 1−30078
fluoroborate glasses, Tb activated, magnetooptical characts. 1−43099
lanthanum borate glasses, Faraday rotation and other props. 1−3373
Mg atoms binding mode, optical absorpt. spectra of VO^{2+} *(Japanese)* 1−21233
microhardness, cation field strength depend. 1−43508
optical homogenous linewidths of Nd^{3+}, comp. depend. 1−43141
optical properties and glass-forming regions of glasses containing Bi_2O_3 or PbO 1−42320
photochromic props., comp. depend. *(Japanese)* 1−48020
structural distribution, rigidity, EPR meas. 1−3242
US velocity and attenuation, temp. depend. 1−15955
Al_2O_3-B_2O_3-P_2O_5 glasses, optical basicity, UV absorpt. wavelengths of impurity ions 1−43144
B_2O_3 glass struct., mol. dynamic calc. 1−11684
B_2O_3-Li_2O-Li_2SO_4, solid electrolytes, synthesis and characterisation 1−7376
B_2O_3-Li_2O-LiF(Cl)(Br)(I), solid electrolytes, synthesis and characterisation 1−7376
B_2O_3-PbO-Fe_2O_3 glasses, influence of equilibration time on phys. props. 1−26091
BaO-B_2O_3, BaO-La_2O_3-B_2O_3 glasses, refl. coeff. and IR optical consts. 1−43092
BaO-Ba_2O_3 glasses, containing oxides of V, Fe, Cu, optical and ESR spectra 1−38974
CaO-Al_2O_3-B_2O_3 glasses, Ni^{2+} absorpt. spectra *(Japanese)* 1−21216
CaO-Fe_2O_3-B_2O_3 glasses and glass-metal composites, prep., struct. and props. meas. 1−31414
Fe-oxide-borate-glass melt, anodic processes 1−17071

borate glasses continued
K_2O-B_2O_3:Fe^{2+} glasses, fraction of non-bridging O, Mossbauer study 1−34965
K_2O-BeO-B_2O_3 glasses, bonding mode of Be atoms by means of optical absorpt. spectra of VO^{2+} *(Japanese)* 1−21232
K_2O-CaO-BaO-B_2O_3 glasses, refl. coeff. and IR optical consts. 1−43092
K_2O-CaO-BaO-B_2O_3 glasses, IR spectra and struct. interpretation 1−43128
K_2O-MO-B_2O_3 (M=Ca, Sr, Ba), optical absorpt. spectra of VO^{2+}, bonding modes *(Japanese)* 1−21235
K_2O-MgO-B_2O_3 glass, coordination number and chem. shift in $K_{\alpha(1,2)}$ emission of Mg^{2+} 1−31240
Li_2O-$(LiCl)_2$-B_2O_3 glasses, fast Li^+ ion conduction 1−30454
Li_2O-Al_2O_3-B_2O_3, elastooptical props., effect of nature of chem. bonds 1−16549
Li_2O-MgO-B_2O_3 glasses, Mg atoms binding mode, optical absorpt. spectra of VO^{2+} *(Japanese)* 1−21233
MnO-B_2O_3 system, glass form. 1−38289
Na_2O borate glass, ion migration study, O^{2-} transport 1−21733
Na_2O-Al_2O_3-B_2O_3 glasses, Ni^{2+} absorpt. spectra *(Japanese)* 1−21216
Na_2O-B_2O_3, alkali ion diffusion correlation effects 1−20446
Na_2O-B_2O_3 molten glass, surface tension variation with temp. 1−42609
Na_2O-MgO-B_2O_3 glasses, Mg atoms binding mode, optical absorpt. spectra of VO^{2+} *(Japanese)* 1−21233
$Na_2O.2B_2O$ molten glass, interaction with Pt(Ni)(Fe) electrodes under elec. field *(Japanese)* 1−3973
$Na_2O.2B_2O_3$ molten glass, interaction with elec. cond. materials under elec. field *(Japanese)* 1−3974
$Na_6P_2B_2O_{11}$ glass, fast ionic conduction 1−25498
$Na_8P_4B_2O_{17}$, glass, fast ionic conduction 1−25498
Nd^{3+} complexes in glass systems, ESR and opt. obs. 1−52842
O anomalies, composition depend. 1−38288
PbO-Al_2O_3-B_2O_3, elastooptical props., effect of nature of chem. bonds 1−16549
PbO-B_2O_3, optical absorpt. in near UV region *(Japanese)* 1−21234
PbO-B_2O_3-SiO_2 glass-ceramics, grain size influence on baking and elec. props. *(Polish)* 1−48317
S-doped coloured and colourless, chromophores identity, Raman spectroscopy 1−21189
SiO_2-B_2O_3 glass reinforced Al-Mg-Si powders, strength of cold-pressed compacts 1−43299
Tl_2O-B_2O_3 glasses, ESR of Cu^{2+} and Tl^{2+} 1−38973
ZnO-B_2O_3, ZnO-La_2O_3-B_2O_3 glasses, refl. coeff. and IR optical consts. 1−43092
ZnO-B_2O_3 glasses, IR spectra and struct. interpretation 1−43128

Bordoni effect
No entries

boron
see also nuclei with .....
α-phases, rhombohedral, band struct. calc., muffin-tin orbitals method 1−47452
β-phase, thermal and elastic props. meas. 1−20426
atom, HF values of atomic integrals useful in LCAO-MO calcs. 1−13940
atoms, electron affinities, PES 1−46149
atoms, ground states, fine struct., spin-extended Hartree-Fock calcs. 1−45829
binding energy to austenite grain boundaries, calc. from autoradiography 1−15904
coadsorption on W surface, work functions and field emission patterns *(Japanese)* 1−52420
coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
diamond, synthetic, doped with B during synthesis, S-type current voltage characteristics 1−20766
diffusion in Si, Al_2O_3 masking props. *(Russian)* 1−11913
diffusion in Si, oxidation enhanced 1−20458
diffusion reducing technique, IGFET fabrication appl. 1−30472
diffusion source prep. room temp. CVD process 1−35181
ferrous materials, atomic emission spectrographic investig. of boride layer depth profiles *(German)* 1−21830
fibre reinforced Al and Mg, SEM obs. of fracture 1−31616
fibre reinforced Al-Cu, mech. props. *(Slovak)* 1−48405
fibre reinforced Mg, fracture characts. using fractographic anal. 1−16881
fibres, time-temp. depend. axial failure, prediction 1−48474
field ion source using alloys 1−12640
graphite:B, electron energy loss spectroscopy 1−48207
graphite:B, polycrystalline, elec. cond. and Hall coeff. 1−34724
graphite-Si-B, neutron irradiation effect 1−11790
ion bombarded, at., mol., and continuum radiation 1−39162
ion implantation in polycryst. Cu, effect on cyclic stress-strain response 1−21531
isoelectronic series, oscillator strengths, electronic configs., HF calcs. 1−19014
isoelectronic series, relativistic f-values for elec. dipole transitions 1−6179
molecule, localised atomic orbitals determ. for B atoms 1−1076
reactor burnable absorber materials, analytical comparison of B and Cd 1−50770
self supporting, film production by evaporation technique 1−25591
Si:B, ion implantation undermask edge, tilt angle and mask edge angle depend. 1−38402
solid solubility in pulsed laser-annealed Si 1−11865
steel, austenitic stainless, equilib. vacancy conc., effect of P and B *(French)* 1−52172
steel, austenitic type 316, B content and distrib. effects on He bubble populations and stress-rupture props. 1−26595
thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
Al-B fibre reinforced composite, B fibre strength influence on mech. props. *(Russian)* 1−3887
B atoms in $BH(B_2)(BF)$, localised atomic orbitals determ. 1−1076
B I isoelectronic series, K XV to V XIX, spectra of transitions within second shell 1−28914
B , PES 1−46149
B:H, amorphous film, glow discharge deposited, resist. and doping props. 1−38778
B:H amorphous films, optical band gap, substrate temp. effect, solar cell appls. 1−48182
B-implanted doping layer substrates, diffusion *(German)* 1−7197
B-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912

boron continued
B+C thin foil, atomic impact, quasimol. formation inner shell charge transfer cross sections 1−16643
B+F_2 reactions, chemiluminesc., beam-gas study 1−48667
B^++H_2 reaction chemiluminescence 1−48656
B^{5+}+H, electron capture cross-sections, at. wavefunctions calcs. 1−10836
$B_{12}GeO_{20}$:B, dark cond. and photocond., doping effect 1−30782
BN-B system, sintering, amorphous B nitriding kinetics 1−39294
GaAs:B,Cr, low temp. Cr redistrib. and gettering in absence of encapsulant stress 1−15916
GaAs:Cr, B, Si_3N_4-capped, annealing of damage and redistrib. of Cr 1−20248
Ge:(B,Ga), lattice deformation 1−30256
Ge:B, exciton condensation kinetics at high excitation levels *(Russian)* 1−30648
Ge:B, ion implanted, disturbed surface layer struct., X-ray diffr. study 1−20247
Ge:B, ion implanted, lattice location of impurity ions after laser annealing 1−11778
Ge:B, mag. field depend. of far IR photothermal cond. spectra 1−3008
LiF:B, thermoluminescent surface layer, skin dose assessment 1−958
$MoSi_2$/B coatings on Nb and alloys, plasma deposited, oxidation resist. 1−53359
Si:B, acceptor bound excitons in mag. and uniaxial stress fields 1−47484
Si:B, amorphous CVD films, ESR study, doping effects on localised states 1−47931
Si:B, B diffusion from doped oxide source into Si 1−39245
Si:B, bound multiexciton complexes, exciton capture and Auger recomb. rates 1−48146
Si:B, deposition of B from BN diffusion source, vacancy statistics model 1−34361
Si:B, dopant segregation, Hall and resist. meas. 1−38401
Si:B, electron irrad., interstitial B, negative-U system, DLTS obs. 1−2913
Si:B, electronic defect levels, DLTS meas. 1−30656
Si:B, electronic eigenstates and optical lineshapes of impurities and vacancies 1−47552
Si:B, exciton capture cross section, photoluminesc. 1−39153
Si:B, heavily doped, localised vibrations, Raman scatt. study 1−25392
Si:B, heavily doped, Raman spectra study of localized vibrs. 1−48061
Si:B, implant diffusion enhancement by low-temp. heat treatment 1−11908
Si:B, impurity conc. meas. by SIMS 1−47109
Si:B, ion implanted, amorphous, UV irrad. effects during thermal annealing 1−30275
Si:B, ion implanted, Hall effect and resist. meas. 1−2990
Si:B, ion implanted, laser annealing effects on elec. props. 1−2485
Si:B, ion implanted, lattice location of impurity ions after laser annealing 1−11778
Si:B, ion implanted, range parameter meas. 1−34364
Si:B, ion implanted, sheet resist. calc. as function of surface ion dose *(German)* 1−2968
Si:B, ion implanted, simulated influence of amorphous layer on B ion range 1−2548
Si:B, ion implanted and surface deposited B distrib., laser annealing effects, SIMS meas. 1−30267
Si:B, ion range and damage distrib., Boltzmann transport equation 1−42439
Si:B, ion-implanted, B distrib. after laser annealing, SIMS depth profiling 1−15920
Si:B, ion-implanted, radiation annealing using halogen lamp 1−11773
Si:B, ion-implanted layers, annealing investigation using Hall current method 1−30772
Si:B, ion-induced impurity displacement, effect of Fermi level 1−11795
Si:B, laser annealed, IR reflectivity and transmissivity 1−12487
Si:B, lightly doped, low temp. magneto-phonon cond. calc. 1−34527
Si:B, photoconductivity spectra, H^--like impurity state delocalisation *(Russian)* 1−3016
Si:B, polycrystalline, CVD-prepared, resistivity changes caused by thermal annealing 1−30854
Si:B, polycrystalline thin film, effect of doping impurites on phys. properties 1−42409
Si:B, resistivity/dopant-density relationship 1−20769
Si:B,In, photoluminesc., relative impurity concs. exciton transfer 1−38399
Si:B amorphous, spectrally selective solar absorber, fabrication by glow-discharge 1−13172
Si:B autodoping during LPE 1−47101
Si:B CVD amorphous films, heavily doped, ESR study 1−52828
Si:B doping profiles, diffused from BN sources, comparison of Thai's theory 1−11783
Si:B epitaxial layers, screw dislocations, X-ray topography, diffraction contrast 1−38371
a-Si:B film, adsorption effects on ESR and elec. cond. 1−21050
Si:B film, on sapphire, ion implanted, Hall effect and resist. meas. 1−2990
Si:B ribbons produced by Stepanov method, elec. active impurities 1−30113
Si:Ga,B, joint implantation, surface resistance 1−30255
Si:H film, B doping technique using glow discharge 1−42406
Si:P, B, depth profiling by Cs^+ bombardment negative SIMS 1−30263
Si:P(B) amorphous films, ion implanted, elec. cond. meas. 1−52671
Si:Se, B, optical excitation spectra 1−16590
Si:V, B, hole capture conc. at V centres, effect of B conc. 1−47672
Si-F,B sputtered films, amorphous, doping effect on cond., p-n junction form. 1−52562
SiC:B, acceptor photoionisation spectrum 1−43146
SiO_2:B-SiO_2-Si, two-step diffusion of B into Si by spin-on source *(Korean)* 1−25507
Ti diaphragm boronising process and loudspeaker performance *(Japanese)* 1−24643
Ti-B-Cl-H CVD system, phase diagram calc., 800-1200K 1−35244

boron alloys
see also boron compounds
autocatalytic, metallisation of connectors 1−43617
steel-Nb-Zr-B, electric spark alloyed 1−39465
B-Fe(Ni) amorphous alloys, initial stages of crystallization 1−20068
$Be_{20}Fe_{70}B_{10}$, amorphous alloys, investigation of ternary alloys with high specific strength 1−12814
$Be_{40}Sc_{55}B_5$, amorphous alloys, investigation of ternary alloys with high specific strength 1−12814

boron alloys continued
$Be_{30}Ti_{65}B_5$, amorphous alloys, investigation of ternary alloys with high specific strength 1−12814
Ce-Ge-B system, phase comp. at 600°C 1−31421
Co-B, amorphous, elec. resist., remnant crystallinity effects, theory 1−30701
Co-B, amorphous, X-ray and neutron diffr. obs. 1−52079
Co-B, spin echo NMR meas. 1−26076
Co-B sputtered films, Hall effect and anisotropic magnetoresist. 1−7588
Co-Fe-Si-B amorphous alloys, struct. changes during heating 1−2330
Co-Fe-Si-B amorphous alloys, mag. relax., permeability, domain walls 1−30983
Co-Mn-B amorphous alloy, mag. props. 1−12284
Co-Ni-B sputtered films, Hall effect and anisotropic magnetoresist. 1−7588
$(Co_{0.89}Fe_{0.11})_{72}Mo_3Si_{15}B_{10}$ metallic glass ribbon, induced mag. anisotropy 1−38928
$Co_{58}Fe_5Ni_{10}B_{16}Si_{11}$ metallic glass, Votrovac 6010, Young's modulus changes during structural relaxation 1−43399
$Co_{71.4}Fe_{4.6}Si_{9.6}B_{14.4}$ amorphous alloy, Lorentz electron microscopy 1−12339
$Co_{94-x}M_xB_6$ (M=Hf, Zr, Ta, Ti, Nb), glass form. comp. ranges and mech. props. 1−35353
$Co_{78-x}M_xSi_{10}B_{12}$, (M=transition metal), metallic glass, form. and thermal stabilities, alloying substituents influence 1−26420
$Co_{73}Mo_2Si_{15}B_{10}$ metallic glass ribbon, induced mag. anisotropy 1−38928
$(Co_2Ni_{1-x})_{75}P_{16}B_6Al_3$, amorphous, mag. and transport props. 1−7587
$Er_{75}Si_{13}B_{12}$ amorphous alloys, mag. props. *(German)* 1−30984
$Er_2Ni_{21}B_6$, struct. from X-ray diffraction *(Ukrainian)* 1−15835
$ErRh_4B_4$, magnetic field depend. of neutron scatt. 1−7813
$Fd_{29}Ni_{49}P_{14}B_6Si_2$, metallic glass, fabrication of wire by drawing *(Japanese)* 1−3766
$(Fe,Ni)_{100-x}B_x$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$(Fe,Ni)_3B$, amorphous and metastable cryst. struct. correlations, Mossbauer study 1−30076
Fe-B, amorphous, X-ray and neutron diffr. obs. 1−52079
Fe-B, binary metallic glasses, short range order in theoretical models 1−47010
Fe-B amorphous alloy, correl. between atomic and electronic struct. 1−30084
Fe-B amorphous alloy, density, anomalous behaviour 1−11682
Fe-B amorphous alloys, annealed, metastable Fe_4B phase, electron diffr. and microscopy study 1−38287
Fe-B amorphous alloys, crystn. *(Russian)* 1−47008
Fe-B amorphous alloys, Mossbauer spectroscopy study 1−43045
Fe-B Invar-type amorphous ribbons, magnetoelastic props. 1−7927
Fe-B metallic glasses, amorphous-crystalline transition photoemission 1−48242
Fe-B sputtered amorphous film, crystn. and atomic-scale struct. 1−11681
Fe-B sputtered films, Hall effect and anisotropic magnetoresist. 1−7588
Fe-B-M, (M=B, C, Si, P, Ge), metallic glasses, microhardness 1−48472
Fe-B-Mo amorphous alloy, high mag. field magnetisation, magnetoresistance 1−7593
Fe-B-Nb(W)(Mo), strengthening effects of alloying additions 1−31470
Fe-B(-Ni-P)(Si) amorphous alloy, ferromag., annealing and fabrication conditions, effect on mag. props. 1−12765
Fe-Co-Si-B amorphous alloy sheets, eddy current losses, field annealing 1−12351
Fe-Co-Si-B amorphous alloys, spin echo NMR meas. 1−26076
Fe-Cr-Mo-B amorphous alloy, anodic behaviour in HCl, Mo effects 1−21628
Fe-Ni-B glass, diffusion rates 1−25491
Fe-Ni-P-B amorphous alloys, resist. and magnetoresist. meas., mag. contrib. to scatt. 1−30699
Fe-Ni-P-B amorphous alloy, prod. by high power CO_2 laser 1−43298
Fe-Ni-P-B-Cr amorphous alloy, high mag. field magnetisation, magnetoresistance 1−7593
Fe-Si-B metallic glass, comp. effects on thermal stability, magnetostriction and Young's modulus 1−25174
$(Fe-Ni)_{86}B_{14}$ glassy alloys, mag. and struct. props. meas. 1−30982
$Fe_{1-x}B_x$ amorphous films, elec. resist. meas. 1−30700
$Fe_{1-x}B_x$ sputter films, prep. and struct., coercive field obs. 1−26386
$Fe_{100-x}B_x$ glassy alloys, crystallisation kinetics, Mossbauer and X-ray study 1−2334
$Fe_{100-x}B_x$, amorphous and annealed, Lorentz electron microscopy study 1−30065
$Fe_{80}B_{20}$, amorphous, irradiations at 20K, thermal and collision effects 1−34370
$Fe_{80}B_{20}$, amorphous, local disorder, EXAFS study 1−31232
$Fe_{80}B_{20}$, amorphous, Mossbauer recoilless resonant absorpt. intensities 1−26090
$Fe_{80}B_{20}$, amorphous alloy, X-ray struct. anal. *(Chinese)* 1−25164
$Fe_{80}B_{20}$ amorphous alloy, cold neutron scatt. obs. of local and extended defects 1−25177
$Fe_{80}B_{20}$, glassy, positron annihilation study 1−43211
$Fe_{80}B_{20}$ metallic glass ageing and crystallisation, TEM obs. 1−11685
$Fe_{83}B_{17}$ amorphous alloy, crystallisation high press. effect 1−20065
$Fe_{84}B_{16}$, metallic glasses, electrical resistivity and crystallisation 1−7576
$Fe_{85}B_{15}$, crystn. study of amorphous alloy prepared by melt quenching from different temps. 1−11690
$Fe_{83}B_{17}$, metallic glass, mag. correlation neutron meas. 1−3142
$Fe_{80}B_xM_{20-x}$ (M=Ge,Si,C,P), Mossbauer study, distribution of hyperfine fields 1−31073
$Fe_{100-x-y}B_xP_y(C_z)(Si_z)(Ge_z)$ glasses, microhardness, embrittlement and crystn. temps., comp. depend. 1−35354
$Fe_{82}B_{12}Si_6$, amorphous, Mossbauer study 2 to 796K 1−21098
$Fe_{82}B_{12}Si_6$ amorphous ribbons, Metglas 2605S, perpendicular mag. anisotropy, Mossbauer, X-ray diffr., and density meas. 1−52771
$Fe_{82}B_{12}Si_6$, amorphous to cryst. transform., Mossbauer, X-ray diffr. and density obs. 1−11688
$Fe_{84}B_{13}Si_3$, metallic glasses, electrical resistivity and crystallisation 1−7576
$Fe_{85}B_{14}Si_1$, noncrystallinity effect on phase transitions at high press., elec. resist. meas. 1−42531
FeC_xB_{16-x} amorphous alloy, core loss meas. 1−12360
$Fe_{74}Co_{10}B_{16}$, Metglas 2605CO, Mossbauer study, crystn. and Curie temps. 1−39015
FeCoNi-SiB amorphous alloys, zero magnetostriction, heat treatment 1−3230
$Fe_5Co_{70}Si_{15}B_{10}$, amorphous alloy, X-ray struct. anal. *(Chinese)* 1−25164

boron alloys continued
$Fe_{100-y-x}Cr_yB_x$ amorphous alloy, saturation magnetization and Mossbauer spectra 1−25986
$Fe_{94-x}M_xB_6$ (M=Hf, Zr, Nb), glass form. comp. ranges and mech. props. 1−35353
$Fe_{78-x}M_xSi_{10}B_{12}$, (M=transition metal), metallic glass, form. and thermal stabilities, alloying substituents influence 1−26420
$Fe_{78}Mo_2B_{20}$, amorphous, anomalous thermal expansion on annealing, mag. struct. transitions 1−16069
$Fe_{78}Mo_2B_{20}$, amorphous, irradiations at 20K, thermal and collision effects 1−34370
$Fe_{80-x}Mo_xB_{20}$ metallic glass, elastic const. anomaly 1−2551
$(Fe_{1-x}Ni_x)_{75}B_{25}$, $0 \leq x \leq 0.75$, metallic glass, short range order, Mossbauer study 1−31074
$(Fe_{1-x}Ni_x)_{80}B_{20}$ amorphous alloys, chemical ordering derived from crystn. temp. 1−20069
$Fe_{40}Ni_{40}B_{20}$, amorphous, inhomogeneously deformed, domain wall pinning 1−30970
$Fe_{40}Ni_{40}B_{20}$, amorphous alloys, local electronic struct., cluster model 1−47578
$Fe_{40}Ni_{40}B_{20}$, $Fe_{40}Ni_{40}P_{14}B_6$, amorphous, free vol. change during isothermal annealing, thermal expansion meas. 1−34493
$Fe_{40}Ni_{40}B_{20}$, metallic glass ribbons, surface B conc. meas. 1−21820
$Fe_{40}Ni_{40}B_{20}$, ribbons, coaxial jet melt spinning 1−21437
$Fe_4Ni_4B_2$, glassy, struct., semi-empirical model 1−7088
$Fe_{40}Ni_{40}B_{20-x}M_x$ (M=metalloid), amorphous, exchange interactions, Grest-Nagel model 1−7824
$Fe_{40}Ni_{40}B_{16}P_4$, glassy, positron annihilation study 1−43211
$Fe_{40}Ni_{40}B_6P_{14}$, amorphous, local disorder, EXAFS study 1−31232
$Fe_{47}Ni_{25}B_{18}Si_{10}$ ribbons, amorphous, relationship between magnetic properties and struct. changes during annealing 1−47901
$Fe_{22}Ni_{36}Cr_{14}P_{12}B_6$, metallic glass ribbons, surface B conc. meas. 1−21820
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, Curie temp., anomalous props. in crit. region 1−7854
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, crit. behaviour, static magnetisation and AC susceptibility meas. 1−34893
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, anelastic relax., temp. and stress depend. 1−35296
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, corrosion behaviour, crystn. effect 1−35425
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, oxidation kinetics, AES and ellipsometric obs. 1−35426
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, glassy, positron annihilation study 1−43211
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglass 2826 A, thermoelectric study 1−47619
$Fe_{44-x}Ni_{37}Cr_xP_{15}B_4$ metallic glass, comp. effect on thermal stability 1−25175
$Fe_{40}Ni_{38}Mo_4B_{18}$ metallic glass, mag., elec. props. 1−3147
$Fe_{40}Ni_{38}Mo_4B_{18}$, Metglass 2826, amorphous ferromag., Mossbauer obs. 1−47990
$Fe_{84.5-x}Ni_xMo_{3.5}B_{12}$ metallic glass, comp. effect on thermal stability 1−25175
$Fe_{40}Ni_{40}P_{14}$ B_6, Metglas 2826, ribbon, power loss and domain wall spacing, stress effects 1−12349
$Fe_{10}Ni_{70}P_{14}B_6$ amorphous alloy, spin-glass and mictomagnetic behaviour 1−7862
$Fe_{20}Ni_{60}P_{14}B_6$, amorphous, crit. phenomena and giant superparamag. moments above Curie temp. 1−42974
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, Mossbauer study in transmission and scatt. geometries 1−26089
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, Mossbauer recoilless resonant absorpt. intensities 1−26090
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, quenching effects, mag. anisotropy meas. 1−30936
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, quenched-in resist. rel. to atomic movements 1−34675
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, struct. relax., positron annihilation study 1−47007
$Fe_{40}Ni_{40}P_{14}B_6$, glassy, positron annihilation study 1−43211
$Fe_{40}Ni_{40}P_{14}B_6$, metallic glass ribbons, surface B conc. meas. 1−21820
$Fe_{40}Ni_{40}P_{14}B_6$, metallic glass, viscous flow and hot forming 1−43463
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, rotational power loss, freq. depend. determ. 1−12348
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, ribbons, power loss and domain struct., ribbon width depend. 1−12350
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, remanence and Matteucci effect meas. 1−12379
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, thermal expansion, annealing effect 1−30428
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, dynamic compaction processing prep., mech. props. 1−35355
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, oxidation kinetics, AES and ellipsometric obs. 1−35426
$Fe_{40}Ni_{40}P_{14}B_6$, thermally induced acoustic emission 1−4030
$Fe_{40}Ni_{40}P_{16}B_4$, thermal treatment effect as mech. props., TEM *(Russian)* 1−21492
$Fe_{80-x}Ni_xP_{20-y}B_y$ amorphous ferromagnetic alloys, short-wavelength elastic stress effect on coercive force *(German)* 1−31009
$(Fe_xNi_{1-x})_{80}P_{10}B_{10}$ amorphous alloy, inhomogeneous magnetization, small angle X-ray scatt. 1−25987
$Fe_xNi_{80-x}P_{14}B_6$, amorphous, spin-glass, elec. resist., negative magnetoresist. meas. 1−12098
$Fe_xNi_{80-x}P_{14}B_6$, amorphous, magnetoresistance studies 1−25705
$Fe_xNi_{80-x}P_{14}B_6$ amorphous alloys, resistivity, mag. contrib. determ. 1−30697
$(Fe_xNi_{1-x})_{75}P_{16}B_6Al_3$, amorphous, mag. and transport props. 1−7587
$(Fe_xNi_{1-x})_{75}P_{16}B_6Al_3$ amorphous ribbon, mag. phase diagram 1−7841
$Fe_{29}Ni_{49}P_{14}B_6Si_2$, Metglas 2826B, thermal expansion, annealing effect 1−30428
$Fe_{80}P_xB_{20-x}$, Mossbauer study, distribution of hyperfine fields 1−31073
$Fe_{78}Si_{10}B_{12}$, amorphous alloy, X-ray struct. anal. *(Chinese)* 1−25164
$Fe_{78}Si_{10}B_{12}$ ribbons, amorphous, melt-spinning fabrication, effects of ambient gases on props. 1−25981
$Fe_{90-x}Si_xB_{10}$, amorphous, magnetisation and annealing effect, temp. depend. 1−47905
$Fe_{95-x}W_xB_x$, metallic glass, mag. props. and thermal stability meas. 1−20071
$(Gd_xFe_{1-x})_{0.9}B_{0.1}$, amorphous films, charged wall form. 1−7914

boron alloys continued
HfB_2-Re(Cr), phase diagrams, X-ray diffr., metallographic and microhardness meas. 1−39314
$(La,Pr)B_6$, dil., cryst. field ground-state splitting effect on resist. 1−25707
$LaNi_{4.6}B_{0.4}H_x$, H_2 dissoc. press., effect of B 1−31855
$Mo_{48}R_{12}B_{20}$, amorphous, photoemission and electronic struct. 1−8193
$(Mo_{0.6}Ru_{0.4})B_{18}$ metallic glass superconductor, fluxoid pinning, cold rolling effect 1−20933
$Ni_{59}Fe_{19}Si_8B_{14}$ amorphous composite alloy, fabrication 1−16713
Nb-Co-B, phase equilib. at 800°C 1−3699
Nb-ZrB_2 sintered alloy, wear resistance 1−31679
Ni-B, amorphous, X-ray and neutron diffr. obs. 1−52079
Ni-B, rapidly quenched, struct. obs. by X-ray diffr. and electron microscopy 1−47005
Ni-B amorphous-like alloy film, electroless plating deposition using DMAB reducing agent, crystallization and magnetic props. *(Japanese)* 1−47006
Ni-B amorphous-like alloys, electroless plating method using dimethylamine as reducing agent *(Japanese)* 1−43295
Ni-Cr-B-Si-C hard facings, struct. form. characts. during deposition 1−8478
Ni-Cr-P-B, amorphous, corrosion props. rel. to alloy comp. 1−35427
Ni-Cr-Ta-B, containing τ-boride, study at 850°C *(German)* 1−12723
Ni-P-B, amorphous and cryst., electronic struct. from photoemission, NMR and sp. ht. 1−25620
Ni-P-B amorphous alloy, nuclear dipole-dipole interaction and short range order 1−12417
Ni-Si-B, amorphous, strain gauge characts., alloying addition effects 1−7577
Ni-Si-B metallic glasses, comp. influence on formation and stability 1−20365
$Ni_{66}B_{34}$, amorphous, electron transport and kinetics of transform. 1−34236
$Ni_{66}B_{34}$, $Ni_{71}B_{29}$, amorphous alloys, struct. model *(French)* 1−30090
$Ni_{71}B_{29}$, metastable, amorphous-cryst. phase transition *(French)* 1−52073
$Ni_{75}B_{17}Si_8$, amorphous alloy S, thermal stability, electron irradiation effects, HVEM study 1−25170
$Ni_{75}B_{15}Si_8C_2$, amorphous alloy S, thermal stability, electron irradiation effects, HVEM study 1−25170
$Ni_{36}Fe_{32}Cr_{14}P_{12}B_6$, Metglas 2826A, creep and isoconfigurational flow 1−35321
$Ni_{94-x}M_xB_6$ (M=Hf, Zr, Ta), glass form. comp. ranges and mech. props. 1−35353
$Ni_{78-x}M_xXi_{10}B_{12}$, (M=transition metal) metallic glass, form. and thermal stabilities, alloying substituents influence 1−26420
$(Ni_xMn_{1-x})_{75}P_{16}B_6Al_3$, mag. and transport props. 1−7587
$Ni_{82-x}P_xB_6$, amorphous, nuclear spin-lattice relaxation time anomalies on ^{31}P and ^{11}B 1−26064
PrB_6, low temp. phase transitions and mag. struct. 1−38936
$(R_{75}Au_{25})_{100-x}B_x$, (R=Pr,Gd,Tb,Er), elec. and mag. props. 1−3149
Ta-Co-B, phase equilib. at 800°C 1−3699
TiB_2-CrB_2, hot pressing, densification through particle crrep 1−53142
$Ti_{55}Nb_{30}(Si\text{-}B)_{15}$, supercond. props. of alloys with duplex struct. of amorphous and crysts. phases 1−16404
$Ti_{57}Nb_{30}(Si\text{-}B)_{13}$, supercond. props. of alloys with duplex struct. of amorphous and crysts. phases 1−16404
$Tm_2Ni_{21}B_6$, struct. from X-ray diffraction *(Ukrainian)* 1−15835
$Yb_2Ni_{21}B_6$, struct. from X-ray diffraction *(Ukrainian)* 1−15835
ZrB_2-Si-C, wetting of C materials 1−39297

boron compounds
see also boron alloys
boron hdride clusters, approx. symmetry classification and energy ordering, bonding 1−37378
borsic fibre reinforced Ti, crack-tip damage and fracture toughness, SEM obs. 1−48464
carbonitride, high-temp. vac. friction and wear against Mo 1−35401
cutting tools, struct. changes caused by shock compression and sintered compact 1−35226
graphite-BF_3 intercalation cpd., NMR showing presence of ions 1−47960
ground states, NDO calcs. 1−10733
hydrides, B chemical shift, gauge invariant atomic orbital semiempirical theory 1−14934
Mg atoms binding mode, optical absorpt. spectra of VO^{2+} *(Japanese)* 1−21233
pentaborates, isotope effects, IR and Raman obs. *(German)* 1−14898
tetraborates, isotope effects, IR and Raman obs. *(German)* 1−14898
Al-SiO/B_2O_3-Au thin film struct., AC measurements *(French)* 1−52662
Al_2O_3-CaO-B_2O_3-SiO_2 system, corundum ceramic, B_2O_3 influence on sintering and mech. props. 1−31378
Al_2O_3-SrO-TiO_2-SiO_2-B_2O_3 ceramic, thermal shock resist., effect of electrofused corundum additions 1−8416
$9Al_2O_3.2B_2O_3$, X-ray cryst. struct. determ. *(Japanese)* 1−15879
B-4d(5d) transition metal solid solns., unit cell dimensions, electron microprobe anal. 1−38347
B-As solid solns., unit cell dimensions, electron microprobe anal. 1−38347
B-C system, ESR signal, effect of variation of B and C conc. 1−3257
B-Se solid solns., unit cell dimensions, electron microprobe anal. 1−38347
BC, elastic modulus and fracture 1−39356
BC, He bubble growth, irradiation temp. effect, TEM obs. 1−2526
BC:Si, Seebeck coeff. and elec. cond. 1−52588
B_4C, limiter or first wall materials, thermal shock tests 1−4032
B_4C pellets, thermally induced stresses and fracture 1−3874
B_4C, preparation as function of load and speed of rotation 1−48633
B_4C-Al_2O_3 burnable poison design to improve PWR U fuel utilisation 1−45602
BCl_3+H_2S, multiphoton excitation, reaction kinetics 1−39596
BF, 3d polarisation function, bond function 1−6134
BF, isotropic and directional Compton profiles calc. 1−33512
BF, localised atomic orbitals determ. for B atoms 1−1076
^{11}BF, A→X emission system anal., mol. consts. calcs. 1−6239
BH, correlation energy, equilib. geometry, spectroscopic consts, Rayleigh-Schrodinger perturbation theory 1−41301
BH, localised atomic orbitals determ. for B atoms 1−1076
BH, SCF theory, Hellmann-Feynman force 1−6135
BH^+, spin-splitting const., ab initio calcs. 1−45825
BH_2 radicals, correl. energy, maany-body Rayleigh-Schrodinger perturbation theory in restricted Roothaan HF formalism appl. 1−19039
BH_3, susceptibilities and mag. shielding const., coupled HF calc. 1−33391
$B_2H_6+TaCl_5$, CVD of TaB_2 1−16702
$B_2H_6+TiCl_4$, CVD of TiB_2 on graphite 1−16701
$B_2H_6(B_2D_6)$, gaseous and crystalline phases, IR spectra, vibr. assignments, Fermi reson., force field calc. 1−41379
BH_3NH_3, microwave spectra and dipole moment, Stark effect anal. 1−45938
BLi_3, pot. curves, CAS SCF calcs. 1−28853
BLi^+, pot. curves, CAS SCF calcs. 1−28853
BN, adsorbed Ar monolayer, two-dimensional phase change at 77K 1−16170
BN, adsorption of Ar, Kr, methane, two-dimens. condensation, adsorbate-adsorbent dimens. incompatibility effects 1−47387
BN, adsorption of methane, partially mobile and partially localised, adsorption isotherms 1−42638
BN, band struct. calc. using LCAO SCF method, valence bond props. 1−47434
BN based superhard materials, structural factors effect on mech. props. 1−12864
BN based superhard materials, ductility and strength props., struct. effect 1−53291
BN, characteristic molecular Auger spectra, comparison with elemental spectra, appls. 1−21829
BN coatings on steel and graphite prod. with low press. RF plasma 1−16214
BN, cubic, cathodoluminesc. emission 1−12588
BN, cubic polycrysts., struct. depend. on starting graphitelike phase 1−3687
BN, cubic single crysts., growth using AlN catalyst 1−39296
BN diffusion source, B deposition in Si, vacancy statistics model 1−34361
BN, hard quasi-amorphous film prep. by ion beam deposition, struct. and props. 1−12671
BN materials, texture form. during densification 1−39347
BN, photoemission yield, band struct., atomic effects 1−21328
BN, polymorphous α to β transform 1−2621
BN, sintered superhard materials 1−12682
BN, turbostatic and amorphous, reactive sintering 1−21400
BN-B system, sintering, amorphous B nitriding kinetics 1−39294
BO free radical, laser induced fluoresc., vibr. levels, quenching, radiative lifetimes 1−10772
BO, ultrafast vibr.-electronic energy transfer 1−37310
BO_2, laser induced fluoresc., vibr. levels, quenching, radiative lifetimes 1−10772
B_2O_3, characteristic molecular Auger spectra, comparison with elemental spectra, appls. 1−21829
B_2O_3, electronic and geometric struct., ab initio calc. 1−51115
B_2O_3, ion bombarded, at., mol., and continuum radiation 1−39162
B_2O_3, mol. struct. SCF approx. calcs. 1−14812
B_2O_3, vitreous, neutron diffr. study 1−30069
B_2O_3, vitreous, polarised Raman spectra, IR reflectivity 1−26204
B_2O_3-Li_2O-La_2O_3 quasi-ternary system, phase diagram DTA *(German)* 1−21426
B_2O_3-R_2O (R=Li,Na,K) glasses, S states 1−26227
BP and Si multilayer epitaxial growth on Si substrates 1−3630
BP, high press. induced elec. resist. transition obs. 1−42834
BPO_4-$AlPO_4$-SiO_2 system of 1200°C 1−26435
BS, electronic struct. and doubling parameters, ab initio calc., fine struct., spin-orbit interactions 1−45819
$B_{13}Si$ refractory thermoelements for solar thermoelectric conversion 1−17226
$^{10,11}BCl_3$, IR multiphoton dissoc. by CO_2 TEA laser 1−19144
BaO-B_2O_3 glasses, Ni^{2+} ions diffusion behaviour *(Japanese)* 1−20475
Be-Ge solid solns., unit cell dimensions, electron microprobe anal. 1−38347
CIB=S, mol. rot., moments and configs., bond lengths, isotope effects, microwave obs. 1−14876
CaO-Al_2O_3-B_2O_3 glasses, Ni^{2+} absorpt. spectra *(Japanese)* 1−21216
CaO-B_2O_3 glasses, Ni^{2+} ions diffusion behaviour *(Japanese)* 1−20475
Eu-B-C system, phase diagram, X-ray anal. 1−16764
KBr:BF_4^-, IR spectra, vibr. absorpt. bands and Fermi reson., temp. depend. 1−52971
KCl:BF_4^-, IR spectra, vibr. absorpt. bands and Fermi reson., temp. depend. 1−52971
K_2O-MO-B_2O_3 (M=Ca, Sr, Ba), optical absorpt. spectra of VO^{2+}, bonding modes *(Japanese)* 1−21235
$K_2O.B_2O_3.4SiO_2$, crystal struct., X-ray obs. *(Japanese)* 1−11738
$K_8[Al_4Si_8O_{20}].[\bar{B}(OH)_4]Cl$, kalborsite, cryst. struct. determ. 1−30193
Li_2O-MgO-B_2O_3 glasses, Mg atoms binding mode, optical absorpt. spectra of VO^{2+} *(Japanese)* 1−21233
$Li_2O.3B_2O_3$, X-ray diffr. cryst. struct. determ. *(Japanese)* 1−20171
Na_2O-Al_2O_3-B_2O_3 glasses, Ni^{2+} absorpt. spectra *(Japanese)* 1−21216
Na_2O-B_2O_3, molten, diffusion of Cd^{2+}, Ni^{2+} and Cr^{6+} ions *(Japanese)* 1−30435
Na_2O-MgO-B_2O_3 glasses, Mg atoms binding mode, optical absorpt. spectra of VO^{2+} *(Japanese)* 1−21233
PbO-B_2O_3-Fe_2O_3 solution for garnet LPE growth, ionic equilibria, elec. cond. meas. 1−7064
SiC, hot-pressed, strength, effect of Al and B additions *(Japanese)* 1−43306
SiC-Al_4C_3-B_4C system, phase rel. to 1800°C 1−26438
SiO_2-B_2O_3, particles, flame hydrolysis for optical fibre fabrication 1−24539
SrO-B_2O_3 glasses, Ni^{2+} ions diffusion behaviour *(Japanese)* 1−20475

borosilicate glasses
alkali aluminoborosilicate glasses, statistical mechanical model of B coordination 1−30072
alkali boroaluminosilicate glass+fused alkali nitrates, ion exchange, equilib. and kinetics 1−43660
alkali-borate glasses, internal friction spectra as function of temperature *(French)* 1−7253
aluminoborosilicate, melting, refractory prod. using Cr_2O_3 sinter-reactive powders 1−8256
aluminoborosilicate glass:ZrO_2, struct. IR and EPR obs. 1−21199
aluminoborosilicate glasses containing Ag halide, photochromism, comp. depend. *(Japanese)* 1−43083
bonded carborundum of high porosity, fracture induced melting effects 1−21581
fibres, optical transmission props., losses 1−1705
gas-probe analysis, of struct. 1−25172
heat treatment effect on silica content *(Japanese)* 1−16825
liquid-phase separation and submicrononuniform struct. 1−47011

borosilicate glasses continued
nuclear waste, surface comp. changes due to aq. leaching, SIMS study 1−16931
optical homogenous linewidths of Nd^{3+}, comp. depend. 1−43141
phase separated, light scatt. struct. origin 1−3423
radioactive waste, vitrification, effect of radioactive ash on glass properties 1−45650
synthesis by hot-pressing of gel 1−31411
thermal shock resist., size and geometry effects in quench tests 1−3789
weathering with and without antireflection films, effect on transmittance 1−53309
B_2O_3-SiO_2 glass films, modified CVD and RF plasma deposited, comp. profile, SIMS meas. 1−30602
B_2O_3-SiO_2 glasses, high SiO_2 content, sol-gel method synthesis, glass form. 1−43310
BaO-B_2O_3-SiO_2 glasses, liq. phase separated, tie line positions, heat treatment effects 1−39327
GeO_2-B_2O_3-SiO_2 graded-index fibre-optic preforms, UV absorpt. spectra 1−41840
GeO_2-B_2O_3-SiO_2 optical fibres and preforms, UV excited fluoresc. 1−46556
K_2O-Al_2O_3-B_2O_3-SiO_2 glasses, B coordination effect on halogen solubility, Ni colour and photochromism 1−7087
K_2O-MO-B_2O_3-SiO_2 (M=Zn, Ca, Sr), liquid immiscibility 1−30392
Na_2O-B_2O_3-Al_2O_3-SiO_2 system glasses, photochromic gradient layer prod. 1−41803
Na_2O-B_2O_3-SiO_2 glass, containing high level radioactive waste, oxide effect on phase separation *(Japanese)* 1−14672
Na_2O-B_2O_3-SiO_2 glass/Ni composite, thermal expansion mismatch effect on thermal diffusivity 1−25469
Na_2O-B_2O_3-SiO_2 glasses, high SiO_2, radiation-optical stability rel. to prod. conditions 1−42421
Na_2O-B_2O_3-SiO_2 low loss optical fibres, numerical apertures 0.3 to 0.6 1−51612
Na_2O-B_2O_3-SiO_2:CrIII ions (with Cr_2O_3 0.005 to 1.0 wt.%), luminesc. spectra 1−43162
Na_2O-B_2O_3-SiO_2-MoO_2, phase-separated glass, STEM anal. 1−31935
Na_2O-K_2O-B_2O_3-SiO_2 glasses, mobility of Na^+ and K^+ transport numbers 1−11904
Na_2O-K_2O-B_2O_3-SiO_2 glasses, high SiO_2, internal friction near transition to viscous-flow state 1−42462
Na_2O-MO-B_2O_3-SiO_2 (M=Zn, Ca, Sr), liquid immiscibility 1−30392
$7Na_2O.23B_2O_3.70SiO_2$, phase-separating glasses coloured with Fe_2O_3, spectral props. 1−52972
SiO_2-Al_2O_3-Na_2O-K_2O-CaO-B_2O_3-ZnO glass, batch prereaction effect 1−30358
SiO_2-Al_2O_3-Na_2O-K_2O-CaO-B_2O_3-ZnO glass, thermal anal. during heat treatment 1−31429
SiO_2-K_2O-Li_2O-B_2O_3-Al_2O_3 glass, phase separated, equilib. viscosity meas. at several temps. 1−30440
SiO_2-Na_2O-B_2O_3-K_2O-Al_2O_3 glass, phonon scatt. states, elec. polarizability 1−30344
SiO_2-Na_2O-Li_2O-B_2O_3-Al_2O_3 (12, 12, 10, 6 mol. %), refractive index and the structural relaxation of glass obtained by ion exchange 1−43091
ZnO-B_2O_3-SiO_2, nuclear waste disposal glass, crystn. 1−25171

Borrmann effect *see X-ray crystallography; X-ray diffraction*

Bose-Einstein statistics *see quantum statistical mechanics*

Bose gas *see boson systems*

boson fluids *see boson systems*

boson systems
see also liquid helium-4; quantum statistical mechanics
Bogoliubov approx., second-order approx. in spectra density method for interacting boson system 1−18583
Bose condensation 1−2732
Bose gas interactions, basis correl. and canonical transform. method, mathematical approx. 1−169
Bose-Einstein condensation and quantum hydrodynamics 1−40707
Bose-Einstein condensation and the canonical conjugates to the density fluctuations 1−32902
bose-oscillators, three bonded, superradiative state *(Russian)* 1−173
boson avalanche formation with the reverse influence of field and relaxation processes 1−50045
boson system, exponential mass spectrum, statistical bootstrap, condensation 1−18591
boson-Hubbard chain, soluble boson model solidification 1−32900
bounded potentials, Borel summability 1−18147
charged Bose-Fermi gas miscibility at zero temp. 1−40706
chimerical boson expansions 1−5699
collective field theories for many particle systems, shock wave solns. 1−32903
collective motion, exact canonical conjugate momenta 1−14063
correlation inequalities and thermodynamic limit, Bose-Einstein and Fermic-Dirac statistics 1−44836
density of states, Poisson's formula of summation and Walfisz's formula 1−36564
Efimov effect in two dimensions, nonexistence 1−171
equilibrium states from canonical ensemble partial density matrices 1−14064
excitons as a new quantum system 1−2876
generalized-disorder collective-boson mode-softening universality principle 1−163
interacting bosons, ground-state particle number, thermodynamic functions and fluctuations 1−11928
lattice Bose systems, spin 1/2 approx. in quantum theory 1−9921
Lennard-Jones Bose fluid, Jastrow wave functions, correlations, Monte Carlo variational calc. 1−2739
Lindner-Fedyanin model, quasi-classical solns., hole-like excitations 1−36566
linear vortex singularity motion *(Russian)* 1−11935
macroscopic quantum waves in boson system 1−50044
N-body dynamics and the collective field method 1−23046
N-boson problem, energy trajectories, method of potential envelopes 1−14365
one-dimensional, with repulsive delta-function interaction, soliton mode 1−9920
para-Bose oscillator operators, representations and properties, eigenstates 1−162
phase operator and phase fluctuations 1−5223
phase transitions, Gaussian dominations and sum rules 1−32906
quantum field theory, role of coherent states 1−439

boson systems continued
quantum theory of superfluidity and onset in Bose films 1−42598
quark model, Bose, classification, production and possible presence in nuclei of multi-quark states 1−40968
quark model, white, multilocal hadron fields 1−10151
Raman scattering cross-section for gas of hard-core bosons, pseudospin model Hamiltonian 1−52951
relativistic Bose gas, quantum statistical mechanics, non-relativistic and ultra-relativistic limits 1−161
renormalization group approach to quantum bosonized systems 1−27864
superfluid, nonuniform anisotropic, BCS ground state, current density 1−11944
symmetric states of arbitrary number of j=1 bosons, coeffs. of fractional parentage 1−5222
thermodynamics, approximate integrals of motion 1−50046
zero-temperature transition, absence of dimensional crossover 1−23108
CuCl, nonequilibrium Bose condensation, excitonic molecules 1−34631
H, spin polarised, Bose condensation 1−1078
H, spin polarised, Bose gas, stabilisation in mag. fields 0 to 10 T 1−1082
H, spin polarised, stability 1−1079
^{4}He, liquid, energy spectrum, microscopic theory 1−30507

bosons
see also alpha particles; boson systems; deuterons; gravitons; intermediate bosons; meson resonances; mesons; photons
coupling limit of interaction of gauge field and fermion field, generating functional expansion 1−423
fermions, boson representation 1−9923
mass, first-order chiral perturbation theory, leading nonanalytic corrections using QCD 1−14323

boundaries *see boundary layers; boundary value problems; grain boundaries; metal-insulator boundaries; semiconductor-insulator boundaries; semiconductor-metal boundaries*

boundary-elements methods
acoustic wave diffraction around barriers 1−29434
boundary-value problems, time-space boundary element formulation 1−40654
elastoplastic boundary element analysis 1−51704
heat conduction in composite media 1−51687
time-space boundary elements for transient heat conduction problems 1−29505

boundary layer flow *see boundary layers*

boundary layer turbulence
see also atmospheric boundary layer
abrupt pipe expansion, separated flow, downstream turbulent heat transport 1−42053
adiabatic flat plate, film cooling, effectiveness, heat transfer coeff. and turbulence 1−19690
aeroacoustics, displacement thickness fluctuations 1−37960
aerodynamic sound generated by a slotted trailing edge 1−6852
air turbulent flow over standing water surface waves 1−24829
annular pipe flow subject to axial motion of the inner boundary, stability 1−11471
annuli, heat transfer to turbulent flow of gases with variable physical props. 1−29676
annuli with turbulence promoters, pressure drop in boiling 1−29677
atmospheric boundary layer simulation in wind tunnels 1−44230
axisymmetric flow restructuration following wall peripheral velocity discontinuity *(French)* 1−1942
bifurcation of stable periodic flows in an Ekman layer and in a convection boundary layer 1−42049
channel, flat plate MHD, quasi-three-dimensional modelling, numerical method 1−2083
channel stabilised air flow turbulence local isotropy *(Russian)* 1−2085
circular cylinders at high Reynolds number, viscous crossflow effects, drag coeff. 1−46728
closure problem 1−1940
coherent structure at low and high subsonic speeds 1−1932
coherent structure near channel walls for turbulent flow *(German)* 1−37890
coherent structures in time dependent shear flows 1−1933
coherent structures in turbulent boundary layers 1−1946
compressible, momentum thickness, friction coeff. calc. *(Chinese)* 1−1928
compressible flow fields, numerical solution of two equations turbulence models 1−51766
computational techniques, developments 1−1936
conical diffusers, flow characteristics 1−24880
convective heat transfer in MHD channels and its influence on channel performance, model appl. 1−13148
corner wall regions, unified velocity correlation 1−24771
Couette flow, velocity distributions in plane turbulent channel flows 1−2080
curved shear flows, near wall region, streamline curvature (buoyancy analogy) 1−42031
cylinder impulsively started in still water, velocity field, outer potential flow 1−11376
cylinder impulsively started in still water, velocity field, unsteady boundary layers 1−11377
cylinder on flat plate, turbulent boundary layer, surface pressure distrib. and drag *(Japanese)* 1−15476
diffusion-boundary layer, spread along electrode, under turbulent flow conditions 1−51763
dispersal of passive scalar contaminant in turbulent boundary layer 1−33950
drag reduction by addition of micelle-forming surface active substances in gaps between coaxial cylinders 1−46731
droplets, settling velocity in turbulent pipe flows, eddy diffusivity 1−19803
duct flow, 2-dimens., natural transition in inlet region 1−11470
ducts, annular cross section, variable property heat transfer, laminar and turbulent 1−42054
ducts, turbulent boundary layer, constant temperature hot-wire anemometry 1−11456
equilibrium boundary layers over very rough surfaces 1−1935
experimental methods and techniques in turbulent boundary layer research, review 1−2119
experiments, theory and modelling, AGARD conf., The Hague, Netherlands, (Sep 1979) 1−13
film cooling, 3-D measurements of turbulence structure, full-coverage and recovery regions 1−20518
film cooling, full-coverage, recovery region hydrodynamics 1−20519

boundary layer turbulence continued
flat plate, H_2 ignition in turbulent supersonic boundary layer 1−29794
flat plate near wake, interacting turbulent shear layers 1−11378
flat plate with small step change in surface roughness, turbulent boundary layer 1−51754
flow visualisation in turbulent flow with high Reynolds number *(German)* 1−51890
flow visualisation of turbulent boundary layer structure 1−2122
half cone flat surface, heat flux redistrib., Re∼10^6, Mach no.6.1, separation regions 1−24777
heat and mass transfer *(Japanese)* 1−24780
heated laminar boundary layer, turbulent spots, exploratory temperature-tagging meas. 1−1913
hot-wire anemometer meas. of turbulence in presence of temp. fluctuations 1−42109
hydrocyclone, vortex finder larger than apex opening, turbulent boundary layers 1−29660
ideal raft in open channel, theory 1−24884
impermeable adiabatic wall, turbulent boundary layer, heat and mass transfer *(Russian)* 1−1976
incompressible dissipative fluid, flow past accelerated porous plate, free convection effects 1−37902
incompressible turbulent boundary layer flow over small hump, asymptotic theory 1−33951
initial structure of turbulent boundary layer, influence of transition processes *(French)* 1−1944
injection, vectored, into laminar and turbulent boundary layers 1−19668
instability waves in the velocity field of a turbulent channel flow 1−1943
jets, laminar, circular cylindrical, curvature and boundary layer effect, higher order terms 1−19768
K-ε model calcs. 1−19686
kinetic approach to turbulence theory *(Russian)* 1−51764
laminar boundary layer, interactions for regular patterns of turbulent spots 1−42043
laminar boundary layer, visual study of the growth and entrainment of turbulent spots 1−42044
laminar boundary layer separation, delay of turbulent transition by surface heating in water 1−42048
laminar boundary layer transition on flat plate, nonlinear evolution and breakdown 1−42037
Laminar boundary layer turbulent transition, attachment line contamination and cross flow instability 1−42041
laminar boundary layers, evolution of wavepackets, nonlinear growth and turbulence 1−37891
laminar-turbulent transition, flow field and energy balance according to the spatial linear stability theory of the Blasius boundary layer 1−37892
laminar-turbulent transitions, boundary layer waves at large amplitudes, 2D Tollmien waves 1−37894
large aspect channel, tubulent heat transfer 1−24810
large eddy simulation of turbulent channel flow, eddy viscosity model 1−6850
large-eddy simulation of the shear-free turbulent boundary layer 1−51757
leading edge effect in laminar boundary layer excitation by sound 1−42046
length scale for turbulence to mean flow characteristics, relationship 1−37887
longitudinal vortices in a concave surface boundary layer 1−2001
longitudinal vortices in a transitioning boundary layer 1−42032
mean flow meas. over body of revolution 1−51759
measuring techniques and probe effects in near-wall region 1−2121
near separation prediction method, analytic treatment near separation 1−24772
nonlinear wave interaction in boundary layer in turbulent transition 1−42033
nonlinear wave stability in boundary layers 1−37895
nonlocal fluid mechanics description of wall turbulence 1−19682
nonsimilar laminar and turbulent boundary layers, variable grid-size transform. 1−29649
nozzle, accelerated compressible flow, turbulent boundary layer heat transfer, free stream turbulence effects 1−29683
nuclear power station gas effluent dispersion anal. using wind tunnel simulation of lower atmosphere layers *(French)* 1−32486
oscillating boundary layer, laminar-turbulent transition mechanism 1−37893
oscillatory pipe flow at transitional Reynolds numbers, laminarisation 1−11459
panel response to supersonic turbulent boundary layer, studies on theoretical model 1−1751
parallel plates, liquid metal turbulence, heat transfer coeff., streamwise molecular heat conduction effects 1−24799
particle-fluid mixture, flow induced by oscillating plate 1−46729
penetrable plate, turbulent boundary layer calc. in case of intensive injection 1−11380
perturbed turbulent boundary layer behind backward facing step, relaxation 1−19685
pipe, turbulent flow, balance of intensity of temp. pulsations 1−15544
pipe flow, turbulent, heat transfer to variable property fluids 1−37908
pipe flow turbulent boundary layer, exam. of coherent structures using laser-Doppler anemometry 1−2120
pipe flows of non-Newtonian fluids, laminar and turbulent, heat transfer coeff. 1−29670
pipes, non-Newtonian solns. and slurries, turbulent flow rate-press. drop correlations 1−19815
pipes, polymer soln. mechanical degradation in turbulent flow, drag reduction 1−29730
plane duct, established flow, viscosity of turbulence models *(French)* 1−42087
plane solid boundary, diffusion boundary layer, turbulent heat and mass transfer, closed eqn. *(Russian)* 1−29695
plasma, cooling, wall boundary-layer convection calc. *(German)* 1−6002
plate, thermal and dynamical boundary layers, cooling of hot gases 1−1929
Poiseuille flow, velocity distributions in plane turbulent channel flows 1−2080
polymer solutions, turbulent boundary layer, with flow-retarding press. gradient 1−11381
porous plate attached to plane surface, uniform shear flow, boundary layer vel. profile 1−37888
radiative heat transfer in turbulently convecting fluid layer 1−1962
Rayleigh-Benard convective state evolution to turbulence, thermoconvective oscillators *(French)* 1−51769
Reynolds stress closures−status and prospects 1−1937
Reynolds stress tensor, meas. method using rotating slanting hot wire 1−34027
rotating blade row, tip region visualisation, vortices and turbulent boundary layer 1−19725
secondary flow in streamwise corners 1−11383
separated and reattached flow, turbulent shear stress and heat flux meas. 1−46730
separating flow on convex surface turbulent boundary layer 1−42030
separation pressure of a turbulent boundary layer in transonic interactions 1−15475
shear flow, large vortex effect on pressure pulsations 1−19683
shear flow with fine-scaled turbulent background, stability 1−1930
shock wave boundary layer interaction, meas. of turbulence behaviour 1−2032
skin friction measurement in turbulent boundary layer with strong adverse pressure gradient 1−19846
stationary pipe, swirled flow turbulent viscosity 1−15550
streamlines, direction near wall 1−51756
strongly decelerated equilib. boundary layer, temp. fluctuation balance in diffusing flow region 1−15477
structure, experimental study of the inward and outward fluid flows in a turbulent boundary layer *(French)* 1−1931
structure of equilibrium turbulent boundary layers 1−1934
structure of turbulent boundary layer 1−1947
submerged laminar plane jets, angled injection into turbulent boundary layer, vortices 1−37986
supercritical fluid vertical tube flow, turbulent combined forced and free convection 1−37907
surface friction determ. in turbulent boundary layer 1−51762
swept compression corners, three-dimens. shock/boundary layer interaction 1−15474
swirl pipe flows, wall boundary layer instabilities, vortex pairs *(German)* 1−51765
synthetic turbulent boundary layers, meas. of local intermittency 1−1945
temperature tagging measurements of turbulent spots in a heated laminar boundary layer 1−42045
Tollmien-Schlichting wave generation by plane, sound wave 1−42047
transient turbulent thermal convection flow, boundary layer behaviour 1−24807
tubes, turbulent film heat transfer coeffs. during condensation 1−37909
tubes with twisted tape turbulence promoters, heat transfer experimental data correlation 1−33960
turbine glades gas-film cooling efficiency study and calculation method *(Russian)* 1−6848
turbulence closure of the transport equation for the probability density of velocity 1−1938
turbulent flow around airfoils, modelling requirements 1−1939
turbulent pipe flow, spatial correlations, meas. and axisymmetric model 1−19802
turbulent transition for Blasius flow and plane Poiseuille flow 1−42042
turbulent transonic normal shock wave-boundary layer interaction, Navier-Stokes code on CRAY-1 1−46775
turbulent wall jets, mass transfer 1−29743
two dimensional turbulent jet, laminar and turbulent mixing layer charcts. 1−46793
two-dimensional boundary layers, numerical predictions using kinetic energy-dissipation rate model 1−51755
two-dimensional compressible turbulent boundary layers, mean flow data 1−11386
two-phase bubble flow, momentum and heat transfer 1−51852
U-bends, switching flow, hydraulic losses and flow patterns 1−34012
undeveloped turbulent near-wall flows, similarity calcs. 1−11382
unsteady turbulent boundary layer in direct or inverse mode and reverse flow singularity anal. *(French)* 1−6849
upstream interface slope, dynamics of hairpin vortex 1−19684
using flap configuration, boundary layer meas. 1−1941
viscoelastic fluid, oscillating flow in a tube with formation of a boundary layer of solvent 1−51825
visualization of turbulent spots in the boundary layer along a flat plate in a water flow 1−37897
water, horizontal layer heated from below, turbulent natural convection 1−1959
water, irradiated, cooled by air flow, natural convection flow visualisation 1−6861
wind turbines, turbulence experienced by large rotors movement, transfer functions, turbulence spectra and response spectra 1−46733
Hg fully developed pipe flow, turbulent struct. 1−19812

boundary layer turbulent flow *see boundary layer turbulence*

boundary layers
see also atmospheric boundary layer; boundary layer turbulence
3-dimensional transonic internal flows, numerical calcs. *(French)* 1−42063
acoustic boundary condition in the presence of flow 1−11391
acoustic disturbance effect on controlled laminar flow 1−15465
aerosols, nonspherical, motion in viscous medium, particle-wall fluid-dynamic interaction 1−17114
arc-supported boundary layer, arc layer thickness and elec. field meas. 1−11622
asymptotics of liquid flow with free boundary with vanishing viscosity 1−46723
axial compressors, two-dimens. boundary layer theory *(German)* 1−11365
axisymmetric electrode rotating in Ostwaldian fluid, diffusional laminar boundary layer 1−42009
baroclinic instability of flows along sloping boundaries 1−22414
Bay of Bengal, benthic boundary layer chemistry rel. to role as deep Indian Ocean nutrient source 1−4539
Blasius boundary layer, including non-parallel flow effects, upper branch stability 1−42012
Blasius series solution for heat transfer with nonisothermal wall temperature 1−24804
catalytic calorimeter on plate, heat transfer in binary mixture boundary layer 1−37904
centrifuge, gas, Onsager's pancake approx. 1−19726
channel, developing flow, vel. distrib. effects on stability, critical Re 1−46805
channel, rot. with oscillating press. gradient, unsteady hydromagnetic flow 1−2086
circular cylinder in crossflow, Karman vortex shedding and the effect of body motion 1−19723

boundary layers continued
combined heat and mass transfer in mixed convection over a horizontal flat plate 1−37930
conduction-convection coupling for laminar boundary layer flow on flat plate *(French)* 1−51778
conference, heat transfer and fluid mechanics, Los Angeles, CA, USA, (June 1980) 1−27678
conjugate heat transfer for vertical pipe 1−37917
continuous moving plate with variable temp., heat transfer, thermal boundary layer *(German)* 1−24813
convection, free, in rectangular cavity, influence of Prandtl number 1−33957
convection, laminar, stationary, with dissipation in variable property fluid, variational approach 1−37906
convection equations, single-mode, boundary layer solns. 1−46741
convective diffusion to drop arbitrary absorption conditions, diffusion boundary layer approx. 1−24778
currents in boundary film of liq. on solid *(German)* 1−37980
cylinder, axisymmetric boundary layer 1−1914
density stratified suspensions, boundary layer problems 1−15532
dielectric liquid in cylindrical annulus subject to unipolar charge injection, linear instability 1−42102
diffusion to a particle at large Peclet numbers and small Reynolds and Hartmann numbers 1−38017
diffusion-convection problems in 1-D, optimal finite element solns. 1−9951
dispersed gas, flow heat transfer and precipitates in initial section of pipe during cooling 1−1957
drag on sphere, kinetic theory, generalised normal soln. method 1−24844
duct flow, 2-dimens., natural transition in inlet region 1−11470
duct with spanwise periodic rect. protuberances, laminar forced convection 1−42052
ducts, annular cross section, variable property heat transfer, laminar and turbulent 1−42054
elastico-viscous fluid, steady state temperature distrib. in thermal boundary layer 1−51833
electrically conducting rot. fluid, hydromagnetic Ekman layer over an oscillatory porous plate 1−34017
elliptic ducts, developing laminar flow characts. using Mathieu functions 1−29778
Falkner-Skan equation of laminar boundary layer flows, solution using boundary value technique 1−42010
Falkner-Skan similarity boundary layer equation, quintic spline collocation procedure 1−42008
filling an axial-symmetric cavity with a heavy incompressible viscous fluid *(Bulgarian)* 1−33992
flat plate, semi-infinite, forced convection 1−29692
flat plate, weakly interacting, radiating, boundary layer flow anal. 1−29663
flat plate with adiabatic starting length, forced convection, average heat transfer coeff. 1−24803
flat plate with const. heat capacity, convective heat transfer to laminar flow 1−46736
flat surface, dense gas thermal slip 1−11399
flattened Pitot tubes, viscosity effects at low flow vels., boundary layers vel. distrib. 1−19840
flow over blunt bodies with spikes and cavities 1−11431
flow past massive object, gravit. drag calc. and appl. to galaxies/intergalactic medium interaction 1−13864
free convective viscous flow past a hot vertical plane wall with periodic suction 1−46750
free shear layer, viscous stability, compressibility effects 1−24762
front stagnation point of body in gas stream, heat transfer regime stability 1−19695
gas, supersonic flow, boundary layer theory taking account of nonconjugate heat exchange and blowing 1−46773
gas flow and arc in double nozzle system, theoretical investigation of interaction 1−15697
gas particulate boundary layer equations, use of compatibility conditions 1−6841
generalised length dimension for non-circular ducts 1−29779
granular material with incompressible grains, gravitational flow 1−2081
growing boundary layers, 3-D stability 1−42036
growth eqn. with Reynolds averaging 1−19671
growth on two separated cylinders in unsteady plan flow 1−29651
heat generating fluid in closed cavity, natural convection 1−24791
heat transfer, review 1−33956
heated boundary layer, thermophoresis of particles, laser-Doppler velocimeter study 1−37872
heated laminar boundary layer, turbulent spots, exploratory temperature-tagging meas. 1−1913
heated sphere, causing free convective flow at large Grashof number 1−11396
Hele-Shaw flow flow, drag on body between parallel plates 1−19808
heterogeneous mixture flow, boundary conditions 1−34005
horizontal circular cylinders, boundary layer regime for laminar free convection 1−24789
hydrocyclone, vortex finder larger than apex opening, laminar boundary layers 1−29643
hydrodynamic wall effect for a disperse system 1−51856
hydromagnetic oscillatory flow past infinite vertical porous plate, force convection and mass transfer effects 1−54356
hypersonic boundary-layer flow with mass transfer on power-law bodies 1−15512
hypersonic flow, stepwise-decelerated, over flat plate, weak interaction induced pressure 1−51807
hypersonic gas flow over conical bodies, viscous interaction 1−24836
hypersonic interaction problem with slip and temp. effects 1−15509
impurity adsorption from liquid stream by spherical particle, process and kinetics 1−48727
inclined body of revolution, supersonic laminar flow, vortices 1−19743
inclined continuous moving sheets, buoyancy effects in laminar boundary layers, heat transfer 1−24806
inclined ellipsoids of revolution, laminar boundary layers 1−11367
injection, vectored, into laminar and turbulent boundary layers 1−19668
invariant solutions of the three-dimensional unsteady boundary layer equations *(Russian)* 1−11385
ionised nonequilibrium laminar boundary layer behind shock, finite difference soln. *(Japanese)* 1−33981
isothermal cylinder, heat transfer from two-phase laminar boundary layer, drop trajectory effects 1−37899
boundary layers continued
jet, plane, potential flow past convex surface 1−2044
jets, circular, under controlled excitation, vortex pairing, coherent structure dynamics 1−33995
laminar, asymptotic theory of nonstationary separation 1−24854
laminar, spline collocation soln. of integral eqns. 1−42011
laminar boundary layer, growth of turbulent spot, similarity transformation 1−29647
laminar boundary layer, separating, spontaneous generation of singularity 1−19672
laminar boundary layer equations, behaviour of mixed convection near point of zero skin friction 1−29645
laminar boundary layer equations, free convection past vertical flat plate, arbitrary blowing variations 1−1911
laminar boundary layer flow, finite element algorithm 1−15466
laminar boundary layer separation, integral method anal. 1−1910
laminar boundary layer stability on blunted plate in supersonic flow 1−42035
laminar boundary layers, parametric eqns. 1−29648
laminar boundary layers, three-dimens., self-similar, longitudinal and transverse press. grad. 1−15470
laminar free convection boundary layer around horizontal circular cylinder *(Japanese)* 1−15469
laminar hydromagnetic thermal boundary layer in fluctuating flow past limiting surface, temp. field 1−54355
laminar natural convection, over vertical frustum of cone, surface temp. var. effects 1−19691
laminar steady-state flow, Gortler series coeff. funct. *(German)* 1−37874
laser Doppler and induced fluorescence anemometry comparison 1−42113
liquid film, around horizontal cylinder, smooth laminar case *(French)* 1−42007
liquid in heated boundary layer, spontaneous boiling conditions for reduced heat transfer following step function heating 1−15485
longitudinal vortex stability in mixed convective flow in porous media 1−37943
lubricating film between flowing liquid and solid surface, boundary layer theory 1−29646
magnetosphere, plasma sheet, direct plasma injection at lunar distances 1−13645
membrane separation processes, boundary layers meas. by holographic interferometry 1−8615
methanol-N_2 system, drop evaporation and diffusion calc. 1−1805
micropolar fluid, heat transfer from non-isothermal surfaces in stagnation point flow *(German)* 1−33990
micropolar fluid flow past semi-infinite flat plate, heat transfer 1−51832
moving surface, boundary layer, non-self-similar solns. 1−29644
non-local model of relaxing boundary layer *(Russian)* 1−11409
non-Newtonian boundary layers, convective heat transfer 1−29671
non-Newtonian fluid, pulsating flow in cylindrical tube, entrance effects *(French)* 1−51831
nonequilibrium hypersonic flow over the lateral surface of blunt bodies 1−15511
nonlinear nonstationary convective heat- and mass-transfer eqn. integration 1−24783
nonparallel axisymmetric stagnation point boundary layer flow, stability anal., vortices 1−11371
nonsimilar incompressible boundary layers, mass transfer 1−37873
nonsimilar laminar and turbulent boundary layers, variable grid-size transform. 1−29649
nozzles, laminar boundary layer development with turbulent outer flow 1−29748
ocean, waves interaction with soft bottom 1−17603
oceanic benthic boundary-layer velocity profiles, current meter effects 1−27198
optically thin boundary layer near flat plate, radiative and convective heat transfer, blowing effect 1−15487
oscillatory flow, 2-dimens. laminar boundary layer on flat plate, wall friction and local heat transfer 1−33955
osmosis, interaction with stirring 1−39678
partly-moving surface, sucking or blowing, asymptotic solns. laminar boundary layers, compressible gas 1−19669
pipe flow boundary layers, flow over surface irregularities, numerical soln. 1−15468
pipe inlet region, compressible laminr flow, boundary layer development, flow parameters for varying Mach nos. 1−11463
plane horizontal natural convection, higher order boundary layer effects 1−24805
plate, buoyancy effects on heat, mass transfer, local nonsimilarity method anal. 1−1972
plate, flat, unsteady heat and momentum flux 1−29662
plate, Tollmein-Schlichting wave generated by sound wave, spectral numerical method 1−2007
plates subject to loadings combining in-plane tension and lateral pressure, shear boundary layer 1−51698
porous media, flow and heat transfer, boundary and inertia effects 1−38007
porous medium, heated from below, thermal disturbances during natural convection 1−1969
power-law fluid, convection heat transfer from isothermal flat plate, correlating eqn. 1−1954
pseudoplastic nonFourier liquid film, laminar boundary layer theory *(Russian)* 1−19757
relativistic flows in plane boundary layers, MHD Kelvin-Helmholtz instabilities anal. 1−13680
rotating box, flow generated by temperature gradient 1−15494
rotating fluid, free convection flow past vertical porous plate 1−1990
rotational flow, corner effect in free shear layers 1−24824
saturated vapour, laminar film condensation on inclined pipes, film thickness, analytic soln. 1−1912
sea pack ice flow near coast, studies of interaction between ice floes *(Japanese)* 1−4516
secondary flow about circular cylinder oscillating rotationally around eccentric axis 1−37885
semiinfinite horizontal plate, mixed convection, buoyancy and skin friction effects 1−46752
separated flow, pseudo-direct soln. to boundary layer eqns., transonic flow 1−19760
shock structure close to wall *(German)* 1−37967
slow viscous flow around a vertical fence on a plane 1−37865
sphere, porous, axisymmetric boundary layer with suction 1−42085
sphere sedimenting in viscous fluid outside circular cylinder 1−6881

boundary layers continued
spin up in filled cylinder, Navier-Stokes solns., boundary layers 1−19722
stability, surface wave effects 1−15472
stability of incompressible boundary layer with variable viscosity 1−24764
stability of laminar boundary layers, Orr-Sommerfeld problem, asymptotic initial conditions for shooting methods 1−37871
stabilization of three-dimensional boundary layers by suction and cooling 1−42038
Stokes' layer, thick, produced by torsionally oscillating circular cylinder, linear centrifugal instability 1−19730
strongly curved rectangular ducts, steady laminar flow, developing flow, heat transfer 1−24798
subsonic flow, relax. drag, nozzle and cascade profiles *(German)* 1−11421
supercritical region with variable props., laminar free convection 1−29799
supersonic boundary layer, development of 2-D disturbances, influence of nonparallel flow 1−51803
supersonic boundary layer equation solutions 1−15513
thermal Reynolds equation, appl. to elastohydrodynamic inlet zone lubrication 1−46751
three-dimensional laminar boundary layer, asymptotic analysis 1−19670
three-dimensional waves in a boundary layer on a flat plate 1−42039
torque on rotating body in liquid with surfactant layer 1−42057
transient ignition on flat-plate boundary layer, finite difference anal. 1−29797
transonic swept wing with wall cooling, boundary layer stability, laminar instabilities 1−46770
two dimensional turbulent jet, laminar and turbulent mixing layer charcts. 1−46793
two-dimensional stagnation flow and heat transfer, thermodynamic calcs. 1−29669
two-dimensional steady compressible flow, solution of laminar boundary layer eqn. 1−6842
universal equations for a second approximation to the boundary layer *(French)* 1−37868
unsteady, large scale periodic solns. 1−1909
unsteady laminar flow in a channel with porous bed 1−29777
unsteady laminar laser heated boundary layers at a three-dimensional stagnation point 1−24763
unsteady stagnation point heat transfer in non-Newtonian fluids 1−15515
unsteady thin airfoil theory, aerodynamic coeffs. 1−15505
unsteady transport phenomenon, some problems and their solns. 1−15467
vertical plate, laminar free convection, correlation over Prandtl number range 1−37900
viscoelastic fluids, anomalous transport phenomena in rapid external flows 1−51829
viscous boundary layers with inviscid core, high Reynolds number flows with closes streamlines 1−29701
viscous incompressible fluid, laminar flow, unsteady convective heat exchange in longitudinal bundle of rods 1−46744
viscous liquid, flow characteristics, effect of wavy oscillating wall 1−46808
vortex-layer separation lines, local props., appl. to 3-D boundary layer 1−29739
water, boiling in boundary layer, temp. profile and local vapour content 1−11397
water wave generation by laminar air flow 1−46765
wedge, boundary layer flow of power law fluid 1−51824
wedge with non-isothermal surfaces, numerical soln. for heat transfer 1−24815
weightless liquid, plate near free surface, flow without separation 1−37870
wind tunnel, two-dimensional, sidewall boundary layer effect, similarity rule 1−46722
H_2O, heat-stabilised laminar boundary layers 1−51735
NH_3-N_2 system, drop evaporation and diffusion calc. 1−1805
Na-Ar system, drop evaporation and diffusion calc. 1−1805

boundary-value problems
see also initial value problems
3-dimensional transonic internal flows, numerical calcs. *(French)* 1−42063
acoustic boundary condition in the presence of flow 1−11391
acoustic radiation from vibrating plane wall having porous layer on it 1−19501
antennas, disc-shaped, radiation impedance for electron plasma wave 1−46870
bas blast circuit breaker arcs, scaling laws during high current phase 1−34155
boundary conditions, non-equilib., Boltzmann eqn., kinetic scatt. kernels, statistical theory 1−201
channel flow, existence and uniqueness of Navier-Stokes eqns. solns. *(German)* 1−6891
composite orthotropic shell, variable thickness, with complex shape filler, stress-strain state 1−15401
computer simulated fluids, equilibrium props., periodic boundary conditions 1−46967
conducting and dielectric bodies modelling, in uniform electric field *(Polish)* 1−1430
convex body, diffr. computation 1−19248
Coulomb scattering, three-body problem, Green's function 1−49993
cracks, isothermal, mixed boundary-value problem, orthogonal polynomial solns. 1−15451
deformation, inelastic, time-dependent, of plates with cutouts, boundary element formulation 1−19585
deformation, time-dependent, inelastic, of plates with cracks, boundary element method 1−19586
degenerate linear partial differential eqns. in Euclidean space *(German)* 1−5087
delta wing, piecewise planar, supersonic leading edge, undersurface pressure distrib. calc. 1−19746
diffracted, description of singularities at diffracted front *(French)* 1−24558
diffusion, fast, nonlinear concentration dependent eqn., stability of separable soln. 1−50070
disperse systems, cell model, variant, precip. rate calc. 1−2061
droplets, colliding, velocity field in toroidal coordinates, nuclear fusion model 1−15518
dynamic response of rigid strip on elastic half-space 1−51721
elastic cylinders, fibre-reinforced, axially symmetric deform. 1−29549
elastic dielectric halfplane, mech. and elec. pot. 1−5104
elastic foundations, concept and boundary-value problems, homogeneity and isotropy 1−33888

boundary-value problems continued
elastic half-space Green's tensors for boundary integral eqn. method *(Japanese)* 1−24678
elastic media, random constitution, effective elastic moduli as Neumann type infinite series 1−29547
elastic wedge contact problem in presence of friction 1−1832
elasticity, hemispherical shell, 3-D stressed state 1−19576
elasticity, nonlocal theory, integral models, boundary-value problems and surface forces 1−29539
elasticity, nonlocal theory, integro-differential models, boundary-value problems and surface forces 1−29540
elasticity, stress state of half-space with paraboloidal cut 1−18024
elasticity theory, boundary value problem with mixed boundary conditions, numerical soln. *(German)* 1−33900
elasticity theory, linear boundary-value problems, with complex operator, multiple calc. of simpler system *(Ukrainian)* 1−18016
elasto viscoplastic flow, effects of boundary conditions 1−29571
elastoplastic processes, small-curvature *(Russian)* 1−9841
elastostatics, hyper-, nonlinear, nonexistence theorem for mixed boundary-value problems 1−14015
elliptic, soln. grid direct control 1−2054
elliptic boundary value problems, generalisation of Hadamard's problem *(German)* 1−27763
elliptic boundary-value problems, finite element method of soln. 1−15359
elliptical equations second order as monotinic function representation, appl. to Laplace and heat flow eqns. *(German)* 1−5090
evolutionary stochastic boundary value problems, variational theory *(Ukrainian)* 1−14024
finite aspect ratio wings, sonic speed, matched asymptotic expansions method calc. 1−19741
flexible shells, large deflections, nonlinear boundary value problems *(Ukrainian)* 1−15386
fluid dynamics, vertical slender jets 1−19775
fluid mechanics, boundary element method appl., book contrib. 1−18025
fluid microstructures, general gradient theory 1−42276
free boundary problem and a related semilinear equation 1−2218
free boundary problems, finite element approx. 1−24659
front stagnation point of body in gas stream, heat transfer regime stability 1−19695
gas, weakly ionised, near catalytic wall, hydrodynamic boundary conditions for small Knudsen numbers 1−24894
gas discharge, pre-breakdown, singular boundary value problem 1−52016
gases, diffusion eqn. boundary conditions from kinetic eqns. 1−51894
half-space on elastic base, elasticity mixed static problem solution 1−29555
Hamiltonian systems, periodic orbit stability transitions 1−83
heat condution, high-order near best uniform approximations 1−19544
hydrodynamic stability of incompressible boundary layer with variable viscosity 1−24764
ideal fluid, free boundary problem numerical solution 1−6840
ideal fluid penetration through a bounded region, nonstationary problems 1−19666
inhomogeneous media, type II, seepage motions, Dirichlet problem soln. 1−24875
inhomogeneous medium in mag. field, cond. calc. using R-function method, boundary-value problem 1−25687
integral equation for EM scattering from dielectric cylinder 1−37394
jet, plane, potential flow past convex surface 1−2044
laminar boundary layer separation, integral method anal. 1−1910
laminar boundary-layer flows, solution using boundary value technique 1−42010
liquid-vapour interface, boundary conditions 1−11450
long waves, small amplitude, propag. model eqn., initial and boundary value problem 1−18032
magnetically ordered crysts., light refraction and reflection at boundary 1−6454
MHD, circulational streamlining of an array of profiles in a magnetic field 1−6901
mixed finite element methods for a class of nonlinear boundary value problems 1−22996
multigroup method for shielding calcs., error estimate 1−5822
multipole potential calcs., localised charge distribution 1−47421
multistep methods for quasilinear parabolic equations 1−22995
Navier-Stokes stationary boundary value problem with infinite dissipation in unbounded region 1−2084
Neumann boundary problem for force-free fields, boundary integral eqn. 1−27797
Neumann potential problems for thin circular annulus, appl. to fluid mechanics and elasticity 1−24761
nonlinear heat conduction with source, parabolic equations, solution comparison methods 1−24648
nonlinear micropolar elasticity, mixed boundary problems, continuous depend. results 1−6759
nonstationary filtering problem, boundary variation method 1−19800
nuclear power stations, optimal control of xenon spatial oscillations in load following 1−45658
ocean waves interaction with soft bottom, boundary-value problem 1−17603
one-dimensional randomly inhomogeneous boundary-value problem, eigenvalue statistics 1−17990
parabolic differential eqns., collocation methods for soln. *(German)* 1−5091
particles of parallelepipeds form, with boundary condition of third kind, heating 1−15363
Pfluger's rod, follower-force system, boundary-value eigenvalue problem soln. by Liapunov-like procedure 1−1830
plasma equilibrium, toroidal, maintaining field current calc. *(Chinese)* 1−19928
plasma kink instability, initial boundary calcs. *(Chinese)* 1−24957
plasma waves, longitudinal anisotropic, boundary-value problem, operator theoretic approach 1−6941
plastic flow laws, non-associated, uniqueness criteria 1−29563
plasticity, evolutionary variational inequalities 1−37807
plates subject to loadings combining in-plane tension and lateral pressure, shear boundary layer 1−51698
polymer chain model, self-consistent potential 1−50060
porous media, parabolic problem with unknown boundary 1−29770
quantum mechanics, discrete spectrum computation 1−49957
quasistatic boundary-value problem in electrodynamics, iterative soln. 1−18053

boundary-value problems continued
random boundary-value problems, asymptotic expansions of eigenvalues and eigenfunctions 1−18014
rectangular enclosure with inlet and outlet channels, incompressible gas convection theory 1−19696
Reimann, for anal. of SAW diffraction by conducting half-plane 1−19486
relativistic two-body problem, boundary-value problem for minimal surface 1−27777
rotating barotropic flow over finite isolated topography 1−29703
scattering of elastic waves by a surface-breaking crack 1−27796
SCF-Xalpha scattered wave method, boundary conditions 1−7504
seismology, ray tracing, two-point, in heterogeneous media, and travel time data inversion 1−9295
semiconductor, electron mobilities from linearised Poisson eqn. for impurity-ion pot. 1−2964
shells, linear theory, recent developments review 1−6766
shells, prismatic cusped, boundary value problem formulation, review 1−6771
Signorini problem in semi-coercive cases, finite element anal. 1−37790
solar cells, tandem-junction, front-surface-field, interdigitated-back-contact, unifying study 1−13128
stellarators, boundary value problems, toroidal harmonic functions calcs. 1−51980
stratified anisotropic ionosphere, tensorial boundary condition for wave propag. analytical treatment *(German)* 1−27326
stressed state of laminar shells of revolution, nonlinear axisymmetric deform. and transversal shift *(Ukrainian)* 1−29534
Sturm-Liouville boundary value problems, random, eigenvalues 1−17999
thick plate in form of sector of annulus, viscoelastic anal. 1−51703
Thomas-Fermi and Emden-Fowler eqns., iterative techniques 1−37116
time-space boundary element formulation 1−40654
turbulence, space-time boundary-value problem 1−29658
two-layer system, convection, finite difference calc. 1−19779
vibrating plates, finite element analysis of mixed boundary integral 1−15442
Vlasov-Maxwell eqns. in one dimens., Cauchy and boundary-value problems 1−19864
wave propagation in inhomogeneous medium, variational numerical soln. 1−49946
waveguides, integral formulation 1−27710
Bi, spatially inhomogeneous current transport in mag. field 1−2944

bowing *see bending*

brain
see also neurophysiology
anethetised patients, microprocessor monitoring of EEG 1−22156
aneurysms densitometric assessment feasibility 1−39999
auditory brain stem evoked potentials, computer identification 1−17509
auditory brainstem anomalies in human albinos 1−39943
auditory evoked potential, middle latency, evidence for a primary cortical origin in cats 1−49003
auditory evoked potentials for monaural and binaural stimuli in the brain stem 1−17403
auditory evoked response in brain stem, mastoid electrode contribution 1−43882
auditory evoked responses in brainstem and auditory cortex after total destruction of cochlear receptor 1−53795
auditory evoked responses in the brain stem, suprathreshold tone-burst stimuli 1−26912
biopsy procedures in brain, multiple scan sections interpretation, 3D viewer 1−17493
blood flow, determ. with the EMI CT scanner 1−22109
blood flow meas. in young and adult rats, appl. of ^{133}Xe bolus technique 1−53934
blood vessel architecture, late changes after X-irrad. 1−26942
brainstem auditory evoked potentials, monaural versus binaural stimulation, multiple sclerosis detect. 1−49002
brainstem auditory evoked pots., the use of noise estimate 1−32266
brainstem auditory evoked response, abnormalities in severely and profoundly retarded adults 1−32136
brainstem electrical stimulation, effects in the anaesthetised rat 1−22006
brainstem implantation, X-ray control, monkey expts. appl. 1−9061
cerebellum, pigeon, effects of sublethal γ-irrad. on acid phosphatase levels 1−26947
cerebral blood flow meas. using ^{81m}Kr γ-rays, external exposure around the patient *(Japanese)* 1−32251
cerebral cortical strokes, mapping by laser Doppler spectroscopy 1−13365
cerebral dominance for language determ., summated pots. evoked by speech sounds 1−4292
cerebrovascular permeability to sucrose in the rat exposed to 2450-MHz microwaves 1−26941
contingent negative variation brain pot., synthesis from noncontingent stimulus and motor elements 1−8843
cortical binocularity in infants 1−22017
cortical visual evoked potentials in healthy humans, annotated bibliography, 1974-8 1−44736
current density vector measurement apparatus under direct computer control 1−32337
dielectric properties, mouse, use of time domain spectroscopy for meas. 1−27041
diseases diagnosis, comparison of ^{99m}Tc-MAA brain scan and CT *(Japanese)* 1−9009
echoencephaloscopy for diagnosis of structural abnormalities by determ. of brain midline 1−32212
electric fish jamming avoidance response, brain neuron function 1−26895
electrical events underlying detect. and recognition of weak sensory signals 1−49016
electrical potentials, anal. in the 1980s 1−32287
electronic stimulator, implantable, for small animals 1−32334
emission computerised tomography, single photon, special characts. and pot. 1−32239
epileptic focus, chronic, in a primate, effects of cerebellar stimulation on unitary activity 1−26889
evoked magnetic field of the human brain 1−4303
evoked potentials, enhanced average, method of computing 1−32085
human, right side, late auditory evoked mag. fields, source localisation 1−49021
infarction patient, colour vision loss rel. to Stiles Π_1 mechanism 1−32121
information processing of speech sounds in the medial geniculate and the inferior colliculus 1−17407

brain continued
intracranial pressure monitoring device, construction and operation 1−27021
magnetic auditory responses from the human brain 1−26918
mechanical properties in vivo, method for determ. 1−32175
microwave irradiation, selective, time-temp. profiles in rats 1−35813
neocortex neurons of rabbits, selective responses to odours of animal products 1−17414
neuropsychiatry, appl. of bio-technology 1−13334
neuroradiograms, holographic viewing method 1−8961
neurosurgery, new technologies using lasers and US 1−8959
nucleotides, cyclic, reduction in levels in brain after high dose of ionising radiation 1−4339
osmolality, meas. uisng a vapour pressure osmometer 1−27035
potentials, endogenous, associated with selective auditory attention 1−17402
potentials due to applied elec. stimulation, finite element modelling 1−32113
pressure recordings from corresponding sites of dura mater and brain *(German)* 1−17503
primate vision, cortical processing functional subsystem 1−8858
pulvinar neurons, responses to eye movements and light flashes, squirrel monkeys 1−4268
radioimmunoassay of brain tissue and cell nuclear corticosterone 1−27037
rapid eye movement and elec. activity in dorsal pons of rat 1−26894
regional cerebral circulation meas., mobile device 1−27000
somatosensory responses evoked by tapping tongue and finger, spatial distrib. in humans 1−32149
striate cortex, cat, evidence against Fourier anal. as a function of receptive fields 1−13238
striate cortex, cat, neuronal mechanism of response to flicker light stimulation 1−39919
superior colliculus, mammalian, integration of visual and auditory space, cat obs. 1−17388
therapeutic irradiation and brain injury, review 1−35837
tigroid substance formation in mouse brain after pre- and perinatal X-irrad. 1−43921
tumour cells, synchronized, rat, response to ^{137}Cs γ-rays 1−26958
tumour removal by acoustic irradiation, in vitro expts. at 10 to 40 kHz *(German)* 1−13295
tumour treatment, supra- and infratentorial, simultaneous use of CO_2, Nd:YAG and Ar lasers *(German)* 1−49090
US scanning, simple device to couple linear array transducers to neonate heads 1−53843
US scatter coefficient, dependence on collagen conc. in mammalian tissues 1−39960
ventromedial hypothalamus, activation of brown adipose tissue thermogenesis, rat expts. 1−39886
visual cortex, simple cells, math. description of responses 1−32120
visual evoked potentials, averaged, long-term effects of moderate X-ray doses, rabbit 1−32194
visual evoked potentials, spatial and temporal characts. 1−17390
visual stimuli, responses of single cells in the LGN and visual cortex, cat obs. 1−4273
Hg levels determ. by neutron activation anal. 1−17474

brain models
see also neural nets
bioelectronic systems, using brain/computer analogy 1−8841
Clare Bishop Area in cat brain, system theoretical anal. 1−39912
memory storage neuron assemblies, model and physiologically interpretable solns. 1−26891
pattern recognition, template matching model, self-organisation by disinhibitory neural network 1−17369

braking
see also regenerative braking
sliding contact, dynamic rigid indentation induced in presence of Coulomb friction 1−24757

brass
α/β interfaces, periodic elastic fields 1−38368
bicrystal, two-phase, elastic incompatibility during deform. in α-β phase 1−31534
bicrystals, α-β, two-phase, deform. and fract. 1−15901
α-brass, dezincified, sintering 1−53130
α-brass, stress corrosion cracking in ammonical $CuSO_4$ soln., use of scratching electrode technique 1−31719
α-brass, stress-corrosion cracking in neutral electrolyte, anion effects 1−35417
clad steel plates *(Japanese)* 1−43482
corrosion cracking in Cu^{2+}-NH_3 liquors 1−35446
cubic structures, geometric concept of nested polyhedra units 1−34282
deformation at room temp., TEM obs. of dislocations in β-single crystal 1−12825
dislocation structures adjacent to fatigue cracks propagating at high rates 1−42388
electropolishing of brass single-phase alloys in phosphoric acid 1−16977
fatigue strength, of notched specimen under combined stress 1−12942
Hall-Petch rel., in α-alloys 1−3820
Hall-Petch relation appl., effect of prestrain 1−3845
hardening mechanisms due to tension and combined torsion-tension deform. in α-phase 1−53205
interfacial extrinsic and intrinsic dislocation arrays, stress fields, α-β boundaries 1−38369
Knoop microhardness testing, two diagonal meas. method to reduce scatter, in α-phase 1−4033
long-period superstruct., in γ-phase 1−30015
Lorenz number, temp. depend., rel. to thermal cond. anomaly 1−34677
lubricating oil cooler, corrosion failure invest. *(German)* 1−8487
microduplex, α/β, superplastic flow and cavitation behaviour during compressive deform. 1−16858
oxidation of α and β phases, XPS and nucl. reaction spectroscopy study 1−16976
plastic deform. along bi-linear and tri-linear trajectories, history effect, fading memory 1−26539
plastic strain component, for low cycle fatigue 1−26536
quenched B-phase, internal friction 1−43400
serrated yielding investigation using acoustic emission technique 1−21541
sheet, formability, loading path effect *(French)* 1−3778
slip of B2 cmpds. in terms of Peierls mechanism of screw dislocation 1−11768

brass continued
steel-brass clad plates, explosively or roll bonded, fatigue crack growth and crack closure *(Japanese)* 1−48480
stress corrosion crack propagation, interaction of strain rate and repassivation rate 1−48555
stress corrosion cracking in NH_3 vapour, effect of H_2 1−35383
stress corrosion susceptibility, low temp. annealing effect 1−53222
surface hardened by roller burnishing, effect of heating on hardness and struct. of surface layer 1−16885
thermal conductivity, lattice component, corresponding states principles 1−34678
thermal conductivity, temperature dependence anomaly 1−34676
yield stress, anomalous temp. depend. at low temps. in β-phase 1−43452
Cu-Zn(10 wt.%), cold-rolled, microstruct. and texture 1−53204
β-CuZnAl quenched, internal friction 1−43400
$FeSO_4$ passivation procedure for brass condenser pipes in power stations *(Rumanian)* 1−16961

Bravais lattice *see crystal atomic structure*

braze bonding *see brazing*

brazing
see also soldering
No entries

breakage *see fracture*

breakdown (electric) *see electric breakdown*

breakdown (mechanical) *see manufacturing processes*

breakdown diodes *see avalanche diodes; Zener diodes*

breeder reactors *see fission reactors*

bremsstrahlung
see also electron radiation; gamma-ray spectra; gamma-rays; X-ray emission spectra; X-rays
betatron bremmstrahlung and monoenergetic electron radiation alignment method 1−37032
betatron impregnated-cathode injector design and bremsstrahlung intensity obs. 1−37021
channelled particle radiation difference from coherent bremsstrahlung 1−25345
cosmic ray radiation from bremsstrahlung of nonthermal protons and nuclei 1−36117
current layer radiation 1−49506
diamond crystal, effect of channelling on γ-radiation spectra of 870 MeV electrons 1−48191
electrokinetic parameters, in N_2 plasma, electron scatt., bremsstrahlung continuum investig. *(Russian)* 1−38067
electron accelerator, bremsstrahlung spectrum modelling 1−51356
electron bremsstrahlung in dipole potential *(Russian)* 1−10897
electron collisions in mag. field, ang. distribs. and bremsstrahlung spectrum *(Russian)* 1−10116
electron drag by reson. freq. light, discrete at. excitation *(Russian)* 1−24951
electron precipitation effects on gamma-ray astronomical obs. 1−27350
EM cascade physics 1−18491
energy and momentum conservation for electron interactions with EM radiation 1−10898
free-electron laser, stimulated longitudinal electrostatic bremsstrahlung 1−19314
free-electron laser based on periodic longitudinal electrostatic bremsstrahlung 1−10973
glow discharge, EM millimetre wave radiation, bremsstrahlung stimulated emission 1−24381
gluons, theoretical and experimental evidence 1−33165
high energy, emission and absorption by electrons in intense laser field 1−1469
improved flash X-ray simulation using grad-B interaction 1−33083
intensity stabilizer for betatron 1−51003
internal bremsstrahlung accompanying beta decay, theory, spectral shapes and total yields 1−670
ion-sound upconversion to Langmuir turbulence 1−38105
isochromat spectra, structure, electron-hole pair production 1−2855
linear polarisation of electron bremsstrahlung with off axis collimation, electron polarisation 1−31221
multiphoton inverse bremsstrahlung absorption of intense EM beams in magnetoplasma 1−22674
NDT, utilization of bremsstrahlung albedo 1−31813
neutron contamination, bremsstrahlung beam anal. 1−41265
nuclear beta decay, secondary effects, inner bremsstrahlung, review *(Russian)* 1−23606
perfect gas, thermal wave propag., sustained by exothermic reaction, bremsstrahlung effect 1−2102
photon circular polarisation, neutral current effect in bremstrahlung and pair prods. 1−14318
photonuclear cross-sections using bremsstrahlung, three point method 1−23638
plasma, induced bremsstrahlung radiation 1−38068
rare earth metals, 4f and valence band density of states, XPS and bremsstrahlung isochromat spectroscopy study 1−34606
rare earth metals, 4f states, fractional parentage theory appl. to bremsstrahlung isochromat spectroscopy 1−30611
solar current sheets, thermal bremsstrahlung radio emission intensity rel. to detectability 1−4901
solar flares, hard X-ray spectrum from chromosphere impulsive heating *(Russian)* 1−9464
solids, inverse photoemission, theory 1−53011
spherical target hydrodynamics on laser beam irrad. *(Russian)* 1−15635
surface unoccupied bands, study using bremsstrahlung from accelerated electrons, theory 1−8174
X-ray bremsstrahlung, time characts. rel. to laser plasma prod. 1−46929
X-ray microanalysis in the transmission electron microscope, review 1−15759
X-ray spectroscopy techniques for solids *(Dutch)* 1−12596
(μ,e), decay electron spectra of bound muons 1−5771
Al, quasifree-electron bremsstrahlung induced by H^+ bombardment projectile field 1−26349
Al-PbBi heterojunction spectrometer for studying bremsstrahlung and recombination phonons 1−15975
Be, quasifree-electron bremsstrahlung induced by H^+ bombardment projectile field 1−26349
^{7}Be EC total decay energies from inner bremsstrahlung spectra 1−36928
^{210}Bi β-ray induced, contrib. to emission of ^{210}Pb KX-rays *(Japanese)* 1−10687

bremsstrahlung continued
C, quasifree-electron bremsstrahlung induced by H^+ bombardment projectile field 1−26349
^{51}Cr EC total decay energies from inner bremsstrahlung spectra 1−36928
^{1}H(p,pγ), 42, 156 MeV, pp bremsstrahlung, soft photon calcs. comparison 1−5781
^{18}O(γ,p) cross sections, bremsstrahlung unfolding technique appl. 1−23637
^{18}O[(γ,n)+2(γ,2n)] cross sections, bremsstrahlung unfolding technique appl. 1−23637
^{35}S beta decay, internal bremmstrahlung 1−33243
Si, coherent bremsstrahlung from relativistic channelled positrons 1−7221
α-U, electronic levels, occupied and empty, XPS and bremsstrahlung isochromat spectroscopy study 1−48227
UAs(S)(O_2), electronic levels, occupied and empty, XPS and bremsstrahlung isochromat spectroscopy study 1−48227
^{185}W beta decay, inner bremsstrahlung spectra 1−5739
^{90}Y beta decay, inner bremsstrahlung spectra 1−5739

bridge circuits
see also bridge instruments
accelerometer pickup for meas. vibrations of experimental equipment 1−18201
fatigue crack growth determining and recording, bridge circuit appl. 1−26693
HF mutual inductance bridges with high resolution 1−287
medical piezoresistive miniature pressure transducer 1−32300
NMR spectrometer, wide line, method for precise balancing of RF bridge 1−23283
transformer bridge, loading error reduction using negative impedance convertors 1−288

bridge instruments
see also bridge circuits
4-terminal resistance bridge for low-temp. meas. of resistivity to 0.1 ppm 1−23265
AC comparator bridge for resistance measurement at power frequencies 1−36684
admittance comparison, using digital double-sinewave generator 1−36686
capacitance bridge balancing at very low freqs. *(Slovak)* 1−14136
cryoelectric equipment, temp. and power dissipation meas., instrumentation using AC bridges and digital display respectively 1−23273
digital AC bridge with two programmable sources 1−28035
four-arm bridge characteristic improvement, structural methods 1−28028
inductance meas. by new bridge configuration 1−9994
microprocessor-controlled, for resistance thermometer 1−36656
mutual inductance standardisation resonance bridge with current comparator 1−28034
resistance thermometer bridge 1−259
resistance-resonance comparator, of inductance and capacitance standards *(Polish)* 1−5338
vibration propagation velocity and absorption meas. using freq.-tunable automatic acoustic bridge 1−6737

Bridgman method *see crystal growth from melt*

brightness
see also sky brightness
Abell galaxy clusters, 11.1 cm total intensity and polarisation obs. 1−49831
active galactic nuclei, optical continuum and emission-line luminosities from multichannel spectrophotometry 1−49791
airglow, O I 6300 Å meridional intensity gradients 1−4673
Arakelyan 564, Seyfert galaxy, emission line characts., visible spectra obs. *(Russian)* 1−54635
asteroid 1980 WF, brightness vars. obs. 1−40374
asteroids, implications of peculiar shapes, for light curves and rot. periods 1−49560
asteroids, rotation periods and amplitudes, correls. and selection effects 1−9408
atmospheric halos and rainbows 1−4609
auroras, flickering, frequency contents, time sequence anal. using Fourier anal. 1−40248
B2 1418+54, compact extragalactic object, correlated brightness and optical polarisation vars. obs. *(Russian)* 1−4993
black holes, thick accretion discs with super-Eddington luminosities 1−49706
border visibility, colour differences, luminance contrast, luminance level, separate and combined effects 1−53789
3C 120, Seyfert galaxy, brightness vars., 1967 to 1980, rel. to spectrum variability 1−49821
3C 129, radio galaxy, orbital dynamics rel. to near radio tail brightness struct. 1−9700
3C 273, quasar, absolute magnitude and dia. of underlying galaxy 1−49847
3C 382, broad-line radio galaxy, visual-IR flux vars. 1−40556
3C 390.3, N-galaxy, variability at X-ray optical and radio freqs. 1−13855
1865 Cerberus, photometry, light curve amplitude and rot. period 1−13723
clouds, layered, satellite brightness meas. rel. to optical depths and light scatt. coeffs. *(Russian)* 1−13569
clusters of galaxies, nearby, radio luminosity function at 102.5 MHz *(Russian)* 1−4988
Comet Bradfield (1980t), total visual magnitude estimates, (1981 January 24 to February 2) 1−44504
Comet Bradfield (1980t), visual magnitude estimates, (1981 January 14 to 20) 1−36221
Comet Bradfield (1980t), visual magnitude estimates during outburst, (1981 January 11 to 13) 1−32665
Comet Meier (1980q), total visual magnitude estimates, (1980 November 10 to 30) 1−17795
Comet Panther (1980u), total visual magnitude estimates, (1981 January 23 to February 13) 1−44500
Comet Panther (1980u), total visual magnitude estimates, (1981 February 17 to March 26) 1−54424
Comet Panther (1980u), visual magnitude estimates, (1981 January 8 and 9) 1−36220
cosmic microwave background, brightness fluctuations due to galaxies small-scale clustering 1−54665
Crab Nebula, polarisation and total brightness distrib. map at 23 GHz 1−9605
diffuse target with multiple glints, scattered irradiance, atm. turbulence statistical effects 1−1493
disk galaxies, masses and mass-luminosity ratios 1−13853

brightness continued
dwarf galaxies, stochastic self-propagating star form. model rel. to luminosities and UBV colours 1−44624
Earth, satellite-level radiances rel. to remote sensing of surface nonhomogeneity 1−44299
Earth surface, topographic effect on spectral response from nadir-pointing sensors 1−40228
electron source coherence and brightness, emission and energy broadening 1−37398
elliptical galaxies, isophotes twisting and flattening rel. to triaxial models 1−27612
elliptical galaxies, mass/luminosity (M/L) ratios 1−27601
ESO-141-G 55, Seyfert galaxy, UV brightness increase, 1980 June to October 1−32759
extragalactic objects, search for γ-radiation using likelihood method 1−44631
fabrics, dyed, brightness matrices of light scatt. layers 1−51372
fluorescent planar concentrator, generalised brightness theorem, thermodynamic limitations 1−31982
galaxies, diameter-luminosity relation for ellipticals and lenticulars *(French)* 1−9665
nearby galaxies, E and S0 types, radio luminosity function from 408 MHz obs. 1−36401
galaxies, evidence for cosmological colour and luminosity evolution from optical obs. 1−9680
galaxies, high redshift, predicted colours and magnitudes 1−9669
galaxies, isolated, radial vels., linear dimensions and absolute magnitudes 1−22888
galaxies, late-type, H II regions contrib. to thermal radio emission 1−22863
galaxies, luminosity evolution rel. to background light energy density 1−44674
galaxies, optical luminosities and contrib. to cosmic background radiation in optical range *(Polish)* 1−32776
galaxies active nuclei, X-ray and emission line luminosities rel. to inhomogeneous accretion onto massive black holes 1−44626
galaxies in clusters, brightest members magnitude difference rel. to dynamical time scales and galactic cannibalism 1−44651
galaxies in Coma cluster, luminosity functions of different types 1−49826
galaxies in rich clusters, luminosity segregation 1−22902
galaxies in X-ray clusters, radio and IR brightness spatial distrib. 1−36405
rich galaxy clusters, central concentration of bright and faint members *(German)* 1−13821
galaxy clusters, obs. of double struct. in X-ray brightness distrib. 1−54642
galaxy pairs, relative velocity, orbital mass-total luminosity ratio determ., visible obs. 1−49806
generalised radiance assoc. with radiation from a quasihomogeneous planar source 1−46214
brightest globular cluster assoc. with NGC 5128, absolute magnitude rel. to galaxy distance 1−40535
globular clusters in galaxies, luminosity function 1−36361
Iapetus, brightness temp. and bright side bond albedo from far IR photometry 1−44485
India and surrounding oceans, microwave brightness temp. pattern, satellite radiometer obs. 1−27166
interstellar dense molecular clouds, energetics rel. to radio and IR brightness distrib. *(Italian)* 1−9638
interstellar far UV radiation field, surface brightness depend. on Gould latit. 1−9604
Io, 5 μm outbursts, prod. by liquid S vapour explosions 1−4815
LANDSAT data transform. procedure for green and soil brightness indicators 1−4666
LEDs, brightness and luminance, influence of size and defocus 1−53791
Lo plasma torus, optical emission rel. to mass-loading and diffusion-loss rates 1−49563
luminance-brightness comparisons of separated circular stimuli 1−53788
M42, forbidden C II 157 μm (1910 GHz) emission line flux meas. 1−4956
M83, M101, spiral galaxies, implications of surface brightnesses for dust/gas ratio in outer regions 1−44629
M83, stellar populations and associations, age and brightness determ., UBV obs. 1−54610
Markarian 1055 (I Zw 8), narrow emission line galaxy, photometric variability detect. 1−32758
Markarian 10, struct. and brightness, halo search, IR, UV and visible obs. 1−54615
Markarian 279, Seyfert galaxy, UV brightness increase, 1980 June to October 1−32759
Markarian 509, galaxy, no UV brightness var., 1980 June to October 1−32759
meteor luminosity curve rel. to surface quasicontinuous particle ejection 1−49580
Milky Way, far IR luminosity function rel. to vars. in star form. rate and initial mass function 1−54618
multi-interface variable-index media, illuminance and caustic surfaces, theory 1−10908
multi-interface variable-index media, radial depend. singlet, illuminance and caustic surfaces 1−10909
multi-interface variable-index media with imbedded source, illuminance and caustic surfaces 1−10910
multicolour pyrometry, effective wavelength 1−5317
multimode graded-index fibres, near- and far field intensities, radiance and modal power distrib. 1−41839
NGC 2024, forbidden C II 157 μm (1910 GHz) emission line flux meas. 1−4956
NGC 2506, open cluster, membership and proper motions, luminosity function determ. 1−54560
NGC 3379, NGC 4472, elliptical galaxies, UV spectral energy distribs. from IUE obs. 1−54608
NGC 3379, photometric standard galaxy, shape parameters from isophotes 1−36386
NGC 4111, 4762, lenticular galaxies, brightness distribs. and struct. 1−9668
NGC 4151, Seyfert galaxy, luminosity profile and flat spectrum nucl. continuum radiation 1−54630
NGC 4565, edge on spiral, luminosity distrib., BV surface photometry 1−54631
NGC 5236(M83), SAB(s)c galaxy, mass-luminosity ratio anal. 1−22887
NGC 7027 planetary nebula, surface brightness in [S IV] 10.52 μm line 1−49752
OJ 287, BL Lacertae object, polarisation and photometric behavior during (1971-76) 1−36388
optical field, intensity correlation time 1−41573
optical system image plane illumination rel. to pupil imagery *(German)* 1−29220
Periodic Comet Borrelly (1980i), total visual magnitude estimates, (1981 March 6 to 18) 1−54425
Periodic Comet Borrelly (1981i), visual obs. of abnormal brightness (1981 January 25 to February 26) 1−44499
Periodic Comet Encke, brightness as function of heliocentric distance, model 1−27431
Periodic Comet Schwassmann-Wachmann 1, outburst obs. (1981 February 10) 1−40424
Periodic Comet Schwassmann-Wachmann 2 (1979k), total visual magnitudes and coma dias., (1981 January 25 and February 6) 1−44501
Periodic Comet Stephan-Oterma (1980g), total visual magnitude estimates, (1980 November 3 to 19) 1−17793
Periodic Comet Stephan-Oterma (1980g), total visual magnitude estimates (1980 November 28 to December 15) 1−32660
Periodic Comet Stephan-Oterma (1980g), total visual magnitudes and coma dias., (1981 January 6 and 9) 1−36219
Periodic Comet Stephan-Oterma (1980g), visual magnitudes and coma diameters, (1981 January 25 to February 10) 1−44506
Periodic Comet Tempel-2 (1978 V), spectrophotometric obs. of outburst 1−36224
Periodic Comet Tuttle (1980h), total visual magnitude estimates, (1980 December 15 to 27) 1−27430
Periodic Comet Tuttle (1980h), total visual magnitudes and coma diameters, (1980 November 2 to 13) 1−13737
Periodic Comet Tuttle (1980h), visual magnitude estimates and coma diameters (1980 November 17 to December 11) 1−27421
phase-space methods for partially coherent wavefields 1−41567
phosphors, for fluoresc. lamps, depreciative colour centre phenomena, review 1−48132
PKS 1921−29, quasar with possibly correlated radio and optical vars., optical obs. 1−9716
planets thermal radiation, emergent flux calc. using fast exact code compared with two-stream approximation 1−4762
Q0957+561, double quasar, components relative brightness reversal 1−9717
Q0957+561, double quasar, UV flux ratio vars. rel. to radio flux ratio and gravit. lens model 1−27631
Q 0957+561 A, B, double quasar, brightness and spectrum vars. obs. 1−36432
QSOs, redshift link with apparent magnitude *(Chinese)* 1−40574
QSOs, U−B and B−V colours rel. to presence of extended nebulosities 1−22919
quasars, brightness difference between QSOs with many and few absorpt. line systems from Hubble diagram 1−13882
quasars, faint, redshift and magnitude distrib. 1−9708
quasars, optical continuum and emission-line luminosities from multichannel spectrophotometry 1−49791
quasars, use of C IV 1549 Å flux as standard cosmic candle 1−13879
quasars, X-ray luminosity-redshift relationship 1−13881
quasi-stellar objects, optically selected, radio/optical luminosity ratios of variable components 1−44661
radio emission brightness temp. and polarisation variations with distance from sunspot axis *(Polish)* 1−49597
radio sources, extragalactic, flux variation components 1−44659
radiosources of 4C catalogue with δ between 20° and 40°, 2700 and 5000 MHz flux density meas. 1−49839
Saturn plasmasphere, extreme UV emissions brightness from Pioneer 11 obs. 1−40400
Saturn vicinity, Lyman-alpha brightness obs. with Copernicus satellite 1−44483
Sculptor system, dwarf elliptical, struct. from star count obs., isophote anal. 1−36387
Seyfert galaxies, IR luminosities and contrib. to cosmic background radiation in IR range *(Polish)* 1−32776
Seyfert galaxies, luminosity function 1−36398
Seyfert galaxies, space density as percentage of normal galaxies density, depend. on absolute magnitude 1−13861
Seyfert galaxies, X-ray luminosities correl. with optical and IR continuum luminosity 1−44623
slow positron beam, brightness enhancement 1−1473
snow field, microwave radiation 1−27218
soil, microwave brightness temps. meas. rel. to moisture content remote sensing 1−17627
solar active regions, radio sources brightness temps. from Very Large Array (VLA) obs. 1−4869
solar brightness, reduction by natural atmospheric filter rel. to seasonal var. of oriental sunspot sightings 1−9251
solar moustaches, size and brightness determ. from obs. of occultation by Moon *(Russian)* 1−17805
solar radio emission, fluctuations prod. by shock wave transit through transition region 1−4862
solar radio sources, brightness distrib. obs. at 2.0 and 4.5 cm during eclipse (1973 December 24) 1−9457
spiral galaxies, early-type, photometric props., fully corrected colours and standard magnitudes 1−9652
spiral galaxies, Sc type, steep luminosity-vel. relation 1−49814
spiral galaxies surface photometry, theoretical colour var. and surface brightness across spiral arms 1−54606
stellar disk, brightness distrib. rel. to source function 1−13764
Sun, chromosphere brightness fluctuations, large scale, anal., visible spectra obs. 1−36247
Sun, far IR brightness temp. min. var. with solar cycle, comparison with UV obs. 1−36238
Sun, mag. fields, vel. fields and brightness in central region of solar disc *(Russian)* 1−17806
Sun, quiet, 6 cm radio obs. of supergranulation network and limb brightening 1−4861
Sun, radio limb brightening at 2.8 and 6 cm from interferometric obs. during October 1977 eclipse 1−4863
Sun local radio source, components brightness temps. at 1.35 cm in integral and polarised radiation *(Russian)* 1−17809
supernova radio remnants, surface brightness and hot interstellar medium filling factor rel. to galactic supernova rate 1−4949

brightness continued
supernova remnant in NGC 4449, radio obs. of spectrum and time variability of flux density 1−54585
supernova remnants, optical radio brightness depend. on diameter, distance calibrators *(Russian)* 1−49781
supernovae remnants, radio brightness gradients rel. to galactic supernovae birthrate 1−54526
Titan, brightness temp. and effective temp. from far IR photometry 1−44485
Titan, radius and brightness temp. obs. at centimetre wavelengths by Very Large Array 1−44482
Titan, secular brightness changes rel. to solar variability 1−17785
transfer function of generalised radiance 1−41572
Vela X, plerionic supernova remnant, evolution of flux density and EM spectrum 1−17886
visibility meter, contrast reducing, using consensual pupillary response 1−9056
vision, deuteranopia, absence of the Ives effect 1−17394
visual perception, spatial brightness enhancement mechanisms, masking effects *(Japanese)* 1−22019
visual perception, spatial brightness enhancements, psychophysical analysis *(Japanese)* 1−22018
VUV radiance transfer standard based on Ar mini-arc with integral differential pumping unit 1−322
water droplet, backscattered radiance, elec. field effect 1−6457
zodiacal light brightness integral, three dimens., inversion, equivalence of expressions 1−22725
zodiacal light brightness used to determine interplanetary dust albedo 1−44493
zodiacal light brightness variations rel. to solar activity 1−44495
I Zw 77 and III Zw 92, Seyfert galaxies, luminosity emission line charcts. *(Russian)* 1−54635
H II regions ionisation fronts, depend. of emission props. on boundary conditions 1−32742
LaB_6 cathodes, single crystl., max. brightness *(Japanese)* 1−16651
ZnO:La, brightness waves of electroluminescence 1−52997
ZnS:Mn thin film electroluminescent devices, luminesc. props. and cryst. struct., effect of Cl 1−48168

Brillouin scattering *see Brillouin spectra*

Brillouin spectra
see also stimulated Brillouin scattering
acoustoelectric phonon domains, acoustic impulse generation by piezoelec. shock 1−16320
atactic polystyrene, Rayleigh-Brillouin light scatt. at high press. 1−12513
benzil, ferroelastic transition, Brillouin scatt. study 1−35065
biological materials, Brillouin scatt. and elastic props. 1−32180
carbon tetrachloride, liq., Brillouin scatt. at high press. 1−39110
carbon tetrachloride, low temp. liquids, Brillouin scatt., refractive index meas. 1−6266
carbon tetrachlorides, liquid, Brillouin lines in polarised light scatt., vibr. relax., intermol. forces, collision model appl. 1−21219
carbon tetrafluoride, low temp. liquids, Brillouin scatt., refractive index meas. 1−6266
chloroform, vibr.-translational relaxation, pulse-echo overlap, Bragg reflection, Brillouin scatt. 1−46083
chlorotrifluoromethane, low temp. liquids, Brillouin scatt., refractive index meas. 1−6266
dichlorofluoromethane, low temp. liquids, Brillouin scatt., refractive index meas. 1−6266
dichloromethane-benzene, vibr. relax., energy transfer effect, ultrasonic meas. 1−46084
m-dinitrobenzene, elastic consts., Brillouin scatt. meas. 1−48099
exciton polaritons, study by resonant light scatt. 1−52502
ferromagnetic thin film, light scatt. by spin wave excitations 1−43136
liquids, viscoelastic, depolarised Rayleigh-Brillouin scatt. of shear waves, mol. reorientation 1−21218
metal film, surface plasmon enhanced Brillouin scatt. 1−39173
metal rough surfaces, inelastic Mie scatt. 1−21203
monomode fibres, communication systems at long wavelength meas. *(German)* 1−19448
nonequilibrium steady states, fluctuations, Brillouin scatt. 1−50054
optical glass, Brillouin scatt. and US meas., attenuation, freq. depend. 1−3425
phonon propagation and reflection at hypersonic freq., Brillouin spectroscopy 1−20328
polyisobutylenes, liquid, Rayleigh-Brillouin scatt., viscosity 1−48100
polymers, Brillouin scatt., review 1−35064
rare earth molybdates, ferroelec.-ferroelastic, phase transform., soft modes, acoustic phonons, Raman and Brillouin scatt. study 1−8049
rigid interface, theoretical and expt. Brillouin scatt. studies 1−35066
salol, supercooled liquid, depolarised Rayleigh-Brillouin scatt. of shear waves, mol. reorientation 1−21218
silicate glasses, Brillouin scatt. and Pockels coeffs. 1−8083
single-mode optical fibres, acoustic sensitivity predictions using Brillouin scatt. 1−11092
stratifying solutions, hypersound absorpt. near critical point *(Russian)* 1−38470
tanane, ferroelastic and ferroelectic transition, neutron and Brillouin scatt. studies 1−21145
TGS, light scatt. spectra, central peak, crit. opalescence 1−26222
trichlorofluoromethane, low temp. liquids, Brillouin scatt., refractive index meas. 1−6266
trisarcosine calcium chloride, ferroelec.-ferroelastic phase transition, Raman and Brillouin scatt. study 1−8050
Al-coated transparent media, Brillouin scatt. from surface waves 1−12515
$AlPO_4$, berlinite, elastic const. near α=β transition, Brillouin scatt. 1−53224
$BaMnF_4$, Brillouin and Raman study of phonons, commensurate-incommensurate transform. 1−43109
$Ba_xSr_{1-x}Nb_2O_6$, mol. scatt. of light, elastic and photoelastic consts. 1−35067
$BaTiO_3$, hypersonic dispersion meas. by double-axis Brillouin scatt., dielec. function determ. 1−48104
CaF, undoped and YF_3 doped, transition to superionic state, impurity effect 1−38819
CdS, magneto-Brillouin scatt. of polaritons 1−39118
CdS, polariton spectroscopy, magneto Brillouin scatt. and thin prism refraction 1−47504
CdS, surface Brillouin scatt., resonant elasto-optic and ripple mechanisms 1−48096

Brillouin spectra continued
CuBr, exciton polariton, resonant Brillouin scatt. 1−52959
Fe, ferromagnetic, polycrystalline film, Brillouin scatt. from magnons 1−26225
GaS layer semiconductor, Brillouin and Raman scatt. 1−16577
GaSe layer semiconductor, Brillouin and Raman scatt. 1−16577
$Gd_3Ga_5O_{12}$:Er, garnet, molecular light scatt., photoelasticity 1−21221
GeO_2, glassy, as optical fibres, elastic, photoelastic consts., Brillouin scatt. meas. 1−33782
He, compressed gas, Rayleigh-Brillouin spectrum, rel. to generalised Enskog theory 1−2139
Hr, compressed gas, Rayleigh-Brillouin spectrum, rel. to generalised Enskog theory 1−2139
KD_2PO_4, Brillouin and Rayleigh scatt. spectra near ferroelec. transition 1−26221
KD_2PO_4, polarisation fluctuation relaxation time 1−48098
KH_2PO_4, piezoelec., nonequilibrium thermodynamics and quasielastic light scatt. 1−39115
KH_2PO_4, polarisation fluctuation relaxation time 1−48098
$KH_3(SeO_3)_2$, ferroelastic transition, elastic const. behaviour, Brillouin scatt. expt. under applied shear stress, optical cell construction 1−14131
K_2SeO_4, successive phase transitions, Brillouin scatt. 1−48097
NaCN, elastic anomaly, at 284K 1−25355
Ne, compressed gas, Rayleigh-Brillouin spectrum, rel. to generalised Enskog theory 1−2139
$Pb_3(PO_4)_2$ crystals, ferroelastic phase-transition, Raman and Mandel'shtam Brillouin scatt. spectra 1−12512
$Pb_3(P_{0.9}V_{0.1}O_4)_2$ crystal, ferroelastic phase-transition, Raman and Mandel'shtam Brillouin scatt. spectra 1−12512
$RbHSO_4$, Brillouin scatt. study of polarisation relaxation time 1−39112
Rb_2ZnCl_4, Brillouin shift near normal-incommensurate phase transition, scatt. angle depend. 1−52961
Sb_5O_7I, polytype 2MC, ferroelastic, elastic behaviour, US and Brillouin scatt. studies 1−11801
Si, amorphous, film, surface phonon attenuation, Brillouin scatt. meas. 1−30346
$SiCl_4$, liquid, Brillouin lines in polarised light scatt., vibr. relax., intermol. forces, collision model appl. 1−21219
SiO_2 glass, Brillouin scatt. and US meas., attenuation, freq. depend. 1−3425
SiO_2, vitreous, sound velocity and attenuation, Brillouin scatt. meas. 1−30346
$SnCl_4$, liquid, Brillouin lines in polarised light scatt., vibr. relax., intermol. forces, collision model appl. 1−21219
$SrCl_2$, undoped and Gd doped, transition to superionic state, impurity effect 1−38819
TiO_2, rutile, Raman and Brillouin scatt., elasto-optic const. 1−21220
YAG:Er, garnet, molecular light scatt., photoelasticity 1−21221
ZnS, Brillouin scatt. by injected acoustic domains 1−16576

Brillouin zones
see also band structure
alkali metals, anharmonic phonon freq. shifts and damping 1−7280
β-brass type phases, Fermi surface interaction with Brillouin zone faces and elastic props., pseudopot. method *(Russian)* 1−12016
cubic integrals, finite sum approx. 1−20602
ferromagnets, electronic-nuclear spin coupling, two magnon bound states 1−16434
graphite, band structure calc., cellular method 1−52480
graphite, lattice harmonics 1−52241
HCP lattice, optical dipole selection rules for Bloch states 1−21159
luminescing activated crystals, phonon spectroscopy, review 1−12553
metal with multiply degenerate bands, oscillatory mag. breakdown, model calc. 1−52468
monatomic FCC crystal, anharmonic contrib. to sp. ht. 1−30412
$P6_3/mmc$ space group cryst., struct. phase transitions 1−52100
quartz, α- and β-, interacting modes at M-point, dynamic struct. determ. by inelastic neutron scatt. 1−20325
semiconductors, band struct. information from EELS meas. 1−48201
semiconductors, electronic struct. and dielec. props., universal tight-binding calc. 1−42671
Be, electronic distribution, X-ray Compton scatt. 1−26300
Bi, mag. susceptibility, 90 to 540K, temp. depend. 1−25866
$Bi_{12}GeO_{20}$, Raman spectrum, optical phonon freqs., linear wave-vector depend. near Brillouin zone centre 1−39091
$C_{16}(NO_3H)$, Fermi surface and band struct. 1−47437
CS_2, lattice modes, neutron scatt. selection rules 1−47178
CdI_2, band struct. information from EELS meas. 1−48201
$Cd_{1-x}Mn_xTe$ mixed crystal, reflectivity spectra in vicinity of E_1 and $E_1+\Delta_1$ transitions 1−16582
Cr(100) with (1×1)-N struct., surface energy bands, XPS study 1−35148
Cu crystal faces, electroreflectance, polarisation and cryst. struct. effects 1−3370
Cu_2O, nonparabolicity of the Γ_7^+ valence band 1−16231
α-$Cu_{1-x}Zn_x$, Fermi surface props. 1−52469
Fe, BCC, oscillatory mag. breakdown, model calc. 1−52468
GaAs-AlAs superlattices, Raman scatt., phonon folding and anisotropy 1−52940
n-GaP, uniaxially deformed, IR absorpt. spectra 1−21207
GaSb, energy-band dispersions, crit. points, and spin-orbit splittings, angle-resolved photoemission 1−12629
$GaTe_xSe_{1-x}$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
$In_xGa_{1-x}Se$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
Ni (100), surface states and photoelectron spin polarisation 1−16660
Pd (100), electronic struct., work function 1−47726
Si, band struct. self-consistent calcs., Compton profiles, X-ray struct. factors 1−38711
Si, HF dielec. props., nearly free electron approx., two plasmon band model 1−38736
SnS, electronic band struct., pseudopotential calcs. 1−16229
TaS_2 (1T), band struct., angle-resolved photoemission study *(French)* 1−38700
$TiSe_2$(1T), lattice instability, electron lattice interaction, band struct. calc. 1−7517
V, metallic, charge asphericity, X-ray form factors calc. 1−25613

Brillouin zones continued
W (001) single valence band X-ray photoemission study, direct transitions, phonon effects 1−20617
$ZnS_{1-x}Se_x$ mixed crystals, zone-edge phonons, IR and Raman study 1−25387

bristles *see fibres*

brittle-ductile transitions *see ductile-brittle transition*

brittle fracture
see also ductile-brittle transition; notch brittleness
angle crack problem, max. stress criterion 1−47157
body with the three-dimensional defect, critical stresses *(Russian)* 1−11355
brittle rock, pseudostatic uniaxial compressive load, microfracture and failure 1−27157
ceramic composites, brittle, micromechanisms controlling fracture toughness 1−31607
ceramics, slow crack growth, influence of testing prodedure on determ. of charact. fracture parameters *(German)* 1−4010
composites, brittle, obs. on nature of micro-cracking 1−39427
Cottrell Petch criterion 1−38443
crack propagation, quasibrittle, stress relaxation kinetics 1−30312
criteria for failure in brittle solids under complex loading 1−35385
cryogenic metals, brittle fracture, notch testing 1−48471
cyclic life prediction, high temp., damage accumulation model 1−34412
deformable solids, microscopic theory, relation between ideal work to fracture and plastic work 1−7248
glass plates, tensile fracture, stress field near crack 1−35345
HCP metals, dislocation model for twinning and fracture 1−20209
hypothesis of generalised normal rupture, expt. verification 1−3928
kinetics of brittle failure, chem. bond rupture 1−2564
laser window material brittle failure criteria 1−29358
limit state criterion and strain gradient *(French)* 1−11354
limit velocity of fracture front and dynamic strength of brittle solids, review 1−24749
macroscopic brittle fracture, criterion under multiaxial stresses 1−41986
metals, brittle failure kinetics, failure prediction for static and cyclic loading 1−3925
metals, high temp. He embrittlement, model based on grain boundary cavity nucleation and growth 1−15949
metals, polycryst., creep and creep-fatigue, high temp., deform. and intergranular fracture 1−34416
microcrack propagation during brittle fracture, surface shape and indentor size influence 1−16874
microplastic strain, diffusion-dislocation mechanism 1−30299
particleboard, wood-adhesive composite material, cathodoluminescence SEM of fracture surface morphology 1−21684
piercing and fracture using pulsed water jets 1−35386
polybutene-1, spherulite deform., stress/strain behaviour rel. to spherulite size and crystallinity 1−21510
polycarbonate, fracture toughness, effect of stress cracking 1−48496
polydiacetylene lamellar crysts., deform., TEM and electron diffr. study 1−20301
polyethylene, high-density, crazing and shear lip formation in notched crack propag. 1−48510
polymers, criteria assessment for brittle fracture *(German)* 1−35358
polymers, rupture of tensioned chain, intermol. interaction effect 1−30309
probabilistic approach eval. 1−2560
quartz and quartz glass, gamma radiation-coloured, classification and fracture by laser beam 1−30278
rock fracture angles, fracture angles, in isotropic brittle rock 1−44172
size effect 1−43521
steel, alloy, high-strength, corrosion-mech. strength, electrolyte surface-active ions influence 1−53353
steel, austenitic low-tempered structural, heat treatment for increased fracture toughness 1−31506
steel, austenitic stainless, fatigue behavior, low cycle, effects of environment and hold times 1−39454
steel, austenitic stainless, orientation of fracture surffaces produced by stress corrosion cracking and H_2 embrittlement 1−16876
steel, austenitic stainless, props. and microstruct., TEM and SEM study 1−35394
steel, brittle fracture, controlled crack advancement, eval. of AE energy *(Italian)* 1−48638
steel, C, brittle fracture susceptibility using new fracture criteria 1−16888
steel, C, high-strength bolt, stress corrosion cracking, alloying with Cr, Si and V influence 1−53352
steel, Cr-Mo-V, rotor type, cyclic loading effect on apparent cleavage fracture toughness 1−48462
steel, critical fracture stress model for prediction of static and dynamic fracture toughness *(Czech)* 1−48484
steel, eutectoid, rail, fatigue crack propagation 1−31658
steel, fine structure, effect of retained Al in 12Kh1MF 1−16784
steel, fracture resistance of VNS-2USh with different amounts of diffusionally mobile H_2 1−16887
steel, HSLA sheet, flow and fracture after cold forming *(French)* 1−3769
steel, low alloy, sheet, determ. of crit. brittleness 1−12870
steel, low-alloy, structural, Se effect on struct. and props. 1−8430
steel, low-C, X-ray diffr. study of ductile and brittle fracture *(Japanese)* 1−3894
steel, mild, cleavage fracture, low temp., quantitative acoustic emission source charact. 1−39547
steel, mild, fracture toughness and Charpy impact transition temp. relationship 1−3901
steel, mild and maraging, torsion and tensile tests 1−3869
steel, Mn, ferritic, thermal processing for toughness at cryogenic temps. 1−16813
steel, Mn, wear resist. and strength-toughness, −196°C to room temp. *(Korean)* 1−12852
steel, Mn-Ni-Mo, heat affected zone, mech. props. after simulated heat treatment *(Czech)* 1−12768
steel, Ni (9%), struct., fracture, heat treatment and Mo addition effects 1−48388
steel, Ni-Cr, grain boundary strength, effect of Sb, Sn and P 1−53267
steel, Ni-Cr (4, 1.5 wt.%) type 18Kh2N4VA, tempered and quenched, impurity effect on intercrystalline fracture 1−31509
steel, Ni-Ti, maraging, notch toughness, effect of ageing *(Japanese)* 1−8420
steel, polyethylene forming equipment, surface struct., effect of forming conditions 1−16889
steel, Si, hot-rolled coil, welded joint fracture *(Chinese)* 1−53255

brittle fracture continued
steel, stainless, failure resistance, in rel. to degree of H absorpt. 1−35372
steel, stainless, sensitised, stress corrosion cracking in high temp. high press. water *(Chinese)* 1−39499
steel, structural BS 4360 50B, influence of stored energy on crack arrest 1−39415
steel 20Kh13, heat treatment, effect on microstruct. and hardness 1−43378
steel fibre reinforced Mg, fracture charact. using fractographic anal. 1−16881
stress corrosion crack propagation, interaction of strain rate and repassivation rate 1−48555
Al and alloys, fracture, brittle and viscous, EM emission 1−35382
Al-Mg-Si alloys, mech. props., effect of dispersoids and grain size 1−21590
Al-Zn-Mg (6,3 wt.%), liquid metal embrittlement, metallographic and fractographic studies 1−39408
B fibre reinforced Al and Mg, SEM obs. of fracture 1−31616
B fibre reinforced Mg, fracture charact, using fractographic anal. 1−16881
BeO-SiC composites, obs. on nature of micro-cracking 1−39427
electrolytic, intergranular fracture, low temp., quantitative acoustic emission source charact. 1−39547
Fe and alloys, fracture, brittle and viscous, EM emission 1−35382
Fe, Armco, fracture, liq. Pb effect 1−31613
Fe, cast, nodular graphite, brittle and ductile fracture surface, SEM obs. rel. to microstruct. 1−43527
Fe-Cr alloy, σ-phase, brittle fracture stress under high hydrostatic press. and high temp. 1−53295
Fe-Ni-Cr-Ti (30, 15, 2 wt.%), superalloy 1−43494
Fe-P, spontaneous microcrack nucleation at grain boundaries and brittle fracture *(Russian)* 1−26590
Mo alloys, plane stress condition, mech. props., low temp. study 1−31623
Mo, BCC single crystal, cleavage anal. 1−31626
Mo, brittle fracture anal. by SIMS *(Japanese)* 1−48476
NaBr, surface distortion on cleavages after dynamic impacts 1−34405
Na_2O-CaO glass, delayed failure in water environment 1−3892
Na_2O-CaO-SiO_2 glass, NiS inclusions, microcracking induced by volumetric expanding phase change 1−39428
Ni, S induced fracture mode transition at cathodic potentials 1−26620
Ni-base superalloy, oxide dispersion and precip. strengthened, creep and stress rupture behaviour 1−12809
Ni-Cr-Al-W-Mo-Ti-C-B, mech. props. depend. on deform. temp. and rate 1−35334
$Pd_{78}Cu_6Si_{16}$ amorphous alloy, ductile-brittle transition, in rel. to V-notch bending tests 1−21565
Sb_2Te_3 evaporated cleavage faces, surface decoration study 1−20227
Si (111) cleaved faces, non-equilibrium surface state props., surface photovoltage meas. 1−7669
p-Si (111) surfaces, cleavage steps, electronic and struct. props., work function meas. 1−7711
SiO_2, vitreous, fracture charact. from 20 to 1250°C 1−53293
Si(111) 2×1 cleaned surfaces, dangling-bond states, surface photovoltage and photocond. and LEED meas. 1−7668
Ti alloy, 679, thermal stability invest. *(Chinese)* 1−53254
Ti-Al-Zr-W, mech. props., effect of W addition, 0-10 wt.%. 1−16884
transition metal-H system, intrinsic embrittlement 1−21577
WC-Co hard alloy boring tool bits, fracture ductility 1−26623
$Y_3Al_5O_{12}$ crysts., cleavage during polishing 1−3959

brittle materials *see brittleness*

brittleness
see also brittle fracture; embrittlement; hydrogen embrittlement; liquid metal embrittlement; notch brittleness
ceramics, strength assessment, appl. of indentation fracture 1−43624
composite shells with round reinforced cut-out, cyclic loading by external hydraulic press. 1−11358
composites, brittle, obs. on nature of micro-cracking 1−39427
criteria for failure in brittle solids under complex loading 1−35385
delayed failure, of brittle materials, statistical approach 1−3892
designing with brittle materials 1−31665
epoxy resin, fibre reinforced epoxies, mechanical strength, effect of low temp. irradiation 1−31526
erosion of brittle materials by solid particle impact 1−26628
fatigue bending tests, calc. of stresses in wedge-shaped specimens 1−11363
fibre bundles, failure by stress corrosion 1−43558
fracture, scale effects, review 1−26582
Hugoniot elastic limits and compression parameters for brittle materials 1−38463
macroscopically brittle material, modelling of inelastic deform. induced by rigid indenter 1−34419
piercing and fracture using pulsed water jets 1−35386
polyimide, mechanical strength, effect of low temp. irradiation 1−31526
profilometry technique for measuring the yield strength of hard materials 1−31821
pyroceramics, microbrittleness determ. by luminesc. flaw detection 1−21663
statistical fracture anal., fundamental approaches in brittle solids 1−43524
steel, alloy, structural, temper brittleness, austenitisation temp. influence 1−3929
steel, C, structural, temper brittleness, austenitisation temp. influence 1−3929
steel, Cr-Ni-Mo-V, ferritic-pearlitic, radiation brittleness, additional alloying effect 1−3908
steel, low-alloy, 15GFD and 12KhGFD, cold resist., tempering effect 1−3909
steel, low-alloy, deoxidation method and irreversible temper brittleness 1−3926
steel, low-alloy, quenched and tempered, brittleness, P, V and Mo additions effect 1−3906
steel, martensitic, fracture toughness, effect of interstitial impurities 1−16883
steel, Mn, brittleness, effect of chem. comp. and struct. 1−48492
steel, Ni-Cr, temper embrittlement, calc. of transition temp. changes 1−16875
stress corrosion, dry, brittleness and delayed failure *(French)* 1−48543
supporting capacity, effect of uniform all-around compression 1−11357
Weibull's statistical theory, modified for brittle materials 1−8418
Weibull function, for strength of brittle materials *(German)* 1−43438

brittleness continued
Al-Mg-(Zn), fracture toughness, intermetallic inclusions influence 1−53289
BeO-SiC composites, obs. on nature of micro-cracking 1−39427
Cu-Fe EFTEC 4S alloy for electronic uses, mech. and chem. props. *(Japanese)* 1−26405
Fe-Si, brittleness, physical prerequisites for overcoming it 1−8406
Ni, intergranular S segregation, detection by high resolution S microprint 1−3747
SiC particle impact, on Na_2O-CaO glass, adiabating heating model 1−3831
α-Ti dilute alloys, nature of temper brittleness *(Russian)* 1−39416
W-Ni-Fe (90, 7, 3 wt.%), low-temp. brittleness 1−35380
Zn, textured sheets, brittle orthotropic material, mixed mode fracture 1−48461
Zr_3Al-based, fast neutron irrad., effect on props. 1−20271

broadcasting
see also radio broadcasting; television broadcasting
BSE satellite (Japanese Medium Scale Broadcasting Satellite for Experimental Purpose) mission 1−40303
digital sound signal meters with sequential data display using LEDs 1−33862
INSAT-I, Indian National Satellite System, telecommunications, broadcasting and meteorology appls. 1−36161

bromine
see also nuclei with .....
adsorbed on Au(100), UPS study 1−12639
adsorption on Au (100) reconstructed surface, LEED, thermal desorption, and work function meas. 1−7468
adsorption on Cu (001), angle-resolved photoemission study 1−48237
adsorption on W(100) surface, LEED, AES study 1−20569
atom, $^2P_{1/2}$←$^2P_{3/2}$ transition obs. by colour centre laser spectroscopy 1−28906
atom, integral Compton scatt. cross sections, for 279 keV γ-rays 1−1149
crystalline modifications prod. by vapour quenching, semicond. and metallic behaviour 1−43263
dimethylformamide-Br_2 soln., local etching of GaAs and InP 1−39484
geochemistry, upper mantle chem. composition 1−49240
graphite fibre-bromine intercalation compound electrodes for conc. cell *(Japanese)* 1−21866
graphite-Br_2 intercalation cpd., intervalence transitions and IR reflectivity 1−47584
graphite-Br_2 intercalation cpd., oxidation catalyst 1−48682
liquid, liq. vapour coexistence line, Widom's computer simulation 1−25404
molecule, anomalous Auger electron spectra, electron beam excitation 1−1193
molecule, electron impact, total ionisation and electron attachment cross sections, negative ion pair form 1−33570
molecule, quantum-selected photochemistry and energy transfer kinetics 1−28901
molecules, vibr. and rot., isotope effects, fluoresc. obs. 1−24184
stimulated Raman scattering of finely dispersed Br 1−6612
Br VII, spectrum, excited state energie and fine struct. 1−45891
Br^-, quadrupole antishielding factors, non-orthogonal Hartree-Fock perturbation theory 1−45831
$Br+HO_2(H_2O_2)$, reaction kinetics and constants, stratospheric composition 1−39593
Br_2 dissolved in Ar, quantum mol. degrees of freedom, vibr. spectrum, solvent-induced shifts, Monte Carlo method 1−28944
Br_2 in Ar medium, deactivation and dissoc., temp. depend., microscopic chemical process simulation 1−21708
Br_2-Cl_2-BrCl mixtures, chem. equilib., computer simulation 1−53403
Br_2-graphite compounds, EXAFS study 1−35119
Br_2-HBr-H_2O system, for thermochem. H_2 prod. 1−43818
$Br_2+Br_2(Ar),(He),(N_2),(Cl_2)$ collisions, energy transfer, laser excitation 1−24232
Br_2+F_2, chemiluminescent reactions studied by crossed mol. beam technique 1−39644
Br_2+He(Xe), dissociation and exchange reactions 1−35517
Br_2+K_2, mol. chemiluminesc. spectra obtained using beam-gas arrangement 1−8573
Br_2+Na_2, mol. chemiluminesc. spectra obtained using beam-gas arrangement 1−8573
Br_2+Xe, vibrationally thermalised emission, temp. depend., ab initio pot. curves, two-photon optical pumping 1−6344
Br_3^-, linear solvation energy relationships, free energies of form., solvent effects *(French)* 1−48717
^{77}Br, production from ^{77}Se(p,n) and ^{78}Se(p,2n) reactions, nuclear medicine appl. 1−4366
Br^*+H_2, reactive pathways and inelastic energy transfer channels, laser investig. 1−33538
$H+Br_2$, rate const. and vibr. energy disposal 1−39609

bromine compounds
graphite-Br compounds, thermal gravimetric anal. of desorption 1−8614
halogen compounds, spin-orbit splittings of ionisation pot., MOC, INDO and CNDO calc. 1−51126
stratosphere composition, new collection system for total Cl and Br content 1−36031
BrCN, trapped cations, laser induced fluoresc. spectra, vibr. and spin-orbit splitting, Fermi reson. 1−46009
$BrCN+N_2$, reactions, spectra study in N_2 pink afterglow by photometry 1−17046
$BrCN+Xe(^1P_{20})\rightarrow Xe(^1S_0)+Br+CN(B^2\Sigma^+)$, chemiluminescent reaction, crossed molecular beam study 1−6296
BrCl-Br_2-Cl_2, mixtures, chem. equilib., computer simulation 1−53403
BrF, TEA laser based on D'—A' transition 1−19323
BrF_4O^-, anion, mol. consts., modified Urey-Bradley force field calcs. 1−41359
$BrKr^+$, heat of formation from endothermic reactions, using tandem mass spectrometer 1−43691
BrO_3^-, electronic struct., SCF-Xalpha study 1−6161
$C_{23}H_{37}O_7Br$, heavy atom arrangement, four-fold ambiguity elimination *(Chinese)* 1−25242

Brownian motion
see also colloids
2-dimensional, model expt. using microcomputer 1−27702
aerosol particles, electrically charged, capture efficiency by ice cryst. plates 1−32499
aerosols, convective deposition rel. to Knudsen number 1−2070
atmosphere, aerosol particles size distrib. for Brownian diffusive process of coagulation *(Russian)* 1−9208
black hole in globular cluster, reinvestigation of standard dynamical model 1−49707
Brownian motion in magnetic field, semi-quantum stochastic process model 1−32920
Brownian particle, mutual diffusion coeff., friction factor, nonhydrodynamic interactions contrib. 1−52323
Brownian particle, translational motion, Stokes-Einstein behaviour, friction coeff. 1−50049
charged Brownian particle stochastic dynamics in Coulomb field 1−33608
colloidal suspensions, Brownian dynamics model 1−6886
deep inelastic reactions, Brownian motion analogy 1−50637
DNA internal rotation model, EPR in slow motion region 1−24299
drift Brownian motion, Bessel functions *(French)* 1−32909
Duffing oscillator, Brownian motion, time correl. functions, spectral distribs. 1−27878
elastic collisions, 1-D system of particles, joint distrib. of trajectories in diffusion limit 1−9931
Feinman-Katz formula and Wiener processes *(Japanese)* 1−50057
ferrofluid flow, study of constant magnetisation *(French)* 1−7885
fine-particles, antiferromagnetic, stochastic props., susceptibility *(Russian)* 1−30990
fractional Brownian motion, eigenfunction expansion 1−50050
harmonic system, Brownian motion, moment instability and parametric reson. 1−14069
harmonically bound particle, Brownian motion 1−40712
ideal gas simulator, Brownian motion in small time intervals, teaching 1−9797
inert gas fluids, depolarised light scatt. spectral anal. 1−16575
infinite dimensional Brownian motion, functional anal. of Dirichlet problem 1−18156
infinite dimensional Brownian motion, functional anal. of Dirichlet problem 1−18157
inhomogeneous media and interacting particles, Brownian motion 1−32919
Lie group, simply connected, nilpotent, speed and symptotic behaviour of Brownian motion *(French)* 1−33125
local-mode approximations in the Frenkel-Kontorova or sine-Gordon chain 1−5249
many-body systems, Brownian dynamics 1−21793
Markov process, quasi-, stochastic Liouville eqn. soln. 1−5233
Markov processes, quasi-, symmetry with respect to time reversal 1−23112
matrix continued fraction solutions of the Kramers equation and their inverse friction expansions 1−27883
mechanical model of Brownian motion 1−40710
mechanical oscillator, Brownian motion, first and second order statistics 1−178
microscopic parparation and macroscopic motion of Brownian particle 1−9935
molecular rotation and orientation, Brownian motion, inertial effects and dipole coupling 1−12452
nematic liquid crystals, orientation relaxation, strong induced dipole interaction with external field 1−14071
nonspherical Brownian particles, kinetic description, appl. to flow birefringence 1−50051
percolation theory and its ramifications 1−18162
plasma, Brownian particle, velocity autocorrelation function in long-time limit 1−51913
polyethylene, amorphous solitons, defect diffusion and dielect. relax. 1−16521
polystyrene-chloranil films, doped and undoped, dielec. permittivity and loss meas. 1−3317
relaxation times in aq. LiI solutions, Brownian motions, electrostatic model, NMR obs. 1−19116
resonant stochastic system, probability characts. 1−44842
rotational and translational Brownian motion, probability theory, review 1−29
rotational Brownian motion, Fokker-Planck-Langevin model 1−175
rotational Brownian motion, Fokker-Planck-Lengevin model, rel. to spectral band shapes 1−176
Rubin's model, Fokker-Planck like eqns. for Brownian particles 1−32912
solitons, transition state and Brownian motion theory 1−14025
spectral densities of spherical harmonics for rotational Brownian motion 1−180
spherical particles in H_2O, particle size and viscosity of liq. meas. 1−53484
stochastic derivation of Sivashinsky equation for self-turbulent motion of free particle 1−18152
Stokes' law, microscopic origin 1−38217
suspension, dil., of triaxial ellipsoids, with dominant Brownian motion, viscosity increment 1−39693
uniaxial liquid crystals, photoselection, rot. Brownian motion effect on orientational distrib. function 1−8115
uniaxial liquid crystals, photoselection, rot. Brownian motion effect on orientational distrib. function 1−8116
^{2}D, relaxation times in aq. LiI solutions, Brownian motions, electrostatic model, NMR obs. 1−19116
He gas bubbles in V, Brownian motion, direct evidence 1−11910
^{7}Li, relaxation times in aq. LiI solutions, Brownian motions, electrostatic model, NMR obs. 1−19116
V_2O_5, amorphous, splat cooled, V^{4+} Brownian motion after water vapour adsorption, ESR study 1−38975

Brownian movement *see Brownian motion*

brush discharges *see brushes; discharges (electric)*

brushes
DC motors position drive regulators optimised setting for arcing under brushes minimisation *(Russian)* 1−34137

brushgear *see brushes*

bubble chambers
BEBC, Internal Picket Fence as timing device 1−14749
bubble formation mechanism study 1−23948
densely scanning CRT, quantised gap length meas. and finite spotsize model 1−6104
display program for bubble chamber events *(Italian)* 1−6103
holographic photography of bubble chamber tracks: a feasibility test 1−45784

bubble chambers continued
spatial tracking computer simulation 1−51036
superconducting magnet for European hybrid spectrometer rapid cycling bubble chamber 1−51010
bubble nuclei *see nuclear density*
bubble point *see boiling point*
bubble points *see bubbles*
bubbles
see also foams
adhesion of polyethylene to metals, interface bubbles effect 1−17020
air bubbles adhering to inside wall of tube with supersaturated liquid flowing past, mass transfer 1−37993
air bubbles in water, scatt. near crit. angle, interf. effects 1−51363
air bubbles in water, thermocapillary drift 1−19780
boiling, dynamic effects 1−11290
cavitation bubblds in acoustic fields, non-spherical, nonlinear oscillations 1−29741
cavitation bubble dynamics and pressure pulses produced by their collapse, connection *(French)* 1−46791
chain in fluid stream, diffusion effects 1−46800
channel, internally heated annular, in parallel flow, saturated convective boiling, critical heat flux 1−19710
collapse of bubbles in compressible hydraulic oils 1−15303
convergent-divergent nozzles, subsonic and supersonic bubble flows, small amp. pressure wave 1−19783
cryogenic liquid, forced convection heat transfer, bubble form. 1−15479
deformation of a bubble or drop in a uniform flow 1−37996
diameter measured on detachment into flowing liquids 1−37994
distortion in straining flow in two dimens. 1−2068
emission at nucleation site, interaction nature 1−37925
falling bubbles, accel. of gravity demonstration 1−9814
fission gas observed in irrad. UO_2 doped with MgO 1−20259
gas bubble behaviour during water electrolysis 1−43677
gas bubbles in compressible viscous liqs., nonlinear oscill. 1−15534
gas bubbles in cylindrical vessel with two-layered fluid, vibratory motion *(Ukrainian)* 1−15533
gas bubbles in liqs., size and position determ. by hologram reconstruction digital 3D processing 1−10938
gas fluidised beds, prediction of bubble diameter using two-phase theory 1−29766
gas hold-up in bubble columns 1−11443
gas-liquid slug flow in vertical tubes, bubble frequency 1−33999
glass, molten, bubbles, math. modelling *(Czech)* 1−38543
glass clarification bubble formation, movement and termination *(Czech)* 1−43309
glass melt, bubble size control by diffusion 1−2666
glass melts, bubble form. in convective currents 1−15481
gravitational bubbles, quantum gravity, foamlike structure of space-time, particle propagation 1−5209
growth in viscous Newtonian liquid, appl. to polymer foam formation 1−33998
hydrodynamic cavitation bubble collapse, statistical anal. 1−11433
ice VI, high-pressure, liq. figures due to internal melting 1−20361
immiscible gravity driven bubble, closed periodic condensation-evaporation cycle 1−19701
inclusions in solids, interactions with stresses, review 1−11917
initial motion prediction, gas bubble in liquids 1−51845
large two-phase bubbles, expansion, collapse expts. 1−36990
liquid, with gas bubbles, small perturbation propag., heat and mass transfer effect 1−2062
liquid containing gas bubbles and subject to bulk viscosity, wave propag. 1−33968
liquid with bubbles, acoustic phase echo 1−41903
lung, clinical US examination, contrast clearance investigation, microbubble dynamics obs. 1−8937
metal blistering by He implantation, gas press. and lateral stress effects 1−25318
metals, He ion bombardment, blister lid thickness and blister formation, interbubble fracture model 1−25337
methane in steel after H_2 exposure, direct obs. using TEM 1−43496
microbubble growth rate in turbulent submerged water jet 1−15537
multibubble systems, gas diffusion, bubble growth and shrinkage 1−29755
multicomponent gas bubbles, in glass melt, dissoln. 1−25435
nonlinear oscillations of bubbles in compressible hydraulic oils 1−15302
optical Fourier transformation method for small object size distrib. meas. 1−15087
oscillations, free, initial value problem 1−2066
oscillations, one-dimensional nonstationary motions of a liquid with plane, cylindrical and spherical symmetry 1−51785
pore formation in active metal welds, gas bubble growth *(Russian)* 1−48645
pressure distribution in bubbly flow through venturis 1−51854
resonance theory of bubbly liquids 1−46605
rising, hydrodynamics, review 1−51847
shock wave-induced bubble motion 1−29762
single two-component bubble, absorption into liquid *(German)* 1−24871
sitalls, SiO_2-Al_2O_3-Li_2O-TiO_2, bend strength, effect of bubbles and cavities 1−31561
small bubble formation by using strong nonuniform electric field 1−24867
spherical, interaction with particle at low Stokes numbers 1−37991
spherical and cylindrical bubble acoustic interaction on plane ribbons 1−37982
spherical gas bubble, cavitation dynamics 1−51844
spherical gas bubble oscillations in compressible fluid *(German)* 1−38003
stainless steel, He^+ and D^+ implantation, microstruct. modifications and surface blistering 1−25338
steel, austenitic type 316, B content and distrib. effects on He bubble populations and stress-rupture props. 1−26595
surface tension measurement by drop volume and max. bubble press. methods, diffusion-controlled adsorption kinetics soln. 1−38623
symmetric transonic aerofoil anal., finite element method, upwinding technique 1−11422
thermomechanical theory, application 1−6905
transparent liquids containing absorbing particles, refr. index, laser radiation effect 1−1610
two-phase bubble flow, momentum and heat transfer 1−51852
two-phase bubble flow, momentum and heat transfer 1−51853
two-phase bubbly flow, streamwise velocity fluctuation *(French)* 1−29754
ultrasonic scattering in liquid-gas bubble medium *(French)* 1−24575
unconfined bubble plumes from extended sources, general model 1−19781
bubbles continued
upward gas-liquid flow, local characteristics in bubble and slug flow regimes 1−29761
Vander Lugt filter optimisation in industrial and scientific research metrology 1−15100
viscous liquid, in-line interaction of pair of bubbles 1−51846
volatile liquid, statistical thermodynamics of formation of new phase during boiling up 1−36597
walls in vertical bubbly flow, transverse bubble migration 1−19784
water-steel Berthelot tube max. tension estimates and thermodynamic analysis 1−6895
X-ray cryostat, variable temp., using steady state vapour bubble principle 1−44925
Ag thin film bicrystals, gas bubbles generated by thermal aging, TEM study 1−38692
Al, melts, static, degassing by insoluble purge gases 1−12993
Al_2O_3, corundum bubble formation in growing crystals 1−15824
Au, sputtered, Kr bubble form. and growth 1−12004
$CaSO_4.2H_2O$ nucleation and growth on type 304 stainless steel surfaces, effect of surface roughness 1−2366
Cu surface, He^+ and H^+ irrad., gas bubble superlattice and surface struct. 1−25333
He bubble density in Al films, optical far VUV spectroscopy 1−23314
He, bubble growth in BC, irradiation temp. effect, TEM obs. 1−2526
He, clusters of 2 to 100 He atoms, nucleation in W, thermal desorption spectrometry 1−2809
He gas bubbles in V, Brownian motion, direct evidence 1−11910
Hz, subcooled, boiling heat transfer and vapor bubble dynamics 1−47215
KI, reactor-induced bubble form. 1−2527
N_2, liq., laser radiation enegy-depend. losses due to scatt. on gas bubbles 1−41768
N_2, liquid, bubble formation under transient heating 1−52272
N_2-Ar mixture, liquid, bubble growth rate during boiling 1−34467
Na_2O-CaO-SiO_2 glassmelt, dissolution of stationary bubble containing diffusing and nondiffusing gas 1−2635
Ne, solid, formation process of self-trapped exciton bubbles, optical absorption spectrum 1−7529
Ni, He^+ and D^+ implantation, microstruct. modifications and surface blistering 1−25338
Ti surface, He^+ and H^+ irrad., gas bubble superlattice and surface struct. 1−25333
V-H alloys, H bubbles formation by pulse heating 1−26512

buckling
arch, one hinged circular elastic, initial postbifurcation behaviour 1−19596
beamlike lattice trusses, stability 1−41964
beamlike lattices, repetitive, with rigid joints, vibration and buckling anal. 1−11328
beams, curved, shear deformation, dynamic large-displacement analysis 1−1825
composite materials, elastic, with inextensible rigid fibres, wave propag. and buckling *(Japanese)* 1−34417
creep buckling time in structures under varying loads 1−29588
cylinders, with widely spaced stiffeners, elastic buckling, critical mode effect 1−6804
elastic bars, destablising effect of additional restraint, critical load factor 1−11330
elastic buckling load enhanced by increased length 1−33920
elastic columns, critical load determ. using nondestructive dynamic method 1−33937
elastic conservative shell buckling 1−1853
elastic-plastic bodies, Bifurcation and imperfection-sensitifity at necking instabilities 1−1854
elastic-plastic model, dynamic buckling 1−1851
FBR, above-core structs., buckling, finite-element program 1−33317
frames with substructuring, optimal design, stress anal. and buckling 1−37818
hydraulic pressure buckling in plastic coated optical fibres 1−1699
metal blistering by He implantation, gas press. and lateral stress effects 1−25318
MFTF superconducting yin-yang magnets for fusion, elastic buckling 1−45725
multigroup eigenvalue problems, plane asymmetric cell lattices with superimposed small buckling 1−5832
multispan nonuniform beams, shafts and frames, elastic stability and buckling loads 1−41962
non-linear bifurcation analysis of non-gradient systems 1−24710
nonlinear mechanics, computational method, conf. Austin, TX, USA (Mar. 1979) 1−22950
nonlinear pattern selection in elasticity 1−29553
nonlinearly elastic circular arches, buckled states, global qualitative behaviour 1−29582
plate, elliptical, elastically restrained, buckling under uniform compression 1−24709
plate, stiffened, stability anal., limit element method, variational principle *(Chinese)* 1−1850
plates, annular, under uniform in-plane tensile forces along inner edge, flexural vibrs. and elastic stability 1−24724
plates, antisymmetric cross- and angle-ply laminated, buckling response 1−33919
plates, elastic, clamped and thrusted, large deflections, variational principle with penalty 1−11359
plates, linear buckling anal., mixed finite element scheme 1−24714
plates, twisted, buckling loads *(German)* 1−11331
railroad tracks, thermal buckling 1−11329
rectangular plates under in-plane hydrostatic loading 1−6820
ring stiffened cylinders, effect of cold bending and welding 1−41963
rod, viscoelastic, stability and buckling *(Russian)* 1−6796
sheet with skeleton frame, limit load *(Russian)* 1−15427
shells, clamped circular cylindrical, under torsion, buckling and postbuckling behaviour, perturbation anal. 1−6806
shells, conical, cylindrical, buckling, postbuckling behaviour, bending 1−6801
shells, cylindrical, failure of axially compressed frangible joints 1−41982
shells, cylindrical, interaction of experiments with theory 1−6798
shells, imperfect ribbed cylindrical, stability and buckling 1−24712
shells, orthotropic cylindrical composite, vibrs., including transverse shear deform. 1−6807
shells, rectangular, dynamic buckling under finite deflections 1−19601

buckling continued
shells, shallow viscoelastic, stability, post-buckling behaviour and imperfection sensitivity 1−6799
shells, stiffened cylindrical, with natural frequency constraints, optimum design 1−37819
shells, theory conf., Tbilisi, USSR (Aug. 78) 1−5029
shells, thin, ellipsoidal, torispherical, Al and steel, failure 1−6802
shells, thin cylindrical with random imperfections, buckling 1−6803
shells, thin elastic, buckling, simplified physical approach 1−6800
shells, thin walled circular cylindrical, buckling under transient axial loading, model tests, differential eqn. anal. 1−1849
skew plates, anal. by modified Rayleigh-Ritz method 1−41974
spherical caps with initial imperfections, elastoplastic nonlinear dynamic buckling 1−41961
steel, cylindrical shells without blankholding, calc. method for determ. limit of flange wrinkling in deep-drawing 1−21519
stiffener plates, torsionally buckled, post-critical anal. 1−19597
thermally stresses plates, vibration and local instability 1−51711
thick spherical shells, buckling under normal pressure 1−33921
thin plates buckled in shear, compressive stiffness 1−41965
β-Al bronze, single crysts., input and hysteresis energies vs. temp. 1−48444
C fibre reinforced epoxide, failure under superposed press. in three-point bending 1−35339
C fibre reinforced Ni, uniaxially aligned composite, tensile and compressive strengths under high press. 1−35338
Si (111) surface, laser annealed, buckling reconstruction, photoemission, low energy electron diffr. 1−48200
bulk density *see density*
bulk diffusion *see diffusion in solids*
bundling *see packaging*
burning *see combustion*
burnout *see combustion*
burst noise *see random noise*
bus conductors (electric) *see busbars*
busbars
high-power DC convertor systems for JET 1−34122
power transformer, electrodynamic forces acting on current-carrying circuit in vicinity of ferromagnetic cylinder *(Russian)* 1−33596
business *see commerce*
BWT *see backward-wave tubes*
C invariance
cosmological models with time arrow reversal *(Russian)* 1−9752
extended particle model of hadrons 1−5574
$^{71}Ga \rightarrow {}^{71}Ge + \gamma$ decay, electric charge conservation study *(Russian)* 1−671
cable insulation
see also insulating oils
110 kV VPE insulation for cables, content and distribution of dicumylperoxide decomposition products determ. using IR spectroscopic method *(German)* 1−17121
HV, polyethylene water treeing mechanisms obs. 1−21604
HVAC/DC hybrid transmission line corona and electric field effects 1−38165
polyethylene, cross-linked, water treeing obs. by IR Fourier transform spectroscopy 1−21654
SF_6 gas insulated 500 kV cables, test results 1−15713
SF_6 insulated coaxial conductor system under HVDC, motion of small metallic particles, anal. *(Italian)* 1−6919
cable jointing
monomode fibre-optic cable design and manufacture *(German)* 1−37619
optical fibres, T-couplers for data transmission *(German)* 1−19473
optical waveguide and cable accessories joining technique *(German)* 1−19480
cable sheathing
optical fibres, T-couplers for data transmission *(German)* 1−19473
optical waveguides, manufacture and props. of cables *(German)* 1−19432
power cables, SF_6 compressed gas-insulated, Al alloy sheaths corrosion protection and protective coatings *(French)* 1−31714
cable sheaths *see cable sheathing*
cable television
optical T-coupler for data transmission *(German)* 1−19473
cables (electric)
see also coaxial cables; power cables; submarine cables; superconducting cables; telecommunication cables; underground cables
EM pulse response of insulated cables lying on ground, corona effects 1−34142
Pb-Sb-Te-Cu coating for Pb cables, thickness reduction, mech. props. 1−31563
cableways, electric *see electric conduits*
CAD
see also circuit layout CAD; computer-aided analysis; control system CAD; interactive systems; power system CAD
alkali ion source, CAD 1−14209
fast large-field mirror systems for spectroscopy and space research, computerised design 1−24469
flow pattern prediction program by finite elements method, development *(Japanese)* 1−6867
geometrical optics and lens design teaching 1−44744
lens automatic design with pseudo-second-derivative matrix 1−33784
lens design, Conf., Oakland, CA, USA (May-June 1980) 1−44707
lens design, orthogonal circular polynomials as aberration coeffs. 1−46512
lens design computer program, status of synthesis of optical systems SYNOPSYS 1−46500
lens design optimisation, Zernike polynomial lens sensitivity program ZEST appl. 1−46514
lens design program, block-structured least-square problem soln. 1−46515
lens design using optical aberration coeffs. 1−46516
lens design with Glatzel's adaptive method 1−46511
lens system, CODE V optimisation developments 1−46501
lens system optimisation program 1−46510
materials selection and design, using computer 1−23196
optical design, distributed computing 1−46499
optical design programs, minicomputer appls. 1−46506
optical design programs at Imperial College 1−46502
optical design using small dedicated computers 1−46504
optical design with dedicated minicomputers 1−46505
optical design with desk-top computers 1−46503
optical design with microcomputers, speed of operation 1−46507
CAD continued
optical design with TRS-80 microcomputer 1−46508
optical perturbed system, graphic approach to analysis 1−46518
optical program SOAP for Commodore PET computer 1−46509
optical system tolerance evaluation using nonstatistical method 1−51591
permanent magnet optimum design *(Russian)* 1−14143
sample problem, comparative study of lens design programs and users 1−51588
SAW device, CAD program for anal. of structure *(Italian)* 1−41934
small-scale design optimization using an interactive minicomputer, nuclear reactor appl. 1−18733
solar collectors, raytracing and tolerancing using computational techniques 1−46520
Na-S battery using various advanced cell concepts, volume optimisation 1−53582
cadmium
see also nuclei with .....
adsorption, multiple-site, on amorphous $Fe_2O_3.H_2O$ 1−39677
adsorption on amorphous C substrate, atomic motion and distrib., STEM obs. 1−25566
aerosol precipitates, crystallography 1−31448
atom, 4d-state photoionisation, branching ratios, Dirac-Fock and Dirac-Slater calcs. 1−45917
atom, autoionization levels, electron-impact excitation near threshold 1−33563
atom, electron impact ionisation efficiency curves determ. 1−24263
atoms, asymmetry parameter, photoelectron angular distrib. 1−45916
basal dislocation generation, glide and locking during microplastic deform., X-ray topography 1−12832
concentration in Kitakyushu district, Japan (1976-7) aquatic environment 1−17636
creep, in temp. range 1.5 to 393K, of single crysts. 1−43412
creep, low temp., quantum effects 1−15947
creep, low-temp., strain valve depend. 1−43407
crsytalline metals Hall effect 1−32828
determination in seawater, by graphite furnace AAS, using organic matrix modifiers 1−21796
diffusion in InAs of Zn and Cd simultaneously 1−47297
diffusion in $Pb_{1-x}Sn_xTe$ solid soln. 1−30449
diffusion of Pb, tracer-sectioning method meas. 1−47300
electron irradiated, defects study by X-ray scatt., lattice parameter and elec. resist. meas. *(German)* 1−7210
film, Hall effect 1−47615
film, skin effect under symm. RF excitation *(Russian)* 1−47694
geochemistry of crustal rocks, Cd, Bi, Tl, Pb, Zn Rb contents 1−40095
HCP, anisotropic resist. under press. 1−25696
human kidney cortex, in vivo Cd meas. by X-ray fluoresc. anal. 1−43960
human organ Cd level meas. system, portable, using neutron activation anal. 1−8976
Lβ satellite origin 1−14841
laser irradiated, effect of thermophysical props. on evaporation conditions 1−21296
liquid, US speed, compressibility and struct. factor 1−46986
nuclear spin-doppleron interaction at NMR freq., theory 1−26050
Palestine Lake, Indiana, heavy metal contaminated lake, Cd and Zn aquatic chemistry 1−13193
phonon spectrum of 80K, inelastic neutron scatt. 1−42487
plastic deform., depend. on work hardening rate 1−43410
plastic deform. anomalies at low temp. 1−12831
plating, cyan-free electrolytes *(Bulgarian)* 1−53430
positron zero-point motion, phonon spectra 1−43207
reactor burnable absorber materials, analytical comparison of B and Cd 1−50770
relation between dissociation enthalpy and heat of vaporisation 1−52270
RF size effect meas. of electron scatt. freq. 1−16216
single crystals, deformation, strain rate effect 1−43409
thermal expansion, X-ray determ. 1−38564
TMMC:Cd, nonmagnetic impurity effect on low-temp. susceptibility 1−7828
vapour, hollow-cathode pulsed ionic laser, visible emission parameters 1−6545
vapour cloud, above open atomiser, expansion process obs. 1−11492
AgBr:Cd^{2+}, thermal expansion coeff. associated with impurities and vacancies 1−25471
AgBr:Cd^{2+} crystal growth, restraining effect of Adenin *(German)* 1−17078
AgCl:Cd^{2+}, ionic cond. and defect parameters 1−30452
AgCl:Cd^{2+}, point defect cluster calcs. and elec. cond. 1−11784
β-Al_2O_3-CdO, fast divalent ion conduction 1−30461
Cd I, excited triplet states, radiative lifetimes investig. 1−6208
Cd II, ^2P and ^2D states, radiative lifetimes, delayed coincidence meas. 1−1177
Cd II, sequestriation on polyacrylamidoxime resin for determ. in natural waters 1−53490
Cd III, UV spectra and ionisation pot. 1−1158
Cd II+He(2^1S), Penning excitation cross sections determ. 1−41483
Cd, many-body interactions in lattice dynamics, phonon dispersion curves 1−42484
Cd^+ excited states in vacuum arc plasma, population inversion, spectroscopic meas. 1−42205
$^{107,109}Cd$, prod. by proton bombardment on Ag targets for use in metallobiochemistry of heavy metal pollution 1−21754
Cd+acetylene (ethylene)(propene)(cis-2-butene), absolute cross sections for quenching 1−19049
$Cd + H_2O + CO_2 \rightarrow CdCO_3 + H_2$ cycle, H_2 prod. using solar heat for reaction 1−48917
$Cd + NO_2$ matrix reaction, $Cd^+NO_2^-$ IR spectra 1−1220
He-Cd hollow-cathode lasers, output pulse optimal repetition freqs. 1−51460
He-Cd laser, crossing signals in zero mag. field, strong EM field effect 1−33433
He-Cd panchromatic hollow cathode laser emitting at 12 wavelengths 1−51507
He-Cd transverse RF discharge laser, excitation conditions optimisation 1−33668
He-Cd^+ laser with RF transverse pumping, laser transitions 1−29267
He-Cd^+ white light laser, const. current characts. 1−24403
He-Cd^+ white light laser using novel tube struct. 1−46370
InAs, diffusion of Zn and Cd simultaneously 1−47297
InP:Cd, ion implanted, elec. charact., implant temp. effect 1−7196

cadmium continued
$KAl(SO_4)_2.12H_2O:Cd^{2+}$, short lived transient absorpt. spectra 1−52977
KCl:Cd^+, g-factor sign shift 1−30683
KCl:Cd^{2+}, X-ray irrad., complex interstitial halogen H_3-type defect, ESR study 1−47946
NaCl:Cd^{2+}, morphology and precipitate phases, TEM study 1−2640
NaCl:Cd^{2+}, Suzuki precipitates, TEM obs. and ionic cond. meas. 1−2639
Ni-Cd sealed cells, electrode temp. behaviour with an excess of electrolyte 1−53574
$Pb_{0.76}Sn_{0.24}Te$:Cd, low temp. photosensitivity 1−20814
$Sb_{1-x}In_x$:Cd, conc. and temp. depend. of elec. qudrupole interaction for ^{111}Cd, TDPAC study 1−3310
Te-Se-Cd rectifying struct., deep carrier traps 1−7635

cadmium alloys
see also cadmium compounds
binary subsititutional solns., thermodynamics 1−7355
Ag-Cd, electron energy band struct., KKR-Ziman method 1−7515
Ag-Cd-Sn alloys, internal oxidation kinetics *(Japanese)* 1−25509
Ag-Cd(-Sn) alloys, precip. behaviour of oxides during internal oxidation *(Japanese)* 1−26471
Au-Cd, internal friction peaks assoc. with martensitic and reverse martensitic transform. at LF *(Chinese)* 1−48404
Au-Cd (47.5 at.%), reverse thermoelastic transform., release of elastic strain energy as acoustic emission 1−12745
Au-Cd (47.5 wt.%), cooling rate effect on microstruct. and acoustic emission energy during thermoelastic transformation 1−53177
Bi-Pb-Cd system, sign inversion of Pb effective charge *(Slovak)* 1−12720
Bi-Pb-Cd system, sign inversion of Pb effective charge, exptl. proof *(Slovak)* 1−48327
Cd-Ag, stepwise creep curves at 4.2K, Portevin-Le Chatalier effect 1−21526
Cd-Ag alloys single cryst., deformation at very low temp. 1−43408
Cd-Bi, sporadic deviations from regular growth of eutectic compositions *(Russian)* 1−31447
Cd-Ga, struct., X-ray high angle scatt. and ultrasonic vel. and absorpt. meas. 1−7073
Cd-Ga, struct., X-ray small-angle scatt., critical points 1−7074
Cd-Hg, isovalent, NMR line widening mechanism *(Russian)* 1−31045
Cd-In liquid alloys, viscosity 1−25484
Cd-Mg, isovalent, NMR line widening mechanism *(Russian)* 1−31045
Cd-Pb, composition-temp.-press. phase diagram determ. 1−35237
Cd-Pb, liq., vapour press. activities, excess enthalpy and entropy of Cd, comp. depend. 1−47257
Cd-Pb, sporadic deviations from regular growth of eutectic compositions *(Russian)* 1−31447
Cd-Pd dilute alloy Cd activity, EMF and vapour pressure obs. 1−7314
Cd-Sn, composition-temp.-press. phase diagram determ. 1−35237
Cd-Sn, sporadic deviations from regular growth of eutectic compositions *(Russian)* 1−31447
Cd-Sn (0.08 wt.%) single cryst., discontinuous creep 1−43415
Cd-Tl, composition-temp.-press. phase diagram determ. 1−35237
Cd-U, phase diagrams, thermodynamic anal. and synthesis 1−43320
Cd-Zn, sporadic deviations from regular growth of eutectic compositions *(Russian)* 1−31447
Cd-Zn alloys single cryst., deformation at very low temp. 1−43408
Cd-Zn liquid-solid mixture, self-diffusion coeff. conc. depend. using radioactive isotope method *(Russian)* 1−7370
Cd-Zn single cryst., critical resolved shear stress, conc. depend. and very low temp. 1−53241
Cd-Zn single crysts., solid soln. hardening 1−26489
$Cd_{1-x}Hg_x$ alloys, effect of pressure on ω-phase boundary *(Russian)* 1−39313
Cu-Cd alloys, struct. obtained electrolytically on single cryst., Cu cathodes 1−30598
Cu_4Cd_3, struct., alternative description 1−15833
Gd-Cd, thermopower, s-f scatt. models *(Portuguese)* 1−25710
GdCd, magnetically ordered, elec. resistivity and thermal props. 1−30721
GdCd single cryst., ferromag., transport props., critical behaviour 1−25702
In-Cd, effect of temp. and conc. on elec. field gradient, PAC study 1−52536
Li-Cd, dil., elec. resist. and thermoelectricity meas. 1−38759
Li-Cd, liq., ^{7}Li Knight shift and elec. resist. meas. 1−31047
Mg-Cd system, liq., thermodynamic functions and phase diagram 1−53154
Pd-Cd (2 to 80 wt.%) alloys, thermodynamic props. *(German)* 1−8279
Te-Cd, dil., liq., electronic behaviour 1−20695
Th-Cd system, phase diagram and cryst. struct. determ. 1−53158
Th-Cd system, phase relations determ. 1−53157
TmCd, cubic, quadrupolar interactions, parastriction and third-order mag. susceptibility 1−21030

cadmium compounds
see also cadmium alloys
acetate dihydrate crystals, nonlinear optical props. 1−33739
arachidate Langmuir multilayer assembly films, thickness, temp. depend. 1−25592
cadmium acetate-dithiourea, cryst. struct., X-ray investigation 1−20179
CdS, nonequilibrium cond., variation rel. to X-ray exposure 1−42822
dimethylammonium cadmium tetrachloride, layer struct., elastic soft mode meas., order parameter fluctuations 1−11835
halides, photoluminesc., X-ray luminesc., and cathodolum. 1−12539
palmitate Langmuir multilayer assembly films, thickness, temp. depend. 1−25592
polyacetylene p-$(CH)_x$:n-CdS heterojunctions, semicond. props. 1−2981
salts, hydrated, cross polarization, magic angle spinning, chemical shift, NMR obs. 1−19118
solar cell based on CdSe MIS thin films, first phase development 1−26838
stearate Langmuir multilayer assembly films, thickness, temp. depend. 1−25592
AgCl-$CdCl_2$ liquid mixtures, excess enthalpies 1−16046
Al/CdS/Au thin film solar cell deposition by cathodic sputtering *(French)* 1−17199
Al_2O_3-CdSe interface in thin-film transistor, accumulation, electron states 1−20872
Au-$CdSnP_2$ surface barrier diodes, anisotropy of photovoltaic props. 1−8712
Bi-CdTe pair superlattice, elec. optical and struct. props. 1−38846
CC CdF_2, electronic cond. and optical props., review *(Polish)* 1−52565
Cd-Sb, thermodynamic props., critical evaluation 1−16063

cadmium compounds continued
$CdAs_2$ single cryst. growth, by directed zone melting recrystn. 1−3617
Cd_3As_2 amorphous degenerate thin film semiconductor, elec. props. 1−20720
Cd_3As_2 crystalline film, Shubnikov-de-Haas effect 1−52586
n-Cd_3As_2, screening length, carrier degeneracy effect, Bodnar and Kane-type band models 1−47675
$CdBr_2$, dielec. function and energy bands, EELS determ. 1−47464
$CdBr_2$:Co, appl. of thermally detected EPR 1−47939
$CdCO_3$ thermal decomposition using solar heat for H_2 prod. 1−48917
$CdCl_2$, dielec. function and energy bands, EELS determ. 1−47464
$CdCl_2$, magnetic single ion anisotropy, Mn^{2+} ion zero-field splitting 1−34667
$CdCl_2$:Co, appl. of thermally detected EPR 1−47939
$CdCl_2$:Mn^{2+}, cryst. field energy levels, luminesc. spectra study 1−31190
$CdCl_2$-$CdBr_2(PbBr_2)$, molten mixture, intermol. free length and interactions 1−15783
$CdCrCs_2Se_4$ single crysts., refl. spectra, 1.3 to 2.7 eV, fine struct. 1−21224
$CdCr_2S_4$, rapid quality control by EPR method 1−12387
$CdCr_2S_4(Se_4)$, electronic band struct., discrete variational $X\alpha$ calc. 1−2869
$CdCr_2S_4(Se_4)$ single cryst., mag. props. in phase transition region 1−38933
$CdCr_2Se_4$, crit. relax. processes, mag. reson. linewidth meas. 1−26043
$CdCr_2Se_4$, Faraday rot., IR absorpt. in mag. field, near absorpt. edge 1−3375
$CdCr_2Se_4$, ferromag. semicond. with hybridisation, two band s-d model 1−43137
$CdCr_2Se_4$, ferromag. semicond., fundamental gap, photoluminesc. determ. 1−43169
$CdCr_2Se_4$, nature and direction of dislocations 1−25280
$CdCr_2Se_4$, pure and Ag^+, In^{3+} doped, spin-phonon relaxation processes 1−21044
$CdCr_2Se_4$ single crysts. elec. and mag. props., nonstoichiometry effects 1−2967
$CdCr_2Se_4$, spin wave instability *(Russian)* 1−16437
$CdCr_2Se_4$, UHF pulse length influence on spin wave instability threshold *(Russian)* 1−30933
$CdCr_2Se_4$:Ga, mag. domain. struct. and hysteresis, photoinduced changes meas. 1−52799
p-$CdCr_2Se_4$-Al(Cu)(Zn) Schottky barriers, current-voltage characts. 1−20851
$CdCr_2Se_4(S_4)$, ^{111}In (^{111}Cd) hyperfine interactions, TDPAC meas. 1−26093
CdF_2 crystals, ion discharges and space charge formation with different kinds of electrodes 1−3331
CdF_2, photoelectron spectra, val. shell electronic struct., ab initio SCF MO calc., ionisation pot. 1−46021
CdF_2, transition metal ions interactions, review 1−25669
CdF_2:In, impurity-lattice relaxation, temp.-depend. decay of metastable state 1−30674
CdF_2:R^{3+} (R=rare earth), electrolum. 1−26279
$CdGa_2S_4$, polarised IR refl. spectra, factor group anal. of lattice vibr. 1−35033
$CdGa_2S_4$ single crystals, birefr. in 0.4-2 μm region 1−43096
$CdGa_2Se_4$, low-temperature sp. ht. 1−20417
$CdGeAs_2$ films, amorphous, electrical and optical properties 1−20747
$CdGeAs_2$, glassy semiconductor, phase separation and transforms., obs. 1−52074
$CdGeP_2$ crystals and layers, soln. growth 1−3592
$CdGeP_2$:Cu(In)(Mn)(Ni) glasses, cond., temp. depend. rel. to cryst. state cond. 1−42780
CdHg (a) state, fluoresc. kinetics and absorpt. 1−10774
$Cd_{0.2}Hg_{0.8}Te$ film, appl. of Hg plasma sputtering system pressure regulator *(French)* 1−12656
$Cd_{0.2}Hg_{0.8}Te$, surface comp., SIMS, AES, and XPS study 1−30538
$Cd_{0.21}Hg_{0.79}Te$, generation-recomb. noise 1−20834
$Cd_{1-x}Hg_xTe$, Debye temp. and thermal expansion temp. depend. *(Russian)* 1−2583
$Cd_xHg_{1-x}Te$, Hall effect and elec. cond. *(Russian)* 1−2993
$Cd_xHg_{1-x}Te$ nonequilibrium carrier lifetime meas. by photoconduction relaxation 1−47670
$Cd_xHg_{1-x}Te$, photoelectric props. obtained by chem. diffusion 1−16311
$Cd_xHg_{1-x}Te$, plastic bending 1−12795
$Cd_xHg_{1-x}Te$ semimetallic alloys, transport coeff. calc. by variational method, 14 to 300K 1−20740
$Cd_xHg_{1-x}Te$, sputtering yield for Hg ion bombardment, 200 to 800 eV 1−43235
CdI_2, band struct. information from EELS meas. 1−48201
CdI_2, dielec. function and energy bands, EELS determ. 1−47464
CdI_2 polytypes, restrictions in arrangement of molecular sheets 1−15827
CdI_2, pure and activated, radioluminescence kinetics study *(Russian)* 1−3490
CdI_2, TLD material, properties 1−957
CdI_2:Bi(Ga)(In)(Pb)(Sn), optical props., absorpt. and emission bands *(Russian)* 1−43148
CdI_2-structure crystals, elastic constants, short range force constants 1−47145
$CdI_2(Br_2)$, interlayer and intralayer bonds, layer displacement modes 1−38326
$CdIn_2S_4$, LF photocurrent oscills. 1−25754
$CdIn_2S_4$, photoluminescence bands, recombination centres 1−39143
$CdIn_2S_4$:Cr photoluminescence spectra 1−21270
CdMnSe, spin depend. conduction electron scatt. by mag. impurities 1−47948
$Cd_{0.95}Mn_{0.5}Se$, semimagnetic semiconductor, exchange induced spin-flip Raman scatt. 1−52953
$Cd_{1-x}Mn_xSe$, EPR and mag. props. 1−34930
$Cd_{1-x}Mn_xSe$, EPR and photoconductivity spectra, spin depend. cond. electron scatt. 1−7667
$Cd_{1-x}Mn_xSe$, semimag. semiconductor, mag. susceptibility 1−47844
CdMnTe, semimagnetic, spin-flip Raman scatt. 1−26203
$Cd_{1-x}Mn_xTe$, mag. props. and EPR meas. 1−3252
$Cd_{1-x}Mn_xTe$ mixed crystal, reflectivity spectra in vicinity of E_1 and $E_1+\Delta_1$ transitions 1−16582
$Cd_{1-x}Mn_xTe$, paramag.-spin glass-antiferromag. transitions 1−12294
$Cd_{1-x}Mn_xTe$, photoluminescence and Mn^{2+} d-levels 1−48130
$Cd_{1-x}Mn_xTe$, semimag. semiconductor, mag. susceptibility 1−47844
$Cd_{1-x}Mn_xTe$, single cryst., valence band spin-orbit splitting, giant Zeeman effect 1−42730

cadmium compounds continued
$Cd_{1-x}Mn_xTe$, v=0.1 to 0.7, photocond., rel. to absorpt. spectra 1−20803
$CdMoO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
$Cd(NO_3)_2.4.12H_2O$-$Ni(NO_3)_2.5.71H_2O$, molten, soln. props., cond., viscosity, density, refr. index, and surface tension meas. 1−20438
$Cd_2NiCl_6.12H_2O$, X-ray cryst. struct. determ. *(French)* 1−30158
$Cd_4NiCl_{10}.10H_2O$, X-ray cryst. struct. determ. *(French)* 1−30159
CdO, isochronal and isothermal grain growth during sintering 1−35223
CdO, solid, vaporisation thermodynamics and vapour comp., mass spectrometric investigation 1−52273
CdO:S, defect struct., elec. and diffusion props. 1−30748
CdO/Cu_2O heterojunction solar cells, fabrication, photovoltaic meas., Auger anal. 1−43771
CdO-P_2O_5 glasses under high and low electric fields, elec. activation energy 1−38783
CdO.SiO_2.Na_2O photochromic glass, in faded state, dark current and dielec. relax. 1−26120
CdP_2, nonlinear absorpt. spectra, light polarisation effect 1−19381
CdP_2, Raman scatt., two phonon spectra, vibr. branch dispersion *(Russian)* 1−3418
CdP_2, two-quantum spectra of impurity centres *(Russian)* 1−21250
Cd_3P_2, Shubnikov-de Haas oscills., cond. band struct. determ. 1−42675
Cd_3P_2:Cu, and undoped, influence of press. on elec. props. 1−38772
$Cd_2P_2Cl_8$, cryst. struct., Cd slightly distorted FCC stacking *(French)* 1−15877
$Cd_5(PO_4)_3Cl$, potential tertiary ferroic 1−7122
$Cd_3P_6O_{18}.16H_2O$, preparation and thermal behaviour 1−39257
$Cd_{1-x}Pb_xF_2(0\leq x\leq 1)$ mixed crystals, prep. and structure 1−3616
CdR_2S_4, R=rare earth, struct. and mag. props. 1−38356
CdS, absorption bands due to plastic deform., dislocation obs. 1−12535
CdS, acoustoelectric phonon domains, acoustic impulse generation by piezoelec. shock 1−16320
CdS, anisotropy of charact. temps., mean squared displacements and thermal expansion coeffs. 1−11834
CdS, appl. to charge transfer radiography 1−43973
CdS, biexcitons, active nonlinear spectroscopy, propag. effects and Fano interf. 1−46453
CdS chemically sprayed film and cell analysis, structural approach 1−8723
n-CdS, conference, Wurzburg, West Germany (Oct. 1979) 1−44702
CdS crystals, luminesc. spectra when frozen into solid He, N_2 laser excitation, optical cryostat design 1−18237
CdS crystals, resonance-enhanced transient reflectivity via exciton polaritons 1−48111
CdS, current noise spectra, acoustoelectric displacement and current fluctuations 1−52612
CdS, determ. of excitonic parameters of A polariton from magnetoreflectance spectroscopy 1−8092
CdS, diffusion of Ga, conc. and orientation depend. 1−20465
CdS, direct obs. of partial dislocation motion 1−52139
n-CdS, drift and acoustoelec. Hall effects, acoustoelec. current, inhomogeneities due to IR quenching of photocond. 1−20827
CdS, ESR of shallow donors 1−34925
CdS electrodes, amorphous thin film and polycryst., electrolum. props., photoelectrochemical cell appl. 1−17220
n-CdS, electron dynamics, spin-flip Raman scatt. obs., model amorphous antiferromag., Faraday rot. 1−48083
CdS, electron mobility, cluster formation and struct. changes, 300 to 1200K 1−34712
CdS, electron stimulated adsorption of O_2, surface activation and preferential binding, AES and PS study 1−2820
CdS, electron-hole plasma 1−47695
CdS, emission edge, temp. shift 1−3482
CdS, energy band struct., OPW calc. 1−25629
CdS, energy band structure, d-state effects, OPW calc. 1−34623
CdS, energy loss mech. for hot electrons, oscillatory photocond. and magnetophonon effect 1−3010
CdS, epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
CdS, exciton-exciton elastic scatt. cross section 1−38729
CdS, exciton-plasmon interaction in nonequilibrium electron-hole plasma *(Russian)* 1−52496
CdS, excitonic polariton dispersion curves 1−47501
CdS, excitonic solid, press. quenching, anomalous mag. and elec. behaviour 1−30327
CdS faceted substrate, Cu_2S film growth rate, morphology, grain boundaries 1−34590
CdS film, polycrystalline, temp. depend. of intergrain barriers, resist. and Hall mobility 1−12213
CdS film evaporated onto GaAS substrate, struct. and elec. props. 1−34597
CdS films, defect distrib. during mechanical treatment *(Russian)* 1−15895
CdS films, spray pyrolysed, intense room-temp. photoluminesc. obs. 1−48129
CdS, gliding dissociated dislocation obs. 1−38374
CdS, growth of large grain thin films on amorphous substrates, quasi-rheotaxy 1−35180
CdS, high density phase of excitons, refl. spectra meas. 1−26229
CdS, high temp. polymorphism at press. up to 8 GPa, X-ray diffr. study 1−2625
CdS holographic grating recording, coherent optical beam dynamic conversion mechanisms 1−33639
CdS, hyper-Raman scatt. in strong mag. fields 1−52938
n-CdS, impurity-phonon resonances, low temp. photo- and magneto-transport 1−30788
CdS integrated element for scanning acoustic microscopy 1−41935
n-CdS, kinetic anal. of time-depend. evaporation rate from {0001} surfaces 1−34547
CdS laser, optical gain meas. method 1−51491
CdS laser screen in electron-beam-tube, degradation 1−6577
CdS layers, polycrystalline, anomalous temperature dependence of dark current 1−20890
CdS, luminescence and photoelectric props. changes on annealing, defect formation *(Russian)* 1−21274
CdS, luminescence at high excitation densities 1−12555
CdS MIS devices, trapping effects 1−47757
CdS MOS structure on $LiNbO_3$, monolithic, electronic attenuation of SAW 1−37659
CdS, magneto-Brillouin scatt. of polaritons 1−39118
cadmium compounds continued
CdS, magneto-optic effects in exciton absorpt. spectra obs. in megagauss fields 1−48039
CdS needle crystal growth direction polarity for growth in atms. of excess Cd or S vapour 1−3584
CdS, noncentrosymmetric cryst., hyper-Raman scatt. of light by optical phonons 1−12511
CdS, nonequilib. plasmon-phonon interaction, Raman spectra meas. 1−52514
CdS, nonradiative states and defects, photoacoustic meas. with ZnO transducer 1−3459
CdS, optically detected mag. reson. of shallow acceptor centres 1−52869
CdS photoanodes in cysteine solutions 1−47743
CdS, photoconductivity, luminescence, low-temp. plastic deform. 1−38815
CdS, photoconductivity depend. on IR illumination *(Russian)* 1−30787
CdS, photoconductivity spectrum, anomalous depend. on sign of wave vector of light 1−52605
CdS, photocurrent, IR quenching kinetics, elec. field influence 1−20816
CdS, piezoelectric bound surface acoustoelectric potential *(Russian)* 1−30790
CdS, plastically deformed, photovoltaic effect associated with dislocation slip bands 1−20815
CdS plate, nonlinear acoustoelectric interactions *(Russian)* 1−16319
CdS, polariton effect influence on excitonic molecules 1−30644
CdS, polariton spectroscopy, magneto Brillouin scatt. and thin prism refraction 1−47504
CdS, polariton theory of scattering of light beams 1−52501
CdS, polymorphism at high press. 1−34274
CdS, pressure quenched, anomalous paramagnetism 1−3137
CdS, pressure-quenched, paramagnetic props. 1−3138
CdS, radiative recombination in the presence of screening of Coulomb interaction 1−12554
CdS, resonance secondary exciton emission 1−12558
CdS Schottky barrier junctions, diffusion length meas., surface photovoltage method 1−34768
CdS, sintering 1−16749
CdS, spray-pyrolised film, luminesc. decay, electron-hole recomb. 1−43202
CdS sputtered photocells, transient phenomena 1−52599
CdS, stimulated Raman scatt. of laser rad., in static mag. field 1−43123
CdS substrate for $CuInSe_2$ MBE layers, growth, solar conversion efficiency 1−16695
CdS, surface Brillouin scatt., resonant elasto-optic and ripple mechanisms 1−48096
CdS, surface layer, total current spectroscopy study of film growth 1−7492
CdS surfaces, electron beam stimulated changes in composition and electrical props. 1−25327
CdS, thermal expansion, temp. depend., 20 to 820K 1−20429
CdS thick disordered films on Al_2O_3 and V_3Si, two-mode ultrasonic excitation 1−25376
CdS thin films, optical constant meas. 1−31217
CdS thin layer vapour deposition by pyrolysis of dimethyldithiophosphinatocadmium complex 1−3629
CdS, two photon absorpt., intensity detect. of picosecond ruby laser pulses 1−51536
CdS, vacuum deposited films, elec. and optical props. meas. 1−12215
CdS:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
CdS:Cl(Li)(I), resonant Raman study of bound excitons 1−8077
CdS:Cu, C-centre electron capture cross-section 1−7559
CdS:Cu, deep level charact., steady-state const. capacitance method 1−38744
CdS:Cu, I-V charact. hysteresis and photocurrent field quenching 1−3023
CdS:Cu, photoconductivity degradation; role of shallow donors, expt. 1−34748
CdS:Cu sintered layer, prep. and spectral sensitivity 1−53118
CdS:Cu_xS solar cells formed by dry barrier tech., spectral response charcts., 0.4 to 1.0 μm 1−4198
CdS:Cu_xS thin film solar cells, low cost fabrication 1−21878
CdS:Ga, highly doped, optical props. and high excitation phenomena 1−52591
CdS:HgS-polystyrene binder layers, electrophotographic charcts. 1−18323
CdS:In growth by Piper-Polich method, In vapour effect 1−43253
CdS:Mn, ESR spectra, Mn^{2+} antiferromagnetic behaviour 1−3249
CdS:Ni, field-emission cathode, deep capture centre effects on emissivity 1−3583
CdS:Ni^{2+}, Zeeman effect at $^3T_1(F)\rightarrow{}^3T_1(P)$ absorpt. transitions 1−2927
CdS:Te, photoluminesc. quantum efficiency, calorimetric meas. 1−48158
CdS:Te electrode in NaS electrolyte, laser induced photoelectrochem., time resolved luminesc. 1−31865
CdS:Ti^{2+}, multiphonon struct. of optical transitions to impurity resonance states 1−47550
CdS/Cu_2 S thin film solar cell fabrication using electrophoretic deposition 1−4199
CdS/Cu_2S solar cell, mesh grid struct., series resist. anal. using equiv. cct. representation of ohmic losses 1−35652
CdS/Cu_2S solar cell: basic operation and anomalous effects 1−17202
CdS/Cu_2S solar cells, repulsive traps 1−26836
n-CdS/n-InP/p-InP heteroface solar cell, with ultrathin window layer, external conversion efficiency 1−26834
n-CdS/p-$CuInSe_2$ solar cell heterojunction, minority carrier diffusion length 1−16297
CdS-CdTe solar cells, development of screen-printable electrode material for CdS 1−8714
CdS-CdTe solar cells, low temp. synthesis of CdTe 1−8715
CdS-Cu_2S films in solar cells, grain size, dislocation density and microscopic defect struct. 1−35660
CdS-GaAs heterojunctions, deep level defects study using transient capacitance spectroscopy 1−2921
CdS-InP heteroface solar cells, computer anal. 1−8720
CdS-$LiNbO_3$ layered structures, elec. effects of acoustoelec. interaction influence on SAW 1−12152
CdS-metal interface, exciton refl. and photolum. spectra meas. 1−25645
CdS-Si heterojunction solar cells, photovoltaic props. meas. 1−8704
$CdS_{0.6}Se_{0.4}$ optoelectronic switches, carrier radiation mechanism 1−7655
$CdS_{1-x}Se_x$, comp. control. using molten S-Se mixture reservoir 1−26376
$CdS_{1-x}Se_x$, emission by electron-hole droplets and electron-hole plasma 1−12556

cadmium compounds continued
CdS_xSe_{1-x}, luminesce. spectral-kinetic props. and subnanosecond pulse generation 1−8104
CdS_xSe_{1-x}, nonequilib. plasmon-phonon interaction, Raman spectra meas. 1−52514
CdS_xSe_{1-x} single crystals, near band-edge photoluminesc. meas. 1−43159
CdS(Se)(Te), electron-hole liq., condensation energy. luminesc. study 1−20640
$CdS_xSe_{1-x}n^+$-n junction photoresistor, appl. in weak electron beam detection 1−37075
$CdS_{1-x}Te_x$ solid soln., phase diagram calc. using microheterogeneous cluster struct. model 1−48334
CdSb crystal, elastic deform. investigation *(Russian)* 1−38434
CdSb single cryst., diffusion and solubility of Ag 1−11907
$CdSb_2O_6$, vibrs., force field calcs., IR and Raman obs. *(French)* 1−31152
CdSe, anisotropy of charact. temps., mean squared displacements and thermal expansion coeffs. 1−11834
CdSe, cathodoluminescence studies by optical imaging SEM 1−26282
CdSe, containing dislocations, exponential absorpt. edge 1−12534
CdSe, edge absorpt. spectrum, laser intensity effects 1−21229
CdSe, electrical cond., large-scale pot. fluctuations effect 1−20742
CdSe, energy band struct., OPW calc. 1−25629
CdSe, energy band structure, d-state effects, OPW calc. 1−34623
CdSe epitaxial layer, heat-treated, oxidation, electron spectroscopy 1−38684
CdSe, epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
CdSe, exciton-exciton elastic scatt. cross section 1−38729
CdSe, extent of layer at Se-Cd contacts in Te-Se-Cd sandwich structure 1−7478
CdSe film preparation for solar photoelectrochemical cells 1−43786
CdSe films, electrodeposition from selenosulphite soln. 1−31370
CdSe, hot-electron cond. charact. calc., scatt. mechanisms 1−25737
CdSe, intrinsic defects, nature, charge, energy position and role in cond. 1−11745
CdSe, ionised donor-exciton complexes in polar crysts., binding energy 1−7528
CdSe, luminescence at high excitation densities 1−12555
CdSe optical gain spectrum under strong laser excitation at 80K 1−3437
CdSe, optically induced diffraction grating props. and appls. 1−11041
CdSe oriented single-crystal films, luminesc. of degenerate electron-hole plasma 1−31193
CdSe parametric oscillator, freq . control by uncoated etalon 1−46456
n-CdSe photoanode stabilisation in nonaq. $Fe(CN)_6^{3-/4-}$ electrolytes 1−35542
n-CdSe, photovoltaic liq. junction cell, power temp. depend 1−48906
CdSe Schottky barrier junctions, diffusion length meas., surface photovoltage method 1−34768
CdSe, single crystal, photoelectric current noise, effect of contacts 1−20840
CdSe, surface, clean and with adsorbed O_2, EELS, AES and LEED study 1−7687
CdSe surface, O_2 thermal and photostimulated desorption *(Russian)* 1−2814
CdSe, surface layer, total current spectroscopy study of film growth 1−7492
CdSe surface oxidation, electron energy loss spectroscopic obs. 1−16925
CdSe thin film photoelectrodes, increase in solar energy conversion efficiency after annealing, struct. study 1−48870
CdSe thin film transistors, TSC spectra, electron traps, ageing mechanism 1−38863
CdSe thin films, prep., elec. and electrophotographic props. 1−34743
CdSe, time resolved luminescence spectra 1−8129
CdSe, time resolved luminescence, exciton collisions 1−48157
CdSe:Ag^+, electrical and photoelectric properties 1−20821
CdSe:Mn, gigantic spin splitting of exciton states *(Russian)* 1−12042
CdSe/$As_2Se_3Tl_x$ thin layer system, photocapacitance effect 1−47711
CdSe-As_2Se_3 heterostructs., air baking of CdSe layer, effect on phys. props. 1−20861
CdSe-FTIROS containing IR visualizer 1−347
CdSe-HgSe, zincblende-wurtzite phase transition 1−16247
CdSe-MIS thin film solar cell 1−48850
CdSe-TlSe system, phase equilibrium, DTA, microprobe and X-ray study 1−21432
CdSe(S), hollow crystal growth mechanism 1−53066
$CdSiAs_2$, $CdGeAs_2$, $CdSnAs_2$, thermal dissociation, mass spectra 1−17040
$CdSiP_2$ absorbing uniaxial crystal, gyrotropic effects in isotropic pt. neighbourhood 1−21164
$CdSiP_2$, cathodoluminesc. spectra, heat treatment effects 1−21279
$CdSnAs_2$, crystal defects from electron irradiation, effect on cond. 1−25326
Cd_2SnO_4 solar selective coatings, prep. by spray pyrolysis 1−17269
$CdSnP_2$ prismlike crysts., etching study 1−15893
$CdSnP_2$-CdP_2 heterojunction, photoelec. props. 1−3057
CdTe and ZnTe-CdTe solid solns., RHS displacements of Te atoms, effective Debye temps. 1−21101
CdTe crystal growth from vapour phase 1−39229
CdTe, direct obs. of partial dislocation motion 1−52139
CdTe, dislocation motion, thermal activation anal., illumination effects 1−52143
n-CdTe, elec. cond. at low temps. 1−52564
CdTe, electrical props. and photovoltaic structures 1−25764
CdTe electro-optic crystals for broadband modulation of CO_2 lasers 1−41757
CdTe, electrodeposition in fused salt solutions 1−31372
CdTe, electronic charge densities, pseudopot. method 1−47465
CdTe, energy band struct., OPW calc. 1−25629
CdTe, energy band structure, d-state effects, OPW calc. 1−34623
CdTe, energy loss mech. for hot electrons, oscillatory photocond. and magnetophonon effect 1−3010
CdTe, epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
CdTe, extrinsic photoconductivity spectrum 1−30778
CdTe, far IR dielec. spectrum, multiphonon struct., crit. point anal. 1−31156
CdTe film, polycrystalline, trapping levels, TSC and photocond. meas. 1−20885
CdTe films, electrodeposited, Schottky devices, electron traps obs. 1−34813

cadmium compounds continued
CdTe, free carrier and space charge gratings, strong coupling, phase conjugation 1−19386
CdTe, growth of large grain thin films on amorphous substrates, quasi-rheotaxy 1−35180
CdTe γ-ray detectors, medical appls. *(Italian)* 1−53856
n-CdTe, impurity-phonon resonances, low temp. photo- and magneto-transport 1−30788
CdTe, ionised donor-exciton complexes in polar crysts., binding energy 1−7528
CdTe, irrad. induced defects, photoluminesc. study 1−8112
CdTe layers in Al-CdTe-Al thin-layer structures, elec. props. with DC voltages *(Slovak)* 1−3077
CdTe, low temp. synthesis and reduction of sintering temp. 1−8715
CdTe, MSM struct., nonlinear lux-ampere charects. due to space polarisation charges 1−25811
p-CdTe metal-semiinsulator-metal struct., bulk polarisation change form. on light illum. 1−20806
CdTe, optical activity induced by plastic deform. 1−12473
CdTe, optical detection of cyclotron reson. via band-gap luminesc. 1−31030
CdTe optical directional coupler fabrication by electron beam lithography and ion etching 1−29408
CdTe p-n junctions prepared by Bridgman method, elec. props. and Hall effect study of impurity levels *(Japanese)* 1−38840
CdTe photodetector for XFA, characteristics 1−48762
n-CdTe, photoelectrochemical props., photocorrosion reaction 1−17074
CdTe, photovoltaic films, two types of texture 1−3784
CdTe, plastic deformation, dislocation behaviour, microscopic study 1−26547
CdTe, polycryst., dipole-dipole coupling, ^{125}Te NMR obs. 1−16490
CdTe powders, prep. and photoconductive props. *(Japanese)* 1−35199
CdTe, resonant electronic Raman scatt. 1−35034
CdTe semiconductor detectors of nuclear radiation 1−1029
CdTe single cryst., valenee band spin-orbit splitting 1−42730
CdTe single crystal growth by sublimation, vapour transport, effect of deviation from stoichiometry 1−53067
CdTe single crysts., growth by multipass and sublimation travelling heater method 1−12643
CdTe solar cells with graded frontal doping, optimum junction depth and frontal elect. field 1−17217
CdTe, surface, clean and with adsorbed O_2, EELS, AES and LEED study 1−7687
CdTe surface oxidation, electron energy loss spectroscopic obs. 1−16925
CdTe, undoped and P-doped, photoluminesc. and recomb. centres, heat treatment under component vapour press. 1−26258
CdTe:Cl elec. cond., thermal activation energy and deep level obs. 1−7624
CdTe:Cl(Cr), electrical props. and photovoltaic structures 1−25764
CdTe:Fe, distrib. of mag. impurities, mag. props. meas. *(Russian)* 1−52170
CdTe:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
CdTe:In, diffusion of In, deviation from stoichiometry 1−16092
CdTe:In, solution-grown, 1.4 eV luminesc. mechanism 1−43186
CdTe:P, electrical props. and photolum. spectra *(Japanese)* 1−47674
CdTe:P, heat treated under component vapour press., electrical props. 1−39352
CdTe:P, localised vibrational modes due to P defects in substitutional or interstitital sites 1−47197
CdTe/HgTe superlattice electronic state localisation and complex bulk band structures 1−16351
CdTe-CdSb(CDHgTe) heterojunction formation by laser melting 1−31338
CdTe-H_2-halogen system, mass transfer of CdTe 1−7395
n-CdTe-In, contacts formation and stability 1−7736
CdTe-InSb heterojunctions, SIMS and electrical meas. 1−30812
$CdTl_2Te_4$:Au(Ag)(Cu), impurity solubility determ. by microhardness method 1−7200
$CdTl_2Te_4$:Au(Ag)(Cu), fused, surface tension and microhardness 1−7426
$Cd_{1-x}Zn_xS$ thin films for solar cells, dielectric response (0.4 to 250 μm) as a function of struct. and comp. 1−13133
$Cd_{1-x}Zn_xS$/GaAs heterostructs., prepared by vapour phase, chem. transport, cryst. defects 1−35186
Cds single cryst., pyroelec. props. 1−31098
$CsCdCl_3$, crystal growth by unidirectional solidification and Czochralski method 1−3610
CsI:Tl scintillation crysts., photoluminesc. anisotropy 1−3488
$CuGaSe_2$-$CdCl_2(I_2)$ soln., phase diagrams, $CuGaSe_2$ cryst., growth, cathodoluminesc. 1−48247
Cu_2S/CdS solar cell, I-V relationship 1−4176
Cu_2S-CdS, effects of basal plane of CdS single crystal on Cu_2S growth 1−8713
Cu_2S-CdS heterojunction diode, electric props. rel. to composition 1−8713
Cu_2S-CdS heterojunction, tunneling currents 1−13120
Cu_2S-CdS heterojunction solar cells, photodetection props. 1−17206
Cu_2S-CdS solar cells with rough interfaces, theoretical anal. 1−53610
p-$Cu_{2-x}S$-n-CdS heterojunction, CD impurity influence on photovoltaic effect *(Russian)* 1−30786
Cu_xS-CdS solar cells, minority-carrier transport parameters, nondestructive SEM meas. 1−13119
CuSe photoelectrochem. cells with low cost stainless steel and graphite substrates 1−4209
n-dS/p-InP heterojunction solar cells, CVD growth, multilayer growth apparatus 1−31358
GaP-CdS-CdSe-Ni heterostructures, surface electron states and surface charge, optical memory effects 1−47741
GaP-CdSb(CdHgTe) heterojunction formation by laser melting 1−31338
GdFeBi-CdS.Cu.Cl photoconductor sandwich, thermomagnetic switching effect 1−25944
Hg-Cd-Te system, liquidus isotherms, solidus lines and LPE growth 1−12676
HgCdTe CCD detectors 1−5385
HgCdTe hybrid focal plane arrays, infrared imaging system 1−5398
HgCdTe monolithic focal plane array structures 1−5381
HgCdTe mosaic arrays for hybrid focal plane appls. 1−5397
HgCdTe, oscillations in scattered $^4He^+$ ion yield curves 1−26350
HgCdTe p-n photodiode, temporal and freq. responses 1−45021
HgCdTe photoconductive detector, relative performance in const. current, voltage bias modes 1−36734
HgCdTe wide-bandwidth photodiodes, CO_2 laser heterodyne performance 1−40853

cadmium compounds continued
$Hg_{0.77}Cd_{0.23}Te$, noncollinear phase-matched four-photon mixing 1−11046
$Hg_{0.78}Cd_{0.22}Te$/CdTe planar IR photodiode, backside-illuminated 1−3080
$Hg_{0.79}Cd_{0.21}Te$ epilayers, cond. types, carrier conc., Hall coeff. heat treatment effects 1−38871
$Hg_{0.8}Cd_{0.2}Te$, electron gas, magnetic field induced phase transition, CDW 1−20646
$Hg_{0.8}Cd_{0.2}Te$, mag. field induced Wigner condensation 1−30652
n-$Hg_{0.8}Cd_{0.2}Te$, mag. field induced Wigner condensation 1−47680
$Hg_{0.8}Cd_{0.2}Te$ photodiodes, wide bandwidth, DC and CO_2 laser heterodyne characts. 1−40855
$Hg_{0.8}Cd_{0.2}Te$:B n^+-p photodiodes, elevated temp., moderate bandwidth CO_2 laser heterodyne meas. 1−40854
$Hg_{1-x}Cd_xTe$, n-channel inversion layer, diffusivity:mobility ratio, alloy composition effects 1−3044
$Hg_{1-x}Cd_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
$Hg_{1-x}Cd_xTe$, acceptor band theory *(Russian)* 1−47530
$Hg_{1-x}Cd_xTe$, admittance spectroscopy of deep levels 1−42713
$Hg_{1-x}Cd_xTe$ anodic film oxide and interface props. 1−16380
$Hg_{1-x}Cd_xTe$, fault struct., TEM and X-ray topography study 1−11755
$Hg_{1-x}Cd_xTe$, hot electron drift velocity 1−38784
n-$Hg_{1-x}Cd_xTe$, mag. freeze-out, metal-nonmetal transition 1−52582
$Hg_{1-x}Cd_xTe$, narrow band-gap semicond., mag. susceptibility meas. *(Russian)* 1−42944
$Hg_{1-x}Cd_xTe$ p-n junction diode elec. characts., tunnel contrib. 1−20859
$Hg_{1-x}Cd_xTe$, plasma anodisation, work functions 1−39498
$Hg_{1-x}Cd_xTe$, Schottky barrier photodiodes, carrier lifetime, diffusion length 1−7706
$Hg_{1-x}Cd_xTe$ solid solution, narrow-gap semiconductor, drag of carriers by photons 1−52580
$Hg_{1-x}Cd_xTe$, trap levels and minority carrier lifetime, DLTS study 1−34658
$Hg_{1-x}Cd_xTe$, two-photon absorpt., photocond., freq. depend. 1−3432
$(InAS)_{1-x}(CdTe)_x$, E_1 and $E_1+\Delta_1$ transition energies, comp. depend., electrorefl. spectra 1−21173
InSb-CdTe pair superlattice, elec. optical and struct. props. 1−38846
$LiNbO_3$-CdSe layer structs., SAW propag., alternating carrier drift effect 1−20540
$LiNbO_3$-CdSe layered structure, SAW phase modulation and AM 1−34561
$LiNbO_3$-CdSe layered struct., SAW absorpt. 1−38639
$Mg_xCd_{1-x}Se$ solid solns., synthesis and luminesc. props. 1−35168
$Mn_xCd_{1-x}Se$ solid solutions, mass transport by chem. reaction 1−21334
$(Na_{0.5}Bi_{0.5})TiO_3$-$CdTiO_3$, lattice dynamics and phase transitions 1−21141
$(Na_{0.5}Bi_{0.5})TiO_3$-$CdTiO_3$ system solid solns., synthesis, struct. and dielec. props. 1−39042
6NaCl.$CdCl_2$, Suzuki phases, ionic cond. 1−7379
$NaNbO_3$-$CdTiO_3$, thermal cond. meas. 1−50123
$Pb_{1-x}Cd_xTe$, composition versus lattice constant and band gap *(French)* 1−2870
PbSe-CdSe system, DTA and metallographic obs. of phase diagram 1−42511
PbTe-CdTe heterojunction, growth, photoresponse meas. 1−12183
$Rb_2Cd_2(SO_4)_3$, ferroelec., elastic anomalies 1−7230
Se-CdS solar cells, optical and elect. props. 1−17216
Te:Cl, excited by α-particles, photons, elec. props. meas. 1−30765
Te-HgTe-CdTe, solid-vapour equilibrium 1−7312
$Zn_xCd_yHg_{1-x-y}Te$, epitaxial crystn. from melt 1−12673
ZnCdS:Ag phosphor screens, electron beam excited, light transmission and generation 1−48170
ZnCdS:Ag screen, electron beam excited, absolute efficiency 1−8137
$Zn_xCd_{1-x}S(Se)$, nonclassical excitonic refl. spectra 1−48112
$Zn_xCd_{1-x}Se$, Bose condensed exciton phase *(Russian)* 1−30647
$Zn_xCd_{1-x}Te$, fundamental absorpt. edge 1−43138
ZnO/CdTe heterojunctions, spray pyrolysis prepared, photovoltaic props. 1−3004
ZnS-CdS polycryst., polymorphic transition 1−7321
$(ZrO_2)_{1-x}(Cd_2O_3)_x$, Raman scatt. study of high-temp. phase transform. 1−12509

caesium
see also nuclei with .....
$6P_{3/2}$ lifetime from time-resolved spectroscopy 1−24072
^{137}Cs, release, high-temperature reactors, design variants *(German)* 1−5975
adsorbed on W (110), registered phase obs. by RHEED and AES 1−34580
adsorbed on W (110) and (111), image potential allowance 1−25576
adsorption on GaAs (111) B epitaxial films, ellipsometric obs., photocathode sensitivity 1−30547
atom, 5^2D state, prod. from Cs_2 selective photolysis 1−48704
atom, 6P state, prod. from selective photolysis of Cs_2 $X^1\Sigma_g$ state 1−48705
atom, 7^2P excited states, photoionisation and photoelectron spin polarisation 1−19066
atom, f-h and f-i intervals meas. using two- and three-photon microwave spectroscopy coupled with elec. field ionisation 1−24098
atom, n^2D and n^2F fine-struct. intervals obs. 1−1157
atom, photoionisation, quadrupole resonances, fine struct. electron spin polarisation 1−24088
atom, pressure-broadened spectral lines, shift, width, and asymmetry 1−10696
atom, quasi-hydrogenic spectrum, Landau condensation 1−24067
atom+O_2, nonadiabatic collisions, eqn. for pot. surfaces, cross-section for ion-pair form. determ. 1−24212
atom counting by selected photoionisation method 1−41355
atom laser induced autoionisation like resonances 1−28930
atoms, ionisation cross section, light polarisation, perturbation treatment 1−10702
atoms, ionised, energy levels in $5p^55d$ configuration 1−1059
atoms, optically oriented, relax. time meas. by nonadiabatic appl. of transverse mag. field 1−34040
atoms, reson. lines, shape of inner-wing satellites, pot. curve 1−6188
beam atomic clock, laser optically pumped, preliminary operation *(French)* 1−5287
covered surface, noble gas ion bombarded, negative ion emission 1−31280
desorption and adsorption kinetics in W (112), study using spherical thermionic electron projector 1−30546
diffusion in V, Nb, Ta, Mo, and W, temp. depend. *(Russian)* 1−2696
equations of state, pseudopotential calcs. *(Chinese)* 1−2587
evaporator for high sensitivity SIMS 1−28117

caesium continued
foil, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
frequency standard development 1−23191
harmonic phonons and phonon-limited resist. from first-principle pseudopots. 1−7272
ions, electron impact multiple ionisation cross sections, crossed beam meas. 1−37331
liquid, expanded, and dense vapour, electronic correl. and metal-nonmetal transition 1−25633
liquid, expanded, thermodynamic and elec. props., metal-nonmetal transition region 1−25774
liquid, heat capacity meas. to 2000K, with density down to ρ_{crit} 1−25450
liquid, minimum metallic cond. and elec. props. 1−25688
Mediterranean seawater composition, rainwater radionuclide contrib. 1−22363
melt, struct. and density, neutron diffr. obs. 1−25151
molecule, fluorescence, Franck-Condon principle, nuclear kinetic energy effect 1−1269
molecule, selective photolysis prod. of 5^2D atoms 1−48704
molecule, $X^1\Sigma_g$ state, selective photolysis prod. of 6P state atoms 1−48705
molecules, state-selective photolysis, cross sections, repulsive pot. curves 1−37279
monolayer, on Cu (111), clean and O_2-exposed, electronic struct., EELS, AES, UPS, and work function meas. 1−42841
monolayer on Ni, H and He ion beam scatt. meas. 1−16644
monolayers, on polycryst. W, SEM obs. and work function meas. 1−52428
phason anomalies in low-temp. lattice sp. ht. 1−42548
plasma, MHD, electron-atom momentum transfer 1−46858
PWR, radiocaesium behaviour on mixed-bed demineralisers 1−50851
surface, $H^-(D^-)$ prod. by H(D) backscatt. 1−26332
surface, H and D positive ion bombarded, H^- and D^- backscatt. yields 1−43232
surfaces (100) and (110), electronic struct., density-matrix method 1−3039
vapour, absorption of I laser pulses 1−11509
vapour, multicomponent, cond., composition and chemical equilibrium constants determ. 1−15594
vapour, thermal cond. and viscosity data generalisation 1−19855
vapour, tunable IR generation using 6s-5d Raman transition 1−29342
BaF_2:Cs, audiofrequency dielec. studies, 5.5. to 400K 1−31086
CaF_2:Gd^{2+}, Cs^+, zero-field splitting of $4f^7$ state 1−20676
CaF_2:Gd^{3+}, Cs^+, zero-field splitting of $4f^7$ state, electrostatic model 1−20677
^{137}Co, whole body levels in man in Scotland, 1978-9 1−53912
Cs I, electron quadrupole transition probabilities, many-electron theory 1−24082
Cs I, laser induced autoionizing-like reson. in continuum 1−45913
Cs vapour targets, D^- production by charge transfer of 0.3-10 keV D^+, D^0 and D^- 1−19180
Cs XI, spectra, 80-300 Å range 1−37149
Cs^+, electron impact excitation, reson. cross section, VUV spectra 1−29124
Cs^+ ion source, liq., emission characts., field evap. theory predictions 1−5435
Cs^+, transition from uncollapsed to collapsed excited f-wave functions via post collision interaction Auger effect 1−19068
Cs-CsF(CsCl)(CsI) liq. mixtures, thermodynamic props. at 925K 1−30395
Cs-Cs(K) systems, continuum-state pair absorpt., thermionic detect. of ionic fragments 1−41356
Cs-graphite intercalates, phase transition, Raman study 1−47231
Cs-He (Ar), photoionisation, photoconductivity induced by radiation pulse meas. 1−1547
Cs-He pairs, hyperfine shifts, broadening and temp. coeff., rel. to ionisation pot. and polarisability coeff. 1−28926
Cs+$H_2(N_2)$, collision broadening and shift of hyperfine struct., Lennard-Jones interactomic pot. const. calc. 1−24224
Cs+$H_2(N_2)$(inert gases), elastic collision cross section 1−19158
Cs+H^-, fast H^0 atom prod. by stopping collision 1−1358
Cs+H^-, low energy electron loss reaction cross section 1−6175
Cs+H(H^+)(H^-), single electron capture and loss, 0.1-2.0 keV 1−6374
Cs+H(1s), H^- form., ang. distrib., differential electron attachment and elastic scatt. cross sections 1−41459
Cs+He, rate const. meas. for Penning ionisation at thermal energies 1−33552
Cs+He^+, single electron capture cross sections for He^+ ions 1−33553
Cs+He(Ne), Cs $6^2P_{3/2}$ state depolarisation, D_2 line optical pumping 1−19173
Cs+He(Ne)(Ar)(Kr)(Xe), collision broadening and shift of hyperfine struct., Lennard-Jones interactomic pot. const. calc. 1−24224
Cs+inert gas, far wing profile, interaction pot. and oscillator strengths *(French)* 1−37154
Cs+nonmetal fluorides reactive collisions, electronic excitation and energy distrib. 1−21706
Cs+O_2, collisions, positive ion formation and neutral scatt., mol. vibr. effects 1−14994
Cs^++Fe(Mo)(Al)(Ti)(Ta)(C), charge transfer cross sections 1−37323
CsKr, collision induced absorption in dipole electronic transitions 1−29160
^{133}Cs, Rydberg D-states, hyperfine structs., lifetimes and collisional cross-sections 1−46072
^{137}Cs, ^{232}Th, ^{40}K, ^{238}U series, in soil, gamma ray exposure rate meas. 1−1001
^{137}Cs, fallout radionuclide, in Pacific Ocean, vertical and horizontal distribs. from GEOSECS stations 1−9180
^{137}Cs from nuclear explosions, sedimentary record of environmental pollution in W.Baltic Sea 1−48932
^{137}Cs in ion-exchange resins, storage and disposal *(Japanese)* 1−18777
^{137}Cs in soils of Cumbria and Isle of Man 1−13189
^{137}Cs, whole body counting results from 1974 to 1979 for Bikini Island residents 1−9042

caesium alloys
Au-Cs melt, struct. and density, neutron diffr. obs. 1−25152
Au-Cs melt, struct. and density, neutron diffr. in small q region 1−25153
Au-Cs melt, struct. and density, γ-absorpt. method obs. of density 1−25351

caesium alloys continued
Cs-Au, liq., ^{133}Cs NMR obs. of localised states form. in metal-nonmetal transition range 1−26052
CsAu liquid alloy, structural disorder theory, band struct. 1−46987
CsAu semiconducting liq. alloy, struct. and evidence for ionic bonding 1−25149
CsCl-type alloys, effects of SRO and LRO on electronic struct. 1−2865
Cs_3Sb semiconducting liq. alloy, struct. and evidence for ionic bonding 1−25149
CsSn thin film, electronic props. 1−25813
K-Cs, liq., small-angle X-ray diffr. obs. of struct. 1−25143
K-Cs, substitutional alloy, pseudopotential study of lattice parameter and heat of formation 1−30139
K-Cs alloy, crystalline phases at low temp. 1−38331
K-Cs alloy, phase diagram, crystalline phase investigation 1−39312
K-Cs mixture, weak melting 1−2599
K_2Cs, electronic transition, X-ray scatt. and elec. resist. meas. 1−7676
Na-Cs, liq., free energy and heat of mixing, ab initio calc. 1−42540
Na-Cs, liq. alloy, struct. and elec. resist. calc. 1−25142

caesium clocks *see atomic clocks*

caesium compounds
see also caesium alloys
acetates, relative permittivity, freq. and temp. effects 1−34970
halides, exciton relaxed state stability 1−30643
halides, reson. Raman scatt. from F-centre 1−3403
intercalation compound with graphite, stage-1, structural study at high temps. 1−34273
salts, molten, fusion electrolysis for H_2 prod. 1−35715
Tutton salt crystals, Jahn-Teller centre configurations, lattice struct. 1−3248
BeF_2-CsF glass, ionic transport meas., cond. anomaly obs. 1−30455
CS $d^3\Delta_i(v=4)$ state, laser-induced fluoresc. obs. 1−29029
$CaF_2:U^{3+}$, spin inversion due to unpolarised optical pumping 1−26180
Cs-graphite intercalation cpd., struct. variations, temp. and press. variations, X-ray diffr. 1−34460
Cs-I solution, ^{133}Cs and ^{127}I NMR obs. of metal-nonmetal transition and localised states form. 1−26055
$Cs_3AlSi_2O_6$, evaporation, mass spectrometry study 1−7311
$CsBF_4$, ^{19}F NMR chemical shift 1−7963
$CsBi_3S_5$, synthesis and crysts. struct. 1−30189
CsBr crystalline fibre for visible and IR transmission 1−41855
CsBr, dissociation due to electron bombardment *(Russian)* 1−4086
CsBr, exciton decay into defects, polarised luminescence *(Russian)* 1−20637
CsBr, O_2^- centres, vibronic luminesc. spectra under press. 1−43182
CsBr:$Li^+(Na^+)$, impurity ion off-centre displacements, defect energies 1−11772
CsBr+Xe(Kr), collision induced dissoc., mass and orientation effects, 3-D classical trajectory calcs. 1−29087
CsC_{12n}, intercalation cpd., high stage, X-ray charact. and elec. resist. 1−34755
CsC_{24} intercalation cpd., mag. susceptibility transitions 1−38904
CsC_8, graphite intercalation cpd., sp. ht., 0.48 to 90K, electronic and lattice contribs. 1−25451
CsCN, structural phase transition theory, thermodynamic props. *(Russian)* 1−7331
Cs_2CO_3, enthalpies of solution and formation 1−4119
$CsCaCl_3$, activated, excitation and photoluminesc. spectra 1−12540
$CsCaF_3:Gd^{3+}$, superhyperfine interaction and zero field splittings, EPR study 1−31025
$CsCdBr_3$ crystals, spectroscopic props. of Ce^{3+}-Tm^{3+} centre 1−52992
Cs_3CdBr_4, struct. phase sequence with incommensurate phases, X-ray diffr. and NQR meas. 1−7324
$CsCdCl_3$, crystal growth by unidirectional solidification and Czochralski method 1−3610
$Cs_2CdCl_4:Ni^{2+}$ polarised electronic absorpt., emission and excitation spectra 1−26240
$CsCdF_3:Mn^{2+}(Ni^{2+})(Cr^{3+})(Co^{2+})$, spin Hamiltonian, transferred hyperfine interaction ENDOR spectra 1−52867
CsCl, B2 struct., diffusion kinetics and isotope effects for atomic migration via divacancies and triple defects 1−52343
CsCl, ionic cond., press. and temp. depend., rel. to Schottky defect form. 1−34509
CsCl, ionic lattice dynamical behaviour study 1−25386
CsCl Wigner-Dyson lattice, mode softening at crit. value of charge ratio 1−25398
CsCl:$Li^+(Na^+)$, impurity ion off-centre displacements, defect energies 1−11772
CsCl-Cs liq. mixtures, thermodynamic props. at 925K 1−30395
$CsClO_4$, gel growth and dielec. studies 1−35161
$CsClO_4$, neutron diffr. meas. at high press. and low temp. *(German)* 1−20033
$CsCoBr_3$, Ising-like antiferromagnet, quantisation of magnetic excitation continuum 1−12314
$CsCoBr_3$, magnon Raman scatt., interchain coupling 1−39099
$CsCoBr_3$, one-dimens. magnon Raman spectrum, intercahin coupling effects 1−30932
$CsCoCl_3$, ground state props., Raman spectra 1−39083
$CsCoCl_3$, Ising antiferromag., one-dimens., spin dynamics, neutron scatt. study 1−52764
$CsCoCl_3$, Ising-like antiferromagnet, quantisation of magnetic excitation continuum 1−12314
$CsCoCl_3$, low temp. mag. spin structs., optical selection rules 1−39121
$CsCoCl_3$ magnetic chain, elementary excitations 1−7801
$CsCoCl_3$, one-dimens. antiferromag., short-range-order, optical birefringence obs. 1−12304
$CsCoCl_3$, one-dimens. Ising antiferromag., multiple far IR mag. excitations 1−16435
Cs_3CoCl_5, struct. of 295K, neutron diffr. study 1−30146
$Cs_3Cr_2Cl_9$, Raman scatt. from mol. vibr. 1−3414
Cs_2CrO_4, high temp. enthalpy increments and other thermodynamics props. 1−17096
$CsCuCl_3$, EPR line broadening, effect of cooperative Jahn-Teller effect 1−52833
CsD_2AsO_4, ferroelec., high temp. phase transition, thermal expansion coeff. study *(Russian)* 1−52905
$Cs(D_xH_{1-x})_2AsO_4$, dispersion of refractive indices and electrooptical coeffs. 1−3372
CsD_2PO_4, short-range order, press. depend., neutron scatt. study 1−3342

caesium compounds continued
$CsDy(MoO_4)_2$, EPR and Zeeman effect study, struct. phase transform *(Russian)* 1−47941
$CsDy(MoO_4)_2$, heat capacity anomalies near phase transition *(Russian)* 1−20416
CsF, self-trapped hole, extended Huckel theory study 1−7169
CsF-Cs liq. mixtures, thermodynamic props. at 925K 1−30395
CsF+inert gas atoms rotational excitation, exponential approx. 1−41480
$CsFeCl_3.2H_2O$, low dimensional mag. cpds., Mossbauer study 1−3312
Cs_2GeF_6, ^{19}F NMR chemical shift 1−7963
$Cs_2GeF_6:ReF_6^{-2}$, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
CsH, repulsive hardness parameter anal. 1−30131
CsH_2AsO_4, deuterated, struct. in ferroelec. and paraelec. phases, neutron diffr. study 1−47057
CsH_2AsO_4, electrooptical props. near Curie point 1−12476
CsH_2AsO_4, ferroelec., high temp. phase transition, thermal expansion coeff. study *(Russian)* 1−52905
CsH_2PO_4, ferroelec., birefringence meas. 1−21165
CsH_2PO_4, ferroelectric phase transition, ESR study 1−12389
CsH_2PO_4, quasi-one-dimensional ferroelectric, ultrasonic velocity and absorpt. *(Russian)* 1−42474
$CsHSO_3$, X-ray cryst. struct. determ. 1−15846
$CsH_3(SeO_3)_2$, near IR spectra, inter- and intra-proton tunnelling 1−26184
Cs_2HgBr_4, struct. phase sequence with incommensurate phases, X-ray diffr. and NQR meas. 1−7324
CsI crystalline fibre for IR transmission 1−11100
CsI crystals, bulk and surface absorpt. coeff. determ. in CO_2 laser radiation wavelength range 1−35006
CsI, doped, scintillator, luminesc. kinetic characts. 1−12546
CsI, spectroscopic small loss meas. near 10 μm 1−18310
CsI:$Li^+(Na^+)$, impurity ion off-centre displacements, defect energies 1−11772
CsI:NCO^-, Fermi doublets, temp. dependence 1−3446
CsI-Cs liq. mixtures, thermodynamic props. at 925K 1−30395
CsI-TlI phase diagram, determ. and calc. 1−21435
CsI-TlI solid soln., point defect and transport parameters 1−20749
CsI+Xe(Kr), collision induced dissoc., mass and orientation effects, 3-D classical trajectory calcs. 1−29087
CsI(Tl) single crystal, use in active protection of liq. scintillation stabilised radiocarbon device 1−40206
$Cs_xIn(SeO_3H_{1-x})_3.nH_2O$, preparation under hydrothermal conditions 1−39258
$Cs_{1-x}K_xC_8$, magnetic susceptibility anomaly 1−20952
Cs_2KNdF_6, conc. quenching of Nd^{3+} fluorescence 1−3470
CsKr, state-selective photolysis, cross sections, repulsive pot. curves 1−37279
$CsMgCl_3$, magnetic single ion anisotropy, Mn^{2+} ion zero-field splitting 1−34667
$CsMnBr_3.2D_2O$, neutron scatt. study of bicritical behaviour 1−7855
$CsMnBr_3.2H_2O$ exciton migration, luminesc. quench study 1−47482
$CsMn_4Cl_9$, growth from non-stoichiometric melts and by Bridgman method 1−53081
$CsMnCl_3.2H_2O$ exciton migration, luminesc. quench study 1−47482
$CsMnCl_3.2H_2O$, exciton-magnon light absorpt. *(Russian)* 1−48038
$CsMnF_3$, biexciton decay and multimagnon sidebands in fluroesc. spectra 1−30646
$CsMnF_3$, parametrically amplified echo *(Russian)* 1−12425
$Cs_2Mo_6S_6$, pseudo-one-dimens. metal, prep. and struct. characteriz. 1−38357
CsNCS, internal vibrs., mode freq., dispersion calcs. 1−34431
CsNCS, vibr., lattice modes, dispersion relation calcs. 1−34433
$CsNO_3$, NMR anal., cation quadrupole couplings 1−12424
$CsNO_3:NO_2^-$, nitrates, electron-phonon interaction of NO_2 impurity 1−25391
$CsNO_3+V_2O_5$, solid phase reactions studied using DTA, DTG and TG methods 1−26729
$CsNaLnCl_6$ elpasolites, Ln^{3+} crystal field, octahedral crystal field coefficients determ. 1−2925
$Cs_2NaLnCl_6$, Ln=lanthanide, crystal field anal., optical spectra 1−30688
$Cs_2NaYCl_6:Er^{3+}(Dy^{3+})(Yb^{3+})$, relaxation data of lanthanides in matrix, orbit-lattice interaction model 1−38979
$CsNb_7O_{18}$, struct. study by IK absorpt. and diffusion Raman spectra *(French)* 1−25218
$CsNiCl_3$, low temp. mag. spin structs., optical selection rules 1−39121
$CsNiCl_3$, one-dimens. antiferromag., short-range-order, optical birefringence obs. 1−12304
$CsNiF_3$, ferromagnet, easy-plane, soliton features, calc. 1−7796
$CsNiF_3$, ferromeg; sine-Gordon system, breather contribs. to dynamical form factors 1−52762
$CsNiF_3$, local magnon modes, dynamic response associated with single-impurity spin 1−12275
$CsNiF_3$, mag. solitons, non-covariant corrections, theory 1−47892
$CsNiF_3$ magnetic chain, elementary excitations 1−7801
$CsNiF_3$, one-dimens. ferromag., static spin correls., transfer matrix method 1−3189
$CsNiF_3$, one-dimens. ferromag., phonon, magnon, and electronic Raman scatt. 1−12491
$CsNiF_3$, soliton obs. by neutron scatt., harmonic spin wave theory 1−47873
$CsNiF_3$, soliton response, linear q_z-dependence 1−7823
$CsNiF_3$, statistical mech., spin waves, mag. solitons 1−21002
$Cs_2NpO_2Cl_4$, crystal struct. 1−47061
Cs_2O-Al_2O_3-SiO_2, evaporation of cryst. cpds., mass spectrometry study 1−7311
Cs_2O-Nd_2O_3-P_2O_5-H_2O, phase form. and crystallisation 1−53163
Cs_2O-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
Cs_2O-V_2O_5-P_2O_5 semicond. glasses, electronic characts. and struct., ESR study 1−34928
CsOH, fused anhydrous, reaction with ZrO_2, prep. of Cs_2ZrO_3 1−35221
Cs_3PO_3H, prep. and crystallographic study *(French)* 1−47054
$CsPbBr_3(Cl_3)$, exciton absorpt., refl., and luminesc. spectra 1−12540
$CsPbCl_3$, monoclinic phase, ferroelastic domain struct., theory 1−30294
$CsPbCl_3$, monoclinic phase, ferroelastic domain struct., expt. 1−30295
$CsPbCl_3(CaCl_3)$, electronic struct. comparison with other perovskite struct. compounds, optical spectra 1−16230
$CsPbF_3$, struct. transition, specific heat, press. effects 1−2627
$Cs_3R_2(NH_2)_9$, R=Ce,Nd,Sm, struct. and props. *(German)* 1−34315
$Cs_{1-x}Rb_xC_8$, magnetic susceptibility anomaly 1−20952

caesium compounds continued
Cs_2ReF_6:ReF_6^{-2}, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
$Cs_2S_2O_6$, piezoelec. and pyroelec. coeffs., absolute sense and model 1−31094
$Cs_2(S_2O_8)$, solid state vibrational spectroscopy, TGA and DSC, thermal decomposition 1−35028
$Cs_2(S_2O_8)$, solid state vibrational spectroscopy, thermal decomposition, kinetic study 1−35029
$CsSbC_2^{6}$ (C^6=S,Se), hypovalent two cation, rel. between lattice thermal cond. and chemical bond 1−11925
$CsSbS_2$, cryst. struct. determ. 1−25226
Cs_2Se, crystal struct., new modification *(German)* 1−34316
Cs_2SiF_6, ^{19}F NMR chemical shift 1−7963
Cs_2SiF_6:MnF_6^{2-}, ion emission spectra from lattice dynamics model, phonon struct. 1−8108
Cs_2SnF_6, ^{19}F NMR chemical shift 1−7963
$CsSrCl_3$, activated, excitation and photoluminesc. spectra 1−12540
$Cs_2UO_2Br_4$, energy-transfer processes, emission and excitation spectra 1−52989
$Cs_2UO_2Cl_4$ cryst., energy transfer and biexciton decay 1−8106
$CsUO_2(NO_3)_3$, cryst., Raman scatt. anisotropy 1−8061
$CsUO_2(NO_3)_3$, γ-irradiated, long wave luminesc. centre 1−12573
CsXe, yellow emission band, quantum simulation, vibr., pot. curves 1−24117
$Cs_3Yb(SO_4)_3$, X-ray cryst. struct. determ. 1−7151
Cs_2ZnBr_4, struct. phase sequence with incommensurate phases, X-ray diffr. and NQR meas. 1−7324
$CsZnCl_2$, magnetic single ion anisotropy, Mn^{2+} ion zero-field splitting 1−34667
$Cs_2ZrCl_6(Br_6)$:Re^{4+}, IR interconfigurational and mag. circular dichroism spectra 1−31170
Cs_2ZrO_3, prep., reaction of ZrO_2 with fused anhydrous CsOH 1−35221
$Cs_3[Mo_2O_4F_3]$, cryst. struct. and vibr. spectra 1−34314
$(Cu,Zn)Cs_2(SO_4)_2.6(H,D)_2O$, study of cross-relax. by ENDOR 1−3296
$(Cu,Zn)Cs_2(SO_4)_2.6H_2O$, study of cross-relax. by pulsed ENDOR 1−3295
$KReO_4$-$CsReO_4$ system, excess Gibbs free energy, mass spectrometric determ. 1−25458
$(Li,Na,K,Cs)(Eu,Tb)_{1-x}(Gd,\gamma)_x[(Mo,W)O_4]_2$, luminescence props. 1−39136
$Na_2KSb(Cs)$ photocathode, struct. studied by XPS 1−42353
UF_3-CsF system, phase diagram, crystal structure 1−5980

caesium generators *see plasma diodes*

caesium plasma diodes *see plasma diodes*

calcium
see also nuclei with .....
abundance in GD 401 (=Gr 451), DB He white dwarf 1−49643
addition to cast Fe, influence on sorption of unwanted impurities *(Russian)* 1−31465
adsorption of deposits on Pt single cryst. faces, charact. electron energy loss spectra *(French)* 1−52419
Ag-Bp stars, radiative forces rel. to Ca and Sr abundances 1−54501
atom, electron scattering cross-sections *(Russian)* 1−19185
atom, optical Ramsey fringe profiles, second-order Doppler effect 1−51165
atom and gasdynamic beams, metastable atoms, vel. distrib. and state density, laser diagnostics 1−6407
atomic vapour, dense, laser excitation and ionisation 1−29830
atoms, spin-forbidden radiative transitions, ab initio, SCF and CI calcs. 1−28883
atoms, static dipole and quadrupole polarisability, HF and many-body perturbation theory calc. 1−51106
ζ Aurigae, Ca II K-line depth vars. during 1979 eclipse 1−49735
Ca II H and K lines in sunspot umbral flash, intensity ratios obs. 1−44530
α Canis Majoris (Sirius), A-type star, Ca II H and K line profiles and Ca abundance 1−9477
cardiac membrane vesicles, current generation by Na^+-Ca^{2+} exchange activity 1−32103
core-level spectra, XPS, enhanced multielectron effects 1−8188
equations of state, pseudopotential calcs. *(Chinese)* 1−2587
γ Geminorum, A-type star, Ca II H and K line profiles and Ca abundance 1−9477
ion recombination and radiative emission rates for plasma Ca and Ni 1−6929
isotope fractionation by sputtering, rel. to lunar soil samples 1−54404
microdoping of type ShKh-15 steel, sulphide inclusion hardening *(Russian)* 1−16870
molecule, bonding, analytic pot. functions 1−29071
neurons, Mollusk, gating mechanism of Ca channels, steady-state charact. and kinetics 1−17372
specific heat, anharmonic contribution 1−30412
spinal Ca, in vivo activation anal. using 25 keV neutrons 1−22118
T Tauri stars, Ca II IR triplet obs. and comparison with solar spectrum 1−44549
valence p shell ionisation, He II photoelectron spectra 1−45911
XPS investig. 1−31311
Ca II absorption lines in QSO PKS 2070−370 due to intervening Klemola 31 1−49850
Ca II emission lines in planetary nebulae 1−9625
Ca II H and K line var. in ζ Andromedae 1−49737
Ca II IR triplet in T Tauri spectrum, visible and IR spectral obs. *(Russian)* 1−4911
Ca II K in solar spectrum, two-dimensional radiative transfer rel. to line wings intensities 1−32675
Ca II K-line optical thickness of quiescent solar prominences, line central reversal 1−54443
Ca II lines in quasar 0446−208 spectrum due to intervening galaxy 1−44668
Ca XII, F-like, intrashell transition, probabilities and energy levels calcs. 1−1086
Ca XVIII, XVII, XVI, XV, XIV, spectra of transitions within second shell 1−28914
Ca^{2+} in prostaglandins, configs., rot. isomerism, MO calcs. 1−14805
Ca^{2+}, presynaptic currents in squid giant synapse 1−53766
Ca+inert gas, collision induced dipole transitions 1−46066
Ca+SF_6, reactions, chemiluminesc. spectra 1−53420
Ca+Zn, energy transfer between electronically excited Zn 1−46082
^{40}Ca two nucleon absorpt. of bound π from 2p and 3d levels 1−51319

calcium continued
KCl:Ca^{2+}, impurity aggregation incubation times, Monte Carlo simulation 1−20256
KCl:Ca^{2+}, impurity ion effect on lattice parameter 1−52122
KCl:Ca^{2+}, X-ray irrad., complex interstitial halogen H_3-type defect, ESR study 1−47946
KCl:Ca^{2+}, Z_2^+-centres, Slater-type wavefunctions, absorpt. energies and splitting, calc. 1−16251
KCl:Ca^{2+} gamma irrad. effects on lattice parameter and colour centre conc. 1−52176
NaCl:Ca, air grown, thermally annealed, crit. flow stress, IR absorpt. meas. 1−7245
NaCl:Ca^{2+}, dislocation densities, macroscopic flow parameters 1−20221
NaCl:Ca^{2+}, impurity-vacancy pair clustering, activation energy 1−52171
NaF_2:Ca^{2+}, internal friction, charged dislocations, plastic props. 1−11812
RbBr:Ca^{2+}, single crystals, optical absorption, thermoluminescence glow and emission spectra 1−8143

calcium alloys
see also calcium compounds
Al-Al_4Ca eutectic alloy, microduplex struct., room temp. props., prep. and microstruct. 1−39354
AlCa, dilute, size effect, temp. depend., thermal expansion meas. 1−47263
Ca-Si(Ge)(Sn)(Pb), thermionic emission props. rel. to phase state 1−31298
$Ca_{0.8}Al_{0.2}$ metallic glass, thermoelectric power 1−52547
$Ca_{70}Mg_{30}$ metallic glass, freq. distrib. and dynamic struct. factor, neutron inelastic scatt. obs. 1−30341
$CaNi_5$-H, differential heat flow calorimetry 1−2655
$CaNi_5H_5$, cryst. struct, X-ray diffr. study 1−52109
SmCaGe garnet film, domain wall velocity 1−12372

calcium compounds
see also calcium alloys
apatite crystals, orientation rel. to muscle attachment in the mandible, bone stresses 1−17337
calcite single cryst., nucleation and growth of aragonite 1−16041
CaO, XPS investig. 1−31311
$CaO.Fe_2O_3$, mag. phase diagram 1−30937
cement pastes, analytical electron microscopy study 1−3706
dicalcium lead (strontium) propionate, ferroelec., cryst. growth and dielec. props. 1−26377
dicalcium lead and strontium propionate, solution crystal growth 1−53072
dicalcium strontium propionate, soln. grown single crysts., defect form., dielec. props. 1−12462
F *(French)* 1−34324
feldspar, labradorite Ca/Na positions derived from high-resoln. electron microscopy and optical diffr. 1−47046
fluoroapatite, synthetic, X-irrad., thermoluminesc. obs. 1−26286
formate, H^+ and ^{13}C nuclei mag. shielding tensor 1−41327
gypsum, strength in hydrostatic tension 1−31562
halophosphate phosphor research developments, review *(Japanese)* 1−19398
thermal-barrier coating, corrosion-resistant, for gas-turbine engine air-cooled components 1−39530
tris-sarcosine calcium chloride, antiferroelectric high press. phase dielectric observation 1−8018
tris-sarcosine calcium chloride, ferroelec. transition temp., press. depend. 1−26140
trisarcosine calcium chloride, ferroelec.-ferroelastic phase transition, Raman and Brillouin scatt. study 1−8050
wollastonite base porcelains, electron microscopy 1−43348
wollastonite structure ($CaSiO_3$), replacement of Ca by Sr, electron microscope study 1−30249
zeolites, meas. of heat of immersion against water by quartz temp. sensor *(Japanese)* 1−34488
Ag/CaF_2/Al thin film struct., AC conduction 1−47758
Al/CaF_2/Al thin film struct., AC conduction 1−47758
Al_2O_3-CaO-B_2O_3-SiO_2 system, corundum ceramic, B_2O_3 influence on sintering and mech. props. 1−31378
Al_2O_3-SiO_2-CaO oxides, wettability by liq. steel *(German)* 1−42608
(Ca,Na)[(Al,Si)$AlSi_2O_8$], calcic plagioclase, antiphase boundaries, struct., form. and decomp. 1−42398
Ca-S-O, thermodynamic calc. on coal ash and CaO interactions, phase diag. 1−3700
$Ca_{19}Al_4Fe(Al, Mg, Fe)_8Si_{18}O_{70}(OH)_8$, vesuvianite, electron hopping processes, Mossbauer spectra study 1−26095
$Ca_{20}Al_{32-2x}Mg_xSi_xO_{68}$, quaternary phase, cryst. struct. 1−30142
$CaAl_2O_4$-SiO_2 glasses, physicochem. anal., comp. depend. and vol. additive props. 1−42318
$Ca_2Al_3(OH)(SiO_3)_4$, zoisite, low-energy OH valence vibr., H-D isotope effect on IR spectrum 1−21180
$Ca_8Al_{12}O_{24}(WO_4)_2$, IR, optical and Raman spectra, luminesc. meas. 1−52945
$Ca_3Al_2Si_3O_{12}$ in pyrope-grossular garnet, activity expressions 1−44168
$CaAl_2Si_4O_{12}.2H_2O$, wairakite, lattice consts. as function of chemical comp. 1−47047
$2CaAl[BO_3]O \equiv Ca_2[AlO_3BO]_2$, synthetic, cryst. struct. determ. 1−25228
CaB_6, coeff. of normal Cu X-radiation absorpt. 1−39183
$CaB(OH)SiO_4$, datolite, luminesc. of rare earth impurity ions 1−21262
$CaB_2(SiO_4)_2$, danburite, luminesc. of rare earth impurity ions 1−21262
$Ca_2(B_4SiO_9(OH)_5)$, howlite, luminesc. of rare earth impurity ions 1−21262
CaC-$Na_2C_2(Li_2C_2)(CeC_2)$, solid solubilities, X-ray diffr. study 1−7337
CaCN, visible spectra obs., atomisation energies meas. 1−1248
$CaCO_3$, aragonite, IR and Raman spectra 1−8072
$CaCO_3$ calcite, high press. polymorphic transitions 1−44175
$CaCO_3$ calcite cleavage faces, microdisk pattern prod. by etching 1−20522
$CaCO_3$, calcite hyper-Raman scatt. from IR active modes 1−39087
$CaCO_3$, calcite-$CaCO_3$(II) phase transition, Landau description 1−34452
$CaCO_3$ crystallisation inhibition by Mg^{2+} at pH 8.8 and 25°C 1−2364
$CaCO_3$, Raman study of temp. depend. of lattice modes 1−47187
$CaCO_3$, rate and activation enthalpy of decomposition 1−12992
$CaCO_3$ reinforced polystyrene melt, rheology 1−37863
$CaCO_3$ saturometry of seawater, by alkalinity difference method 1−17701
$CaCO_3$, seeded crystallization kinetics, influence of solid/soln. rate on reaction rate const. 1−47028
$CaCO_3$, spatial distrib. of acoustic emission *(Russian)* 1−42457
$CaCO_3$:Mn^{2+} EPR lineshapes in axial and cubic cryst. field 1−16472

calcium compounds continued
$Ca_3(CaNb_2)O_9$, perovskites, vibr. spectra, order phenomena on octahedral sites *(French)* 1−21205
$CaCl_2$ aq. soln., permeability estimated from electrochemical data from cation exchange membrane system 1−43705
$CaCl_2$, cryst. struct., stability and phase transition at high-press. 1−27155
$(CaCl_6)(Mg(H_2O)_6)_2$, full-matrix least-squares cryst. struct. refinement 1−15856
$Ca(ClO_3)_2$ crystals, gamma-ray radiation damage, isothermal annealing 1−11787
$Ca(ClO_3)_2.2H_2O$ crystals, gamma-ray radiation damage, isothermal annealing 1−11787
γ-$CaCl_2.4H_2O$, γ-form, X-ray cryst. struct. determ. *(French)* 1−15865
$CaCl_2.8NH_3$ dispersion in inert solvent for chemical heat pump appls. 1−53640
$CaCr_2O_4$, stability of α and β modifications, rel. to MgO addition *(Slovak)* 1−7330
$CaCr_2O_7.3H_2O$, phase composition and decomposition products 1−39599
$CaCu_3Ti_4O_{12}$, appl. of crystallographic and mag. structs. of materials with threefold orbital degeneracy 1−2405
Ca_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
CaF, optical optical double reson. spectra 1−1263
CaF, undoped and YF_3 doped, transition to superionic state, impurity effect 1−38819
CaF_2 addition to Si_3N_4, effect on resist. to corrosion by acid and alkali solns. 1−35413
CaF_2, and related compounds, phase transitions, thermodynamics 1−52291
CaF_2, cohesive props., equation of state, lattice parameters, LMTO calc. 1−20109
CaF_2, cryst. surfaces, struct. and props. 1−7436
CaF_2 diamond-machined IR window, optical and surface physical characteristics 1−29359
CaF_2 diamond-machined window surfaces, 2.7 μ and 3.8 μ laser breakdown obs. 1−29313
CaF_2, dipolar solid, quasi spin locking, signal-baseline simultaneous averaging 1−16470
CaF_2, electron-gas theory, many-body effects 1−47524
CaF_2, electronic band struct., SCF LCAO calcs. 1−20628
CaF_2 film, pulsed laser damage threshold at 0.26 to 1.06 μ 1−37530
CaF_2, formation vol. of Frenkel pairs calc. 1−52132
CaF_2, grain growth, inclusion controlled 1−21456
CaF_2, high-temp. cond. and ionic disorder, thermodynamic anal. 1−34510
CaF_2, impurity centre resonance line inhomogeneous broadening 1−26248
CaF_2 laser windows, forged and isostatically hot pressed, scatt. levels and stress birefringence obs. 1−29354
CaF_2, mode gammas and thermal expansion, calc. 1−16007
CaF_2, molten, X-ray diffr. intensities and partial struct. factors 1−11666
CaF_2 natural single crystals with etched cleavage faces, evidence of slip 1−25281
CaF_2, neutron irrad. induced point defects, ^{20}F NMR study 1−2528
CaF_2 optics for VUV Mach-Zehnder interferometer, Xe, oscillator strength meas. 1−50235
CaF_2 powder, continuous cylindrical dosimeters 1−963
CaF_2, pulsed spin-locking expts., magnetisation 1−21082
CaF_2, rare-earth doped, audio freq. dielec. relaxation meas. and activation vol. 1−3326
CaF_2, reflectivity, fluoresc. and photoelectron spectra, 20 to 100 eV 1−3466
CaF_2, relation among XPS intensities, cross sections, and kinetic energies 1−8186
CaF_2, repulsive hardness parameter anal. 1−30131
CaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
CaF_2 single crystal, dislocation etching in silica gel 1−20216
CaF_2 single crystal diamond-machined window surfaces, HF-DF laser-induced breakdown 1−1605
CaF_2 single crystals, stratigraphical etch patterns, neutron irrad. effect 1−20272
CaF_2, sputtered excited particle kinetic energies, secondary photon emission 1−16613
CaF_2, stress induced anisotropy in lattice thermal conduction 1−30498
CaF_2 superionic conduction rel. to temp., Monte Carlo simulation 1−34506
CaF_2, thermal expansion and Gruneisen parameter, 2 to 90K 1−2661
CaF_2, transition metal ions interactions, review 1−25669
CaF_2 with F_3 color center, photochemical hole burning storage material 1−41802
$CaF_2:Ce^{2+}$, photocond. due to autoionis. of ce^{2+}, threshold shift *(French)* 1−52600
$CaF_2:Ce^{3+}$, tetragonal impurity centres, struct. and spectrum 1−20662
CaF_2:Dy, antireson. type effect, EPR optical detect. for Dy^{3+}-Dy^{3+} pairs with colour centres 1−31027
CaF_2:Dy, TLD, conference, Toulouse, France (Apr. 1980) 1−11
CaF_2:Dy, TLD, dependence on radiation quality, fading and light effects 1−956
CaF_2:Dy, TLD system, Mn dopant effect 1−3512
CaF_2:Dy, thermoluminescent response under heavy ion bombardment 1−948
$CaF_2:Dy^{3+}$, MCD optical detect. of EPR for Dy^{3+}-O^{2-} trigonal centre ground state 1−43040
CaF_2:Er, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
$CaF_2:Er^{3+}$, dipole spin glass obs., mag. susceptibility *(Russian)* 1−21000
$CaF_2:Er^{3+}$, laser spectroscopy of defect chemistry 1−43142
$CaF_2:Er^{3+}(Pr^{3+})(Sm^{2+})$, optical f-f transitions, strain modulation 1−12531
CaF_2:Eu crystals, X-band ESR studies of forbidden transitions 1−7945
$CaF_2:Eu^{2+}$, ballistic propag. of phonons obs. by piezospectroscopic fluoresc. method 1−3487
$CaF_2:Eu^{2+}$, mode depend. of resonance absorpt. of ballistic phonons *(Russian)* 1−52248
$CaF_2:Eu^{2+}$, scintillator, luminesc. kinetic characts. 1−12546
$CaF_2:Eu^{2+}$, tunable optical phonon detector and generator 1−15979
$CaF_2:Gd^{3+}$, $Li^+(Na^+)(K^+)(Rb^+)(Cs^+)$, zero-field splitting of $4f^7$ state 1−20676
$CaF_2:Gd^{3+}$, $Li^+(Na^+)(K^+)(Rb^+)(Cs^+)$, zero-field splitting of $4f^7$ state, electrostatic model 1−20677
$CaF_2:Ho^{3+}$, X-ray induced thermoluminesc., photluminesc. meas. 1−48175
calcium compounds continued
CaF_2:Mn, TLD, TL response and range of heavy charged particles, LET dependence 1−947
CaF_2:Na, luminesc. and stimulated emission of M_A-centres 1−12541
$CaF_2:Na^+(Y^{3+})$, impurity absorpt. in VUV region 1−43143
$CaF_2:Nd^{3+}$, EPR 1−3255
CaF_2:Pr, high temp. thermoluminesc. peak, diffusion controlled, obs. 1−26287
$CaF_2:Pr^{3+}(Er^{3+})$, strain shifts of energy levels, second-order orbit lattice parameters 1−12077
$CaF_2:R^{3+}$, Hartree-Fock calc. of cryst. modified wave functions 1−34652
$CaF_2:Sm^{2+}$, phonon spectroscopy, fluoresc. obs. 1−12553
$CaF_2:Sm^{2+}$ crystals, $4f^6$−^15d to $4f^6$ luminesc. vibronic wing, vibr. spectrum and symm., Jahn-Teller pseudo effect 1−43168
$CaF_2:Yb^{2+}$ configuration shift, metal-ligand exchange effects 1−12068
CaF_2-LaOF(GdOF)(YOF) solid solns., phase diagrams and cryst. growth by Bridgman technique 1−35241
CaF_2-type crystals, anti-Frenkel defect form. enthalpy 1−20192
CaF_2-YF_3, anion-excess fluorite-related superstruct. phases 1−25236
CaF_2-YF_3, tveitite, anion-excess fluorite related superlattices 1−7139
$CaF_2(Cl_2)$, 3d electron collapse in $2p^53d$ configuration of Ar-like ions *(Russian)* 1−26371
$CaF_2.2HF$, H-bonds, ^1H and ^{19}F NMR data, struct. anal. 1−6283
$CaFe_{2+x}O_{4+x}$, cryst. struct., intergrowth process *(French)* 1−34324
$Ca_3Fe_2O_4$ reacting with Fe_2O_3 and FeO, Mossbauer study of high temp. reactions 1−21089
$Ca_3Ga_2Ge_3O_{12}$, garnet substrate, for mag. films, prep. 1−21338
$Ca_3Ga_2Ge_3O_{12}$ substrate, growth of $(SmLuCa)_3(SiLuFe)_5O_{12}$ mag. bubble film 1−8240
$CaGa_2O_4$-SiO_2 glasses, physicochem. anal., comp. depend. and vol. additive props. 1−42318
Ca_2GeO_4, shock compression, elec. conductivity meas., phase transition 1−38822
CaH_2 powder, UV photodecomposition kinetics 1−4108
CaHCl system, collinear interactions, val. bond diatomics-in-mol. method appln., pot. energy surfaces 1−1143
$CaHPO_4$, monetite, Raman spectrum band assignment 1−26196
CaI_2/AI, A=Cs-Na, thermochem. and struct. study *(German)* 1−48723
$Ca(IO_3)_2$ crystal growth by gel method 1−53076
$Ca(IO_3)_2$, solubility and complexation in $(K,Na)NO_3$ melts 1−52295
$CaMg_2Cl_6.12H_2O$, tachyhydrite, cryst. struct. determ. *(French)* 1−15855
$Ca_2(Mg_{0.86}Fe_{0.14})(Mg_{0.92}Fe_{0.08}[B_2O_5]_2)$, cryst. struct. determ. 1−25229
$CaMgSi_2O_6$, atomic charges estimation from X-ray diffr. intensity data 1−7140
$Ca_2MgSi_2O_7$-akermanite, two-phase silicate system, phase anal. by dissolution calorimetry *(Czech)* 1−30404
$Ca_7Mg(SiO_4)_4$, bredigite, stability limit determ. 1−3707
$CaMn_3O_6$ and $CaMn_4O_8$, prep., mag. and EPR behaviour 1−38925
$CaMn_7O_{12}$, bond lengths, Jahn-Teller distortion of Mn^{3+} octahedra 1−15878
$CaMoO_4$, cryst. growth in silica gel, growth kinetics and characts., pH influence 1−20084
$CaMoO_4$, spherulitic cryst. growth in silica gel media, SEM obs. 1−48246
$CaMoO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
$Ca_3(NH_4)_2(P_2O_7)_2.6H_2O$, X-ray cryst. struct. determ. 1−15847
$Ca(NO_3)_2$ in aqueous and non-aqueous solns., US vel. and density meas. 1−25375
$Ca(NO_3)_2.4H_2O$ crystals, melt growth kinetics in supercooling region 1−20086
$Ca(NO_3)_2.4.05H_2O$-$Ni(NO_3)_2.5.75H_2O$, molten, soln. props., cond., viscosity, density, refr. index, and surface tension meas. 1−20438
Ca_2NbCoO_6, formation reactions, thermal stability 1−35513
$Ca_2Nb_2O_7$, photocond. and photovoltaic props. 1−20798
$Ca_2Nb_2O_7$, reduction by C, thermodynamic anal. 1−17041
CaO additions in alkali silicate glasses, low-temp. mech. relax., US obs. 1−52233
CaO, adsorpt. of O_2, adsorboluminescence and adsorboemission 1−38670
CaO, atomic correl. and bond length, ab initio MO calcs. 1−28856
CaO, crystn. from metal chloride melts, solubility-temp. phase diagram anal. 1−21431
CaO, defect surface, dissociative chemisorption of H_2, CNDO investigation *(German)* 1−53473
CaO, electron-gas theory, many-body effects 1−47524
CaO, excited triplet state of F^+-centre pairs, spin dephasing 1−3299
CaO in Na_2O-$2SiO_2$, XPS study of bonding and leaching properties 1−31313
CaO, polarisable O^{2-} ion electronic charge distrib. 1−30632
CaO powders with Cr_2O_3 additions, solid state sintering 1−21401
CaO, RKRV pot. energy curve and dissoc. energy 1−10680
CaO, surface states, UV diffuse refl. spectra 1−21227
CaO:Bi, adsorpt. of O_2, adsorboluminescence and adsorboemission 1−38670
CaO:Bi^3+ 1−12076
CaO:Cr^{2+}, acoustic paramagnetic resonance expts. 1−16479
CaO:Ga, photolum. and cathodolum. decay obs. *(Russian)* 1−16612
CaO:Ir^{4+}, EPR spectra, cryst. field and mag. props. 1−3254
CaO:Li, $[F_{Li}]^0$ centre, EPR and ENDOR study 1−38980
CaO:Mg, F and F_A centres, ODMR 1−16505
CaO:Mg, F_A-centre and F-centre luminesc. meas. 1−16596
CaO-Al_2O_3-B_2O_3 glasses, Ni^{2+} absorpt. spectra *(Japanese)* 1−21216
CaO-Al_2O_3-MgO-SiO_2 system, rel. to quaternary phase Q 1−43328
CaO-Al_2O_3-SiO_2, kaolin-limestone-quartz mixture, vitrification process accompanying mullite formation *(Japanese)* 1−53165
CaO-Al_2O_3-SiO_2 glass, annular specimens, bending strength determ. by radial compression 1−3867
CaO-Al_2O_3-SiO_2 glasses, reactivity with NaOH soln. 1−53310
CaO-Al_2O_3-SiO_2 melt, dissoln. of Al_2O_3 and SiO_2 1−11867
CaO-Al_2O_3-SiO_2-(Na_2O), corrosion by H_3PO_4 1−53308
CaO-$Al_2O_3(SiO_2)(Al_2O_3$-$SiO_2)$, liquid slag, surface tension meas. by pendant drop method *(Japanese)* 1−47332
CaO-B_2O_3 glasses, Ni^{2+} ions diffusion behaviour *(Japanese)* 1−20475
CaO-Fe_2O_3-B_2O_3 glasses and glass-metal composites, prep., struct. and props. meas. 1−31414
CaO-Fe_2O_3-SiO_2 glasses and glass-metal composites, prep., struct. and props. meas. 1−31414
CaO-FeO-SiO_2, glass formation and properties 1−15808
CaO-MgO, laser-melted, ultra-rapid quenching 1−26510
CaO-MgO-Al_2O_3-SiO_3 glass comps., for glass crystallite 1−12713

calcium compounds continued
CaO-MgO-Al_2O_3-SiO_2 glass, crystn. of chromite-magnesiochromite spinels, nucleation, cryst. growth and sizes 1−42311
CaO-MgO-Al_2O_3-SiO_2 system containing garnet, stability 1−44168
CaO-MgO-CO_2-H_2O, solidus relationships to 40 kbar, geophysics appl. 1−39321
CaO-MgO-SiO_2 oxides, wettability by liq. steel *(German)* 1−42608
CaO-MgO-SiO_2-CO_2-H_2O, solidus relationships to 10 kbars, geophysics appl. 1−39321
CaO-P_2O_5:Mn^{2+} glass, struct. disorder, ESR study 1−43005
CaO-P_2O_5:Nd^{3+}(Ho^{3+})(Er^{3+})(Tm^{3+}) glasses, protonated and deuterated, luminesc. quenching 1−43179
CaO-SiO_2-Al_2O_3 molten slag in graphite crucible, evolution rate of SiO and dissolution rate of C *(Japanese)* 1−25436
CaO-SiO_2-H_2O, cement pastes, analytical electron microscopy study 1−3706
CaO-SiO_2-H_2O synthesis under hydrothermal conditions *(Czech)* 1−39231
CaO-ZrO_2, partially stabilized, mech. props. transformation toughened, aged 1−16894
CaO-ZrO_2 system, fracture mechanics study 1−21569
$Ca(OH)_2$, electron irrad. prod. O_2^- centre, ESR, ENDOR, optical absorpt., and Raman study 1−11789
$Ca(OH)_2$, H^+ conductivity, activation energies, vapour adsorption, conductivity measurements 1−25492
$Ca(OH)_2$, proton cond., band model 1−47288
$(CaO)_3SiO_2$ mortars, temp. increases effect on microstruct. and strength 1−43431
1.8CaO.SiO_2/(M-Cr-Al-Y) thermal barrier coating (M=Ni, Co), hot corrosion behaviour 1−31710
16CaO.84($Zr_{1-x}HF_x$)O_2 system, cation interdiffusion 1−34521
$Ca_3(PO_4)_2$:Cr, Ni, whitlockite struct., IR spectrosc. obs. 1−26197
$Ca_5(PO_4)_3Br$, struct., radius of Br^- ion 1−42349
$Ca_{10}(PO_4)_6CO_3$, space group and lattice constants 1−30177
$Ca_{10}(PO_4)_6F_2$:Mn, X-ray induced defect centres, thermoluminesc. study 1−8142
$Ca_{10}(PO_4)_6F_2(Cl_2)$, phosphors, formation chemistry 1−12961
Ca_2PtO_6, cryst. growth and morphology 1−12642
$Ca(ReO_4)_2.2H_2O$, cryst. struct. determ. 1−42361
CaS, oxidation reactions anal. 1−12906
CaS phosphors, generalised decay relation 1−31181
CaS, pure solid, ionic conductivity 1−16086
CaS:Pb^{2+}, non-phonon transition in impurity centre, hyperfine interaction *(Russian)* 1−43124
$CaSO_4$, anhydrite, charge density, X-ray and neutron diffr. meas. 1−30145
$CaSO_4$ deposit patterns on steam generator tubes, determ. using radioactive ^{35}S 1−43728
$CaSO_4$, TLD, conference, Toulouse, France (Apr. 1980) 1−11
$CaSO_4$, thermoluminescence mechanisms, V-centres 1−3503
$CaSO_4$:Dy, preparation, TL dosimeter 1−960
$CaSO_4$:Dy, sintered TLD development 1−961
$CaSO_4$:Dy, TLD, energy depend. 1−28835
$CaSO_4$:Dy, thermoluminescence, very deep traps at temps. greater than 500°C 1−3507
$CaSO_4$:Dy, thermoluminescence depend. on stopping power 1−26285
$CaSO_4$:Dy phosphor, photothermoluminesc. and behaviour of high-temp. glow peaks 1−26284
$CaSO_4$:Dy phosphors, mag. suscept., temp. depend. 1−30906
$CaSO_4$:Dy phosphors, X-ray induced fluoresc. and phosphoresc. 1−39134
$CaSO_4$:Dy TLD, energy dependence 1−950
$CaSO_4$:Tm, sintered TLD development 1−961
$CaSO_4$:Tm, TLD, energy dependence 1−950
$CaSO_4$:Tm, thermoluminescent mechanism, ESR study 1−3505
$CaSO_4$-TiO_2 systems, reactivity of TiO_2 with different preparation histories 1−26732
$CaSO_3.0.5H_2O$, new phases, X-ray diffr. identification *(Japanese)* 1−20172
$CaSO_4.2H_2O$, gypsum, near-surface channeling of high-energy multiply charged ions 1−52204
$CaSO_4.2H_2O$ nucleation and growth on type 304 stainless steel surfaces, effect of surface roughness 1−2366
$CaSb_2O_6$, vibrs., force field calcs., IR and Raman obs. *(French)* 1−31152
$CaSb_4O_4(OH)_2(SO_4)_2.2H_2O$, peretaite, atomic arrangement and twinning 1−42351
$CaSi_2$ layers, vapour deposited on monocryst. Si substrate 1−21367
$CaSiO_3$, crystn. from metal chloride melts, solubility temp. phase diagrams 1−21430
$CaSiO_3$, heat of fusion 1−30365
Ca_2SiO_4, phase transitions study using X-ray precession camera with high temp. apparatus *(Japanese)* 1−21444
$Ca_3Si_6O_{15}.7H_2O$, nekoite, cryst. struct. determ. 1−47049
$Ca_2Sn(Pb)O_4$ perovskite-type struct., interphases between Zintl phases and real salts *(German)* 1−31442
$Ca_{10-x}Sr_x(AsO_4)_6(OH)_2$, IR spectra, fundamental freqs. 1−31154
$(Ca_xSr_{1-x})S$:Cu, Nd, electroluminophor, luminesc. meas. 1−52998
Ca_3TaCoO_6, formation reactions, thermal stability 1−35513
Ca_3TeO_6, X-ray cryst. determ. 1−34301
$CaTiO_3$, crystn. from metal chloride melts, solubility temp. phase diagrams 1−21430
$CaTiO_3$, high dielectric constant material, diffusion barrier 1−16684
CaV_2O_6, diffuse phase transition *(French)* 1−25422
β-$Ca_{0.17}V_2O_5$, specific heat and entropy 1−7347
$Ca_3(VO_4)_2$-$Sr_3(VO_4)_2$ ($Ba_3VO_4)_2$, thermal and luminesc. props. 1−35083
$Ca_xV_{12}O_{30-y}$, decomp. of single crysts., semicond.-metal transition 1−53180
$CaWO_4$, crystn. degree from LiCl melt, evaluation by optical microscopy and chem. anal. 1−20087
$CaWO_4$, diffusion controlled crystal growth, kinetic parameters and thermodynamic props. studied by DTA 1−25184
$CaWO_4$, elastic constants calc. 1−52216
$CaWO_4$, IR reflection spectra, anharmonic damping mechanisms 1−48081
$CaWO_4$, recombination luminescence kinetics 1−12581
$CaWO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
$CaWO_4$:Nd^{3+}, generation of primary, stimulated and multiple light-echo signals 1−1652
$CaWO_4$:Tb^{3+}, phase relaxation time, instantaneous and spin diffusion 1−3256
$CaWO_4$:Yb,Tb, spin-lattice relaxation, spin echo, spin polarisation *(Russian)* 1−12426

calcium compounds continued
$Ca_{2x}Zr_{1-2x}O_{2-2x}$, defect struct., ionic cond., and diffusion 1−30450
$CaZrS_3$, atomic positional parameters, neutron diffr. powder method 1−15841
$CaZr_xTi_{3-x}O_7$, x=0.85 and 1.30, X-ray cryst. struct. refinement 1−42342
$Ca_2[BO_3BO]_2$, cryst. struct. determ. 1−25228
$Ca[B_2O_4(OH)_3].H_2O$, colemanite, anomalous thermal expansion, temp. depend of cell parameters 1−52317
$Ca_6[Si_2O_7(OH)_6]$, ^{29}Si NMR, shielding tensor and Si-O bond length correl. 1−34959
$Ce_{1-x}Ca_xO_{2-x}$, mixed elec. cond. 1−30792
$CsCaCl_3$, electronic struct. comparison with other perovskite struct. compounds, optical spectra 1−16230
Eu-CaGe substituted garnet films, bubble domain vel. and mobility, mag. field effects *(Japanese)* 1−7921
$F_{1-x}O$, wustite powders, influence of CaO and MgO on metallisation kinetics, Fe whisker formation 1−12733
Fe-Mo-CaF_2 materials, sintered, frictional props. in Na liq. and vapour 1−21597
$K_2Ca_4(SO_4)_6.H_2O$, cryst. struct. determ. 1−30190
KNO_3-$Ca(NO_3)_2$ melt, NO_3^- cathodic reduction 1−35552
K_2O-CaO-B_2O_3-SiO_2, liquid immiscibility 1−30392
K_2O-CaO-BaO-B_2O_3 glasses, refl. coeff. and IR optical consts. 1−43092
K_2O-CaO-BaO-B_2O_3 glasses, IR spectra and struct. interpretation 1−43128
K_2O-MO-B_2O_3 (M=Ca, Sr, Ba), optical absorpt. spectra of VO^{2+}, bonding modes *(Japanese)* 1−21235
$(La,Ca)C_2O_3$ system, structural studies at high temp. *(French)* 1−47065
La_2O_3-CaF_2-(CaO-SiO_2) liquid slags, activity of La_2O_3 *(Chinese)* 1−38555
$(LaTmCa)_3(FeGe)_5O_{12}$, garnet films, magnetic loss, domain wall motion 1−16465
Li_2O-CaO-Al_2O_3-P_2O_5:Mo^{3+} glasses, fluoresc. line narrowing and decay rates, site depend. 1−39148
M=Mg, Ni, Zn, cation distrib., props. of brownmillerite phase 1−47052
MgO-CaO-SiO_2-ZrO_2 refractories, CaO/SiO_2 ratio effect on hot strength, phase diagram 1−53250
$Na_{2-x}Ca_{1-x}Al_xSiO_4$, carnegieite phases, ionic cond. and crystallographic data 1−20450
$Na_{12}Ca_3Fe_2[Si_6O_{18}]_2$, imandrite, cryst. struct. determ. 1−30195
$(Na_{1.31}Ca_{0.38}K_{0.03}Mg_{0.03})_{1.75}Zr(Si_6O_{15}).2.9H_2O$, elpidite, cryst. struct. 1−30200
$NaCa_2Ni_2V_3O_{12}$, canted mag. struct., exchange interaction and effective single-ion anisotropy 1−47862
$Na_{2-x}CaSi_{1-x}P_xO_4$, carnegieite phases, ionic cond. and crystallographic data 1−20450
$Na_6Ca[Zr(Si_6O_{18})]$, cryst. struct. study 1−20168
Na_2O-CaO glass, crack imitation and propagation under moving sharp indentor 1−26593
Na_2O-CaO glass, weathering effect on transmittance 1−53309
Na_2O-CaO-B_2O_3-SiO_2, liquid immiscibility 1−30392
Na_2O-CaO-SiO_2, replacement of soda ash by caustic soda in laboratory glass melting trials 1−21411
Na_2O-CaO-SiO_2 float glass, deform. associated with scoring with disc cutter 1−39370
Na_2O-CaO-SiO_2 glass, surface treatment effect on fatigue 1−31596
Na_2O-CaO-SiO_2 glass, NiS inclusions, microcracking induced by volumetric expanding phase change 1−39428
Na_2O-CaO-SiO_2 glass, O diffusion 1−42569
Na_2O-CaO-SiO_2 glass, darkening in low press. Hg discharge, mechanism 1−53425
Na_2O-CaO-SiO_2 glass for solar mirrors, natural aging in semi-arid environment 1−12908
Na_2O-CaO-SiO_2 glass melt, unstirred, vaporisation 1−20369
Na_2O-CaO-SiO_2 glass bottle, containing alcoholic-soln., solid products formation *(Japanese)* 1−21618
Na_2O-CaO-SiO_2 glass containing water, phase separated, small angle X-ray and TEM obs. 1−30093
Na_2O-CaO-SiO_2 glasses, Sn diffusion between transformation and softening points 1−20466
Na_2O-CaO-SiO_2 glasses containing up to 6 mol.% N, prep. 1−43308
Na_2O-CaO-SiO_2 glassmelt, dissolution of stationary bubble containing diffusing and nondiffusing gas 1−2635
Na_2O-SiO_2-CaO melts, thermodynamic props. at 1000 to 1100°C 1−47258
$Na_2O.2CaO.3SiO_2$ glass early internal and Pt-initiated crystallisation, TEM obs. 1−15805
$P_2O_5.Al_2O_3.CaO$:Mn, X and gamma ray radiation induced struct. defect 1−52969
RbCaF$_3$, tetragonal domains in cubic phase 1−7150
SiO_2-Al_2O_3-Na_2O-K_2O-CaO-MgO(B_2O_3-ZnO) glass, batch prereaction effect 1−30358
SiO_2-Al_2O_3-Na_2O-K_2O-CaO-B_2O_3-ZnO glass, thermal anal. during heat treatment 1−31429
SiO_2-Na_2O-CaO (22 to 25, 0 to 3 wt.%) glass, photoelec. props. in fundamental absorpt. region 1−42824
SiO_2Na_2O-CaO-MgO-Al_2O_3-K_2O-BaO glass, decolorisation, Na_2So_4 effect 1−12895
(Sm, Y, Ca)$_3$(Ge, Fe)$_5O_{12}$, magnetic bubble parameters, temp. depend. 1−21021
Sm-CaGe substituted garnet films, bubble domain vel. and mobility, mag. field effects *(Japanese)* 1−7921
$(SmLuCa)_3(FeSi)_5O_{12}$ epitaxial films on CaGeGa garnet, mag. and struct. characts. 1−42988
$(SmLuCa)_3(SiLuFe_5)O_{12}$ epitaxial film, domain wall resonance 1−3226
$(SmLuCa)_3(SiLuFe)_5O_{12}$ bubble film growth on $Ca_3Ga_2Ge_3O_{12}$ substrate, mag. props. 1−8240
SmLuYCaGeIG system, bubble collapse temp. coeff., ion implantation and annealing effect 1−38959
SnO_2:CaO ceramics, form. of surface microstruct. 1−8606
$(Sr_{1-x}Ca_x)VO_3$, electrical conductivity, 4.2K to room temp. *(Japanese)* 1−38817
Y-Sm-Lu-Ca-Ge garnet film, ion implanted bubble circuit, drive layer thickness effect 1−7916
$Y_{1-x}Ca_xCrO_3$, prep., elec. and thermal props. 1−16745
$(YErCa)_3(FeGe)_5O_{12}$, garnet films, magnetic loss, domain wall motion 1−16465
$(YLuSmCa)_3(FeGe)_5O_{12}$, mag. bubble garnet, LPE growth, simultaneous multiple dipping 1−8242
$(YSmCa)_3(FeGe)_5O_{12}$, LPE bubble garnet wafers, mag. props. postgrowth modification by etching 1−7904

calcium compounds continued
$(YSmCa)_3(FeGe)_5O_{12}$, epitaxial garnet films, displacement of cylindrical bubble domains 1−42989
$(YSmErGdLuCa)_3(FeGe)_5O_{12}$ bubble films with collapse-field temp. coeffs. from −0.3 to 0%/°C 1−7906
$(YSmLuCa)_3(FeGe)_5O_{12}$, 2 μm bubble propag. on asymm. chevron patterns, three-dimens. continuum magnetostatic energy model 1−7913
$(YSmLuCa)_3(FeGe)_5O_{12}$, garnet film stripe domain control, laser beam deflection 1−11077
$(YSmLuCa)_3(FeGe)_5O_{12}$ garnet films, magnetic loss, domain wall motion 1−16465
$Y_{1.62}Sm_{0.21}Lu_{0.27}Ca_{0.9}Fe_{4.1}O_{12}$ garnet film, stripe domain width 1−16466
ZrO_2:CaO ceramics, form. of surface microstruct. 1−8606
ZrO_2-CaO, elec. props., influence of phase transitions, X-ray electron spectral anal. 1−30448
ZrO_2-CaO, fluorite-cubic solid soln., relation between interdiffusion and self-diffusion coeffs. 1−52332
ZrO_2-CaO thin film, solid electrolyte, use in enhancement of plasma oxidation 1−48551
ZrO_2-CaO/Ni-Cr thermal barrier coated turbine vane, thermal contact resistance 1−30497
ZrO_2-CaO-Bi_2O_3, O^+ ion conductors, prep. and props. for low temp. use 1−16088
ZrO_2-CaO(Y_2O_3)(Sc_2O_3), fluorite struct., impure solid electrolytes, superionic cond., percolation mechanism 1−30444
ZrO_2-Y_2O_3-CaO-MgO solid solutions, prep. and elec. cond. 1−31399

calculating *see calculation*

calculating apparatus
No entries

calculating machines *see calculating apparatus*

calculation
see also graphs; nomograms
No entries

calculators *see calculating apparatus*

calculators (electronic) *see electronic calculators*

calculus
see also differentiation; integration; variational techniques
conference, complex anal., microlocal calculus, relativistic quantum theory, Les Houches, France (Sept 1979) 1−36455

calibration
see also measurement standards; standardisation
6-port consisting of 2 directional couplers and 2 voltage probes for impedance meas. in 26 to 40 GHz range 1−36688
10^{-4} pF capacitance variation meas. circuit and procedure 1−28037
μ SAM2, spectral anal. microcomputer for optical spectral calibration *(German)* 1−18279
AC voltage calibrator construction 1−28030
AC/DC difference testing, calibration using semiautomatic system 1−36691
acoustic impedance meters, real-ear calibration of ipsilateral acoustic reflex stimuli 1−26972
acoustic locator calibration using piezoelectric torch lighter 1−37746
aerodynamic flow, three dimensional measurements using pressure probes *(German)* 1−29813
albedo neutron dosimeters, phantoms for calibrating 1−9021
analogue and digital instruments, accuracy indexes sample parameters identification 1−23161
anemometry, hot-film, in aqueous NaCl solns., calibration of cylindrical hot-film sensors 1−34025
antenna pointing of Voyager spacecraft 1−44408
bathythermograph, temp. calibration of expendable device 1−44333
biological fluid electron microprobe analysis, standard soln. choice and calibration curve linearity 1−4401
cameras, close-range, metric, multiple focal setting self-calibration technique 1−44070
capacitance and inductance units 1−27911
centrifugal acceleration equipment ZBE 2 for calibration of piezoresistive accel. pickups *(German)* 1−283
communications systems measuring devices and components calibration *(German)* 1−18191
composite current transformer with self-calibration uncertainty of 1×10^{-9} 1−36619
CRO calibration circuit, used for checking amplifiers and time bases 1−23201
cross-spectral method of measuring acoustic intensity by correcting phase and gain mismatch errors by microphone calibration 1−37739
current transformers, national current ratio standards 1−36618
CW IR Doppler lidar, calibration 1−9263
differential pressure transmitters, automatic calibration and dynamic corrections 1−14603
dosimeters, photographic technique *(Italian)* 1−50947
dosimeters, secondary standard, for X-rays and gamma-rays up to 2 MeV, calibration factors 1−41271
dosimeters for reactor environments, moderated neutron sources for calibration 1−14706
dosimetry calibration, personnel, monoenergetic and continuous-energy neutron fields 1−14705
drop generators for calibration of drop spectrometers appl. to cloud physics 1−44330
dual spectral band IR thermoratioscope 1−263
EGP-10 M 10 MeV electrostatic proton accelerator energy calibration method 1−971
electron radiation dosimeter calibration in fields with electron energies of 3-10 MeV, reference installation 1−23860
electron spectroscopy, energy calibration, reference electron binding energies re-determ. 1−28128
electronic distance measuring instruments 1−9969
electronographic emulsions, sensitometric calibration and linearity 1−27389
elution chromatography, metrological props. and calibration, total error of anal. 1−26802
ethylene density meas. vibrating element method accuracy 1−27932
Fabry-Perot spectrometer, Hα calibration rel. to H prod. rates from Comet Kohoutek (1973 XII) 1−54419
Faint Object Camera on Space Telescope, calibration and image processing software 1−27394
fatigue testing, torsional methods used with resonance machines, calibration 1−48610
force measurement transducer calibration, least squares method for verification of results 1−23220
force testing machine using 10 MN force standard 1−256
frequency optimization of hot-film anemometer, calc. of square wave test 1−34030
gamma-ray energy calibration, IUPAP standards 1−17946
gas flowmeter calibration using both sound-velocity nozzle and movable L-tube 1−24906
gas-content gauges for bubbling two-phase cyrogenic flows, apparatus for calibration and checking 1−6908
geomagnetometer, calibration of instrument capable of sensing mag. pulsations 1−4639
glass dosimeters, intercalibration for neutron fluence determ. 1−18904
global C cycle, ten-compartment model calibration and testing 1−9238
gonioreflectometer, computer-controlled, spectral refl. charact. meas. 1−18282
Hall effect transducer calibration in pulsating magnetic field using reference transducer 1−23277
Hewlett-Packard 5526A laser interferometer for calibration and testing *(Italian)* 1−44990
HF mag. field standard using loop antenna 1−36708
high pressure scale, calibration 1−32953
high-pressure cell volume calibration for PVT props. meas. 1−18241
hot wire anemometer, calibration of linearliser 1−19845
hot wire anemometers for low speed wind tunnels, calibration aspects *(Italian)* 1−2115
hot-wire anemometer, calibration in pressurised N_2 at low vels. 1−2109
HR diagram, absolute calibration of fundamental effective temps. and bolometric corrections 1−17826
hydrophones, free-field reciprocity calibration in the transition range between near field and far field 1−11267
inductive voltage dividers with nondecade ratio settings, error determ. 1−36622
industrial temperature measurement accuracy 1−259
IR radiation source, temp. calibration 1−9986
isotope assay calibrator, modification for use with SI units 1−53860
laboratory procedures for evaluation quality maintenance 1−32973
low DC generation by nonlinear matched pairs of bipolar transistors 1−28026
low-temperature thermometer graduation apparatus for use in strong mag. fields, correction curves 1−23247
LPG hydrometer correction concerning press. and gas buoyancy *(Japanese)* 1−5285
α Lyrae (Vega), calibration of spectral energy distrib. 1−13771
machine tools, measurement of angle gauge blocks *(German)* 1−23170
manganin gauges, release wave calibration in plane dynamic expts. 1−40776
mass spectrometry of heavy molecules, standards of mass calibration *(Japanese)* 1−21818
mass units, orthogonal calibration systems 1−50105
medical instruments for peak expiratory flow meas. 1−35902
METEOSAT-VIS channel calibration by airborne meas. 1−40202
microphones for engine and aircraft noise measurements 1−19506
microspectrofluorophotometer calibration in absolute units of radiation 1−10018
monochromator, cosecant drive, fast calibration method 1−33793
monochromator response calibration, 115 to 340 nm, using D_2 lamp radiance transfer standard 1−15254
multichannel space-time analyzer for laser radiation, energy calibration 1−37523
nephelometer, polar, calibration method 1−5354
nuclear gamma-resonance spectrometer, velocity calibrator using laser methods 1−51025
oceanographic turbulence probe (hot film type), calibration rel. to heat transfer phenomena 1−13599
ONERA dynamic US liquid flowmeter performance 1−29817
optimum calibration signals, calc. for limiting dynamic errors of meas. instruments 1−23150
permissible confidence intervals for accuracy check of meters by significant variance standard method 1−23154
photodetector absolute calibration with spectral analysis microcomputer *(German)* 1−45020
photodetectors, nonlinearity determ. 1−5374
photoelectric detector absolute calibration using two-photon light 1−50211
photographic emulsions, characteristic curve determ. in XUV 1−28084
photographic stellar spectrophotometry using solar spectrum as calibration 1−13699
piezoelectric transducer calibration by capacitive electrostatic acoustic transducer 1−37753
pressure calibration curve for press. above 100 kbar, using $MgAl_2O_4 \rightleftarrows Al_2O_3MgO$, equilib. boundary 1−21427
pressure calibration of standard condenser microphones, estimated error *(Japanese)* 1−15350
pressure calibration system 1−28011
process gas chromatographs with integral microprocessors 1−8628
proportional counter neutron spectroscopy system 1−6073
push-beam camera with CCD, in-flight calibration on SPOT satellite *(French)* 1−369
push-broom remote sensing camera, optical fibre device for in-flight calibration *(French)* 1−370
radiation therapy ^{60}Co machines, discrepancy between in-air and in-water calibration 1−8990
radio astronomy, millimetre-wave temp. data calibration and correction for atmospheric attenuation 1−4776
radio interferometer data, adaptive calibration 1−54382
radioaerosol particles in human respiratory tract, calibration of body counter 1−33353
radioastronomical spectrum, calibration by substitution method on antenna 1−9369
radiotherapy standard dose meter calibration 1−9028
rarefied gas pressure transducers meas. errors, 0.001 to 10 torr 1−44945
reference materials of defined particle size certified by Community Bureau of Reference of EEC 1−40749
reference photoammeters for calibration of HF ammeters in working freq. range 1−23259
reference spectrometric conversion electron sources for uniform meas. in β-ray spectroscopy 1−23930
residual gas analyser check-out method using isotope ratios of common gases 1−48772

calibration continued
resistance boxes, calibration formula calcs. 1−44877
resistance thermometers, computer-controlled system 1−36657
SAM2−a spectral analysis microcomputer 1−44880
selective level meter, microcomputer control facility, meas. accuracy of 0.1 dB, automatic calibration 1−44958
semi-automatic equipment for decade resistance box calibration *(French)* 1−18189
SIMS, quantitative, review 1−21825
slip gauges, automatic system 1−44879
solar cell characts. of standards for terrestrial meas. 1−13117
solar cell spectral response determ., three methods 1−43773
solar cells, testing, calibration and characterisation *(Spanish)* 1−32021
solar flux calibration, implications of energy distribs. of northern G-type stars 1−27492
standard gas mixture components, electrolytic production methods *(Polish)* 1−43672
old stellar parallaxes, compilation and probable error recalibration 1−40461
stellar photometry, multicolour indices calibration for position determ. in HR diagram 1−22790
strain gauge, calibrating device made by National Institute of Metrology *(Rumanian)* 1−32975
succinonitrile triple point near 58°C for thermometer calibration 1−36660
temperature calibration of chambers for X-ray diffractometers 1−18347
thermoluminescence dosimetry system for personnel and environmental monitoring, calibration 1−9038
triaxial hot-wire probe using numerical search algorithm 1−2110
tritiated water, activity standards for 1978, National Bureau of Standards, prep. and calibration 1−18902
tunable diode laser spectrometer optical calibrator 1−36745
US field calibration by optical holography 1−11266
US wave angle probe, calibration block for longitudinal wave probe 1−12939
UV grazing-incidence spectrometer, beam-foil efficiency calibration 1−355
vibration transducer calibration methods 1−6835
vibration transducers 1−44878
wind tunnel, high speed, calibration in supersonic range *(German)* 1−29749
X-ray fluorescence quantometer, for Al and Ni alloys anal. 1−21807
D_2 rotational Raman scatt. for calibrating Thomson scatt. of plasmas 1−45975
Fe ore prospecting by γ-γ well logging, calibration of RSR-3 apparatus *(Russian)* 1−27295
H_2 rotational Raman scatt. for calibrating Thomson scatt. of plasmas 1−45975
H_2-He leak, calibrated, for qualitative estimation of H_2 and He in 10^{-6} to 10^{-8} l Torr s^{-1} 1−44941
He-Ne laser, commercial wavelength stabilised, wavelength calibration *(Japanese)* 1−46295
I, absorption spectrum around 5915 Å, calibration and assignments 1−45888
^{237}Np compounds, Mossbauer isomer shifts and electron densities of Np ions 1−47993
Pt thermometer, thermocouple effects from instrumentation wires 1−44918
SO_2, Zeeman effect meas., beam maser, electric resonance, magnetic field calcs. 1−24188
^{121}Sb Mossbauer spectrometer velocity calibration hybrid compound 1−997
Si, shallow impurity anal. by low temp. Fourier transform IR spectroscopy 1−12536
SiC, fast reactor irradiated temp. monitors, calibration using length meas. technique 1−897

californium
see also nuclei with .....
^{249}Bk:Cf, magnetic susceptibility meas. 1−20968
^{252}Cf dosimetry in phantoms of various dimensions 1−53909
^{252}Cf source, neutron penetration in Fe, calc. *(Czech)* 1−5829

californium compounds
No entries

calorimeters
see also calorimetry
adiabatic, for liq. heat capacity meas. 1−23241
adiabatic calorimeter for liq. sp. heat determ. at high state parameters and in monotonic heating regime 1−14116
automatic low temp. calorimeter system 1−32988
bomb, for exptl. thermochemistry 1−5316
cryogenic insulation thermal cond. meas. by cylindrical boil-off calorimeter 1−5314
dewar type calorimeter for determ. heat of mixing 1−47241
energy deposition calorimeter for pulsed energy sources in fusion reactors 1−6003
filter-glass calorimeter for laser pulse radiation energy meas. in ps region *(German)* 1−40789
flow calorimeter with active heat exchangers 1−18231
fuel gas, comp. variations, on-line optimisation 1−27981
heat capacity meas., 6 to 300K, using adiabatic calorimeter 1−14117
high accuracy using semiconductor heating element *(Japanese)* 1−14118
laser beam absorption energy balance calorimetric meas. receivers 1−44923
medical calorimeter measuring vial, method for calc. of heat flows 1−49135
microcalorimeter, fast, stopped-flow 1−50134
pacemakers and pacemaker power cells, microcalorimeter for meas. of self-discharge heat losses 1−17524
spark chamber calorimeter cosmic ray muon flux meas. *(Russian)* 1−40294
thermal conductivity measurement, microcalorimeter with pulsed heating 1−50133
Au foil, fast rise time, rugged, relativistic electron beam accelerators appl. 1−14119

calorimetry
see also calorimeters; specific heat; thermal analysis
alloys, thermochemistry, expts., review 1−43696
differential thermal lens calorimetry 1−50131
dissolution, phase anal. of two-phase silicate system *(Czech)* 1−30404
high accuracy using semiconductor heating element *(Japanese)* 1−14118

calorimetry continued
interference filters, variable-wavelength, use in instrumentation *(Czech)* 1−29375
laser beam radiation mean power and energy meas., phys. standards based on calorimetric detectors 1−5270
laser beam radiation mean-power unit reproduction based on meas. of injection laser source using calorimetric detector 1−5271
laser output measurement detectors, recent developments and problems 1−29291
methane-propane (5 mol.%) mixture isochoric P-V-T surface meas. 1−52255
microcalorimetry of biological systems, book contrib. 1−13371
neutron detection using fissile resistor, calorimetric technique 1−28511
optical absorption, extremely low, new method for meas. 1−320
polyvinylidene fluoride-polyethylmethacrylate blends, lower crit. soln. temp. behaviour 1−25416
pressurised superfluid He II control, calorimetry and loss analysis 1−44936
pulsed laser radiation, meas. standards for mean power and energy units, primary transducers, calorimetric instruments 1−5296
pulsed laser radiation unit energy reproduction using reference calorimeters 1−5272
pyroelectric coefficient measurement, calorimetric method, appl. to TGS 1−26133
reflector and film 266 nm laser pulse damage threshold obs. 1−37531
resistive SQUID, at low temps. 1−264
review specific heat of solids, high press. meas. methods 1−27973
small specimens, heat capacity meas. by calorimeter, 10 to 20K 1−5315
standard capacitors, dielectric loss factor meas. at low temps. 1−36681
temperature pulse memory device, specific heat measurement 1−18230
thermoelectric wattmeters, coaxial thermal transducer as primary meas. transducer, efficiency coeff. meas. at 18 GHz in microcalorimeter 1−294
Al-Ba, phase comp., calorimetric determ. 1−8273
CsI crystals, bulk and surface absorpt. coeff. determ. in CO_2 laser radiation wavelength range 1−35006
^{3}He, adsorbed, partially spin polarised, apparatus for study of thermal props. 1−269
$LaNi_5$, absorption of H_2, calorimetry within hysteresis loops 1−2631
$LaNi_5$, $LaNi_5H_{0.36}$ and $LaNi_5H_{6.39}$, heat capacities, entropies and enthalpies of form. 1−2654
$Mn_{23}C_6$, enthalpy of formation 1−25461
Mo, solid and liq., enthalpy meas. by levitation calorimetry, 2282 to 3383K 1−20423
Na_2SO_4 polymorphism, differential and scanning calorimetric and Raman spectroscopic study 1−52279
Se in Pb, partial heat of soln. determ. by microcalorimetric meas., mol. associates, PbSe* *(French)* 1−48716
TiO_2, rutile, single crysts., high temp. heat capacity, laser-flash calorimetry meas. and anal. *(Japanese)* 1−25453
TlCl, bulk and surface absorpt. coeff. determ. in CO laser radiation wavelength range 1−35005

caloristers *see calorimeters*

CAMAC
ACC 2421, versatile CAMAC crate controller and computer 1−24005
aerodynamic data processing complex, basic program *(Russian)* 1−40882
fibre-optic high-voltage isolation 1−11123
JT-60, fusion reactor poloidal field power supply, CAMAC control system 1−10535
low-temperature plasma probe characteristic recording automatic system 1−2235
Mirror Fusion Test Facility, local control and instrumentation system software 1−10529
multiwire proportional chamber encoder 1−1036
physics instrumentation, computer controlled systems *(Japanese)* 1−40766
precise nanosecond pulse generator 1−40763
proportional chamber autonomous diagnostic system 1−1015
reactivity meter, CAMAC based, for nuclear reactors 1−23791
serial highway development, device interactions and applications 1−243
two-wire line data transmission unit for CAMAC branches 1−40762
unified automation system for experiments on expeditions, portable data processor based Elektronika-60 microcomputer *(Russian)* 1−49400
utilisation for general or specific acoustical meas. *(Hungarian)* 1−37744

camera lenses *see photographic lenses*

camera tubes, television *see television camera tubes*

cameras
see also coronagraphs; television cameras
all-electronic camera 1−45044
Anger scintillation cameras, new, with improved count rate capability 1−9007
automated image focusing, principle methods 1−10034
biomedical γ-camera systems, computerised, adjustable zoom-mode gain control 1−8983
camera flash trigger, using 555 timer IC 1−23328
cinematographic recording techniques, high speed and ultra high speed *(French)* 1−23331
close-range metric cameras, multiple focal setting self-calibration technique 1−44070
color camera for cloud particles in situ photography 1−44329
colour cine, problems in film making *(Russian)* 1−45065
direct electronic Fourier transform camera 1−14196
electronic focusing systems, sonar autofocus, IR triangulation, passive Visitronic autofocusing *(German)* 1−33067
faint object camera for space telescope 1−17770
Faint Object Camera for use in Space Telescope *(French)* 1−32620
fundus camera based laser Doppler velocimeter, for retinal blood flow meas. 1−39978
gamma camera non-uniformity meas., usefulness of indices 1−43965
gamma camera system, resolution at depth assessment phantom 1−49100
gamma camera/data analysis system, correct. for deadtime losses 1−8980
gamma cameras, collimators for imaging positron emitting radionuclides *(German)* 1−4357
Guinier Lenne camera, low-temp., reliable temp. readings 1−29975
hologram camera, 35 mm 1−29229
hologram displays, 360-degree 1−6521
holographic camera, thermoplastic, automated development 1−15130
Horseman 450, review 1−23322
image convertor type, use for measurements on magneto-optical spectra in ultrahigh magnetic fields 1−40872
intraocular photography using the RETINOPHOT 211 fundus camera 1−35856

cameras continued
jitter-free streak camera for picosecond time delay fluorimetry of malachite green 1−8635
lens system, standard, PRAKTICAR f/1.4 50 mm MC 1−45049
microcomputer system for controlling an infrared scanning camera 1−44915
mirror drives for high speed cameras, math. design of gas bearings *(Russian)* 1−28094
moire photography, high resolution, film characts. 1−33075
Nikon F3, review, camera back design, film transport, dark chamber, front controls, viewfinder, focusing screens 1−45043
Nikon F3, review, general construction, top plate layout, baseplate layout 1−45042
Nikon F3, review, shutter, microprocessor for data processing, quartz clock control, noise levels, digital liq. cryst. display 1−45045
Nikon F3, review, through the lens metering system 1−50245
Nikon F3, review, through-the-lens metering system, power source charcts. 1−50246
optical gauging with image sensing camera and programmable microprocessor controller 1−44884
optomechanical laser photorecorder, half-tone print line-by-line recording 1−37539
photograhic camera automatic exposure control and focusing technology *(German)* 1−28081
photogrammetric stereo image pair generation by single-lens camera pupil division *(German)* 1−28079
photographic chromaticity of camera lenses having multilayer antireflection coatings 1−36755
pinhole collimators used with γ-cameras, resolution obs. 1−8994
proportional chamber positron camera for medical imaging 1−14732
push-beam camera with CCD, in-flight calibration on SPOT satellite *(French)* 1−369
push-broom remote sensing camera, optical fibre device for in-flight calibration *(French)* 1−370
rostrum cameras, slide making 1−10030
scintillation, high resolution, performance and clinical appls. *(Japanese)* 1−32237
scintillation camera, small, for 1D imaging 1−49110
scintillation cameras, correction for field nonuniformity by removal of spatial distortion, medical appl. 1−8982
scintillation cameras, evaluation by spherical lesion detectability 1−53881
scintillation cameras, field uniformity corrections, various parameter effects 1−35885
scintillation cameras, quantitative assessment of linearity 1−17489
scintillation gammacamera with computer based data processing system 1−45776
streak, electro-optical, synchronously driven using a mode locked CW dye laser *(Russian)* 1−23343
streak camera design, picosecond and femtosecond 1−18307
streak camera in synchronism with mode-locked Rhodamine 6G dye laser pulses 1−19359
streak camera system, picosecond, design and performance characts. 1−14198
streak camera system design and performance characts. 1−10038
streak camera system for quantitative fluorimetry 1−50255
streak camera system for time-resolved fluorimetry 1−50256
Synchroscan picosecond streak camera system 1−18313
three-dimensional photography, Nimslo system 1−23330
time-modulation γ camera collimator optimisation 1−404
underwater camera system, image components determ. from computer model 1−22545
veiling-glare distribution meas. using automatic apparatus 1−363
viewfinder using tilted concave mirror erecting elements 1−45057
Weissenberg continuous-recording camera for high-temp. X-ray diffraction expts., microprocessor control system 1−33084
white-light holographic camera using common path interferometry 1−41648
X-ray, for crystal studies in static magnetic fields up to 50 kOe 1−45095
X-ray, Gandolfi, diffr. geometry 1−34200
X-ray, low-temp., for 80-293K 1−18348
X-ray, monochromatic quadruple focusing camera, diffr. geom. analysis *(Chinese)* 1−20028
X-ray camera attachment to diffractometer for compressibility meas. 1−45098
X-ray cameras, fast and accurate way of alignment 1−29974
X-ray crystallography, Weisenberg camera, alignment of largely mis-set crystal using simple attachment 1−29969
X-ray powder, polymer specimen prep. 1−15757
X-ray texture topography appls., apparatus development 1−25121

candoluminescence *see luminescence*

canted spin arrangements
see also weak ferromagnetism
antiferromagnet, with uniaxial anisotropy, influence of field strength and direction on mag. phases 1−34877
diethylammonium manganese tetrachloride, 2-dimens. spin canted antiferromag., exciton transfer 1−8087
$Cr_xMn_{1-x}As$, Hall resistance modulation 1−25694
$ErFeO_3$, magnon softening, inelastic light scatt. study 1−26208
$NaCa_2Ni_2V_3O_{12}$, canted mag. struct., exchange interaction and effective single-ion anisotropy 1−47862
$NaVO_4$, canting antiferromagnetism, mag. susceptibility meas. 1−7815
NiF_2, canted spin antiferromagnet, Ni^{2+} ion symm. anal. 1−2379
β-$Ni(NO_3)_2.4H_2O$, spin flopping in field induced ordered state 1−25950
$TmAl_2$, magnetic behaviour from neutron scatt. expts. 1−25891
$YFeO_3$, domain walls, low temp. NMR study 1−12410
$Y_3Fe_{5-x}Sc_xO_{12}$, ferrite garnets, mag. struct. 1−20961
$Y_3Fe_{5-x}Sc_xO_{12}$, mag. phase transitions and mag. structs., X-ray diffr. study 1−52780

capacitance
see also photocapacitance
AF current transformer capacitive error elimination 1−28032
chemical capacitance, critique of concept 1−39900
dielectric cylinder, electrostatic capacity calc., electronic transducer math. model *(Russian)* 1−48018
disk in coaxial circular aperture in conducting plane, electrostatic problem anal., capacitance meas. 1−24317
electrodes, double-layer capacitance-pot. curves, computerised determ. using Kalousek type waveforms 1−48693
electrolytes, ion-dipole hard sphere, electric double layer capacitance, mean field approx. 1−31108

capacitance continued
epoxy resin, high temp. dielectric study 1−43056
finite length conducting cylindrical tube, capacitance 1−33591
insulating film, capacitance, effect of spatial dispersion of permittivity 1−34974
ion and dipole mixture near charged wall, pot. difference, capacitance, mean spherical approx. 1−48695
ionic crystals intrinsic conductors, interfacial space charge and capacitance 1−39035
Josephson tunnel junctions, specific capacitance 1−47809
MSIS structures, influence of fixed charge in dielec. on HF C/V characts. 1−30835
p-n junction, secondary breakdown, current channelling, effect of external reactances on channelling stability 1−20867
poly-p-toluidine films, electrodeless glow discharge prod., dielec. props. meas., IR spectrum 1−48008
RF magnetron and non-magnetron planar system electrical characteristics 1−2172
small gap semiconductors, MOS struct. capacitance, mag. field effect under strong surface fields 1−38860
$Ag/CaF_2/Al$ thin film struct., AC conduction 1−47758
$Al/CaF_2/Al$ thin film struct., AC conduction 1−47758
p-$CdCr_2Se_4$-Al(Cu)(Zn) Schottky barriers, current-voltage characts. 1−20851
GaAs:Ar(Si) MIS structs., ion implanted, elec. characts. 1−7663
Hg double layers, frequency and conc. depend. of capacitance 1−48003
$Hg_{1-x}Cd_xTe$ anodic film oxide and interface props. 1−16380
MoO_3 films, vacuum deposited, dielec. and elec. props. 1−48007
Si, energy band associated with dangling bonds, HF capacitance meas. 1−2916
Si MOS struct., with n-channel inversion layers, gate-controlled surface capacitance 1−3065
Yb_2O_3 films, electron beam evaporated, dielec. props. 1−3332

capacitance measurement
10^{-4} pF capacitance variation meas. circuit and procedure 1−28037
bridge balancing at very low freqs. *(Slovak)* 1−14136
calculable capacitance standard, field and potential determ. for arbitrary electrostatic system 1−23274
deep level spectroscopy, interface for X-Y plotter and capacitance meter 1−36701
deep level transient spectroscopy, method and apparatus 1−34647
electrolytic capacitors, nominal value meas., approx. indication, LED display 1−33007
four-terminal pair air dielectric capacitance standards, evaluation at high freqs. using extrapolation procedure 1−50173
linear capacitance meter, using integrating cct. and ICs *(Spanish)* 1−304
MOS structs., meas. of oxide capacitance for determ. elec. area 1−38855
MOS structures, C-V curves, electronic circuit for automatic measurement 1−14135
semiconductor junctions, photocapacitive meas. technique 1−50167
small capacitance, elimination of stray capacitances *(Japanese)* 1−44959
small capacitance variation meas. by long-line phase comparison 1−28036
standards comparator, inductance and capacitance *(Polish)* 1−5338
three-terminal pair air dielectric capacitance standards, evaluation at high freqs. using extrapolation procedure 1−50173
transformer bridge, loading error reduction using negative impedance convertors 1−288
transient anal. using fast digital apparatus 1−302
Zn, adsorption, of thiourea, on single cryst. electrodes, AC capacity meas. 1−52433

capacitance meters *see capacitance measurement*

capacitor storage
bank, axial magnetic field generating device, for plasma confinement *(Korean)* 1−46915
plasma studies, low-inductance capacitor modules 1−50166

capacitor stores *see capacitor storage*

capacitors
see also electrolytic capacitors; thick film capacitors; thin film capacitors; varactors
capacitance measurement, small, elimination of stray capacitances *(Japanese)* 1−44959
MOS capacitor, determ. of interface state parameters by DLTS 1−12193
solid dielectric permittivity meas. by ponderomotive force in capacitor field 1−28025
standard, power factor meas. 1−36685
standard capacitors, dielectric loss factor meas. at low temps., using calorimetric methods 1−36681
Ag/NaCl(s)/NaCl(p)/Ag double-layer capacitor, elec. breakdown 1−48006
$La_{2/3}\square_{1/3}TiO_3$ high freq. capacitor dielectrics, effect of other titanate additions 1−20413
SiO_2/Si interface-state generation in radiation-hard oxides 1−42838

capillarity
see also bubbles; contact angle; drops; foams; liquid films; surface tension
air bubbles in water, thermocapillary drift 1−19780
capillary liquid, in slit, stability margin of equilibria states 1−2549
colloidal particles collected at fluid interfaces, interaction 1−48744
crystal growth from melt, thermocapillary convection 1−2374
directional crystallisation from melt with capillary shaping, microscopic theory 1−30106
flaw detection, capillary, crack detectability, drying regimes effect 1−8501
flow, capillary, of dimethylsilicone, in filter paper 1−38625
flow vel. meas. method for microscopic area using grating spatial filter *(Japanese)* 1−46825
free surface energy in zero gravity conditions *(French)* 1−32851
granular materials, stress, effect of capillary water *(Japanese)* 1−1822
heptane-H_2O system, electrocapillary effect on ionis. of liqs., interfacial tension and energy 1−52394
hydrocarbon thermocapillarity surface, reflected Gaussian beam self-focusing 1−33776
hydrocarbons, heavy, thermocapillary liq. films as transient photographic receivers 1−10029
hydrocarbons, liq., capillary press. at menisci 1−30520
hydrophilic porous medium, countercurrent capillary imbibition 1−52395
interfacial profile in the contact line region of a finite contact angle system 1−16146
liquid penetration into capillary tubes 1−11959
liquid surface shape 1−25534

capillarity continued
menisci of molecular dimensions, capillary press. determ. 1−30520
meniscus in capillary tube, finite element numerical simulation of steady movement 1−34549
microflowmetry, ratio of flow rates meas. using two capillary tubes *(Japanese)* 1−19849
Monte-Carlo calculation of a Knudsen gas *(German)* 1−37972
orientation effect of capillary forces for crystals floating on liq. surface 1−7422
osmosis of nonelectrolyte solns. in fine pores 1−53462
plane Marangoni-Poiseuille flow of two immiscible fluids 1−11452
polymer EPDM (Nordel 1040), with and without C back, flow props. by capillary rheometry 1−33941
porous body, liquid infiltration process 1−11960
porous solid, ref.-sample porosimetry use in investig. of struct., surface and moisture-absorpt. props. 1−5453
surface viscosities, theory 1−29737
symmetrical configurations by capillary forces, floating Al plate equilib. positions 1−7423
thermocapillary liquids as transient photographic receivers 1−368
two-phase flow in circular capillary tube bundle, model for relative permeabilities 1−42083
water, capillary press. at meniscus 1−30520
water, ordinary and heavy, thermal expansion in pores of TiO_2 powder 1−25468
water-air interface meniscus surface tension meas. by holographic interferometry 1−16153
Ni porous strips, capillary infiltration by molten Pb 1−39283
Si, crystal growth from melt, swirling motion in rotationally symmetric flow, conservative differencing 1−52096
Si ribbons grown by capillary action shaping, struct. and elec. characterisation of defects 1−2357
W, saturation with Cu or Cu alloy for composite material manufacture *(Russian)* 1−48303

capillary phenomena *see capillarity*

capillary waves
liquid-vapour diffuse interface dynamics 1−16152
nonlinear gravity-capillary stern waves 1−11415
steel, alloy, capillary waves generated by light pulses of Nd^{3+}:glass laser with US Q-switch 1−21295

capture cross-sections, nuclear *see nuclear reactions and scattering*

Caratheodory's principle *see thermodynamics*

carbon
see also nuclei with .....
see also carbon fibres; charcoal; diamond; graphite
activated, adsorption of N_2 and methane from H_2, temp. effect −129° to −101°C 1−52439
adsorbed layer on Ru (001), N_2O and O_2 adsorpt., dissoc. chemisorpt., Auger spectrosc. obs. 1−34566
adsorbed layers on W, field emission study 1−16667
adsorbed on Ag (110), AES anal. 1−3546
adsorbed on Pt(111) surface, O gas-surface interaction dynamics 1−39676
adsorption of deposits on Pt single cryst. faces, charact. electron energy loss spectra *(French)* 1−52419
adsorption on Ag, tunnelling struct., ultrahigh vacuum, Raman obs. 1−16559
Allende, carbonaceous chondrite, carbyne and inert gas composition and origin 1−44514
amorphous, shock-compression parameters and phase transitions to 120 GPa 1−25372
amorphous film, phonon-assisted hopping cond. meas. *(French)* 1−47656
amorphous films, 575 kV high-resolution electron microscope obs. 1−15800
amorphous substrate, adsorption of heavy atoms, motion and distrib., STEM obs. 1−25566
atmosphere ^{13}C composition, reservoir models of C cycle 1−44287
atmosphere budget in SE USA, historical change in source to sink trend 1−49373
atom, ^3P ground state photoionisation spectrum 1−51175
atom, energy levels, relativistic corrections, rel. to singlet-triplet, splitting in methylene 1−6180
atom, HF values of atomic integrals useful in LCAO-MO calcs. 1−13940
atom, isotope shift, in complex electronic configurations 1−19058
atom, tetracoordinate planar, singlet biradical, struct. calcs. 1−45821
atom redistribution in Nb film by Ar^+ ion bombardment 1−25332
atomic clusters, bulk and basal plane electronic densities, ab initio and SCF calc. 1−6143
atoms, ground states, fine struct., spin-extended Hartree-Fock calcs. 1−45829
beds for adsorption of organic solvent vapours, IR obs. 1−28972
black doped polyester resin, ESR spectra, conduction carriers, localised spin centres 1−12401
black filled polymer, elec. cond. calc. using three-dimens. struct. model 1−20716
black sols, spectrophotometric vol. distrib. determ. 1−6460
C_2, interstellar, detect. towards o Persei 1−54576
carbidic overlayer on Ru (0001), electronic struct. 1−52637
carbine, form., deposition in RF discharge plasma 1−26395
carbynes in meteorites, implications for interstellar molecules 1−44515
chemical sputtering yields meas., during bombardment of isotropic and glassy C 1−26343
deposition on steel surfaces in fission reactor (AGR) 1−28594
determination, in organic cpds., automatic instrumentation appls. 1−26781
determination in refractories, total and free C, with AN-29 rapid analyser 1−31803
diamond-like, quasi-amorphous film prep. by ion beam deposition, struct. and props. 1−12671
diffusion in FCC Fe, appl. of theory for vacancy motion 1−47303
diffusion in FCC Fe, thermodynamics and kinetics 1−7392
diffusion in steel weldments, steady state model *(Czech)* 1−2671
diffusivity, in austenite, phenomenological model, anal. of data 1−30471
diffusivity in Fe at high temp. 1−7387
diffusivity in steel at high temp. 1−7387
dissolved (C+N) in carbon steel, relationship with H_2 discharge *(Japanese)* 1−26519
dissolved (C+N) in plain carbon steel containing ϵ-Cu precipitates *(Japanese)* 1−26518

carbon continued
electrode, electroactive paste type, polarisation curves, anomalous peaks 1−53434
electron energy loss straggling calcs. 1−39199
electron energy states, Auger, energy loss and X-ray spectroscopies 1−12167
electron microscope images, computer simulation on 35 mm film 1−28132
electron scattering cross sections, high energy, 1.2-3 MeV 1−30007
energy struct. calcs. for atoms in infinitely deep potential well *(Russian)* 1−37109
EXAFS meas. above K-edges, appls. to surface struct. determ. 1−28915
film, diamond-like, optical props. 1−3524
film, magnetron sputtering prep. and props. *(Japanese)* 1−31347
film, positron annihilation, positronium negative ion form. 1−51323
film, prep. by laser evap., elec. and opt. characteris. *(Japanese)* 1−31364
film, RF magnetron sputtering prep., fusion reactor appl. 1−21349
films, laser evaporated, Ar ion bombardment effects 1−53094
films coated on prosthetic devices, gaseous flow through 1−17099
foil, alpha-recoil and fission fragment induced desorption of secondary ions 1−31294
foil, Cl ion beam impact, radiative electron capture 1−24236
foil, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
gasification, by CO_2 at high temps. and pressures 1−21703
glass C, as support for Fe catalysts 1−35196
glassy C's, prep. from lignins and lignin condensates 1−39260
global C cycle, ten-compartment model calibration and testing 1−9238
graphitised C black, direct obs. of tetrahedral bonding, by high resoln. electron microscopy 1−2391
Graphon interface with n-alkane, structuring phenomena 1−47372
interplanetary C grains, influence of thermoionic effect on electrostatic potential 1−36155
in interstellar diffuse clouds, C I/CO abundance ratios from UV survey 1−44601
ion+Ne, low vel. Ne ion prod., charge state correl. cross-sections 1−1359
isotope abundance in formamide in Sagittarius A and B2, 19 cm obs. 1−27589
isotope ratios in local interstellar medium, from dark cloud CO obs. 1−49775
layer coating Al_2O_3 composite particle, emissivity spectra 1−47265
mesophase spheres, microtexture, TEM obs. 1−42291
meteorite carbyne composition and interstellar mols. 1−44515
molecule, multiconfig. HF procedure, mode damping 1−6141
monolayer chemisorption on Cu-Ni (10 wt.%) 1−11983
Murchison, carbonaceous chondrite, carbyne and inert gas composition and origin 1−44514
Nova Herculis 1934 (DQ Herculis) ejecta C comp., spectral data 1−17845
particle formed from dissoc. of alkanes *(Russian)* 1−43662
particles of micron size, refractive index meas. 1−9245
phase diagrams involving press. and temp., review 1−43322
plasma, dielectronic satellite transitions, excitation rate, density depend. 1−51956
plasma, nuclear pumped laser, steady-state solns. of plasma models 1−38058
plasma gun, magnetically driven 1−42186
polyisoprene filled with technical carbon, relax. processes determined by mobility of active filler particles 1−53478
polymer EPDM (Nordel 1040), with and without C back, flow props. by capillary rheometry 1−33941
polystyrene melt reinforced by carbon black, rheology 1−37863
pyrocarbon coating, deposition in inductive RF plasma, theory 1−12672
pyrolytic, coating on grahite substrate in inductive RF plasma of polypropylene-Ar 1−12000
quasifree-electron bremsstrahlung induced by H^+ bombardment projectile field 1−26349
radiocarbon (^{14}C), bomb-produced, use as tracer for fossil fuel CO_2 into deep-sea source regions 1−4535
reduction,-of $Ca_3Nb_2O_7$, thermodynamic anal. 1−17041
scattering of 5-30 keV H^+,H^- from surfaces, recoil energy distrib. 1−16640
solid solution in forsterite 1−27101
soot in atmosphere, air sampler to meas. elemental C content 1−4236
spectral profile of H_2 in C star atm. 1-0 S(1) line 1−17835
styrene-butadiene rubber/C mixtures, dielec. props. at microwave freqs. 1−21103
substrate for deposited Rh, valence-band electronic struct., XPS calcs. 1−25627
surface, ^{31}P ion bombardment, charge state equilibrium distance 1−12617
surface, D^+ bombardment, isotope exchange 1−26333
surface layer on Ag electrodes, Raman obs. 1−28976
surface struct. and chem. comp., functional groups synthesis 1−53466
thin foil, atomic impact, quasimol. formation inner shell charge transfer cross sections 1−16643
thin foil, H_2^+ ion recombination after traversing foil 1−29092
in transition region, nonequilib. ionisation due to thermal diffusion and mass flows 1−36237
two-phase material, rate of radiation induced shrinkage 1−34374
vacuum deposition of Au clusters, bandstruct., photoelectron obs. 1−16654
vitreous, limiter or first wall materials, thermal shock tests 1−4032
vitreous C, as die material for profiled Si crystal growth 1−31333
wetting by ZrB_2-Si-C eutectic alloy 1−39297
AgBr:C sputtered film, insulating SEM specimen prep. using ion beam thin film deposition technique 1−16688
B:H, C, amorphous film, glow discharge deposited, resist. and doping props. 1−38778
C I in Comet West (1976 VI), prod. rate from UV spectrum obs. 1−44497
C I isoelectronic series, K XIV to V XVIII, spectra of transitions within second shell 1−28914
C II, interstellar, 157 μm (1910 GHz) forbidden emission line detect. from NGC 2024 and M42 1−4956
C II, interstellar, column density from emission line spectrum of filament in Cygnus Loop 1−27584
C II, new low-temp. dielectronic-like recomb. process rel. to interstellar C I radio recomb. lines 1−27363
C III, 1909/1907 Å line ratio in planetary nebulae, electron density determ. 1−22860
C III, elastic and inelastic cross sections calc. method 1−33560

carbon continued
C III, electron quadrupole transition probabilities, many-electron theory 1−24082
C III, interconfiguration transitions in Wolf-Rayet stars 1−36294
C III, solar proton excitation rates for fine struct. transitions 1−13745
C III 1175 Å multiplet in UW Canis Majoris, P Cygni profile vars., phase correlation 1−54548
C III 9701-9718 Å multiplet in early-type stars, obs. 1−49637
C III lines in solar spectra, approximate calculation of effect of opacity 1−27453
C IV, beam foil excitation, relative level populations 1−46095
C IV 1549 Å in quasar spectra, use as standard cosmic candle 1−13879
C IV and semi-forbidden C III emission lines in QSOs 1−22916
C IV assoc. with flare in transition zone and corona, OSO-8 obs. 1−54452
C IV based red shift systems in quasar PKS 0237−23 absorpt. spectra 1−40572
C IV lines in solar corona and chromosphere, profile fluctuations 1−9451
C, O^{q+} ion bombardment, convoy-electron prod., detection by coincidence expt. 1−37347
C VI, laser-produced plasma, polarisation shift of H_α lines 1−41348
C^+, interstellar, contrib. to dense clouds *(Russian)* 1−49779
C^{5+}, electron scatt., hybrid multichannel algebraic variational method appl. 1−1316
C/C composites, struct. and strength, review 1−48421
C/N ratio in Wolf Rayet stars as constraint on star form. theory 1−49674
C/O in NGC 6572, planetary nebula, UV spectra obs. 1−36380
C-Cu electrode, lightning protector blocks, arcing mechanisms 1−46935
C-Ge(Si):B, double layer struct., implanted ion distrib. backscattering meas. 1−7201
C+C thin foil, atomic impact, quasimol. formation inner shell charge transfer cross sections 1−16643
C+Cl ion, projectile double-K-vacancy fraction with target thickness, X-ray spectra 1−14997
$C+H^+$, inner shell capture and ionisation 1−46098
$C+H^+$, K-ZZ 1−41467
$C+Hg^+(Xe^+)(Cs^+)$, charge transfer cross sections 1−37323
C+NO→CN+O, rot. excitation, velocity-selected mol. beam study 1−43652
C^++CO reactions, laboratory studies of isotope fractionation and interstellar implications 1−44611
$C^+ + D_2 \rightarrow CD^+ + D$, electronic degeneracy factors, pot. surface constraints, statistical phase space calcs. 1−53405
$C^+ + H_2(D_2)$, association reaction studied using drift tube mass spectrometer techniques, rate coeffs. determ. 1−8561
$C^+ + H_2(D_2)$, chemiluminescent reaction, rot. and vibr. state distrib., surprisal anal. 1−48692
$C^+ + H_2(D_2)$ chemiluminescent reaction, $CH^+(CD^+)$ triplet emission 1−4060
$C^+ + H_2 \rightarrow CH^+(^1\Sigma^+) + H$, low-energy passage 1−6341
$C^+ + He^+$, charge transfer reaction rate coeffs., quantal calcs. 1−32615
C^{2+}+H(He), charge transfer reaction rate coeffs., quantal calcs. 1−32615
C^{3+}+H, charge transfer at thermal energies 1−51286
C^{3+}+H, charge transfer reaction rate coeffs., quantal calcs. 1−32615
$C^{4+} + He \rightarrow C^{2+} + He^{2+}$, two electron capture, asymptotic Landau-Herring method 1−1346
C^{5+}+H, electron capture and ionisation cross-sections calcs. 1−46108
$C^{5+} + H^+$, electron capture collisions, continuum distorted wave approx. 1−1345
C^{6+}+H, Coulomb excitation, 1S-2S transition 1−24238
C^{6+}+H, perturbed stationary states, charge exchange cross sections 1−46099
C^{n+}+Pb, X-ray intensity ratios, energy depend. 1−1323
C_2, C_3, emission features in bipolar nebulae GL 2688 (Cygnus Egg Nebula), spectrophotometric mapping 1−32744
C_2, electronic excitation behind shock front, mechanism 1−41486
C_2 in Comet Bradfield (1979 X), UV obs. 1−49575
C_2 in comets from narrowband filter photometry obs. 1−22728
C_2, obs. in spectra of red supergiant variable stars in SMC 1−13778
C_2 Swann system, isotopic bands, rot. struct., nuclear mass and spin effects 1−41363
C_2^- auutodecking resonances, photodetachment spectroscopy, vibr. levels, rot. anal. 1−24195
C_2+hydrocarbons(H_2)(NO), C_2 free radical intersystem crossing and reactions 1−1270
C_2+methane reaction, temp. depend. in 337 to 605K range 1−4067
C_3 in Periodic Comet Tempel-2 (1978 V), prod. rate during outburst from spectrophotometric obs. 1−36224
C_3, spectral opacity, 280-600 nm, graphite tube furnace meas. 1−6236
COS, in atmosphere, photochem. of S cycle 1−40151
CS_2, in atmosphere, photochem. of S cycle 1−40151
^{12}C, resonant nuclear scatt., inner-shell ionisation influence 1−29107
$^{12}C/^{13}C$, in stratosphere, mass spectral obs. 1−36029
$^{12}C/^{13}C$ ratio determ. in C stars, spectroscopic criteria 1−54500
^{13}C, ^{14}C in North Atlantic Deep Water, isotopic fractionation during O_2 consumption and carbonate dissolution 1−4537
^{13}C, behaviour in carbonate rocks during contact metamorphism rel. to isotope systematics in impure dolomitic limestones 1−40126
^{13}C, distrib. in Atlantic Ocean 1−4536
$^{13}C/^{12}C$ in tree-ring cellulos, indicator for past climate change 1−9239
^{14}C, atmospheric, transport model including diffusion in stratosphere 1−36019
^{14}C, bomb-produced, distrib. at GEOSECS station 347 in E.North Pacific 1−4534
^{14}C, cosmogenic, anal. using multichannel scintillation arrangement for cosmic ray var. investigation 1−36188
^{14}C dating using accelerators 1−17690
^{14}C, environmental behaviour in Japan 1−53710
^{14}C, meas. via stabilised device employing integrated microcircuits and active protection 1−40206
^{14}C production in supernova explosions, short-term effects 1−54528
^{14}C removal and fixation from radioactive waste 1−5914
$^{14}C/^{12}C$ ratio of ocean surface water, seasonal variability 1−35998
Cr/C films, reactive ion plated, microhardness and struct. 1−53263
Cr_2O_3, sintering in C powder *(Japanese)* 1−21381
EuB_6+C, mag. struct. determ. by neutron diffr. 1−47861
Fe-Si-C diffusion couple, anal. demonstration of Darken expt. 1−25510
Fe-Ti-C-Sb alloy, Sb trapping, chanelling study 1−34381
GaAs:C, electron scatt. at localised impurity pots. 1−47635

carbon continued
GaN:C, yellow luminesc. mechanism 1−48148
InP:C, elec. characts. 1−12113
InP:C, ion implanted, elec. charact., implant temp. effect 1−7196
MgO containing C, powder, CO_2 evolution under Ar and in O_2 1−21717
MgO single crysts., containing atomic C, anomalous thermal expansion behaviour 1−20427
Mo:C, ductility, ageing effects 1−21509
Si wafer C content determ., apparatus and method 1−5364
Si:C, annealing of neutron flux defects, IR absorpt. spectra study 1−42430
Si:C, C conc. determ. by activation anal. and chemical separation 1−31938
Si:C, C impurities determ. by activation anal. 1−31939
α-SiC:N single crysts., C^{14} self-diffusion 1−25495
TiC-C, electrical conductivity, C phase content up to 40 vol.% 1−16282
W, redistrib. of C in γ-irradiated single crysts. *(Russian)* 1−7208
W:C surface interaction with O_2, electron stimulated desorpt. study 1−21763
ZrC-C, electrical conductivity, C phase content up to 40 vol.% 1−16282
ZrC-C system, CVD prepared, elec. resist., and temp. depend. 1−47759

carbon compounds
see also organic compounds
c-C_4F_8-SF_6-N_2 gas mixture, impulse breakdown study 1−7035
CO_2, supersonic mol. beams, diagnostic apparatus complex for determ. beam props. 1−23368
CO_2 pulsed RF pumped waveguide laser, gain-switched output 1−46385
CO, vibr. distrib. in CS_2 flame, N_2O effect 1−1211
CO interstellar clouds gravitational effects causing star orbit and vel. diffusion 1−4909
cyano diamagnetic complexes, ^{15}N-^{13}C coupling consts., $^{15}N/^{14}N$ isotope effects on ^{13}C chemical shielding 1−41329
G 1−41441
gas source dual inlet mass spectrometer, valve-mixing correction for changeover valve 1−371
glass-CS_2 nonlinear interface, reflectivity expt. study 1−46428
graphite containing $FeCl_3$ and $MoCl_5(WCl_6)$, layer compounds, synthesis, gamma-resonance spectra and struct. 1−7147
haloethane, arc interruption performance meas. 1−15696
haloethane-SF_6 mixture, arc interruption performance meas. 1−15696
interstellar clouds without prominent star form., struct., mass and abundances 1−9626
molten carbonate, gas-fuelled, kinetics of O_2/CO_2 reaction and reaction orders for O_2 and CO_2 on NiO 1−48738
photoreduction of CO_2 and H_2O into formaldehyde and methanol on semiconductor materials 1−8695
poly(ethylene terephthalate), CO_2 sorption and transport, above and below glass transition 1−30562
steam reforming plant heated by HTGR, process feasibility and investment cost evaluation of hydrogasification 1−48916
C-B system, ESR signal, effect of variation of B and C conc. 1−3257
C_2^-, detection by radioastronomy, interstellar medium 1−22874
CCN, ground states, spin-orbit coupling conts., ab initio calcs. 1−45826
CCl_4 reactive ion etching, of Nb films 1−31733
CCl_4+Na, chemiluminescent spectra, vibr. population inversion and relax. kinetics 1−8571
CF, 3d polarisation function, bond function 1−6134
CF_2, systematics of vibr. relax. 1−24208
CF_4, self-crystallising molecular models, geometrical supplement 1−34272
CH_3, interstellar maser 1−9640
CH^+, electron impact, iterative static-exchange techniques appl. 1−19198
C_2H^-, detection by radioastronomy, interstellar medium 1−22874
$C_{36}K$, intercalation cpd., lattice phonons, inelastic neutron scatt. obs. 1−42490
CN, absorption spectra and small conc. meas. using intercavity laser spectroscopy, mol. rot. 1−352
CN, adsorption on Cu, surface enhanced Raman scatt. 1−8055
CN, electron affinity, electron propagator calcs. 1−37368
CN, electronic excitation behind shock front, mechanism 1−41486
CN in Comet Bradfield (1979 X), vibr. transition probability, near IR obs. 1−54421
CN in comets from narrowband filter photometry obs. 1−22728
CN in neutral comet atm., accel. by solar radiation press. 1−22727
CN in Periodic Comet Tempel-2 (1978 V), prod. rate during outburst from spectrophotometric obs. 1−36224
CN, interstellar 113.5 GHz obs. of Taurus dark cloud and molecular clouds 1−22852
CN molecules on a shock wave front, $A^2\Pi_i$ and $B^2\Sigma^+$ electronic states, population kinetics 1−1136
CN, prod. by IR multiple-photon dissoc., rot. distrib., fluoresc. obs. 1−41415
CN^-, ^{13}C spin-lattice relax., field depend. 1−14941
CN^-, adsorpt. on Ag, elec. variable and adsorpt. isotherm calcs. 1−52434
CN^-, detection by radioastronomy, interstellar medium 1−22874
CN^- ion in electroplating effluents, kinetic method for anal. 1−4137
C_5N graphite intercalation cpd., residual N effect on electronic props. 1−47629
$CN(B^2\Sigma^+)$, vibr. and rot. distributions 1−10706
CNC, ground states, spin-orbit coupling conts., ab initio calcs. 1−45826
CO, ^{13}C NMR, chemical shielding variation with intermol. interaction and rovibrational motion 1−45989
CO absorbed on colloidal Ag particles, surface enhanced Raman spectroscopy 1−45969
CO abundances in diffuse interstellar clouds, UV survey 1−44601
CO adsorbed monolayers on vapour deposited Ag, enhanced Raman spectroscopy 1−25553
CO adsorbed on 304 stainless steel, ion-induced desorption cleaning 1−25559
CO, adsorbed on Cu, core-level XPS spectrum, MO cluster model study 1−53053
CO, adsorbed on Cu (100), C-O stretching vibr. mode lifetime 1−7448
CO adsorbed on Cu (100), vibr. lifetime 1−16180
CO, adsorbed on Cu (100), collective vibr. mode, inelastic electron scatt. study 1−16637
CO adsorbed on Cu (100), isotopic mixture, collective vibr. modes, IR spectra 1−28971
CO adsorbed on Cu (111), relative coverage determ. using isotopic mixing, LEED 1−16181
CO adsorbed on GaP, GaAs, InP, interaction mechanisms, surface atomic structs., meas. 1−25578

carbon compounds continued
CO adsorbed on Mo(100), dissociation, chemical evidence 1−26771
CO adsorbed on Ni (111), mol. vibr., slow electron inelastic scatt. study 1−15024
CO adsorbed on Pd (100), LEED, UPS, EELS, and work function meas. 1−7457
CO, adsorbed on PdAg, cluster formation in SIMS 1−31275
CO, adsorbed on Pt (111), EELS intensity ang. distrib. 1−48205
CO adsorbed on Pt electrode, potentiodynamic electro-oxidation, anodic current peaks 1−21732
CO, adsorbed on $Rh/SiO_2(TiO_2)$, catalytic reduction of NO 1−26766
CO, adsorbed on Ru (001), IR absorpt. spectrum 1−48093
CO adsorbed on ZnO, investigations using combined IR and elec. conductance cell 1−40816
CO, adsorpt. on ZnO ($10\bar{1}0$) surface, bonding geometry, angle-resolved UV photoemission obs. 1−12622
CO, adsorption and catalytic oxidation on evaporated Pd crystallites 1−39681
CO, adsorption and desorption on Si(111), ion scatt. spectroscopy study 1−8181
CO, adsorption and desorption rate on Pt(110), coverage determ. 1−8610
CO, adsorption and interaction with ZnO ($10\bar{1}0$) surface, UV photoemission obs. 1−17102
CO adsorption of Ni (111) cryst. with small angle boundaries, S poisoning effects 1−20570
CO, adsorption on Cu, EELS study 1−35137
CO, adsorption on Fe, effect on Auger electron appearance potential spectra *(Japanese)* 1−39184
CO, adsorption on $LaCoO_3$, 113-773K, IR obs. 1−20572
CO, adsorption on metal, image charge effect, HF calc. 1−2817
CO, adsorption on Ni, core photoionisation of adsorbates, many-body effects, CNDO formalism 1−39223
CO, adsorption on Ni (110), IR ellipsometric spectroscopy study 1−8078
CO adsorption on Ni (111), sticking probability, dipole moment and absolute coverage determ. 1−38656
CO, adsorption on S-covered Mo (001), effect on overlayer struct. 1−38660
CO, adsorption on transition metals, XPS, UPS and AES study 1−16182
CO, adsorption on transition metal surfaces, thermodynamics 1−30544
CO adsorption on transition metals, binding and dissociation, calc. 1−42635
CO adsorption-desorption kinetics on Mo (100)-C, carbide adlayer effects 1−20568
CO, adsorption-desorption by Pt, flash desorption spectroscopy study 1−38654
CO, analytical theory of steady generation of overtone 1−46303
CO and ^{13}CO in W3 mol. cloud core, kinematics, EHF obs. 1−49833
CO and O_3, in troposphere and lower stratosphere, N. and S.America (1974) 1−44286
CO, atmospheric, free troposphere/boundary-layer meas. from 58°S to 70°N and comparison with H_2O meas. 1−44246
CO, atmospheric, latit. distrib. over Pacific Ocean 1−40166
CO, Auger decay rates, config. interaction effects 1−41436
CO CW gasdynamic laser, microwave excitation in supersonic flow 1−24396
CO CW gasdynamic laser with microwave excitation in supersonic flow 1−41725
CO CW sealed-off laser at high temp. 208-348K operation 1−29261
CO, catalysed oxidation, surface chemistry 1−5052
CO, catalytic oxidation on Pt, chemisorption mol. beam study 1−35569
CO, chemical laser using CS_2 flame and O_2-N_2 mixtures, energy and spectral characteristics 1−24414
CO chemiluminescence in flames, electron collisional quenching 1−39645
CO, chemisorbed Al_2O_3-Ni, tunnelling vibr. spectrosc. obs. 1−42627
CO, chemisorbed on Cu(111) surface, IR spectra, dipole coupling effects 1−8054
CO, chemisorbed on Fe (110), angle-resolved photoemission 1−3575
CO, chemisorbed on Rh, dissociation 1−53470
CO, chemisorbed on Rh supported by Al_2O_3, IR spectra, temp. effect 1−8609
CO chemisorption of metal catalysts, EELS study 1−25551
CO, chemisorption on clean and carbonized Os, desorption and photoemission obs. 1−14958
CO, chemisorption on Cu(100), core XPES assignment 1−7464
CO, chemisorption on Ir (111) and (100), angle-resolved polarisation-depend. UPS study 1−3576
CO chemisorption on Ni (100), adsorbate-adsorbate interactions, desorpt. kinetic meas. 1−38643
CO chemisorption on Ni clean and carbided surface, vibr. EELS study 1−38655
CO, chemisorption on Rh (110), UPS, XPS, LEED, and desorption meas. 1−2822
CO, coadsorption with H_2 on Ir (110) 1−7466
CO conversion, Cu-ZnO-Al_2O catalysts, X-ray absorpt. near edge struct. 1−28992
CO, correlation energy, fourth order diamag. many-body Rayleigh-Schrodinger perturbation calcs. 1−41297
CO, Coulomb capture rates of negative muons 1−15039
CO, coverage determ. by VUV reson. fluoresc. of laser-desorbed particles 1−30554
CO, desorption, from glass, thermal desorption mass spectrometry *(German)* 1−52436
CO, desorption from 0Kh16N15M3B steel on heating 1−5851
CO desorption from W and Cu, laser stimulated photodesorption, mol. vibr. coupling 1−43698
CO, dissoc. and double photoionisation, threshold to 90 angstroms 1−46035
CO, donor and acceptor chemisorption on NiO, XPS study 1−39220
CO, ESCA peak intensities, sudden approx. 1−1274
CO electroionization laser with a cooled active region 1−24389
CO, electron impact, negative ion resons., inner shell excited states 1−10853
CO, electron scatt. and rot. excitation, SCF quantum mechanical study 1−6384
CO electron-beam-controlled laser utilising vibr.-rot. first overtones, time-resolved spectral charcts. 1−46312
CO electron-beam-controlled laser utilising vibr.-rot. first overtones, energy charcts. 1−46313
CO, electronic struct. studied by self-consistent discrete variation Xalpha method, ionisation pot. calc. 1−6126
CO emission from circumstellar shell round Betelgeuse 1−44556
carbon compounds continued
CO emission from galactic mol. cloud ensemble, simulation 1−54580
CO emission in molecular cloud Barnard 35 IR source detect. in 2 μm survey 1−49761
CO emission maps in Canis Major OB1/R1 region, vel. struct., SHF obs. 1−49750
CO, galactic centre 2.4 micron emission leading to central bulge mass/luminosity ratio 1−9658
CO gas sensor using stabilised ZrO_2 1−8640
CO gasdynamic chemical laser using air and CS_2 1−33717
CO impurity on Ti film, adsorpt. and desorpt., ISS obs. 1−25560
CO, in atmosphere, conc. increase during last decade (1968-1977) 1−35731
CO, in atmosphere, detection by fast-response gas filter correl. IR spectrometer 1−39859
CO in dark clouds used to determine O and C isotope ratios 1−49775
CO in external galaxies, J=2→1 line detect. in M82 and (IC 342) 1−9608
CO in galactic H II regions, maps, link with star form., EHF obs. 1−36367
CO in inner Galaxy used to delineate expanding features 1−49798
CO in Lynds 1333, 1778, 129 and Heiles 2, dark clouds, SHF obs. 1−36379
CO in M31 as tracer of spiral struct., mol. clouds obs. 1−36402
CO in molecular clouds with prominent star formation 1−27587
CO in NGC 2068, 2071, refl. nebulae in I Orion OB assoc. mol. cloud 1−54596
CO in Rosette molecular complex, Monoceros OB2 assoc. 1−22856
CO in ρ Cassiopeiae, circumstellar line profiles emission component obs. 1−49683
CO, in solid rare gas matrices, lifetimes, Cameron bands, emission spectra 1−28989
CO in Venus stratosphere, J=0→1 rot. transition obs. in EHF 1−22705
CO, infrared radiation of molecules vibrationally excited in 4.7 μm band 1−37210
CO, interstellar, collisional and IR radiative pumping of mol. vibr. states rel. to IR bands emission 1−27573
CO, interstellar, contrib. to dense clouds cooling *(Russian)* 1−49779
CO, interstellar, detect. of J=21→20 (124.2 μm) and J=22→21 (118.6 μm) emission from Orion Nebula 1−9629
CO, interstellar, excitation temps. meas. in search for ultracold molecular gas 1−9601
CO, interstellar, in Cepheus OB3 mol. cloud, radio continuum emission obs. from CO hot spots 1−54493
CO, interstellar, in direction of IRC 10442, 115 GHz obs. 1−9720
CO, interstellar, in Magellanic irregular galaxies, abundance meas. and comparison with spiral galaxies 1−9614
CO, interstellar, obs. in elephant-trunk globules in Rosette nebula 1−9610
CO, interstellar, obs. in (J=1 to 0) transition in area around Orion Nebula 1−27581
CO, interstellar, UV pumping of mol. vibr. states rel. to IR bands emission 1−27574
CO interstellar dark cloud Lynds 1204 internal motion from visible spectra obs. 1−4969
CO, isotropic and directional Compton profiles calc. 1−33512
CO J=1→0 transition obs. of interstellar clouds, $^{12}CO/^{13}CO$ ratio 1−13830
CO, K-shell Auger electrons angular distrib., photoabsorpt. anisotropy spectra 1−14968
CO, K-shell photoionisation, chemical effects 1−29050
CO laser discharges, effects of O_2 addition on plasma kinetics 1−38157
CO lasers, high-power, efficient, electrically-excited, book contrib. 1−10993
CO line formation rel. to interstellar molecular clouds structure 1−9632
CO, liq., third-order susceptibilities, orientational and electronic contribs. 1−37548
CO liquid, equations of state 1−38496
CO, microwave emission obs. in stars of two-micron sky survey 1−40478
CO monolayer on Ni (001), CO ejection due to ion irrad. 1−8177
CO, nuclear spin-spin coupling const., diamag. mol. integral 1−33479
CO on Ni evaporated film IR spectra, low temp. thermal detection technique 1−26209
CO, oscillator strengths distrib. in K-absorpt. spectra 1−6276
CO, oscillatory oxidation over Pt catalyst 1−48735
CO overlayer on Ni(111) and Ni(001), substrate depend. C(1s) shape reson. 1−21324
CO oxidation, oscillations, glow and ignition in closed reaction vessel, effect of added H_2 1−43659
CO oxidation on Pt[9(111)×(100)], mol. beam relax. spectroscopy 1−8611
CO oxidation reaction, catalytic activity of ZrN, NbN, TaN *(Ukrainian)* 1−26768
CO, P(6) line, half width, intensity, broadening, temp. depend. 1−33508
CO, perturbed Morse oscillator model, radial eigenfunctions calcs. 1−46053
CO, photoacoustic meas. using semicond. diode laser 1−50240
CO, photoionisation by tunable VUV laser radiation 1−14967
CO, photoionisation cross section, mol. orbital calcs. 1−24196
CO, physical adsorption and thermal desorption on ZnO ($10\bar{1}0$) 1−7467
CO, physisorbed on Al(111), photoemission 1−6320
CO polar gas, electric charge transport mechanism *(German)* 1−51902
CO, population inversion and suprathermal excitation 1−1287
CO produced in formaldehyde photodecomposition, surprisal anal. for vibrational distrib. 1−51181
CO production from reaction of $O(^3P)$ and propargyl chloride and bromide, vibr. and conc. meas. 1−12976
CO production in atm., organic mol. photooxidation as source 1−22380
CO, proton affinity determ. from proton transfer reaction kinetics 1−39602
CO, radiation treatment, shock wave struct. anal., vibr. and chemical relax. 1−24842
CO, singlet and triplet states, pot. energy curves, SCF CI calcs. 1−45859
CO solubility in carbonate melts, obs. 1−7335
CO, spatially resolved IR absorpt. meas., optical Stark effect 1−51208
CO, thermodesorption from disperse metal, kinetic modelling *(German)* 1−52437
CO, transition moments and dynamic polarisability, second order polarisation propagator 1−33506
CO vibrational distribution produced by CO_2 photodissociation 1−6233
CO waveguide laser with 3 W output 1−1552
CO^+ in Comet Bradfield (1979 X), CO^+/CO_2^+ ratio determ. 1−49575

carbon compounds continued
$^{12}C^{16}O$ ($X^1\Sigma^+$), RKR pot. curves calc. 1−41332
CO:H_2 collisions, CO rot. relax., time-resolved IR double reson. 1−29084
CO-CO_2-N_2-He gas mixture, electric discharge convection lasers, ionic and thermal instabilities 1−33653
CO-Fe(Ni), quantum chem. calc., general mechanism, balloon effect *(German)* 1−53472
CO-H_2O-H_2-CO_2-N_2 mixture, amplification and power of gas dynamic laser 1−10982
CO-He, interaction pot., calc. using SCF-CI surface and pressure broadening data. 1−37291
CO-N_2-He laser kinetics from COLASE code 1−19317
CO-O_2, thermal electron attachment to O_2, rate consts., radiolysis and microwave cond. 1−41500
CO+$^{14}N_2$($^{15}N_2$), vibr. energy exchange, laser fluoresc. study 1−51274
CO+C^+ reactions, laboratory studies of isotope fractionation and interstellar implications 1−44611
CO+CO_2, rotation-translational energy transfer 1−10821
CO+F, recombination const. calc. 1−8596
CO+formyl ion reactions, laboratory studies of isotope fractionation and interstellar implications 1−44611
CO+glyoxal, rot.-vibr. energy transfer 1−6357
CO+H_2+N_2O, effect on CO_2 vibration temperature in gasdynamic laser 1−10983
CO+H^+, inelastic scatt., core-excited resons. 1−37299
CO+HCN^+ reactions, reaction rates and prod. distrib. meas. by ICR techniques 1−53407
CO+HCO^+, clustering energies and stable struct., ab initio LCAO SCF MO and SCEP calc. 1−33395
CO+He, CS and IOS degeneracy averaged differential cross sections, wave param. effect 1−6364
CO+He, free jet expansion, state resolved rot. relax. of CO 1−51266
CO+He, resolved rot. transitions, mol. beam time-of-flight meas. 1−1333
CO+He, rotational excitation, pot. energy surfaces, CI calcs. 1−1329
CO+Li^+, low angle scatt., pot. energy surfaces, CI calcs. 1−1306
CO+methanol (methanol-d) (ethanol), V-V energy transfer studied by laser induced fluoresc. technique, dipole moments 1−51276
CO+methyl radical, acetyl form., kinetics, UV absorpt. spectra 1−41391
CO+N^+, charge transfer, interference effects, fine struct. 1−41489
CO+NO, on polycryst Pt ribbon, reaction rate oscills. under Knudsen condtions *(German)* 1−48737
CO+Na, collisional broadening of forbidden ground-to-Rydberg state transitions meas. by trilevel echoes 1−14982
CO+Ne^+, ion-neutral reactions, ionic vibr. excitation, drift, tube studies 1−43663
CO+O_3, vibr. energy transfer, IR fluoresc. 1−46091
CO+OH^+(H_2O^+), rate coeffs. and product ion distrib. 1−43649
CO+Xe(Kr)(Ar), electron cond., drift velocity, cross sections, Boltzmann eqn. calcs. 1−38046
CO^++NO→$(NCO)^+$+O, reaction dynamics and mechanism, crossed beam study 1−43658
CO_2, 10.6 μ absorpt. coeff. at high temps. 1−6256
CO_2 16 μm TE laser, gas effects 1−46291
CO_2, 9.4 and 10.4 μm bands, vibr.-rot. line parameters determ. 1−33510
CO_2 adsorbed on GaP, GaAs, InP, interaction mechanisms, surface atomic structs., meas. 1−25578
CO_2, adsorption on Pt, electron stimulated desorption study 1−38653
CO_2, adsorption on ZnO (40$\bar{4}$1) surface 1−34558
CO_2 amplifier active medium of rectangular metal waveguide, gain determ. of 10.6 μm signal 1−33657
CO_2 amplifiers with two band oscillators, increased efficiency 1−46292
CO_2, appl. in thermal oxidation of Cu *(German)* 1−31854
CO_2, atm. transmittance simulations near 4.3 μm band head 1−54240
CO_2, atmos. composition history from tree ring data 1−13556
CO_2, atmos. composition influenced by El Nino current 1−54207
CO_2, atmosphere boundary layer conc. variations over paddy field 1−54173
CO_2, atmospheric, and climate, role of deep sea heat storage in secular response to climatic forcing 1−27178
CO_2, atmospheric, global warming and coastline flooding, poss. disintegration of West-Antarctic floating ice shelf 1−40183
CO_2 atmospheric burden, influence of ocean surface transport and deep mixing 1−44231
CO_2, Auger decay rates, config. interaction effects 1−41436
CO_2, biosphere in global surface flux model 1−13527
CO_2, CW electroionisation laser with turbocompressor gas cooling for cryogenic temp. 1−33716
CO_2 CW electron-beam-controlled laser with cooled active mixture 1−6578
CO_2 CW electron-beam-controlled laser, output power, active-medium characts. influence 1−33655
CO_2 CW focused laser beam, thermal blooming 1−41792
CO_2 CW laser press. laser design, single axial mode, freq. stabilisation 1−37505
CO_2 CW TE high power laser, electron-beam pre-ionised, operating with N_2, He and CO additives, numerical investigation 1−1544
CO_2 CW waveguide laser design 1−29303
CO_2 chemisorption on ZnO (10$\bar{1}$0), point defect form., UPS study 1−8197
CO_2 clustered mol. beam energy meas. by InSb cooled bolometer 1−23228
CO_2 compact high-pressure laser, excitation with surface corona stabilised glow discharge 1−41736
CO_2 compact sealed-off pulsed TEA laser, trigger wire discharge initiation 1−41738
CO_2 content in atmosphere, methods of estimating past concentrations *(French)* 1−27239
CO_2 continuously excited laser, gas storage technique for repetitively pulsed operation 1−46369
CO_2, critical region, multiple scatt. contribs. to depolarisation of scatt. light 1−15592
CO_2 crystal translational and orientational vibr. classification 1−42480
CO_2, cyclic isomer, MCSCF and CI calc. 1−24023
CO_2, decarboxylation of vinyl acetic and pyruvic acids, mol. vibr., IR obs. 1−33457
CO_2, desorption, from glass, thermal desorption mass spectrometry *(German)* 1−52436
CO_2 discharge transversal laser, wire-triggered, electron conc. and temp. *(Rumanian)* 1−15148
CO_2, dissociation processes in plasmas in low and intermediate pressure ranges, book contrib. 1−34041
carbon compounds continued
CO_2 double-electrode-pair-pulsed laser 1−15177
CO_2, drift velocity of electrons, 193 to 573K 1−42123
CO_2 effect on climate and models, temp. effects, of view 1−17684
CO_2 electrodynamic laser, fast axial flow, kinetic modelling 1−37457
CO_2 electroionization laser with a cooled active region 1−24389
CO_2, electron impact, negative ion resons., inner shell excited states 1−10853
CO_2, electron impact excitation of asymmetric stretch mode 1−10852
CO_2, electron impact excitation of asymmetric stretch mode, cross-sections calcs. 1−37340
CO_2, electron scatt., cross section meas., time of flight obs. 1−41491
CO_2, electron scatt., static exchange approx., linear algebraic calcs. 1−41492
CO_2 electron-beam-controlled laser, pumping with max. efficiency of electron beam utilisation 1−46290
CO_2 exchange in contact metamorphism of carbonate rocks, rel. to ^{13}C and ^{18}O behaviour 1−40126
CO_2 fast-flow closed-cycle processing laser, AC discharge pumping prospects 1−1590
CO_2 flow, shock detachment from cones in relaxing gas 1−29722
CO_2, fossil fuel, transport into deep-sea source regions, use of bomb-produced ^{14}C as tracer 1−4535
CO_2 frequency stabilised hybrid laser, single-mode operation 1−46387
CO_2 from fossil fuel, absorpt. by ocean 1−26864
CO_2, frozen film, MeV ion bombardment anomalous sputtering yield, mechanisms, expt. 1−12618
CO_2 fusion-research laser, Antares, 40 kJ, Los Alamos 1−33707
CO_2 gas, conc. determ. by He-Ne laser 1−17135
CO_2 gas, hypersonic nonequilibrium flow, blunt body radiative heating 1−19836
CO_2 gasdynamic laser, closed-cycle, employing a gas separator 1−1589
CO_2 gasdynamic laser, effect of CO+H_2+N_2O on CO_2 vibrational temperature 1−10983
CO_2 gasdynamic laser, high-power 16 μm emission simulation 1−37456
CO_2 gasdynamic laser, high temperature, without flow stagnations, small signal gain coeff. and power output calcs. 1−46285
CO_2, ground state pot. surface, ab initio calcs. 1−31864
CO_2, He-Ne laser anal. 1−4135
CO_2, high freq. opto-galvanic laser stabilisation 1−37458
CO_2 high gain laser, N_2 and CO_2 gas effective mixing 1−41724
CO_2 high power laser system, TROJAN 1−29299
CO_2 high pressure reinjection oscillator, design and performance, Q-switch optimisation 1−46386
CO_2 high-energy short-pulse laser system, fusion appls. 1−19361
CO_2 high-gain laser power amplifier, parasitic oscill. suppression method 1−33709
CO_2 high-power laser amplifiers, plasma instability 1−46288
CO_2 high-repetition-rate TEA laser, UV-preionised, design and characts. 1−11015
CO_2 high-repetition-rate pulsed TEA laser, discharge geometries 1−33706
CO_2 high-repetition-rate pulsed laser, gasdynamic disturbance influence on self-sustained discharge stability 1−41658
CO_2, IR spectra and mol. const. in 1.4-1.7 μm atmospheric window, Fourier transform spectroscopy 1−19090
CO_2 in air monitor, portable 1−21965
CO_2 in atmosphere, increase causing warming of climate 1−27248
CO_2 in Earth interior, role in carbonic metamorphism, granulites form. and crustal growth 1−17568
CO_2 in stratosphere and troposphere, mixing ratio decrease interpretation 1−22442
CO_2 in Venus atmosphere, IR transmission for spectral region near 10 micrometres 1−4804
CO_2, inclusion bands in IR obs. of organic compounds in KBr pellets 1−14899
CO_2 influence on atmospheric temp. and climate *(German)* 1−13718
CO_2, infrared radiation of molecules vibrationally excited in 4.3 μm and 2.7 μm bands 1−37210
CO_2, intensity-dependent refractive index in gases meas., polarisability anisotropies 1−37364
CO_2 isotopic species, laser transition absolute frequencies 1−19320
CO_2, its role in hydrothermal systems 1−44222
CO_2, K-shell photoionisation, chemical effects 1−29050
CO_2 laser, effect of easily ionised admixtures on CO_2-N_2-He mixtures 1−33658
CO_2 laser, effect of easily-ionised vapour additives 1−41661
CO_2 laser, electron beam controlled, H_2O vap. effects 1−41660
CO_2 laser, externally sustained microwave discharge appls. 1−25099
CO_2 laser, for strengthening steel, technological characts. *(Russian)* 1−43593
CO_2 laser, modulation by mol. gases, tuning Stark const. estimation method *(Rumanian)* 1−51522
CO_2 laser, performance, production of LiH plasma *(Korean)* 1−46384
CO_2 laser, sealed, optogalvanic stabilisation 1−29298
CO_2 laser, TE, role of additives *(Rumanian)* 1−15150
CO_2 laser, TEA, kinetic modelling 1−15147
CO_2 laser, wire-triggered, TEA, improved excitation by triple discharge 1−37454
CO_2 laser amplifier, energy and temporal characts. 1−51447
CO_2 laser beam propag. through cloud medium, secondary condensation 1−44297
CO_2 laser broadband modulation using electro-optic CdTe crystals 1−41757
CO_2 laser control with Stark cell devices 1−41714
CO_2 laser devices and appls., conf., Washington, DC, USA (April 1980) 1−40596
CO_2 laser doughnot mode focal region intensity distrib. 1−24443
CO_2 laser excited by preionised transverse discharge through a dielectric 1−33650
CO_2 laser five-colour sequence by cavity length tuning 1−46388
CO_2 laser freq. doubling in Te to give freq. stabilised CW source in 5 μm region 1−37545
CO_2 laser gas discharge, recombination coeff. meas. 1−46281
CO_2 laser injection locking, INJLOK code 1−24384
CO_2 laser line selection using reflecting diffr. interferometer 1−33708
CO_2 laser lines, freq. difference meas. using harmonics of X-band microwave freq. *(Japanese)* 1−19322
CO_2 laser medisum, volumetric photo-preionisation meas. by VUV radiation 1−15152
CO_2 laser radiation, temporal characts. orthogonally polarised wave competition effects 1−6540

carbon compounds continued
CO_2 laser radiation convertor using freq. up-conversion in $HgGa_2S_4$ crystals 1−51557
CO_2 laser radiation polarisation, intracavity plate anisotropy influence 1−6593
CO_2 laser range-finder using heterodyne detect. and chirp pulse compression 1−33738
CO_2 laser system at Los Alamos, fusion appl. *(French)* 1−10519
CO_2 laser transitions, discharge excitation using transverse electrodeless RF config. 1−1550
CO_2 laser with metallised polymer thin film mirror resonator 1−24474
CO_2 laser with multifold resonator, material processing appl. *(Japanese)* 1−33736
CO_2 laser with SF_6 intracavity nonlinear absorber, bistability, transient effects 1−33651
CO_2 lasers, electric discharge convection lasers, ionic and thermal instabilities 1−33653
CO_2 lasers, ultra-short pulse generation 1−19371
CO_2 lasers for inertial-confinement fusion research, transmissive component and mirror material selection 1−11017
CO_2 light-weight flyable laser beacon development, modulation rate capability 1−41734
CO_2, low energy electron scatt., partial wave-anal. 1−33566
CO_2, low-pressure, Trichel pulse corona calc., one-dimens. simulation method 1−20011
CO_2, medical capnography, IR spectroscopic, review 1−17467
CO_2 mini-TEA laser, long life operation 1−41737
CO_2 miniaturised waveguide laser, design and output characts. 1−41735
CO_2, modified form of pot. energy functions, expressions for second virial coeff., force const. 1−51259
CO_2, mol., dissociative and double photoionisation, cross section curve, mass spectra 1−19214
CO_2 mol. in thermodynamically nonequilib. gas flows, vibr. temp. meas. 1−44920
CO_2 molecular beam, supersonic, vel. anal., time-of-flight method *(Japanese)* 1−6406
CO_2 molecular states diagnostics from resonance absorpt. of CO_2 laser radiation 1−1238
CO_2 multiline TEA laser with hot CO_2 intracavity absorber, theoretical and expt. study 1−19321
CO_2, near crit. state, amplitude and phase fluctuations of propagating US wave 1−15317
CO_2 nonequilibrium hypersonic flow over blunt bodies convection, friction stress calc. 1−19747
CO_2 nozzle beam, vel. anal. by means of time of flight spectra *(Japanese)* 1−27938
CO_2, ν_3 band vibr.-rot. line edge contour 1−33511
CO_2, photodissoc., bound-free Franck-Condon factors calc. using R-matrix propagation methods 1−24199
CO_2 photodissociation, CO vibrational distribution 1−6233
CO_2, photoexcitation and ionisation, theoretical studies in separated-channel static-exchange approx. 1−24198
CO_2, photoionisation cross section, mol. orbital calcs. 1−24196
CO_2, physical adsorption and thermal desorption on ZnO ($10\bar{1}0$) 1−7467
CO_2, proton affinity determ. from proton transfer reaction kinetics 1−39602
CO_2 pulse-periodic closed-cycle laser, radiation characts. 1−33654
CO_2 pulsed elec.-discharge high-press. laser for laboratory use 1−33712
CO_2 pulsed mode-locked laser, spectral content investigation using Fabry-Perot interferometer 1−6591
CO_2 pulsed mode-locked laser 1−33710
CO_2 Pyrex waveguide laser, 10 W single line power, single mode, purity 1−29296
CO_2, rarefied gas, heat exchange, nonsteady hot-filament method using RC oscillator 1−11491
CO_2 repetitively pulsed laser, mean power output in excess of 30 kW 1−46380
CO_2, self-shifting of lines in $3\nu_3$ band at 1.43 μm 1−37263
CO_2 sequence laser, pump for 12 μm NH_3 laser 1−29266
CO_2, single cryst. struct. refinement 1−15862
CO_2 single-mode laser intracavity coupling modulation 1−46406
CO_2, solid, dielec. props. for appl. to microwave refl. from Mars 1−22677
CO_2, solid, phonon processes, repulsive forces, Gruneisen parameters, Raman obs. 1−39074
CO_2, solid, sorption of H_2, density, refractive index and sorption capacity meas. 1−25552
CO_2 solubility at low temp. in light hydrocarbon mixtures, prediction method 1−47247
CO_2, solubility in silicate melts, Raman spectra 1−39067
CO_2, specific decomposition rate const., quantum formulation 1−21700
CO_2 spectroscopic characteristics calc. in random-phase approx. transition freqs., oscillator strengths, spectroscopic moments 1−41435
CO_2 stability in Martian atmosphere 1−22709
CO_2, stratospheric concentration, mass spectral obs. 1−36029
CO_2, supercritical, free convective heat transfer 1−29684
CO_2 TE laser, tunable heliumless operation 1−46293
CO_2 TE laser amplifier, gain limitations, rot. and vibr. temps. 1−15145
CO_2 TE laser upper level relaxation rate and gain, effect of xylene and tripropylamine additives 1−6539
CO_2 TE lasers, injection mode locked, pulse train evolution 1−19319
CO_2 TE waveguide laser operation 1−29297
CO_2 TEA laser, freq. stabilised compact high repetition rate 1−1583
CO_2 TEA laser, line narrowed, for optical pumping of molecular gas lasers 1−29295
CO_2 TEA laser, tunable single longit. mode output using intracavity selective absorbers 1−51512
CO_2 TEA laser, UV-preionisation by trigger wire discharge, output characteristics *(Korean)* 1−46383
CO_2 TEA laser pulse-liq., interaction diagnostics 1−43224
CO_2 TEA lasers, selective absorbers for single-mode operation 1−19389
CO_2 TIR-1 laser system, nanosecond 100 GW pulse form. 1−33711
CO_2 transversely excited atmosphere laser oscill., spectral distrib. press. depend. 1−15146
CO_2, vibr. bands meas. using tunable diode laser with high precision wavelength meter 1−36637
CO_2, vibr. rot. lines, broadening coeffs. calcs. 1−29045
CO_2, vibrational relaxation from decay constants *(Chinese)* 1−29096
CO_2 vibrational-transition laser emissions in low temp. supersonic flow excited by pulsed electron beam stabilised discharge 1−46286
CO_2 vibrationally excited mols., relax. channels determ. by phase method 1−33498
carbon compounds continued
CO_2, viscosity meas., temp. range including critical region 1−46839
CO_2 waveguide laser, stimulated emission cross section meas. 1−33656
CO_2 waveguide laser, transverse RF discharge plasma characts. 1−41659
CO_2 waveguide laser cooled by a Peltier thermoelectric module 1−19353
CO_2 waveguide laser operating in Gaussian mode, max. power output 1−51516
CO_2 waveguide lasers, gain, saturation and tunability *(Rumanian)* 1−15151
CO_2, weak absorption lines, detection using tunable IR diode lasers 1−5413
CO_2^-, ground state pot. surface, ab initio calcs. 1−31864
CO_2^+, $A^2\Pi_u$-$X^2\Pi_g$ band emission spectra, fermi resonance, vibronic parameters 1−19083
CO_2^+, CO^+ in Comet Bradfield (1979 X), CO^+/CO_2^+ ratio determ. 1−49575
CO_2^+, fluoresc. quantum yields and cascade-free lifetimes meas. by photoelectron-photon coincidence spectroscopy 1−10773
CO_2^+, radiationless transitions, excited states, photoionisation quantum yields 1−19130
CO_2^{2+}, ion lifetime, mass spectra and photoionis. obs. 1−6325
CO_2^{2+}, ion+molecule reactions at thermal energies, charge exchange, rate consts. 1−43665
CO_2^{2+}, reaction with atoms, rate consts., selected ion flow tube method 1−43651
CO_2^{2+}, reaction with small molecules, rate consts., selected ion flowtube method 1−43651
$^{12}C^{16}O_2$ isotope laser 1−51448
$^{12}C^{18}O_2$ isotope laser 1−51448
$^{12}C^{18}O_2$ isotope laser sequence bands, absolute freq. meas. of 53 CW laser lines 1−51446
$^{13}C^{16}O_2$, isotope laser 1−51448
$^{13}C^{16}O_2$ laser, sequence bands 1−10985
$^{13}C^{18}O_2$, rot. and distortion constants, IR obs. 1−14884
CO_2/Ar CW 18.4 μm gasdynamic laser, nozzle geometry and stagnation condition analytical modelling 1−41657
CO_2-H_2, supersonic mol. beams, diagnostic apparatus complex for determ. beam props. 1−23368
CO_2-He-N_2, optical gain optimisation in supersonic stream on mixing vibr. excited N_2 1−46289
CO_2-He(Ar)(N_2), ν_3 band vibr.-rot. line edge contour 1−33511
CO_2-N_2 energy transfer high-gain laser using conical nozzle 1−46366
CO_2-N_2 gasdynamic laser, gain optimisation study, lineshape effects 1−33652
CO_2-N_2 gasdynamic laser study using synchronised operation of two shock tubes 1−46378
CO_2-N_2 gasdynamic mixing lasers, expt. investigation 1−46287
CO_2-N_2 mixture, kinetic cooling theory 1−46849
CO_2-N_2 mixture, non-self sustaining glow discharge instability following removal of ionising beam 1−15665
CO_2-N_2 mixture axial pipe flow, thermal blooming 1−37559
CO_2-N_2-CO-H_2O-H_2 mixture, amplification and power of gas dynamic laser 1−10982
CO_2-N_2-H_2 mixture, non-self sustaining glow discharge, instability following removal of ionising beam 1−15665
CO_2-N_2-He, gas dynamic lasers, gain, intensity and power output, kinetic theory calc. *(Chinese)* 1−1542
CO_2-N_2-He gasdynamic laser, nozzle cascade losses, friction effect 1−41656
CO_2-N_2-He mixture, self-sustained gas discharge with preliminary electron beam ionisation, pumping CO_2 laser appl. 1−25096
CO_2-N_2-He mixture, transversal discharge, laser radiation amplification coeff., meas. method *(Rumanian)* 1−15149
CO_2-N_2-He plasma, electron drift vels., attachment and ionisation rates 1−38156
CO_2-N_2-He-CO electric discharge convection lasers, thermal and ionic instabilities 1−46288
CO_2-N_2-He-CO gas mixture, electric discharge convection lasers, ionic and thermal instabilities 1−33653
CO_2-TEA laser spark gaps triggering *(Rumanian)* 1−15677
CO_2-water mixture, gas-liquid slug flow in vertical tubes, bubble frequency 1−33999
CO_2+atom, collisional deactivation rate consts., temp. depend. 1−10822
CO_2+CO_2, low temp. fluoresc. studies, vibr. deactivation, rate comb. determ. 1−10705
CO_2+Cl^-(I^-)(NO_2^-)(CO_3^-)(SO_3^-) reactions, gas phase cluster prod. 1−4061
CO_2+diatom (CO_2), collisional deactivation rate consts., temp. depend. 1−10822
CO_2+H, Lyman-alpha emission, collision induced 1−29090
CO_2+H^+(He^+)(O^+), dissociative ionisation reaction, time-energy spectra 1−12981
CO_2+HCN^+ reactions, reaction rates and prod. distrib. meas. by ICR techniques 1−53407
CO_2+He collision, Fermi reson. effects 1−1308
CO_2+He(Ne) molecule+metastable atom collisions, Penning ionis. and ejected electron energy spectrum *(French)* 1−37316
CO_2+inert gas atoms, collinear collisions, vibr. transition probabilities, quantum mechanical calcs. 1−51279
CO_2+Kr(He), collinear collisions, strong coupling correspondence principle 1−51278
CO_2+N_2(O_2), rotation-translational energy transfer 1−10821
CO_2+N_2.H_2O^+, reactions anal. by drift-chamber mass spectrometer, rate coeff. determ. 1−39597
CO_2+O_3, vibr. energy transfer, IR fluoresc. 1−46091
CO_2+O^{2+}, ground and metastable state reactions, rate consts., mass spectra 1−39610
CO_2+OH^-→HCO_3^- aq. reaction, ab initio study 1−28857
CO_2+OH^+(H_2O^+), rate coeffs. and product ion distrib. 1−43649
CO_2+$O(^1D)$, interaction kinetics and rate coeff. 1−31858
CO_2^++ZZ 1−21716
$(CO_2)_n^+$, n=2615, cluster ion dissoc. reaction 1−1426
CO_3 struct., ab initio electron correl. calcs. 1−10675
CO_3^-, in N_2, ion mobility meas., 217-675K 1−2136
CO_3^{2-}, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031
CO_3^-+CO_2 reactions, gas phase cluster prod. 1−4061
$CO_2CO_2^+$+ZZ 1−21716
COF_2, chemical shielding with intramol. interactions and rovibr. motion 1−45869
COF_2, mol. struct., electron diffr. 1−10841

carbon compounds continued
$^{12}C^{16}O^{18}O$ isotope laser 1−51448
$C^{16}O^{18}O$, microwave rot. spectra 1−1213
$CO(O_2)$ cryocrystal, thermal expansion, specific heat *(Russian)* 1−30419
COS^+, fluoresc. quantum yields and cascade-free lifetimes meas. by photoelectron-photon coincidence spectroscopy 1−10773
COS^{2+}, ion lifetime, mass spectra and photoionis. obs. 1−6325
COS+OH→ products, rate consts. under troposphere conditions 1−36027
$CO^+.(CO)_n$, dissociative recombination of electrons, electron temp. depend., mass spectra 1−51315
CS, (0,0) band detect. in Periodic Comet Encke by IUE 1−9430
CS in Comet West (1976 VI), prod. rate from UV spectrum obs. 1−44497
CS in Orion Nebula, high ang. resolution obs. 1−9617
CS, interstellar, isotopic abundance ratios meas. 1−9609
CS^{2+} in solid Ne, absorpt. and laser induced fluoresc. spectra, vibr. and vibronic bands, energy transfer 1−6237
CS+O, perturbation-enhanced quenching 1−6340
CS_2, compressed liquid, transport props. and molar volume 1−52328
CS_2 cryst., forbidden Raman (ν_2,π_u) transition 1−39071
CS_2 diluted in UV transmitting solvents, UV phase conjugation, optical Kerr effect use 1−41793
CS_2, finely dispersed, quick-frozen, stimulated Raman scatt. 1−6612
CS_2 flame, CO vibr. distrib., N_2O effect 1−1211
CS_2, high Rydberg states and ion+mol. reactions, mol. beam photoionis. obs. 1−45873
CS_2, lattice modes, neutron scatt. selection rules 1−47178
CS_2 liquid, optical Kerr effect and multiphoton absorpt. 1−41791
CS_2 liquid, phonon dispersion 1−11830
CS_2, meas. of atmospheric concs. in E. United States 1−17648
CS_2, meas. of field-gradient induced birefringence, comparison of two electrode systems 1−33030
CS_2, mol. beam photoionis. obs. 1−10789
CS_2, mol. rot. and vibr. energy disposal, photodissociation, transition moments, Franck-Condon factors 1−24113
CS_2, mol. struct. factor, bond lengths, neutron diffr. exam. 1−42286
CS_2, photochemical decomposition, interference effect by gas lasers *(German)* 1−21741
CS_2, quadrupole moment, mag. anisotropy, birefringence const. 1−46164
CS_2, shock expts., sources of light emission 1−7256
CS_2, spin and symm. forbidden transitions, EELS 1−29125
CS_2 under high pressure, piezo- and elasto-optic props. 1−31126
CS_2 vapour, laser induced aerosol, oscillatory evolution 1−8619
CS_2, X-ray emission spectra, molecule X-ray emission spectra, ab initio SCF calcs. 1−41397
CS_2^+, fluoresc. quantum yields and cascade-free lifetimes meas. by photoelectron-photon coincidence spectroscopy 1−10773
CS_2^{2+}, ion lifetime, mass spectra and photoionis. obs. 1−6325
CS_2-ethanol, positronium formation yield, electron acceptors effect spur reaction model 1−29150
CS_2-squalane, positronium formation yield, electron acceptors effect spur reaction model 1−29150
$(CS_2)_n$, mol. beam photoionis. obs. 1−10789
$CS^+(B^2\Sigma\text{-}X^2\Sigma^+)$ emission following Penning ionis. of $CS(X^1\Sigma^+)$ radical 1−10748
$CS(X^4\Sigma^+)$ radical, Penning ionis., CS^+ $(B^2\Sigma\text{-}X^2\Sigma^+)$ emission 1−10748
CSe_2, mol. rot. and vibr. energy disposal, photodissociation, transition moments, Franck-Condon factors 1−24113
^{11}CO, routine method for production, medical appl. 1−53900
$^{12}C^{16}O+Ar(N_2)$, line strength and collisional widths, tunable IR diode laser meas. 1−10785
$^{12}C^{17}O_2$, IR Fourier transform spectra, rot. vibr. anal. 1−1217
$^{12}C^{17}O^{18}O$, IR Fourier transform spectra, rot. vibr. anal. 1−1217
$^{13}C^{16}O^{17}O$, Q-branch IR spectra 1−1219
$^{13}C^{17}O_2$, Q-branch IR spectra 1−1219
$^{13}C^{17}O^{18}O$, Q-branch IR spectra 1−1219
$^{13}C^{18}O_2$, Q-branch IR spectra 1−1219
^{13}CO in TMC 2 and L134N, spectral SHF obs. 1−49757
$CaO\text{-}MgO\text{-}CO_2\text{-}H_2O$, solidus relationships to 40 kbar, geophysics appl. 1−39321
$CaO\text{-}MgO\text{-}SiO_2\text{-}CO_2\text{-}H_2O$, solidus relationships to 10 kbars, geophysics appl. 1−39321
$Cd+H_2O+CO_2 \rightarrow CdCO_3+H_2$ cycle, H_2 prod. using solar heat for reaction 1−48917
Co-Ar solutions, vibr. energy transfer and storage 1−35082
Co+Ne*(He*), Penning ionisation study of CO *(French)* 1−41481
Co_2, solid, cryosorption of N_2 1−52415
Co_2, solid Raman spectrum, Fermi resonance studied up to 11 GPa 1−42465
Cs_2, photodissociation, energy transfer from photofragments electronic quenching 1−24230
$D\text{-}O_3\text{-}CO_2$ mixture for gasdynamic chemical laser, expt. results 1−33673
$D\text{-}O_3\text{-}CO_2$ mixture for gasdynamic chemical laser, calc. model 1−33674
$DF\text{-}CO_2$ chemical laser behavior, energy characts., numerical analysis 1−33675
$DF\text{-}CO_2$ laser, electron-beam-initiated, energy parameters 1−33672
Eu-B-C system, phase diagram, X-ray anal. 1−16764
$H\text{-}O_3\text{-}CO_2$ mixture for gasdynamic chemical laser, expt. results 1−33673
$H_2\text{-}CO$-methane ternary system vapour-liquid equilibrium obs. at −180°C and 100 to 150 atm. 1−47216
$H_2\text{-}N_2\text{-}CO$ ternary system vapour-liquid equilibrium obs. at −180°C and 100 to 150 atm. 1−47216
HCO, localised mol. orbitals, ab initio calc. 1−19013
$HF\text{-}CO_2$, shape and parameters of HF spectral line J=0-1 1−24193
$HF+CO_2$, HF J=0-1 rotational line shape and param. *(French)* 1−51245
$He\text{-}N_2CO_2\text{-}UF_6$ high-power nuclear pumped laser system 1−24390
$He+CO_2$, equilib. charge distrib. of He beams 1−46090
N^++CO, luminesc. charge transfer reactions 1−53406
N^++CO reaction, product translational energy distrib. 1−31843
N_2/CO_2 mixtures, vibrational relaxation rates as determined from LF acoustic wave absorpt. meas. 1−15318
$N_2\text{-}CO$, liq. vibr. energy transfer and storage, fluoresc. obs. 1−37234
$N_2\text{-}CO_2$, thermal diffusion factor estimation 1−11490
$Na+CO$, CO vibr. energ. distrib. and quenching dynamics 1−1331
$O+CS_2 \rightarrow SO+CS$ reaction dynamics, mass scaled cluster coords. 1−35510
$O^-+CO \rightarrow CO_2^*$ chemiluminesc. reaction, energy disposition 1−31864
$O_2\text{-}N_2\text{-}CO_2$ gaseous mixtures, thermoosmosis across porous unglazed membrane 1−21773
$O_3\text{-}CO$, light amplification theory in recomb. reactions during exothermic mixture adiabatic explosion *(Russian)* 1−41682

carbon compounds continued
OCS, atmospheric, sources, results of atmospheric CS_2 concs. meas. in E. United States 1−17648
OCS, atmospheric, upper limit on rate of formation from $OH+CS_2$ reaction 1−22399
OCS, He(I) and Ne(I) photoelectron spectra 1−29039
OCS, in atmosphere, meas. on Project Gametag 1−40169
OCS, in atmosphere, oxidation rel. to background SO_2 origin 1−40167
OCS, K-shell photoionisation, chemical effects 1−29050
OCS, microwave rot. relax. rates, absorber speed depend. 1−29102
OCS mol., submillimeter microwave spectra, rot. and centrifugal distortion const., vibr.-rot. interaction 1−45942
OCS, molecular beam ionisation 1−41441
OCS, press. broadened microwave rot. line widths, temp. effects 1−33454
OCS, relax. consts. determ. by coherent transient spectroscopy 1−33513
OCS rotational relax. in n-heptane liq., IR and Raman spectra, free volume and viscosity effect 1−25138
$OCS/O_2/Ar$, matrix samples, $S_2\text{-}SO_2$ energy transfer, photolysis, thermoluminesc., fluoresc., IR absorpt. 1−48703
$OCS/SO_2/Ar$ matrix sample, $S_2\text{-}SO_2$ energy transfer, photolysis, thermoluminesc., fluoresc., IR absorpt. 1−48703
OCS+He collision, Fermi reson. effects 1−1308
OCS+inert gas, collisional relax. of vibr. excited OCS 1−10826
OCS+inert gas atoms, collinear collisions, vibr. transition probabilities, quantum mechanical calcs. 1−51279
$OCS+N_2$, vibr. energy transfer, microwave spectra, rot. centrifugal and l-doubling const. 1−41373
$OCS+O_3$, vibr. energy transfer, IR fluoresc. 1−46091
$(OCS)_2$, molecular beam ionisation 1−41441
$(OCS)_3$, molecular beam ionisation 1−41441
OCSe, laser photolysis, $Se(^1S)$ prod. and quenching 1−39656
$SF_6\text{-}CO_2$ gas mixture, cylindrical insulator flashover voltages 1−15711
$SF_6\text{-}CO_2$ mixture, discharge parameters meas. 1−15578
$SF_6\text{-}CO_2$ mixture, electrode surface roughness effect on breakdown voltage 1−15710
$SF_6\text{-}CO_2$ mixture, field breakdown gradient 1−2268
$SF_6\text{-}CO_2$-fluorocarbon mixtures, electric breakdown studies 1−7033
$Se(^1S)\text{-}CO\text{-}Xe$ photolytically pumped laser, electron energy distrib. calc. 1−46321
SiC, CVD, thermionic diodes, combustion performance 1−53638

carbon fibre reinforced composites
C/C composites, influence of C fibre surface treatment 1−35305
carbide coated C-fibre reinforced Ni, creased sp. ht. resist. 1−12690
epoxide, failure under superposed press. in three-point bending 1−35339
epoxy resin, C-fibre reinforced, failure initiation mechanisms 1−48454
fibre reinforced composites, hybrid, appl. to loadbearing orthoses and prosthesis 1−49162
fibre reinforced plastics, thermal expansion characts., time and temp. depend. effects 1−7358
fracture mechanisms, in monotonic loading 1−12851
graphite fibre cloth reinforced phenolic, high-temp. thermal and mech. props. 1−20480
graphite fibre reinforced Al alloy, friction and wear props., effect of sliding time and speed 1−39473
graphite fibre reinforced epoxy, failure surface anal. 1−48475
graphite fibre reinforced epoxy, T300/934, creep rupture behaviour 1−21583
graphite fibre reinforced epoxy composite laminates, fracture toughness through intermittent interlaminar bonding 1−21579
graphite fibre reinforced epoxy composites, subjected to static and fatigue loading, marine durability 1−39456
graphite fibre reinforced epoxy laminates, biaxial testing, expt.-theoretical comparison 1−12943
graphite fibre reinforced epoxy resin, AE monitoring of damage progression, radiographic verification 1−4021
graphite fibre reinforced epoxy unidirectional composite, tensile and flexure strength comparison 1−16867
graphite fibre reinforced laminate, US eval. of impact damage 1−35466
graphite fibre reinforced polyimide laminates, in-plane shear behaviour, finite element stress analysis 1−8371
graphite fibre/epoxy laminates, fracture toughness 1−8407
graphite material, wetting by $ZrB_2\text{-}Si\text{-}C$ eutectic alloy 1−39297
graphite reinforced epoxy sandwich struct., multispecimen fully reversed fatigue system 1−8408
medical applications, dose reduction pot. in diagnostic radiology 1−44024
phenolic matrix, high-temp. thermal and mech. props. 1−20480
plastic matrix, heat treatment influence on mech. props. 1−16822
plastic matrix, laminates, flexural failure anal. 1−12800
plastic pressure vessels for gaseous H_2 storage and transport *(German)* 1−43826
polyimide resin matrix, ultramicrotomy in TEM obs. of wear transfer films 1−48636
polymer matrix, electrochem. coating prevention of C fibre release 1−8447
polysulphone laminates, mech. props. after implantation as fracture fixation plates 1−26478
C matrix, thermophysical props. at high temp. 1−2723
C/C composites, struct. and strength, review 1−48421
C/C composites, with pitch as matrix precursor, process parameters influence on mech. props. 1−35306
CrC coated graphite fibres, compatibility with metallic matrices 1−39586
Ni matrix, activated graphitisation of C fibres 1−39282
Ni, uniaxially aligned composite, tensile and compressive strengths under high press. 1−35338

carbon fibres
see also carbon fibre reinforced composites
aircraft discharger, negative corona discharges upon electrodes of carbon fibre materials 1−11623
coated with Cu, high temp. background of internal friction 1−39359
field emitters, surface and crystallographic struct., field-ion and electron microscopy study *(Japanese)* 1−39226
graphite fibre-bromine intercalation compound electrodes for conc. cell *(Japanese)* 1−21866
high modulus, production method 1−21416
mesophase pitch C-fibres, flaws anal. 1−8376
microelectrodes, elec. characts. 1−27036
PAN based, elastic moduli, charact. 1−39357
stress relaxation at elevated temperatures 1−48407

carbon fibres continued
ultra thin carbon fibres, production for use as targets in laser produced plasma expts. 1−21605
wetting by ZrB_2-Si-C eutectic alloy 1−39297

carbon microphones *see microphones*

carbon steel
ablation under laser radiation and high speed gas flows, type 1020 steel 1−48198
abrasive wear and microstructure relationship 1−48529
abrasive wear rate, corrosive medium effect 1−31753
alloying additions, effect on reaction with liq. Zn *(Japanese)* 1−3971
armour plate, texture influence on mech. and ballistic props. 1−43367
Bauschinger effect, depend. on strain history 1−26546
bimetal with high Mn steel, surface layer peeling, P conc. influence 1−43607
boiler, in synthetic flue gas, influence of HCl on corrosion 1−16957
boriding rate, melt comp. effect 1−8484
boridised layer formation, in SAE 1095, powder technique *(French)* 1−26648
boridised layer formation, on SAE 1095, paste technique *(French)* 1−21620
boronising, preliminary deform. influence 1−3995
brittle fracture susceptibility using new fracture criteria 1−16888
Bulat-Damascus, heat treatment effect on microstruct. and mech. props. 1−8353
bulk formability meas., effect of second phase particles 1−39405
calorised coatings of Al, stability, temp. and annealing time effects 1−3988
carbide obs. and anal. using non-aq. electrolyte-potentiostatic etching method *(Japanese)* 1−26667
carbochromized and chromosiliconised, electrochem. and anticorrosion props. 1−26678
coating with TiC, appl. and props. 1−8482
cold-rolled, low-C steel, magnetic anisotropy, mechanical momentum curves *(Russian)* 1−16910
composite with Cu, multilayer, mech. props. 1−21391
constructional, strain hardening grinding, influence on wear resist. and struct. 1−53300
corrosion, and deposition during H_2S-water soln. exposure, of type SAE 1010 1−16951
corrosion and magnetite growth in water at 310°C 1−26658
corrosion behavior, in high temp. $H_2+CO+CO_2$ gas mixture 1−48585
corrosion cracking in chloride solution, H liberation 1−35440
corrosion fatigue cracked, stress intensity factors in type 45 1−31627
corrosion layer investigation by direct imaging mass spectrometer 1−31766
corrosion processes, localised, ellipsometric approach 1−31718
corrosion products release, effect of γ-radiation, in high temp. water 1−780
corrosion rate meas., in NaCl stagnant solns., true polarisation curves determ. 1−16952
cracking under stress, H_2S partial pressures influence 1−53349
crevice corrosion and corrosion cracking, conditions similarity 1−35444
decomposition, pearlite struct. characts. 1−16752
die forging, at high speeds *(German)* 1−35291
diffusional coatings of TiC, VC and Cr_3C_2, wear resist. 1−8483
dynamic recovery during hot working, model, rel. to cold working *(German)* 1−26522
eutectoid, cold drawn, pitting, crevice and stress corrosion cracking studies 1−53330
eutectoid, cold-rolled, mech. behaviour, effect of rapid annealing 1−21485
eutectoid, deform. during pearlitic transform. under tensile stress 1−21445
eutectoid, rail, fatigue crack propagation 1−31658
eutectoid, yield and flow stress of lamellar pearlite 1−21553
fatigue crack growth in impregnation with H, loading frequency and heat treatment influence 1−35377
fatigue crack growth in threshold region, environmental influence on mild steel 1−26578
fatigue crack initiation and propagation in low C martensite, role of prior austenite grains 1−8409
fatigue crack initiation process, rel. to notch sensitivity in rotating bending fatigue in types S15C and S50C *(Japanese)* 1−48477
fatigue crack propagation and failure, EM radiation chracts., noncontact monitor development 1−31773
fatigue crack propagation cyclic stress hysteresis effect at elevated temp., strain ageing 1−26581
fatigue crack tip, macroscopic residual stress distrib. 1−8412
fatigue cracks growth threshold level, influence of microstruct. 1−31647
fatigue cracks initiation stress amplitudes influence on type Ck45 *(German)* 1−43473
fatigue cyclic strength, welding effects, comparative testing of type 45 1−35494
fatigue notch life in high cycle region *(Czech)* 1−47162
fatigue strength of cast and forged steel 40 in biaxial stress, comparative evaluation 1−31617
fatigue strength of polished specimens, small plastic strains effect 1−3924
fracture toughness, influence of crack length and specimen thickness 1−31598
fracture toughness determ. under conditions of plastic instability 1−48518
fracture under hot-forming conditions 1−39460
galvanised, stress corrosion cracking and tensile strength 1−3986
H_2 discharge and dissolved (C+N) *(Japanese)* 1−26519
hardenite formation, conditions and mechanism 1−8301
heat-treatment, effect on reaction with liq. Zn *(Japanese)* 1−3972
high and medium C, crit. crack opening determ. in bending tests 1−21661
high C, SAE 1095, boridised layer formation, paste technique *(French)* 1−21620
high-C, N implanted, Mossbauer surface study 1−12435
high-C, SAE 1095, boridised layer formation, powder technique *(French)* 1−26648
high-strength, low-alloy steels, review 1−12957
high-strength bolt, stress corrosion cracking, alloying with Cr, Si and V influence 1−53352
hot-rolled, low-C, finished at high temps., microalloying effects 1−16879
hydrostatically extruded, texture and substruct., X-ray diffr. study *(Russian)* 1−26492
isothermal treatment, optimal parameters determ. 1−48381
killed, cold rolled sheet, surface texture *(French)* 1−21477

carbon steel continued
low C, austenite grain growth, mechanisms and kinetics 1−16816
low C, cold rolled microstruct. and recrystallisation *(French)* 1−21478
low C, crack resist. rating by quantitative anal. of fracture struct. 1−35374
low C, damage generation during sheet metal forming, inclusion effect *(French)* 1−3770
low C, ductility improvement by warm rolling and annealing 1−53238
low C, etchant to reveal substruct. 1−48623
low C, fatigue, low cycle, effect of thermal cycle 1−39453
low C, fatigue crack propagation rates in elastic-plastic region *(Czech)* 1−48485
low C, fatigue life enhancement by N_2^+ ion implantation 1−3913
low C, fatigued, persistent slip bands in interior 1−25284
low C, internal damping and defect of elasticity modulus, effect of cyclic straining *(Slovak)* 1−48487
low C, Ni and Cu implanted plates, frictional props. 1−43539
low C, strain hardening, effect of grain size and C content 1−21482
low C, susceptibility to cold forming, hardening causes and reduction *(French)* 1−21479
low C, type SKF-REMKO, mag. props., review 1−3221
low C, vessel wall fracture features due to surface crack under low-cycle loading 1−21660
low-C, 510C, effective plastic strain component for low cycle fatigue 1−26536
low-C, (0.4 wt.%), influence of mode control, mean value and loading freq. on cyclic stress/strain curve 1−8381
low-C, Al-killed, age hardening effect by interstitial solute atoms on hysteresis loop under cyclic load *(Japanese)* 1−43434
low-C, Al-killed, strain ageing effect on fatigue crack initiation process *(Japanese)* 1−43486
low-C, cast, electron fractographic anal. 1−43499
low-C, comparison of plastic work of fatigue crack propag. meas. by strain gauges and electron channelling 1−39417
low-C, grain size changes during α→γ transformation 1−8303
low-C, plastic flow mechanism 1−39371
low-C, solid soln. hardening by Si 1−31473
low-C, statistical rel. between non-metallic inclusions content and plasticity factors 1−21550
low-C, technique for obtaining shock-wave parameters using wave superposition 1−20315
low-C, type G40.21-50A, overstrain effects during variable amplitude service history testing 1−21673
low-C, X-ray diffr. study of ductile and brittle fracture *(Japanese)* 1−3894
low-C 2.25 Cr-1 Mo, effects of trace elements on creep strength and ductility 1−43441
magnetoelastic effect in ferromagnet, struct. and processing effects, type 45 1−34917
martensite magnetisation, effect of C content *(Russian)* 1−7896
martensitic, fatigue crack nucleation, role of cyclic wear 1−12876
medium C, development of slip bands during low-cycle fatigue *(Russian)* 1−31586
medium C, fatigue, effect of stress conc. and size effect 1−39445
medium C, S45C, ultrasonic quenching method 1−26506
medium C, type 40, head treated, tensile strength and area reduction, nonuniformity of expt. distrib. 1−3868
medium-C, 0.38 wt.%, mean stress effect on cyclic plastic strain and cumulative damage *(Japanese)* 1−48423
medium-C, effects of H on plastic props. 1−26560
medium-C, low cycle fatigue, anal. based on hysteresis energy 1−39418
microstructure uniformity of texture of low C steel *(Russian)* 1−16799
mild, acid corrosion inhibition by n-alkylquaternary ammonium cpds., effect of ammonium group 1−39505
mild, amine oleate based inhibitors in temporary protective coatings, chem. study 1−39513
mild, anal. by magnetic field glow discharge source 1−46944
mild, anal. by magnetic field glow-discharge source 1−46945
mild, behaviour in Egyptian soil, effect of differential aeration 1−39506
mild, behaviour in Egyptian soil, effect of resist., water content and temp. differentials 1−39507
mild, cathodically charged, boundary conditions for hydrogen permeation 1−2700
mild, cold rolled, anisotropy of Young's modulus and texture *(Japanese)* 1−3808
mild, cold-rolled, 3D anal. of recrystallised textures *(Japanese)* 1−26495
mild, cold-rolled, Young's modulus and texture comparison of models *(Japanese)* 1−43361
mild, corrosion by mixture of elemental S and water 1−4006
mild, corrosion control in crude oil distillation 1−53332
mild, corrosion in kraft white liquor, potentiostatic polarization, S addition effect 1−31721
mild, corrosion inhibition by oleates of various amines in temporary protective coatings 1−31723
mild, corrosion inhibition in H_2SO_4 by thiourea and derivatives 1−39515
mild, effect of alloy element additions on pitting corrosion 1−16955
mild, effect of low-level stress cycles on varying load fatigue *(Japanese)* 1−43488
mild, effects of SO_2, NO_3 and ferric ions on corrosion in conc. H_2SO_4 1−8476
mild, electrochem. behaviour in boiling NaOH soln. under heat transfer *(Japanese)* 1−43601
mild, En3B, diffusion bonded interfaces, impact and fracture toughness testing 1−21578
mild, fatigue crack propag., and threshold at 77 and 293K 1−26579
mild, grain boundary microchemistry and stress-corrosion failure 1−48578
mild, H entry during exposure, role of sulphide inclusions 1−53256
mild, impact loaded, polymorphic transform., metallographic investigations 1−39334
mild, laser micro-spectrograph for trace element monitoring, nucl. power station appls. *(German)* 1−21815
mild, passivity breakdown in sea water in presence of sulphate reducing bacteria 1−53337
mild, strain rate sensitivity at room temp. 1−43436
mild, stress corrosion crack propagation interaction of strain rate and repassivation rate 1−48555
mild, stress corrosion cracking, assessment of possibility during acid cleaning 1−31715
mild, torsion and tensile tests 1−3869
mild and low-alloy, with high elastic limit, plastic instability *(French)* 1−39379

carbon steel continued
mild steel, JIS SPCC, fatigue crack grwoth under mode II loading *(Japanese)* 1−43492
mild stress corrosion cracking in acetate solns., predictability from potiodynamic polarisation curves 1−31716
nitridation of C45, morphology and lattice distortions 1−35285
nitriding *(German)* 1−53328
pipeline steel, A106, H_2 compatibility tests 1−16873
plain C, US prediction of grain size, strength and toughness 1−43625
plain C steel, high temp. sulfidation, corrosion resist. 1−43611
plain-C, yield-point phenomena at 850 to 1100°C 1−48443
plate, type A633C and A737B, C-Mn-Cb, fatigue and toughness props. 1−43513
plates, thickness meas. with portable gamma-ray meter 1−23386
powder, excess heat content, changeschanges during heating 1−12772
precipitates formed at elevated temps., obs. and anal. using non-aq. electrolyte-potentiostatic etching method *(Japanese)* 1−43342
precipitation of nitrides, obs. and anal. using non-aq. electrolyte-potentiostatic etching method *(Japanese)* 1−43341
recrystallisation, and grain growth is deformed and tempered C steels 1−53202
rolling/sliding conditions, relation between scuffing resist. and increase in surface hardness 1−39474
spheroidised, H effect on microhardness, on type AISI 1090 1−53280
spring, resist. to small plastic deforms., temp. depend. 1−48430
steel, low-C, SS41 and SM50C, stress triaxiality effect on ductile fracture initiation *(Japanese)* 1−3895
steel, low-C sheet, formability improving by interstitial C content and temp. control 1−26513
steel, mild, temp. effect on pitting corrosion in de-aerated $NaHCo_3$-Cl solns. 1−16941
steel, plain C, alloying influence on onset of dynamic strain ageing 1−31512
steels, C, effect of microstruct. on fatigue crack growth *(Japanese)* 1−43489
steels, sintered, ZhGr0.5, ZhGr0.5N2M, supercooled austenite transformation during continuous cooling 1−12739
stress corrosion cracking, electrochem. factor 1−31751
structural, temper brittleness, austenitisation temp. influence 1−3929
structural, type 45, fatigue resistance under nonuniform complex stress 1−39444
structural state during friction, lubricant action 1−21595
surface deform. and frictional heating during machining 1−39403
synthesised from Fe powder and white cast Fe mixture, microstruct. form. 1−39277
two-ductile-phase, Bauschinger effect 1−16849
ultrahigh, superplastic props., influence of dil. alloying additions of Cr, Ti, Si and P 1−16856
wear resistance, friction-hardening treatment influence 1−3939
welded, residual stress and fatigue, X-ray diffr. study *(Chinese)* 1−35350
wires, high-strength, for ropes and bundles, change of Poisson's ratio *(German)* 1−43388
Al-killed, 0.1%C, age hardening effect by interstitial solute atoms on hysteresis loop under cyclic load *(Japanese)* 1−43434
Al-killed low C, atmospheric humidity effect on fatigue strength, microcracks nucleation *(Japanese)* 1−26609
Au-Ag/steel sliding couples, running props., fundamental aspects and technological implications 1 solubility concept 1−26636
H permeation and diffusion, function of C content, 500-900K 1−42583
H_2 discharge and dissolved (C+N) in plain carbon steel containing ϵ-Cu precipitates *(Japanese)* 1−26518
Mn-C, low-C, statistical rel. between non-metallic inclusions content and plasticity factors 1−21550
Pd-Ag/steel sliding couples, running props., fundamental aspects and technological implications 1 solubility concept 1−26636
Si-killed 1−53266
Ti alloy-steel joints, contact phenomena, effect on strength 1−17021

carbon tetrachloride, CCl_4 *see organic compounds*

carcinotrons
No entries

cardiology
see also blood; electrocardiography; haemodynamics
action potentials, simulated propagation 1−8834
angiocardiography of infants and children, possibilities of 70 mm fluorography *(German)* 1−9004
Angioskop biplane system, advantages in angiocardiography and coronary angiography 1−43946
artificial heart, automatic control 1−35916
artificial heart, microcomputer control system 1−32317
artificial heart, steps towards development 1−53932
artificial heart with independent energy source 1−44045
atrial myxomas, detect. by radionuclide methods 1−49115
beating heart, towards useful imaging with a conventional CT scanner 1−53869
blood vessel detection and tracking in cine-angiograms 1−53894
blood-pool imaging, appl. of 7-pinhole multigated tomography 1−4360
cardiomassager, direct mechanical, investigation of pumping function 1−40025
cardiopulmonary quantities noninvasive estimation, time-domain system identification appl. 1−43887
cardiopulmonary resuscitation instrumentation, computerised 1−13357
cardiovascular early adaptation to zero gravity, simulation by head-down tilt 1−13329
cardiovascular parameters, use with time domain analysed EEG for anaesthetic levels monitoring 1−35897
cardiovascular recovery to psychological stress, man and task diagnosis appl., book contrib. 1−32296
cardiovascular system monitoring methods *(Japanese)* 1−49144
cineangiograms plan-guided anal. for meas. of dynamic behaviour of heart wall 1−22113
circulatory assist system for severe ventricular failure, automatic control 1−32308
computerised tomography, dynamic spatial reconstructor, appl. to 3D imaging of heart, lungs, and circulation 1−49123
coronary blood flow in conscious miniature swine during $+G_z$ acceleration stress 1−22141
coronary circulation model, sensitivity anal. in time-distributed parameters optimisation 1−8790
diagnostic information of heart sounds, imaging method 1−22089

cardiology continued
diseased muscle tissue, NMR study of mitochondrial water in myocardial ischemia 1−4252
dynamics determ. from X-ray and US image sequences 1−53850
echo-polymechanocardiography for clinical diagnosis 1−22085
echocardiogram, mode convertor fabrication 1−22087
echocardiographic method for estimation of organ vol. and surface area 1−53840
echocardiographic tracking system, dynamic, variable gate width, microprocessor-based 1−32219
echocardiography, 2D, automatic contouring 1−26970
electrical activity, changes in rate and rhythm, review 1−8842
electrohaemodynamics, basic principles, cardiac output meas. 1−53915
fluid dynamics of the heart and the ear 1−8895
force vector ballistocardiograph for meas. of thoracic recoil forces *(German)* 1−4372
hypertension effects, early diagnosis, use of corrected (orthogonal) ECG 1−22158
image processing, X-ray left ventricular cineangiocardiograms, cardiac functions displays *(Japanese)* 1−26986
implantable pressure transducer, stable and highly sensitive, for artificial heart 1−13359
left ventricular aneurysms development, mech. anal. 1−49032
left ventricular assist device, clinical experience 1−44047
left ventricular function assessment using the nuclear stethoscope 1−8979
left ventricular kinetics, phase plane anal. as a sensitive indicator 1−13283
left-ventricular assist systems, elec.-activated, long-term expt. studies 1−35917
magnetic susceptometry of human Fe store, 1−8940
magnetically actuated heart assist pump 1−13351
magnetocardiogram, human, computer simulation 1−8887
magnetocardiography, SQUID system obs. 1−43933
mechanics, servo system for expts. 1−13374
mechanisms controlling heart-rate and its variability, book contrib. 1−32110
membrane vesicles, current generation by Na^+-Ca^{2+} exchange activity 1−32103
microprocessor analyser of cardiostimulating impulses *(Bulgarian)* 1−49158
mitral flow measurement, EM probes *(Japanese)* 1−13306
mitral valve prosthesis, twin-flap, porous ceramic 1−53931
monitoring using laser speckle 1−8968
movement detection, theoretical anal. of EM interaction between resonator and lossy dielec. body 1−22104
muscle, anisotropic, representation of elec. sources 1−32111
muscle, deform. and activation interrelationship 1−49044
muscle, fast Na^+ current, quantitative description 1−13225
muscle, isolated, appl. of Maxwell and Voigt models 1−22051
muscle cells, rabbit, Na^+-Ca^{2+} exchange obs. 1−26885
muscle contractility, review 1−39954
muscle mechanics and energetics model 1−32161
myocardial animal research, miniaturised transducers 1−40032
myocardial contractility measuring system, microcomputer-based 1−32271
myocardial damage, noninvasive detect. using phase-invariant signature algorithm technique 1−35912
myocardial fibre stiffness, eqn. derivation based on laminated composite theory 1−22049
myocardial infarcts, acute, inferior, computer-based scintigraphic method for sizing 1−22122
myocardial infraction, women survivors, pure tone air-cond. hearing obs. 1−26914
myocardium model, biventricular mech. behaviour studies 1−32158
nuclear medicine, ECG synchronised system for γ-camera cardiac studies 1−9001
obstetric delivery monitoring, data recording and processing 1−32303
oesophageal biaxial accelerometry, cardiovascular effects, dog expts. 1−13282
optical measurements on perfused organs *(Japanese)* 1−49166
output determination, theoretical validation of the thermal dilution method 1−9051
pericardial effection, influence on the heart 1−22055
positron emission computed tomography, review 1−32241
prosthetic heart valve, self-cleaning, study of vel. field in vicinity 1−22053
prosthetic valve, pivoting disk, leakage obs. 1−49163
pulmonary vasculature in cardiac failure, anal. by computer evaluation of radiographs 1−9015
Purkinje fibres, canine, activation of electrogenic Na^+/K^+ exchange by extracellular K^+ 1−8831
Purkinje fibres, canine, membrane currents following activity 1−39901
Purkinje strands, cleft model 1−53768
radiocardiograms, calc. of ejection fractions after background deduction from periodical components *(French)* 1−26984
radiography, integrated, chest, cardiovascular pulsation amplitudes estimation technique 1−13323
radioisotope angiocardiography, automatic setting of regions of interest *(Japanese)* 1−35883
radionuclide kymography, computer method 1−35879
rate control by arterial baroreceptors, physiology in man and animals, book contrib. 1−32151
rate variability, anal. of thermoregulatory influences, book contrib. 1−32099
rate variability [book] 1−27686
rheological model of excised quiescent cardiac muscle, study and parameters identification 1−53808
scintillation camera images, pattern analysis 1−53898
stop-action imaging method using gated computerised tomography 1−53868
stroke volume, on-line computation 1−40016
stroke volume during recovery from upright bicycle exercise 1−13271
telemetry of regional tissue blood using H_2 clearance 1−13373
TESLA intensive and intermediary care unit central equipment 1−35913
tomography, longitudinal, high resolution, information coding anal. *(French)* 1−23395
upstroke, automatic detect. from peripheral pulse waveforms 1−53919
US Doppler monitoring of foetal heart rate, improved method 1−43927
US Doppler returns from foetal heart, electronic processing method 1−32213
US scatter coefficient, dependence on collagen conc. in mammalian tissues 1−39960
valve motion obs. by real-time US image reconstruction 1−43932

cardiology continued
valve-aorta xenocomplex, mechanics 1−32169
ventricle as time-varying elastance, models 1−4319
ventricular emptying patterns, determ. from Fourier anal. of gated blood-pool studies 1−32233
ventricular function, left and right, computer simulation 1−22040
ventricular phantom for ECG-gated equilibrium studies 1−17478
ventricular volume overload, cardiac output distrib. alteration in rats during exercise 1−22031
vortex tube left ventricular assist device, design and performance 1−13358
wall stress rel. to apexcardiogram 1−8893
X-ray biplane images, immediate recording of metal heart marker position 1−32245
X-ray method for meas. of cardiac dimensions and intramural deforms. 1−53945
^{201}Tl myocardial scintigrams of prior infarctions, quantification, left ventricular function 1−26997

carrier avalanches *see impact ionisation*

carrier density
see also current density; electron density; electron density (metals)
actinide 5f compounds, excitation spectrum, carrier conc. and temp. depend., CPA calc. 1−47469
alkali halide, molten, elec. cond. at high press., press. effects separation using PVT data 1−38570
ambipolar semiconductor, thermal drift instability of electron-hole gas 1−42779
amoprhous semiconductor threshold switching, interpretation based on decay-time data 1−7678
bielectron light absorption *(Russian)* 1−16541
covalent semiconductors IR Faraday rotation 1−16545
direct gap semiconductors, effect of high excitation on carrier density 1−25642
dislocations in semiconductors, elec. props. 1−2445
electron correlation and Hall mobility 1−34804
electron density meas. using Compton effect *(Japanese)* 1−35112
epitaxial growth by CVD, carrier conc. and Hall mobility meas. *(Japanese)* 1−43270
fast electron irrad., defect formation, annealing 1−20265
GaAs: Si(Ge)(Sn)(Se)(Te), liq. encapsulation Czochralski growth rel. to other techniques, elec. props. 1−3608
GaAs:Si+Sn(Ge)(Se), amphoteric dopants site distrib. and solubility 1−2491
heavily doped semiconductor devices, rigid band anal. 1−52555
heterostructure base, degenerate electron-hole plasma spatial distrib. 1−20789
insulator, single injection current, crit. currents and voltages 1−12115
MOS devices, carrier density related low frequency theories, 1/f spectrum, statistical limits 1−47754
MOS Si chip, elec. parameters in const. current transient technique *(Chinese)* 1−30827
MOS structures, interface state density calcs., effect of errors in semicond. consts. 1−38862
nonideal diode factors, junction recombination 1−3006
photoresistor, photoelectric gain limitation, compensated semicond. device with deep centres 1−20818
phthalocyanine films, amorphous, metal-free, conductivity, temp. depend., X-ray diffr., thermal anal. 1−52569
semiconductor, compound, MBE, nonstoichiometry and carrier conc. control 1−2847
semiconductor, hot electron galvanomagnetic phenomena under population inversion conditions, theory 1−52583
semiconductor, laser-annealed, defect identification and eval. techniques *(Japanese)* 1−20188
semiconductor, negative-U centres, electronic props. 1−30660
semiconductor, nondegenerate p-n junctions, charge carrier transport eqn. solution 1−3050
semiconductor, piezoelec., acoustic wave amplification due to electron density gradient 1−38474
semiconductor parameters determ. using photomagnetoelectric effect, least-squares fitting 1−52604
semiconductor periodic structs. with layer inhomogeneity, photocond. 1−20808
semiconductor thin films, dielectric nature of high-freq. effects 1−43061
semiconductors, degenerate, diffusion coefficients, proportionality to impurity density 1−16095
semiconductors, graded-gap, photo-carrier distributions 1−38810
semiconductors, local electrophys. props. obs. using laser irrad. 1−3014
semiconductors, majority carrier conc. near surface, determ. in space-charge region from capacitance-voltage characts. 1−47677
semiconductors, multiply doped, influence of electron-hole and donor-acceptor interactions of impurity distrib. 1−52169
semiconductors, random barrier network, AC props. 1−42775
n-Si, acceptors induced by plastic deform. 1−12062
solar cell degradation, recombination-enhanced processes 1−13139
space charge accumulation, high-energy electron injection in high-resistivity materials 1−52581
stripe geometry DH laser diode, lateral grinding theoretical anal. *(Korean)* 1−29279
Ag_9GaS_6, Ag ionic and electronic cond. 1−7680
AlGaAs laser, carrier density depend. of refr. index 1−11003
$Al_{0.25}Ga_{0.75}As$-GaAs heterojunctions, growth conditions to achieve mobility enhancement 1−3624
n-$Al_xGa_{1-x}As$ graded-gap crysts., electron redistrib. effect on conductance, Hall e.m.f. obs. 1−16309
$Al_xGa_{1-x}As$:Be LPE layers, doping characts., elec. props. 1−15914
$Al_xGa_{1-x}As$:Sn, MBE grown, transport props. 1−7609
$Al_xGa_{1-x}Sb$:Te, doping of solid solutions in LPE 1−42652
As, carrier density, nonmonotonic variation at press. up to 120 kbar 1−2992
Au-cermet-Si contacts, elec. characts. meas. 1−7744
BP and Si multilayer epitaxial growth on Si substrates 1−3630
$BaTiO_3$, ceramic, cond. depend. cathodoluminescence 1−35103
Bi, film, temp. depend. of kinetic coeffs., Hall const. and thermo-EMF meas. *(Russian)* 1−42873
$Bi_{1-x}Sb_x$, magnetic freezeout study in region of direct and inverted spectra 1−25745
$(Bi_2Te_3)_{1-x}$-$(La_2Te_3)_x$ solid solns., electrophys., temp. and conc. depend. 1−38775

carrier density continued
$Bi_2(Te_{1-x}S_x)_3$ thin cleaved crysts., cond. and carrier conc. obs. in localisation region 1−7618
n-Cd_3As_2, screening length, carrier degeneracy effect, Bodnar and Kane-type band models 1−47675
CdS film evaporated onto GaAS substrate, struct. and elec. props. 1−34597
CdS, vacuum deposited films, elec. and optical props. meas. 1−12215
$CdS_{0.5}Se_{0.5}$ optoelectronic switches, carrier radiation mechanism 1−7655
$CdSnAs_2$, crystal defects from electron irradiation, effect on cond. 1−25326
CdTe crystal growth from vapour phase 1−39229
CdTe:P, electrical props. and photolum. spectra *(Japanese)* 1−47674
CdTe:P, heat treated under component vapour press., electrical props. 1−39352
$Cd_{1-x}Zn_xS$ thin films for solar cells, dielectric response (0.4 to 250 μm) as a function of struct. and comp. 1−13133
Cu_2O, exciton screening, two-photon absorpt. *(Russian)* 1−42695
Cu_2S/CdS solar cell, I-V relationship 1−4176
$Cu_{2-x}Se$ films, vacuum evaporated, elec. props., appl. for solar cells 1−4205
$EuO_{1-\delta}$, nonstoichiometric, IR reflection spectra, charge carrier props. 1−21209
GaAs (110), clean and oxidised, surface band bending, Raman spectra 1−38829
n-GaAs, carrier reduction by Cr ion implantation 1−47103
n-GaAs epitaxial film, influence of elec. field on negative magnetoresistance 1−42798
GaAs, free carrier conc., four-wave polarisation CARS study 1−46440
n-GaAs, Gunn effect threshold field decrease in strong mag. field *(Russian)* 1−42782
GaAs, heavily doped epitaxial layers, pulse electron beam annealing effects 1−15928
GaAs, high-purity epitaxial layers prep., elec. characts. 1−43274
GaAs, highly excited, exciton electron-hole plasma system, optical studies 1−52592
GaAs ingots, with high free electron concs., horizontal gradient-freeze technique growth 1−3607
GaAs, ion implanted, carrier removal and charge compensation, annealing effects 1−12125
GaAs, ion-implanted, struct. and elec. profile meas. 1−11779
GaAs, laser induced damage, optical heating 1−15925
GaAs p^+-n_0-n^+ structure, VPE fabrication, injected carrier distrib., photoluminesc. spectra obs. 1−34786
p-GaAs, phonon thermoelectromotive force and entrainment *(Russian)* 1−2574
GaAs, refractive index depend. on free carriers 1−3347
GaAs wafer, ion-implanted, semi-sealing capless anneal 1−21490
GaAs:Cr, Mg ion implant distrib., elec. props. 1−7202
GaAs:Cr, semi-insulating, characterisation using galvanomagnetic meas. *(Slovak)* 1−20767
GaAs:Ge, ion implanted, elec. props. and photoluminesc. 1−47646
n-GaAs:O^+, carrier compensation 1−7638
GaAs:S(Se) VPE layers, doping behaviour, elec. and luminesc. meas. 1−47408
GaAs:Se ion implanted, impurity profiles, diffusion, luminescence spectra 1−2479
GaAs:Si+Ge(Sn), IR absorpt., plasma resonance and Hall effect meas., impurity effect on props. 1−3381
GaAs:Si; LPE, VPE and gradient-freeze growth, doping effect on lattice parameters 1−2402
GaAs:Sn, MBE growth, doping, elec. props. 1−2834
GaAs:Te, implanted, He backscatt., laser annealing effects, carrier conc. 1−38391
GaAs:Zn MOS diode, piezoelectric effects 1−3336
GaAs/n-AlGaAs heterojunction interface, two-dimensional electron mobility 1−34775
$GaAs_{1-x}P_x$, electron-hole liquid luminesc. 1−12574
$GaAs_{1-x}P_x$:Te epitaxial layer, radiation defect features 1−42379
$Ga_{1-x}In_xAs$:Te, LPE layers, doping behaviour, transport props. meas,. 1−20884
GaInAsP-InP buried heterostruct. laser, 1.6 μm, refractive index variation with injected carrier density and temp. 1−19333
$Ga_xIn_{1-x}P$:Si(Zn) LPE layers lattice-matched to GaAs, growth and elec. props. 1−21370
GaP crysts., elec. props. meas. by IR absorpt. 1−47645
GaP LPE layer, residual donors, elec. characterisation 1−7761
GaP:N, phase separation of carriers, electron-hole plasma models 1−12134
n-GaP:S(Te), radiative recombination, photoconductivity 1−21272
GaSb laser, band-to-band Auger effect 1−1568
GaSb, low net donor conc., LPE growth for detector appls. in 1.3 to 1.6 μm region 1−48279
Ge, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
Ge clean surface, electrical conductivity, Hall mobility 1−52640
Ge, compensated, elec. transient processes 1−38786
Ge, deformed, electron-hole liquid formation and props. 1−20639
Ge, deformed, shallow dislocation states, thermal treatment effects 1−52522
Ge heavily doped compensated, metal-insulator transition 1−34628
Ge, laser induced damage, optical heating 1−15925
Ge, radiation defect annealing, photoluminescence study 1−20262
Ge:As, electrical resist. and carrier conc., polycrystallinity effect 1−7610
Ge:Cu(Sb), impurity energy level press. depend., elec. props. 1−20661
Ge:In, quenched shallow acceptor ionisation energy 1−2910
Ge:P, phonon cond. correction term 1−52240
GeTE-MnTe-PbTe, physicochemical props., in GeTe-based solid solution region 1−16022
GeTe:Cu, rhombohedral and cubic, kinetic effects 1−38789
$Hg_{0.79}Cd_{0.21}Te$ epilayers, cond. types, carrier conc., Hall coeff. heat treatment effects 1−38871
$Hg_{1-x}Cd_xTe$, narrow band-gap semicond., mag. susceptibility meas. *(Russian)* 1−42944
HgTe zero gap semiconductor, nonequilibrium carrier recombination 1−38793
InAs laser, band-to-band Auger effect 1−1568
$In_{1-x}Ga_xP$:Zn, hole transport props., Hall mobility 1−47686
In_2O_3 films, thermally evaporated, struct., elec., and optical props. 1−47405
In_2O_3 highly doped transparent heat-reflecting coating 1−52322

carrier density continued
In_2O_3:Sn, thin film, post-oxidised, electrical props. 1−47769
In_2O_3:Sn films, RF reactively sputtered, optical props. *(Japanese)* 1−21284
In_2O_3:Sn RF reactively sputtered films, elec. props. *(Japanese)* 1−20882
InP, ion implanted, elec. charact., implant temp. effect 1−7196
InP LPE layers, heavily doped, visible photoluminesc. emission 1−43152
InP MOSFET, surface cond. and magnetoconductivity props. 1−52639
InP:Cr, S ion implantation, sheet resistance, carrier density 1−2477
p-InP:Zn, effect of heat treatment, carrier conc. meas. 1−25726
InP-SiO_2 MOSFETs, cond. and magnetoresistance 1−38857
$InP_xAs_ySb_{1-x-y}$ solid solution, optical props. 1−26294
InSb, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
InSb, cyclotron-phonon resonance, line width investigation 1−3265
InSb, elec. resist. inhomogeneity depend. on dopant conc. 1−20741
InSb, laser induced damage, optical heating 1−15925
n-InSb, magnetophonon resonance, new peak, temp.-range 77 to 180K 1−2991
p-InSb, phonon induced intersubband resonance in inversion layer 1−47750
InSb solid and liquid, elec. cond. and Hall effect meas. technique 1−36704
InSb:Zn p-n junctions fabricated by ion implantation with subsequent drive-in diffusion 1−3054
$InSe_{1-x}S_x$, single crystal, current limited by space charges *(Russian)* 1−47660
In_2Te_3 thin films, optimum substrate temp. for electron beam evaporation prep. and elec. props. 1−42656
$PbS_{1-x}Se_x$, Fermi level, carrier conc. depend. calc. 1−38712
PbSe epitaxial films, optical props. meas. 1−31214
PbSe epitaxial layers, deep levels, Hall effect and photocond. obs. 1−12063
$PbSe_{1-x}S_x$:Tl, impurity band position and width, elec. and optical props. 1−20659
$Pb_{0.93}Sn_{0.07}Se$ epitaxial film, band struct. 1−42689
$Pb_{1-x}Sn_xSe$ solid solution, optical and elec. props. *(Russian)* 1−3419
$Pb_{1-x}Sn_xTe$ ion implanted films, implantation induced damage 1−7191
$Pb_{1-x}Sn_xTe$ layers, LPE growth, struct., and elec. props. 1−47404
$Pb_{1-x}Sn_xTe$, local states of Te vacancies, Hall effect *(Russian)* 1−2922
$Pb_{1-x}Sn_xTe$, narrow band-gap semicond., mag. susceptibility meas. *(Russian)* 1−42944
$Pb_{1-x}Sn_xTe$:In ($0 \leq 0.2$), LPE layers, electron conc. control by In doping 1−25309
$(Pb_{1-x}Sn_x)_{1-y}Te_y$, cryst. growth from melt, initial charge comp. effect on comp. and electrophys. props. 1−42513
$Pb_{1-x}Sn_xTe(Se)$, Fermi level, carrier conc. depend. calc. 1−38712
n-PbTe film, anomalous increase in thermoelectric power, Hall effect 1−20888
PbTe film, size effect, Hall mobility, thermopower 1−20887
Sb film, thermoelectric power, temp. coeff. of resist. 1−47770
Sb, free carrier contributions to second and third order elastic consts. 1−47143
Sb, Shubnikov-de Haas effect, hydrostatic press. effect 1−20777
Si (100) inversion layer, phonon-limited electron mobility 1−38834
Si (100)N channel inversion layers, carrier concentration and mobility 1−7639
Si, ambipolar diffusion coeff. with electron-hole scatt. 1−42788
Si and BP multilayer epitaxial growth on Si substrates 1−3630
n-Si, Auger recombination process, IR absorpt. meas. 1−21206
Si, carrier diffusion under lattice temp. and carrier conc. gradients 1−42786
Si, deformed, electron-hole liquid formation and props. 1−20639
Si, deformed, exchange correlation energy in electron-hole fluid *(Russian)* 1−7533
Si, graded electron conc. non-linear elec. effect 1−34718
n-Si, γ-irrad., electrically active interstitial defects 1−2510
Si inversion layers, exchange-correlation effects, valley occupancy phase transitions 1−52509
Si, laser induced damage, optical heating 1−15925
Si MOS inversion layers, negative magnetoresistance 1−52657
Si, oxide prep. in CW and pulse microwave plasma, elec. props. comparison 1−21610
Si, polycryst., grain size effects on Hall measurements 1−12126
Si solar cells, inclusion of degeneracy in anal. of heavily doped regions, Fermi-Dirac integrals of order 1/2 1−43772
Si:As polycryst. film, sheet resist. reduction by laser irrad., implantation dose and laser wavelength effects 1−52670
Si:B, ion implanted, Hall effect and resist. meas. 1−2990
Si:B, polycrystalline, CVD-prepared, resistivity changes caused by thermal annealing 1−30854
Si:B film, on sapphire, ion implanted, Hall effect and resist. meas. 1−2990
Si:Ga,B, joint implantation, surface resistance 1−30255
Si:Mn solid solution precipitation elec. props. 1−20405
Si:P, ESR and elec. activity, heat treatment effects 1−34926
Si:P, elec. activity, ESR study, heat treatment effects 1−31015
Si:P, ion implanted, furnace annealing, segregation, elec. props. meas. 1−15912
Si:P, ion-implanted, disordered layers, laser and thermal annealing, elec. props. 1−11780
Si:P ion implanted, laser annealed, furnace annealing behaviour 1−2480
Si-electrolyte interface, anodic dissolution and carrier conc. profiling 1−20868
SiC ion implantation doped p-n junctions, struct. and props. 1−30813
SnO_2 film, CVD and elec. props. 1−43268
SnO_2 films, pure and Sb doped, elec. props., annealing and O adsorption effects 1−7763
SnO_2 highly doped transparent heat-reflecting coating 1−52322
SnO_2:Sb, electrical and optical props. 1−42874
SnTe epitaxial film, IR plasma reflectivity meas., hole conc. depend. 1−39166
SnTe, thermoelectric power analysis at 100K 1−16305
$SrTiO_3$, ceramic, cond. depend. cathodoluminescence 1−35103
Te-Se-Cd rectifying struct., deep carrier traps 1−7635
TiB_2, de Haas-Van Alphen effect 1−34610
TiO_2, ceramic, cond. depend. cathodoluminescence 1−35103
TlInSe, impurity levels, elec. props. 1−20660
WS_2 crystals, p-type semicond. behaviour, resist., thermoelec. and Hall effect meas. 1−34706
$ZnGeP_2$, cond. type inversion under heat treatment 1−20748

carrier density continued
ZnS, edge luminescence under strong photoluminescence conditions 1−16606
ZnSe, cryst. growth from soln., using In-Zn solvents 1−3593
ZnSe, light amplification in electron-hole drops 1−3438
ZnSe:Al, IR absorpt. coeff. and free carrier conc. 1−43140
$ZnSiP_2$, Hall effect study of thermal impurity-to-band activation energy conc. depend. 1−47688
$ZnSiP_2$(:Ga) crystals grown from non-stoichiometric melt, elec. and optical props., orient. depend. 1−34705

carrier diffusion length *see carrier lifetime*

carrier lifetime
ambipolar semiconductor, thermal drift instability of electron-hole gas 1−42779
amorphous threshold switch, I-V decay curve, trapped carrier lifetime 1−47717
contactless lifetime measurement, influence of lightening area for minority carrier injection *(Japanese)* 1−47708
covalent semiconductors, hot electron phenomena, microscopic models 1−47662
covalent semiconductors IR Faraday rotation 1−16545
degenerate semiconductor, nonparabolic, generalised Einstein relation under mag. quantisation 1−20771
diamond, hot-hole transport theory and expt. 1−16296
diamond, ion-implanted, cathodoluminesc. study 1−48172
heavily doped emitter region, minority carrier injection and storage, approx. soln. for Auger recomb. 1−34781
hot carrier physics, review 1−16292
ideal cylindrical and spherical junctions, apparent diffusion length 1−7712
interdigitated back contact solar cell with high-current collection 1−32017
molecular crystals, field induced trapping as a probe of dimensionality 1−12106
MOS Si chip, elec. parameters in const. current transient technique *(Chinese)* 1−30827
MOS solar cells, solid state physical principles and elect. charcts. 1−17215
p^+-n-n^+ structures, with built-in fields in base regions, carrier lifetimes meas. 1−16356
p-n junction solar cells, diodes and transistors, lifetimes and recombination currents determ. 1−32016
photoconductivity, transient, near surface of semi-infinite media, calc. 1−47706
photoresistor, photoelectric gain limitation, compensated semicond. device with deep centres 1−20818
semiconductor, cascade capture accompanied by optical phonon emission 1−20764
semiconductor, screening length rel. to lifetime and relax. 1−20762
semiconductor, variable gap, parameters, photolum. determ. 1−35092
semiconductor blocks, carrier lifetime meas. by UHF contactless method 1−14138
semiconductor high-intensity picosecond photoexcitation techniques 1−15234
semiconductor hot carrier diffusion and noise coeff. relationship and meas. 1−16325
semiconductor laser pumped by electron beam, carrier migration influence on threshold charcts. 1−33695
semiconductor parameters determ. using photomagnetoelectric effect, least-squares fitting 1−52604
semiconductor photoexcited hot carriers, theoretical concepts 1−16318
semiconductor wafer, carrier lifetime, contactless meas. by use of strip lines 1−20763
semiconductor wafer, contactless meas. of elec. props. *(Japanese)* 1−47673
semiconductor wafers, meas. using contactless photomagnetoelectric method 1−52578
semiconductors, amorphous and radiation-damaged, short carrier lifetimes for high-speed photodetectors 1−50212
semiconductors, double-injecion unit, falling depend. of lifetime on electric field 1−2976
semiconductors, transport phenomena, time-of-flight technique 1−16295
sheet conductance and minority carrier lifetime in semicond., surface props. influence 1−30762
solar cells, degradation analysis and characterisation using nondestructive photofreq. method 1−13142
solar cells, minority carrier lifetime meas. by photo-induced open cct. voltage decay method, math. formulation 1−35653
SOS films, ion implantation damaged, picosecond photocond., carrier lifetime 1−42809
As_2S_3, vapour-deposited, hole transport meas. 1−34702
$Cd_xHg_{1-x}Te$ nonequilibrium carrier lifetime meas. by photoconduction relaxation 1−47670
CdS Schottky barrier junctions, diffusion length meas., surface photovoltage method 1−34768
CdS sputtered photocells, transient phenomena 1−52599
n-CdS/p-$CuInSe_2$ solar cell heterojunction, minority carrier diffusion length 1−16297
$CdS_{0.5}Se_{0.5}$ optoelectronic switches, carrier radiation mechanism 1−7655
CdSe Schottky barrier junctions, diffusion length meas., surface photovoltage method 1−34768
CdTe solar cells with graded frontal doping, optimum junction depth and frontal elect. field 1−17217
GaAs film, electron diffusion length, dislocation and ionised impurity effects 1−30855
GaAs p^+-n_0-n^+ structure, VPE fabrication, injected carrier distrib., photoluminesc. spectra obs. 1−34786
GaAs thin films, polycrystalline, high-resolution optical methods for characterisation 1−25812
GaAs:Cr, semiinsulating, ultrafast magnetophotocond. meas. 1−52608
$GaAs_{1-x}P_x$ (x=0.4, 0.65), minority lifetime enhancement by N ion implantation 1−38788
n-GaP:S(Te), radiative recombination, photoconductivity 1−21272
GaSb laser, band-to-band Auger effect 1−1568
Ge, high-intensity picosecond photoexcitation techniques 1−15234
Ge, hot-hole transport theory and expt. 1−16296
Ge p-n junction, lifetime of minority charge carriers and X-ray effects, struct. defects form. 1−16357
$Hg_{1-x}Cd_xTe$, Schottky barrier photodiodes, carrier lifetime, diffusion length 1−7706

carrier lifetime continued
$Hg_{1-x}Cd_xTe$, trap levels and minority carrier lifetime, DLTS study 1−34658
(In,Ga)(As,P), VPE growth, n- and p-type doping, photolum., mobility and electron diffusion lengths 1−48267
n-InAs epitaxial layers, carrier lifetime meas. 1−30856
InAs laser, band-to-band Auger effect 1−1568
InGaAs-InP avalanche photodiodes with separated absorpt. and multiplication regions, improved characts. 1−45011
$In_{0.53}Ga_{0.47}As$ photodiode characts. 1 to 1.7 μm, low dark current and low junction capacitance 1−45008
InGaAsP-InP photodiode monolithic 1×10 array, small dark current and uniform responsivities 1−45010
$In_xGa_{1-x}As_yP_{1-y}$ photodiodes with dark current limited by diffusion, generation recomb. and tunnelling 1−45007
InP:Cr(Fe), photocond. relax. kinetics 1−20809
$MoS_2(Se_2)$-electrolyte, photoelectrochem. props., photocurrents, carrier diffusion, optical transitions 1−34788
$Pb_{1-x}Sn_xTe$, photovoltaic detectors, minority carrier lifetimes, resist.-area product 1−38807
Se:Li,Cl, amorphous, gap states, carrier traps, time-of-flight study 1−52472
Si, ambipolar diffusion coeff. with electron-hole scatt. 1−42788
Si, amorphous junction devices, injected carrier lifetime 1−52648
Si amorphous Schottky barrier solar cell, minority carrier diffusion length, anal. 1−13126
Si, carrier diffusion under lattice temp. and carrier conc. gradients 1−42786
Si cells, nonequilibrium carrier diffusion length, photon and beta ray energy conversion 1−35658
Si, excitons, biexcitons, and free carriers, kinetic props., luminesc. 1−47488
Si, hot-hole transport theory and expt. 1−16296
Si, longitudinal diffusion coefficient and mobility of hot electrons 1−30754
Si, meas. of lifetime and diffusion constant of minority carriers by phase shift technique in EBIC 1−42789
Si, minority carrier diffusion length meas. method 1−42790
Si p-n junction, lifetime of minority charge carriers and X-ray effects, struct. defects form. 1−16357
Si photovoltaic solar concentrator cells, carrier lifetime meas. by small-signal open-cct. decay method 1−53615
Si polycrystalline solar cells, effect of intragrain defects on local photoresponse 1−43769
Si, quality characterisation techniques *(German)* 1−34708
p-Si, recomb. props. of O complexes after annealing and γ-ray irrad. 1−20765
Si rectifiers, recombination centres in base regions, energy levels, capture coeffs. meas. *(German)* 1−52649
Si resistivity variation detection using liquid rectifying contacts, laser scanning technique 1−12138
Si ribbon solar cells, effect of short wavelength illum. on bulk minority carrier diffusion length 1−35656
Si ribbons grown by capillary action shaping, struct. and elec. characterisation of defects 1−2357
Si solar cells, degradation, carrier lifetime and mobility changes due to electron and proton bombardment 1−13138
Si surface, photoconductivity spin depend. resonance 1−34740
Si terrestrial solar cells, efficiency and material requirement interactions 1−39772
Si transistor, hot electron diffusion across base 1−34780
Si:Au, thermal carrier generation, Au energy level determ. 1−42785
Si:H, amorphous, nongeminate recomb. of photogenerated holes, meas. 1−7637
Si:H,P films, amorphous, trap controlled dispersive transport by transient photoresponses 1−52601
Si:H amorphous films, photocond., trapping and recombination 1−47710
Si:Li, polycryst., electrolytic doping, effect on elec. props. 1−47099
Si-SiO_2 interface, high temp. annealing effect on bulk lifetime spatial variation 1−7745
SiC ion implantation doped p-n junctions, struct. and props. 1−30813
n−TiO_2:Al electrodes, behaviour in photoassisted oxidation of water 1−20801
WSe_2-electrolyte, photoelectrochem. props., photocurrents, carrier diffusion, optical transitions 1−34788
Zn_3P_2 Schottky barrier solar cells, conversion efficiency determ. 1−48836

carrier mean free path
see also electron mean free path (metals)
9-n-butyl-10-anthryl propionic acid, multilayer films, electron mean free path, XPS 1−52674
cadmium stearate, multilayer films, electron mean free path, XPS 1−52674
diacetylene polymer, multilayer films, electron mean free path, XPS 1−52674
metals, anomalous skin conditions, nonlinear effects, review 1−7652
semiconductor thin films, dielectric nature of high-freq. effects 1−43061
semiconductors, carrier multiplication in thin space-charge layer struct., internal photoelectric effect 1−20866
Bi, anomalous skin conditions, nonlinear effects, review 1−7652
$(Bi_2Te_3)_{1-x}$-$(La_2Te_3)_x$ solid solns., electrophys., temp. and conc. depend. 1−38775
GaSe amorphous films, charge transport processes 1−47655

carrier mobility
see also carrier mean free path; carrier relaxation time; current density; electron-hole recombination; electron mobility (metals)
anthracene cryst., triplet exciton pair-charge carrier interaction 1−20635
anthracene crystals, doped, two carrier mobilities, transient electroluminesc. obs. 1−20728
anthracene single cryst., elec. field depend. electron mobility, photoresponse 1−7630
cellulose acetate:I_2, pure and doped, current-voltage characts. 1−7626
compound semiconductors, electron transport, book 1−32813
degenerate semiconductor, nonparabolic, generalised Einstein relation under mag. quantisation 1−20771
dielectrics, current transient interpretation 1−52576
F 1−52559
fast electron irrad., defect formation, annealing 1−20265
GaAs: Si(Ge)(Sn)(Se)(Te), liq. encapsulation Czochralski growth rel. to other techniques, elec. props. 1−3608
graphite:B, polycrystalline, elec. cond. and Hall coeff. 1−34724

carrier mobility continued
graphite intercalation compounds with $PdCl_2$, $FeCl_3$, $CuCl_2$ and WCl_6, electronic props. 1−42679
Hall effect in hopping conduction 1−34727
Hall mobility meas., analysis of a circular Hall plate with equal finite contacts 1−30769
n-InSb, heavily doped and compensated, electron transport, 4.2-300K 1−34707
IV-VI optoelectronic devices, MBE techniques 1−3627
MOS structure, electron irrad. influence on Hall mobility of holes in inversion layers 1−3072
naphthalene, electron mobility in *a* direction, deuteration effects 1−12121
NLC film, electrical cond., diffusion and mobility of charge carriers *(Russian)* 1−30434
organic semiconductors, review, book contrib. 1−47658
pentacene, amorphous, short-time carrier transport 1−12142
pentacene, disordered, photocurrents, charge carrier mobility and recombination 1−42818
photoresistor, photoelectric gain limitation, compensated semicond. device with deep centres 1−20818
poly-N-epoxypropylcarbazole electrophotographic layers, longit. photocurrent kinetics 1−16316
polydiacetylene toluene sulphonate, electron mobility 1−34721
polyethylene, low-density, oxidised, TSC, localised states, hopping centres 1−21118
polyethylene film, high density, charge carrier mobility meas., kinetic methods 1−7764
polymer, elec. cond., review *(Japanese)* 1−20734
quantum particle mobility in three-dimensional random potential 1−47598
p-quaterphenyl layer, partially oriented, dispersive carrier transport 1−47771
semiconductor, ballistic electron transport in nonparabolic band 1−20717
semiconductor, degenerate, screened electron-phonon interaction 1−47507
semiconductor, electron mobilities from linearised Poisson eqn. for impurity-ion pot. 1−2964
semiconductor, heavily doped, Einstein relation, diffusivity-mobility ratio, temp. depend. 1−20759
semiconductor, wide-band-gap, nonlinear and hopping transport 1−12116
semiconductor parameters determ. using photomagnetoelectric effect, least-squares fitting 1−52604
semiconductor superlattice, near equilibrium mobility tensor, acoustic phonon scatt. 1−12110
semiconductor thin film, transition layer contact resistance influence on Hall mobility 1−42797
semiconductor thin film nonlinear conductivity investigation 1−38787
semiconductor thin films, dielectric nature of high-freq. effects 1−43061
semiconductors, carrier scattering by ionised impurities with nonlinear screening charge 1−42772
semiconductors, electron runaway depend. on inelastic scatt. 1−20754
semiconductors, finite compensated, generation-recombination noise 1−20838
semiconductors, finite compensated, Johnson and contact noise 1−20839
semiconductors, nonintrinsic, magnetoconcentration and other galvanomag. effects 1−20770
semiconductors, polaron transport and light absorpt. 1−25650
semiconductors, scattering mechanisms and 1/f noise 1−52614
sheet conductance and minority carrier lifetime in semicond., surface props. influence 1−30762
siloxane, plasma polymerised, IGFET, fabrication, characts. 1−7741
SOS films, ion implantation damaged, picosecond photocond., carrier lifetime 1−42809
space charge accumulation, high-energy electron injection in high-resistivity materials 1−52581
substrate, InAs heteroepitaxial layer deposition using MBE, elec. and struct. props. 1−3081
ternary semiconductors, n-channel inversion layer, diffusivity:mobility ratio, alloy composition effects 1−3044
tetramethylsilane, electron mobility, solid-liq. phase transition effects 1−30759
thin film, photocurrent pulse shape excess charge carrier mobility *(Russian)* 1−47707
two-dimensional electron system, many-body effects on transverse cond. in strong mag. fields 1−12169
wire, semiconductor, ultrafine struct., size-quantized electron scatt. suppression and high-mobility effect 1−47636
$(Ag_{5/2}Pb_{1-x}Sb_{x/2})Te$, absorpt. edge, Hall effect 1−16580
Ag_2Se low temp. phases, band struct. 1−34624
$Al_{0.25}Ga_{0.75}As$-GaAs heterojunctions, growth conditions to achieve mobility enhancement 1−3624
n-$Al_xGa_{1-x}As$, Hall coeff., resistivity temp. anomaly 1−42794
$Al_xGa_{1-x}As$:Be LPE layers, doping characts., elec. props. 1−15914
$Al_xGa_{1-x}As$:Sn, MBE grown, transport props. 1−7609
$Al_xGa_{1-x}As$-GaAs modulation-doped single-period heterojunctions, carrier mobility meas. 1−42848
As_2S_3, vapour-deposited, hole transport meas. 1−34702
a-As_2Se_3:Ga(Cu) film, time resolved dark injection 1−20886
As_xSe_{1-x} amorphous thin films, electron drift vel. meas. 1−12114
Bi, film, temp. depend. of kinetic coeffs., Hall const. and thermo-EMF meas. *(Russian)* 1−42873
p-Bi_2Te_3, galvanomagnetic, high field transport props. 1−16301
$(Bi_2Te_3)_{1-x}$-$(La_2Te_3)_x$ solid solns., electrophys., temp. and conc. depend. 1−38775
Cd_3As_2 amorphous degenerate thin film semiconductor, elec. props. 1−20720
$Cd_xHg_{1-x}Te$, Hall effect and elec. cond. *(Russian)* 1−2993
CdS chemically sprayed film and cell analysis, structural approach 1−8723
CdS, cluster formation and struct. changes, 300 to 1200K 1−34712
n-CdS, drift and acoustoelec. Hall effects, acoustoelec. current, inhomogeneities due to IR quenching of photocond. 1−20827
CdTe crystal growth from vapour phase 1−39229
CdTe, irrad. induced defects, photoluminesc. study 1−8112
CdTe:P, electrical props. and photolum. spectra *(Japanese)* 1−47674
CdTe:P, heat treated under component vapour press., electrical props. 1−39352
CeO_2-Y_2O_3, nonstoichiometric, electronic cond. 1−2959
CoO undoped crysts., elec. props. 1−30747
Cu-As-Se chalcogenide semicond., drift mobility, photoinduced changes *(Russian)* 1−38781
$Cu_{2-x}Se$ films, vacuum evaporated, elec. props., appl. for solar cells 1−4205

carrier mobility continued
$EuO_{1-\delta}$, nonstoichiometric, IR reflection spectra, charge carrier props. 1−21209
GaAS epitaxial layers, electron velocity in high elec. fields 1−34714
GaAs, carrier mobility limited by ionised impurity scatt. with nonlinear screening, calc. 1−47637
n-GaAs, cyclotron-resonance-induced cond., carrier mobility and relax. time 1−3263
GaAs, diffusion of Se, electron-pulsed, form. of n^+ regions 1−7187
GaAs, epitaxial film growth by RF sputter deposition 1−31343
n-GaAs, epitaxial layer, persistent photoconductivity, illumination dose dependence 1−3003
GaAs, heavily doped epitaxial layers, pulse electron beam annealing effects 1−15928
GaAs, high-purity epitaxial layers prep., elec. characts. 1−43274
p-GaAs, influence of screening on deform. pot. and piezoelec. scatt. 1−34709
GaAs, ion implanted, carrier removal and charge compensation, annealing effects 1−12125
GaAs, ion-implanted, struct. and elec. profile meas. 1−11779
GaAs, picosecond nonequilibrium carrier transport 1−47638
GaAs, two-dimensional electron gas, lattice scatt. mobility 1−25723
GaAs:C, electron scatt. at localised impurity pots. 1−47635
n-GaAs:Cr, charge transfer induced by hydrostatic press., Hall effect meas. 1−47547
GaAs:Cr, Mg ion implant distrib., elec. props. 1−7202
GaAs:Cr, semi-insulating, characterisation using galvanomagnetic meas. *(Slovak)* 1−20767
GaAs:Ga, Ge, dual implantation, Hall mobility and elec. resist. 1−38394
GaAs:Ge, As, dual implantation, amphoteric activity, Hall effect and elec. resist. 1−38395
GaAs:Ge, ion implanted, elec. props. and photoluminesc. 1−47646
n-GaAs:O^+, carrier compensation 1−7638
GaAs:S(Se) VPE layers, doping behaviour, elec. and luminesc. meas. 1−47408
GaAs:Si; LPE, VPE and gradient-freeze growth, doping effect on lattice parameters 1−2402
GaAs:Sn, MBE growth, doping, elec. props. 1−2834
GaAs/n-AlGaAs heterojunction interface, two-dimensional electron mobility 1−34775
GaAs-(AlGa)As heterojunction superlattices, modulation doping 1−52155
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, modulation doped, MBE growth 1−34777
GaAs-$AlGa_{1-x}As$ superlattice, heavily doped subband struct., band bending, low temp. mobilities 1−7721
n-$Ga_{0.47}In_{0.53}As$, alloy scattering effects and calc. Hall mobility 1−42791
$Ga_{1-x}In_xAs$:Te, LPE layers, doping behaviour, transport props. meas,. 1−20884
$Ga_xIn_{1-x}As$, direct gap, electron transport study 1−42792
$Ga_xIn_{1-x}P$:Si(Zn) LPE layers lattice-matched to GaAs, growth and elec. props. 1−21370
n- GaN, influence of screening on deform. pot. and piezoelec. scatt. 1−34709
GaP crysts., elec. props. meas. by IR absorpt. 1−47645
n-GaP:S(Te), radiative recombination, photoconductivity 1−21272
Ge, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
Ge clean surface, electrical conductivity, Hall mobility 1−52640
Ge, electron transport in germanium at high pressures 1−30766
Ge heavily doped compensated, metal-insulator transition 1−34628
Ge, magnetoresistance, effect of surface recombination rate in presence of mag. field carrier mobility, effect of surface recombination rate in presence of mag. field 1−42800
Ge, warm carrier cond. freq. depend. 1−2997
n-Ge:As, heavily doped, compensated, elec. cond. 1−20743
Ge:Cu(Sb), impurity energy level press. depend., elec. props. 1−20661
Ge:Hg, neutral impurity scatt., hole mobility 1−2963
$Hg_{1-x}Cd_xTe$, n-channel inversion layer, diffusivity:mobility ratio, alloy composition effects 1−3044
$Hg_{1-x}Cd_xTe$, hot electron drift velocity 1−38784
$Hg_{1-x}Cd_xTe$ solid solution, narrow-gap semiconductor, drag of carriers by photons 1−52580
n-$HgCr_{1.9}In_{0.1}Se_4$, elec. cond., magnetoresist., and Hall effect meas. 1−20726
$Hg_{1-x}Mn_xTe$, magnetoresistance and Hall effect props. 1−2989
HgTe polycrystalline films, Hall coeff. and DC cond. meas. 1−38873
(In,Ga)(As,P), VPE growth, n- and p-type doping, photolum., mobility and electron diffusion lengths 1−48267
p-InAs oxide inversion layer transport obs. at 77K 1−16375
InAs/oxide interface inversion layer electron scatt. by polar interface phonons 1−16376
$InAs_xSb_{1-x}$, direct gap, electron transport study 1−42792
$In_{1-x}Ga_xP$:Zn, hole transport props., Hall mobility 1−47686
InN films, phys. props. 1−50436
In_2O_3 films, thermally evaporated, struct., elec., and optical props. 1−47405
In_2O_3 highly doped transparent heat-reflecting coating 1−52322
In_2O_3:Sn, thin film, post-oxidised, electrical props. 1−47769
InP, impurity levels and electrical characteristics 1−20250
n-InP, inhomogeneous cryst., transverse magnetoresistance 1−20776
InP MOSFET, surface cond. and magnetoconductivity props. 1−52639
InP:SiH_2^+, annealed, shear dislocation and interstitial loop obs. 1−11751
InP-SiO_2 MOSFETs, cond. and magnetoresistance 1−38857
InP_xAs_{1-x}, direct gap, electron transport study 1−42792
InSb, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
InSb, Faraday-type magneto-microwave Kerr effect, Hall mobility *(French)* 1−52922
n-InSb, impact ionisation of excited impurity levels 1−20753
n-InSb, magnetophonon resonance, new peak, temp.-range 77 to 180K 1−2991
InSb:H films, Hall coeff., carrier mobility rel. to impurity in-diffusion 1−38870
In_2Te_3 thin films, optimum substrate temp. for electron beam evaporation prep. and elec. props. 1−42656
$LiNbO_3$, small-polaron semicond., expt. Hall effect data 1−34726
PbN_6, electron excitation and transfer 1−34753
$Pb_{1-x}Sn_xTe$ layers on micasurface, Hall effect and cond., influence of air 1−30857
$Pb_{1-x}Sn_xTe$, local states of Te vacancies, Hall effect *(Russian)* 1−2922
carrier mobility continued
$Pb_{1-x}Sn_xTe$, second valence band and resonant states, effect on transport 1−20773
$Pb_{1-x}Sn_xTe$:In ($0 \leq 0.2$), LPE layers, electron conc. control by In doping 1−25309
PbTe film, size effect, Hall mobility, thermopower 1−20887
PbTe, sintering effect on elec. props. 1−16746
n-PbTe:In(Cu) films, magnetoresist. and Hall effect meas. 1−7643
S, orthorhombic, dark decay of positive surface pot. 1−52629
α-S, UV-induced double injection, I-V characts. 1−12148
Sb film, thermoelectric power, temp. coeff. of resist. 1−47770
Sb_2Te_3, galvanomagnetic, high field transport props. 1−16301
Sb_2Te_3-Ga_2Te_3 system solid solns., thermal cond. and electrophys. props., 300-800K, complex valence band obs. 1−47308
Si (100) inversion layer, phonon-limited electron mobility 1−38834
Si (100)N channel inversion layers, carrier concentration and mobility 1−7639
Si, electron-phonon interaction, photolumin. and transport phenomena 1−42493
Si epitaxial layers, electron velocity in high elec. fields 1−34714
Si film on sapphire MOS structure, electron surface mobility,. strain effects 1−42867
n-Si, hot carrier 1/f noise 1−52613
Si inversion layer, quantised, electron mobility due to phonon scatt. 1−34799
Si, longitudinal diffusion coefficient and mobility of hot electrons 1−30754
Si, polycryst., grain size effects on Hall measurements 1−12126
Si, polycrystalline film, elec. props., mobility and dopant conc. relationship *(Chinese)* 1−30852
Si solar cells, degradation, carrier lifetime and mobility changes due to electron and proton bombardment 1−13138
n-Si, thin plate, elec. transport, calc. 1−47644
Si:B, ion implanted, Hall effect and resist. meas. 1−2990
Si:B, ion implanted, sheet resist. calc. as function of surface ion dose *(German)* 1−2968
Si:B, resistivity/dopant-density relationship 1−20769
Si:B film, on sapphire, ion implanted, Hall effect and resist. meas. 1−2990
Si:B(P)(As), ion implanted, laser annealing effects on elec. props. 1−2485
Si:H, amorphous, determination of the density of gap states: field effect and surface adsorption 1−30613
Si:H, amorphous, electron transport, drift mobility and junction capacitance 1−30784
Si:H, amorphous, nongeminate recomb. of photogenerated holes, meas. 1−7637
Si:H, amorphous, photogeneration, optical absorpt. and transport 1−7665
Si:H, amorphous solar cells, photoconductivity and transport 1−32029
Si:H, highly resistive films, acoustoelectric meas. 1−47713
Si:H amorphous Schottky barrier diodes, carrier transport model 1−8709
Si:P, hydrogenated amorphous, dispersive transport and recomb. lifetime 1−38811
Si:P, ion implanted, furnace annealing, segregation, elec. props. meas. 1−15912
Si:P, ion-implanted, disordered layers, laser and thermal annealing, elec. props. 1−11780
Si:P ion implanted, laser annealed, furnace annealing behaviour 1−2480
Si/SiO_2 interface inversion layer electron scatt. by polar interface phonons 1−16376
Si-SiO_2 interface in weak inversion, electron mobility, percolation model for high oxide charge samples 1−7748
Si-SiO_2 inversion layer, many-body effects and electron mobility, room temp. 1−7693
Si-SiO_2 MOSFET, n-channel, Coulomb scatt. in band tail 1−7749
Si-SiO_2 MOSFET, Na^+ contaminated, scatt. in inversion layer, temp. depend. 1−7750
SiC(6H), electron mobility impurity conc. *(Russian)* 1−47687
$Si_{0.10}Ge_{0.4}$, highly resistive films, acoustoelectric meas. 1−47713
$Si_{70}Ge_{30}$ alloy, heavily doped, hot pressed, electron mobility determination procedure 1−30740
SnO_2 films, pure and Sb doped, elec. props., annealing and O adsorption effects 1−7763
SnO_2 highly doped transparent heat-reflecting coating 1−52322
SnO_2:Sb, electrical and optical props. 1−42874
Te:Cl, excited by α-particles, photons, elec. props. meas. 1−30765
V_2O_5-P_2O_5 glasses, low temp. electron paramag. props. 1−7936
$Zn_xCd_yHg_{1-x-y}Te$, epitaxial crystn. from melt 1−12673
ZnO surface, quantized accumulation layer, electron mobility, phonon scatt. 1−30804
ZnSe, cryst. growth from soln., using In-Zn solvents 1−3593
ZnSe, elec. props. meas. 1−20750
n-ZnSe polar cryst., carrier mobility calcs. 1−38792

carrier relaxation time
see also electron relaxation time (metals)
amorphous systems, diffusion-limited recomb. and relax., master eqn. approach 1−198
graphite, thermopower and Nernst-Ettingshausen coeff., drift-diffusion contribs. 1−20783
MOS structures, deep depleted, parameters characterising generation processes, statistical anal. *(Russian)* 1−16369
MOS structures, shortening with voltage, localised generation in space-charge region as cause 1−30834
PMMA, space charge relaxation, influence of specimen thickness 1−21127
self-energy for extended states, effect on relax. time near mobility edge, theory 1−42735
semiconductor, compensated, low temp. electron scatt. on charged impurities 1−52558
semiconductor high-intensity picosecond photoexcitation techniques 1−15234
semiconductor periodic structs. with layer inhomogeneity, photocond. 1−20808
semiconductors, finite compensated, generation-recombination noise 1−20838
semiconductors, finite compensated, Johnson and contact noise 1−20839
semiconductors, highly photoexcited, screening of hot-carrier relax. 1−47666
SOS films, ion implantation damaged, picosecond photocond., carrier lifetime 1−42809

carrier relaxation time continued
TTF-TCNQ, electron-phonon coupling, electron relax. rate, ab initio calc. 1−30733
TTF-TCNQ, near IR and visible reflectance spectrum, temp. depend. 1−3415
Bi, heating and energy relaxation time of electrons and holes *(Russian)* 1−34725
CdF_2:In, impurity-lattice relaxation, temp.-depend. decay of metastable state 1−30674
$CdS_{0.5}Se_{0.5}$ optoelectronic switches, carrier radiation mechanism 1−7655
CdSe, single crystal, photoelectric current noise, effect of contacts 1−20840
EuO, resistivity decrease due to ferromag. reson, carrier energy relax. time 1−12123
n-GaAs, cyclotron-resonance-induced cond., carrier mobility and relax. time 1−3263
GaAs epitaxial layer, phonon optics, carrier relaxation and recombination 1−16390
n-$Ga_{0.47}In_{0.53}As$, alloy scattering effects and calc. Hall mobility 1−42791
Ge, high-intensity picosecond photoexcitation techniques 1−15234
Ge, nonlinear optical absorption and ultrafast carrier relaxation physics 1−15211
Ge, warm carrier cond. freq. depend. 1−2997
$Hg_{1-x}Cd_xTe$, acceptor band theory *(Russian)* 1−47530
$Pb_{0.78}Sn_{0.22}Te$:Ga, photoconductivity with relaxation times, temp. depend. 1−3022
Si inversion layer, quantised, electron mobility due to phonon scatt. 1−34799
Si inversion layers, intervalley electron-electron coupling effect on cyclotron reson. lineshape 1−12206
Si-SiO_2, surface conduction, interaction with surface states 1−42868
Si-SiO_2 MOSFET, (110) and (111) surfaces, anomalous behaviour of electron transport 1−12202
Sn, current carrier relaxation times, magnetoacoustic meas. *(Russian)* 1−25712
SnTe epitaxial film, IR plasma reflectivity meas., hole conc. depend. 1−39166

carrier scattering at surfaces *see surface scattering*
carrier scattering by dislocations *see dislocation scattering*
carrier scattering by impurities *see impurity scattering*
carrier scattering by point defects *see point defect scattering*
carrier traps *see electron traps; hole traps*
CARS *see coherent antiStokes Raman scattering*

cartography
bedrock mapping using river sediment minerals 1−44136
Canada, contemporary vertical crust motion map 1−49255
cartesian coordinates computation from clothoid detail points *(German)* 1−4410
computer graphics, interactive image processing package *(French)* 1−49274
crustal movements, geodesy and cartography aspects *(German)* 1−17554
Florida wetland, inland non-tidal, mapping 1−4550
geological mapping and mining research, appls. of remote sensing *(French)* 1−9272
geological mapping in Czechoslovakia, history, rel. to mining 1−5061
geomagnetic field mapping by tethered satellite, noise source effects 1−9287
geomagnetic mapping at equatorial latitudes, anomaly interpretation 1−22198
W. Germany, vertical crust motion and height change maps 1−54058
hill shading and reflectance map 1−35930
S. Central Idaho soil, Landsat data appl. 1−9162
Indonesia, Bouguer gravity map and tectonic implications 1−49190
Kanto district, Japan, new seismicity map for January to August (1975) 1−4451
knowledge based recognition system of weather chart 1−54230
magnetic map for France (1978 July 1) *(French)* 1−9073
map-guided interpretation of remotely-sensed imagery 1−17712
moire contouring, hill and valley analysis in optical mapping 1−9266
planets and satellites, cartographic coords. and rotational elements, IAU Working Group report 1−4797
remote sensing, examples of appl. to geological mapping and mining research *(French)* 1−9272
seismic attenuation mapping using teleseismic P-waves, geothermal area appl. 1−22525
soil mapping, computerised method 1−9303
soil-vegetation mappings in Big Desert Area, Idaho 1−9161
structure model of theoretical cartography for teaching and research *(German)* 1−13984

cascade showers *see cosmic ray showers and bursts*
Cassegrain antennas *see reflector antennas*
cast iron *see iron alloys*

casting
flowing liquid tansient solidification at heat conducting wall 1−2078
glassy alloy ribbons, coaxial jet melt spinning 1−21437
high temperature materials, fusion-casting and crystn. 1−8292
inclusions, non-metallic, in ladle metallurgy, during casting and solidification *(German)* 1−8291
nonferrous strip, continuous casting 1−21383
polyamide castings, struct., effect of cooling conditions *(German)* 1−26515
quartz ceramics, hot casting from thermoplastic suspensions 1−12699
refractories, fused-cast production 1−31398
segregation kinetics, in casting, mathematical model *(Polish)* 1−16765
steel, Bulat-Damascus, heat treatment effect on microstruct. and mech. props. 1−8353
steel, electroslag remelted, casting and solidification *(French)* 1−3725
steel 110G13L, heat treatment using residual casting heat 1−43377
US macrography, for quality control 1−26703
Al alloy, slab solidification, at continuous casting in electromagnetic mould *(Russian)* 1−48340
Al-Cu-Mg (4, 1.5 wt.%), mica particle dispersed, casting fluidity 1−20295
Al-Mg (10 wt.%), rheocast, special grain boundaries 1−31451
Al-Ni, heat meas. on solidification in chill and sand moulds *(French)* 1−26446
Al-Si alloy SS 4245, hypoeutectic, casting effect on mech. props. *(Swedish)* 1−3870
Al_2O_3 thermoplastic cast slips, thermophys. props. 1−31401

casting continued
BEO thermoplastic cast slips, thermophys. props. 1−31401
$Fe_{40}Ni_{40}B_{20}$, ribbons, coaxial jet melt spinning 1−21437
NB_3Sn-Cu supercond. wire, prpe. by consumable arc melting 1−48294
Ni-Si(Cr)(Mn)(Ga) cast microconductors, elec. props. 1−47608
Si, multigrained, impurity segregation to grain boundaries, SIMS and AES study 1−30405

castings
ceramic-shell moulds, for investment castings testing method for high temp. deform. *(Chinese)* 1−48618
schizeophonics inspection 1−43620
steel, preliminary heat treatment 1−3801
Fe, graphite morphology, exam. by optical and scanning electron microscopy *(Chinese)* 1−48617
Zn-Al-Cu-Mg (3.5-4.5, 0.75-1.25, 0.03-0.08 wt.%), castings, mech. props. 1−43506

cataclysmic binary stars
see also novae
V1016 Cygni, absolute spectrophotometry of O I 8446 Å line and Hα 1−54502
2A 0311−227, 2A 0526−328, UV obs. and classifications 1−54558
2A 0311−227, magnetic cataclysmic variable, spectroscopy 1−54544
accreting C white dwarfs, long-term evolution rel. to novae and Type I supernovae 1−49636
accretion column flows, stability 1−17819
accretion discs sizes, determ. from eclipse light curves anal. 1−27509
AE Aquarii, 33 s X-ray pulsations 1−22817
TT Arietis, novalike variable, B-magnitude and spectrum, 1980 December 26, and improved position 1−32709
TT Arietis, novalike variable, brightness decrease and UV spectrum var., 1980 November 1−13788
TT Arietis, novalike variable, visual magnitudes, (1980 November 27 to December 4) 1−27525
OY Carinae, dwarf nova, accretion disc size determ. from eclipse light curves anal. 1−27509
OY Carinae, eclipsing dwarf nova, component masses from visible spectra obs. 1−36309
OY Carinae, eclipsing dwarf nova, ephemeris and physical parameters from eclipse light curves obs. 1−54506
Z Chamaeleontis, dwarf nova, accretion disc size determ. from eclipse light curves anal. 1−27509
Z Chamaeleontis, dwarf nova, gravitational wave evidence *(German)* 1−9914
CI Cygni, 1979 May-Dec. spectrophotometric obs. 1−54508
SS Cygni, BV photometry of dwarf nova outbursts 1−32701
SS Cygni, dwarf nova, orbital parameters and period, visible spectra obs. 1−36288
SS Cygni, orbital elements and white dwarf component mass determ. 1−17844
SS Cygni, photometric obs. of rapid oscillations 1−49664
CH Cygni, symbiotic star, continuing spectrum vars. obs. 1−32706
CI Cygni, symbiotic star, expanding envelope, s-process absorpt. lines intensification 1−36297
CH Cygni, symbiotic star, Hα profile variation 1−49671
CH Cygni, symbiotic star, IUE obs. of line spectrum and continuum (1980 December 23) 1−36304
CI Cygni, symbiotic star, visible photometry and spectral obs. 1−27517
AG Draconis, symbiotic star, major brightening event, 1980 November 1−13787
AG Draconis, visual mag. estimate (1980 December 2) 1−27527
dwarf novae, accretion-driven wave model for rapid coherent brightness oscill. 1−49689
dwarf novae, CNO nuclei downward diffusion rel. to thermonuclear runaways 1−49688
1E 0643.0−1648, cataclysmic variable X-ray source, optical and X-ray spectrum and photometry 1−9736
1E 0643.0−1648, optical flickering detect. during photometric obs. 1−32724
1E 0643.0−1648, spectroscopic period and orbital light curve 1−54556
H2252−035 optical counterpart, photometry and spectrum and identification as cataclysmic variable 1−13885
AM Herculis, binary, model derivation from IR and visible photometry obs. 1−36338
AM Herculis, correlated IR, visible and X-ray obs. 1−49715
AM Herculis, direct meas. of mag. field 1−54553
AM Herculis, numerical models, X-ray and IR emissions from accreting magnetic white dwarf 1−54559
AM Herculis, rapid brightness flickering due to accretion on white dwarf, UBV obs. 1−49716
AM Herculis stars, radiation of hot magnetised plasma accreted by degenerate stars with strong mag. fields 1−22834
VW Hydri, dwarf nova, photometry and polarimetry during October 1978 supermaximum 1−27507
Lanning 10, eclipsing cataclysmic binary, coude spectroscopy and high-speed photometry 1−36337
M Lyrae, possible AM Herculis star, spectroscopy (1977-1979) 1−44578
mass transfer, transient, caused by local surface heating 1−9567
novae, hydrodynamic studies of outbursts 1−49688
V442 Ophiuchi, ?s variable star, identification as novalike variable 1−44575
GK Persei (Nova 1901), increase in brightness (1981 February 17 to March 23) 1−54511
VV Puppis, radial vel. study of AM Herculis binary 1−22831
RX Puppis, spectroscopic evidence for return to symbiotic character 1−32707
RX Puppis, symmetric star, anomalous line-profile struct. in UV spectrum from IUE obs. 1−36303
WZ Sagittae, eclipsing binary dwarf nova, light curve oscills. model, visible obs. 1−36287
UU Sagittae, highly evolved low mass binary, soft X-ray emission 1−49725
V1223 Sagittarii (4U 1849−31), identification as cataclysmic variable from spectrum and UBV photometry 1−9735
V1223 Sagittarii (4U 1849−31), optical spectrum obs. 1−54556
spherically symmetric accretion problem, summary of solns. 1−22777
in star clusters, review of candidates in globular and open clusters 1−36341
Stepanyan's star, eclipsing cataclysmic binary, high speed white light photometry obs. 1−49677

cataclysmic binary stars continued
V471 Tauri, highly evolved low mass binary, soft X-ray emission 1−49725
RR Telescopii, Ni VI forbidden lines in nova-like variable 1−49663
UX Ursae Majoris, cataclysmic variable binary system with accretion disc, phase shift model 1−36327
UX Ursae Majoris, novalike variable, UV spectrum var. obs. 1−13786
AN Ursae Majoris, radial vel. study of AM Herculis binary 1−22831
UX Ursae Majoris, UV emission lines fading obs., (1980 November 25) 1−22841
UX Ursae Majoris disc star, spectra comparison with white dwarf accretion disc. 1−27497
white dwarf+main sequence star, gravitational radiation and evolution 1−9506

cataloguing
Meteorological Office archive of machinable data 1−54251

catalysis
see also catalysts; reaction kinetics
A zeolite, dehydrated, Co exchanged, extended X-ray absorpt. fine struct. 1−26726
alkali metal ions, association with neutrals, cluster ions, catalytic effects, rate consts. 1−39589
approach to steady states, approach and relaxation times, continuous stirred tank reactor 1−21699
atmospheric pollutant particle surface characterisation by Auger and X-ray photoelectron spectroscopy 1−4241
coal, synthetic natural gas production, purification and cryogenic separation 1−48788
electroless metal deposition on nonconductors, photochem. selective activation, review 1−17075
flavodoxin catalysis, flavin-protein interactions, MINDO calcs. 1−1112
H_2S thermal decomposition over transition metal sulphides for H_2 prod. 1−17315
hexane, reactions on reforming catalysts, product distrib. *(German)* 1−21780
hydrides of intermetallic compounds, stability, struct., kinetics, review 1−53450
inelastic tunnelling spectroscopy, vibr. struct. determ., appl. to surface chemistry and catalysis, book contrib. 1−10796
ketones, reduction, using Ru complex catalyst *(German)* 1−21724
liquid metals, surface catalysis, review 1−31910
methyl radicals, abnormal, on silicon surfaces, ESR studies 1−17098
muon catalysis, isotope substituted molecule rotational relaxation, excited complexes *(Russian)* 1−10828
propene, living polymerisation, H_2 induced chain transfer 1−48677
reaction kinetics, for surfaces with different types of sites 1−39686
reforming catalysts, selective poisoning techniques, reaction kinetics 1−21781
STEM, imaging and microanal., book contrib. 1−46964
o-xylene, supported V_2O_5 catalyst oxidation *(German)* 1−21764
Ag-Pd-(Y), oxygen interaction at 523K, catalytic activities 1−8466
CO, catalysed oxidation, surface chemistry 1−5052
CO, catalytic oxidation on Pt, chemisorption mol. beam study 1−35569
Co (II) in presence of thiopyrimidines, catalytic polarographic prewaves 1−48733
Fe, H absorption affected by He, Fe and Pt implantation 1−7458
Fe polycrystalline electrode impedance at 298K, obs. 1−8576
Ge-I_2-H_2, reduction by H_2, 730 to 500°C, in flow system 1−31845
H_2 production, efficiency of water dissociation to time-resolved hydrogen and oxygen pulses, through non-equilibrium processes on catalyst surfaces 1−39837
H_2O, electrolysis, for H_2 prod., electrocatalytic method 1−39848
H_2O, photochemical cleavage by catalysis 1−35663
$La_{1-x}Sr_xFe_{1-y}Co_yO_3$ series, electrode for O_2 evolution, struct. and elec. cond. 1−31867
MgO powder, H_2 dissoc. on surface, IR obs. 1−21782
NH_3, heterogeneous photocatalytic synthesis from H_2O+N_2 1−8604
NO_2^-, soln., photocurrents at Ga and eutectic In-Ga alloys, decomp. 1−43689
NaCl, oxidation, Cl_2 prod. via redox catalysis 1−53402
O_2 evolution catalysis in solid polymer electrolyte H_2O electrolysis 1−43669
Pd, evaporated crystallites, adsorption and catalytic oxidation of CO 1−39681
Pt-Ir catalytic layers, Ti supported, XPS study 1−43703
$Rh/SiO_2(TiO_2)$, catalytic reduction of adsorbed NO by CO, strong metal-support interactions 1−26766
Si, autoepitaxy by chloride method, electroadsorptive and electrocatalytic activity 1−11988
T enrichment by isotope exchange using hydrophobic catalysts for nucl. fuel reprocessing *(German)* 1−28680
V_2O_5 catalyst, supports, oxidation, mass changes, electric resistance *(German)* 1−21764
WC, corrosion in H_2SO_4, catalytic activity changes 1−8459
Zr, sorption of H_2, reaction rate, Ni catalyst effects 1−21768

catalysts
see also catalysis
aluminosilicates, sorption of pyridine, IR spectrosc. and gravimetric determ. 1−21198
binary wafered semicond. catalysts, with copolymer binder, for photocatalytic synthesis of NH_3 1−8604
electrocatalysts, anodic and cathodic catalysts. activation of membranes and diaphragms, for H_2 prod. 1−43675
ESCA surface analysis, quantitative, conc. gradients 1−21823
glass C, as support for Fe catalysts 1−35196
graphite-Br_2 intercalation cpd., oxidation catalyst 1−48682
hydrophobic, appl. to T enrichment by isotope exchange for nucl. fuel reprocessing *(German)* 1−28680
localized nonuniform patterns in a diffusion-reaction model with autocatalysis and the Langmuir-Hinshelwood saturation law 1−8532
random systems, models for X-ray scattering 1−46951
rare earth alloys, appl. in hydrocarbon formation from CO and H_2 1−25894
reaction kinetics, for surfaces with different types of sites 1−39686
reforming, reactions of hexane, product distrib. *(German)* 1−21780
reforming, selective poisoning techniques, reaction kinetics 1−21781
styrene divinylbenzene copolymer-Pt, deuterium separation by catalytic isotope exchange 1−936
surface area determ. 1−14095

catalysts continued
transition metal sulphides, catalysis of H_2S thermal decomposition for H_2 prod. 1−17315
water vapour, reduction of Ge-I_2-H_2 by H_2 at 730 to 500 C 1−31845
Ag atoms trapped in various matrices, optical absorpt., emission and ESR props. 1−41531
AlN catalyst in single cryst. growth of cubic BN 1−39296
Al_2O_3, sorption of pyridine, IR spectrosc. and gravimetric determ. 1−21198
$Al(ReO_4)_3$, XPS and laser Raman spectra 1−16554
CO chemisorption of metal catalysts, EELS study 1−25551
Cu-ZnO-Al_2O_3 catalysts, CO conversion, X-ray absorpt. near edge struct. 1−28992
H_2, photocatalytic prod. from H_2O and TiO_2 using platinised TiO_2 catalyst 1−53695
H_2O, photochemical splitting with continuous generation of H_2 and O_2 by irradiation of $SrTiO_3$ soln. 1−48709
Li_4 clusters, electronic and geometric struct., ab initio CI methods, catalytic activity 1−37377
Mo oxide phases supported on Al_2O_3, Raman spectroscopy and microscopy study *(French)* 1−21192
Na_4 clusters, electronic and geometric struct., ab initio CI methods, catalytic activity 1−37377
NbN, catalytic activity in CO oxidation reaction *(Ukrainian)* 1−26768
Ni, diffusion and distrib. in polycryst. diamond grown under ultrahigh press. *(Chinese)* 1−48287
Ni, Raney catalyst, chemisorption of ethylene, neutron inelastic scatt. study 1−2799
$Ni_{0.2}Co_{0.8}LaO_3$ anodic electrocatalyst for H_2 production by H_2O electrolysis 1−43676
NiO-SiO_2, quantiative ESCA surface anal., conc. gradients 1−21823
Pd, C-dissolution and segregation, effect on catalytic, optical and electric props. 1−31911
$PdCl_2/SnCl_2$ mixed catalysts for electroless plating, TEM and electron diffr. study 1−31369
Pt catalyst, Cu poisoning, voltammetric study *(French)* 1−31906
Pt, oscillatory oxidation of CO 1−48735
Pt surface, CO+NO, reaction rate oscills. under Knudsen condtions *(German)* 1−48737
Pt-Al_2O_3, reforming catalysts, selective poisoning techniques, reaction kinetics 1−21781
Ru complex, $Ru(CF_3CO_2)_2CO[P(C_6H_5)_3]_2$, catalyst, H_2 transfer reaction equilib. *(German)* 1−21724
RuO_2-Al_2O_3 co-precipitated catalysts, bulk and surface characterisation 1−8630
TaN, catalytic activity in CO oxidation reaction *(Ukrainian)* 1−26768
WC anode catalysts for fuel cells *(German)* 1−35646
ZnO, adsorption of CO, on (10$\bar{1}$0) surface, bonding geometry, angle-resolved UV photoemission obs. 1−12622
Zr-Ni selective H getters for high-pressure gas discharge lamps 1−7024
ZrN, catalytic activity in CO oxidation reaction *(Ukrainian)* 1−26768

cataphoresis *see electrophoresis*

catastrophe theory
atom+atom inelastic scatt. amplitudes, Franck-Condon factors, uniform semiclassical evaluation 1−46063
book 1−17959
cusp diffraction catastrophe, Stokes and anti-Stokes sets 1−5111
sapphire, phonon catastrophes and the Kapitza resistance, computer calcs. 1−20547
solar system stability theory, relation to catastrophe theory 1−44414
two-dimensional dynamic systems with limit cycles, external fluctuations effect, catastrophe theory appl. 1−27877

cathode-ray oscilloscopes
see also oscillographs
40 MHz two-channel oscilloscope *(German)* 1−32970
actuation by fibre-guided light pulse 1−44897
calibration circuit, used for checking amplifiers and time bases 1−23201
differential oscilloscope and comparative circuit for time meas. *(French)* 1−32963
digital storage oscilloscope types and facilities *(Dutch)* 1−27953
Hewlett-Packard 1980 A/B oscilloscope, characts. 1−18207
Hewlett-Packard HP 1980 digital storage oscilloscope *(German)* 1−27952
multifunction oscilloscopes, technology, sweep and trace functions, DMM, programmable instruments 1−44901
post-deflection acceleration oscilloscopes, technology, DVM, frequency meter facilities 1−44900

cathode-ray tube displays
see also cathode-ray oscilloscopes
ECG, dynamic CRT display for 24 hour anal., representation based on contour method, microprocessor-based system 1−53925
electron microscope video monitor, colour commutator 1−18337

cathode-ray tube screens *see cathode-ray tubes; fluorescent screens*

cathode-ray tubes
see also image convertors; image intensifiers; image storage tubes; television camera tubes; television picture tubes
colour temperature, standards problem 1−33033
densely scanning CRT, quantised gap length meas. and finite spotsize model 1−6104
fibre-optic CRT's, use in copy machines for plain-paper nonimpact printing 1−6668
on-line display used with cathode ray tube film measuring device 1−50113
YAG single cryst. phosphor screen for cathode ray tube, LPE grown 1−8241

cathode rays
No entries

cathodes
see also electron emission; oxide coated cathodes; photocathodes; thermionic cathodes
active layer-substrate interface, electron emission, Schottky effect 1−43238
air, streamer influence zone at cathode of positive point to plane corona discharge 1−11610
graphite, highly oriented pyrolytic, intercalation and deintercalation with Li 1−48291
metal-plasma-metal cathode with large emitting surface 1−31318
reflex discharge, increase in plasma electron density using modified cathodes 1−19865
semiconductor, photo-field emission calc. 1−3580

cathodes continued
sputtered cathode species in glow discharge, negative ion form. 1−38167
stainless steel cathode species in glow discharge, negative ion form. 1−38167
super high pressure Xe lamps, evaporation rate of Th from cathodes *(Russian)* 1−7023
thermal cathode in Penning discharge, HF fluctuations and electron energy spectrum 1−52013
Ag cathode species in glow discharge, negative ion form. 1−38167
Au cathode species in glow discharge, negative ion form. 1−38167
CdS:Ni, field-emission cathode, deep capture centre effects on emissivity 1−3583
Cu cathode species in glow discharge, negative ion form. 1−38167
H^- ion source, duoPIGatron, use of hollow cathode 1−23901
He-Hg discharge, cathodic zone self consistent microscopic study 1−15163
Hg DC vacuum arc, anchored cathode spots 1−34145
La-Mo emitters in hollow cathodes 1−23366
LaB_6 cathode, electron emission brightness 1−16669
Pt cathode species in glow discharge, negative ion form. 1−38167
TaC, broad area composite cathode, energy spectra of field emitted electrons 1−39225
W activated cathode, erosion dynamics *(Russian)* 1−3964

cathodes, electrochemical *see electrochemical electrodes*

cathodochromism
No entries

cathodoluminescence
bibliography, SEM, TEM and electron microprobe analysis 1−17966
biological material, cathodoluminescent SEM investigations at liquid He and liquid N_2 temps. 1−22060
diamond, frictional anisotropy due to surface and sub-surface damage 1−31673
diamond, ion-implanted, cathodoluminesc. study 1−48172
diamond, ion-implanted, defect formation, cathodoluminesc. study 1−48173
LED, book contrib. 1−26278
long persistence luminescent materials, colour TV SEM 1−26283
phosphor brightness behaviour under <100 V cathode ray excitation 1−12587
phosphor screens, radiation characts. control, limiting energy yield 1−12586
phosphor systems excited by ionising radiation, max. efficiency calc. 1−35100
α-quartz, point defects and radiation damage processes 1−15934
rare earth cpd., $LiR_{1-x}(Eu,Tb,Ce)_x(PO_3)_4$ (R=La, Y, Gd), photolum. and cathodolum. 1−39137
ruby crystals, laser grown, luminesc. fluctuations and colour striations *(German)* 1−31204
sapphire substrate, for frozen gas films, electron range and energy loss meas. 1−20289
SEM, cathodoluminescence analytical method, high-resolution image 1−18339
SEM, fracture surface morphology in wood-adhesive composite material 1−21684
SEM, quartz sand grain study 1−45084
SEM cathodoluminescent mode as analytical technique, development and prospects 1−18340
topography, fast electron energy dissipation and optical emission processes 1−43190
water, liquid, non-Cherenkov UV emission, electron beam effect 1−16610
Ag film, on W (110), emission spectrum under slow electron excitation 1−35102
$AgGaS_2$, photolum. and cathodolum., edge and broad emission bands interpret. *(French)* 1−52981
BN, cubic, cathodoluminesc. emission 1−12588
$BaAl_{12}O_{19}$:Mn single cryst. thin film, luminescent, LPE growth 1−53001
$BaTiO_3$, ceramic, cond. depend. cathodoluminescence 1−35103
CaO:Ga, photolum. and cathodolum. decay obs. *(Russian)* 1−16612
Cd halides, photoluminesc., X-ray luminesc., and cathodolum. 1−12539
CdS surfaces, electron beam stimulated changes in composition and electrical props. 1−25327
CdSe, cathodoluminescence studies by optical imaging SEM 1−26282
$CdSiP_2$, cathodoluminesc. spectra, heat treatment effects 1−21279
CdTe:In, solution-grown, 1.4 eV luminesc. mechanism 1−43186
$CuGaS_2$, crystn. from $CdCl_2(I_2)$ solns., phase diagrams, cathodoluminesc. meas. 1−48247
$CuGaSe_2$, donor-acceptor transition, cathodoluminescence spectra 1−43188
$Ga_{1-x}Al_xAs$-GaAs LPE interface structure and composition, STEM and cathodoluminescence obs. 1−16350
GaAs anodic oxide films, 1.5 to 6 eV cathodoluminescence obs. 1−16611
GaAs:Cr, zero-phonon multiplet 1−31205
GaAs:S(Se) VPE layers, doping behaviour, elec. and luminesc. meas. 1−47408
GaAs:Sn, LPE, ion implantation, cathodoluminesc. 1−39160
$GaAs_{1-x}P_x$ VPE layers, dislocation density and lattice const. mismatch, cathodolum. 1−7487
$Ga_{1-x}In_xP$:N LPE layer, scanning cathodolum. using EPMA with band filters 1−43189
GaSe, cathodoluminescence spectra, kinetics 1−3499
$Ge_{1-x}In_{x-y}P_y$, epitaxial struct., radiative recomb. emission intensity 1−8139
KCl:Tl, diffusion coeff. determ. by 5 keV electron irrad. 1−11909
MgO, heat treated, SEM cathodolum. studies 1−3498
MgO:Ga, photolum. and cathodolum. decay obs. *(Russian)* 1−16612
N_2O, solid, luminescence stimulated by low energy electrons 1−26281
SiO_2 film, cathodolum. meas. 1−3497
SiO_2 film, undoped, cathodolum. spectra, intrinsic defects assignment of emission maxima *(Russian)* 1−16619
$SrTiO_3$, ceramic, cond. depend. cathodoluminescence 1−35103
TiO_2, ceramic, cond. depend. cathodoluminescence 1−35103
YAG single cryst. phosphor screen for cathode ray tube, LPE grown 1−8241
Y_2O_3, Y_2O_2S, rare earth ion activated, electron-hole pair radiative recomb. mechanisms 1−48171
$(Y_{1-x}Tb_x)_3M_5O_{12}$, M=Al,Ga, garnet oxide phosphors, cathodoluminesc. efficiency determ. 1−39161
YVO_4, rare earth ion activated, electron-hole pair radiative recomb. mechanisms 1−48171

cathodoluminescence continued
ZnCdS:Ag phosphor screens, electron beam excited, light transmission and generation 1−48170
ZnCdS:Ag screen, electron beam excited, absolute efficiency 1−8137
ZnO, electrophotographic grade, cathodoluminesc. and photoconductivity meas. in SEM 1−21280
ZnS, cathodoluminescence studies by optical imaging SEM 1−26282
ZnS:Cu,Al phosphor, cathodolum. saturation and decay characts. 1−26280
$ZnS_{0.52}Se_{0.48}$, self-activated luminesc. and ODMR study 1−21260
ZnSe, broad band emission, cathodolum., thermolum., transitions involving deep level centres *(French)* 1−53000
$ZnSiP_2$(:Ga) crystals grown from non-stoichiometric melt, elec. and optical props., orient. depend. 1−34705
ZnTe, edge emission and deep centre luminesc., effects of Zn-vapour heat-treatments 1−12589
ZnTe, edge-emission, cathodolum. and isochronal annealing studies 1−35101

cathodophosphorescence *see cathodoluminescence*

cathodothermoluminescence *see cathodoluminescence*

catholytes *see electrolytes*

CATV *see cable television*

causality *see physics fundamentals*

causticity *see pH*

cavitation
see also bubbles; vortices
1.5 MHz US cavitational bioeffects 1−39963
acoustic cavitation threshold location formulae and cyclic processes 1−37672
bubble dynamics and pressure pulses produced by their collapse, connection *(French)* 1−46791
ceramic, cavity form. suppression, rel. to superplasticity 1−3832
cylindrical shells, impulse expansion by liquids 1−11326
erosion test method using rotary disc apparatus 1−53375
gas bubbles in acoustic fields, non-spherical, nonlinear oscillations 1−29741
gaseous, in water and Na, predicting method 1−33993
head-neck model system, expt. cavitation studies 1−49033
hydrodynamic cavitation bubble collapse, statistical anal. 1−11433
interface waves involving cavitation at a fluid-solid boundary 1−11432
liquid, light flash from focusing of converging shock wave in spherically symmetric collapsing vapour cavity 1−3493
liquid cavitation phenomena and the occurrence of pressure-tension cycles under dynamic stressing 1−42445
metals, erosion and cavity characteristics in rotating components 1−26630
methanol, subharmonic and cavitation activity detection by acousto-optical diffraction 1−37981
model propeller tip vortex cavitation noise, expt. study 1−46639
noise generation in cavitating submerged jet 1−24776
noise generation in cavitating submerged water jet 1−24775
non-zero cavitation tension effect on target plate damage subject to underwater explosion 1−42077
opaque liquids, cavitation flow study by fluoroscopy 1−15558
organisation of developed cavitation flows 1−29740
plate with source, cavitation flow 1−19763
ponderable liquid, shape of slender axisymmetric cavity, min. cavitation numbers 1−19764
reviews *(Czech)* 1−46792
ship propeller cavitation mechanism diagnosis, by modulation of cavitation noise *(Croatian)* 1−29452
sitalls, SiO_2-Al_2O_3-Li_2O-TiO_2, bend strength, effect of bubbles and cavities 1−31561
spherical and cylindrical bubble acoustic interaction on plane ribbons 1−37982
spherical gas bubble, cavitation dynamics 1−51844
steel, $2^1/_4$% Cr 1% Mo, uniaxial creep life, effect of hydrostatic pressure 1−31552
steel, C, corrosion fatigue, influence of cavitation erosion and effect of surface coatings on resistance 1−39450
steel, type 1018, N ion implanted, cavitation erosion 1−21594
surfaces, heat-exchange, superheat, first boiling crisis, free convection conditions 1−15366
ultrasonic vibratory cavitation erosion, cavity cluster dynamics 1−8437
Vander Lugt filter optimisation in industrial and scientific research metrology 1−15100
water, nucleation mechanism thermodynamic relations 1−16144
water-steel Berthelot tube max. tension estimates and thermodynamic analysis 1−6895
wedge in ideal incompressible fluid with nearby source, symmetric cavitation flow 1−19765
Al flame-sprayed active coatings, cavitation behaviour 1−21646
Cu, fatigue induced grain boundary cavitation, SANS obs. 1−3917
He, superfluid, subharmonic and cavitation activity detection by acousto-optical diffraction 1−37981
N_2, liquid, laser cavitation, acoustic pulse emission 1−15519
Zn flame-sprayed active coatings, cavitation behaviour 1−21646
Zn-Al (15 wt.%) flame-sprayed active coatings, cavitation behaviour 1−21646

cavities (solid) *see voids (solid)*

cavity resonators
see also acoustic resonators; laser cavity resonators
35 GHz gyromonotron using TE_{01} circular mode, spatial and temporal coherence 1−1536
500 MHz niobium cavity for DORIS, heating, RF loading, X-ray distrib. 1−28756
anisotropic dielectric materials, dielec. const. meas. using degenerated resonant modes of spherical cavity 1−18255
cholesteric liquid cryst. layer between dielec. plates, optical characts., filled Fabry-Perot resonator anal. 1−8035
crossed TM_{110} bimodal cavity for dispersion EPR and ST-EPR meas. of biological materials 1−44059
cyclotron-resonant-maser mixer with electron beam low FM 1−10950
dielectric loss meas., low values, in near MM wavelength region using new untuned cavity resonator method 1−9995
eigenvalues for unstable resonators with misaligned strip mirrors 1−6629
elastic-solid cavity filler identification by modal resonance scatt. spectra 1−39580
electron cyclotron maser, open resonator with rot. symm. waveguides *(Chinese)* 1−51436

cavity resonators continued
EM near-field simulator based on variable vol. resonant cavity system for irrad. of biological specimens 1−17527
Fabry-Perot cavity, optical bistability, inhomogeneous broadening 1−15210
fibre resonator gyroscope, sensitivity and thermal nonreciprocity 1−41832
fusion reactor start-up by RF cavity mode heating of gas 1−5996
gyrotron tubes, theoretical study 1−24380
microwave meas. of permittivity and elec. cond. of semiconductor spheres by cavity perturbation technique 1−40813
microwave resonant cavities used for deformation meas. 1−21692
microwave resonator, perturbed Q correl., skin effect 1−23268
microwave-induced plasma excitation source for AES 1−33060
monochromatic optical wave incident on Fabry-Perot cavity, optical bistability by phase switching 1−19380
non-self-adjoint EM problems, variational principles 1−1450
open, in waveguide form with slow-varied cross section, reson. freqs. of modes *(Chinese)* 1−46189
open resonator with dielectric insert, integral eqn. 1−11599
optical, finesse and effective number of transits interrelationship derivation 1−1669
optical confocal resonator used for image processing with coherent feedback 1−46243
optical phase conjugating mirror with CW gain 1−29340
parametric oscillation initiation by optical radiation 1−1649
radial electron density distribution meas. by two microwave cavities 1−51983
RF resonant cavity design for supercond. multicell linear electron accel. 1−37030
ring waveguide, low-loss, resonance effects 1−29409
rotating crystal ESR cavity for angular variation studies at room temperature 1−28046
S-band E_{010} resonator for dielectric measurements 1−44957
S-band linac, for picosecond pulse radiolysis, time jitter improvement 1−28749
stimulated Raman radiation in an optical resonator 1−15221
sub-Poissonian radiation field in resonant cavity 1−41651
superconducting, for high-stability oscillators in space appls., review 1−17753
superconductivity applications in space research and gravitational studies 1−9344
toroidal, with conducting separating wall, influence of energy dissipation and geometry 1−1452
ultrasensitive superconducting accelerometer operation 1−50117
H_2 masers, fast cavity auto-tuning systems 1−46274
InSb Fabry-Perot resonator, nonlinear, optical bistability and transphasor action 1−46433
NH_3 maser, double beam, open resonator operation 1−6531
Nb-Nb_2O_5 interfaces, residual RF losses and tunnel currents and caused by interface states 1−52714

c.c.d. circuits *see charge-coupled device circuits*

CCTV *see closed circuit television*

celestial mechanics
see also Earth orbit; N-body problems; stellar motion
1980 S 6 (Dione B), orbital elements determ. and libration period about L_4-point 1−40384
American Astronomical Society, Dynamical Astronomy Division meeting, College Park, Maryland (1980 June 18 to 20) 1−36446
artificial satellite orbit improvement method using sparse obs. *(Chinese)* 1−40355
asteroid belt, recent work on origin of Kirkwood gaps 1−44467
asteroidal motion of commensurabilities, three dimensional treatment 1−44466
asteroids, evolution of orbits in outer part of belts and in Kirkwood gaps 1−44468
asteroids, secular perturbations theory 1−44423
asteroids, Trojan, perihelion longitude and eccentricity, long period perturbations 1−36208
astronomical ephemerides, past, present and future 1−44446
Astronomical Ephemeris, present status from comparison with computer calcs. 1−44447
axisymmetric satellite in reson. case, rot. motion *(Russian)* 1−13675
binary stars, stability of tidal equilibrium 1−27554
canonical orbital elements, Delaunay type, development in terms of arbitrary independent variable 1−40328
central force field equations of motion, method of regularising 1−40319
central force two dimensional motion 1−9350
2060 Chiron, discovery and orbit 1−44470
classical few body problem, nonlinear dynamics, celestial mechanics and fluid dynamics 1−49936
comet and primordial dust orbits, effect of interplanetary mag. field, Lorentz scatt. appl. 1−22669
cometary orbits, evolution of size and shape in presence of resistive medium 1−13732
comets, long-period, characts. of distrib. of perihelia 1−44510
comets, long-period, orbital statistics rel. to interstellar origin 1−44512
comets, long-period, orbits, implications for origin from asteroidal planet 1−40375
comets, long-period, perihelia orientation distrib. rel. to ice electrolysis in nuclei 1−54410
comets, long-period, physical and dynamical evolution 1−44509
comets, long-period, shortage of objects in elliptical orbits 1−44508
comets, one-apparition, dynamical problems in preparation of catalogue 1−44511
comets, secular perturbations theory 1−44423
comets, temporary satellites captures by Jupiter 1−49574
comets of Jupiter family, perihelion longit. distrib. rel. to capture process 1−17789
computer applications in analytic calculations, review 1−50
dynamical astronomy, modern research approaches 1−32610
dynamical systems stability, perturbational picture *(Polish)* 1−32612
dynamics of planets and satellites, IAU Colloquium 41, Cambridge, England (1976 August 17 to 19) 1−36461
Earth, orbital elements long-period var. rel. to Ice Ages 1−4606
Earth orbital perturbations rel. to climatic vars. freq. sensitivity of deep-sea sediments record 1−9240
Earth rotation, ang. vel. secular var. from anal. of Earth-Sun-Moon system 1−13382
Earth-Moon dynamics, scientific achievements from ten years of laser ranging 1−36198

celestial mechanics continued
elliptic Hill problem, periodic orbits 1−27362
elliptic motion of arbitrary eccentricity and semi-major axis expansion theory 1−40315
Galaxy-Sun-comet problem, rel. to long-period comets orbits and missing planet in asteroid belt 1−40376
general three-body problem, three-dimensional, C1 V and M2 V families of periodic orbits 1−36165
general three-body problem families of vertical critical periodic orbits 1−36162
general-relativistic considerations 1−32611
generalised Encke method for perturbed motion computing *(Russian)* 1−49479
geostationary ring, probability of collision 1−36159
Gylden-Mescherskii problem, mass variation laws 1−22670
Himalia (J VI), theory of motions with Laplace's variables *(French)* 1−36163
Hyperion, orbital elements improvement from photographic obs. 1−44489
Innisfree meteorite, original orbit, role in determ. of galactic cosmic rays solar latitude var. 1−36122
interplanetary charged dust in Jupiter magnetosphere, trajectory and spatial distrib. 1−22717
interplanetary dust cloud, numerical simulation of Poynting-Robertson and collisional effects 1−27353
Janus, orbital elements of Saturn's tenth satellite *(French)* 1−44484
Jupiter, orbital vars. due to interaction with protoplanetary disc 1−32614
Jupiter Galilean satellites, appl. of periodic planetary-type orbits of general four-body problem 1−36164
Jupiter Galilean satellites, great inequalities and libration terms of satellites I, II and III *(French)* 1−44472
Jupiter I-IV, de Sitter's theory of motion and disturbing function 1−40381
Jupiter method of surface of section applied to possible capture origin satellites, method of surface of section applied to possible capture origin 1−44481
Keplerian orbital elements, time elements introduction for Sundman time transformations 1−44413
2/1 Kirkwood Gaps, peculiar orbit stochasticity 1−36266
libration points of axisymmetric body moving around axisymmetric body, existence and stability 1−27361
linear theory, soln. of main problem by method of Brown 1−4788
lunar acceleration, determ. from occultations and laser ranging obs. rel. to cosmological deceleration parameter (q_0) 1−49863
lunar motion, direct planetary perturbations 1−13707
lunar orbit evolution, re-examination 1−4790
lunar orbital elements correction, influence of peculiarities of Moon apparent figure on results of meridian obs. *(Russian)* 1−13665
lunar perihelia and node, Hill's differential eqn. soln. method 1−22691
lunar theory, lunar shape and motion perturbations 1−13706
lunar theory, satellite case of three-body problem 1−44420
Mars, ephemerides compared with obs., (1950 to 1976) 1−44462
Mars rotation, theoretical anal. of precession and nutation 1−44463
Mars satellites orbit and tidal evolution from a freq. depend. model 1−44460
Mercury perihelion precession, anal. using extension of Newton's eqn. of motion 1−40652
meteorite thermoluminescence as evidence for orbital parameters 1−54433
meteoroids, motion relative to parent comet, solar radiation effects 1−22736
meteoroids, orbits from Pioneer 10 and 11 meas. in interplanetary space 1−40428
meteors, heliocentric orbits from photographic obs. at Kiev, (1957 to 1966) *(Russian)* 1−49579
Moon, contrib. to study of planetary perturbations *(French)* 1−40364
Moon, libration, free and forced consts. determ. *(Polish)* 1−49548
Moon, orbit moving away from Earth, implications *(Swedish)* 1−44063
Moon, theory of motions with Laplace's variables *(French)* 1−36163
Moon orbit extrapolated to circa 1700 BC, formulae and metalithic sites 1−40361
Moon orbit meas. 1−17974
Moon physical libration, Hamiltonian theory 1−40365
Moon planetary perturbations, comparison of ELP-1900 with Brown's theory *(French)* 1−27402
Moon rotational motion, appl. of Poincare periodic solns. 1−13709
N-body problem, general case, fundamental instability 1−13671
Neptune rings, perturbations due to Triton 1−22724
new model problem suggested by A.A. Kochiev, connection with problems of celestial mechanics 1−13677
non-Keplerian orbits, vectorial elements perturbation 1−40327
numerical integration of nearly-Hamiltonian systems 1−40339
optimal two-impulse transfer in equatorial plane of axisymmetric planet *(Russian)* 1−54352
Periodic Comet Chernykh (1978 IV), orbit evolution (1660 to 2060) 1−17791
Periodic Comet Halley mission, orbital design and feasibility 1−27358
periodic orbits around oblate spheroid, theory 1−44412
periodic planetary-type orbits of general planar N-body problem, stability 1−44415
planar three-body problem, isosceles case, triple collision manifold *(French)* 1−17759
planetary, theory, correls. between general theory in elliptic variables and classical theory of Le Verrier *(French)* 1−40330
planetary, theory to third order in masses, construction *(French)* 1−40335
planetary motions, relativistic corrections to astrometric obs. *(Russian)* 1−32608
planetary orbits stability outside their primaries 1−40318
planetary satellite orbiter motion, stroboscopic method appl. 1−40314
planetary satellite theory, satellite case of three-body problem 1−44420
planetary satellites, natural, theories of motion, review 1−44422
planetary satellites, theory of motions with Laplace's variables *(French)* 1−36163
new planetary theories, construction and precision *(French)* 1−44418
planetary theories, discussion of results *(French)* 1−40336
planetary theories and observational data, review 1−40329
planetary theory, construction by iterative procedure 1−40332
planetary theory, mathematical results of general theory in rectangular coordinates 1−40331
planetary theory, new approach 1−44419
planets, celestial mechanics rel. to interiors props., book 1−27691
planets, long-period perturbations construction, new approach 1−40334

celestial mechanics continued
planets orbit determination, relativistic effects involved in radar meas. *(Russian)* 1−49483
Pluto, origin of orbit, Neptune satellite ejection 1−4821
Pluto-Charon system, orbital elements from speckle interferometric resolution with CFH telescope *(French)* 1−32655
quasi-periodic radial solutions in tidal theory *(Russian)* 1−49480
1915 Quetzalcoatl, asteroid, ephemeris for Earth approach and orbit evolution 1−54412
radiation force on interplanetary dust, theory 1−44494
resonant dynamical system, periodic orbits and ergodic components 1−13670
restricted three-body problem, families of vertical critical periodic orbits in circular restricted problem 1−17758
restricted three-body problem, satellite fast non-resonance rotation *(Russian)* 1−32613
Samos 2 (1961α1), orbit determ. and anal. at 31:2 reson. 1−22664
satellite highly eccentric orbit, anomalistic period perturbation due to zonal harmonics 1−40321
satellite motion, effect of Sun's and Moon's attraction *(Russian)* 1−22661
satellite motion, third-order soln. 1−40340
satellite orbit improvement, small eccentricity and inclination case *(Russian)* 1−49477
Saturn inner satellites, tidal dissipation rel. to orbital evolution and icy or rocky nature 1−4818
Saturn satellite system, theories of reson. satellite pairs 1−44490
second order differential equations, hybrid numerical methods, periodic initial value problems 1−54351
small bodies of solar system, orbital elements statistical dependences rel. to evolutionary connections *(Polish)* 1−32635
solar system, periodic planetary-type orbits in three and four-body problem, families 1−40366
solar system critical terms, precise determ. 1−44421
solar system dynamics, IAU Symposium 81, Tokyo, Japan, (1978 May 23 to 26) 1−40605
solar system stability, review 1−44414
space craft linear impulsive trajectory correction problem 1−54340
spacecraft at Earth-Moon system libration point, motion about its centre of mass 1−54343
Sun-Jupiter asteroid problem, new results on commensurability cases 1−40337
Sun-Jupiter-Saturn system, qualitative dynamics 1−40333
three body problem, Lagrangian soln. to r^{-p} forces 1−9351
three charged particles problem, relativistic dynamics theory 1−40324
three solid body motion, Lyapunov variables and Euler angles *(Russian)* 1−49481
three-body problem, circular restricted case, motion about collinear points, Lagrangian formulation 1−4748
three-body problem, circular restricted case, periodic orbits about collinear points, Lagrangian formulation 1−4750
three-body problem, co-rotational coplanar case, empirical stability criterion 1−13673
three-body problem, elliptic restricted case, resonance and short-period perturbations 1−40345
three-body problem, elliptical restricted case, periodic solns. using Hale method *(French)* 1−40343
three-body problem, general, periodic orbits of arbitrary inclinations and eccentricities 1−44416
three-body problem, general case, angle between orbits, rate of change determ. *(Chinese)* 1−40316
three-body problem, gravitational restricted case, distant retrograde satellites 1−40341
three-body problem, planar case, escape regions on vel. ellipsoid 1−40346
three-body problem, planar case, linearized mappings assoc. with periodic orbits 1−4752
three-body problem, planar elliptic restricted case, orbital stability 1−40344
three-body problem, planar restricted, collision orbits *(French)* 1−44417
three-body problem, restricted, line-element deform. in phase space at triangular libration point 1−40326
three-body problem, restricted case, Law of Varying Action appl. 1−4751
three-body problem, restricted case, periodic orbits near infinity 1−40320
three-body problem, restricted case with rigid satellite, Lagrangian points 1−40342
three-body problem, restricted elliptic case, three dimens. periodic orbits, plane bifurcation 1−40323
three-body problem, restricted elliptic case, triangular point stability 1−40317
three-body problem, restricted elliptic case, triangular points stability 1−40322
three-body problem, three-dimens., general case, i1v family of periodic orbits 1−13669
three-body problems, representability of solns. by conditionally periodic functions 1−13676
trap mode in synchronous orbit, stability and state-dependent control force 1−13661
triaxial inertial ellipsoid motion, tidal moment effect *(Russian)* 1−49482
triple-periodic orbits, bifurcations 1−13674
Trojan asteroids, restricted three-body problems, elliptic functions 1−4807
two body problem, axisymmetric bodies translatory rotatory motion problem *(Russian)* 1−17760
two body problem, triaxial rigid spheroid case 1−36166
two-body problem, generalized Hamiltonian formalism 1−40338
two-body problem, perturbed, collision operator and long-time behaviour 1−40325
two-body problem, triaxial rigid spheroids case, inclination changes 1−13672
two-body problem, variable mass case, asymptotic solns. 1−54350
Uranus *ε* ring, apse alignment and eccentricity gradient origin 1−44491
Uranus ring system, kinematic model from obs. of stellar occultation, (1980 March 20) 1−40417
Uranus satellite Miranda orbital elements from astrometry obs. 1−9418
variational eqns. assoc. with arbitrary Lagrangian 1−4749

cell model (liquids) *see liquid theory*

cell motility
electrophoretic mobility meas. with computer-controlled electrophoresis microscope 1−53948
flagellated microorganism motion study using quasi-elastic light scatt. 1−4398
cell motility continued
laser Doppler cytopherometer for meas. of biparticle electrophoretic mobility 1−44058
Paramecium caudatum, most probable mechanism of negative geotaxis, expt. obs. 1−13224

cells (electric)
see also fuel cells; photoelectric cells; photoelectrochemical cells; primary cells; secondary cells
battery separators, inorganic-organic, vol. resist. control using filler coating systems 1−32003
characteristics and constructional features *(German)* 1−35634
concentration cell with graphite fibre-bromine intercalation compound electrodes *(Japanese)* 1−21866
electrochemical cells and their appls. *(Polish)* 1−39753
electrodes, double-layer capacitance-pot. curves, computerised determ. using Kalousek type waveforms 1−48693
REDOX electrochemical energy storage system 1−39835
special batteries, appls. *(French)* 1−32004
γ-AgI, solid electrolyte in galvanic cell for I_2 vap. press. meas. in range 10^{-4}-10^{0} Pa 1−32993
Na_xCoO_2, electrochemical intercalation, battery material *(French)* 1−31375
T battery, long-lived, based on charged particle collection 1−39752

cellular biophysics
see also biomembrane transport; biomembranes; cellular effects of radiation; cellular transport and dynamics; lipid bilayers
ACTA, automated image anal. system for absorpt., fluoresc. and phase contrast studies of cells 1−32332
amacrine cells, catfish retina, preferential response to vertically moving objects 1−13240
bacterial cells, magnetotactic and nonmagnetotactic, magnetisation 1−8888
bacterial luminescence, chem. mechanism 1−17362
bacterial reaction centres, Fe^{2+} electronic structure, static magnetisation obs. 1−26877
bacteriophage lysogens under high press. 1−43858
bacteriophage T4 head shell, optical diffr. and spatial filtering of electron micrographs 1−53949
biomedical image segmentation survey 1−35861
blood cell suspension in conc. electrolyte soln., repulsive forces and aureoles form. 1−8827
blood rheological and ultrastruct. props. in liquid state storage, abnormal cell forms *(French)* 1−39956
cancer therapy by hyperthermia and radiation, basic problems *(Japanese)* 1−53884
cell sorting system, automated, based on laser light scatt. *(Japanese)* 1−26976
cell wall components, electron micrographs, unified processing for periodic and non-periodic specimens 1−53940
centrifugal assessment of cell adhesion 1−53943
cervical cancer pre-screening cell samples, low resolution slit-scan pattern recognition 1−35865
cervical cells, model for low resolution slit scan meas. 1−35862
cervical lesion diagnosis, appl. of microspectrophotometric screening system with multi-fibre scanning 1−4356
chlorella pyrenoidosa living cells, enhanced anti-Stokes Raman scatt. obs. 1−35809
chromatin, evaluation of functional state by fluoresc. decay time anal. 1−35750
corneal endothelial cells, intracellular pots., rabbit culture, response to temp. and ouabain 1−35780
cytokinesis in animal cells, biomech. theories 1−48969
cytokinetic phenomena, Marangoni instability at spherical interface 1−21771
DNA, stability in nucleosomes, calorimetric obs. 1−13223
E. coli cells, bacterial chemotaxis, mol. biology of sensory system 1−4301
E. coli K12, lethal effects of HV pulses 1−48970
E.coli membranes, protein-lipid interactions 1−39899
electrical properties of cells and tissues, struct. anal. 1−39904
erythrocyte cytoplasmic membrane surface, protein rotational diffusion meas. 1−21991
erythrocyte deformability, optical diffusion technique for study *(French)* 1−35920
erythrocyte membranes, human, large scale isolation by high vol. mol. filtration 1−53944
erythrocyte membranes, oligosaccharide motion, ps fluoresc. polarisation and ms dichroism of optical probe 1−53764
erythrocyte membranes, spin-label studies of lipid and protein components 1−43857
erythrocytes, human, cathodoluminescent SEM investigations at liquid He and liquid N_2 temps. 1−22060
erythrocytes and sera, human, broadband meas. of complex dielec. const. at microwave freqs. 1−53951
erythrocytes density distribution, influence of temp. on meas. 1−35895
flow cytometry , dual-laser, high-resolution *(German)* 1−22173
flow pulse cytofluorimeter with enhanced sensitivity 1−44051
gap junctions, occurrence, props. and functions 1−48972
heart disease, NMR study of mitochondrial water in myocardial ischemia 1−4252
heat-induced cell killing, comparison of 2 math. models 1−21995
histopathology, automated, scene segmentation, techniques evolved from cytology automation 1−35863
human methaphase chromosomes, acoustic microscopy using liquid argon 1−32322
HV free flow electrophoresis, use for cell separation 1−17532
hyperthermia, effect on vascular function, pH and cell survival 1−53760
hyperthermia and radiation, cell biology 1−53831
hyperthermia by water bath and HF waves, differences between 42°C and 44°C 1−53822
information content of intracellular water and its accumulation in embryo and phylogenesis *(German)* 1−39862
lens cell differentiation, tissue culture system for study 1−35924
life at low temp. and water levels 1−8824
light microscopy, microcomputer-controlled X-Y scanning stage for automated cytological image anal. 1−53950
light scattering as fast non-destructive probe, biological particles as irregularly shaped scatterers 1−8900
liposomes, struct., temp.-induced changes studied using fluoresc. prod. of peroxide oxidation 1−4251

cellular biophysics continued
lymphocytes, human, cathodoluminescent SEM investigations at liquid He and liquid N_2 temps. 1−22060
mammary carcinoma cells, effect of hyperthermia on hypoxic fraction 1−48962
membrane particle diameters, computer meas. from electron micrographs 1−32327
membrane structural transitions, thermo-induced, animal organ expts. 1−35757
microphotometric images of splencytes and lymphocytes from leukemic mice, computer discrimination 1−35922
mitochondria and submitochondrial particles, surface charge density change on energisation 1−39898
mitrochondrial inner compartment vol. meas., radioisotope method 1−44055
muscle water, NMR transverse relax. obs., mice 1−32183
neutron spin echo obs. of internal motions in biological systems 1−35925
nuclei images features, automated classification of cytological specimens 1−35864
organelle 3D display, stereometric study and automatic graphical reconstruct. microscopy 1−9065
phospholipid vesicles, small, internal press., surface tension and surface free energy 1−8828
photobacteria symbiosis in marine animal light organs 1−4404
pineal organ cells, mag. field influence on elec. activity 1−26893
primary energy-transformations in biological systems 1−39894
pulmonary squamous epithelial cells, math. model for discriminant features anal. 1−35739
purple membrane of Halobacterium halobium, elec. dichroism obs. 1−39959
radioimmunoassay of brain tissue and cell nuclear corticosterone 1−27037
red blood cell, ATP conc. and energy metabolism regulation 1−39897
retinal ganglion cells and optic decussation of white cats 1−13237
rhodopsins, bacterial and visual, similarity of props., light to elec. pot. conversion 1−17365
sea anemone, elec. activity following cellular recognition of self and non-self 1−32109
SEM surface morphology of suspended cells, methodological aspects 1−27044
spherocytes, hereditary, abnormalities in membrane material props. 1−22048
sucrose gap measurement, correction factors and their practical appls. 1−32106
tissue section analysis, feature selection and image processing 1−35921
ultraweak photoemission from biological systems *(German)* 1−21993
visual stimuli, responses of single cells in the LGN and visual cortex, cat obs. 1−4273
white blood cells in space−an experiment for the first Spacelab mission 1−32265
yeast metabolism, flow-calorimetry of aerobic batch cultures 1−48971

cellular effects of radiation
see also biological effects of .... (type of radiation)
see also photosynthesis
1.5 MHz US cavitational bioeffects 1−39963
alpha-particle effects on intracellular energy metabolism 1−22076
amniotic cells, human, and mouse tissue, US irrad. 1−53818
Aplysia giant neuron, quantitative aspects of the light response and its kinetics 1−22065
Arabidopis seeds, dose-response curves after neutron or X-ray irrad. 1−35831
bacteria, myco-, incorporating beta-active radionuclides, dose-response curves *(German)* 1−44001
bacteria, neutron irrad. in presence and absence of secondary charged-particle equilibrium 1−26956
bacterial DNA-membrane complexes, stimulation of DNA synthesis after low doses of ionising radiation 1−13289
bacterium S marcesens, OER for d(80)+(Be+Ta) and d(80)+(Ta+Be) neutrons 1−8923
blood, ferrokinetic changes in mice after ^{90}Sr-^{90}Y exposure 1−32206
blood of rhesus monkeys, effects of in vivo exposure to 20 kG steady mag. field 1−43891
bone marrow cell changes after localised acute and fractionated X-irrad. 1−43908
bone marrow lymphocytes, X-ray and electron irrad., chromosome aberrations rel. to lethal injury 1−8927
bone marrow stem cells, absence of late radiation effects 1−32202
brain tumour cells, synchronized, rat, response to ^{137}Cs γ-rays 1−26958
C3H-10T$^{1}/_{2}$ cells, modification of X-ray effects by hyperthermia and 5-bromodeoxyuridine 1−39974
carrot root, radiosensitivity of different tissues at different phases of growth in culture 1−26952
Chinese hamster cells, cell-cycle progression delays, ^{238}Pu α-particles rel. to X-rays 1−43907
Chinese hamster V79 cells, biological intercomparison of d(50)-Be and p(75)-Be neutrons 1−49070
Chinese hamster V-79 cells, cell cycle progression changes, high-LET charged particles irrad. 1−26963
Chlamydomonas reinhardi, rapid repair of ionising radiation injury 1−17460
CHO cells, interaction of hyperthermia and radiation 1−32190
CHO cells, synchronised, effects of Ar ions 1−43914
CHO cells, X-irrad. effects on DNA synthesis in synchronous cells 1−8925
CHO cells, X-ray induction of 8-azaguanine-resistant mutants 1−4337
chromosome aberrations in radiation workers 1−39968
chromosome analyses of nuclear-power plant workers 1−32201
chromosome damage in patients after tumour therapy with 14 MeV, DT neutrons 1−49071
chromosomes of Vicia faba, effects of 1.9 MeV monoenergetic neutrons 1−32203
conference, Amsterdam, Netherlands (Jan. 1980) 1−17929
Dictyostelium discoideum, comparative sensitivity of spores and amoebae to UV light 1−26962
diploid fibroblasts, human, rapid recovery after ^{60}Co γ-irrad. 1−22071
diploid yeast, response to radiations at different LET 1−43909
DNA break rejoining capacity obs. after irrad. by accelerated ions in the spread Bragg peak 1−8919
DNA double-strand breaks, formation and repair in superinfecting phage λ, electron irrad., E coli hosts 1−22079

cellular effects of radiation continued
DNA radiation damage, natural tissues characterized by different radiosensitivities, EPR obs. 1−17456
DNA strand breaks, detect. by radioisotope labelling, human cells 1−22174
DNA synthesis and cell cycle progression of synchronised L-cells after irrad. 1−49074
DNA UV photobiology, production and repair of damage, enzymatic pathways 1−35839
E coli, exponentially growing, sensitivity to photo-induced psoralen-DNA interstrand crosslinks 1−32193
E. coli, inducible repair of near-UV radiation lethal damage 1−35838
E coli, UV, X and γ produced photoreactivable DNA damage 1−17458
E. coli DNA, influence of membrane fluidity on radiation induced changes 1−22070
Ehrlich Ascites tumour cells, mitotic activity and DNA synthesis, He-Ne laser irrad. effect *(German)* 1−8906
electron beams interactions with living spores 1−43906
enkaryotic cell system perturbation, associated 60 Hz elec. field parameters 1−49060
epithelial cells of human skin, dose-survival relationship after multifraction irrad. 1−17459
erythrocyte membranes, human, struct. modification following γ-irrad. 1−8917
erythrocytes, human, exposed to US activated gas-filled pores, ATP release, photometric obs. 1−8902
fibroblasts, Chinese hamster lung, UV-B exposure, effects on DNA 1−4333
fibroblasts, human cultures, radiosensitivity data 1−32200
fibroblasts, human HF 19 line, radiosensitivity and radiation damage repair obs. 1−8918
flow cytometric data anal., irrad. cell populations 1−49075
gamma irradiation, comparative effects on cycle time and mitotic duration 1−22075
genetic effect of low doses of radiation 1−32204
genetic effects of ionising radiation, review 1−39972
genetic processes, microwave effects on Aspergillus nidulans and Physarium polycephalum 1−4324
Halobacterium halobium, quantum-efficiency of light-driven proton extrusion 1−26940
heat and radiation sensitivity obs. 1−39967
heavy ion beam model for radiobiology 1−26950
hepatic lysosomes, microwave irrad. rel. to in vitro release of enzymes 1−32187
hepatocytes, reproducible subcellular alterations resulting from US 1−8901
human cells, cell-survival rel. to depth for high-energy Ar ion beam 1−43915
hyperthermia by water bath and HF waves, differences between 42°C and 44°C 1−53822
intestinal crypt cells, survival after exposure to high Z, high energy charged particles 1−26961
KHT sarcoma cells, ^{137}Cs γ-ray induced changes in the in vivo growth rate 1−8924
leukemic lymphoblast, murine, correl. of survival with restoration of DNA struct., X-irrad. 1−26960
lipid vesicles, fluoresc., pattern photobleaching by polarised laser light 1−32186
liposomal membrane, UV- and sunlight-induced lipid peroxidation 1−17461
liposomal membranes, radiation-induced lipid peroxidation and membrane permeability 1−32198
liver, X-irrad., rat, chronological development of late injury 1−22080
LL tumour cells nature of paramag. centres formed on γ-irrad. 1−35830
lymphatic spread of KHT sarcoma, enhancement by localised preinoculation irrad., mouse expts. 1−26953
lymphoblastoid cells (diseased), DNA and $(ADP\text{-}ribose)_n$ synthesis following γ-irrad. 1−13222
lymphocyte in vivo circulation, RF effects in mice 1−4327
lymphocytes, human, chromosome aberrations induced by ultrasoft Al_K and C_K X-rays 1−32199
lymphocytes, human, induction of chromosome aberrations by ^{239}Pu α-irrad. 1−13291
lymphocytes, human, induction of chromosome aberrations by α-particles 1−4332
lymphocytes, human G_O, recovery kinetics of chromosome aberrations 1−43922
macrophages, cultured, effect of irrad. on lysosomal enzyme activation 1−4330
malignant melanoma, human, effects of single dose irrad. on proliferation kinetics in athymic nude mice 1−53823
malignant transformation of BALB/3T3-A31 variants due to UV irrad. 1−26967
mammalian cells, π^- irrad., DNA strand breakage, repair and cell survival 1−22067
mammalian cells, exchange aberrations rel. to C ultrasoft X-rays 1−22073
mammalian cells, modification of US induced changes 1−4323
mammalian cells, repairable and unrepairable DNA strand breaks 1−49072
mammalian cells, response to 30 MV X-irrad. in presence of 20 kilogauss mag. field 1−13292
mammalian DNA polymerases, differential inhibition by X-irrad. DNA 1−22072
micronuclei frequency as meas. of cell survival 1−8921
nuclear envelope, radiation-induced invagination, Chinese hamster and mouse cells 1−26957
ocular lens epithelium and radiation cataracts, meridional rows interface death 1−43912
oncogenic transformation by X-rays and hyperthermia, mouse embryo cells 1−21987
ovary, foetal mouse, effect of ^{90}Sr on microscopic struct. 1−49068
ovary, mouse, effect of low level T exposure 1−22074
parotid gland, function after irrad., rel. to biological parameters 1−26954
phage λ, UV irrad., W-reactivation in X-irrad. mutants of E coli K-12 1−8926
photoreceptor damage by light, possible mechanisms in mammalian eyes 1−35822
phototactic attraction in light trap expts. 1−49067
pion$^-$, radiobiological studies using mouse L5178Y cells 1−35835

cellular effects of radiation continued
purple membranes, surface charge changes rel. to bacteriorhodopsin photoreaction cycle 1−21992
radioresistant rat-mouse hybrid cell line, sudden reversion to normal radiosensitivity 1−4338
RBE of a high energy modulated proton beam to γ-rays, murine tumour obs. 1−35836
red cells deficient in glucose-6-phosphate dehydrogenase, survival time shortening by X-irrad. 1−22081
Sarcoma 180 cells from mice, effect of ^{60}Co γ-rays exposure *(Chinese)* 1−32196
slime mould Physarum polycephalum, radiosensitivity to γ-irrad. obs. 1−8914
spatially correlated ions, anal. of cell survival data for diatomic deuterium 1−26951
spleen cells, mouse, threshold conditions for induction of increase in CR^+ cells, microwve irrad. 1−8912
stamen hairs of Tradescantia, somatic aberrations rel. to lethality 1−22069
stem cell kinetics in spleen and bone marrow after irrad. of infant mice 1−49073
survival and phase response following ionising radiation and hyperthermia 1−43917
synergistic effects of different radiations 1−26965
testicular stem cells, mouse, survival after neutron or γ-irrad. 1−22077
thabdomyosarcoma tumour, rat, C and Ne ion irrad., cell survival and vol. rerponse characts. 1−8922
thymocytes, rat, changes in surface morphology accompanying interface death, X-irrad. 1−26948
topo-optical reactions, benefit in submicroscopic membrane research 1−35814
Tradescantia clone 02, freq. of micronuclei, in roof-tips, effects of diurnal temp. difference and ^{60}Co γ-rays 1−35833
UV laser irradiation of pigmented and unpigmented mammalian skin, nerve fibre effects 1−35841
UV laser microbeam irrad., technique for selective cell destruction and precise neurite transection 1−27038
vertebate photoreceptor membrane preparation, rapid photo-induced changes in light scatter 1−35811
vertebrate photoreceptor membrane preps., rapid photo-induced changes in light scatter of retinal rods 1−35812
Weibull distribution function for characterising early response, model leading to 1−8915
X-irradiated human tumour cells, post-repair DNA damage 1−32197
xeroderma pigmentosum human cells, newly synthesised DNA, size and freq. of gaps after UV irrad. 1−32192
yeast, cytokinetic investigations with X-irrad. and hyperthermia 1−13294
yeast cells, combined action of US and ionising radiation 1−13287
yeast cells, synthesis of inducible enzymes, inhibition by ionising radiation 1−13290
yeast cells in suspension, predominance of membrane damage with 163 nm VUV irrad. 1−22078

cellular method
deep levels, cyclic cluster model, CNDO approx., in covalent solids 1−30675
US(Se)(Te)(Sb), electronic struct., optical functions 1−30629

cellular transport and dynamics
see also cell motility
axonal retrograde transport of target tissue-derived macromols. 1−8830
axoplasmic transport, role of the microtrabecular lattice 1−35761
bacterial membrane, energised state stabilisation by Na^+/K^+ gradient 1−17368
calmodulin and axoplasmic transport 1−26883
cardiac membrane vesicles, current generation by Na^+-Ca^{2+} exchange activity 1−32103
cardiac muscle cells, rabbit, Na^+-Ca^{2+} exchange obs. 1−26885
cardiac Purkinje fibres, canine, activation of electrogenic Na^+/K^+ exchange by extracellular K^+ 1−8831
electrogenic membrane transport in plants, review 1−21997
erythrocytes, human, effect of hydrostatic press. on ion transport and metabolism 1−26884
erythrocytes, sedimentation vel. rel. to temp. 1−35792
flow cytometers, review *(Japanese)* 1−27030
flow cytometric data anal., irrad. cell populations 1−49075
flow cytometry, review 1−27022
gap junctions, occurrence, props. and functions 1−48972
haemolysis during filtration through micropores 1−39953
lipid bilayer electrical breakdown by diffusion pot. 1−17355
lipid bilayer membrane, struct. and dynamics studied using NMR, book contrib. 1−13217
lymphocytes, human, K-Na exchange, appl. of time-dependent Ising model and its hydrodynamic soln. 1−13264
muscle K^+ channel, gating and its dependence on the permeating ion species 1−43859
myelinated nerve membrane, increased charge displacement at reduced extracellular pH 1−8833
neurons, Mollusk, gating mechanism of Ca channels, steady-state characts. and kinetics 1−17372
red cell permeability, effect on transcapillary tracer transport 1−32156
retinal blood cell flow meas., using fundus camera laser Doppler velocimeter 1−39978
rhodopsin, lateral diffusion in photoreceptor cells meas. by fluoresc. photobleaching and recovery 1−39909
spinal ganglion neuron somatic membrane, newborn rats, ion currents and action pot. obs. 1−17371
tracking, modelling and minimisation approach 1−53765
Na^+, single channel currents, obs. on cultured rat muscle cells 1−8839
O_2 diffusion into heterogeneous tissue with combined O_2 consumption kinetics 1−32102

cements (building materials)
used only for those materials which bind together particulate matter so as to form a coherent mass of considerable strength. For cements that cause two or more separate masses to adhere see adhesion
Al_2O_3, chamotte filler grain comp. 1−12709
breaking, 'Max' static rock-breaker, excavation techniques and large scale expts. 1−17023
cement raw mix, radioisotope analyser for determ. of Al_2O_3 and SiO_2 1−21822
cement-sand mortar, brittle failure 1−3928
fibrocement manufacture using ZrO_2 containing glass fibre 1−48314

cements (building materials) continued
glass fibre reinforced cement, lightweight, polymer impregnated, phys. and mech. props. 1−12751
mortar specimens, rel. between static and dynamic flexural strengths *(Japanese)* 1−26552
mortar-cement plates, fracture under in-plane impacting load by an explosive, numerical simulation *(Japanese)* 1−3897
polypropylene fibre reinforced cement composites, mech. response, analogy with bone 1−12803
polypropylene fibre reinforced cement composites, multiple cracking 1−39425
Portland cement, hydrated, low-porosity, compressive strength 1−43433
Portland cement, SO_3 rapid determ. by turbidimetry *(Japanese)* 1−26798
Portland cement clinker doped with CaF_2, struct. and props. 1−39293
Portland cement concrete, in situ, assessing compressive strength by internal fracture tests 1−35463
portland cements and clinkers, pastes, analytical electron microscopy study 1−3706
$(CaO)_3SiO_2$ mortars, temp. increases effect on microstruct. and strength 1−43431

centrifuges
chamber for centrifugal assessment of cell adhesion 1−53943
gas centrifuge, Onsager's pancake approx. 1−19726
gas flow field, numerical method for optimisation 1−10545
microanalytical ultracentrifuge for examination of cell suspensions 1−4399
plasma centrifuge, polarization layer, thickness and current profile 1−51997
sprayer, range of velocities and pressures *(Russian)* 1−11445

ceramals *see cermets*

ceramics
see also refractories
β-spodumene ceramics, fabrication by unidirectional solidification of their melts *(Japanese)* 1−21403
AC dilatometer, piezoelectricity and electrostriction direct meas. 1−14104
acoustic microscopy techniques, assessment as NDT for SiC and Si_3N_4 structural components 1−43619
alkaline earth cerates, prep., technical characts. and elec. props. 1−16748
antireflection and protective coating of KO-5 optical ceramic components 1−15251
basalt glass-glass ceramic, mag. props., Mossbauer, ESR spectra 1−3307
based on ZrO_2 inclusions, strengthening and toughening models 1−16797
battery appl., review 1−17193
biaxial pressure test, improved 1−31771
cavity form. suppression, rel. to superplasticity 1−3832
chemical analysis, electron- and ion-beam methods advantages and limitations *(German)* 1−53508
chemical stability of glass and glass-ceramics for radioactive waste encapsulation 1−43562
CNTD process for manufacturing high temp. structural ceramic materials 1−21355
coated with glaze, thermal shock resist., underglaze layer effect 1−12898
coating development for industrial and utility gas turbines 1−31366
coatings in diesel engines, microstruct. and thermal effects 1−30597
composites, brittle, micromechanisms controlling fracture toughness 1−31607
convectively heated, spacially varying thermal cond. effect on thermal stress magnitude 1−2714
corundum, freeze-drying prep., mech. props. 1−48306
corundum reinforced with filamentary mullite crystals, prod. and props. 1−31406
cylinders, with square cross section, transient thermal stresses of convective heat transfer 1−37766
defect characterization using scanning laser acoustic microscope, cracks, laminar flaws, porosity and solid inclusions 1−21685
dense, sintering below 1000°C using waste glass as raw material 1−16729
design technology, for structural applications *(Japanese)* 1−38441
elastic/plastic indentation, in ceramics, median/radial crack system 1−26601
electrode for photoelectrolytic decomp. of water 1−17221
energy appls., review 1−8205
erosion of brittle materials by solid particle impact 1−26628
fabrication, energy conversion simulation systems appl. 1−17194
fatigue, in ceramic materials, review 1−31587
ferroelectric, complex elastic, dielec. and piezoelec. constants by domain wall damping 1−21149
ferroelectric, with layer type struct., degree of preferred orientation after hot pressing, X-ray determ. method *(Chinese)* 1−48364
ferroelectric glasses, definitions and criteria 1−26136
foam-ceramic, strength study, porosity depend. *(Russian)* 1−16834
fracture toughness testing and acoustic emission 1−8511
frost resistance, of ceramics with different porosities 1−12695
glass ceramics, soln.-precipitation creep 1−31522
glass-glass-ceramic composite system, simulated strength-grain size study 1−39426
glass-mica composite materials, form. and props. 1−48313
glaze-stress calc., from ring-test data 1−38436
glazes, for sanitary products, opacification by TiO_2 and ZnO *(French)* 1−8446
grinding, on diamond grinding discs at faster speeds 1−16928
grinding balls, press mould for quasiisostatic pressing 1−12693
Hialvac glaze, outgassing characts. under ultrahigh vac. conditions 1−40803
high temperature materials, fusion-casting and crystn. 1−8292
high-temperature structural ceramics, review 1−12956
hydrated mica-montmorillonite, struct. form. during sintering 1−12694
interaction with liquid Na interaction with ceramics 1−16935
internal stress effects, on strength 1−39432
kaolinite-hydrated mica (montmorillonite), struct. form. during sintering 1−12694
manufacture by controlled nucleation thermochemical decomposition 1−16731
masses, bending strength meas. after drying *(Polish)* 1−48447
materials with different structs., creep accompanying comparison and extension *(Russian)* 1−20308
metal fibre ceramic eutectics produced by elec. arc melting *(German)* 1−16750
metallization for electronic components by magnetron-plasmatron coating 1−12653
MgO, erosion by solid particle impact, mechanisms 1−16906

ceramics continued
microstructural analysis system, semiautomatic 1−39307
microstructure and normal grain growth, theory 1−38380
models for piezoelec. in dry bone 1−4257
mullite, freeze-drying prep., mech. props. 1−48306
mullite-corundum ceramics, prod. by hot pressing, mullite form. 1−12692
neutron irradiated, swelling and thermal diffusivity 1−2518
nonoxide ceramics, residual strain effect on high press. densification, TEM. Obs. 1−53145
nuclear fuels, review 1−14636
optical, workability with synthetic diamond tools 1−6690
optical ceramic, type KO-1, mech. strength meas. 1−11054
oxide ceramic materials, effect of machining on strength 1−43457
oxide ceramic powders for plasma spraying *(German)* 1−39234
oxide ceramics with tetragonal potassium-tungsten bronze struct., X-ray struct. investig. and dielec. props. 1−30169
oxides with tetragonal potassium tungsten bronze struct., synthesis and X-ray struct. investig. 1−39288
packed bed of porous ceramic Raschig rings, meas transfer at low Peclet numbers 1−2075
PCMUS-2, two-component piezoelectric ceramics for HF transducers 1−24646
phase transition transducer 1−15355
piezoceramic cylinder with disconnected electrodes, bound oscillations *(Russian)* 1−39038
piezoceramic mirror correctors, pulse characts. 1−37582
piezoceramics, anal., chromatographic separation of Ba from Na 1−13052
piezoelectric ceramic plates, energy trapping of width-extensional vibrations *(Japanese)* 1−43072
PLZT, image storage appl., effects of Ar and Ne ion implantation obs. 1−15241
PLZT ceramic, domain switching, light scatt. and strain variations 1−8023
polished section prep. technique *(German, English)* 1−31799
polymer-plasticised piezoelectric, γ-radiation effects on dielec. and piezoelec. props. 1−31093
porcelain, wet milling 1−12691
porcelain bodies, unified desorption isotherms 1−7451
powder compaction, mathematical description 1−16728
preparation as function of load and speed of rotation 1−48633
production, mech. props., energy appl. conf., Saint Vincent, Italy (May 1979) 1−13927
proof testing 1−17017
pyroceramics, microbrittleness determ. by luminesc. flaw detection 1−21663
pyrocerams, effect of design and technological factors on strength 1−43458
pyrocerams, nature of fracture 1−43507
quartz based porcelain dosimeter, fast neutron flux-meas. 1−47117
quartz ceramics, hot casting from thermoplastic suspensions 1−12699
rare earth cpd., $R_xHF_{1-x}O_2$, MHD generator appl. 1−26842
rare earth cpds., $RScO_3$ (R=La, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Y), prep., elec. resistance and dielec. const. 1−39289
refractory ceramic material, thermal stress resistance in different temp. ranges 1−3914
RF heating and melting, instability phenomena 1−7649
sapphire, deformation via prismatic slip system 1−3833
semiconducting oxide ceramic, use in solar energy conversion 1−17210
shells, testing under external hydrostatic pressure 1−43634
β′-Sialon, hot pressed, microscopic study of morphology 1−16730
β-sialon, hot-pressed, strength 1−21533
Sialon, interaction with molten Si 1−3951
Sialon, micromechanisms for fracture and plasticity 1−8401
Sialon, thermal decomp. reaction rel. to sintering 1−16724
Sialon ceramic, hot pressed, oxidation, effect of steatite contamination *(Japanese)* 1−12916
sintered and hot-pressed ceramic intergranular glassy phases and $Si-SiO_2$ interfaces, electron microscope obs. 1−16193
SiO_2 film, magnetron sputtered in H_2-Ar mixture 1−47400
sital pyroceramic, surface layer optical property and struct. investigation, mech. finishing 1−1659
slow crack growth, influence of testing procedure on determ. of charact. fracture parameters *(German)* 1−4010
small angle X-ray scattering charact. *(German)* 1−35262
solid state physics props. for solar cell appl., review 1−17208
solid-state metal-ceramic bonding appl. and props. 1−16981
spodumene concentrate ceramic, prep., elec. insulator 1−31389
steatite, freeze-drying prep., mech. props. 1−48306
strength, stress state effect 1−16893
strength assessment, appl. of indentation fracture 1−43624
strong, compressive strength effect on mech. performance 1−43465
supercalcine ceramics, rare earth minerals in nuclear waste, STEM characterization 1−30205
surface-active agents, effect on elastoplastic-viscous props. 1−12902
SYNROC-B, sintered Modified, chemical stability evaluation, leaching resistance for radwaste fixation 1−41217
thermal barrier coatings, plasma-sprayed ceramic, resistance to cyclic thermal exposure 1−31630
thermal barrier coatings for industrial and utility appl., corrosion resistance 1−31708
thermal diffusivity, flash method with positive or negative pulse 1−2719
thermal shock resist., size and geometry effects in quench tests 1−3789
thermal-barrier coating, corrosion-resistant, for gas-turbine engine air-cooled components 1−39530
thermoplastic suspensions moulding, using USs, for ceramic article production 1−12698
tobermorite, 11 Å, form. in presence of chlorides and alkali hydroxides *(Japanese)* 1−43304
vibrating piezoelectric ceramic disk, synthesis by optical coherent methods 1−1512
vitroceramic fuel elements, permeability of alumino-silicate coatings 1−18748
wear resistant coatings 1−16907
$ZnAl_2O_4$, formation by weak mixing method *(Japanese)* 1−31405
Ag/Pd metal mixture, disperse system, for conductive coating of ceramics *(Bulgarian)* 1−48534
Al_4C_3-AlN-SiC-Si_3N_4-Be_2C-Be_3N_2, phase equilibria 1−31446
Al_4C_3-SiC-Be_2C, phase equilibria 1−31446
AlN, based high-density ceramic, prep., mech., thermal and dielec. props. 1−31390
AlN-Al_2O_3 system, thermal expansion of sintered oxynitrides 1−42554
ceramics continued
AlN-Si_3N_4-Be_3N_2, phase equilibria 1−31446
AlN-Y_2O_3, electro-insulating ceramics prep. by sintering 1−21402
Al_2O_3 based porcelain dosimeter, fast neutron flux-meas. 1−47117
Al_2O_3 ceramic, grinding, on diamond grinding discs at faster speeds 1−16928
β-Al_2O_3 ceramic membranes, electrical breakdown 1−43070
β″-Al_2O_3 ceramics, dense conductive, by spray-freeze/freeze-drying, props. 1−31541
β-Al_2O_3, containing H_2, struct. and props. 1−17322
Al_2O_3, convectively heated, spacially varying thermal cond. effect on thermal stress magnitude 1−2714
Al_2O_3, corundum, dislocation structure in large crystals 1−20212
Al_2O_3, corundum ceramics, light transmittance, effect of technological parameters 1−53307
Al_2O_3, crack growth from small flaws in larger grains 1−26597
Al_2O_3, dense, subcritical crack growth in physiological media 1−3953
Al_2O_3, fatigue, static, dynamic and cyclic *(German)* 1−3875
Al_2O_3, fracture toughness testing and acoustic emission 1−8511
Al_2O_3, fracture toughness determ. using chevron-notch short bar specimens 1−26612
Al_2O_3, fracture toughness, room temp. to 1600°C 1−43520
Al_2O_3, grain boundary struct., electron diffr. and microscopy study 1−38382
Al_2O_3, growth from melt, purity and doping possibilities 1−53083
Al_2O_3, hot pressing kinetics, MgO addition effect 1−31391
Al_2O_3, hot-pressed, correl. of fracture toughness and crack lengths from Vickers hardness indentation *(German)* 1−35344
Al_2O_3, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
β″-Al_2O_3, irradiation induced defects, examined by 1 MW high-resoln. electron microscopy 1−34369
γ-Al_2O_3, lamellar porous microstructs., energetics of formation 1−35232
Al_2O_3, laser-melted, ultra-rapid quenching 1−26510
Al_2O_3, limiter or first wall materials, thermal shock tests 1−4032
Al_2O_3, low-neutron irrad., wetting by Hg and Sn 1−52397
β″-Al_2O_3, plasma sintering 1−3674
Al_2O_3, polycrystalline, chemical diffusion during oxidation 1−38595
β″-Al_2O_3 powders, spray-frozen/freeze-dried, relative stability 1−21396
Al_2O_3, sintered, influence of ZnO, NiO, Cr_2O_3, Sb_2O_5, V_2O_5, $AgNO_3$ and furfuryl alcohol on props. 1−31397
Al_2O_3, sintering, effect of Er_2O_3 addition *(Japanese)* 1−43305
Al_2O_3, sintering, rare earth oxide effects *(Japanese)* 1−12706
Al_2O_3, slip cast, MgO and NiO effect on sintering 1−48310
β_K″-Al_2O_3, stabilisation by MgO addition by K_2O vaporisation 1−30372
Al_2O_3, structural refinement of neutron and X-ray data by Rietveld method 1−29960
Al_2O_3, surface mass transport study by multiple scratch smoothing method 1−16162
Al_2O_3 thermally sprayed coatings, formation kinetics 1−34594
Al_2O_3 thermoplastic cast slips, thermophys. props. 1−31401
α-Al_2O_3, transparent ceramic, microstruct. 1−8444
Al_2O_3:(MgO), deform. mechanism maps, high temp. appl. 1−21507
Al_2O_3-CaO-B_2O_3-SiO_2 system, corundum ceramic, B_2O_3 influence on sintering and mech. props. 1−31378
Al_2O_3-Cr mixtures, sintering behaviour 1−53121
Al_2O_3-Cr_2O_3-Cr(Mo) eutectics, melting points determ. *(German)* 1−38509
Al_2O_3-$Cr(NO_3)_3$, mixtures, sintering behaviour 1−53121
Al_2O_3-Cu, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
β-Al_2O_3-K_2O ceramics, proton sensor appl. *(French)* 1−31395
β-Al_2O_3-Na_2O powder, solution spray dried and freeze dried, prep. and hot pressing 1−16744
Al_2O_3-SiO_2, containing chemically polymerized precursors heat treated to form monolithic materials, microstruct. 1−3788
Al_2O_3-SiO_2, laser-melted, ultra-rapid quenching 1−26510
Al_2O_3-SiO_2, mullite-corundum ceramic, hot pressing study 1−12700
Al_2O_3-SiO_2 system with melting of mullite, correctness of phase diagram construct. and melting character 1−42517
Al_2O_3-SiO_2-CaO oxides, wettability by liq. steel *(German)* 1−42608
Al_2O_3-SrO-TiO_2-SiO_2-B_2O_3 ceramic, thermal shock resist., effect of electrofused corundum additions 1−8416
Al_2O_3-Y_2O_3, grain-boundary segregation, STEM 1−26469
Al_2O_3-Y_2O_3, laser-melted, ultra-rapid quenching 1−26510
Al_2O_3-Yb_2O_3 system, at high temps., phase diagram *(Japanese)* 1−26436
Al_2O_3-ZrO_2, fatigue, static, dynamic and cyclic *(German)* 1−3875
Al_2O_3-ZrO_2-SiO_2-Na_2O glass ceramic system, struct. study, X-ray line broadening 1−20029
$2Al_2O_3.SiO_2$-Al_2O_3 mullite-corundum ceramic, heat resist. and strength rel. to fracture surface struct. 1−43476
β-Al_2TiO_5, decomposition temp., X-ray diffr. study 1−4073
BC, He bubble growth, irradiation temp. effect, TEM obs. 1−2526
BEO thermoplastic cast slips, thermophys. props. 1−31401
BN-B system, sintering, amorphous B nitriding kinetics 1−39294
BaB_2O_4, alkoxy derived, form. and transform. 1−48309
$Ba_2K_xNa_{1-x}Nb_5O_{12}$, Raman scatt. study of ferroelastic, paraelastic phases, Curie temp. 1−3405
$Ba_2K_xNa_{1-x}Nb_5O_{15}$, paraelastic and ferroelastic phases, Raman study 1−21185
$BaRh_6O_{12}$, thick-film resistors, with small temp. coeff. of resist. 1−38771
$Ba_{0.5}Sr_{0.5}Nb_2O_6:Fe^{3+}$, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
$BaTiO_3$, ceramic, cond. depend. cathodoluminescence 1−35103
$BaTiO_3$ ceramic, domain configuration and equilibrium size 1−8022
$BaTiO_3$ ceramic, piezoelec. effect 1−31096
$BaTiO_3$ ceramic, semiconducting, PTC action of single grain boundary, direct exam. 1−2958
$BaTiO_3$ ceramic, TiO_2 aggregation during sintering 1−3673
$BaTiO_3$, depolarised polycryst. ferroelectrics, piezoelec. effect 1−31095
$BaTiO_3$, phase transition temps. determ. by acoustic emission 1−31104
$BaTiO_3$ piezoceramics, anal., chromatographic separation of Ba from Na 1−13052
BeO ceramic, thermoluminescence spectra, band struct. 1−3514
BeO-ThO_2 mixed oxide, thermal cond., 298 to 1000K *(Japanese)* 1−16115
$BiLaWO_6$ and solid solutions, synthesis and lattice parameters 1−20159
Bi_2O_3 polymorphs, Sb_2O_3-stabilised, thermal expansion 1−38563
Bi_2O_3-Er_2O_3, O^+ ion conductors, prep. and props. for low temp. use 1−16088
Bi_2O_3-MoO_3 complex oxides, with the anion deficient pyrochlore struct., existence 1−3685

ceramics continued
Bi_2O_3-WO_3 complex oxides, with the anion deficient pyrochlore struct., existence 1−3685
$BiRWO_6$ and solid solutions, synthesis and lattice parameters 1−20159
$Bi_{1/3}TaO_3$, synthesis and X-ray diffr. study 1−3684
$BiVO_4$, structural refinement of neutron and X-ray data by Rietveld method 1−29960
$BiYWO_6$ and solid solutions, synthesis and lattice parameters 1−20159
CaO-Al_2O_3-MgO-SiO_2 system, rel. to quaternary phase Q 1−43328
CaO-MgO, laser-melted, ultra-rapid quenching 1−26510
CaO-MgO-SiO_2 oxides, wettability by liq. steel *(German)* 1−42608
CaO-SiO_2-H_2O synthesis under hydrothermal conditions *(Czech)* 1−39231
CaO-ZrO_2, partially stabilized, mech. props. transformation toughened, aged 1−16894
CaO-ZrO_2 system, fracture mechanics study 1−21569
1.8CaO.SiO_2/(M-Cr-Al-Y) thermal barrier coating (M=Ni, Co), hot corrosion behaviour 1−31710
CdO, isochronal and isothermal grain growth during sintering 1−35223
$CoAl_2O_4$, solubility in molten Na_2SO_4 at 1200K 1−20386
Co_3O_4, solubility in molten Na_2SO_4 at 1200K 1−20386
Cr_2O_3, plasmasprayed, thermal diffusivity meas. 1−2719
Cu-Li-Fe-O system, prep. and props. of spinel solid solns. 1−12708
Eu_2O_3, hot pressing, effect on phase transform 1−16742
Eu_2O_3, monoclinic, thermally activated creep 1−39364
Fe_3O_4 and Fe_2O_3, powder, sintering at low temp., atmos. effects 1−3676
$Gd_xZr_{1-x}O_{2-(x/2)}$ ceramic, ionic cond., grain boundary effects meas. 1−47291
H_3O^+ β/β''-Al_2O_3, polycrystn., ceramic fast proton conductor 1−30456
HfO_2, metastable, tetragonal, prep. and mech. props. 1−16743
Hg elec. cond. meas. at high temp. and pressure, ceramic component 1−50163
$K_2O.B_2O_3.4SiO_2$, crystal struct., X-ray obs. *(Japanese)* 1−11738
K_2TiO_4 fibres, growth by slow cooling, flux growth reactions *(Japanese)* 1−21722
$LaAlO_3$, synthesis, struct. and elec. props. *(Polish)* 1−53147
$LaAl_{11}O_{18}$, synthesis by solid-state reaction, kinetics 1−3677
LaO_3-Al_2O_3 system, form. conditions and struct. *(Polish)* 1−53147
$(La_{1-x}Sr_x)MnO_3$ $(0.1 \leq x \leq 0.5)$, water adsorption effect, elec. resist. *(Japanese)* 1−42639
$La_4Ti_3O_{12}$, 12-layered cpd., prep., elec. and dielec. props. 1−34972
$La_{2/3}\square_{1/3}TiO_3$ high freq. capacitor dielectrics, effect of other titanate additions 1−20413
$LiAlO_2$, $LiNbO_3$, Li_2TiO_3, Li_4SiO_4 and Li_2O, synthesis conditions and physicochem. props. 1−43301
LiF, erosion by solid particle impact, mechanisms 1−16906
Li_4GeO_4-Zn_2GeO_4 pseudobinary system, phase diagram and Lisicon ceramic phase obs. *(Chinese)* 1−48331
LiO_2-Al_2O_3-SiO_2:F, glass-ceramic, strengthening mechanism 1−43432
Li_2O-SiO_2 glasses and glass ceramics, leaching by HCl 1−20393
Li_2O-SiO_2-(K_2O-P_2O_5-ZnO) glass-ceramic fibres, development and props. 1−8356
$Li_{x/8}Si_{6-3x/4}Al_{5x/8}O_xN_{8-x}$, $x<5$, elect. characts. 1−38776
Mg, ceramics in low-temperature plasma stream, thermal stability 1−3794
Mg-Al spinel, Al_2O_3 rich, precipitation strengthening *(Japanese)* 1−26485
$MgAl_2O_4$ ceramic prepared from freeze-dried liq. soln., transparency to the thermomech. treatment 1−16914
$MgAl_2O_4$, laser-melted, ultra-rapid quenching 1−26510
$MgAl_2O_4$, polycrystalline, fracture, grain size effect 1−39431
MgO, atomic C content, discussion 1−30225
MgO, atomic C content, IR anal. of OH-containing defects 1−31146
MgO, Cr_2O_3 dopant effect on densification and grain growth *(Japanese)* 1−16723
MgO, fine-grained, mech. props. at large compressive strains 1−39376
MgO, from natural microcrystalline magnesite, microstruct. charact. 1−3755
MgO, hot pressed, heat treatment effect on elec. cond. 1−53306
MgO, ionic cond. and Mg vacancy mobility 1−38586
MgO, low-neutron irrad., wetting by Hg and Sn 1−52397
MgO, microstructural features of grain growth, correlation to crystallographic orientation *(Japanese)* 1−43385
MgO single crysts., electronic conductivity 1−38777
MgO, sintered, combined effect of ZrO_2, TiO_2, Al_2O_3, ZnO, LiF, MgF_2 and Al on props. 1−31396
MgO:(Fe)(Cr), single crysts., dielectric behaviour 1−39023
MgO:F^-, sintered compact, charact. 1−39291
MgO:$Mg_2P_2O_7$+ZrP_2O_7, effect of additions on sintering *(Japanese)* 1−26403
MgO-Al_2O_3, laser-melted, ultra-rapid quenching 1−26510
MgO-Al_2O_3-SiO_2, cordierite, thermal expansion and chemical modification 1−38562
MgO-Al_2O_3-SiO_2-NiO high strength glass ceramic, crystn. mechanism, NiO addition effect 1−34240
MgO-Al_2O_3-SiO_2-TiO_2, TiO_2 role in glass ceramic form. 1−2339
MgO-$MgCl_2$-H_2O system, at 23°C 1−25434
MgO-NiO, grain-boundary segregation, STEM 1−26469
MgO-NiO-Al_2O_3-SiO_2 system, ceramic pigments, synthesis and props. 1−12697
MgO-SiO_2-H_2O system, hydrosilicates low pressure hydrothermal synthesis *(German)* 1−39285
MgO-V_2O_3-VO_2 system, phase rels. at 1200°C 1−26429
MgO-ZrO_2, fully stabilized, mech. props. transformation toughened, aged 1−16894
MgO.2.4Al_2O_3, surface mass transport study by multiple scratch smoothing method 1−16162
Mn-Co-Ni-Cu complex oxide semiconductors, spinel struct., AC hopping cond. 1−20786
MoO_2, microscopic and optical characterisation 1−26413
Na-β-Al_2O_3, synthesis from mixed hydroxides 1−12696
$(Na_{0.5}Bi_{0.5})TiO_3$-$CdTiO_3$ system solid solns., synthesis, struct. and dielec. props. 1−39042
$Na_5GdSi_4O_{12}$, dense, highly conductive nasicon, prep. and charact. 1−31394
$NaNbO_3$-$CdTiO_3$, thermal cond. meas. 1−50123
$NaNbO_3$-$PbTiO_3$ system, ferropiezoceramic solid soln. form. and characts. 1−39286
$Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$, synthesis, characterisation and fabrication 1−31392
$Na_3Zr_2Si_2PO_{12}$ ceramic, phase transform. 1−3726
$NiAl_2O_4$, solubility in molten Na_2SO_4 at 1200K 1−20386
NiO, solubility in molten Na_2SO_4 at 1200K 1−20386
NiO-Al_2O_3, grain-boundary segregation, STEM 1−26469

ceramics continued
NiO-Cr_2O_3, grain-boundary segregation, STEM 1−26469
NiZn ferrite-PZT ceramic heterogeneous system, magnetoelec. effect 1−52823
PLZT 6/65/35 ceramics, domain wall motion, optical method 1−26148
PLZT ceramic, ion implantation improvement of photoferroelectric imaging 1−38805
PLZT, compaction during hot pressing 1−21394
PLZT polycrystalline solid solns., birefringence mechanism in longitudinal electrooptical effect conds. *(Russian)* 1−48032
PLZT, pyroelec. current meas. from polling currents under possible injection of free charge 1−26131
(Pb, Ba, Sr) (Zr, Ti)O_3, ferroelectric ceramics, lapped surface layer effect on dielectric props. 1−39022
Pb (Zr, Ti)O_3, prep. from mixed oxides, reactivity of ZrO_2 during calcining 1−3787
$Pb_{2-x}Ba_xLi_{0.5}Nb_{1.5}O_6$ ceramic system, thermal expansion 1−11887
$(Pb_{1-x}Ba_x)Nb_2O_6$ solid solns., struct. features rel. to conc. in two-phase region *(Russian)* 1−12724
$PbBi_4Ti_4O_{15}$, with layer type struct., degree of preferred orientation after hot pressing, X-ray determ. method *(Chinese)* 1−48364
$Pb(Hf_{1-y}Zr_y)_{1-x}Ti_xO_3$, stress-forced ferroelec.-antiferroelec. transition, electromech. energy conversion 1−21137
$Pb_{0.92}La_{0.08}Nb_2O_6$:$Fe^{3+}$, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
$(Pb_{0.91}(La_{1-x}Nd_x)_{0.08})(Ti_{0.92}Mn_{0.02}In_{0.06})O_3$ piezoelectric ceramics with zero temperature coefficients in radial mode resonance frequencies 1−3334
0.9-$Pb(Mg_{1/3}Nb_{2/3})O_3$:0.1$PbTiO_3$ monolithic multilayer electromech. transducers, for optical appl. 1−23202
$Pb(Mg_{1/3}Nb_{2/3})O_3$-$PbTiO_3$ (10 mol.%), inverse hysteresis of field induced elastic deform. 1−12457
$Pb(Mg_{1/3}Pb_{2/3})O_3$ ceramics, ferroelec., electrostrictive coeffs. meas. 1−21130
$Pb_{0.99}Nb_{0.02}[(Zr_{0.73}Sn_{0.27})_{0.93}Ti_{0.07}]_{0.98}O_3$, polarocaloric effect of 2°C 1−16531
PbO-B_2O_3-SiO_2 glass-ceramics, grain size influence on baking and elec. props. *(Polish)* 1−48317
$Pb_3Rh_2O_5$, thick-film resistors, with small temp. coeff. of resist. 1−38771
$Pb(Sc_{1/2}Ta_{1/2})O_3$, relaxor and normal ferroelec., dielec. props., press. depend. 1−8009
$PbTi_{1-x}Zr_xO_3$, piezoelectric ceramics, resonant freq. temp. depend. 1−39039
$PbTiO_3$ ceramics, chemically pure, props. and synthesis 1−31107
$PbTiO_3$, depolarised polycryst. ferroelectrics, piezoelec. effect 1−31095
$PbTiO_3$-$PbZrO_3$-$PbNb_{2/3}Mn_{1/3}O_3$-$PbW_{1/2}Mg_{1/2}O_3$, piezoelectric properties for transducer appls. 1−43074
$Pb(Ti_{1-x}Zr_x)O_3$ solid solns., struct. features rel. to conc. in two-phase region *(Russian)* 1−12724
$PbTi_{1-x}Zr_xO_3$:Cr_2O_3, piezoceramic, effect of sintering conditions on temp. depend. of resonance freq. *(Czech)* 1−31097
Pb(Zr, Ti)O_3 based solid solns., piezoceramic material props. after annealing 1−21128
Pb(Zr, Ti)O_3 ceramics, 38 MHz scatt. SAW complex wave vector distrib. 1−38638
Pb(Zr,Ti)O_3, ceramics doped with multiple impurities, internal bias field effects 1−43071
Pb(Zr,Ti)O_3, expansion during reaction sintering 1−48305
Pb(Zr, Ti)O_3, isostatic pressing, elec. props. 1−3683
Pb(Zr,Ti)O_3 monolithic multilayer electromech. transducers, for optical appl. 1−23202
Pb(Zr,Ti)O_3, PZT 65/35, 1-D polar mechanical and dielectric responses due to domain switching 1−26149
Pb(Zr,Ti)O_3, phase transitions, dielec., pyroelec., and piezoelec. props. and DTA 1−16536
Pb(Zr,Ti)O_3, props. under high electric field 1−16538
Pb(Zr, Ti)O_3-based antiferroelec.-ferroelec. multilayer composites, electromech. behaviour 1−26128
$PbZrO_3$, space charge polarisation and phase transitions 1−16535
$PbZr_xTi_{1-x}O_3$ ferroelectric ceramics, energy conversion under shock loading 1−39052
Sc_2O_3, thermal stress behaviour 1−21487
Si based, transport mechanisms through oxidic surface layers 1−16097
Si-Al-O-N, densification mechanisms during hot pressing 1−39292
Si-Al-O-N, hot pressing *(Japanese)* 1−31403
β-Si-Al-O-N, reaction sintered, strength *(Japanese)* 1−48448
Si-Al-O-N, thermal cond. impurity effects 1−16117
Si-Al-O-N fabrication, by hot-pressing of compacts prep. by nitriding of SiO_2/Al/Si *(Japanese)* 1−48315
Si-O-N, thermal diffusivity, flash method with positive or negative pulse 1−2719
Si-Zr-N(C)-O, phase relations 1−16763
$SiAl_2O_2N_2$(c) (β'), heats and free energies of formation, mass spectrometry 1−43695
$SiAl_4O_2N_4$(c) (15R), heats and free energies of formation, mass spectrometry 1−43695
$Si_{2.9}Be_{0.1}N_{3.8}O_{0.2}$ hot pressed ceramic, thermomech. props 1−3871
SiC, hot pressed and sintered α-phase, high temp. dynamic fatigue 1−3872
SiC, pressureless sintering 1−16735
SiC, surface flow detection by scanning photoacoustic spectroscopy 1−35454
SiC, ultrafine particles, prep. by gas evap. method *(Japanese)* 1−31376
SiC ultrafine powder prep., modified gas evaporation method 1−26411
Si_3N_4-Al_2O_3 sintered articles, erosion by molten steel *(Japanese)* 1−43543
Si_3N_4, α-and β-phases, self diffusion 1−16087
Si_3N_4 ceramics, molten salt strength degradation 1−3943
Si_3N_4, fracture toughness determ. using chevron-notch short bar specimens 1−26612
Si_3N_4, hot pressed, processing effect on microstruct. and mech. props. 1−16738
Si_3N_4, hot pressed with low amounts of additives, mech. props. 1−16736
Si_3N_4, hot pressed with Y_2O_3 and Al_2O_3 additions, oxidation 1−16934
Si_3N_4, hot-pressed and reaction-sintered, correl. of fracture toughness and crack lengths from Vickers hardness indentation *(German)* 1−35344
Si_3N_4, hot-pressed with Y_2O_3 and Al_2O_3 addition, oxidation behaviour 1−21619
Si_3N_4, pressureless sintering 1−16735
Si_3N_4, reaction bonded, microstruct. and mech. props. 1−16740
Si_3N_4, reaction bonded, oxidation behaviour improvement by Al addition 1−16933

ceramics continued
Si_3N_4, reaction bonded, post sintering, mech. props. 1−16737
Si_3N_4, reaction bonded, surface effect on ultimate strength 1−43464
Si_3N_4, single crystal and polycrystalline reaction sintered, charact. by microhardness meas. 1−31597
Si_3N_4, sintered, mech. charact. 1−16741
Si_3N_4, surface flow detection by scanning photoacoustic spectroscopy 1−35454
Si_3N_4, thermal cond. impurity effects 1−16117
Si_3N_4-Al_2O_3 (22 wt.%), thermal decomposition 1−31848
Si_3N_4-CeO_2-Al_2O_3, ceramic, phase effects, high temp. strength 1−3753
Si_3N_4-CeO_2-SiO_2, ceramic, phase effects during oxidation 1−3945
Si_3N_4-Y_2O_3-$Al2O_3$, ceramic, phase effects, high temp. strength 1−3753
Si_3N_4-Y_2O_3-SiO_2, ceramic, phase effects during oxidation 1−3945
Si_2N_2O, structural modifications under thermal constraints *(French)* 1−20153
Si_2N_2O, thermal shock sensitivity NDT 1−17018
SiO_2, amorphous, prep. by grinding quartz *(Japanese)* 1−12705
SiO_2, amorphous free-standing films, steam thermal prep., Raman study 1−26410
SiO_2 based enamel for alloy steel, phase comp. and props. control 1−35415
SiO_2 film, dielec. breakdown retarded by annealing in NH_3 gas 1−26121
SiO_2 fused fibres, effect of TiO_2 coating on tensile strength 1−39365
SiO_2-Al_2O_3-P_2O_5 system, phase relationships and ternary compound $4SiO_2.Al_2O_3.3P_2O_5$ *(German)* 1−39319
SiO_2-GeO_2 phase diagram up to 100 kbar 1−35245
SiO_2-TiO_2, phase equilibria, TiO_2 effect on α-β transform, in cristobalite 1−48332
SnO_2, corrosion, by fused borax, effect of electric field 1−8463
SnO_2:CaO ceramics, form. of surface microstruct. 1−8606
SnO_2-SiO_2-TiO_2, SiO_2 and TiO_2 additions, heterogeneous distrib. 1−34478
$SrTiO_3$, ceramic, cond. depend. cathodoluminescence 1−35103
$SrZrO_3$ for channel of open cycle MHD generator, prep. and props. 1−48308
ThO_2, sintered, sinterability and thermal cond. 1−3682
TiN-Al_2O_3, high-temperature compatibility of components 1−21709
TiN-MgO, high-temperature compatibility of components 1−21709
TiN-ZrO_2, high-temperature compatibility of components 1−21709
TiN_x base powders, from self-propag. high temp. synthesis, surface comp. by XPS 1−16722
TiO_2, ceramic, cond. depend. cathodoluminescence 1−35103
TiO_2, spherical particles prep. 1−35222
TiO_{2-x}, stoichiometry effects on fracture 1−26596
TiO_x ceramic antireflection coatings for Si solar cells 1−17211
TlCl, bulk and surface absorpt. coeff. determ. in CO laser radiation wavelength range 1−35005
UO_2, sintering at low temps. 1−14639
UO_2, temp. depend. of atomic thermal displacements, Rietveld powder profile refinement method 1−30204
UO_2-PuO_2 nuclear ceramics, fabrication for fast breeder reactor fuels 1−14637
UO_2-SiO_2 rods, radial distrib. of UO_2 in vitreous phase *(French)* 1−20392
V_2O_3, thermal stress behaviour 1−21487
WC-β-TiN-Co alloy, sintered, β-free layer formed near surface *(Japanese)* 1−43343
Y-Si-Al oxynitride glass-ceramics, elec. props., X-ray diffr. and electron microprobe study 1−2954
$Y_{1-x}M_xCrO_3$, (M=Ca, Mg) and $YCr_{1-x}Mg_xO_3$, prep., elec. and thermal props. 1−16745
Y_2O_3:LiF, compaction kinetics 1−8259
Y_2O_3-AlN-SiO_2, elect. charact. 1−38776
Y_2O_3-Sc_2O_3 ceramic, phase comp. and props. 1−35239
Y_2O_3-Y_2O_3.WO_3, high temp. phase relations 1−39324
Y_2O_3-ZrO_2 thermal barrier coating, resistance to hot salt corrosion 1−31709
$Y_{0.4}(Si_{10.2}Al_{1.8})(O_{0.6}, N_{15.4})$, α-phase, strength 1−12797
ZnO ceramic semiconducting electrodes, dye sensitisation for photoelectrochemical conversion 1−35664
ZnO, preparation by burning Zn in O_2, photo- and electroluminescent properties 1−8263
ZnO, sintering shrinkage retardation in N_2 atmosphere *(German)* 1−21407
ZnO-Bi_2O_3 ceramic, sintering and varistor charact. 1−3675
ZnO-Cr_2O_3, annealing effect on texture 1−48371
ZnO-Li_2O, synthesis and props. 1−16747
ZnS:Cu luminophore, photoluminesc., depend. on Cu conc. 1−16598
ZrO_2, Ba-mica/Y_2O_3 stabilised composite, thermal diffusivity 1−2722
ZrO_2 based heat resistant materials, temp. held during annealing 1−35284
ZrO_2 based tetragonal material, phase retention and fracture toughness 1−43337
ZrO_2, crystn., H_2O effects *(German)* 1−38314
ZrO_2 electrode, stabilised, O^{2-} titrations in molten NaCl 1−31894
ZrO_2, fatigue, static, dynamic and cyclic *(German)* 1−3875
ZrO_2, Y_2O_3 stabilised, powder prep. by high temp. hydrolysis 1−26416
ZrO_2:CaO ceramics, form. of surface microstruct. 1−8606
ZrO_2/Ni-Cr-Al-Y segmented oxide protective coating, mech. and thermally induced fractures 1−31631
ZrO_2-CaO-Bi_2O_3, O^{2-} ion conductors, prep. and props. for low temp. use 1−16088
ZrO_2-Sc_2O_3 (8mol.%), ionic cond. meas. by AC and DC techniques 1−25499
ZrO_2-Y_2O_3 membrane-type pH sensor, use in high temp., high press. solns. 1−21810
ZrO_2-Y_2O_3/Ni-Cr-Al-Y thermal barrier coating lifetime, Y, Al and Cr conc. effect 1−31632
ZrO_2-Y_2O_3/Ni-Cr-Al-Y thermal barrier coating, thermal cycling effects 1−31633
ZrO_2-Y_2O_3/(M-Cr-Al-Y) thermal barrier coating (M=Ni, Co), hot corrosion behaviour 1−31710
ZrO_2-Y_2O_3-Al_2O_3 system, subsolidus phase equilibria 1−26432
(ZrSn)TiO_4 dielec. ceramics, rels. between microwave dielec. losses and microstruct. *(Japanese)* 1−48533

Cerenkov counters *see Cherenkov counters*

Cerenkov radiation *see Cherenkov radiation*

cerium
see also nuclei with .....
band structure, Compton profile, and γ→α transition 1−47445
basaltic magma, redox state of CE 1−40096
chemisorption of D_2O, X-ray photoelectron study, comparison with oxidation by O_2 1−8613
chemisorption of O_2, X-ray photoelectron study 1−8612
critical indices for γ⇌α transform. *(Russian)* 1−2612
elastic consts. of γ-Ce single crysts. 1−16828
elastic props. up to 8.4 GPa and 293K 1−34395
electronic struct., f-d hybridisation, cluster calc. 1−47444
f-electron bonding, electronic struct. and phase transitions 1−47431
film, oxidation studied XPS and UPS 1−26372
impurities in superconductors, demagnetisation, zero-bandwidth limit 1−42893
isostructural γ→α phase transition investig. by Compton scatt. 1−47234
isostructural γ-α transition, self-consistent linearised APW energy band calc. 1−42682
Kondo-like anomaly in thermoelec. behaviour, press. enhancement 1−30726
magnetism and supercond., Hill plot predictions 1−47780
microdoping of type ShKh-15 steel, sulphide inclusion hardening *(Russian)* 1−16870
oxidised surface, matrix effects, comparative SIMS and sputtered neutral mass spectrometry 1−31293
phase diagram, mag. props. 1−30898
photoelectron spectra core-level line shapes rel. to screening orbital localisation 1−16661
rare earth impurities, electron transition 1−42535
Riga Gulf, distrib. of Sc, Hf, Th, Ln, Ce, Eu, Mn, Fe, Co in bottom sediments and suspended matter *(Russian)* 1−13449
volume compression up to 4 GPa 1−7254
zone refining high purity metal 1−26383
BaF_2:Ce^{2+}, photocond. due to autoionis. of ce^{2+}, threshold shift *(French)* 1−52600
CaF_2:Ce^{2+}, photocond. due to autoionis. of ce^{2+}, threshold shift *(French)* 1−52600
CaF_2:Ce^{3+}, tetragonal impurity centres, struct. and spectrum 1−20662
$Ce^{3+}f^1$ in ionic solids, quadrupole polarisability and shielding-antishielding factors, calc. 1−20691
$CsCdBr_3$:Ce^{3+},Tm^{3+}, spectroscopic props. of Ce^{3+}-Tm^{3+} centre 1−52992
Ni-Cr-Si (20, 3 wt.%), containing small addition of Ce, high-temp. oxidation 1−26681
SrF_2:Ce^{2+}, photocond. due to autoionis. of ce^{2+}, threshold shift *(French)* 1−52600
SrO-Li_2O-P_2O_5:Mn, Ce system, luminesc. meas., composition depend. 1−48133

cerium alloys
Ag-Ce (0 to 50 at.%), equilib. phase diagram investigation 1−35234
Al_2Ce and Al_3Ce, Kondo effect under press. 1−30898
Ce-Cu liq. alloys, high temp. heat content and heat capacity, levitation calorimetry 1−11877
Ce-Fe, amorphous, mag. props. and Kerr rot. 1−25970
Ce-Ga system, Ga rich, phases, structs., solid solubility determ. 1−21424
Ce-Ge-B system, phase comp. at 600°C 1−31421
Ce-La-Ni, hydride development for hydrogen storage 1−20556
Ce-Mg, alloys, rich in Mg, for H_2 storage *(French)* 1−43825
(Ce-La) $[Co_{1-x}(Cu,Fe)_x]_5$, phase relations and mag. props. 1−8272
(Ce-La-Nd-Pr-Fe)$_2Co_{17}$, equilibrium relations among mag. phases 1−26427
CeAg, evidence for Anderson lattice behaviour under press., Curie temp. and resist. meas. 1−38935
CeAg, thermal and elastic props. 1−20433
CeAg(Mg)(Zn), crystal field excitations, quasielastic and inelastic, linewidths 1−25676
$CeAl_2$, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
$CeAl_2$, NMR, hyperfine fields, fluctuations, spatial correlation 1−43024
$CeAl_2$, pure and doped Laves phases, growth and characterisation 1−3605
$CeAl_2$, SAW propag. in paramag. phase 1−34560
$CeAl_2$, thermal and elastic props. 1−20433
$CeAl_2$, XPS from Ce core level 1−48231
$CeAl_3$, low temp. elastic consts., rel. to cryst. field splitting 1−35299
$CeAl_3$, spectral width temp. depend. 1−30911
$CeAl_3$, thermal and elastic props. 1−20433
$Ce_{65}Al_{35}$, amorphous, mag. props. meas. 1−12266
$Ce_{89}Al_{11}$, amorphous, mag. interactions, elec. transport props. and cryst. field effects 1−25903
CeBe(Sb), magnetic anisotropy model, band struct. calcs. 1−42957
CeBi, thermal and elastic props. 1−20433
$CeCu_2Si_2$, mag. susceptibility and kinetic parameters *(Russian)* 1−30927
$Ce_{1-x}Ho_xRu_2$ magnetic superconductor, cryst. field effects 1−25845
$CeIn_3$, mag. ordering in presence of fast spin fluctuations, neutron scatt. study 1−20960
$CeInAg_2$, mag. susceptibility, elec. resist., cryst. field excitations, neutron spectroscopy 1−47865
Ce_5Ir_3, cryst. struct. 1−34289
$Ce(Ir_xOs_{1-x})_2$, cubic Laves phase, intermediate valence state detect., ESR and lattice parameter study 1−26032
$Ce_{0.9-x}La_xTh_{0.1}$, mixed valence cpd., energy parameters and cryst. field effects 1−20670
$CeMg_3$, mag. susceptibility, elec. resist., cryst. field excitations, neutron spectroscopy 1−47865
$CeMg_{11}Ni(Cu)(Zn)_4$ struct., hydrogen sorption-desorption cycles *(French)* 1−20560
$CeNi_2$, XPES study of mixed valency 1−43241
$CeNi_5$, elastic consts., US vel. meas. 1−2550
$CePd_3$, anomalous temp. behaviour of mixed valence state, XPS study 1−12072
$CePd_3$, thermal and elastic props. 1−20433
$CePd_3$, XPS from Ce core level 1−48231
$Ce(Pd_xAg_{1-x})_3$, mixed valence, cryst. elec. fields and Kondo effect 1−20672
Ce_2Pt_3, mag. props. meas., 4.2 to 300K 1−30923
$Ce(Pt_xIr_{1-x})_2$, cubic Laves phase, intermediate valence state detect., ESR and lattice parameter study 1−26032
$CeSn_3$, low temp. anomalies 1−20705
$CeSn_3$, mixed valence, phonon dispersion, inelastic neutron scatt. study, comparison with $LaSn_3$ 1−38481
$CeSn_3$, mixed-valence, Fermi surface meas. 1−42674
$CeSn_3$, thermal and elastic props. 1−20433

cerium alloys continued
$CeSn_3$, valence fluctuation, mag., elec., and thermal meas., 1.4 to 300K 1−25874
$CeSn_{3-x}In_x$, Kondo effect in presence of cryst. elec. fields, resistivity and thermal expansion 1−25722
$Ce_{1-x}Th_xAl_2$, mag. order and moment reduction, thermal expansion meas. 1−20979
CeZn, mag. susceptibility, elec. resist., cryst. field excitations, neutron spectroscopy 1−47865
$(Co_{0.83}Cu_{0.17})_6Ce$, struct. changes during ageing, mag. props. 1−31508
LaCe, Konds effect under press. 1−30898
$(La_{0.5}Ce_{0.5})Ni_{5-x}Co_x$, absorption of H_2, hysteresis effects 1−2632
Mg-La-Ce alloys for hydrogen storage 1−21938
Ni-Ca-La(-Al), hydriding and dehydriding, reaction kinetics 1−4070
Pd-Ce (5.75 at.%), H_2 diffusion, influence of order 1−20459
Pd-Ce solid solution alloys, thermal expansion and mag. susceptibility, lattice order effect 1−34491

cerium compounds
see also cerium alloys
alkaline earth cerates, prep., technical charact. and elec. props. 1−16748
monopnictides, mag. ordering 1−47876
monopnictides and chalcogenides, mag. anisotropy and extraordinary mag. ordering 1−25929
monopnictides and monochalcogenides, mag. ordering, ⟨100⟩ or ⟨111⟩ alignment 1−47877
oxide, trivalent behaviour, implications for cosmochem. and thermodynamics 1−25421
rare earth cpd., $LiR_{1-x}(Eu,Tb,Ce)_x(PO_3)_4$ (R=La, Y, Gd), photolum. and cathodolum. 1−39137
salts, mol. absorpt. spectrosc. *(Japanese)* 1−48766
CMN-^{3}He solid, heat transfer 4 to 30 mK 1−20508
CaC-$Na_2C_2(Li_2C_2)(CeC_2)$, solid solubilities, X-ray diffr. study 1−7337
$Ce_4[Fe(CN)_6].4H_2O$, resistivity, temp. variation 1−38774
CeAs, 4f levels studied by resonant photoemission using synchrotron radiation 1−48232
CeB_6, anisotropic exchange interaction, paramagnetic susceptibility 1−16425
CeB_6, anomalous mag. props., model calc. within mol. field approx. 1−52766
CeB_6, electrical cond. and magnetoresistance 1−20703
CeB_6, single crystal spin echo NMR meas., Knight shift, mag. moments 1−52866
CeB_6 single crystals, mag. props. 1−20954
CeB_6, thermionic emission props. 1−26355
CeBi, internal distortion, Bond X-ray diffr. technique 1−29970
$Ce_{1-x}Ca_xO_{3-x}$, mixed elec. cond. 1−30792
$CeCl_3$, TLD material, properties 1−957
$CeCoC_2$, cryst. struct. 1−30199
$CeCu_2Si_2$, XPS from Ce core level 1−48231
CeD_x (H_x), neutron spectroscopy study of H motions 1−20339
$Ce_xEu_{1-x}B_6$, magnetic susceptibility of solid solutions 1−25906
CeF_3:Gd^{3+}, EPR 1−47942
CeH, Raman study of 250K phase transition 1−16567
CeH_x, electron-phonon interaction, composition depend. phonon anomaly 1−42485
$CeH_2(H_1)$, electronic struct. APW calcs., LCAO calcs. 1−20627
$Ce_xLa_{1-x}B_6$, magnetic susceptibility of solid solutions 1−25906
$Ce_xLa_{1-x}F_3$, Raman scatt., magnetoelastic interaction of optical phonons 1−26216
$(Ce_{0.05}La_{0.95})_2Mg_3(NO_3)_{12}.24H_2O$, deuterised, mag. thermometers 1−27975
$Ce_x(La_{0.76}Y_{0.24})_{1-x}As(Sb)(Bi)$, elec. resistivity investigations 1−20706
$CeMgB_6O_{10}$, synthesis and cryst. struct. 1−25213
$Ce_2Mg_3(NO_3)_{12}.24H_2O$, role of imperfections on mag. and thermodynamic props. 1−16448
CeN, 4f levels studied by resonant photoemission using synchrotron radiation 1−48232
$CeNbO_4$, neutron powder diffr. obs. of cryst. struct. 1−38350
$Ce_xNd_{1-x}P_5O_{14}$ crysts., excitation, luminesc., energy transfer from Ce^{3+} to Nd^{3+} 1−26259
CeO, laser induced fluoresc. expt., relative energies of low lying electronic states, vibr. freq. 1−41417
CeO_2, 3d and 4d XPS, multiple scatt. Xalpha and intermediate coupling calc., final state effects 1−33502
CeO_2 additions in vitreous SiO_2, effect on γ-radiation resist. 1−52978
CeO_2, cryst. surfaces, struct. and props. 1−7436
CeO_2, standard reference materials, for quantitative anal. and d-spacing meas. 1−29951
$CeO_{2-x}Y_2O_3$, nonstoichiometric, electronic cond. 1−2959
CeO_2-Ag-CeO_2 selective transparent filters for solar collectors *(Japanese)* 1−21909
Ce_2O_3, thermal props., 400 to 1000K 1−2720
Ce_2O_3-CeO_2 film growth on Ce, XPS and UPS studies 1−26372
$(CeO_2)_{0.9}(Gd_2O_3)_{0.1}$, solid electrolyte, diffusion-limited charge transport at Pt paste electrodes 1−48827
$(CeO_2)_{0.9}(ZrO_2)_{0.2}Ta_2O_5$, electronic cond., temp. depend. *(French)* 1−38773
CeP excited state EPR, g-shift and linewidth, theory 1−26033
$CePO_4$, crystal struct. determ., appl. as nuclear waste matrix element 1−52117
$CePO_4$, sintering reaction with Na_2CO_3, intermediate products 1−26404
$CePO_4$:Gd^{3+}, EPR study, appl. to radioactive waste disposal 1−43006
CeS, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
Ce_2S_3, thin film, absorption band edge shift, temp. depend. *(Ukrainian)* 1−16617
$CeS_{1.90}(S_{1.46})$, magnetic susceptibility and heat capacity 1−25872
CeSb, antiferromagnet, mag. phase diagram, neutron diffr. study 1−20983
CeSb, Ce^{3+} ground state, polarised neutron diffr. determ. 1−47859
CeSb phase diagram, layered struct., mag. interactions 1−47885
CeSb, specific heat anal. of mag. phase diagram 1−25936
CeSb:Bi(As), magnetization and neutron diffr. studies 1−47915
$CeSc_2Si_2$, struct. refinement by powder neutron diffr. 1−11728
CeSe, 4f levels studied by resonant photoemission using synchrotron radiation 1−48232
CeSe, XPS from Ce core level 1−48231
$CeTaO_4$, neutron powder diffr. obs. of cryst. struct. 1−38350
CeTe, 4f levels studied by resonant photoemission using synchrotron radiation 1−48232
cerium compounds continued
CeTe, mag. props., metamagnetic transitions 1−12285
$Ce_xU_{1-x}C_2$ (X=0.33, 0.67), struct., lattice parameters, neutron diffr. obs. 1−34306
$Ce_{0.08}Y_{0.92}Sb(Bi)$, dilute f-electron systems, crystal-field and exchange splitting in cluster regime, neutron spectroscopy, calc. 1−47589
$(NH_4)_2Ce(NO_3)_6$, solid, proton spin-rotational relax. obs. 1−38998
Na-Ce-O system, phase equilib. invest. 1−53164
Nd_2O_3-CeO_2-ZrO_2-RuO_2, prep. and props. of some phases 1−31443
Si_3N_4-CeO_2 (Ho 20 wt.%) hot pressing 1−48307
Si_3N_4-CeO_2-Al_2O_3, ceramic, phase effects, high temp. strength 1−3753
Si_3N_4-CeO_2-SiO_2, ceramic, phase effects during oxidation 1−3945
$Sm_xCe_{1-x}B_6$, magnetic susceptibility of solid solutions 1−25906
$Sm_xCe_{1-x}B_6$ solid solns., mag. and elec. props., temp. and comp. depend., carrier types 1−47841
$TlInTe_2$-$TlCeTe_2$, current-voltage characteristics, switching effect 1−7673
$(U,Ce)O_{2-x}$, thermomigration of O rel. to defect struct. 1−2684
UO_2-CeO_2 system, crystallographic study at high temp. *(French)* 1−26428
ZrO_2-CeO_2-Y_2O_3 ternary solid solns., elec. props. 1−42833

cermets
coatings technologies, recent advances 1−16682
light-absorbing cermet coatings produced by joint vapour deposition of metal and dielecs. 1−13157
metal-ceramic, type YuNDK35T5, laser radiation action on porous materials *(Russian)* 1−15924
MHD materials, alkali corrosion and vaporisation 1−43559
resistive films based on PbO-B_2O_3-SiO_2 and BaO-B_2O_3-SiO_2 sintered glass, electrical props. *(Slovak)* 1−53304
VC+Ni cermets, with controlled C-to-metal ratio, prep. and props. 1−8264
Al_2O_3-Co cermet, effective medium models for inhomogeneous material optical props. 1−37409
Al_2O_3-ZrO_2-Al-Ni powder composite, for coating metals 1−21638
Au-cermet-Si contacts, elec. characts. meas. 1−7744
Co-WC system, pseudobinary eutectic reaction 1−39329
Cr-SiO cermet thin film resistors, flash evaporation 1−16696
Cr_2O_3-Al_2O_3-Mo, solidified, SEM studies *(German, English)* 1−8300
EuO_3-Fe cermet, fabrication for coarse control arm tips in DIDO and PLUTO 1−53151
HfB_2-Mo system, polythermic section 1−12728
(Mo,Cr)-(Cr_2O_3, Al_2O_3) cermet, thermionic energy convertor 1−17227
Mo-Al_2O_3(ZrN) cermets, sintered, strength 1−35381
Nb-Al_2O_3(α) cermets, supercond., elec. and thermal props. 1−20911
Ni-Al_2O_3 cermet development, optimisation of cutting tool parameters 1−39469
Ni-P-TiB_2 cermet, Ni-P binder, prep., props. 1−3688
SiO_2-Ni coatings, produced by joint condensation of vapours, spectral reflection 1−13157
Ti(Zr)(Hf)C-Mo(Re)(W) eutectic cermets, thermionic emission props. 1−35140
V-SiO, thin film, elec. props. *(French)* 1−52664
WC-Co, fracture toughness and stress rupture behaviour 1−39439
Y_2O_3-Cr(W) composite, hot pressing, reactions, X-ray study 1−21410
ZrB_2-Mo(Re)(W) eutectic cermets, thermionic emission props. 1−35140
ZrC-C system, CVD prepared, elec. resist., and temp. depend. 1−47759

CESR
antiferromagnetic semiconductor, CESR and ENDOR, effect of s-d exchange interaction 1−52843
dilute magnetic alloy, ESR dynamics of spin subsystems at low temps. *(Russian)* 1−31012
ferromagnetic conduction electron homogeneous spin relax. *(Russian)* 1−38982
ferromagnetic metals and semiconductors, electron phenomena of spin relax., diffusion damping *(Russian)* 1−31028
metallic film with localised magnetic impurities, spin resonance 1−21051
polyester resin, C black doped, ESR spectra, conduction carriers, localised spin centres 1−12401
transmission CESR, anisotropic g-factor effects, theory 1−47949
Al, g-factor of cond. electrons, calc. and appl. to CESR 1−25616
CdMnSe, spin depend. conduction electron scatt. by mag. impurities 1−47948
Cu-Nb sandwiches, transmission ESR above and below supercond. transition 1−21049
$Gd(Co_xAl_{1-x})_2$, ESR study 1−7946
HgMnTe, spin depend. conduction electron scatt. by mag. impurities 1−47948
InSb, collision narrowing of ESR line 1−34940
Li with metallic impurities, spin-flip and resistivity scatt. of cond. electrons 1−38983
Li-methylamine solution, CESR obs. of metal-nonmetal transition rel. to miscibility gap 1−26037
Li-NH_3 solution, CESR in metal-nonmetal transition range 1−26036
Li-Zn bimetallic film; diffusion and solubility of Zn, CESR obs. 1−12402
Na with metallic impurities, spin-flip and resistivity scatt. of cond. electrons 1−38983
Nb_3Ge, film, CESR and spin wave studies in normal and supercond. states 1−16482
Nb_3Ge films, spin wave study in normal and supercond. states, CESR meas. 1−47947
Nb_3Si, film, CESR and spin wave studies in normal and supercond. states 1−16482
Si, amorphous, elec. cond. and ESR study 1−20744
a-Si:B(P) film, adsorption effects on ESR and elec. cond. 1−21050
V_3Si, film, CESR and spin wave studies in normal and supercond. states 1−16482
ZnO, adsorption of H, accumulation layer CESR meas. 1−12400

chalcogenide glasses
AC conductivity and optical absorpt. 1−16286
binary system, physicochem. props. calc. method 1−42308
chemistry and relevance to energy conversion 1−30060
electronic structure, review 1−30615
energy gaps in glassy materials, existence arguments eval. 1−12021
gap states, review 1−16221
IR acousto-optic materials, appl., requirements, cryst. development 1−15237
melts, quenched, cooling rate to onset of crystn. 1−43331
morphology and glass-forming tendency 1−11680
nonradiative carrier decay, topological model 1−31182
optical thin film waveguide fabrication by laser evaporation 1−6694
photoluminescence, review 1−31202

chalcogenide glasses continued
photoluminescence dynamics in chalcogenide glasses and crystals 1−3462
photostructural change and related phenomena *(Japanese)* 1−42314
positron annihilation spectra, cryst.-glass transition effects 1−31227
$(Se_{32}Te_{32}As_4Ge_{32})_{100-x}Ni_x$, amorphous semicond., electrical cond. and optical absorpt. 1−20730
semiconducting, charged intrinsic defect states 1−47568
struct. and transport props. impurity and defect effects *(Slovak)* 1−15804
structure, EXAFS determ. 1−20077
thermal IR telescopes, use of chalcogenide glass 1−46530
valence states, thermally and photoinduced changes, UPS study 1−52471
X-ray and neutron diffr. anal. 1−30067
A_2Se_3:Cu(Mo,Ni), amorphous, RF cosputtered films, cond. temp. depend., optical absorpt., Fermi level shift 1−42781
Ag-As-Se glasses, low Ag conc. elec. cond. 1−38780
Al/As_2SeTe_2/Sb struct., resist. and photovoltaic behaviour, contact barrier effects 1−52663
Al-As-Te semiconducting glasses, thermal props. and crystn. processes 1−25180
Al_xTe_{1-x}, switching effect in strong electric field 1−3028
As-Ge-S(Se) systems, optical and elec. props. 1−3387
As-Ge-Te amorphous film, steady state photocond. meas. 1−52603
As-S, melts and glasses, valence struct., viscosity and elastic props. 1−16080
As-S-Sm films, amorphous, photoinduced struct. alterations *(Russian)* 1−42323
As-Se, thin film waveguide fabrication by laser evaporation 1−6694
As-Se amorphous system, struct. and energy levels, UPS, Raman spectra and photocond. study 1−47440
As-Se glassy films, US Rayleigh wave effects, residual changes 1−2793
As-Se system glasses, physicochem. props. calc. method 1−42308
As-Se-Fe, glass, EPR spectra *(Russian)* 1−16478
As-Se-I-Fe glass, EPR spectra *(Russian)* 1−16478
As-Se-Sb system, glass form. region and elec. props., devitrification charcts. 1−30080
As-Te-Si glassy films, switching delay time influence 1−7679
As_2S_3 amorphous films, electrical cond. 1−42784
As_2S_3 and CC As_4S_4, amorphous evaporated films, struct, X-ray diffr. study 1−20585
a-As_2S_3, chalcogenide glass, luminescence polarisation time depend. 1−16605
As_2S_3, glassy, space-charge-limited current, temp. depend. 1−2977
As_2S_3, luminescence fatigue, decay curves 1−48165
As_2S_3, photoinduced refractive-index changes *(Japanese)* 1−46473
As_2S_3, vapour-deposited, hole transport meas. 1−34702
As_2S_3:Ag, amorphous film, high speed memory, reliability, expt. 1−20831
$(As_2S_3)_{1-x}(AsBr_3)_x$ glass, depolarisation Raman spectra 1−3401
$As_2S_3(Se_3)$, photosuppression and photodarkening effects 1−26292
$As_{40}S_{25}Se_{25}Ge_{10}$, photoinduced refractive-index changes *(Japanese)* 1−46473
As_2Se_3 amorphous films, glass transition characterisation by heat of vaporisation 1−30367
As_2Se_3 film, photoinduced oxidation, optical props. variation 1−43204
As_2Se_3, glassy, metal-nonmetal transition obs. on addition of 3d elements 1−47715
As_2Se_3, glassy, struct. defect states 1−52525
As_2Se_3, rate consts. of crystn., temp. depend., additives effect 1−47004
$As_{70}Se_{30}$ Fourier holograms, intensification of amplitude-phase contrast *(Russian)* 1−37443
As_xSe_{1-x} amorphous thin films, electron drift vel. meas. 1−12114
As_xSe_{100-x} amorphous, valence band states, UPS determ. 1−12624
$As_xSe_{1-x}(S_{1-x})$ films, amorphous, photoinduced struct. alterations *(Russian)* 1−42323
$As_2Se_3(S_3)(O_3)$, struct. and photostruct. props., NQR study 1−52862
$(As_2Se_3)_{1-x}(Sb_2Se_3)_x$, amorphous, Raman scatt. 1−26192
$(As_2Se_3)_x(SnSe)_{1-x}$ glass, influence of preparation conditions on positron annihilation 1−3531
$As_{20}Se_{20}Te_{20}$, switching and memory effects 1−12158
As_2Te_3, amorphous and metastable cryst. struct. correlations, Mossbauer study 1−30076
Bi_2S_3 thin film, chem. deposition, struct., and elec. props. 1−16700
Cu-As-Se chalcogenide semicond., drift mobility, photoinduced changes *(Russian)* 1−38781
Er^{3+}: glass (phosphate, germanate, tellurite), radiative and nonradiative transition probabilities 1−26236
Ga_xTe_{1-x}, switching effect, in strong electric field 1−3028
Ge-As-Se, glass-like semiconductors, holographic information recording, struct., chemical comp. *(Russian)* 1−37436
Ge-As-Se-Te glass, potential as IR optical material in 3-5 μm and 8-12 μm ranges 1−41798
Ge-As(Sb)-S(Se) two layer antireflection coatings for YIG near IR detector elements *(Russian)* 1−41800
Ge-P-S chalcogenide glass fibres 1−16751
Ge-S glass fibre prep. with reduced OH, SH content 1−41854
Ge-S-Se(Te) and Ge-Se-Te systems, vitrification regions, IR spectra, microhardness, glass and crystn. temps. 1−42307
Ge-Sb-S amorphous film, optical props. and short range order parameters study *(Russian)* 1−53010
Ge-Sb-S glasses, Raman spectra in S-rich region 1−31141
Ge-Se, amorphous, photoluminescence, review 1−31202
Ge-Se amorphous obliquely-deposited films, photo-induced effect, XPS 1−35144
Ge-Se chalcogenide glass films, optical const. meas. 1−35110
Ge-Te glasses, short-range order, Mossbauer and electron spectra study 1−42321
Ge-Te glassy film, current instability develop. in switching with delay 1−20833
Ge-Te glassy films, switching delay time influence 1−7679
a-GeS_2, chalcogenide glass, luminescence polarisation time depend. 1−16605
GeSe amorphous films, chem. modification, elec. props. 1−34713
GeSe, amorphous thin films produced by sputtering, elec. props. *(German)* 1−2986
$GeSe_2$ glassy films, optical spectra and electronic struct. 1−48115
Ge_xSe_{1-x}, amorphous, fatigue of photoluminesc. and photocreation of paramag. centres 1−21266
Ge_xSe_{1-x} glass films, Ag photodoping, electron diffr. study 1−15911
Ge_xSe_{1-x} glassy films, whisker growth induced by Ag photodoping, TEM obs. 1−47416
Ge_xSe_{1-x}:Mn^{2+} glasses, chalcogen-rich, EPR study 1−31020
Ge_xTe_{1-x}, switching effect, in strong electric field 1−3028

chalcogenide glasses continued
H incorporation, effects on electronic and struct. props., review 1−52067
Hg-Ge-Se-Te system, glass form., struct. and elec. cond. 1−30079
In_xSe_{1-x} amorphous film, density of localized states 1−25663
Nd^{3+}:$La_2S_3.3Ga_2S_3$ $(3Al_2S_3)$ glass, radiative transition probabilities and stimulated cross-sections 1−26237
P-Se-Te system glasses, viscosity and thermal expansion 1−38574
$PbSe$-$GeSe_2$ system, phase diagram, Pb_2GeSe_4 X-ray analysis and DTA 1−31438
Se, glassy, theory of defect states 1−12066
Se, glassy, XPS under Ar ion bombard. 1−3564
Se/As-Se-Te/Se/poly-N-vinylcarbazole struct., photoinjection barriers meas. 1−42851
Se-based IR glass optical fibres, 4 μm and 10 μm bands 1−11126
Se-Te system, crystn.-amorphous mixed phases, X-ray diffr. intensity with absorpt. correction 1−15810
$Se_{1-x}Te_x$ amorphous films, dispersive optical consts. 1−43087
Si-Te glasses, short-range order, Mossbauer and electron spectra study 1−42321
Si-Te glassy films, switching delay time influence 1−7679
Si-Te-As-Ge amorphous films, RF sputtering, props. rel. to deposition conditions 1−43262
Si-Te(-As) glassy film, current instability develop. in switching with delay 1−20833
Si_xTe_{1-x}, switching effect, in strong electric field 1−3028
$Si_{11}Te_{85}As_4$ glassy energy dissipation in switching 1−3026
$Si_{12}Te_{48}As_{30}Ge_{10}$, glassy films, switching delay time influence 1−7679
$Si_{12}Te_{48}As_{30}Ge_{10}$ glassy film, current instability develop. in switching with delay 1−20833
TeO_2-based IR glass optical fibres, 4 μm and 10 μm bands 1−11126
$TeSe_{20}$, amorphous solid and kinetics, DTA and DC cond. obs. 1−2331
Te_xSe_{1-x} amorphous films, DC cond., 100 to 330K 1−2969
$Tl_2SeAs_2Te_3$, glassy, current inhomogeneities and develop. of thermal switching 1−20832
$Tl_2SeAs_2Te_3$ IR chalcogenide glass, laser switching system damage threshold factors 1−37527

change of state *see phase transformations*

channel flow
see also pipe flow
3-dimensional transonic internal flows, numerical calcs. *(French)* 1−42063
aerosol particle deposition due to diffusion and electric charge in plug and Poiseuille flow 1−46812
aerosol particle trajectory and capture coeff. in circular-arc channels 1−24870
bandwidth attenuation with a folded cavity liner in a circular flow duct 1−15542
blocked duct, anal. of flow and acoustical motion of fluid 1−19519
boiling channel flow stability, multivariate hydrodynamic anal. from inherent noise meas. 1−19782
boundary layer turbulence, direction of streamlines near wall 1−51756
chemically reactive flow, laminar, finite element method 1−42103
circular vortex in uniform channel, finite element model stability and accuracy 1−11457
coal ash droplets in combustion flows, laser transmission for sauter mean dia. meas. 1−19839
coherent structure near channel walls for turbulent flow *(German)* 1−37890
combustion duct, spectral struct. of pressure meas. and acoustic wave propag. 1−29775
convection in horizontal cylindrical annulus, stability 1−15493
Couette flow, 2-dimens., self-oscillatory regime initiation 1−29782
cylindrical duct, two component swirled jet propag., 'through' circulating flow onset 1−15549
cylindrical solar heat absorber, numerical anal. of fluid flow with heat loss 1−17262
developed channel flow between reservoirs of different temperatures *(German)* 1−37935
developing flow, vel. distrib. effects on stability, critical Re 1−46805
duct, curved, square, laminar flow, buoyancy-induced recirculation 1−38014
duct, generalised Couette flow of non-Newtonian fluids, heat transfer along thermal entry zone 1−29674
duct, generalised Couette flow of non-Newtonian fluids, thermal inlet region heat transfer 1−29673
duct flow, 2-dimens., natural transition in inlet region 1−11470
duct flows, inverse problem, time-depend soln. method 1−15541
duct systems with non-uniform wall impedance, appl. of equivalent surface source method to anal. of acoustic field 1−24547
duct with spanwise periodic rect. protuberances, laminar forced convection 1−42052
ducts, annular cross section, variable property heat transfer, laminar and turbulent 1−42054
ducts, turbulent boundary layer, constant temperature hot-wire anemometry 1−11456
dusty viscous flow through the annulus between two coaxial circular cylinders 1−11444
electrodialyser U-turn, mass transfer analysis 1−6892
entrained liq. drops, conc. distrib. and diffusivity, horizontal liq. film-mist 2-phase flow 1−24865
ferroliquids, magnetically stabilised, suppression of turbulence 1−29790
finite length inflanged circular duct with uniform axial flow, anal. of acoustic radiation 1−29431
finite length unflanged circular duct with uniform axial flow, computed acoustic radiation characts. 1−29432
flared annular nozzle, conducting gas MHD approach, flow struct., elec. and mag. fields effect 1−24893
flat channel, magnetic field effect on Knudsen gas flow 1−11424
flat channel, non-Newtonian fluid with temp. depend. rheological props., heat transfer 1−29675
flow characteristics calc. method *(German)* 1−42096
forced cooling channels, flow instability, temp. and pressure oscillation obs. 1−46817
friction in channels, turbulent flow, two-layer model *(Russian)* 1−15545
fusion reactor, lithium-cooled blanket, MHD convection, finite-element anal. *(Japanese)* 1−895
gas, Knudsen, molecular, transport phenomena 1−24845
gas-liquid flow in parallel vertical tubes, countercurrent 1−29758
gas-liquid turbulent flow, stratified, in cylindrical ducts 1−46802
generalised length dimension for non-circular ducts 1−29779

channel flow continued
heat generation, internal, in fully-developed, laminar, rectangular channel flow 1−33958
heat transfer, review 1−33956
heat transfer to laminar flow in converging plane walled channels with prescribed wall heat flux *(Japanese)* 1−34014
Hele Shaw cell, surface tension effect on finger shapes 1−46807
Hele Shaw flow with time-depend. free boundaries 1−46806
Hele-Shaw flow flow, drag on body between parallel plates 1−19808
ideal raft in open channel, theory 1−24884
incompressible viscous fluid, unsteady laminar flow through porous media in hexagonal channel 1−11366
internally heated annular, in parallel flow, saturated convective boiling, critical heat flux 1−19710
jets with linear velocity profile, long wavelength stability, solid walls effect 1−19673
laminar heat exchanger channels with corrugated finning, gas flow *(Russian)* 1−1977
large aspect channel, tubulent heat transfer 1−24810
Leveque solution for flow in an elliptical duct 1−29780
LMFBR, HCDA, above-core hydrodynamics, sodium spillage, Eulerian method 1−33316
LMFBR, sodium eddy diffusivity of heat in circular duct 1−38013
LMFBR fuel motion in voided channels, effect of steel vapour pressure 1−5961
LWR, forced convective subcooled boiling in heated annular channels 1−14577
MHD secondary channel flows at high Hartmann number 1−51877
mixed sub-supersonic flow in channels with permeable wall 1−29784
multi-pass radiation fluid-heater, exposed to nonuniform radiation, fluid and wall temp. distrib. 1−17264
natural convection in an inclined channel bounded by permeable material 1−11469
Newtonian fluid in finite channel, free surface of steady flow 1−34011
non-Newtonian liquids, study state heat transfer, conjugate formulations 1−29672
non-uniform ducts, with compressible, subsonic mean flow, weighted residuals method 1−51652
nozzles, supersonic, shock starting, shock wave-channel interaction 1−33980
obstructions in open channel, longitudinal dispersion, flume *(Japanese)* 1−42089
open channel with series of submerged rectangular orifices and vertical baffles, laminar flow *(Japanese)* 1−15548
open-channel flow, bursting phenomena, struct. of space-time correlations 1−51872
partially parabolised Navier-Stokes eqns., numerical solns. 1−42090
particle motion in channels, laminar sublayer of turbulent flow, mass forces effects 1−11466
pentane-acetone mixture, mass exchange during film rectification, elec. field effect *(Russian)* 1−42099
permeable wall channel, flow past slender profile 1−51799
planar channel, fluid periodic laminar motion stability 1−19810
plane duct, established flow, viscosity of turbulence models *(French)* 1−42087
plane Marangoni-Poiseuille flow of two immiscible fluids 1−11452
polymer soln., pipe flow drag reduction in 90° triangular open channel 1−24849
porous body in duct, enhancement of simultaneous radiative and convective heat transfer 1−19798
radial flow between parallel plates, Navier-Stokes eqns., approx. soln. *(Chinese)* 1−29638
rarefied gas, electrically conducting, MHD fluctuating flow between 2 porous plates 1−6875
rarefied gas between 2 plates 1−29728
rarefied gas cylindrical Couette flow, with heat transfer and porous surface 1−19756
reactor fuel rod bundles, 2-D fluid flow and heat transfer 1−41170
rectangular cavity, Navier-Stokes eqn. *(German)* 1−42097
rotating concentric cylinders, turbulent friction, rel. to Reynolds number, radius ratio 1−29705
row depth effects on turbulence spectra and acoustic vibrs. in tube banks 1−29659
scattering of long waves in a rotating bifuracted channel 1−37954
shear flow between concentric cylinders, drop migration 1−29738
slotted wind tunnel viscous crossflow 1−19804
solid particle flow in aerated inclined channel 1−42093
solid sphere in triangular or square cylinder or between parallel plates, wall correction factor 1−29760
sound waves in ducts, long time asymptotics, Burgers eqn. 1−24827
stabilised air flow turbulence local isotropy *(Russian)* 1−2085
stability of tube flow developing from uniform inlet conditions, high Reynolds number 1−42094
Stokes flow simulation using hybrid finite-element model 1−46720
straight alluvial streams, unsteady flow, dunes to plane bed transition 1−49308
strongly curved rectangular ducts, steady laminar flow, developing flow, heat transfer 1−24798
subsonic mean flow, sound propag. in non-uniform ducts, finite element method 1−51653
swirling stream structure in cylindrical channel with uniform injection 1−11464
transverse flow driven by walls oscillating along their normal 1−11460
triangular channel, small amplitude waves 1−15504
turbulent dispersion, inhomogeneous, random flight model 1−19785
turbulent flow in a square duct with strong curvature 1−51871
turbulent gas flow beyond one and two component nozzles in channel, mixing characts., expt. 1−6851
two-dimensional water jet in rectangular channel, flow visualisation 1−42079
two-phase annular thermosyphons, max. heat transfer 1−29678
two-phase bubble flow, momentum and heat transfer 1−51852
two-phase media, transonic flow, ideal gas model, applicability criterion 1−29763
underheated liqs. in channels, hydraulic resist. calcs. *(Russian)* 1−6858
unsteady laminar flow in a channel with porous bed 1−29777
varying gap channel, MHD laminar flow 1−19814
vertical 90° corner, laminar natural convection, matched asymptotic expansions method 1−29696
viscometric slow Couette flow, turbulent instability, extension to pipes and channels 1−19758

channel flow continued
viscoplastic fluid, nonlinear, steady-state laminar flow in annular gap *(Russian)* 1−51874
viscoplastic laminar steady state flow in channels of different configurations *(Russian)* 1−19759
viscoplastic liquid between parallel vertical plates, stationary convection 1−51823
viscous fluid, incompressible, stationary flow in straight tube 1−51869
viscous fluid, stabilised laminar flow, hydraulic resistance of a rotating radial channel, anal. 1−11472
viscous fluid between two coaxial circular cylinders, EHD problem 1−6896
viscous fluid flow induced by wave motion of walls of channel 1−19818
viscous incompressible flow by a penalty function finite element method 1−19805
viscous liquid, flow characteristics, effect of wavy oscillating wall 1−46808
viscous liquid, stability of flow through rot. channel at low Rossby numbers 1−46809
viscous stratified fluid, MHD Couette flow 1−29792
void behaviour in heated channel under low floW conditions 1−5941
water flow in confined areas, computer-aided numerical anal. *(Dutch)* 1−38012
water waves in channels, example of nonlinear partial differential eqns. 1−40658
windmill efficiency, one-dimens. fluid flow theory 1−8663
^{3}He, superfluid, A- and B-phases, dissipation in flow through narrow rectangular channel 1−16132
Na-K, in cell densely packed with rods, temp. pulsations, statistical characteristics 1−15483

channelling
see also energy loss of particles
alkali halides, using two-accelerator facility 1−42434
cascade displacement in amorphous targets, calc. method 1−15939
channelled charged particles, interaction with light 1−25346
charged particle acceleration by cryst. atomic fields 1−38419
charged particle channellingand radiation in deformed crysts. 1−52205
charged particle deflection in crystal 1−33361
charged particles, relativistic, scattered by atomic row, radiative energy loss, orientational depend. 1−38420
crystal defect dechannelling of particles for imaging 1−38421
crystal lattice, channelling effect and reversibility rule teaching 1−22973
diamond, channelled electrons, γ-spectra, energy depend. 1−2547
diamond, channelling of 900 MeV electrons, elastic wave excitation, orientational effect 1−30286
diamond, electron radiation spectra, orientation depend. struct. *(Russian)* 1−2542
diamond, FCC crystal, channelling radiation from relativistic positrons 1−7222
diamond crystal, effect of channelling on γ-radiation spectra of 870 MeV electrons 1−48191
electron channelling patterns, multiple scatt. transport theory 1−20288
electron transmission, reflection and absorpt. in solids 1−2296
energetic charged particle channelling through crystal, Z-evolution *(Russian)* 1−38414
fast charged particle elastic scattering by atomic chain, theory *(Russian)* 1−52206
fast charged particles, diffractive channelling in cryst. 1−25347
heavy ions, low vel., channelling stopping-power oscills. calc. 1−20290
ion backscattering enhancement near 180° scatt. angle, role of reversibility 1−21314
ion focusing effects on total reflection coeff. near semichannel direction 1−52195
Kumakhov radiation, comparison with other types of radiation 1−52203
lattice defect characterization by ion channelling *(Japanese)* 1−47126
lepton channeling of radiant light *(Japanese)* 1−47127
metallic thin plates, quantum size effects in multi-channel mirror reflection of electrons *(Russian)* 1−2540
metals, electron beam shaping, channel form. mechanism *(Russian)* 1−38406
metals, metastable alloy form. by ion implantation, channelling and TEM study 1−2486
Okorokov effects, heavy ions in crystal, peak profiles 1−2543
particle radiation difference from coherent bremsstrahlung 1−25345
radiative self-polarization of fast particles in curved crystals 1−34385
sapphire, ion bombardment displacement damage, channelled-proton-induced X-ray meas. 1−38411
single crystal dechannelling, Rutherford backscattered spectra anal. 1−7219
steel, austenitic stainless, orientation of fracture surffaces produced by stress corrosion cracking and H_2 embrittlement 1−16876
steel, low-C, comparison of plastic work of fatigue crack propag. meas. by strain gauges and electron channelling 1−39417
stochastic processes, Markovian approx. 1−52192
π^- end effects on nuclear reaction output 1−2545
Al, blocking electron radiation spectra at 1.2 GeV *(Russian)* 1−2541
Al, extended defects induced by Ni ion implantation, depth profile anal. by ion channelling 1−2533
Al, ion implanted, radiation disorder and lattice location, channelling and Rutherford backscatt. meas. 1−52161
Al, proton dechannelling study 1−2539
Al-Cr, (0.07 at.%), interstitial trapping, channelling meas. 1−20282
Al-Cu (4 wt.%), precipitation nucleation of Guinier-Preston zones, ageing effect on channelling conditions *(French)* 1−3740
Al-Cu (4.5 wt.%), epitaxy and surface melting by high powered directed energy 1−47410
Al-Sn, 0.03 at.%, irrad.-induced defects, trapping by Sn atoms, channelling-backscatt. study 1−11793
α-Al_2O_3:Pb, impurity location, channelling technique 1−2544
$CaSO_4.2H_2O$, gypsum, near-surface channeling of high-energy multiply charged ions 1−52204
Cr-Si(Al), dil., lattice location of impurity by proton channelling, induced X-ray emission 1−12602
Cu:Pb single cryst. film, pulsed laser annealing 1−8341
Fe-Ti-C-Sb alloy, Sb trapping, chanelling study 1−34381
GaAs:Si(S)(Se)(Te), ion channelling study 1−34380
GaAs:Te, implanted, He backscatt., laser annealing effects, carrier conc. 1−38391
Ge, axial dechannelling, diffusion calc. 1−52199

channelling continued
Ge, energy levels of channeled electrons and channeling radiation in the planar case 1−47128
H^+ ions, energetic, diffusion models 1−25341
InAs-GaSb superlattices, ion backscatt. and channelling 1−38673
InSb, acoustoelectrically amplified phonons, study by anomalous transmission of X-rays 1−15978
KCl, channeling radiation of 4.9 MeV electrons 1−25340
KCl, radiation damage, H^+, He^+ backscatt. and channelling study 1−52189
NbC, implanted with C ions, channelling process, Monte Carlo simulation 1−52202
Ni (110) surface ion scatt. near Curie point 1−31267
Ni base superalloys, local plastic strain, study by selected area channelling patterns in STEM 1−3846
Ni monolayer on Si, lattice localisation by thin cryst. channelling 1−47129
Pd film on Si substrate, thermal stability, Rutherford backscattering spectra 1−16215
Pd_2Si, ion-beam induced epitaxy at Pd-Si interface 1−16196
Pt film on Si substrate, thermal stability, Rutherford backscattering spectra 1−16215
Si, amorphous, epitaxial growth on (100) Si, channelling, TEM, SIMS studies 1−38677
Si and Si-SiO_2, proton damage range determ., bevel method 1−11798
Si, axial dechannelling, diffusion calc. 1−52199
Si, axially channelled MeV electrons, transitions between bound state 1−25339
Si, blocking electron radiation spectra at 1.2 GeV *(Russian)* 1−2541
Si, channeling radiation of 4.9 MeV electrons 1−25340
Si, channelled 1.2 GeV electrons, γ-emission 1−2546
Si, channelled-ion implantation, theory, method and effects *(Japanese)* 1−15915
Si, coherent bremsstrahlung from relativistic channelled positrons 1−7221
Si crystal, channelled ion energy loss, charge state depend., meas. 1−38418
Si curved crystalline target, electron beam deflection obs. 1−34384
Si, electron blocking effect in channelling 1−7220
Si, electron radiation spectra, orientation depend. struct. *(Russian)* 1−2542
Si, energy levels of channeled electrons and channeling radiation in the planar case 1−47128
Si film deposited in solid phase epitaxy, growth conditions 1−47402
Si, ion implanted, disorder prod. and amorphisation 1−52188
Si on sapphire, epitaxial layer, recrystn. after CW laser irrad., implanted film rel. to CVD 1−38678
Si, orientational population of quantum states for fast electrons in planar channeling 1−42441
Si, planar particles blocking dips in single cryst. *(Chinese)* 1−20281
Si, radiative energy loss spectra of 31 GeV electrons *(Russian)* 1−25348
Si, stopping power for 80 to 300 keV protons, planar/random ratio, backscatt. meas. 1−20287
Si:As, amorphous, phase transitions prod. by pulsed electron irrad. 1−30364
Si:As(B)(As,B), ion-induced impurity displacement, effect of Fermi level 1−11795
Si:B, ion implanted, simulated influence of amorphous layer on B ion range 1−2548
Si:Fe: in-beam implantation, Mossbauer effect study and channelling study 1−16507
Si:P, effects of dislocation on planar channelling of energetic H^+ and He^+ ions 1−38415
Si:P, extended defects induced by ion implantation, depth profile anal. by ion channelling 1−2533
Si:P^+, damage structs., Rutherford backscatt., TEM study 1−38393
Si:Pb(As), ion implanted, near surface regrowth effects 1−38390
Ta, planar proton channelling, evidence for dechanneling by dislocations 1−52200
UO_2, channeling dips, comparison for backscatt. and M X-ray yields 1−47125
W (100), entrance probability and range of He^+ ions, thermal desorption spectrometry study 1−52201
W crystal, D^+ channelling dynamics at low energies, trajectory study 1−2538
ZnTe, diffusion and lattice location of Li 1−20464

channels, cable *see electric conduits*

characteristic temperature *see Debye temperature*

characteristics measurement
see also headings for specific characteristics, e.g. gain measurement; viscosity measurement
carrier frequency strain gauge, operation and characteristics 1−14111
composite particle detectors based on semiconducting detectors plus CsI scintillators, characteristics 1−51038
piezoelectric transducers, moving phase-frequency characteristics 1−46652
semiconductor diodes, electrical characteristic meas. using four-probe method 1−44954
HF laser, pulse-initiated, meas. of discharge V-I characts. 1−51464

charcoal
see also carbon
adsorbed on KBr, examination of IR spectra using flow cell 1−45035
sorbent in chromatographic separation of Ba from Na, piezoceramics anal. 1−13052
spectra, resolution enhanced, obtained using modified EPR spectrometer 1−312
^{85}Kr, storage, adsorbed on activated charcoal, pressurised cylinders *(French)* 1−10447

charge (electric) *see electric charge*

charge compensation
see also crystallography
doped semiconductor, compensation and correl. effect on cond. near metal-nonmetal transition 1−47476
β-Al_2O_3, excess conducting Na^+, charge transfer, charge compensation, model, pot. energy calcs. 1−34344
$BaTiO_3$:Fe, dopant valence state, charge compensation, Mossbauer and gravimetric meas. 1−7185
GaAs, ion implanted, carrier removal and charge compensation, annealing effects 1−12125
GaAs substrate, semi-insulated, highly compensated, characteris. and effects on device performance 1−34646
GaAs:C, electron scatt. at localised impurity pots. 1−47635

charge compensation continued
GaAs:Cr, temperature and compensation dependence of threshold voltage for switching effect 1−20751
GaAs:Si layers, LPE, self-compensation of donors due to Si incorporation 1−38741
Ge, heavily doped and compensated, elec. cond., degree and method of doping effects 1−30749
KOH, proton cond. and phase relationships, 248 to 406°C 1−34514
$NaH_2PO_4.2H_2O:Mn^{2+}$, EPR study at 300K 1−26018
$Ni_{0.89}Fe_{2.11}O_4$, phase equil., stoichiometry and lattice parameter, additives effect 1−38505

charge-coupled device arrays *see charge-coupled device circuits*

charge-coupled device circuits
area array X-ray sensors 1−5388
astronomical solid state sensors 1−49523
Bragg RF spectral analyser integrated optical ccts. 1−24533
direct capacitive coupling of IR detectors to CCD multiplexers 1−5378
Earth resource pushbroom scanner using 90-element 8-14 μ HgCdTe array 1−24514
focal plane manufacturing and evaluation 1−5393
focal plane technology, conf., Los Angeles, CA, USA (Feb., 1980) 1−5376
focal-plane CCD signal processing circuits 1−5382
hybrid optical-digital Kalman two-dimensional nonlinear filter 1−24363
integrated focal plane array design for optimum IR imaging performance 1−24517
IR/CCD focal planes, principles and practice 1−5383
light valve, liquid crystal, electrical to optical image conversion 1−11165
LSI materials, U and Th trace anal. 1−26796
MIS radiation effects for IR focal plane arrays 1−5396
multiplexer, hybrid Si:In focal plane 1−40858
multispectral CCD sensor (MOMS) on Shuttle pallet satellite 1−4746
pyroelectric/CCD hybrid focal plane 1−5401
quantum detectors for infrared imagery *(French)* 1−23308
S/N ratio maximisation by output voltage sampling, appl. to astrophysics 1−9372
scanned charge injection device arrays, focal plane signal processing 1−5391
tactical IR imaging detector array criteria 1−24523
time delay and integration focal plane assembly with optical contiguous pixel format 1−5387
AlGaAs/GaAs, backside illuminated, imaging CCD 1−33052
HgCdTe CCD detectors 1−5385
HgCdTe hybrid focal plane arrays, infrared imaging system 1−5398
HgCdTe monolithic focal plane array structures 1−5381
HgCdTe/CCD self-scanned detector array thermal imaging system 1−24513
InSb monolithic charge injection devices, fabrication and evaluation 1−5389
Pt_xSi Schottky barrier detectors, monolithic IR CCD focal planes 1−5386
Si CCD imager, liumogen as VUV sensitive coating, comparison with coronene 1−19468

charge-coupled devices
see also charge-coupled device circuits
relaxation time, shortening with voltage, localised generation in space-charge region as cause 1−30834

charge density waves
charge density waves, tunnelling theory 1−25716
commensurate CDW oscills. due to action of const. elec. field *(Russian)* 1−47512
crystal surface, displacive reconstruction phase transitions 1−11969
electrolytes, liquid and solid, charge density and order-parameter waves near critical point 1−2591
electrolytes, order parameter and charge density waves near critical points *(Russian)* 1−34639
electron gas, magnetic field induced phase transition, CDW 1−20646
graphite, electronic phase transition in strong mag. field 1−52489
improper ferroelectricity theory, transitions, CDW 1−12465
insulating many-body system, CDW depinning, mol. dynamics calc. 1−47515
jellium, CDW and spin density waves 1−25651
low dimensional solids, basic physical concepts, review 1−42757
low dimensionality solids, chemical bond anisotropy *(French)* 1−38324
metal, electron-phason interactions, electron mass enhancement 1−34637
narrow-band crystals, bipolarons and bipolaronic bands 1−47509
one-dimensional conductor, Peierls instability, charge density distortions, glassy phase formation 1−20713
one-dimensional conductors, pinning of fluctuating charge density waves 1−47511
one-dimensional periodic structure in weak random potential *(Russian)* 1−7542
one-dimensional physics, theory 1−42756
one-dimensional system in Peierls PPP-model, electronic struct. 1−38720
organic one-dimensional conductors, fluctuating collective conductivity and single-particle conductivity 1−42760
plasma, one-component, Wigner crystn., CDW instability 1−47697
plasma-beam interactions, charge density wave radiation conditions, local perturbation evolution *(Russian)* 1−2205
trans-polyacetylene, equidistant config., nucl. distort. 1−7537
polyacetylene, solitons in condensed CDW system, commensurate and incommensurate phase 1−2949
polymers, pairing, gap equations and instabilities 1−19230
quasi-one-dimensional system, with CDW in low temp. region, anomalous cond. *(Russian)* 1−20710
screening effect, sound waves, phason, one dimensional charge density wave 1−7538
superconducting state coexisting with CDW, perturbational calc., Ginzburg-Landau eqn. 1−38885
TCNQ salt, TMTSF-DMTCNQ, X-ray diffuse scatt. study 1−42370
transition metal compounds 1−30653
transition metal trichalcogenides, structure, band props., resistivity and charge density waves 1−42764
transition metals, phonons, superconducting transition temp., book contrib. 1−42492
$TTF_{1-x}TSeF_x$-TCNQ, X-ray scatt. study of CDW 1−47510
TTF salts, organic conductors, role of intramolecular vibrs. in Peierls transition 1−25631
TTF-TCNQ, charge density wave system, topological excitations 1−52507
TTF-TCNQ, first order phase transition under high press., theory 1−20377

charge density waves continued
TTF-TCNQ, impurity pinning on Peierls transition in N chains system 1−7539
TTF-TCNQ, permittivities rel. to phase transformations, calc. 1−34470
TTF-TCNQ upper transition temp., press. depend. 1−7523
two-dimensional electron system, CDW state in strong mag. fields 1−12168
two-dimensional electron system, many-body effects on transverse cond. in strong mag. fields 1−12169
Cr alloys, commensurate, longitudinal spin waves and CDWs, theory 1−47872
$Fe_{0.25}Nb_{0.75}Se_3$, metal-insulator transition and CDWs, rel. to crystal struct. 1−47718
He, liq., surface ripple and dimple lattice 1−7421
^4He and ^3He-^4He mixtures, surface, dimple lattice 1−7420
K, open orbits, struct. in induced torque rotation pattern obs. 1−2860
K, satellite intensity, exchange and correlation potentials 1−20647
$K_2Pt(CN)_4Br_{0.3}.3H_2O$, acoustic soft mode 1−16010
NaS_2 (1T), thermal expansion meas., entropy changes at CDW phase transitions 1−34494
$NbSe_2$ (2H), CDW effects, US vel. meas. 1−25379
$NbSe_3$, electron diffraction, superlattice spots appearance rel. to conductivity decrease, Peierls transitions 1−38360
$NbSe_3$, Frohlich conductor, freq. pulling and heterodyning obs. in voltage spectrum 1−42837
$NbSe_3$, Hall effect and transverse cond., sliding motion of CDW 1−52550
$NbSe_3$, mag. susceptibility 1−30907
$NbSe_3$, nonlinear cond. and noise due to CDW depinning 1−47720
$NbSe_3$, periodic lattice distortions, CDW, X-ray diffr. study 1−25210
$NbSe_3$, phase-locked CDW, Ginzburg-Landau theory 1−20645
$NbSe_3$, strandlike domains associated with phase transitions, TEM study 1−30380
$NbSe_3$, structure, band props., resistivity and charge density waves 1−42764
$NbSe_3$:Ta(Ti), Frohlich cond., impurity effect 1−47625
Nb_3Se, CDWs, electric-field depinning noise, threshold fields 1−38766
$NbSe_2$(2H), thermal expansion meas., entropy changes at CDW phase transitions 1−34494
Rb, phasons, low temp. heat capacity anomaly obs. 1−7540
TaS_2 (1T), band struct., angle-resolved photoemission study *(French)* 1−38700
TaS_2 (1T), layered compound, sliding CDW, elec. resistance 1−2897
TaS_2 (2H and 1T), CDW effects, US vel. meas. 1−25379
TaS_2, CDW transitions, X-ray diffr. study 1−20104
TaS_2, charge density waves, tunnelling theory 1−25716
TaS_3, electron diffraction, superlattice spots appearance rel. to conductivity decrease, Peierls transitions 1−38360
TaS_3, non-ohmic electrical cond. in low-temp. semicond. regime 1−12119
$TaS_{2-x}Se_x$, 1T polytype, mixed crystal system, CDW, Raman scatt. meas. 1−48084
$TaSe_2$ (2H), layered compound, sliding CDW, elec. resistance 1−2897
$TaSe_2$, CDW state under press., Landau theory 1−52508
$TaSe_3$, mag. susceptibility 1−30907
$TaSe_2$(2H), obs. of 112K CDW transition, elec. resist. meas. 1−2894
α-U, charge density wave obs. at low temp. 1−47623
α-U, low temp. Hall coeff. 1−2945
VSe_2 layer compounds, mag. susceptibility, CDWs, prep. condition effects 1−42943

charge exchange
for charge exchange in particle and nuclear physics see elementary particle interactions and nuclear reactions and scattering
see also charge transfer states; ionisation
actinide atoms, resonance charge transfer cross section tables 1−13943
AH+A→A+HA, H and H^+ transfer reaction dynamics, symm. case 1−53411
alkali metal halides, off-centre instability induced by exchange forces 1−2928
1-amino-3-anthryl-(9)-propanes, electrogenerated chemiluminesc., intramol. exciplex form. 1−26751
8-anilino-1-naphthalenesulphonate in polar solvents, biphotonic ionisation, charge transfer, fluoresc. lifetimes 1−33517
1-anilino-8-naphthalenesulphonate, intramolecular charge exchange, solvent and press. effects, luminesc. 1−33554
p-(9anthryl)-dimethylaniline, intramolecular charge exchange, solvent and press. effects, luminesc. 1−33554
astrophysical shocks, effect of charge transfer reactions 1−13678
atom, charge distrib. with neutron-rich supercharged nucleus studied by Thomas-Fermi method *(Russian)* 1−37320
atom+ion, transfer ionisation, pot. diagram 1−14993
atom+ion charge exchange with accidental reson., highly excited at. states 1−41488
atomic collisions, heavy particles low energy collisions, cross section scaling effect, review 1−10831
benzoquinonechlorimides electron acceptors, charge transfer spectra 1−46115
carbazole-trinitrobenzene, charge transfer crystals elastic and piezoelectric properties, elec. oscill. studies 1−31092
chemiluminescent electron transfer reaction, semiempirical pot. energy surface calcs. 1−48683
continuum atomic states, charge transfer, eigenvalues, reduced widths, R-matrix theory 1−24243
copper porphine, energy levels, charge and spin distrib. calc. using one-orbital HF Slater theory 1−51108
cyclohexane+cyclohexyl ion, charge transfer, theory 1−15006
cyclopentane+cyclopentyl ion, charge transfer, theory 1−15006
electron loss to low-lying continuum states of projectile, doubly differential cross section, struct. 1−24217
electron transfer reactions, ground and first excited adiabatic pot. 1−17033
electron transfer reactions, potential energy diagrams 1−5053
emission line regions, forbidden, in active galaxy nuclei, appl. of photoionisation model 1−40561
exchange integral evaluation for STO in impact parameter formulation in atomic charge transfer collisions 1−1070
formamide+alkyl glyoxals, charge transfer, conformations, ab initio calcs. 1−19018
formic acid dimer, double H^+ transfer and charge transfer transitions in H bonded system 1−14818
glyoxal enol tautomers+formamide, charge transfer interaction, calcs. rel. to electronic theory of cancer 1−46110
glyoxal-formamide system, charge transfer calc. 1−24239
graphite intercalation compound with AsF_5, magneto-oscillations 1−38763
graphite intercalation compounds with KH, KHg, RbHg, X-ray, EPR and NMR studies and struct. 1−42363
graphite-$NiCl_2$ intercalation cpd., synthesis, struct. and intercalation method 1−48290
hexafluorobenzene+hexafluorobenzyl ion, charge transfer, theory 1−15006
hydrogenic ion, electron loss to low-lying continuum states of projectile, doubly differential cross section, struct. 1−24217
hydroxyl-containing compounds, vibration freq. of H groups, intermol. and ion-mol. interactions 1−10801
inert gases, charge transfer processes 1−37325
interfacial electron transfer induced by light absorpt. 1−34765
ion+molecule charge transfer, theory 1−15006
ion+molecule reaction, mechanisms, charge and ion exchange, isotope labels, ion cyclotron technique 1−31844
ion+polyatomic molecule, charge exchange anal., reaction mechanism, rate const., electron attachment 1−26738
ion-ion recombination in systems at low gas densities, symmetrical reson. charge transfer contrib. 1−8563
ionosphere, charge exchange induced H escape flux, latitudinal var. 1−9314
lanthanide atoms, resonance charge transfer cross section tables 1−13943
laser isotope separation, fast ion extraction 1−10855
mass spectrometry technique for gas phase mol. structs. 1−10869
metalloprotein electron transfer reactions, thermodynamics 1−13035
metals, 5-30 keV H^+,H^- scatt. from surface, recoil energy distrib. 1−16640
methane, condensed on Cu substrate at cryogenic temp., SIMS study 1−29148
methane+methyl ion, charge transfer, theory 1−15006
mixed valence organic donor-acceptor and related chemical systems, charge transfer transitions, solvent effects 1−51150
molecules, intervalence charge transfer and mol. tautomerism comparison 1−1052
naphthalene:β-halonaphthalene, X-traps, electron-phonon coupling in phosphoresc. heavy atom effect, charge-transfer interaction 1−31180
negative ions, collision-induced charge-inversion reactions, excited state form. 1−29111
neutral gas, high freq. breakdown by ions, processes in mag. traps *(Russian)* 1−24920
neutral molecules, H^+ affinities 1−4056
nickel phthalocyanine-iodine complexes, chemical, spectral, struct. and charge transport props. 1−47621
nitroaniline, (N-methylation), substitution, press. and solvent effects, isomers, charge transfer, luminesc. obs. 1−33554
organic charge transfer crystal, optical and photoelectric props. 1−30789
organic charge-transfer cpds., quasi-one-dimensional, mol. vibr. studies 1−42481
phenylazopyrazolone dyes, fluoresc. and absorpt. spectra 1−51238
polar medium, H^+ transfer reactions, kinetic isotope effect 1−21694
polymer systems doped with charge transfer complexes, photocond. 1−42810
6-propionyl-2-dimethylaminonaphthalene, intramolecular charge exchange, solvent and press. effects, luminesc. 1−33554
pure surfaces and reactive layers, chemical analysis, ionisation pot., thermal props., SIMS technique 1−31932
pyridine-pyrrole H bonded system, H^+ transfer, B^--decay effect 1−1074
radial couplings for charge transfer, CI calcs. 1−24246
raindrops, supercooled, splashing on hailstones, thunderstorm implications 1−22462
semiconducting liq. alloy, struct. and evidence for ionic bonding 1−25149
semiconductor, defect-lattice relaxation phenomena 1−30673
semiconductor surface, charge transfer reactions, review 1−30574
simple structured projectiles, high-energy collisions, charge exchange, calcs. 1−1362
solid-electrolyte tunnelling, experimental investigations 1−34791
solutions, self diffusion meas., J-modulation elimination and H^+ exchange effects, ^{13}C NMR spin echo 1−39005
symmetric impulse approx., transition amplitude, bound state ionisation 1−24242
tertiary amines-carboxylic acids complexes in Ar matrix, IR spectra 1−10735
tropylium, bridged cations, charge transfer bands, MO calcs., absorpt. and MCD obs. 1−29008
van der Waals mols., struct. and orbital calcs. 1−6333
vitamin K_1-dihydrovitamin K_1 mixture, visible and IR spectra, charge transfer interaction, hydrogen bonding 1−39120
β-Al_2O_3, excess conducting Na^+, charge transfer, charge compensation, model, pot. energy calcs. 1−34344
Ar+bare ion, inner shell charge transfer and vacancy prod., multielectron processes effects 1−6379
$Ar+H_2$, H_2^+ fragment pre-equilib. distrib. and dissoc. 1−6369
Ar^++Ar, charge exchange, spin change, fine struct. scatt. cross sections calcs. 1−41490
$Ar^{+2}+N_2$, near thermal charge transfer studied by stored ion technique 1−53413
Ar^{18+}+He(Ne)(Ar) 1−29113
Ar^{q+}+Ar, (q=1-4), symmetric reson. multiple charge transfer cross-sections 1−46109
Ar^{q+}+Ar, charge changing collisions, single electron-capture cross sections determ. 1−19167
ArO, spin-orbit coupling, ab initio CI calcs. 1−1125
$Ar^{*+}+Ar→Ar^*+Ar^+$, low energy charge transfer study, time of flight technique 1−6373
Ba^++Ba, resonant charge transfer cross sections calc. 1−24223
$Ba^++Ba^+→Ba+Ba^{2+}$, electron transfer cross sections 1−1363
Br_2-graphite compounds, EXAFS study 1−35119
C thin foil, atomic impact, quasimol. formation inner shell charge transfer cross sections 1−16643
$C+H^+$, inner shell capture and ionisation 1−46098
$C^{6+}+H$, perturbed stationary states, charge exchange cross sections 1−46099
CO_2^{2+}, ion+molecule reactions at thermal energies, charge exchange, rate consts. 1−43665
Cl^-+N_2, collisional detachment, reson. effect 1−14990

charge exchange continued
Cs vapour targets, D^- production by charge transfer of 0.3-10 keV D^+, D^0 and D^- 1−19180
Cs^++Fe(Mo)(Al)(Ti)(Ta)(C), charge transfer cross sections 1−37323
$D+H^-$, electron detachment and charge exchange, differential cross-sections meas. 1−10834
D^++H_2(He)(Ne)(Ar)(Kr), charge exchange and electron loss cross-sections for various energies 1−29095
D_2+N^{q+} collisions, charge exchange cross sections *(French)* 1−51284
D_2+O^{q+} collisions, charge exchange cross sections *(French)* 1−51284
F atomic laser, charge transfer pumping from He_2^+ 1−37461
GaAs (110) cleared surface work function, effect of chemisorbed O_2 1−16174
Ge:GaAs(110) heterostructure formation, LEED, AES and work function obs. 1−16345
H neutral atoms, charge exchange as recombination mechanism in plasmas 1−6376
H^2-existence, H^- prod. from H^{2-} charge transfer 1−24241
$H+C^{2+}(C^{3+})(N^{2+})(N^{3+})(O^{2+})(O^{3+})(Ne^{2+})(Ne^{3+})$, charge transfer reaction rate coeffs., quantal calcs. 1−32615
$H+C^{3+}(N_2^+)$, charge transfer at thermal energies 1−51286
$H+H^+$, collisions at high energies, charge exchange, electron capture theories 1−46071
$H+H(1s)\rightarrow H(1s^2)+H^+$, high-energy collisions, charge exchange, calcs. 1−1362
$H+He^+$, electron loss to low-lying continuum states of projectile, doubly differential cross section, struct. 1−24217
H+ion, charge transfer recomb., Landau-Zener calcs., appl. to astrophysics 1−22671
H^-+atom, fast H^0 atom prod. by stopping collision 1−1358
H^-+Na(K)(Rb)(Cs), low energy electron loss reaction cross section 1−6175
H^++alkali atoms, near-reson. charge-exchange collisions 1−24247
H^++C-foil collisions, charge transfer to continuum and high Rydberg states 1−24233
H^++H, charge transfer collisions 1−15002
H^++H^-, neutralisation reaction, asymmetry effect 1−46112
H^++He, charge transfer collisions, laser enhanced Lyman-α prod. 1−29112
H^++He^+, electron transfer collision cross-sections, coupled mol. states calcs. 1−1360
H^++He^+, ionisation cross-sections, charge depend. calcs. 1−1357
H_2+air (H_2), H_2^+ fragment pre-equilib. distrib. and dissoc. 1−6369
H_2+$Ar^+(Kr^+)$, charge transfer, atom abstraction, rate consts., isotope effects, mass spectra 1−39630
H_2^++Ar, charge transfer, mol. vibr., photoionisation, photoelectron-photon obs. 1−10781
H_2^++Ar$\rightarrow$$HAr^+$+H, H^+ transfer exothermic reaction, reagent vibr. and translation 1−48665
H_x^++H_2(He)(Ne)(Ar)(Kr), x=1,2,3, charge exchange and electron loss cross-sections for various energies 1−29095
$HCN+C_2H_x^+$ reactions, modified selected ion flow tube study 1−17036
HCl^++Xe charge transfer reaction 1−46114
HNO_3-NH_3, H bonded system, ab initio SCF MO calcs. 1−45839
H_3O-H_2O system, charge transfer calc. 1−24239
H_2O-Li^+ system, charge transfer calc. 1−24239
H_2O^++$N_2(O_2)$(NO)(N_2O)(Xe)(CO)(CO_2)(H_2S)(H_2), rate coeffs. and product ion distrib. 1−43649
He beam, charge-changing collisions in gases, electron loss 1−10833
He-Cu afterglow, energy and charge transfer, rate consts., spectra 1−38189
He+alkali atoms, near-reson. charge exchange collisions 1−24248
$He+C^{2+}(O^{2+})$, charge transfer reaction rate coeffs., quantal calcs. 1−32615
$He+Ne^{2+}$ charge transfer rate from obs. of planetary nebula emission spectra 1−6371
He^++C^+, charge transfer reaction rate coeffs., quantal calcs. 1−32615
He^++H_2, H_2^+ prod., radiative mechanism calcs. 1−6146
He^++$N_2\rightarrow N_2^+$+He reaction flowing afterglow anal., ambipolar diffusion assumption 1−53409
He^{2+}+H, ionisation cross-sections, charge depend. calcs. 1−1357
He^{2+}+H_2, cross sections determ. by coincidence method, charge exchange, dissoc., ionisation 1−29109
$Hg+He^+(Ne^+)(N^+)(N_2^+)(N_3^+)(N_4^+)$, thermal energy reactions, charge transfer 1−39604
Hg+inert gas ion, charge transfer 1−37321
Hg^++Fe(Mo)(Al)(Ti)(Ta)(C), charge transfer cross sections 1−37323
$HgBr+He^+(Ne^+)(N^+)(N_2^+)(N_3^+)(N_4^+)$, thermal energy reactions, charge transfer 1−39604
KC_{24}+benzene-d_6 intercalation, kinetic neutron diffr. study 1−39619
KrO_3 spin-orbit coupling, ab initio CI calcs. 1−1125
Mg^{2+}+Mg, Mg^+ excited state form., 20-500 keV 1−1137
$N+Ar^{2+}(N^{2+})$, single and double charge transfer 1−14992
N^++CO, luminesc. charge transfer reactions 1−53406
N^++inert gas atoms, near-resonant charge transfer processes, metastable states 1−6349
N^++N_2(CO), charge transfer, interference effects, fine struct. 1−41489
N_2, condensed on Cu substrate at cryogenic temp., SIMS study 1−29148
N_2^++$O_2\rightarrow O_2^+$+He reaction flowing afterglow anal., ambipolar diffusion assumption 1−53409
$N_2H_2O^+$+$CO_2(N_2O)(SO_2)$(acetylene)(NH_3)(NO), reactions anal. by drift-chamber mass spectrometer, rate coeff. determ. 1−39597
Na vapour targets, D^- production by charge transfer of 0.3-10 keV D^+, D^0 and D^- 1−19180
Ne+C(N)(O)(F) ions, low vel. Ne ion prod., charge state correl. cross-sections 1−1359
$Ne+H^+(He^{2+})(Li^{3+})$, inner shell capture and ionisation 1−46098
$Ne+N^+$, direct and exchange processes, relative population of metastable states 1−10813
Ne^{q+}+Ne, (q=1-4), symmetric reson. multiple charge transfer cross-sections 1−46109
NeO, spin-orbit coupling, ab initio CI calcs. 1−1125
O^++inert gas atoms, near-resonant charge transfer processes, metastable states 1−6349
O^++$O_2(N_2)(H_2)$, thermal energy reactions, metastable states, charge exchange, mass spectra 1−39633
O^{2+}+H, charge exchange effect on planetary nebular models 1−13825
O^{2+}+He, ground and metastable state reactions, rate constants, mass spectra 1−39610
O^{2+}+He(O_2)(N_2), ground and metastable state reactions, charge exchange, rate consts., mass spectra 1−39634

charge exchange continued
O^{2+}+He$\rightarrow O^+$+He^+, rate coeff. anal. appl. to ionosphere 1−37324
O_2+H^+, vibr-excitation, charge and energy transfer, time-of-flight obs., MO calcs. 1−46167
OH^++$N_2(O_2)$(NO)(N_2O)(Xe)(CO)(CO_2)(H_2S)(H_2), rate coeffs. and product ion distrib. 1−43649
$^{16}O^{16}O$+$^{18}O^+$(^{18}O $^{18}O^+$), rate const., product distrib. and energy depend. meas. 1−17027
PtF_4, heats of charge-exchange reactions, mol. negative ion equilib., effusion method obs. 1−24240
PtF_6, heats of charge-exchange reactions, mol. negative ion equilib., effusion method obs. 1−24240
Rb vapour targets, D^- production by charge transfer of 0.3-10 keV D^+, D^0 and D^- 1−19180
Ru complex, tris-bipyridyl ruthenium(II), dicarbonyl substituted, visible spectra 1−14908
Ru tris-bipyridyl complex, excited, electron transfer reactions at semiconductor electrodes 1−39618
$SOCl_2$ solutions, cyclic voltammetry and spectroscopy studies 1−35540
Se trigonal film electrode photoelectrochem. props. and applications 1−8729
Si, charge exchange with clean surface, Si^+ Auger type charact. rel. meas. 1−26351
SiH_4 plasma, $Si_xH_y^+$ ionic species abundance 1−2232
silver porphine, energy levels, charge and spin distrib. calc. using one-orbital HF Slater theory 1−51108
Ti electrode covered with Pt doped passive film, redox reactions 1−39624
$TiCl_4$, electron shake-up spectrum, SCF Xalpha SW study 1−33383
UF_6+negative ion, charge transfer reaction investig. 1−1356
Xe^++Fe(Mo)(Al)(Ti)(Ta)(C), charge transfer cross sections 1−37323
Xe_2-Hg, form. of cluster ions, diss. recombination spectra 1−39635
XeCl, laser performance in Ne-Xe-HCl mixtures, charge exchange process 1−37469
XeO, spin-orbit coupling, ab initio CI calcs. 1−1125

charge measurement
see also electrometers
aerosol cans during normal dispensing or accidental puncture 1−20856
aerosols, submicron exposed to bipolar ions 1−21794
photomultiplier pulses, charge sensitive recorder 1−18977

charge-ordered states
collective excitations in charge-ordered systems with orbital degeneracy 1−20643
one-dimensional periodic structure in weak random potential *(Russian)* 1−7542
rare earth cpds., R_2S_3, R_3S_4, charge ordering, lattice const. meas. 1−11736
Eu_3S_4, charge ordering, lattice const. meas. 1−11736
Fe_3O_4, bipolarons, charge ordering, and Verwey transition 1−12047
Fe_3O_4, partial charge ordering 1−11735
Fe_3O_4, Verwey transition, electron correl. theory 1−12033
Sm_3S_4, charge ordering, lattice const. meas. 1−11736
Ti_4O_7, bipolarons, charge ordering, and Verwey transition 1−12047
$(Ti_{1-x}V_x)_4O_7$, impurity-induced stabilisation of intermediate phase 1−12048

charge storage diodes
No entries

charge transfer *see charge exchange*

charge transfer states
anthracene cryst., triplet exciton pair-charge carrier interaction 1−20635
anthracene crysts., charge transfer exciton potentials, optical charge carrier generation 1−12035
anthracene-tetracyanobenzene charge transfer complex, exciton dynamics EPR spectra 1−47927
aromatic hydrocarbon-I_2 charge transfer complexes, spectrosc. and thermodynamic props. 1−51287
n-butanol-carbonyl complexes, dipole moment enhancement 1−33576
Chevrel phase $M_2Mo_6S_8$ cpds., charge transfer and Mo atom 4d orbitals splitting, ligand field theory *(Chinese)* 1−52530
cobalt phthalocyanine:$^{57}CoCl_2$, thermal treatment and charge transfer interactions 1−53416
complexes, applications 1−42766
conjugated conducting polymer systems, idealised geometric and chem. models 1−47016
copper(II) acetate, forbidden ligand-field transitions, Raman intensity de-enhancement 1−43114
β-copper phthalocyanine crysts., refl. spectra meas. excitons, charge transfer 1−21225
dibenzotetrathiafulvalene:tetracyanoethylene charge transfer complex, laser flash photolysis effects *(Russian)* 1−17080
N,N-dibutylglycine in solns. and gas phase, IR spectra and struct. 1−1232
2,2-dicyanovinylaromatics, intramol. charge transfer transitions 1−33578
ethanol-iodine in soln., charge transfer complexes, transference number 1−47270
formic acid dimer, double H^+ transfer and charge transfer transitions in H bonded system 1−14818
glycine in solns. and gas phase, IR spectra and struct. 1−1232
graphite intercalation compounds, self-consistent charge densities, band structs., staging energies, calc. 1−38701
graphite intercalation compounds with Br_2, $AlCl_3$, $SbCl_5$, intervalence transitions and IR reflectivity 1−47584
graphite intercalation compounds with Li, K, Rb, Cs, UPS, XPS and AES studies 1−48238
graphite intercalation compounds with $PdCl_2$, $FeCl_3$, $CuCl_2$ and WCl_6, electronic props. 1−42679
graphite lamellar compounds, high-field ^{13}C NMR and in-plane localized density of states model 1−38992
heteroexcimer, reaction intermediate, picosec. laser spectrosc. obs. 1−10868
hexamethylbenzene-iodine CT complex, thermodynamic and spectrophotometric props., solvent effects 1−48724
hexamethylbenzene-tetracyanoethylene CT complex, IR spectra at high press. 1−48089
imidazole, H^+ motion in H bond 1−34276
intercalation compounds with AsF_5, $FeCl_3$, B, electron energy loss spectroscopy 1−48207
ion-surface scattering, nonresonant charge transfer effects 1−31258
low-dimensional solids, spin Hamiltonians and theoretical models 1−42938

charge transfer states continued
methanol-iodine in soln., charge transfer complexes, transference number 1−47270
mixed stacked organic charge transfer cpds., neutral-to-ionic phase transition 1−42335
mixed valence organic donor-acceptor and related chemical systems, charge transfer transitions, solvent effects 1−51150
naphthalene-tetracyanobenzene charge transfer complex, mol. dynamic and phase transition, PMR and ESR spectra 1−47958
organic charge transfer crystal, optical and photoelectric props. 1−30789
organic conductor, one dimensional highly conducting systems, review 1−20714
organic molecular charge transfer complex transducers 1−27957
1-phenyl-1-boracyclohexane, UV absorpt., phosphoresc. and MODOR spectra 1−29018
poly(bisphenol A carbonate) TTT-TCNQ doped, elec. cond. 1−42751
polydiacetylene, DCHD, cryst., sensitised photocond. 1−52598
random alloys with strong charge transfer, cond. and prop. characts. 1−7562
ruby, optically generated pseudo-Stark effect obs. 1−12079
solids, low-dimensional, physics and chem., conf., Tomar, Portugal (Aug.-Sept. 1979) 1−40600
TCNQ salt, $(NMP)_x(phenazine)_{1-x}TCNQ$, controlled band filling, Raman spectra 1−3410
TCNQ salt, HMTTF-$TCNQF_4$, phys. props. rel. to those of HMTTF-TCNQ 1−25734
TCNQ salt, tetramethyl benzidine-TCNQ, elec. resist. under press., cond. mechanism 1−12101
TCNQ salt, TMPD-TCNQ, elec. resist. under press., cond. mechanism 1−12101
TCNQ salts, g-factor anisotropy and charge transfer, ESR study 1−31013
TCNQ salts, TEA$(TCNQ)_2$ and Qn$(TCNQ)_2$, neutron irradiated, IR vibr. spectra 1−3421
tris(bipyridine)Ru(II)-Ti(III) solns., visible light photolysis 1−31875
TTF−TCNQ, modulated phases, press. effect 1−7332
$(TTF)I_{0.71}$, reflectance spectrum, temp. depend. 1−3411
TTF-TCNQ, one dimensional highly conducting systems, review 1−20714
$FeCl_3$, solid, optical absorpt. spectrum, rel. to intercalation in graphite 1−35069
n-GaAs:Cr, charge transfer induced by hydrostatic press., Hall effect meas. 1−47547
Ge, adsorption of H_2O and D_2O, slow surface states, charge exchange, isotope effect 1−42845
KCl:H, electronic struct. of H of anion sites 1−2908
$K_2CuF_4:Mn^{2+}$, kinetic exchange at low charge transfer energies 1−38924
$KI:Pb^{2+}$, absorption spectra, charge transfer bands obs. 1−12533
$KZnF_3:Mn^{2+}Cu^{2+}(Ni^{2+})$, kinetic exchange at low charge transfer energies 1−38924
MgO:Fe, near IR absorpt. due to Fe^{2+}-Fe^{3+} interactions 1−21200
$MgTi_2O_5:Mn^{2+}(Fe^{2+})(Co^{2+})(Ni^{2+})$ photoanodes coloration, solar energy appl. 1−31169
MnO_6^{9-}, absorpt. spectra, cluster calcs. by ab initio UHF 1−41533
$PbMo_6S_8$, charge transfer and Mo atom 4d orbitals splitting, ligand field theory *(Chinese)* 1−52530
Pr chalcogenides and pnictides, cryst. field, press. effects 1−20682
Ru complex, tris (2,2′-bipyridine) Ru(II), charge transfer excited state, singlet energy transfer 1−3454
SiO_2:Fe, vitreous, fundamental absorpt. edge 1−16591
$SrTiO_3$:Fe, photochromism of photosensitive Fe centres, ESR study 1−38977
$SrTiO_3:LaCrO_3$ photoanodes, light induced photocurrents 1−30777
Tm chalcogenides and pnictides, cryst. field, press. effects 1−20682
ZnO surface electronic struct., intrinsic defect effects 1−34761

charge transfer transitions *see charge transfer states*

charged dislocations *see dislocation dipoles*

charm particles
see also D mesons; psi mesons
baryon magnetic moments, single-quark and two-quark transitions in quark model 1−45287
baryon scattering states, SU(1,4) as dynamical group 1−45153
baryons, weak gamma decays and the nonleptonic weak Hamiltonian 1−50425
baryons with strangeness and charm in QCD 1−10156
beauty after charm *(Czech)* 1−45204
charmed hadron EM props., SU(4) sum rules, e^+e^- annihilations and mass splittings *(Russian)* 1−5637
charmed meson semileptonic decay, DASP detector results at 4.0-5.2 GeV 1−28335
charmonium, magic moments in QCD and pot. models 1−33154
charmonium decays, configuration mixing effects 1−28298
charmonium Hamiltonians, energy calculations 1−5150
charmonium model pseudoscalars, η_c and Υ, leptonic widths 1−5580
charmonium S- and P-state masses from QCD sum rules 1−5603
conference on high energy physics, Geneva, Switzerland, (June-July 1979) 1−5026
decay, cross-sections, yields 1−28299
decay, partial width, CP violation effect *(Russian)* 1−45273
decay, semileptonic, and weak form factors 1−10196
decay of charmed particles produced in neutrino interactions 1−23495
diffractive photoproduction of strangeness and charm-overlap of QCD and Regge models 1−14401
dihadron final states 1−28359
f_V and f_{PS} QCD based pot. model estimates, D and F lifetimes 1−14376
flavour photo- and hadroprod., charm review, possible beauty prod. 1−10176
hadron mass, nonrelativistic additive quark model 1−50374
hadronic charmed meson and heavy quark flavour prod., QCD estimates 1−520
hadrons, charmed, flavour changing radiative decays, short and long distance effects 1−563
hadroproduction, high-energy physics conf. Coral Gables, FL, USA (Jan. 1980) 1−44712
International School of Subnuclear Physics, Erice, Italy (July-Aug. 1977) 1−27646
mesons, nonleptonic decay, W-exchange, pole model 1−23493
mesons, nonleptonic decay to two body final states, selection rules 1−28315
mesons, nonleptonic decays, colour radius interaction term 1−33179
mesons, nonleptonic decays in six-quark model 1−14374

charm particles continued
multiquark hadrons, existence 1−505
neutrino interactions, rel. to charm 1−14369
new particles, open charm, quark models 1−28290
particle classification, charm, strangeness and colour 1−28288
photoproduction, quasipartonic contrib. *(Russian)* 1−41017
production of charmed quark pairs in ν or $\bar{\nu}$ scattering, gluon bremsstrahlung mechanism 1−537
pseudoscalar-meson decay constants and weak form factors in a relativistic quark model 1−45214
QCD predictions, experimental verification and PETRA 1−14363
quark model, mass systematics for baryons and mesons, charmed baryon sum rules 1−45206
quark pairs, charmed, production in ν or $\bar{\nu}$ scattering, gluon bremsstrahlung mechanism 1−537
Schrodinger equation, charmonium Hamiltonians, energy calculations 1−5150
Schrodinger equation with charmonium confining potentials 1−5146
stable four quark charmed and strange mesons, δ and S^* interpretation 1−50382
strange baryons with charm in QCD 1−10156
structure in R above charm threshold in nonrelativistic quark model 1−10171
two body hadronic charm decays and right handed current 1−33151
weak non-leptonic decays beyond leading logarithms in QCD 1−50419
B, B_c decay, charmonium prod., ang. and pol. correlations *(Russian)* 1−5620
$c\bar{c}$ model of strong interactions 1−33167
e^+e^- annihilation, charmonium, charmed meson spectroscopy, bottomonium decay, review 1−10235
$e^+e^-\rightarrow$charmed mesons, decay, branching ratios 1−45322
η_c candidate state at mass=2978±9 MeV obs. in ψ' decay 1−18483
η_c mass, singlet-triplet splitting in $c\bar{c}$ system 1−10138
η_c' and η_b', decay widths and masses of excited pseudoscalar states 1−50438
F, exclusive and inclusive nonleptonic decays, quark decay model 1−14375
F, QCD predictions, experimental verification and PETRA 1−14363
F,F^*, suppressed prod. in broken SU(4), model independ. explanation 1−28237
F mesons, soft-gluon effects in nonleptonic decays of charmed mesons 1−50420
$F^+\rightarrow\pi\pi\pi(\nu\pi\pi)$, charm decay selection rules, quark annihilation mechanism 1−28314
F^+ semileptonic decay, SU(4) 20-plet dominance and W-exchange gluon bremsstrahlung models 1−10198
F^+-meson produced in K^+p at 32 GeV/c, decay into $\phi\pi^+$ 1−592
$F^\pm$, multiprong decay lifetime from neutrino and antineutrino interactions 1−546
F^{*+} radiative widths from effective quark mass 1−14386
γ and charmonium, S-wave spectra, fitting to common potential A+Br^α 1−33158
$\gamma N\rightarrow\Lambda_c^+\bar{D}^0$, charmed pair prod. in nuclear emulsion 1−45317
$\gamma p\rightarrow F^\pm X$, 20-70 GeV, $F^\pm$ inclusive photoprod., hadronic decay, mass 1−50442
hh→charm, review 1−45380
Λ_c^+ multiprong decay lifetime from neutrino and antineutrino interactions 1−546
$\Lambda_c^+\rightarrow pK^-\pi^+$, decay of Λ produced in neutrino interactions 1−23495
Λ_c^+ production, associated charm particle photoproduction in nuclear emulsion 1−50583
μN, 209 GeV, diffractive charm structure function and scale noninvariance 1−10212
$\nu(\bar{\nu})N$, charged current events, hadronic final states, review 1−10189
νN, charged current heavy quark prod., QCD corrections to structure functions 1−45259
νN, $\Lambda_{c^+}^+$, D^+ and D^0 charm particle lifetimes 1−10199
$\nu N\rightarrow\mu^-N$, nucleon intrinsic charm, neutrino scatt. bound 1−50375
$\nu p\rightarrow\mu^- pK^-\pi^+\pi^+$, Λ_C^+ charmed baryon prod. 1−50414
$\nu_\mu p\rightarrow\mu^- h$, 20 GeV strange and charm particle production, multiplicities, jets 1−28310
$pp\rightarrow\Lambda_c\bar{\Lambda}_c X$, 63 GeV, charm particle prod. cross sections 1−50475
ψ nondiffractive photoprod. mechanisms, gg, $q\bar{q}$ and $c\bar{c}$ fusion 1−45318
$\psi'(3684)\rightarrow\gamma\eta_c(2980)$, SPEAR obs. 1−18482
$Q\bar{q}$ atomlike mesons, Dirac eqn. with confining, pot., D, F, ψ, Υ appl. 1−18442
$\Sigma_{c\gamma}$ suppressed prod. in broken SU(4), model independ. explanation 1−28237
e^+e^-, charmonium results from Crystal Ball, ψ, ψ' X(2820) and χ(3455) prod. and decay 1−10207
F^+ meson decay lifetime 1−45269

charring *see combustion*

Chebyshev approximation
atmosphere aerosol size distribs., Chebyshev approach 1−49321
heat conduction, high-order near best uniform approximations 1−19544
planetary theories, numerical integration by Tchebychev series *(French)* 1−44418

chelates *see coordination complexes*

chemical analysis
see also chemical analysis by nuclear reactions and scattering; chromatography; electrochemical analysis; electron probe analysis; ion microanalysis; mass spectroscopic chemical analysis; polarimetry; pollution detection and control; radioactive chemical analysis; spectrochemical analysis; thermal analysis; X-ray chemical analysis
airborne laser induced fluorescence system for measuring trace gases, corrections 1−26793
analysis instrumentation, conf., Baton Rouge, LA, USA (Apr. 1980) 1−27682
automated atuomated chemical analysis system, using BASIC 1−31919
automated stopped-flow/unsegmented solution-storage analyzer 1−26776
balances, substance amount meas. and dosage method 1−31964
biological fluids, anal. of trace elements using an inductively coupled Ar plasma *(French)* 1−40031
bis(trimethylamine)alane in gaseous phase, struct., chemical anal. and IR spectra, diffr. pattern 1−6128
calibration and verification of instrumentation for trace analysis 1−31966
chemiluminescence analyzer, high-performance, for meas. atmospheric NO_x concentration 1−4240
chondrites, H-group, mineral chemistry and genetic relations 1−36228
differential thermal lens calorimetry 1−50131

chemical analysis continued
fast flux test facility, sodium and cover gas impurities, removal, chem. anal. 1−18726
fuel gas, comp. variations, on-line optimisation 1−27981
full scale spectrophotometer, differential techniques 1−40833
graphite intercalation cpds., $K_xNa_{1-x}Cy$ ($0.45<x<1$), synthesis and resistivity 1−8248
Incoloy 800, differential composition profiles of passive films 1−17120
Inconel 600, differential composition profiles of passive films 1−17120
inelastic electron tunnelling spectroscopy, review 1−5444
laboratory for struct. anal., performance, effect of dispatching rules, digital simulation 1−48759
laser microsampler for geological field investigations 1−9283
lasers, principles, rel. to anal. chem. appls. 1−10976
laterites, treated with reduction-roast/NH_4 leach system, electron-optical characterisation 1−13055
LIDAR, on Space Shuttle, anal. appls. 1−53487
LSI materials, U and Th trace anal. 1−26796
materials preparation and characterisation 1−13959
measurement of H_2 concn. in N_2 gas streams 1−21812
minerals, internal struct., electron microscope investigation 1−11644
Nitronic 33 electron beam welded, mech. props. rel. to N loss, chem. anal. 1−26782
organic carbon content, automatic instrumentation for reduced analysis time and instrument self-diagnosis 1−26781
particulates analysis by SEM and ion probe 1−53718
perchloroethylene, determ. in air by gas chromatography/electron capture detect. 1−21799
Permalloy film, electrodeposition prep., electrode supply mode effect on chem. comp. gradient 1−3644
phase determining intermediates, truth tables, flow topology, equilibrium points, group theory 1−17989
phosphosilicate glasses, P concentration checking method *(Bulgarian)* 1−53507
plasma renin activity, coated tube assay method 1−53946
polyacrylamidoxime resin, appl. to trace metal determ. in natural waters 1−53490
polyethylene, US detection of free radicals following γ-irradiation 1−43716
polylysine-DNA complexes, nucleasic digestion, free DNA regions, conductimetric titration 1−48945
polystyrene-PMMA, block copolymer, comp., mol. wt. distrib. determ. 1−33584
Portland cement, SO_3 rapid determ. by turbidimetry *(Japanese)* 1−26798
process analytical instruments, design and application developments review 1−26799
process analyzer, monitoring and control of chemical processes 1−31968
pure surfaces and reactive layers, chemical analysis, ionisation pot., thermal props., SIMS technique 1−31932
pyrographite, intercalation by NO_2^+ and NO^+ salts, chem. oxidation 1−31703
quartz, synthetic, neutron polarisation anal. of H content 1−13057
refractories, analysis for total and free C with AN-29 rapid analyser 1−31803
residual gas analyser check-out method using isotope ratios of common gases 1−48772
semiconductor epitaxial structures technology, analytical control 1−31933
sodiumdinitro-bis(acetylacetonato) cobaltate(III)-imidazole complexes; configs., chem. anal., spectra 1−10716
SRC II fuel oil, characterisation and combustion 1−26748
stack-gas analyser model SA-601 *(Japanese)* 1−32070
stannides, superconducting/mag., cryst. chem., growth and reentrant behaviour 1−31327
steel, Cr-Ni-W, Cr and Ni determ. with vac. quantometer 1−53510
steels and alloys, manufactured by hot isostatic compacting, Ar content determ. *(German)* 1−31918
trace elements, in seawater, comparison of methods 1−21797
transformer oil, extraction of dissolved gas *(German)* 1−31929
transition metal complexes, $[M(nicotinic\ acid)_2\ (acac)_2]_n$, synthesis and characts., IR and photoacoustic spectra, chem. anal. and mag. susceptibility 1−48072
unity in chemical analyses, approval of analytical laboratories 1−26801
WASA probe limiter and shields, anal. after operation in T-10 Tokamak 1−26783
Ag-Cu, anal. by elastic and inelastic gamma-ray scatt. 1−48771
Al evaporated film, on Ti-Al-V (6,4 wt.%), anodisation 1−21634
As determination in fluoride and SiO_2 rich geothermal waters, molybdenum blue appl. 1−54259
$BaWO_4$, crystn. degree from LiCl melt, evaluation by optical microscopy and chem. anal. 1−20087
$CaWO_4$, crystn. degree from LiCl melt, evaluation by optical microscopy and chem. anal. 1−20087
Cu-plated graphite powder lubricants, Cu-deposition with solid reducing agent 1−12677
Cu-Su-Zn, bronze BrOTs, rapid chem. anal. 1−17132
H content in Al and its alloys, meas. techniques 1−43722
NO_3 content, determination in waste air *(German)* 1−4130
$NaGaHP_3O_{10}$, prep. and characterisation 1−35164
$NiFe_2O_4$, ferrospinel form. mechanism and kinetics from inequimolar Fe_2O_3-NiO mixture 1−53401
O_2, determ. using ZrO_2 sensor 1−43725
P determination in fluoride and SiO_2 rich geothermal waters, molybdenum blue appl. 1−54259
PbO_2:Sb, effects of doping on props. 1−16207
Pt-Hg contact region kinetics study 1−17100
Rb-Ga double phosphates, prep. and characterisation 1−35164
$Rb_2ZnPb(NO_2)_6$, idiomorphous single cryst. growth in gels *(German)* 1−35159
SiO_2, cryst., determ. in ash from Mt. St. Helens volcano 1−21795
TiB_2, on polycryst. Mo substrate, surface charact. 1−25583
$Tl_2ZnPb(NO_2)_6$, idiomorphous single cryst. growth in gels *(German)* 1−35159

chemical analysis by mass spectrometry *see mass spectroscopic chemical analysis*

chemical analysis by nuclear reactions and scattering
see also chemical effects of nuclear reactions and scattering; neutron activation analysis; radioactive chemical analysis
brass, oxidation of α and β phases, XPS and nucl. reaction spectroscopy study 1−16976
depth profiling using ion beam from nuclear reactions *(Japanese)* 1−48211
double-layer activation for the detection of non-uniform wear of corrosion 1−39702
gamma activation of nuclear isomers and its applications 1−43720
light element analysis and profiling using non-elastic recoil 1−26789
mixtures, solid state, radioanal. methods appl. *(Slovak)* 1−17119
nuclear ion microprobe at MeV energies, Rutherford backscatt., nuclear reactions and particle-induced X-ray emission signals 1−21827
ores, anal. using photon beams 1−23875
C foil, O and H content determ. by elastic α scatt. 1−21817
GaAs, activation analysis with low energy charged particles 1−31937
Si:C, C conc. determ. by activation anal. and chemical separation 1−31938
Si:C, C impurities determ. by activation anal. 1−31939
^{235}U, thermal neutron fission, radiochemical investigation on existence of polyneutron nuclei 1−53511

chemical association *see association*

chemical batteries *see cells (electric)*

chemical bonding *see bonds (chemical)*

chemical bonds *see bonds (chemical)*

chemical composition *see chemical analysis*

chemical diffusion *see diffusion*

chemical effects of nuclear reactions and scattering
see also chemical analysis by nuclear reactions and scattering; radiation chemistry
No entries

chemical effects of radiation *see radiation chemistry*

chemical elements *see elements (chemical)*

chemical energy conversion
biomass thermochem. conversion in clean fuels and chem. feedstock, US DOE R and D 1−35668
biomass with $AlCl_3$, low temp. thermoconversion to organic chemicals acetone, low temperature thermoconversion of biomass to organic chemicals in the presence of aluminum chloride 1−53641
chemical heat pumps using $CaCl_2.8NH_3$ dispersion in inert solvent 1−53640
heat pump, solar driven, sensitivity anal. of value of major components of system 1−48890
hybrid chemical concepts for storage of solar thermal energy 1−17312
hydrogen conversion and storage, chemical heat pump system, HYCSOS 1−21889
HYFIRE: fusion-high temperature electrolysis system, for H_2 production 1−50944
metal hydrides, engineering appls. HY-STOR 1−21939
methane, reforming and methanation, appl. to high-temp. heat transport *(German)* 1−35562
photovoltaic and chemical energy conversion, NASA's progress in space power technology 1−48851
synthetic fuel production plant, high temperature fusion blanket 1−50946
thermochemical hydrogen production from water using HTR waste heat *(German)* 1−8775
thermochemical water splitting cycle, fusion reaction design considerations 1−50945
CC $CaCl_2$-CH_3OH chemical heat pump, prototype studies for solar air conditioning, heating and storage 1−48892
H production from water by thermoelectrochemical cycles *(Russian)* 1−21941
H_2 production, thermochemical cycles applied to fusion energy sources 1−53696
NH_3 synthesis gas prod., alternative biomass feedstock for synthesis gas from manure process 1−35669

chemical engineering *see chemical technology*

chemical engineering computing
see also computerised control; computerised instrumentation
boiler feedwaters with low conductivity, pH meas. appl. 1−27944
thermochemical H_2 production, technico-economic evaluation of multi-step chemical processes, improvements to OPTIMO code 1−32053

chemical equilibrium
see also chemical reactions; reaction kinetics
Belousov-Zhabotinskii reaction, concentration ranges of existence of oscills. 1−39625
Belousov-Zhabotinskii reaction, target model reaction 1−4049
Belousov-Zhabotinsky reaction, chaos due to delocalisation 1−35503
bistable system, variational calc. of lower excited states 1−17026
classical particles with chem. reaction, statistical mechanical model 1−27859
complex formation const. and soln. equilib. 1−13031
diphenylcarbene fragment, energy relax. equilib. const., free energy difference, picosecond laser obs. 1−33520
enzymes, cyclic interacting three-state system, stable oscillating props. 1−12986
equilibrium reactions, mol. force field calcs., appl. to Earth's primitive atmosphere 1−48715
ferroin-bromate system, pattern formation 1−12983
forced glycolytic oscillations, possibility of chaotic behaviour and multibasins 1−4078
hydroxyaromatic compounds, acid-base equilib. const. determ. using Weller and fluoresc. titration method 1−8600
isomerisation, multiphoton induced dynamics and thermodynamics 1−39605
isomers, conformational anal., enthalpy, entropy and vibr. energy determ., PCILO and CNDO calc. 1−46158
isotope substitution, incomplete, of several atoms of one element, equilib. consts., mass spectrosc. obs. 1−37349
lanthanide monoxides, dissoc. energies mass spectra results correl. 1−17044
minerals, law of mass action, thermodynamic parameters at low temps. *(French)* 1−39664
mixtures, two-component, spectral anal. 1−4133
multicomponent multiphase equilibria calculation 1−35563
nonequilibrium phase transition and chemical instabilities 1−40741
nonequilibrium state, irreversible thermodynamics and modified moment method 1−5259
nonlinear chemical reaction and reaction diffusion system, periodic struct. evaluation by harmonic balance method 1−8534
nucleotides in aq. soln., intermol. association, ^1H NMR, microscopic equilib. const. and Gibbs energy determ. 1−21705

chemical equilibrium continued
partially ionised nonideal gas mixtures in chemical equilibrium, fluid dynamic description 1−29856
phase determining intermediates, truth tables, flow topology, equilibrium points, group theory 1−17989
phthalocyanine redox equilib., solvent effect 1−10857
Planck function, eqns. for calc. of change from ΔC_p° 1−31892
reaction kinetics, generalised mass action law and formal kinetics anal. 1−31879
reactions in liquids, many-body problems, generalised Langevin theory 1−8531
reactive liquid mixtures, chem. equilib., computer simulation 1−53403
2,2,4,4-tetramethylpentane-3-ol in soln., dimerisation equilib. by IR absorpt. spectra and dielec. methods 1−39591
Ag^+, preferential solvation in acetonitrile (acetonitrile-H_2O), transfer free energy, radiochem. determ. 1−21762
Ag-polynucleotide complexes, equilib. and kinetic investigations, binding parameter, UV spectra 1−17095
Br_2-Cl_2-BrCl mixtures, chem. equilib., computer simulation 1−53403
Br_3^-, linear solvation energy relationships, free energies of form., solvent effects *(French)* 1−48717
CO_2 mol. in thermodynamically nonequilib. gas flows, vibr. temp. meas. 1−44920
$Ca(IO_3)_2$, solubility and complexation in (K,Na)NO_3 melts 1−52295
$GeCl_4$, homogeneous gaseous state, oxidation 1−43657
I_3^-, linear solvation energy relationships, free energies of form., solvent effects *(French)* 1−48717
Mn^{2+}-malonic acid-$KBrO_3$-H_2SO_4 system, complicated oscillations studied in continuously stirred tank reactor 1−12977
Ru complex, $Ru(CF_3CO_2)_2CO[P(C_6H_5)_3]_2$, catalyst, H_2 transfer reaction equilib. *(German)* 1−21724
$SiCl_4$, homogeneous gaseous state, oxidation 1−43657
Ti-O system, thermodynamics of intermediate oxides 1−39323
V_2O_3 (V_3O_5) with Cl, chem., transport, gas and solid phase comps., thermodynamic anal. 1−31897
YAu(g), thermodynamic stability, high temp. mass spectra 1−17092
Yir(g), thermodynamic stability, high temp. mass spectra 1−17092

chemical exchanges
see also ion exchange; isotope exchanges
atom+diatom exchange collisions, electronically adiabatic pot. energy surface 1−51270
camphorquinone in polyvinylcarbazole matrix, H abstraction, holographic study 1−26755
2(S)-(+)-chloro-1-propanol, ^{34m}Cl-for-Cl substitution, Walden inversion 1−48663
collinear exchange reaction, evaluation of reaction probability and product distrib. 1−26716
glasses, redox ions props., reaction mechanisms 1−31849
haemoglobin-H_2O proton system, NMR hybrid relax. rates, chemical, physical and spin exchange 1−16496
heteroexcimer, reaction intermediate, picosec. laser spectrosc. obs. 1−10868
intercalation compound, diffr. obs. of reaction kinetics, review 1−31827
lanthanide shift reagents, intermol. exchange kinetics, ^{1}H NMR investig. 1−24172
NMR lineshapes when chemical exchange time approaches motional correlation time 1−1258
water, biological, dynamically oriented, NMR line pair spectra 1−19110
weak bases, H^+ transfer reactions in lowest excited singlet state, kinetics and equilib. 1−8542
zeolite T, prep. of highly exchanged H forms 1−43290
$[Gd(H_2O)_9]^{3+}$, M_2O exchange, kinetic consts., EPR and ^{17}O NMR obs. 1−33483
Fe-C melts, coupling phenomena in transfer of elements between a gas phase 1−48676
Gd complex, Gd propylenediaminetetraacetate $(H_2O)_2^-$, H_2O exchange, kinetic consts., EPR and ^{17}O obs. 1−33483
$GdCl_3$, prep. from Gd_2O_3 and purification 1−26399
H^+ transfer, intermolecular forces, configs., isotope effects 1−19154
H^+ transfer reactions, kinetics, proton affinities determ. 1−39602
H+H_2, collinear exchange reaction, evaluation of reaction probability and product distrib. 1−26716
H+methane(methane-d_4), abstraction and exchange reactions, transition states and rate const., POL-CI calc. 1−24045
H_2O-methanol-Ni(II) system, chemical, physical and spin exchange, NMR hybrid relax. methods 1−16495
I+H_2→IH+I, collinear quantum mech. reaction probabilities, calcs. using hyperspherical coords. 1−39594
TaS_2 (2H) diffr. obs. reaction kinetics, review 1−31827
XeF* excimer form. in hollow-cathode glow discharge, inert gas-halogen carrier mixture 1−53418

chemical industry
process analytical instruments, design and application developments review 1−26799
process analyzer, monitoring and control of chemical processes 1−31968
raw materials and energy conservation, research and development 1−4167
serial data link as process chromatograph, process control computer interface 1−31967
sound emission from chemical production plants 1−32065

chemical kinetics *see reaction kinetics*

chemical lasers
ASTERIX III, an iodine laser for nuclear fusion *(German)* 1−898
conference, gas flow and chemical lasers, Marseille, France (Sept. 1980) 1−36451
CW, rotational nonequilib. effects 1−37488
flashlamp-pumped photodissociation lasers, optical inhomogeneity evolution 1−33677
HF, CW chemical laser, ring model for cold reaction 1−24415
I laser, high power, use of thin metal coatings to decouple amplifier stages 1−37511
IR lasers, conf., Los Angeles, CA, USA (Dec. 1980) 1−44716
molecular electronic transition laser, laser diagnostics and studies 1−41680
multimode CW, inhomogeneous broadening effects 1−41676
optical resonance transfer CW lasers optically pumped with multiline chem. laser 1−46325
review of chemical and gasdynamic lasers, book contrib. 1−10995
ring resonator model of long inhomogeneously broadened laser, phase variations due to anomalous dispersion 1−46401
self-emission initiated chem. laser 1−46327
chemical lasers continued
unstable resonators with tilted spherical mirrors, optical quality 1−46394
CO, chemical laser using CS_2 flame and O_2-N_2 mixtures, energy and spectral characteristics 1−24414
CO gasdynamic chemical laser using air and CS_2 1−33717
D-O_3-CO_2 mixture for gasdynamic chemical laser, expt. results 1−33673
D-O_3-CO_2 mixture for gasdynamic chemical laser, calc. model 1−33674
DF, CW, combustion driven, centre line small-signal gain meas. 1−46322
DF CW chem. lasers, principles, performance and operating charact. 1−37487
DF CW overtone lasing demonstration using combustion driven chem. laser 1−46330
DF chemical laser initiated with Teflon surface spark UV flash 1−19352
DF, combustion driven chem. laser performances of several reactant systems 1−37491
DF laser, electron-beam-initiated, energy parameters 1−33672
DF pulsed chemical laser, press. wave suppression 1−1554
DF, Teflon surface spark UV flash initiation 1−41726
DF, using combustion driven atomic F generators 1−37489
DF-CO_2, chemical laser initiated by self-emission 1−46327
DF-CO_2 chemical laser behavior, energy charact., numerical analysis 1−33675
DF-CO_2 laser, electron-beam-initiated, energy parameters 1−33672
Ge, photodissociation of GeI_4, stimulated emission obs. on 326.9 nm line 1−15164
H-O_3-CO_2 mixture for gasdynamic chemical laser, expt. results 1−33673
H_2-F_2 laser performance from H_2-F_2-O_2 photochemical induced combustion data 1−4088
HBr, high power and single line operations 1−41727
HCl, CW elec. initiated, laser performance, computer model and expt. meas. 1−41678
HCl pulsed laser, method for enhancing output energy 1−1556
HF, CW, rotational nonequilib. effects 1−37488
HF, CW, saturation of gain and refr. index, three vibr. level model 1−37490
HF CW chem. laser modelling, rot. nonequilib. effect on laser performance 1−41679
HF CW ring chemical laser, output spectrum with chain pumping mechanism 1−29272
HF CW X-ray preionised pulsed chemical laser 1−46379
HF chemical laser, flashlamp-initiated large-vol. H_2-F_2 1−51508
HF chemical laser initiated with Teflon surface spark UV flash 1−19352
HF chemical laser system, nonlinear supersonic chemically reactive flow 1−11476
HF compact laser using SF_6-H_2 mixture, long-lived electron beam preirradiation effect 1−24412
HF, discharge excitation using transverse electrodeless RF config. 1−1550
HF laser, electron-beam-initiated, energy parameters 1−33672
HF laser kinetics, reacting particle translational nonequilib. study 1−41681
HF laser performance of CO_2 laser ignited SF_6-H_2 and S_2F_{10}-H_2 mixtures 1−24413
HF, pulse-initiated, meas. of discharge V-I charact. 1−51464
HF, pulsed chem. laser with electron beam initiation and mag. confinement 1−51470
HF, pulsed chemical laser, press. wave suppression 1−1554
HF pulsed chemical laser, vibr.-rot.-translational relax. kinetics model 1−41677
HF pulsed laser using SF_6-$H_2(C_4H_{10})$ mixtures, initiating discharge charact. 1−1555
HF, single pass pulsed H_2+F_2 amplifier, kinetic model 1−51471
HF, Teflon surface spark UV flash initiation 1−41726
HF/DF CW chemical lasers for monitoring atm. trace constituents and process control 1−17703
HF-CO_2, chemical laser initiated by self-emission 1−46327
HF-DF laser-induced breakdown of diamond-machined window surfaces 1−1605
I, absolute quantum yield spectral depend. in perfluoralkyl iodides photolysis 1−8595
I, alkyl iodide lasant gas photolytically pumped by nuclear-induced XeBr fluoresc. 1−24411
I, contrast ratio meas. using high-speed spark shutter 1−1611
I flashlamp-pumped CF_3I photodissociation laser with optically thick medium 1−6548
I h igh power laser system, structure and performance 1−51469
I, inertial fusion appls. *(French)* 1−50934
I laser, cavity alignment, mode-matching techniques 1−1594
I laser oscillator, sealed-off repetitively pulsed 1−29300
I laser potential using electrically generated $^1\Delta O_2$ pumping 1−46324
I lasers at 1.315 μm, coherent reson. pulse propag. 1−29347
I, optical inhomogeneities in flashlamp-pumped photodissociation lasers 1−33677
I, optically pumped, CF_3I, CH_3I, 6-level kinetic model, numerical anal. *(Korean)* 1−46326
I photodissociation laser, hyperfine relax. 1−51465
I pulse-periodic photodissoc. laser, magnetoplasma compressor radiation pumping 1−51466
I repetitively pulsed photodissociation laser, high average power operation at 1.3 μm 1−46323
Na+CCl_4, chemiluminescent spectra, vibr. population inversion and relax. kinetics 1−8571
O_2-I CW chemical laser, kinetics 1−51467
O_2-I chemical laser, operating parameters 1−46328
O_2-I chemical laser, temp. depend. of reaction rate consts. 1−51468
O_2-I transfer laser, kinetic model 1−46329
O_3, O_3-CO, light amplification theory in recomb. reactions during exothermic mixture adiabatic explosion *(Russian)* 1−41682
Sb, photodissociation of SbI_3, stimulated emission obs. on 326.7 nm line 1−15164
Se, laser performance of electric-dipole forbidden transitions, collision effect, induced emission 1−37486
Se(^{1}S)-CO-Xe photolytically pumped laser, electron energy distrib. calc. 1−46321
Sn, photodissociation of SnI_2, stimulated emission obs. on 380.1 nm line 1−15164
Tl laser with external resonator emitting at 535, 377.5 nm, gain, excitation by TlI photodissociation 1−29271
Tl UV laser pulses produced by TlBr photodissoc. 1−6547
XeO photochemical laser, internal losses, specific efficiency and output energy 1−33676

chemical reactions
see also association; atom-atom collisions; atom-ion collisions; atom-molecule reactions; atomic inelastic collisions; catalysis; charge exchange; chemical exchanges; chemically reactive flow; chemiluminescence; chemisorption; CIDEP; CIDNP; corrosion; dissociation; electrolysis; free radical reactions; heat of reaction; ion-molecule reactions; isomerisation; molecule-molecule reactions; oxidation; photochemistry; polymerisation; pyrolysis; radiolysis; reaction kinetics; reduction (chemical); solvation
acid hydrolysis of biomass for prod. of xylose and glucose sugars 1−35670
trans-4-alkylcyclohexane carboxylic acids and nematogenic esters, synthesis 1−38281
amides, mol. ion fragmentation and rearrangement in strong elec. field 1−39627
amides, substituted, mol. ion fragmentation and rearrangement in strong elec. field 1−39627
annual review of physical chemistry (book) 1−9789
approach to steady states, approach and relaxation times, continuous stirred tank reactor 1−21699
aromatic electrophilic substitution, free electron approach 1−35508
atomic recombination reaction in liquids, appl. of generalised Langevin theory for many-body problems 1−26715
availability analysis of reaction processes, steady-flow availability and the standard chemical availability 1−17085
Belousov-Zhabotinskii reaction, concentration ranges of existence of oscills. 1−39625
Belousov-Zhabotinskii reaction, target model reaction 1−4049
Belousov-Zhabotinsky oscillatory chemical systems, phase diagrams 1−53414
Belousov-Zhabotinsky reaction, chaos due to delocalisation 1−35503
Belousov-Zhabotinsky reaction, chaotic states 1−39614
Belousov-Zhabotinsky reaction, oregonator model, composite double oscillation 1−8530
benzene(-d_6)+N reaction, benzonitrile prod., visible spectra, and luminesc. 1−4082
bimolecular, pot. barriers calcs. 1−26739
bimolecular reactions with metastable intermediates, statistical models for product energy distributions 1−12975
binary gas mixtures, adsorpt. kinetics on homogeneous solid surfaces, stochastic approach 1−34586
bond energies and chemical reactivity 1−10861
carbine, form., deposition in RF discharge plasma 1−26395
carbon tetrachloride, reactions of fragments induced by electron impact form. of negative ions 1−10850
catalytic reforming, energy conservation in the petrochemical industry, second law anal. 1−17087
catalytic reforming energy efficiency, thermodynamic anal. 1−17086
catechol derivatives, enzymatic O-methylation, regression anal. 1−8545
chalcopyrite concentrate, attritor-ground, leaching by in-situ generated $Fe_2(SO_4)_3$ soln. 1−2645
chlorobenzene+N reaction, benzonitrile prod., visible spectra, and luminesc. 1−4082
collinear exchange reaction, evaluation of reaction probability and product distrib. 1−26716
collinear triatomic reactions described by polar Delves coordinates 1−39603
condensed phase reaction model, rate consts., stable state picture 1−8553
correlation energy of radicals, Rayleigh-Schrodinger perturbation calcs. heat of reaction, activation energies 1−18078
cryptate inclusion complexes, solute-solute and solute-solvent interactions, effects on ionic reactivity 1−8569
CVD process, model, first and second-order reactions 1−39247
cyclophosphamide metabolites, electronic struct., physical and chemical props., CNDO/S-CI calcs. 1−51125
diamond like-films, form., deposition in RF discharge plasma 1−26395
dibenzo-p-dioxins, chlorinated, origin in fire trace chem. reactions 1−53426
dichlorodifluoromethane, reactions of fragments induced by electron impact form. of negative ions 1−10850
diffusion-controlled recombination, modified Smoluchowski eqn. and unified theory 1−26723
dissociation, stable state picture, rate consts. and initial condition effects 1−8552
DNA, binding of carcinogenic acetylaminofluorene, active sites, mol. electrostatic pot. 1−4247
DNA+Pt complex ions interactions, quasirelativistic EHT calcs. 1−1117
DTA curve, theoretical basis 1−4129
electron transfer reactions, ground and first excited adiabatic pot. 1−17033
electron-gain and -loss reactions of mols. and ions in condensed phases 1−53441
equilibrium reactions, mol. force field calcs., appl. to Earth's primitive atmosphere 1−48715
ethanol production by acid hydrolysis of biomass, economic eval. 1−35671
ethyl fluoride→ethylene+HF, pot. energy surfaces, energy partitioning, ab initio MO study 1−12988
even-electron ions, collision-induced fragmentation 1−8546
ferrite, spinel type, crystal orientation during solid-solid reaction 1−48653
fluid mixture, forced Rayleigh light scatt. with chemical reactions *(French)* 1−31162
fluorobenzene+N reaction, benzonitrile prod., visible spectra, and luminesc. 1−4082
forced glycolytic oscillations, possibility of chaotic behaviour and multi-basins 1−4078
formaldehyde+HO_2, form. of hydroperoxy-hydroxy-methane, IR spectra 1−14880
gas absorption in laminar falling films, first order homogeneous reaction and gas phase resistance 1−39674
gas phase reaction model, rate consts., stable state picture 1−8553
graphite intercalation compounds with KHg and RbHg, reaction mech. and thermal stability 1−39622
graphite-water vapour reaction, kinetic study of hydrocarbon formation 1−8564
heat pipes, gas generation, physicochemical processes effect 1−17047
high magnetic field chemical reactions *(Japanese)* 1−4083
histidine titration, chemical rate and reactions, NMR lineshape anal. 1−19220
interstellar CH^+ formation, implications of H_2 obs. towards Pleiades and 23 Orionis 1−44602

chemical reactions continued
interstellar chemistry, implications of high ang. resolution obs. of CS in Orion Nebula 1−9617
interstellar clouds chemistry, form. of chain and ring compounds rel. to search for pyrrole and furan 1−40538
interstellar dark clouds, gas phase form. of ethynyl radical (C_2H) 1−9602
interstellar diffuse bands, laboratory production of candidates 1−21696
interstellar gas phase chemistry, implications of CO abundances in diffuse clouds 1−44601
interstellar molecular clouds, chemical equilib. eqns. rel. to steady state hydrostatic models 1−27580
intramicellar reversible reaction kinetics, master equation calcs. 1−48741
ion+molecule reaction, mechanisms, charge and ion exchange, isotope labels, ion cyclotron technique 1−31844
ion-ion recombination in systems at low gas densities, symmetrical reson. charge transfer contrib. 1−8563
ionic polarization and the calculaton of standard electrode potentials of elements 1−31869
layered compounds, intercalation chem. and diffusion 1−13968
localized nonuniform patterns in a diffusion-reaction model with autocatalysis and the Langmuir-Hinshelwood saturation law 1−8532
materials preparation and characterisation 1−13959
methane, reforming and methanation, appl. to high-temp. heat transport *(German)* 1−35562
methyl iodide, formation by gamma irrad. of iodine, methane, water vapour, air mixture, nuclear power safety *(Czech)* 1−5897
mixtures of fluids and solids, chemically reacting continuum theory 1−31859
molecular homolytic photodecomposition in solid phase, stabilised radicals, quantum yields, cage effect 1−48701
molecular reactivity, distant substituent effect, mechanism 1−48671
multicomponent multiphase equilibria calculation 1−35563
muscle contraction, active fibers number influence 1−49046
neutral reactions involving rare gas halide molecules 1−39631
nitroaniline, (N-methylation), substitution, press. and solvent effects, isomers, charge transfer, luminesc. obs. 1−33554
nonlinear chemical reaction and reaction diffusion system, periodic struct. evaluation by harmonic balance method 1−8534
odd-election ions, collision-induced fragmentation 1−8546
organic chemistry in orderly cosmos, rel. to origin of life 1−49178
organic conductors, design strategy, review 1−43292
organic solids, shock induced chem. reactions, phonon relax. effects 1−17058
oscillators excited by weak external force, ensemble statistics 1−18055
peptides, solid (gel) phase synthesis, ^{13}C NMR obs. 1−45992
perturbation theory, ground state, in one-dimension, appl. of method to screened coulomb and charmonium pots. 1−40672
plasma, chemical reactions and appl. *(German)* 1−13013
plasma, reaction mechanisms, dissoc. capture *(Rumanian)* 1−51907
plasma chemistry, book 1−32811
plasmas, dissoc. processes in low and intermediate pressure ranges, book contrib. 1−34041
positronium ion reactions in liquids, electron transfer, rate consts. 1−12991
positronium reactions, quantum mechanical effects 1−43650
quantum scatt. theory and MO theories, relation to chemical reactivity 1−39612
rare earth boron hydrides, formation conditions, segregation and solubility in tetrahydrofuran 1−7334
rare earth metals, reactions with R_2O_3 under high pressures 1−26740
rare earth monoxides, RO, high press. synthesis 1−35201
reaction system, static charge reduction using glow discharge 1−39695
reactions in liquids, many-body problems, generalised Langevin theory 1−8531
reactive surfaces, analytical theories of multiple trapped periodic trajectories 1−26717
recombination reactions, atom and radical, book contrib. 1−12997
Schlogl model critical behaviour 1−39617
second law analysis of reduced product yield in chemical processes 1−17089
single-particle density, role in chemistry, review 1−37357
solid-state, high resolution TEM appls. 1−13967
solid-state reaction kinetics investig. by elec. cond. method 1−35525
solute diffusion with reversible reaction 1−35532
symposium on atmospheric pollutant physico-chemical behaviour (Ispra, Italy, 1979 October) 1−9773
synergetic system dynamics, conference, Bielefeld, Germany (Sept. 1979) 1−22952
tellurolesters, Te-alkylated, synthesis and IR spectra 1−4081
temp. depend., chem. efficiency, max. power, finite time thermodynamics 1−35520
tetramethyldioxetane, state selected, unimol. reaction obs. 1−8559
thermal unimolecular reactions, rate constants, incubation times, collision model, mixture rules 1−21697
thermodynamic quantities near critical points in presence of chemical reaction 1−215
thermodynamically based analysis and synthesis of chemical process systems computer-aided anal. and optimal synthesis 1−17090
transition metal interstitial alloys, phase relations rel. to binary and ternary oxides, cryst. field effects 1−38755
triatomic model reaction, quantum probabilities for dissoc. evaluated by S-matrix propag. along Delves' radial component 1−31839
trichlorofluoromethane, reactions of fragments induced by electron impact form. of negative ions 1−10850
unimolecular elimination reactions, energy distrib. 1−21707
unimolecular reactions, specific decomposition rate const., quantum formulation 1−21700
unsaturated chromophore excitation influence on feasibility and selectivity of σ-bond cleavage 1−48648
uracil derivatives, energy density, deprotonisation, quantum calcs. 1−14806
variational principles of chemical reactions 1−48652
zeolite T, prep. of highly exchanged H forms 1−43290
zeolite/H_2O high temp. absorption heat pump using force-heat-conversion *(German)* 1−35672
Ag^+, preferential solvation in acetonitrile (acetonitrile-H_2O), transfer free energy, radiochem. determ. 1−21762
$AgBaCr_2(VO_4)_3$, prep. and X-ray powder diffr. studies 1−7142
$AgPO_3$-$Mn(PO_3)_2$ system, phase comp., $AgMn(PO_3)_3$ form. by peritectic reaction 1−35240

chemical reactions continued
$BaFe_{12}O_{19}$ ferrite, form. from $BaCO_3+Fe_2O_3$ roll scale, kinetics and mech. 1−39601
$Ba_3(Fe_2S_4)_9$, one-dimens. struct., prep. and props. 1−13970
$BaO.6Fe_2O_3$, synthesis by reaction of β-FeOOH with $BaCl_2$ solns. 1−35515
C gasification, by CO_2 at high temps. and pressures 1−21703
$C_7(HSO_3F)_x(SbF_5)_{1-x}$, formation and elec. resistivity 1−39621
$CaCO_3$, rate and activation enthalpy of decomposition 1−12992
$CaCl_2.8NH_3$ dispersion in inert solvent for chemical heat pump appls. 1−53640
CaHCl system, collinear interactions, val. bond diatomics-in-mol. method appln., pot. energy surfaces 1−1143
$Ca_{10}(PO_4)_6F_2(Cl_2)$, phosphors, formation chemistry 1−12961
CaS, oxidation reactions anal. 1−12906
$CaSO_4$-TiO_2 systems, reactivity of TiO_2 with different preparation histories 1−26732
CdTe-H_2-halogen system, mass transfer of CdTe 1−7395
$Ce+O_2$, X-ray photoelectron study 1−8612
$CePO_4$, sintering reaction with Na_2CO_3, intermediate products 1−26404
Cl+bromoethylene, statistical models for product energy distributions 1−12975
Co extraction, from CoAsS ore, using $Fe_2(SO_4)_3$ solns., leaching kinetics 1−2644
$CoCO_3$, trigonal, synthesis under press. in igneous phase 1−35202
$CsNO_3+V_2O_5$, solid phase reactions studied using DTA, DTG and TG methods 1−26729
Cu-plated graphite powder lubricants, Cu-deposition with solid reducing agent 1−12677
CuCl, pure and stoichiometric, synthesis 1−4075
$Cu Hg(NCS)_4$, and complexes, synthesis, struct. and softness parameter 1−8565
$CuHg(NCS)_2(NCSe)_2$, and complexes, synthesis, struct. and softness parameter 1−8565
$CuHg(NCSe)_4$, and complexes, synthesis, struct. and softness parameter 1−8565
$CuInSe_2$-$CuInS_2$ system, interaction of components, physicochemical characteristics 1−31432
D/H fractionation in low. temp. chemical reactions, rel. to solar system D/H ratio 1−36263
Fe mixed electrodes, individual contributions of overpotentials 1−17060
Fe^{2+} thionine, photogalvanic cell, reaction kinetics, rate constants 1−17029
FeOOH, with metal hydroxides, spinel ferrite formation, crystal orientation during solid-solid reaction 1−48653
GaAs, thermally annealed plasma-oxidized films, interfacial reactions, thermodynamically driven 1−21765
$GdPO_4$, sintering reaction with Na_2CO_3, intermediate products 1−26404
H+ClF→HCl+F, two-channel reaction, rate consts. of production and energy distrib. of products 1−48681
H+ClF→HF+Cl, two-channel reaction, rate consts. of production and energy distrib. of products 1−48681
HF desorption effects, chemical reactivity, electron scattering, electron energy-loss obs. 1−19182
$H_3PO_4+In_2O_3$, synthesis of alkali metal indium phosphates 1−12978
KC_{24}+benzene-d_6 intercalation, kinetic neutron diffr. study 1−39619
K_2TiO_4 fibres, growth by slow cooling, flux growth reactions *(Japanese)* 1−21722
(LaO)AgS layer compound, synthesis and ionic cond. *(French)* 1−38587
$LaPO_4$, sintering reaction with Na_2CO_3, intermediate products 1−26404
$LiBaCr_2(VO_4)_3$, prep. and X-ray powder diffr. studies 1−7142
$Li_{22}Si_5(Ge_5)$ solutions in liq. Li, elec. resist., solubility, and chemistry 1−30708
MgO, atomic C, evolution of hydrocarbons, 700-1200K 1−21718
Mn^{2+}-malonic acid-$KBrO_3$-H_2SO_4 system, complicated oscillations studied in continuously stirred tank reactor 1−12977
MnOOH, with metal hydroxides, spinel ferrite formation, crystal orientation during solid-solid reaction 1−48653
N^++Mo surface, reactions kinetic energy depend. 1−35501
N_2^++Mo surface, reactions kinetic energy depend. 1−35501
NH_3+OH, rate const. determ. over wide range of temp. 1−8529
NO^+ in aurora, chemical reaction rates 1−4675
$NaBaCr_2(VO_4)_3$, prep. and X-ray powder diffr. studies 1−7142
Na_2O-CaO-SiO_2 glass, darkening in low press. Hg discharge, mechanism 1−53425
NbO_2+metal oxides, synthesis of niobates (IV) 1−8548
Nd film, electrical resist changes due to reaction with H and air 1−42871
Ni extraction, with LIX63(HOx)-dinonylnaphthalenesulphonic acid mixtures, interfacial chem. aspects 1−4128
Ni, liq., decarburisation kinetics in CO_2-CO mixtures 1−4047
Ni^{2+} hydrolysis in water to 573K 1−11866
Ni-Mn, phase transitions in H_2, saturation magnetisation, temp. depend. 1−30929
O, transport in DC discharge, chem. reactions effects 1−15601
O+CS, perturbation-enhanced quenching 1−6340
O_2, electron-beam controlled discharge, at atmos. press., kinetics of species 1−2271
O_3, O_3-CO, light amplification theory in recomb. reactions during exothermic mixture adiabatic explosion *(Russian)* 1−41682
$^{16}O^{16}O+^{18}O^+(^{18}O\ ^{18}O^+)$, rate const., product distrib. and energy depend. meas. 1−17027
Pr film, electrical resist changes due to reaction with H and air 1−42871
$ScNH_4P_2O_7$, solid-phase reaction prep., characterisation 1−35172
Si chemistry in dense interstellar clouds 1−13827
Ta separation from Nb 1−4076
$TaCl_5+B_2H_6$, CVD of TaB_2 1−16702
Ti+α-SiC solid-state reaction 1−13038
Ti+P reaction kinetics and mechanism, 800°C 1−17042
$TiCl_4+B_2H_6$, CVD of TiB_2 on graphite 1−16701
Ti_xFeO_x (CoO_x) (NiO_x) ($0\leq x\leq 0.5$), hydrogenation charact. 1−21715
TiN-Al_2O_3, high-temperature compatibility of components 1−21709
TiN-MgO, high-temperature compatibility of components 1−21709
TiN-ZrO_2, high-temperature compatibility of components 1−21709
$TiO_2+R_2O_3$ system (R=rare earth), reactions under shock waves, crystallographic parameters of products 1−39598
TiT, aged thin film, ^3He release 1−8602
$Y+H_2$, chemical thermodynamics, YH_2 enthalpy of formation 1−39606
YF_3, in inert gas matrix, form. and ESR investig. 1−37229
Y_2O_3, plasmochem. synthesis, thermodynamic anal. 1−13011
Y_2O_3-Cr(W) composite, hot pressing, reactions, X-ray study 1−21410

chemical reactions continued
ZnSe+G_2Se_3 solid-state reaction, elec. cond. method obs. of kinetics 1−35525
ZrN, synthesis by nitridation of ZrO_2 1−21405

chemical reactivity *see chemical reactions*

chemical relaxation
alkali halides, collisional dissociation, chemical relax. rate constants 1−21711
flash light source optical detection of electric field-jump relaxation expts. 1−4138
polyisoprene filled with technical carbon, relax. processes determined by mobility of active filler particles 1−53478
CO_2-N_2-CO-H_2O-H_2 mixture, amplification and power of gas dynamic laser 1−10982

chemical shift
see also isomer shift
3d ions chemical shift of X-ray K-lines *(Russian)* 1−51156
acetone in second coordination sphere of aquo-ions of rare earth elements, PMR signal, pseudocontact shifts 1−33480
acetylene, ^{13}C and ^1H resonance spectra, chemical shift anisotropies determ. 1−14923
5′-adenosine monophosphate, ^{31}P NMR, spin-lattice and spin-spin relax. meas., nuclear Overhauser enhancement 1−1257
alkanes, ^{13}C chemical shift and NMR 1−14929
allylhalogensilanes, ^{13}C, ^{29}Si NMR and PMR 1−28999
alpha substituents, effect on δ ^{13}C chem. shifts, INDO approx. calcs. 1−19031
amino acids, ^{13}C NMR, chemical shifts, protonation shifts and microscopic protonation behaviour 1−19111
aromatic substituent under steric constraints, ^{13}C NMR chemical shifts 1−14930
Auger chemical shifts and photoelectron lines combined analysis 1−19069
barium ethyl phosphate, magic angle spectra, sideband intensities, NMR obs. 1−28998
benzene, two-dimens. ^{13}C NMR powder spectra, chem. shielding tensor orientation 1−38991
biphenyl, proton NMR meas. using high-resolution spectrometer, pressure depend. 1−14920
2-butanone, chelate complexes, conformational anal., Yb induced ^{13}C and H^+ NMR chemical shift 1−24168
carbonylhalogenides, ^{13}C and ^{19}F NMR and chemical shift 1−45994
carboxylic acids and anions, ^1H NMR chemical shift, H bonding 1−14932
chloroform, high resolution ^{13}C NMR spectroscopy, chemical shift, temp. depend. 1−16499
clathrates, ^{13}C NMR cryst. struct. investig. 1−7958
complexes, H-bonded, ^{13}C NMR cryst. struct. investig. 1−7958
2′,3′-cyclic adenosine monophosphate 1−1257
1,2-cyclohexanedione dioxime, config. determ. by ^1H and ^{13}C NMR spectra 1−6284
1,2,3-cyclohexanetrione 1,3-dioxime, config. determ. by ^1H and ^{13}C NMR spectra 1−6284
1,2,3-cyclohexanetrione trioxime, config. determ. by ^1H and ^{13}C NMR spectra 1−6284
dimethyl telluride, ^{125}Te and ^{123}Te relax. times meas., chemical shift, temp. depend. 1−14922
dimethylacetylene, ^{13}C and ^1H resonance spectra, chemical shift anisotropies determ. 1−14923
egg yolk lecithin, in aromatic solvents, NMR, methylene proton nonequivalence 1−45993
gases, mol. rot-vibr., chemical shifts, nuclear magnetic shielding 1−28889
graphite intercalation compounds with ClF, BF_3 and PF_5, NMR showing presence of ions 1−47960
halogen-substituted methanes, ^{13}C NMR chemical shift, spin-orbit interactions effect 1−14942
halovinyl silanes, NMR study, chemical shift data 1−6280
intercalation agents, mag. shielding const., ring current and atomic mag. anisotropy effect calc. 1−51253
lead formate, two-dimens. ^{13}C NMR powder spectra, chem. shielding tensor orientation 1−38991
malonyl gramicidin micelles, multisite ion binding ^{23}Na NMR 1−43713
methyl formate, two-dimens. ^{13}C NMR powder spectra, chem. shielding tensor orientation 1−38991
3-methyl-2-butanone, conformational anal., Yb induced ^{13}C and H^+ NMR chemical shift 1−24168
2-methyl-6-t-butylphenol-phosphoryl cpds., in chloroform, carbon tetrachloride and cyclohexane solvents association constants 1−29003
methylacetylene, ^{13}C and ^1H resonance spectra, chemical shift anisotropies determ. 1−14923
methylallylsilanes, ^1H, ^{13}C and ^{29}Si NMR 1−1256
methylvinylsilanes, mesomeric interaction, ^1H, ^{13}C and ^{29}Si NMR obs. 1−1255
NMR line shift meas. technique *(Russian)* 1−43027
NMR powder spectra, chemical shift tensor by spectral maps *(German)* 1−43026
NMR spectroscopy in two frequency dimensions, 2-D Fourier transformation 1−6286
nucleic acid bases, mag. shielding const., ring current and atomic mag. anisotropy effect calc. 1−51253
nucleotides, ^{31}P NMR chemical shifts, large solvent effects 1−51225
organoboranes, B chemical shift, gauge invariant atomic orbital semiempirical theory 1−14934
organophosphorus compounds, cyclic, ^{31}P chemical shift tensor, NMR effects 1−34950
pentachloroethane-N,N-dimethylcyclohexylamine H bond chem. shift 1−6287
polybenzimidazole soln., proton NMR studies 1−34246
polyimide film, aromatic, surface anal. using ESCA 1−8638
polymorphs, ^{13}C NMR cryst. struct. investig. 1−7958
rare earth-manganese intermetallic compounds, RMn_2, (R=Ga, Tb, Dy, Ho, Er, Tm, Lu), X-ray absorption spectroscopic study 1−43219
selenocarbonylhalogenides, ^{13}C and ^{19}F NMR and chemical shift 1−45994
solids, H bonds, H^+ chemical shift tensors, D quadrupole coupling and bond distances correl. 1−3276
styrenes, substituted, ^{13}C NMR chemical shift, substituent effect correl. 1−41402
tellurolesters, Te-alkylated, synthesis and IR spectra 1−4081
N-tertbutylacetamide in CCl_4 and cyclohexane, self-assoc., selective double reson. obs. 1−21721

chemical shift continued
tetrakis(trimethylstannyl)allene and tris(trimethylstannyl)allene, ^{13}C and ^{119}Sn NMR, chemical shifts, coupling const. 1−14924
tetramethylammonium silicate hydrate, ^{29}Si NMR, shielding tensor and Si-O bond length correl. 1−34959
thiocarbonylhalogenides, ^{13}C and ^{19}F NMR and chemical shift 1−45994
transition metal ion paramag. system, NMR chemical shifts, vibronic coupling effect 1−12418
1,3,4-trichlorobenzene, oriented r_α struct., ^{13}C satellites in NMR spectra 1−41404
trifluoroacetate-trifluoroacetic acid in CH_2Cl_2, ^1H, ^2D and ^{13}C NMR 1−6285
trimethyl phosphate, ^{31}P NMR, spin-lattice and spin-spin relax. meas., nuclear Overhauser enhancement 1−1257
TSeF oriented in nematic liquid cryst., NMR study 1−7961
AlN(P)(As)(Sb), ^{27}Al nuclear mag. shielding, NMR chem. shift 1−3278
Au-Cu, X-ray absorpt. spectra, chem. shifts 1−26302
B hydrides, B chemical shift, gauge invariant atomic orbital semiempirical theory 1−14934
CO, ^{13}C NMR, chemical shielding variation with intermol. interaction and rovibrational motion 1−45989
$Ca_6[Si_2O_7(OH)_6]$, ^{29}Si NMR, shielding tensor and Si-O bond length correl. 1−34959
Cd salts, hydrated, cross polarization, magic angle spinning, chemical shifts, NMR obs. 1−19118
Cs-I solution, ^{133}Cs and ^{127}I NMR obs. of metal-nonmetal transition and localised states form. 1−26055
$CsBF_4$, Cs_2MF_6 (M=Si, Ge, Sn), ^{19}F NMR chemical shift 1−7963
Fe, atom, in minerals, X-ray spectra 1−12603
GaAs (110) surface, O_2 adsorption, photoemission obs. 1−16173
GaAs, chemisorption of Al and Ga 1−16171
GaAs, impurity photoconductivity peak chemical shift 1−20819
GaAs native oxide interface chemical depth profiling 1−16378
n-Ge, lightly doped, chemical shift and donor-electron radius 1−34656
Ge-Se amorphous obliquely-deposited films, photo-induced effect, XPS 1−35144
H adsorbed on ZnO, broad line PMR meas. 1−12409
$H_{1.6}MoO_3$, solid state NMR study 1−3277
H_2S, S K_α X-ray line chem. shifts, SCF-X_α-SW method 1−37114
KBF_4, K_2MF_6 (M=Si, Ge), ^{19}F NMR chemical shift 1−7963
K_2O-MgO-B_2O_3 glass, coordination number and chem. shift in $K_{\alpha(1,2)}$ emission of Mg^{2+} 1−31240
K_2O-SiO_2 system, Si^{29} NMR spectra of glasses and polycrystn. compounds 1−21070
LaH_x ($1.90 \leq x \leq 2.89$), optical absorptivity and photoemission 1−21157
MgO-P_2O_5 glass, coordination number and chem. shift in $K_{\alpha(1,2)}$ emission of Mg^{2+} 1−31240
NH_4BF_4, $(NH_4)_2MF_6$ (M=Si, Ge, Sn), ^{19}F NMR chemical shift 1−7963
$^{15}N_2$ gas, ^{15}N reson. freq. meas., chemical shielding variation with intermol. interaction and rovibrational motion 1−45989
$NaBF_4$, Na_2MF_6 (M=Si, Ge, Sn), ^{19}F NMR chemical shift 1−7963
$Na_5P_3O_{10}$, polycryst., chem. shift, magic angle ^{31}P NMR obs. 1−38990
$RbBF_6$, Rb_2MF_6 (M=Si, Ge, Sn), ^{19}F NMR chemical shift 1−7963
SF_6, S K_α X-ray line chem. shifts, SCF-X_α-SW method 1−37114
SO_2, S K_α X-ray line chem. shifts, SCF-X_α-SW method 1−37114
Si:H, amorphous, reactively sputtered, ^{29}Si NMR spectra study 1−52854

chemical structure
see also bonds (chemical); crystal atomic structure; crystal chemistry; molecular configurations
conjugated conducting polymer systems, idealised geometric and chem. models 1−47016
nomenclature, graph-based, historical background and discussion 1−13065
nomenclature, graph-based, incorporation of graph-theoretical principles into Taylor's nomenclature proposal 1−13066
numerical data retrieval, techniques and problems, conf., Washington, DC, USA (Sept. 1979) 1−13064
representation by computerisation of simple notation 1−13067
As_xSe_{100-x} amorphous, valence band states, UPS determ. 1−12624
$Ca_{10}(PO_4)_6F_2(Cl_2)$, phosphors, formation chemistry 1−12961
Cr-Mo black, solar selective, stable absorber 1−48907
K_2O-Al_2O_3-P_2O_5-TiO_2 system, glass form., props. depend. on chem. comp., struct. interpret. 1−52077
K_xVF_3, cryst. and mag. struct., comp. depend. 1−13971
Ni-Si interface chemical structure, X-ray photoelectron spectroscopic obs. 1−16192
Si-SiO_2 interfaces, oxide uniformity determ. by XPS spectra intensity anal. 1−13061
Si-SiO_2 transition regions, phys. and chem. props., state-of-the-art 1−7479
Si-SiO_x interface, chemical and electronic structs., XPS, UPS, and X-ray excited Auger spectra *(French)* 1−3578
SiO_x, cryst. and amorphous, chemical and electronic structs., XPS, UPS, and X-ray excited Auger spectra *(French)* 1−3578
VF_2, cryst. distort., domain and modulated struct. 1−13971
WO_3-$Al(PO_3)_3$-SiO_2 and WO_3-P_2O_5-SiO_2 system glasses, reduced forms, elec. cond. and struct. role 1−47654
WO_x, chemical and electronic structs., XPS, UPS, and X-ray excited Auger spectra *(French)* 1−3578
$Y_{66}(Fe_xMn_{1-x})_{34}$ metallic glasses, chem. ordering, ^{57}Fe Mossbauer study 1−7985

chemical technology
see also chemical industry; chemical variables control; chemical variables measurement; oil refining
colorimeter accuracy for analytical meas. 1−31961
crystallisation, review 1−15823
CVD, chemical engineering, hydrodynamic problems 1−21362
fluid extraction, role of binary fluid mixture phase equil. 1−38503
fossil fuels, plasma chemistry, book contrib. 1−34179
heat pump/chemical energy storage system, H_2SO_4 and H_2O, development status and utility 1−48891
heat pumps, metal hydride conversion and storage system, thermodynamic anal. 1−48893
holographic study of the dispersoids in technical chemistry 1−15104
liquid extraction, interphase tension change problem 1−48778
liquid extraction, large-scale surface instability development 1−48777
thermochemical H_2 production, evaluation and detailed design of a pilot plant for the cycle MARK 11 1−39841

chemical vapour deposited coatings *see CVD coatings*

chemical vapour deposition
see also vapour phase epitaxial growth
axial, optical fibre preform continuous fabrication 1−11187
chemical engineering with CVD 1−21362
CNTD process for manufacturing high temp. structural ceramic materials 1−21355
fibre preform fabrication, by modified CVD and plasma CVD 1−11186
fibre waveguide fabrication, by outside vapour deposition process 1−11188
glass, coating by CVD 1−53101
glass fibre waveguide, low loss, prepared by axial deposition method 1−6674
graded index optical fibre fabrication, long length, modified CVD method 1−11203
III-V compounds, devices and epitaxy techniques 1−12958
materials science, current topics, book 1−36465
model, of CVD process, expt. verification 1−39247
model, of CVD process, theory 1−39246
modified, ring index fibres fabrication appl., spectral attenuation curves and pulse shapes 1−46554
multilayer growth apparatus, sliding-boat close-spaced technique 1−31358
optical fibre fabrication, graphite induction furnace design and application to optical fiber multipulling of CVD preforms 1−11209
optical fibre fabrication, ultra-low-OH content, dehydration of VAD soot preform 1−11200
optical fibre fabrication ultrawide bandwidth, VAD method, long-haul transmission line charcts. 1−11198
optical fibre fabrication using modified CVD process, -OH contamination from reactant gas stream 1−11201
optical fibre fabrication using modified CVD process, high SiO_2 content, photochem. purification of reagents 1−11202
optical fibre fabrication using VAD method, graded index profile form. and transmission charcts. 1−11199
optical fibre preparation, plasma activated CVD 1−6687
optical fibre production, low-attenuation *(German)* 1−6691
optical fibres fabricated by VAD process, OH ion reduction 1−6695
optical fibres preparation by plasma-activated CVD 1−33841
plasma, low press., appl. in materials science, book contrib. 1−7012
plasma chemistry, book 1−32812
plasma techniques appl. in semicond. field *(Italian)* 1−35187
Pyrosol process, thin layers deposited on glass 1−53103
review of crystal growth at the Research Institute for Technical Physics 1−8206
semiconductor injection lasers for optical communication, review 1−19348
single mode optical fibre, 100 km, fabrication by VAD method, low loss values 1−33833
single-mode optical fibre, VAD, 0.2 dB/km^{-1} transmission loss at 1.55 μm, dehydration technique 1−33835
thermophoretic deposition, of small particles in modified CVD process 1−26391
thickness homogeneity problems in CVD, unified treatment, cold-wall reactors 1−21361
thickness homogeneity problems in CVD, unified treatment, hot-wall reactors 1−21360
AlN, epitaxial growth by metalorganic CVD on sapphire substrate 1−43267
B diffusion source prep. room temp. CVD process 1−35181
Bi_2S_3 thin film, chem. deposition, struct., and elec. props. 1−16700
CdS thin layer vapour deposition by pyrolysis of dimethyldithiophosphinatocadmium complex 1−3629
CdSe thin films, prep., elec. and electrophotographic props. 1−34743
GaAlAs-GaAs DH laser, self-aligned, single longitudinal mode, by metal-organic CVD 1−1576
GaAs, CVD, rate processes, book contrib. 1−39248
GaAs, growth of {111} and {$\bar{1}\bar{1}\bar{1}$} faces, by CVD, study of growth parameters 1−2368
n-GaAs polycrystaline layers evaluation for solar cells using electrochemical technique 1−26833
$(GaAs)_x(ZnSe)_{1-x}$ solid solns., electrophys. props., prep. method depend. 1−42769
GaN, CVD of layer at low temp., elec. cond. 1−31359
GeSe-GeI_4 system, diffusive and convective vapour transport 1−34266
HgI_2 platelets, for X-ray spectrosopy, produced by polymer controlled growth 1−3585
InP, CVD film growth for polycryst. solar cells 1−35183
InP epitaxial layers, growth control by plasmon excitation electron losses 1−16203
Mg film deposition by UV KrF and XeCl excimer lasers 1−39242
$Mn_xCd_{1-x}Se$ solid solutions, mass transport by chem. reaction 1−21334
Mn_xHg_{1-x} Se solid solutions, mass transport by chem. reaction 1−21334
Mo_2C fine powders, sinterability determ. 1−21395
MoO_2, chem. transport behaviour with $TeBr_4$ 1−21332
MoO_2, chem. transport with $TeCl_4$, TeI_4 1−21333
NH_3, rot. temp., S and R branch lines, temp. depend., Raman obs. 1−19099
$Nb_{3+x}Ge_{1-x}$ film, supercond., prep. and crit. temp. meas. 1−38883
Ni-Si(-Cr-Ti) CVD coatings deposited on Hastelloy X 1−31362
P+Ti reaction kinetics and mechanism, 800°C 1−17042
β-Sb_2O_4, single cryst. prep., dielec. characts. and cond., ferroelec. and struct. transition absence 1−53063
Si, amorphous film, CVD prep., rel. to electronic props. *(Japanese)* 1−43271
Si, CVD from SiH_2Cl_2-H_2-N_2-HCl system, rate-determining reactions and surface species 1−3632
Si CVD nucleation on SiO_2 and Si_3N_4 substrates in SiH_2Cl_2-H_2-N_2 system 1−12665
Si crystallites, growth mechanism on metal-coated graphite substrate, obs. 1−47399
Si, epitaxial autodoping, flow effects 1−7489
Si films, amorphous, deposited at low pressure, ellipsometry application for determ. of refractive index, absorption index and thickness 1−40836
Si low-temperature epitaxy by plasma-assisted CVD *(French)* 1−12005
Si, nucleation and growth, by CVD 1−3631
Si on sapphire films, low-temperature CVD growth, using Au ultra-thin layer 1−8235
Si polycryst. layers obtained by pyrolytic decomp. of SiN_4, model *(Slovak)* 1−12664
Si, rate determining reactions and surface species from SiH_4-H_2-N_2 system 1−53097

chemical vapour deposition continued
Si, semi-insulating polycryst. deposition, model based on IR spectroscopic anal. 1−20580
Si whisker, amorphous, emitter prep. for mass spectrometer *(Japanese)* 1−18327
Si:P films, amorphous, low press. CVD growth, ESR, and elec. props. 1−52449
SiC, CVD 1−53100
SiC coatings, review of CVD conditions 1−31361
SiC, gas phase impregnation 1−21363
SiC thermionic diodes combustion performance 1−53638
$SiCl_4$, vapour phase axial deposition optical fibre, transmission loss 1−6664
SiN_x film, in-line plasma CVD system for prep. *(Japanese)* 1−31360
Si_3N_4 film, pyrolytic, prep. on graphite substrate, thermal props. 1−43266
Si_3N_4-C plate, amorphous, prep. by CVD 1−39244
SiO_2 film deposition by oxidation of SiH_4, growth rate calc. 1−43272
SiO_2, low press. CVD, gas phase comp. meas. 1−21357
SiO_2, low pressure CVD, elimination of Cl 1−26390
SiO_2 silica glass fibre, pilot plant production, plasma activated CVD 1−1732
SiO_2, thermophoretic deposition, of small particles in modified CVD process 1−26391
SiO_2:B preparation, B diffusion from doped oxide source into Si 1−39245
SiO_2-PbO-P_2O_5 core, SiO_2-clad optical fibre fabrication by modified VAD 1−15297
Sn, CVD on Fe or carburized Fe 1−21358
SnO_2, CVD deposition on glass, continuous process 1−53102
SnO_2 film, CVD and elec. props. 1−43268
TaB_2, CVD using reaction of $TaCl_5+B_2H_6$ 1−16702
TiB_2, CVD on graphite using reaction of $TiCl_4+B_2H_6$ 1−16701
VO_2, polycrystalline films, electron diffr. to control phase composition 1−34601
V_2O_3, polycrystalline films, electron diffr. to control phase composition 1−34601
V_3O_5, polycrystalline films, electron diffr. to control phase composition 1−34601
W, hot-wall CVD, for VLSI 1−48271
W-Re composite tube fabricated by chemical vapor deposition for application in an 1800°C high thermal efficiency fuel-processing furnace 1−12669
Zn film deposition by UV KrF and XeCl excimer lasers 1−39242
ZnO film, CVD on sapphire, epitaxial relationships determ. 1−20583
ZnO films, highly oriented, grown by oxidation of diethyl zinc 1−8234
Zn_3P_2, vapour phase transport, thermodynamical model *(German)* 1−3587

chemical variables control
see also moisture control; pollution detection and control
internal combustion engines mixture control *(Spanish)* 1−17336
solution concentration meas. and control based upon determ. of ultrasound propag. velocity 1−29496
NO_x removal plant, automatic control system *(Japanese)* 1−17333
O_2 concentration, Si crystal growth from melt, using magnetically induced melt rotation 1−48249
O_2 content in Si, Czochralski crystal pulling process 1−48248

chemical variables measurement
see also chemical analysis; moisture measurement; pollution detection and control
dust in gas flow, novel pressure-drop dust meter *(German)* 1−26868
halogen impurities, streamer counter appl., positive point corona mechanism 1−14774
laboratory for struct. anal., performance, effect of dispatching rules, digital simulation 1−48759
metrological assurance of chemical meas. 1−26800
natural water systems, pH and pe in situ meas. 1−40207
ocean surface temp. and salinity meas. with AIST probe 1−54274
solution concentration meas. and control based upon determ. of ultrasound propag. velocity 1−29496
Zirconia sensors appl. 1−43725
CO_2 in air monitor, portable 1−21965
O_2 analyser and regulator, DRK-101 *(Bulgarian)* 1−48761
Si:As wafer surfaces testing, As doping inhomogeneities visualisation and determination 1−7199

chemically reactive flow
acetaldehyde, oxidation in stirred flow reactor, oscillatory ignition, cool flames 1−29795
air plasma on ballistic path in air-heavy gas mixture, simulation 1−42066
asymmetric combustion with convection, numerical anal. 1−2101
bubble-liquid reactor model, Goursat problem, exact numerical solns. 1−19834
burning particle motion in gas flow 1−15555
chemically active gas mixtures, relax. zones behind shock front, struct. 1−46778
circular cylinder, transport accompanied by chemical reaction in stagnation flow 1−29793
combustion chamber, forming aerodisperse system flow through nozzle, momentum losses 1−46822
combustion jets, shear turbulence characts., large vortex effect on pressure pulsations 1−19683
conference, heat transfer and fluid mechanics, Los Angeles, CA, USA, (June 1980) 1−27678
continuum, relaxing, semiinfinite, three-dimens. wave propag., characteristics theory soln. 1−2041
convective diffusion to drop arbitrary absorption conditions, diffusion boundary layer approx. 1−24778
detonation front, pulsations caused by strong fluctuations in burning region 1−19835
diatomic gas, radiation treatment, shock wave struct. anal., vibr. and chemical relax. 1−24842
flame propagation in substance reacting at initial temp. 1−39639
flat plate, H_2 ignition in turbulent supersonic boundary layer 1−29794
fluctuating hydrodynamic equations of chemically reacting gases and mixed gases 1−38019
gas hydrate dissociation in porous medium, linear problem 1−38006
hydrometer transformation in mists during explosion by laser pulse 1−46230
laminar flow with chemical reaction, finite element method 1−42103
laminar-jet diffusion flames, Shvab-Zeldovich formulation 1−29798
liquid, horizontal layer convective stability in presence of transverse flow 1−42104
liquid phase pyrolysis, effect on combustion, two-phase model 1−29796

chemically reactive flow continued
Marangoni instability in chemical reaction, surface deform. effects 1−51770
methane gas mixing in air, conserved scalar imaging using linear spark 1−34020
mixtures, ideal multiphase, with chemical reactions and diffusion, continuum theory 1−2060
mixtures, reacting immiscible, thermomechanical theory 1−6905
nonlinear wave-kinetic interactions in irreversibly reacting media 1−51789
perfect gas, thermal wave propag., sustained by exothermic reaction, bremsstrahlung effect 1−2102
reactive species, gas-solid chromatography and reversible adsorption 1−31926
relativistic chemically reacting fluids, growth of weak discontinuities 1−11478
relaxing gas-liquid mixture, modulated nonlinear wave propag. 1−37952
rough permeable surface, cooling, mass transfer and drag of compressible reacting gas 1−19694
solute, chemically active, convective diffusion in rectilinear flow, math. anal. 1−2100
spray combustion model with locally homogeneous two-phase flow, evaluation 1−4090
stability of two-phase flow *(Russian)* 1−51863
summed monomeric flows of gas mixtures with bimolecular chemical reactions *(Russian)* 1−11477
surface active substance solns., turbulent flows, vel. profiles 1−34021
thermoconvective instability of vibrating viscous gas in reactive environment 1−19675
transient ignition on flat-plate boundary layer, finite difference anal. 1−29797
turbulent, pipe flow with first-order chem. reaction, stochastic surface rejuvenation model 1−29788
turbulent Ar-methane jet, multiangular absorption diagnostics 1−2050
two-point probability density function closure applied to a diffusive-reactive system 1−51881
vapour cloud, unconfined, explosion high propag. rate, appl. to Flixborough 1−46823
viscous reacting fluids in long tubes, laminar flow and heat transfer 1−34013
CO, radiation treatment, shock wave struct. anal., vibr. and chemical relax. 1−24842
CO_2 mol. in thermodynamically nonequilib. gas flows, vibr. temp. meas. 1−44920
DF pulsed chemical laser, press. wave suppression 1−1554
HF chemical laser system, nonlinear supersonic chemically reactive flow 1−11476
HF, pulsed chemical laser, press. wave suppression 1−1554
N_2O_4 relaxing gas, discontinuity and shock wave, instability 1−42105

chemiluminescence
acetaldehyde, oxidation in stirred flow reactor, oscillatory ignition, cool flames 1−29795
1-amino-3-anthryl-(9)-propanes, electrogenerated chemiluminesc., intramol. exciplex form. 1−26751
analyzer, high-performance, for meas. atmospheric NO_x concentration 1−4240
atmospheric O_3 night-time meas. using chemiluminescent rhodamine-B detector on rocket sonde 1−17719
benzene($-d_6$)+N reaction, benzonitrile prod., visible spectra, and luminesc. 1−4082
chlorobenzene+N reaction, benzonitrile prod., visible spectra, and luminesc. 1−4082
CO, vibr. distrib. in CS_2 flame, N_2O effect 1−1211
electron transfer reaction, semiempirical pot. energy surface calcs. 1−48683
fluorobenzene+N reaction, benzonitrile prod., visible spectra, and luminesc. 1−4082
halogen molecules+Sc(Y) reactions, chemiluminesc. origin 1−26720
ion beam target-gas collisions *(Japanese)* 1−21729
methane-F_2, combustion, chemiluminescence study, visible emission, vibr. and rot. parameters 1−26749
$B^+ + H_2$ reaction chemiluminescence 1−48656
BaS isotopic species in chemiluminescent flame, millimeter wave spectra, vibr. anal. 1−14872
$C^+ + H_2O(D_2)$, chemiluminesc. reaction, $CH^+(CD^+)$ triplet emission 1−4060
$C^+ + H_2(D_2)$, chemiluminescent reaction, rot. and vibr. state distrib., surprisal anal. 1−48692
CO chemiluminescence in flames, electron collisional quenching 1−39645
CO oxidation, oscillations, glow and ignition in closed reaction vessel, effect of added H_2 1−43659
Ca+SF_6, reactions, chemiluminesc. spectra 1−53420
F+methanol($-d_1$) ($-d_3$)($-d_4$), IR chemiluminescent reactions, vibr. and rot. relax., branching ratios and kinetic isotope effects 1−26750
F+NH_3(ND_3), reaction, isotope effect, IR chemiluminesc. obs. 1−8538
F+$Na_2 \rightarrow FNaNa^{2+*} \rightarrow NaF+Na^*$, chemiluminesc. obs. 1−35534
F+vinyl radical, reaction, HF energy distrib. obs. 1−43655
F_2+B(Al)(Ga)(In)(Tl) reactions, chemiluminesc., beam-gas study 1−48667
$F_2+I_2(Br_2)$ (ICl), chemiluminescent reactions studied by crossed mol. beam technique 1−39644
H+$Br_2(SF_5Br)(PBr_3)(SF_5)(SF_4)$, rate const. and vibr. energy disposal 1−39609
HF vibr. rot. distrib. and IR chemiluminesc., prod. from F+HCL(HBr)(HI) 1−4062
HSO, chemiluminesc., laser-induced fluoresc. spectra, lifetime meas., visible spectra, stretching modes 1−8572
$K_2+Cl_2(Br_2)(I_2)$, mol. chemiluminesc. spectra obtained using beam-gas arrangement 1−8573
KCl(Br), additively and gamma coloured, lyoluminesc. in fluoresc. and chemiluminesc. solns. 1−26274
$Li_2+Cl_2(Br_2)(I_2)$, mol. chemiluminesc. spectra obtained using beam-gas arrangement 1−8573
N_3+acetylene (BrCN), reactions, spectra study in N_2 pink afterglow by photometry 1−17046
NO in stratosphere, meas. using new balloon-borne chemiluminesc. instrument 1−44322
NO+O_3, rotational energy, fine structure, state selected beam 1−14856
Na+CCl_4, chemiluminescent spectra, vibr. population inversion and relax. kinetics 1−8571

chemiluminescence continued
$Na_2+Cl_2(Br_2)(I_2)$, mol. chemiluminesc. spectra obtained using beam-gas arrangement 1−8573
NaCl(Br), additively and gamma coloured, lyoluminesc. in fluoresc. and chemiluminesc. solns. 1−26274
$O^-+CO \rightarrow CO_2^*$ chemiluminesc. reaction, energy disposition 1−31864
$O(^1D_2)+NH_3$, product branching ratios and internal energy distrib., enthalpies, fluoresc. spectra, chemiluminescence 1−39607
SF_6+Na reactions, chemiluminesc. spectra 1−31834
SF_6+Li(Na)(K) reactions, chemiluminesc. spectra 1−31834
SO_2, new chemiluminesc. anal. technique appl. to troposphere and stratosphere SO_2 distrib. 1−44249
Si, etching by F atoms, chemiluminescence study 1−16615
Sr+SF_6, reactions, chemiluminesc. spectra 1−53420
$Xe(^3P_{2,0})+BrCN \rightarrow Xe(^1S_0)+Br+CN(B^2\Sigma^+)$, chemiluminescent reaction, crossed molecular beam study 1−6296

chemioception
bacterial chemotaxis in E. coli's sensory system, mol. biology 1−4301
blood hypotension, relative responses of aortic body and carotid body chemoreceptors 1−13261
neocortex neurons of rabbits, selective responses to odours of animal products 1−17414
olfactory bulb electrical activity, meas. in free swimming carp by underwater telemetry systems 1−27031
olfactory system EEG, freq. anal. in cat, rabbit and rat 1−32150

chemisorption
adatom, density of electronic states 1−25787
adsorbate bonds, activation by chemisorbed O_2 1−2800
diamond (111), clean and Ga-chemisorbed, electronic struct. 1−12166
ferromagnetic metal, of H_2, Anderson-Newns Hamiltonian 1−7473
ferromagnetic thin films, surface mag. anisotropy obs. 1−47919
liquid absorption into biological tissues, apparatus for investigation of dynamics 1−49167
metal hydride form. and surface effects 1−2805
metal hydrides, electronic struct., bonding and chemisorpt. for H_2 storage appls. 1−2807
metal single crystals, of O_2, effect of partial O_2 press. on noble gas ion bombardment 1−31276
metal surface, bond lengths and geometrical structs. 1−16189
metal surface, of H, LCAO cluster theory, review *(Japanese)* 1−2810
metal surface capacity absorpt., after ion bombardment *(Russian)* 1−35138
metallic system, interfacial tension and adsorption, book contrib. 1−7432
multicomponent systems, analysis of chemisorption 1−42632
p-nitrobenzoic acid, mol. monolayer, surface picosecond Raman gain spectra 1−8052
oxide surfaces, IR studies adsorption from soln. 1−21217
photographic stabilization, using triazaindenes, thermodynamics *(Hungarian)* 1−28089
semiconductor surface, charge transfer reactions, review 1−30574
simple gases on transition metal surface, binding energies 1−20566
simple gases on transition metal surfaces, binding energies 1−20565
steel, alloying, chemisorption and H_2 embrittlement 1−26616
stepped surfaces, lattice gas models 1−47384
theory of chemisorption based on a surface molecule plus indented solid model 1−2802
transition metal borides, nitrides and silicides, surface states, ESCA investig., reduction effect 1−53045
transition metal surfaces, of alkali metal atoms, with allowance for image pot. 1−25576
transition metals, FCC, of H_2 on (111) surfaces, embedded cluster calc. 1−12178
transition metals, of CO, XPS, UPS and AES study 1−16182
Ag (100), of Cl_2, AgCl, overlayer to bulk halide transition 1−20571
Ag (110), of benzene and ethylene, energy level shifts, UPS study 1−35153
Ag (111), of I, angle-resolved photoelectron diffr. study 1−39224
Ag, of halogens, UPS meas., EHT calc. 1−16664
Ag surface, chemisorbed pyridine, surface enhanced Raman spectra 1−43104
Ag(111), of pyridine, phase transformation, vibr. configs., electron loss and photoelectron obs. 1−29033
Al (110), of O 1−16188
Al, polycryst., of methanol, UPS, XPS 1−21778
Al-Zn-Mg (6,3 wt.%), liquid metal embrittlement, metallographic and fractographic studies 1−39408
Au surface, chemisorbed pyridine, surface enhanced Raman spectra 1−43104
CO chemisorption of metal catalysts, EELS study 1−25551
CO, chemisorption on clean and carbonized Os, desorption and photoemission obs. 1−14958
CO, chemisorption on Cu(100), core XPES assignment 1−7464
CaO, defect surface, dissociative chemisorption of H_2, CNDO investigation *(German)* 1−53473
Ce, of D_2O, X-ray photoelectron study, comparison with oxidation by O_2 1−8613
Ce, of O_2, X-ray photoelectron study 1−8612
Co (0001) surface, oxidation, temp. depend., LEED-ASE study 1−34581
Cu (001), chemisorption geometry of c(2×2)O, angle-resolved core-level XPS study 1−39214
Cu (001), of S, mol. orbitals, discrete variational Xα cluster calc. 1−26770
Cu chemisorption on Ni (111), comparison of chemisorption on Zn 1−16177
Cu, of acetylene, Hartree-Fock-Slater-LCAO studies, cluster models 1−52430
Cu-Ni (10 wt.%), monolayer chemisorption of C 1−11983
Er, UPS after exposure to O_2, H_2, H_2O 1−39221
Fe, of acetylene, Hartree-Fock-Slater-LCAO studies, cluster models 1−52430
Fe-Ni, surface magnetism, chemisorption of gases influence 1−34583
$Fe_{0.85}Mn_{0.15}Ti$-H, surface poisoning by O_2, CO and H_2O 1−2806
FeTi-H, surface poisoning by O_2, CO and H_2O 1−2806
GaAs (110), of Cl, two-dimens. band struct., angle-resolved photoemission spectra study 1−38828
GaAs (110) cleared surface work function, effect of chemisorbed O_2 1−16174
GaAs, of Al and Ga, calc. 1−16171
GaAs, of Al on (110) surface, adsorption mechanisms and bond calcs. *(Chinese)* 1−47364
chemisorption continued
GaAs(Sb), (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
Ge, of Cl on (111) surface, adsorbed site determ. *(Chinese)* 1−47363
Ge, surface recombination in 10^{-8} torr vacuum, chemisorbed H_2O effects 1−30805
H chemisorbed on W (001) surface, vibrational modes 1−20564
H on Ni (III) surface, order-disorder transition 1−52289
HCl chemisorption on Si (111), UV PES study 1−11981
H_2O adsorption on metal surfaces, LCAO calcs. 1−34576
InP (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
Ir (111) and (100), of CO, angle-resolved polarisation-depend. UPS study 1−3576
$LaCoO_3$, of O_2, 113-773K, ESR obs. 1−20573
$LaCoO_3$, of O_2, XPS, UPS and EELS study 1−12630
$LaNi_5$-H, surface poisoning by O_2, CO and H_2O 1−2806
MgO, defect surface, dissociative chemisorption of H_2, CNDO investigation *(German)* 1−53473
MgO, microcryst., IR spectrum, surface relax. effects 1−52929
MgO, UV-irradiated, interaction of O_2 molecules with surface centres 1−38645
Mo(100)-C, carbide adlayer effects on N_2, H_2, ethylene, CO adsorption-desorption kinetics 1−20568
Nb, surface chemisorbed coatings, secondary yield, XPS study 1−16168
Nb_3Sn, surface chemisorbed coatings, secondary yield, XPS study 1−16168
Ni (100), chemisorption geometry of acetylene, LEED intensity anal. 1−47379
Ni (100), interaction with O_2, XPS, LEED, and SIMS study 1−30573
Ni (100), of CO, adsorbate-adsorbate interactions, desorpt. kinetic meas. 1−38643
Ni (111), of acetylene and ethylene, model, UPS and EELS data anal. 1−47381
Ni, Al_2O_3 supported, of CO, tunnelling vibr. spectrosc. obs. 1−42627
Ni alloys, oxidation when flooded with O_2 under ionic bombard. 1−31768
Ni, band struct. and chemisorption of H, extended CNDO calc. 1−47447
Ni, liq., decarburisation kinetics in CO_2-CO mixtures 1−4047
Ni, of acetylene, cluster model, HF-Slater-LCAO calc. 1−39682
Ni, of CO, on clean and carbided surface, vibr. EELS study 1−38655
Ni, of H_2, Anderson-Newns Hamiltonian 1−7473
Ni, of O, elastic interaction between adatoms, band struct. model 1−52432
Ni, Raney catalyst, of ethylene, neutron inelastic scatt. study 1−2799
Ni, substitutional chemisorption of organic mols., XPS study 1−17107
Ni surface, chemisorbed pyridine, surface enhanced Raman spectra 1−43104
Ni-O_2-H_2 surface reactions, SIMS study 1−31912
NiO, donor and acceptor chemisorption of NO and CO, XPS study 1−39220
O_2 on Al(111) surface, oxidation, EXAFS study 1−26306
Os, adsorption of CO on clean and carbonized surfaces desorption and photoemission obs. 1−14958
Pd (100) surface, adsorpt. of H_2, thermal desorpt., work function and LEED study 1−16183
Pd (100) surface, of O, vibr. hybridisation, LEED Debye-Waller anal. 1−16165
Pd clusters, nonadditive effects and chemisorpt., pseudopot. calcs. 1−7452
Pd, substitutional chemisorption of organic mols., XPS study 1−17107
Pt (110), of NO, EELS, LEED, AES, and thermal desorption study 1−38661
Pt (111), chemisorbed states of NH_3, EELS and thermal desorption spectra study 1−8175
Pt (111), interaction with methanol, decomp. reaction 1−39684
Pt (111), of acetylene and ethylene, chemisorption model, UPS and EELS data anal. 1−47381
Pt (111), of NH_3, EELS study, electron scatt. mechanism 1−12615
Pt (111) surface, adsorption of acetylene, EHT study 1−16185
Pt (111) surface, of acetylene, mol. struct. calc. 1−17106
Pt, flat and stepped surfaces, of ethylene, orbital phase study 1−2821
Pt, H_2 chemisorption on (111) surface, LEPS model pot. 1−8616
Pt, of CO, catalytic oxidation, mol. beam study 1−35569
Pt, of H, Pt-H bond, NMR 1−34943
Pt, of H in acidic soln., LEED-AES electrochem. anal. 1−39685
Pt, of O_2, electron stimulated desorption study 1−47378
Pt surface, chemisorbed pyridine, surface enhanced Raman spectra 1−43104
R (001), C-covered, N_2O and O_2, dissoc. chemisorption, AES obs. 1−34566
Re, of NO, NH_3, UPS, XPS, thermal desorpt. and work function study 1−17105
Re, of NO, XPS study 1−35152
Rh (110), of CO and NO, UPS, XPS, LEED, and desorption meas. 1−2822
Rh (111) surface, oxidation, LEED, AES and thermal desorpt. study 1−21621
Rh, dissociation of chemisorbed CO 1−53470
Rh/Al_2O_3, chemisorption of methyl isocyanide, IR spectrum 1−14902
Ru (001), clean and Cu-covered, chemisorption of O_2 and N_2O 1−34582
Ru (001), of benzene, energy level shifts, UPS study 1−35153
Si, autoepitaxy by chloride method, electroadsorptive and electrocatalytic activity 1−11988
Si, of Cl on (111) surface, adsorbed site determ. *(Chinese)* 1−47363
Si/SiO_2 interface, Auger lineshape calc., chemisorbed O effects 1−43226
Si(001) of H, LEED and workfunction changes during H chemisorption 1−38632
SnO_2 films, pure and Sb doped, elec. props., annealing and O adsorption effects 1−7763
Ta (100) and (110), of N, electronic struct. and binding energy extended Huckel MO calc. 1−38832
TiC (001), of O, work function, XPS, UPS, and ion scatt. study 1−38634
TiC(111)-Ti(1×1) surface, polar, clean and H covered, electronic props. 1−42844
W (001), chemisorption of H, surface struct. and phase diagram 1−47367
W (110) and (111), adsorption of Cs, image potential allowance 1−25576
W (110) stepped surface, of O, LEED intensities, Monte Carlo calc. 1−47385
W, coadsorption of N_2O, N_2, and O_2, flash desorption mass spectra study *(Japanese)* 1−38650
W field emitter, S adsorption 1−8603

chemisorption continued
W:C surface interaction with O_2, electron stimulated desorpt. study 1−21763
W(100), chemisorption of N_2, model 1−25569
ZnO (10$\bar{1}$0), of CO_2 and O_2, point defect form., UPS study 1−8197
ZnO, adsorption of H, accumulation layer CESR meas. 1−12400
ZnO, adsorption of H, broad line PMR meas. 1−12409
ZnO(10$\bar{1}$0) surface CO and H adsorption and interaction, UV photoemission obs. 1−17102
Zr, of I, AES study, thermodynamics of adsorbed layer form. 1−35571
Zr, oxidation, AES study 1−48572

chemistry
see also atmospheric chemistry
applied chemistry course at a Third World university 1−36477

chemistry, physical *see physical chemistry*

chemistry computing
see also computerised instrumentation; spectroscopy computing
BASIC, use in automated chemical analysis system 1−31919
biological systems, metal ligand complexing 1−12966
Cahn-Ingold-Prelog rules, computational appl., configs., graph theory 1−19208
complex formation const. and soln. equilib. 1−13031
CPOLAR, energy eigenvalues and bound-bound transitions of H atoms in magnetic field 1−6138
Davidson algorithm, FORTRAN subroutine for the eigenvalue problem in configuration interaction calculations 1−19036
dimer formation, chemical bonds, computer experiment 1−17045
electrolytic conductivity data analysis using a programmable calculator 1−20435
electron microprobe analysis, quantitative, data handling and correcting program *(Chinese)* 1−39697
EPMA, X-ray depth distrib., electron trajectory simulation by Monte Carlo calcs., film substrate system case *(French)* 1−21814
EPMA of oxides, calc. of α correction factors *(Chinese)* 1−53503
ethylene+CH surface reactions, unrestricted HF eqns. and density matrix extrapolation 1−13037
file organisation, molecular structure database maintenance 1−19206
H atoms in magnetic field, energy eigenvalues and bound-bound transitions, CPOLAR program 1−6138
INDO orbital program realising, d orbital inclusion 1−6168
laboratory gas chromotography automation using microcomputers 1−31963
many-body systems, Brownian dynamics 1−21793
minimisation techniques, appl. to molecular packing analysis 1−20107
molecular Cartesian coordinate evaluation program for Texas Instruments TI 59 calculation 1−46156
molecular structure, manipulation and graphic display, program implementation 1−19207
molecular structures, manipulation and graphic display, microcomputer based system 1−19205
organic structures, computer design for desired properties 1−41510
photographic process, computer simulation and interpretation *(Bulgarian)* 1−5419
seven membered ring systems, coordinate calculation 1−46155
spark-source mass spectrometry, photoplate data reduction, in BASIC 1−14208
thermodynamically based analysis and synthesis of chemical process systems computer-aided anal. and optimal synthesis 1−17090

Cherenkov counters
Cherenkov cell streak camera, picosec. resolution for electron beam monitoring 1−41269
gamma-ray scintillation telescope, characts. 1−4638
large aperture Cerenkov counter *(Russian)* 1−51031
lead glass, 194-element array, γ-ray and photon energies in K_L^0 decay 1−28803
multi-needle detector with cathode focusing 1−14759
pulsed Cherenkov γ detector time resolution 1−37061
silica aerogel Cherenkov counter in a missing-mass experiment $K^-d \rightarrow K^+ + X$ at 1.4 GeV/c 1−37066
silica aerogel counter for large-acceptance hadron detection 1−23947
ultraviolet transparent polymethyl methacrylate, performance tests 1−10591
^{207}Bi light pulser for stabilization of scintillation and lead glass Cherenkov detectors 1−1025
S tablet neutron dosimeters, Cherenkov rel. to proportional counting 1−6111

Cherenkov detectors *see Cherenkov counters*

Cherenkov radiation
see also Cherenkov counters; electron radiation
acoustic gravity wave Cherenkov emission from horizontally moving source 1−46766
acoustic-gravity waves of horizontally moving sources 1−27341
Cerenkov and anomalous Doppler effects in the relaxation of an electron beam 1−38120
conducting medium, generation of Cherenkov radiation at cyclotron frequency 1−29198
cosmic ray in atmosphere, Cherenkov light due to 10^{14} eV ray 1−13651
cosmic ray shower development, zenith angle dependence, time structure of atmospheric Cherenkov pulses 1−44398
cosmic ray showers, obs. of Cerenkov radiation at 1500 m above sea level 1−17744
cosmic-ray shower development, correlation of two atmospheric Cherenkov techniques 1−27352
EM wave emission by electron beams in free space 1−33613
energy and momentum conservation for electron interactions with EM radiation 1−10898
energy exchange between free electrons and EM field 1−10899
light spot, axisymm. three dimens., elec. piston effect and particle accel. 1−51353
maser experiments, Cherenkov and Cherenkov-Raman scatt. mechanisms 1−10951
neutron moving with relativistic velocity in spatially dispersive medium 1−37396
proton moving with relativistic velocity in spatially dispersive medium 1−37396
relativistic synchrotron radiation in medium, implications for stimulated EM shock radiation 1−10901
stimulated and spontaneous Cherenkov emission 1−10963

Cherenkov radiation continued
superluminal electron velocities, interaction of electrons and pump fields 1−10900
Vavilov-Cherenkov effect, theory and expt. result agreement 1−1471

chilling *see cooling*

chiral symmetries
see also SU_n theory
σ-model, nonlinear, supersymmetric chiral field, 1/N perturbation theory and quantum conservation laws 1−50329
σ-model linear heavy particle induced effective Lagrangian in spontaneously broken theories 1−33096
σ-models, CP(n), HP(n), complex and quaternionic analyticity in gauge and chiral theories 1−411
σ-models, Euclidean, two dimensional, SU(n) and SO(n)-invariant, reduction 1−18362
$\tau \rightarrow \pi K \nu$, current algebra square root threshold singularity, chiral symmetry breaking 1−50416
anomaly constraints in chiral gauge theories 1−14232
baryon magnetic moments, pion cloud contributions 1−23498
boson, mass, first-order chiral perturbation theory, leading nonanalytic corrections using QCD 1−14323
chiral gauge theories and generalised Slavnov-Taylor identities, dimensional regularisation 1−45120
chiral pion dynamics for spherical nucleon bags 1−10178
chiral symmetry breaking in strong interactions as mechanism in electroweak interactions *(Russian)* 1−36827
confining theories, axial anomaly and bound-state spectrum 1−33166
dynamical symmetry breaking in spacetime sphere, Gross Neveu model 1−45156
effective quark masses, F_π, confinement and chiral symmetry breakdown 1−5594
fermion field theories, strong-coupling expansion, and large-N limit of Gross-Neveu model 1−23410
fermion mass, first-order chiral perturbation theory, leading nonanalytic corrections using QCD 1−14323
flavour theory of weak interactions, parify violation by neutrino pairing, massless neutral lepton 1−14307
Goldberger-Treiman discrepancy, KNN and π decay form factors, chiral symm. breaking 1−50664
Goldstone mechanism from gluon dynamics, chiral symmetry in QCD 1−510
Higgs meson mass from vacuum instability at zero temp., chiral symmetry breaking 1−18415
horizontal flavour chirality, Fermion mass matrix, CP-nonconservation 1−50345
hybrid chiral bag model, quasiconfinement, inelastic leptoprod. renormalisation anal. normalisation 1−18427
instantons, multi-S^4, quaternionic, in SU(2) Yang-Mills theory and HP(n) σ-models 1−23414
lattice chiral field, local conservation laws 1−36804
lattice fermion problem, weak coupling of perturbation theory, chiral invariance 1−28213
lattice gauge theory, chiral symmetry breaking, pion spin waves, compact QED 1−40936
loop space chiral eqns. for gauge theories, integrability conditions 1−28179
mesons as spin waves, chiral symmetry breaking in QCD 1−10146
minimal composite Higgs systems in QCD chiral large N_c limit, technicolour models 1−5586
N=2 supergravity, chiral superfields for vector gauge multiplet 1−150
neutrino oscillations, Dirac- and Majorana-type mass mixing 1−45177
non-Abelian chiral SU(N)×SU(N) spin systems, two-dimens., vortex configurations 1−14271
O(3) chiral field, two-dimens. asymmetric eqn. integrability *(Russian)* 1−36812
O(N) $(\phi^2)_3^2$ model, chiral field model and 3-dimens. space universality 1−14273
off shell central charges in supersymmetry algebra, O(2) chiral multiplet 1−455
perturbation theory for spontaneous broken symmetries 1−45157
Prascad-Sommerfield monopole in supersymmetric SU(2) gauge field, zero modes, bound states 1−50309
principle chiral fields, conservation laws and scatt. theory elements 1−14274
QCD, chiral dynamics reformation 1−45137
QCD, chiral invariant regularisation of axial vector current 1−36794
QCD, chiral SU(n)×SU(n) symmetry, boundary conditions, CP-violation 1−28222
QCD, chiral symmetry breaking in BCS theory and pions 1−14343
QCD, chiral-invariant, dynamical breakdown theory, π, K, η_0 appl. 1−14345
QCD, dynamical symmetry breaking of chiral invariance and collective coordinates in Fermi systems 1−50373
QCD, factorisation, chiral symm., current algebra, quantisation, transformation, renormalisation 1−14259
QCD, gravitational equivalent analogy 1−14262
QCD, large N chiral dynamics 1−23402
QCD, U(1) problem, anomalous Ward identities chiral symm. limit, η' mass, CP violation 1−45149
QCD, U(1) problem, current algebra, θ vacuum 1−45228
QCD bag, nonperturbative effects, instanton density and chiral symmetry breaking 1−501
QCD chiral symmetry breaking, effective lagrangian θ parameter 1−36800
quark mass parameters from Goldberger Treiman relations, chiral symmetry breaking 1−45186
renormalisation, dimensional, with non-anticommuting γ_5, preserving canonical Ward identities 1−40930
Schwinger model, vacuum degeneracy and confinement 1−45126
static potential behaviour, screening and quark confinement, Schwinger, chiral Gross-Neveu models 1−28216
$SU_L \times SU_R$ broken chiral symm., sum rules 1−28243
SU(2)×SU(2) invariance, smallness of masses of first generation fermions and Cabibbo angle 1−10122
SU(5)×SU(5) chiral symmetry, broken and heavy pseudoscalar mesons 1−10139
SU(5) decouplet quark and lepton model, particle generations *(Russian)* 1−40960
super-chiral fields, Backlund transformations, local and non-local conservation laws 1−28238

chiral symmetries continued
technicolour models, detecting a heavy colored object at the FNAL tevatron 1−45192
two dimensional models, IR divergences and finite weak coupling perturbative expansion 1−14272
two-dimensional chiral model, Noether currents, field transform., group interability, symmetry group 1−10083
U(1) problem, self-consistent resolution, chiral perturbation 1−40945
U(1) transformation, translational invariance 1−459
Weinberg-Salam model, symmetry breaking, alignment of weakly gauged subgroups 1−10120
$\eta \rightarrow 3\pi$, pseudoscalar decay constants in chiral and 1/N perturbation theory 1−10202
K_{l3}, K_{l4} decays, current algebra square root threshold singularity, chiral symmetry breaking 1−50416
$\nu(\bar{\nu})N \rightarrow \nu(\bar{\nu})N\pi\pi$, neutral current two pion prod., chiral symmetry breaking 1−45263
π mass, first-order chiral perturbation theory, leading nonanalytic corrections using QCD 1−14323
$\pi N \rightarrow \pi\pi N$, total cross section near threshold in broken chiral symmetry theory *(Russian)* 1−10250
πN scattering at low energy in A≤4 nuclei, chiral symmetry breaking *(Russian)* 1−41009
σ model, super nonlinear SU(2)×SU(2) chiral invariance 1−28158
τ, semihadronic decay, chiral dynamics 1−5669

chlorine
see also nuclei with .....
adsorption on Ag (100), overlayer to bulk halide transition 1−20571
adsorption on W (110) and (111), surface ionisation mechanism, thermal desorption, work function, and LEED meas. 1−2826
atmosphere, volcanic eruptions contributing HCl to stratosphere 1−27241
atom, two-photon excitation cross section, frozen-core LS-coupling approx. 1−1198
C foil, Cl ion beam impact, radiative electron capture 1−24236
chemisorbed on GaAs (110), two-dimens. band struct., angle-resolved photoemission spectra study 1−38828
chemisorption on Si and Ge (111) surfaces, adsorbed site determ. *(Chinese)* 1−47363
2(R)-(-)-chloro-1-propanol, ^{34m}Cl-for-Cl substitution, Walden inversion 1−48663
circumstellar Cl chemistry and AlCl search 1−22770
Cl(n,γ), Cf neutron source, seawater comp., activation anal. 1−26795
coadsorption on Pt (111) with I, LEED and AES study 1−25573
corrosion prevention in terminal vias prior to ball limiting metallurgy 1−26641
diffusion and solution of Cl_2 in KCl 1−34507
geochemistry, upper mantle chem. composition 1−49240
liquid, liq. vapour coexistence line, Widom's computer simulation 1−25404
localised modes, nonradiative transitions molecules, impurity in Ar matrix, localised modes, nonradiative transitions 1−47195
methylcyclohexane-Cl mixture, combustion, upper temp. limit *(Russian)* 1−4094
molecular force free and other mdels for crystal struct. 1−52114
molecular solid, asymmetry parameter, Zeeman NQR obs. 1−26072
molecule, B-X $^1\Sigma_g^+$ state, Franck-Condon factors, mol. consts. and RKR long range pot. 1−1282
molecule, B-X transition, laser induced fluoresc. studies, radiative lifetimes 1−46013
molecule, electron density calcs. using SCF Xalpha MO method 1−19029
molecule, quantum-selected photochemistry and energy transfer kinetics 1−28901
molecules, inner-shell excited states, electron impact excitation electron energy loss obs. 1−24269
C+Cl ion, projectile double-K-vacancy fraction with target thickness, X-ray spectra 1−14997
CdS:Cl, resonant Raman study of bound excitons 1−8077
CdTe:Cl elec. cond., thermal activation energy and deep level obs. 1−7624
Cl I, discrete-continuum interactions 1−37128
Cl^-, ion mobility in Xe and Cl^--Xe interaction pot. 1−2137
Cl^-, quadrupole antishielding factors, non-orthogonal Hartree-Fock perturbation theory 1−45831
Cl+bromoethylene, statistical models for product energy distributions 1−12975
Cl+dimethyl peroxide, reaction rate const., flash photolysis-reson. fluoresc. study 1−31838
Cl+H_2 reaction, kinetic isotope effects for D and T substitution 1−48659
Cl+HOCl→AHCl+ClO, reaction rate const., 243-365K, stratospheric importance 1−44245
Cl^-+H_2 (D_2) 1−6345
Cl^-+N_2, collisional detachment, reson. effect 1−14990
Cl^-+$SO_2(CO_2)$ reactions, gas phase cluster prod. 1−4061
Cl^++neutral molecule, reactions in ground and excited state of 300K 1−12970
Cl_2-Br_2-BrCl mixtures, chem. equilib., computer simulation 1−53403
Cl_2+Br_2 collisions, energy transfer, laser excitation 1−24232
Cl_2+K_2, mol. chemiluminesc. spectra obtained using beam-gas arrangement 1−8573
Cl_2+Na_2, mol. chemiluminesc. spectra obtained using beam-gas arrangement 1−8573
Cl_2+Xe, excitation, XeCl and $XeCl_2$ fluoresc. spectra, rate consts. 1−39590
ClXVI, 2s-2p transitions, fine struct. and wavelengths 1−1398
^{36}Cl dating using accelerators, Australian Quaternary and environmental research 1−17690
HgI_2:Cl, photoelectric and optical properties 1−42811
Se:Li,Cl, amorphous, gap states, carrier traps, time-of-flight study 1−52472
SiO_2, low pressure CVD, elimination of Cl 1−26390
SiO_2:Cl, Cl distrib. determ. by neutron activation anal. 1−31940
Te:Cl, excited by α-particles, photons, elec. props. meas. 1−30765
Ti-B-Cl-H CVD system, phase diagram calc., 800-1200K 1−35244
Xe-Cl lidar, stratospheric vertical ozone distrib. meas., aerosol influence 1−36017
ZnS:Cu,Nd,Cl, thin film, direct current electrolum. and Nd luminescence centres 1−3495
ZnS:Mn, Cu, Cl thin films, elec. props., electroluminesc., switching 1−39159

chlorine compounds
graphite-ClF intercalation cpd., NMR showing presence of ions 1−47960
halogen compounds, spin-orbit splittings of ionisation pot., MOC, INDO and CNDO calc. 1−51126
stratosphere composition, new collection system for total Cl and Br content 1−36031
1,2,3,5-tetrachlorobenzene, X-ray cryst. struct. determ. 1−30211
$[ClF_6][CuF_4]$, growth by detonation synthesis, cryst. struct. 1−25224
ClB=S, mol. rot., moments and configs., bond lengths, isotope effects, microwave obs. 1−14876
ClCN, Rydberg transition, oscillator strengths IR obs. 1−41377
ClF, TEA laser based on D'→A' transition 1−19323
ClF+F, recombination const. calc. 1−8596
ClF+H→HCl+F, two-channel reaction, rate consts. of production and energy distrib. of products 1−48681
ClF+H→HF+Cl, two-channel reaction, rate consts. of production and energy distrib. of products 1−48681
ClF_4O^-, anion, mol. consts., modified Urey-Bradley force field calcs. 1−41359
ClO, stratospheric, two-dimensional model calcs. 1−22443
ClO_2, high field LMR spectra, Zeeman tuning 1−45999
ClO_2, mol. vibr., isotope effects, spin-rotation interaction const., IR obs. 1−24137
ClO_2+F, recombination const. calc. 1−8596
ClO_3^-, electronic struct., SCF-Xalpha study 1−6161
ClO_4^-, mol. vibr., force constants, isotope effects, matrix isolation, IR obs. 1−14895
ClO_4^-, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031
ClO_4^- units, optical basicity, SCF CNDO calc. 1−2333
ClO_3F, rot., electric dipole moments, Stark effect, mol. beam electric resonance 1−24190
ClOH, electric-field gradient at Cl nucleus, quantum mechanical, atomic orbital and STO calc., NQR freq. 1−1085

cholesteric liquid crystals
α-alanine decyl ester, type II aq. cholesteric lyomesophase, NMR, rel. density obs., polarised microscopy 1−20048
binary cholesteric mixtures, electro-optical props. 1−8041
Blue phase, Grandjean-Cano steps in wedge-shaped sample 1−2317
blue phase, quasicrystalline behaviour and phase transition 1−34222
blue phase to cholesteric phase transition, helical pitch change 1−16029
CB-15 in nematic E8, elec. field induced changes in selective refl. band 1−31128
cholesteric polymer films, optical appls. 1−48186
cholesteryl alkyl carbonates, IR spectra in solid and cholesteric liq. cryst. states 1−16565
cholesteryl benzoate 1−15788
cholesteryl erucate, ionic mobility determ. 1−20059
cholesteryl ethyl carbonate, molecular packing, geometrical anal. study 1−15788
cholesteryl laurate crystals, birefringence and mol. arrangement 1−16548
cholesteryl methyl carbonate, molecular packing, geometrical anal. study 1−15788
cholesteryl myristate, ionic mobility determ. 1−20059
cholesteryl nonanoate, phase transition lines of blue phase, up to 1200 bars 1−2601
cholesteryl oleate, ionic mobility determ. 1−20059
cholesteryl palmitate, in vesicle model membrane, D and ^{31}P NMR investig. 1−52848
cholesteryl pelargonate, ionic mobility determ. 1−20059
cholesterylcaprinate-BMAOB mixture, twisted struct., flexoelectric domains 1−34233
colour, influence of solid support sorptive props. 1−2315
convective instabilities, linear stability anal. 1−52063
disc-like mesogens, 'cholesteric' phase 1−2318
electro-optical behaviour of liquid crystal materials for display devices 1−38280
hydrodynamics, influence of higher order terms 1−2313
image derotation system for real time temp. patterns obs. on rotating components 1−41872
layer between dielec. plates, optical characts., filled Fabry-Perot resonator anal. 1−8035
linear wave coupling in optics, struct., phase transform. *(Russian)* 1−30054
magnetic field stabilisation, molecular orientation symm. breaking 1−15797
4''-2-methyl-butylphenyl-4'-(2-methylbutyl)-4-biphenyl-carboxylate, blue phase to isotropic transition 1−25413
nonlinear frequency conversion 1−24457
octylcholestane, polymorphism, cryst. and liq. cryst. phases, dilatometry and X-ray diffr. study *(French)* 1−20058
particle dynamics, struct., props., molecular dynamics calcs. 1−2321
rotational molecular motion, random torsional oscill. model 1−7079
rotatory power and electric field effects 1−3360
shear flow induced transverse drift of small suspended particles 1−38262
thermal expansion and Bragg reflexes in lattice textures 1−38267
twist cell performance, surface orientation and compliance effects 1−38274
two-dimensional films, smectic, cholesteric, and Rayleigh-Benard order 1−34231
US fields imaging *(Slovak)* 1−15338
voltage controlled circular dichroism cells, field induced twist profiles 1−26171

chondrites *see meteorites*

chopping *see cutting*

chromatic aberration *see aberrations*

chromatography
anal., chromatographic separation of Ba from Na 1−13052
automatic detection at radionuclides emerging from a timed droplet column 1−21802
elution chromatography, metrological props. and calibration, total error of anal. 1−26802
environmental analysis by gas chromatography/mass spectrometry 1−21962
environmental samples, fractionation anal. by gas chromatography 1−39698
fault testing using dissolved-gas anal. 1−26780
formaldehyde, tropospheric, meas. by liq. chromatography 1−17655
gas, analysis of wood-derived chemicals 1− 53500
gas, chemically bonded supports 1−39701

chromatography continued
gas, protein hydrolysis and derivatisation of amino acids, sample handling 1−35591
gas and liquid, microcomputer based system 1−31920
gas chromatographic columns, He jet system, short lived species anal. 1−26788
gas chromatographic stationary phases definition method based upon molecular retention index scale *(Spanish)* 1−13060
gas chromatography, VISTA interactive microcomputer-based data system, multichannel control 1−8627
gas chromatography-mass spectrometry combinations, review 1−373
gas radiochromatography, ^{3}H,^{85}Kr,^{133}Xe in LMFBR 1−23867
gas-liquid, using high-temp. nematic liq. cryst. column packing 1−53494
high performance liquid, system control interface 1−31921
high performance liquid, ternary solvent programmes 1−31922
high performance liquid chromatography, a review 1−13048
high performance liquid chromatography, automation 1−13049
high pressure liquid chromatography for liquid cryst. mixtures 1−38284
HP 5738A gas chromatograph with flame photometric detector modification 1−48776
hydrocarbons in atmosphere, chromatographic monitoring instrument 1−4237
instrumental techniques in coal research 1−53499
laboratory gas chromotography automation using microcomputers 1−31963
lead acetate, decomp. studied by TG, DTA, GC and MS *(German)* 1−26730
liquid chromatography, flow cell optics 1−48756
liquid chromatography, VISTA interactive microcomputer-based data system, multichannel control 1−8627
liquid cryst. mixtures, gas chromatography/mass spectrography 1−38284
liquids, mass transfer by thin layer chromatography, mag. field effects 1−26794
microcomputer-based gas chromatograph with IEEE 488 interface 1−53517
multistep avalanche chamber as a detector in radiochromatography imaging 1−14756
multitasking chromatography computer system 1−53505
natural gas, custody transfer, process chromatograph 1−31969
nematic liquid crystals, molecular orientation on inorganic surfaces, impurity effect 1−42293
optimization control, process control computer, gas chromatographs 1−31967
packed microbore liquid chromatography column, as inlet system for CI mass spectrometer 1−5431
perchloroethylene, determ. in air by gas chromatography/electron capture detect. 1−21799
pesticide levels in air using automated sequential sampler for gas chromatography 1−53737
piezoceramics, anal., chromatographic separation of Ba from Na 1−13052
PMMA, unperturbed mol. dimens. meas. using gel permeation chromatography and light scatt. photometry 1−46183
polybutadiene, prod. by soln. process, monomer conversion, viscosity, liq. chromatography 1−29159
polyethylene, isotropic and linear oriented, mol. morphology 1−42327
polypropylene, isotactic, multiple transitions around glass transition 1−7306
polystyrene-PMMA, block copolymer, comp., mol. wt. distrib. determ. 1−33584
prep., cryst. struct., IR spectra, and chem. anal. 1−34305
process gas chromatographs with integral microprocessors 1−8628
radio-gas detection system, modified furnace tubes 1−35590
reactive species, gas-solid chromatography and reversible adsorption 1−31926
sample injecting device, from vac. equipment 1−53509
Sigma gas chromatograph for Venus atmosphere chemical comp. analysis 1−9399
spectrophotometers as applied to chromatography 1−18305
spectrophotometry comparison, review *(French)* 1−45029
supercritical fluid, role of binary fluid mixture phase equil. 1−38503
thermochromatography for rapid continuous radiochemical separations 1−8634
thin layer, for broad-spectrum drug testing 1−53501
vinyl chloride monomer, air pollution, leak detection, computerised control gas chromatography 1−31965
welded joints, diffusible H amount determination by chromatographic method 1−48757
$Ba(PO_3)_2$-$Zn(PO_3)_2$ system, phase diagram and cpd. form. 1−31435
C, surface struct. and chem. comp., functional groups synthesis 1−53466
Ca isotope fractionation in ion-exchange chromatography 1−31925
EsF_4, evidence for new oxidation state, Es IV, thermochromatographic detect. *(French)* 1−4131
$K_2CO_3.1/2H_2O.2H_2O_2$, thermal decomp., kinetics studied by gas chromatography 1−26731
$Li_xH_{1-x}RP_2O_7$ (R=Tm, Yb, Lu), prep., cryst. struct., IR spectra, and chem. anal. 1−34305
$Ni_2P_2O_7.xH_2O$, thermal dehydration 1−8549
^{226}Ra and daughters, focusing chromatographic simultaneous determ. *(Japanese)* 1−28833
RuF_5, fuel reprocessing, fluorination by F_2, thermochromatography and IR measurements 1−18848
RuO_2, fuel reprocessing, fluorination by F_2, thermochromatography and IR measurements 1−18848
RuO_2+$UO_2(Y_2O_3)$, fuel reprocessing, fluorination by F_2, thermochromatography and IR measurements 1−18848
U fuel pellets, carbon content, gas chromatography, serial loading 1−23766
UO_2 fuel pellets, carbon content, gas chromatography, serial loading 1−23766
^{235}U enrichment by redox chromatography 1−781

chromium
see also nuclei with .....
(110) surface, clean and H covered, electron energy loss spectra 1−16638
adsorbed on Fe, or Ti, escape depth comparison between Auger electron and disappearance potential spectroscopy electron 1−26319
annealed, thermally etched, oxidation, 800 to 1100°C 1−31734
antiferromagnetic, electronic struct. 1−30624
antiferromagnetic, Fermi surface and spin density wave Q-vector, vol. depend. 1−25614
antiferromagnetic, Raman scatt. 1−43120

chromium continued
antiferromagnetic, thermal hysteresis absence near Neel transition, elec. resist. and Young's modulus meas. 1−12288
antiferromagnetic-paramag. phase transition, band structs., angle-resolved photoemission study of (110) surface 1−12633
atom, Rayleigh and Compton cross sections of photon scatt. 1−19067
Auger spectra identification due to ion and electron impact 1−3553
BCC, formation of ultrafine particles by gas evaporation, cryst. struct. and habits 1−25197
black chrome, solar absorbing, struct. refinement, optical degradation mechanisms 1−16157
coating, friction and wear features 1−31675
coating on steel, thick-layer, fretting corrosion resist. 1−31752
diffusion in Ni spherical particles *(Russian)* 1−11906
electrochemical treatment, pulsed high-power *(Russian)* 1−43594
electrode, interaction with $Na_2O.2B_2O_3$ molten glass under elec. field *(Japanese)* 1−3974
electronic configuration, model pseudopot., calc. 1−30625
fibre-$(Al,Cr)_2O_3$ eutectic produced by elec. arc melting *(German)* 1−16750
film, energy loss spectra, optically forbidden 3s subshell excitations 1−21308
film, ion implanted, gas plasma etching 1−31737
film, ion-plated, ellipsometric study in visible spectral range 1−16621
film, on glass substrate, adhesion studies with acoustic microscope 1−38696
film, plasma etching characts. and anomalous etching modes 1−31738
fine BCC particles, mag. props. of new mag. phase 1−7900
GaAs:Cr, phonon scatt. by Cr ions 1−15997
guanidinium aluminium sulphate hexahydrate:Cr^{3+}, EPR spectrum, hydrostatic press. effects 1−21040
high speed plating, air pressure flow system 1−48284
high-speed electroplating on Cu or Fe from dilute acid soln. 1−8244
magnetic dipole transitions in highly ionised gas 1−11567
magnetic properties, and polymorphism *(Russian)* 1−20976
molecule, pot. energy curves, MCSCF calcs., binding energies 1−41303
molecules, charged and neutral, electronic struct., SCF-Xα-SW calc. 1−41305
oxidation mechanism and props. of Cr_2O_3 1−31735
P to AF_1 phase transition to mag. ordered state during thermocyclic treatement *(Russian)* 1−38937
Peltier heating effect on elec. cond. near Neel temp. 1−25708
phonon dispersion relations, effective interactions, d-electron effects 1−42483
polycrystalline films, stressed state and struct. in He and O medium *(Russian)* 1−47417
ruby:Cr^{3+}, phonon interaction frequency depend., time-resolved phonon spectroscopy 1−34442
ruby:Cr^{3+}, relaxational paramagnetic sound absorpt. *(Russian)* 1−34933
spin density wave state, phenomenological theory 1−3233
surface, passivated in acidic and neutral aqueous solns., ellipsometry and AES anal. 1−21625
surface (001), reconstruction, electronic origin, d-band effects 1−47343
surface (100), with (1×1)-N struct., surface energy bands, XPS study 1−35148
surface EM wave attenuation meas. *(Russian)* 1−26155
thin film, elec. cond. and cond. temp. depend. 1−2936
thin film, oxide formation, Auger spectra 1−8467
US propagation parameters in cubic crystals, using elastic moduli 1−38472
vacuum condensate in N and H_2 atmospheres, gas molecule capture mechanism *(Russian)* 1−16200
vacuum deposited film, mass thickness and true density determ. 1−25597
vacuum-deposited thin layer thermal stability on GaAs 1−16209
X-ray spectroscopy techniques for solids *(Dutch)* 1−12596
α-Al, monocryst., diffusion of Cr and Fe *(French)* 1−16096
$Al_xGa_{1-x}As$:Cr MBE, SIMS study of dopant distrib. 1−42647
$Al(NO_3)_3.9H_2O$:Cr^{3+}, single cryst., EPR of Cr^{3+} 1−38970
Al_2O_3:Cr^{2+}, phonon spectroscopy of ion pairs 1−15969
Al_2O_3:Cr^{2+}, thermally detected EPR study of $3d^4$ ions 1−26023
Al_2O_3-Cr mixtures, sintering behaviour 1−53121
Au/Cr bifilm, heat treated, elec. resist. increase rel. to interdiffusion 1−7394
$BeAl_2O_4$:Cr^{3+} tunable laser, 701 to 818 nm range 1−29283
$Bi_{12}GeO_{20}$:Cr, $Bi_{12}SiO_{20}$:Cr, Czochralski growth method, dopant distrib. 1−21339
CaO:Cr^{2+}, acoustic paramagnetic resonance expts. 1−16479
$Ca_3(PO_4)_2$:Cr, Ni, whitlockite struct., IR spectrosc. obs. 1−26197
$CdIn_2S_4$:Cr photoluminescence spectra 1−21270
Cr plate, exposed to oxygenated Na, form of $NaCrO_2$ 1−21770
Cr^{2+} and Cr^{2+}, Rayleigh and Compton cross sections of photon scatt. 1−19067
Cr^{3+}:$BeAl_2O_4$; alexandrite, tubable Q-switched laser emission 700 to 800 nm 1−51498
Cr/C films, reactive ion plated, microhardness and struct. 1−53263
Cr-Au thin film deposited on Al_2O_3, Auger depth profiling 1−11995
Cr-Cr_2O_3, black electroplated solar selective coatings, spectral reflectance 1−17268
Cr-Cr_2O_3, thermodynamic aspects *(German)* 1−8288
Cr-Cr_2O_3 electrodeposits, electrochemistry, review 1−48700
Cr-Cu-Cr model layer composite, deform. relations, compressive stress *(Russian)* 1−48418
Cr-Mn austenitic steel, thermonuclear reactor material, ferromag. layer form. 1−41231
Cr-Ni austenitic steel, thermonuclear reactor material, ferromag. layer form. 1−41231
Cr-on-quartz filters as standard reference material for spectrophotometry 1−6642
Cr-Si thin film interactions, silicide phase form., Rutherford backscatt. obs. 1−38679
Cr-SiO cermet thin film resistors, flash evaporation 1−16696
Cr(I) visible line transition probabilities, emission meas. 1−33418
Cr(II) visible line transition probabilities, emission meas. 1−33418
CrIII $^4T_{2g}$-state, radiationless relax. symmetry 1−1164
Cr_2O_3-Cr black chrome, electrodeposited selective solar absorber film, oxidation 1−12996
Cr_2O_3-Cr black chrome nuclei electrodeposits on Ni film, TEM study of selective solar absorber microstruct. 1−11994
Cr_2O_3-Cr black chrome solar selective absorber, metallurgical anal. and high temp. degradation 1−13176

chromium continued
$CsCdF_3:Cr^{3+}$, spin Hamiltonian, transferred hyperfine interaction ENDOR spectra 1−52867
n-GaAs, carrier reduction by Cr ion implantation 1−47103
GaAs:B,Cr, low temp. Cr redistrib. and gettering in absence of encapsulant stress 1−15916
GaAs:Cr, As antisite defect, submillimetre EPR evidence 1−7941
GaAs:Cr, B, Si_3N_4-capped, annealing of damage and redistrib. of Cr 1−20248
GaAs:Cr, cathodoluminescence spectrum, zero-phonon multiplet 1−31205
n-GaAs:Cr, charge transfer induced by hydrostatic press., Hall effect meas. 1−47547
GaAs:Cr, current induced transition from high to low resistivity state 1−20828
GaAs:Cr, EPR, photoinduced changes, Cr^{4+} second-acceptor state 1−12393
GaAs:Cr, effect of plastic deform. on EPR spectrum 1−3250
GaAs:Cr, electron beam irrad., EPR meas. 1−38978
GaAs:Cr, fast neutron irrad. effects on props. 1−25331
GaAs:Cr, heat treated semi-insulating, Raman spectra meas., thermal conversion 1−43103
GaAs:Cr, impurity electron states 1−25657
GaAs:Cr, impurity photocond., hole capture cross section 1−25760
GaAs:Cr, MBE, SIMS study of dopant distrib. 1−42647
GaAs:Cr, MESFET, doping profile determ. by SIMS 1−30264
GaAs:Cr, Mg ion implant distrib., elec. props. 1−7202
GaAs:Cr, phonon-assisted electron tunnel emission from Cr level 1−47548
GaAs:Cr, photoluminescence, 0.839 eV and 0.574 eV lines 1−35085
GaAs:Cr, role and thermal redistrib. of Cr, review 1−30265
GaAs:Cr, semi-insulating Cr profile after annealing in H_2-As_4 atmosphere 1−2490
GaAs:Cr, semi-insulating, characterisation using galvanomagnetic meas. *(Slovak)* 1−20767
GaAs:Cr, semiinsulating, ultrafast magnetophotocond. meas. 1−52608
GaAs:Cr, temperature and compensation dependence of threshold voltage for switching effect 1−20751
p-GaAs:Cr, Zn, electron irrad., EPR spectra 1−43000
GaAs:Cr and undoped, energy structure parameters determ. by thermal effect of short light pulser *(Russian)* 1−52487
GaAs:Cr high resistivity layers, LPE growth by impurity doping 1−39256
s-GaAs:Cr junction diodes, I-V charcts. 1−47740
GaAs:Cr n-ν-n^+ structs., current-voltage charcts., photosensitivity 1−20863
$GaAs:Cr^{2+}$, Cr^{3+}, dynamical Jahn-Teller model 1−52533
$GaAs:Cr^{2+}$, level splitting, Jahn-Teller interactions, theory 1−42728
$GaAs:Cr^{2+}(Cr^{3+})$, d-electron interaction matrices, energy level calc. 1−42729
$GaAs:Cr^{3+}$, EPR, Jahn-Teller centre with stress dependent reorientation field 1−7940
GaP:Cr, electron beam irrad., EPR meas. 1−38978
GaP-Cr, photoluminesc., mag. field and uniaxial stress depend. 1−48139
$GdAlO_3:Cr^{3+}$, chopper technique for meas. delayed fluoresc. superimposed on excitation spectrum 1−36739
InP:Cr, electron beam irrad., EPR meas. 1−38978
InP:Cr, photocond. relax. kinetics 1−20809
InP:Cr, S ion implantation, sheet resistance, carrier density 1−2477
n-InP:Cr, VPE, photoconductivity study 1−47699
$KCl:Cr^{3+}$, X-irrad., EPR, optical, and IR spectra 1−12392
$KMgF_3:Cr^{3+}$, spin-lattice relaxation of cubic centres 1−21043
$K_2NaAlF_6:Cr^{3+}$, ENDOR determ. of covalency 1−47973
$KZnF_3:Cr^{3+}$, spin-lattice relaxation of cubic centres 1−21043
Li aluminate:Cr^{3+}, generation of primary, stimulated and multiple light-echo signals 1−1652
$LiNbO_3$:Cr, ferroelec., Cr^{3+}-Cr^{3+} excited state dipole moment interactions 1−21112
$MgAl_{0.2}Cr_xFe_{1.8-x}O_4$ ($0 \leq x \leq 0.6$), Cr effect on mag. and elec. props. 1−7190
MgO:(Fe)(Cr), single crysts., dielectric behaviour 1−39023
MgO:Cr, diffusion of ^{51}Cr 1−30475
MgO:Cr, single cryst., elec. cond. at elevated temps. 1−42778
$MgO:Cr^{2+}$, heat-pulse phonon scatt. by Jahn-Teller impurities, stress effects 1−15996
$MgO:Cr^{3+}$, ESR study 1−34934
$MgO:Cr^{3+}$, ODMR, vibronic sidebands 1−21085
$MgO:Cr^{3+}$, struct. of $^4A_{2g} \rightarrow {}^4T_{2g}$ zero-phonon spectrum 1−3427
$MgTiO_3:Cr^{3+}$, fine struct. parameters, ESR study 1−26021
$Mn_{1-\delta}S$:Cr(Ti)(V), elect. cond. isothermal var. *(French)* 1−7607
(Mo,Cr)-(Cr_2O_3, Al_2O_3) cermet, thermionic energy convertor 1−17227
Na_2O-B_2O_3-SiO_2:CrIII ions (with Cr_2O_3 0.005 to 1.0 wt.%), luminesc. spectra 1−43162
Na_2O-SiO_2:Cr glasses, state of Cr ion under various O_2 press., optical absorpt. and EPR study 1−31174
Ni/Cr sandwich multilayer thin films, crater edge profiling, scanning Auger microscopy 1−42655
NiO, Co^{60} and Cr^{51} grain-boundary diffusion 1−25506
$RbH_3(SeO_3)_2:Cr^{3+}$, ferroelec., EPR study 1−38971
Si:Cr Jahn-Teller centre, EPR spectrum, nonlinear press. effect *(Russian)* 1−7943
$Si:Cr^+$, spin-lattice relaxation, Debye temp. 1−26026
Si-Cr thin film struct., amorphous Si, interdiffusion, compound form. 1−42640
TiO_2:Cr, polycryst. electrode, photoelectrochem. props., photoelectrolysis of water, dopant effects 1−8575
VO_2:Ti,Al,Cr, crysts., elec. threshold switching mechanism, expt. 1−20829
V_2O_5:Cr, ESR spectra 1−3253
Y_2O_5-Cr composite, hot pressing, reactions, X-ray study 1−21410
Zn:Cr, mag. susceptibility meas. 1−47871
ZnS(Se)(Te):Cr, impurity of photogeneration transitions, photo-EPR and optical absorpt. meas. 1−31017
$ZnWO_4:Cr^{3+}$, nuclear mag. relax. and spin diffusion *(Russian)* 1−12422

chromium alloys
see also chromium compounds
Astroloy, grain boundary void nucleation, produced by room temp. deform. and anneal. 1−8350
Astroloy, high temp. deform. modes 1−21548
Astroloy superalloy, hot isostatically pressed, porosity effect on mech. props. 1−3667
commensurate, longitudinal spin waves and CDWs, theory 1−47872
Hastelloy, C-276, H-assisted ductile fracture 1−3921
Hastelloy alloy C-276, Ni-base superalloy, hydride form. 1−53271

chromium alloys continued
Hastelloy alloys X and S, generation of reliable design data for long term high temp. creep appls. 1−39398
Hastelloy G, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
Hastelloy X, Al_2O_3, coating, carburization resistance 1−30594
Hastelloy X, corrosion behaviour, in high temp. $H_2+CO+CO_2$ gas mixture 1−48585
Hastelloy X, CVD-produced Ni-Si(-Cr-Ti) coatings 1−31362
Hastelloy X, recrystallisation-thermal etching of local plastic strain 1−43602
Hastelloy-X, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
Hastelloy-X filament produced by glass-coated melt spinning, mech. props. 1−53084
Haynes alloy no.20, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
heat resistant and refractory alloys, O determ. by spectral-isotope method 1−17127
IN100, cyclic behaviour, macroscopic description of microstruct. changes induced by varying temp. 1−35341
IN-738 Ni-base superalloy, creep life extension, regenerative heat treatments 1−16860
Incoloy 600 (800), corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
Incoloy 800, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
Incoloy 800, differential composition profiles of passive films 1−17120
Incoloy 800, high temp. sulfidation, corrosion resist. 1−43611
Incoloy 800 type, high temp. creep, effect of precip. strengthening 1−31547
Incoloy 825, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
Inconel 600, blistering and D trapping induced by D^+ bombardment 1−25336
Inconel 600, coating with TiC, prod. methods and testing 1−26662
Inconel 600, differential composition profiles of passive films 1−17120
Inconel 600, electrolytic comp. and heat treatment effect on aq. crevice corrosion 1−39509
Inconel 600, high temp. sulfidation, corrosion resist. 1−43611
Inconel 600, interaction between S and microstructural defects, microsulphide nucleation 1−30272
Inconel 600, stress corrosion in hot soda solns., effect of additions and annealing *(French)* 1−39529
Inconel 600, surface inhomogeneity determ. using scanning probe impedance technique 1−26652
Inconel 600 targets, ion sputtering, plasma-wall application 1−26336
Inconel 600 tubing, nonsensitised, method for controlled stress corrosion cracking 1−16960
Inconel 600-diamond, bonded composites, cold sintering 1−21409
Inconel 617, corrosion behaviour in H_2 base gas mixture 1−16971
Inconel 617, corrosion behaviour in high temp. $H_2+CO+CO_2$ gas mixture 1−48585
Inconel 617, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
Inconel 617, effect of stressing on intergranular oxidation *(Japanese)* 1−31743
Inconel 617, secondary ion mass spectrometry for carburisation study 1−17140
Inconel 625 (Ni-Cr-Mo) fuel cladding, elevated temp. behaviour 1−48583
Inconel 625 and 718, H_2 permeation charact., 350 to 1050K 1−2697
Inconel alloy MA 754, oxide dispersion strengthened, creep and stress rupture behaviour 1−12808
Inconel MA 754, oxide strengthened, predeform. effect on creep and stress rupture 1−26559
Inconel X-750, temp. effect on fatigue-crack propag. 1−48469
Inconel X-750 alloy, high temp. fatigue effect on fracture toughness 1−53277
nichrome, sheet, sp. ht. 2-30K 1−42546
nichrome alloy EI435, wires, texture formation during cold draining and annealing *(Russian)* 1−39346
Nichrome-Al film deposition in low vac., temp. coeff. of resist. charcts. 1−43264
Nicrosil-Nisil, electromotive force stability 1−47618
Nimonic 90, creep, friction stresses and anelasticity 1−12837
Nimonic 90, Ni-Cr-Co alloy, fatigue behaviour, time dependent deform. 1−35391
Nimonic alloy PE 16, blistering and D trapping induced by D^+ bombardment 1−25336
steel, 15%Cr-15Ni-Mo-Ti-B, ageing and creep behaviour 1−16846
steel, Ni-Cr-Mo, crack branching in delayed failure, effect of pre-austenite grain size *(Japanese)* 1−26604
steels, Cr-Ni, wear and debris transport relation, 950°C 1−16904
thermal barrier coated turbine vane, thermal contact resistance 1−30497
thoriated W filaments in alloy matrix, interaction at 1200-1600°C 1−16106
Udimet 710, thermal fatigue resistance, influence of protective coatings 1−31759
Waspaloy, fracture under hot-forming conditions 1−39460
Zircaloy cladding, under LOCA conditions, surface products 1−26665
Al-Cr, (0.07 at.%), interstitial trapping, channelling meas. 1−20282
Al-Cr, dil., low-field Hall coeff. at 4.2K 1−7592
Al-Cr, peritectic transformations during crystallisation 1−47212
$AlCr_2C$ struct. type interstitial phases, dimensional anal. 1−2351
Al_2O_3-Cr_2O_3-Cr(Mo) eutectics, melting points determ. *(German)* 1−38509
Be-Cr alloys, struct. and mech. props. 1−16758
Co base superalloy, high temp. deform. 1−39404
Co-Cr, corrosion, Na_2SO_4 induced at 600 to 900°C 1−21632
Co-Cr, mag. susceptibility, 1000 to 1800°C, temp. and conc. depend. *(Russian)* 1−12257
Co-Cr sputtered film, perpendicular magnetization mode 1−12369
Co-Cr-Al, Co-Cr-Al coating, doped, Al_2O_3 scale morphology 1−31756
Co-Cr-Al (10, 11 wt.%), influence of Pt addition on Al_2O_3 scale adherence in oxidation 1−35433
Co-Cr-Al coating, hot corrosion resistance, effect of modification by active elements 1−31761
Co-Cr-Al-Hf(-Pt) second generation turbine airfoil coatings in marine service 1−30596
Co-Cr-Al-Y coating, laser surface treatment 1−31763
Co-Cr-Al-Y(-Ni)(-Si) superalloy overlay coating, hot-corrosion-resistant, for gas turbine engines 1−31760

chromium alloys continued
Co-Cr-Mo alloys, adhesive wear resist., influence of microstruct. 1−12889
Co-Cr-Nb, thermodynamically calculated phase diagrams 1−16756
Co-Cr-Ni, X-40, gas turbine materials, thermal fatigue testing 1−35388
Co-Cr-P, amorphous, corrosion props. rel. to alloy comp. 1−35427
Co-Cr-Ta, thermodynamically calculated phase diagrams 1−16756
Co-Cr-TaC (10, 14 wt.%), hot corrosion and oxidation 1−31747
Co-Cr-Ti (25, 2.5-10 wt.%), oxidation, 1173-1373K, effect of Ti 1−39538
Co-Cr-(Al), corrosion in mixed gas environments at elevated temps. 1−3981
Co-Cr-(Ni-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652
Co-Ni-Cr-Al-Y reaction-sintered coating on Co-Ni-Cr-W, mech. props. and environmental resistance 1−31762
Co-Ni-Cr-Nb-Fe, γ''-precip. strengthened, yielding behaviour 1−53237
Co-Ni-Cr-W superalloys coated with Co-Ni-Cr-Al-Y, mech. props. and environmental resistance 1−31762
Co-Ni-(Cr), TaC-fibre reinforced, material transport methodology, appl. to impact wear 1−21593
Cr-Al, dil., antiferromag., mag. struct. between incommensurate and commensurate phases, elec. resist. and mag. susceptibility meas. 1−12269
Cr-Al antiferromagnetic solutions, negative magnetoresist. 1−25706
Cr-Au vacuum-deposited thin layer thermal stability on GaAs 1−16209
Cr-Co, dil., resistivity anomaly, Neel temp., rel to conc., press. 1−38760
Cr-Co antiferromag. alloys, press. effect on resist. min. 1−25720
Cr-Co-Cu-Fe permanent magnet alloys, deform.-aged, mag. props. 1−12342
Cr-Co-Fe permanent mag. alloy 1−12384
Cr-Fe, mag. props. and mag. interactions 1−30981
Cr-Fe antiferromag. alloys, press. effect on resist. min. 1−25720
Cr-Fe decomposed solid solns., singularities of mag. props. *(Russian)* 1−38930
Cr-Fe-Mn Invar alloys, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924
Cr-Fe-Ni alloys, phase equilibria, review 1−8274
Cr-Fe(Pd), Auger L_3MM transitions, backscatt. factor calc., Monte Carlo method 1−21301
Cr-Ge alloys, dil., antiferromagnetism and elec. resist. 1−25697
Cr-Mo steel, uniaxial creep life, effect of hydrostatic pressure 1−31552
Cr-Ni, mechanism of high-temp. anodic soln. in NaCl solns. *(Russian)* 1−43586
Cr-Ni, pulsed high-power electrochem. treatment *(Russian)* 1−43594
Cr-Ni surface, oxygen covered, O_2^+ ion bombarded, secondary ion form. and sputtering *(German)* 1−8185
Cr-Os, order changes in magnetic transform., elec. cond., heat capacity *(Russian)* 1−3177
Cr-Pd, dil., elec. resist. and antiferromagnetism, 77 to 700K 1−7583
Cr-Re system, phase diagram for mag. transitions, elec. resist. study *(Russian)* 1−52782
Cr-Si solid solns., antiferromag. structs., neutron powder diffr. study 1−25881
Cr-Si(Al), dil., lattice location of impurity by proton channelling, induced X-ray emission 1−12602
Cr-transition metal alloys, linear expansion coeffs. and elec. resist., triple points in mag. phase diagrams 1−2665
CrAl, antiferromagnetic alloys, NMR study 1−47970
CrB_2 coatings on stainless steel, plasma spray deposition 1−53358
CrCoFe based permanent magnet alloys, mag. hardening 1−12343
CrNr, secondary ion emission during O_2^+ sputtering, alloying effects 1−31285
Cr_2Si, form. by interdiffusion, growth and oxidation, radioactive ^{31}Si marker expts. 1−47304
Cr_3Si single crystals, melt growth and perfection 1−8221
Cu-Cr Kondo system, mag. Gruneisen parameter, thermal expansion and heat capacity meas. 1−42946
Cu-Cr-Mg precip. hardened alloy, fatigue, low cycle high temp., damage mechanisms 1−35393
Cu-Cr-SiO_2, flow stress and work hardening behaviour 1−35281
Cu-Cr-Zr, low-alloy, recrystn. 1−3779
Cu-Ti(Cr)(Mn)(Fe)(Co)(Ni), intercrystn. internal adsorpt., lattice constants *(Russian)* 1−47044
CuCr/Pb, proximity sandwiches, transition temp. Cooper limit 1−7788
Fe, cast, WC reinforced, interaction of reinforcing particles with high Cr matrix 1−16898
Fe-Cr, dil. alloys, mag. moment distrib. and environmental effects, neutron scatt. study 1−25933
Fe-Cr, electron beam effects in AES and SEM 1−20266
Fe-Cr, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924
Fe-Cr, ion implanted, conc. profiles and electrochem. props. *(Japanese)* 1−42411
Fe-Cr, ion implanted, electrochemical corrosion 1−4007
Fe-Cr, phase diagram determination from thermodynamic data 1−12719
σ-Fe-Cr, sequence faults, perpendicular intersection, TEM obs. 1−2471
Fe-Cr, thin film, oxide formation, Auger spectra 1−8467
Fe-Cr (0 to 4 wt.%), morphology and lattice distortions after powder nitridation 1−35285
Fe-Cr (10 wt.%), breakaway oxidation mechanism 1−26649
Fe-Cr (13(18) wt.%), Na_2SO_4-coatings effect on oxidation and corrosion behaviour 1−16943
Fe-Cr (20 wt.%), effect of La or Y with Si on high temp. oxidation 1−8489
Fe-Cr (5 wt.%), salt-induced corrosion behaviour 1−16942
Fe-Cr alloy, σ-phase, brittle fracture stress under high hydrostatic press. and high temp. 1−53295
Fe-Cr alloys, dissolved H effect on plastic deform. *(Japanese)* 1−31535
Fe-Cr alloys, electrochemical corrosion in ultra-high purity conditions 1−39541
Fe-Cr alloys, influence of Cr on ^{119}Sn site hyperfine fields, Mossbauer study 1−34964
Fe-Cr alloys, S solubility 1−52302
Fe-Cr liquid alloys, activities meas. by transportation method *(Japanese)* 1−30393
Fe-Cr system, thermochem. data 1−48324
Fe-Cr-Al, corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
Fe-Cr-Co (55, 27, 17 wt.%), high-coercivity thermomag. treatment 1−42983
Fe-Cr-Co-Si permanent mag. alloy, mag. props. and Mossbauer spectra, heat treatment effect *(Chinese)* 1−52753

chromium alloys continued
Fe-Cr-Co-V-(Ti), hard magnets, U and V-Ti additions effect on mag. and mech. props. 1−52798
Fe-Cr-Mo amorphous alloys, H embrittlement, effect of corrosion resistance and metalloid additives 1−53257
α-Fe-Cr-Mo single cryst., low cycle fatigue, shear band form. 1−31654
Fe-Cr-Mo-B amorphous alloy, anodic behaviour in HCl, Mo effects 1−21628
Fe-Cr-Mo-B system, ultrahigh strength metallic glass alloys 1−12807
Fe-Cr-Ni, sp. ht. anomalies obs. 1−30954
Fe-Cr-Ni passive film breakdown in H_2SO_4 by detection and anal. of electrochem. noise 1−39531
Fe-Cr-Ni system, elec. and galvanomag. props., 4.2 to 10K *(Russian)* 1−2942
Fe-Cr-Ni-Ta, liq., N solubility 1−2643
Fe-Cr-P-C, amorphous, corrosion props. rel. to alloy comp. 1−35427
Fe-Cr-Si, deform. induced σ phase precip. 1−31464
Fe-Cr-Si (9, 0.3(0.6) wt.%), corrosion mechanism in CO_2 1−35432
Fe-Cr-Ta, liq., N solubility 1−2643
Fe-Cr-Y alloys, oxide adherence, role of Y 1−43603
Fe-Cr-(Al), corrosion in mixed gas environments at elevated temps. 1−3981
Fe-Cr-(Ni) alloys exposed to oxygenated Na, form of $NaCrO_2$ 1−21770
Fe-Cr(10 wt.%), high resoln. replica technique for thick oxide films, appl. to breakaway scale 1−26683
Fe-Mn-Cr alloys, band struct. near Fermi level, elec. resist., thermo-EMF and mag. susceptibility meas. *(Russian)* 1−30622
Fe-Mn-Cr-Mo-C, carbide masteralloy, effect on Fe- and Fe-P powder premix sintering 1−3665
Fe-Ni-Cr, cast, white, abrasive wear-microstruct. interactions 1−21599
Fe-Ni-Cr, cyclic strength at elevated temp. of alloys 800 and 800H 1−8413
Fe-Ni-Cr, heat resistant, compatibility with sintered Li_2O in static He 1−3969
Fe-Ni-Cr, surface oxides, Raman backscatt. spectroscopic studies 1−31159
Fe-Ni-Cr thin foils, precipitation behaviour 1−26475
Fe-Ni-Cr-Mn, deformed, discontinuous precipitation of γ' phase of 36NKhTYu *(Russian)* 1−26466
Fe-Ni-Cr-P-B glassy alloys, crevice corrosion 1−16956
Fe-Ni-Cr-Ti (30, 15, 2 wt.%), superalloy 1−43494
Fe-Ni-Cr-Ti (42, 5.4, 2.4 wt.%) 1−12654
Fe-Ni-Cr-V-P-B glassy alloys, sputtering prep., corrosion behaviour 1−16969
Fe-Ni-Cr(-Al), refractory alloys, oxidation behaviour, influence of Y implantation 1−48552
Fe-Sb-Cr, short range order, zero field NMR investigation 1−52850
Fe_x-C/Fe-C-Cr-Ni system, C diffusion in weldments, steady state model *(Czech)* 1−47282
$(Fe_xCo_{1-x})_{89}Cr_{11}$, Invar properties, role of crystal and electronic structure 1−20981
FeCr alloy, Cr conc. changes effect on alloy surface at temp. lower than evaporation threshold *(Russian)* 1−21323
$Fe_{0.76}Cr_{0.24}$, disordered alloy, charge-density anisotropy, X-ray diffr. meas. 1−42338
$Fe_{1-x}Cr_x$ alloy, conc. depend. of isomer shift of Fe^{57} *(Japanese)* 1−31068
$Fe_{100-y-x}Cr_xB_y$ amorphous alloy, saturation magnetization and Mossbauer spectra 1−25986
$Fe_{60}Cr_{10}Ni_{10}P_{13}C_7$, amorphous, corrosion behaviour 1−21637
$Fe_{70}Cr_{10}P_{13}C_7$, amorphous, corrosion behaviour 1−21637
$Fe_{70}Cr_{10}P_{13}C_7$, amorphous, corrosion behaviour, crystn. effect 1−35425
$Fe_{80-x}Cr_xP_{13}C_7$, amorphous, crit. phenomena, sp. ht. meas. 1−7845
$Fe_{82-x}Ni_xCr_{18}$ ($10 \leq x \leq 36$) system alloys, elec. props. at low temps. *(Russian)* 1−16276
$Fe_{82-x}Ni_xCr_{18}$, low-field magnetic suscept. near critical concentration *(Ukrainian)* 1−38913
γ-$Fe_{82-x}Ni_xCr_{18}$ spin glasses, Hall effect *(Russian)* 1−47613
$Fe_{32}Ni_{36}Cr_{14}B_6$, Metglas 2826-A, Mossbauer spectroscopic data 1−26096
$Fe_{32}Ni_{36}Cr_{14}P_{12}$, amorphous, Mossbauer recoilless fraction and atomic rearrangements 1−39014
$Fe_{22}Ni_{36}Cr_{14}P_{12}B_6$, metallic glass ribbons, surface B conc. meas. 1−21820
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$ amorphous alloy, high mag. field magnetisation, magnetoresistance 1−7593
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, Curie temp., anomalous props. in crit. region 1−7854
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, crit. behaviour, static magnetisation and AC susceptibility meas. 1−34893
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, anelastic relax., temp. and stress depend. 1−35296
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, corrosion behaviour, crystn. effect 1−35425
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, glassy, positron annihilation study 1−43211
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglass 2826 A, thermoelectric study 1−47619
$Fe_{44-x}Ni_{32}Cr_xP_{15}B_4$ metallic glass, comp. effect on thermal stability 1−25175
HfB_2-Cr, phase diagrams, X-ray diffr., metallographic and microhardness meas. 1−39314
Inconel 800 H, model to predict carburisation profiles 1−25315
MCrAlY/calcium silicate, corrosion-resistant thermal barrier coating, (M=Ni, Ca, e) 1−39530
Mo-Cr, electronic struct., X-ray spectra *(Russian)* 1−20620
Nb-Cr (9.5 at.%), oxidation in temp. range 900-1100°C at 100-760 torr O_2 1−39521
(Ni,Cr)-Cr_7C_3, two-phase alloys, dendritic, tensile elongation, microstruct. aspects 1−21549
Ni base alloys, particle-strengthened, creep behavior, role of alloy matrix 1−3900
Ni-Al-Cr-Ti, ageing accompanied by γ'-phase precipitation, struct. form. during slow cooling *(Russian)* 1−12763
Ni-base heat-resist. alloys, dislocation arrays formed during creep 1−15896
Ni-base superalloy, evaluation of γ' particle spacing along dislocation 1−42392
Ni-base superalloy, surface film behaviour 1−53346
Ni-Co-Cr, Rene' 150, gas turbine materials, thermal fatigue testing 1−35388
Ni-Co-Cr-Al-Y plasma-sprayed coating, coating-substrate interdiffusion 1−30489
Ni-Cr, corrosion, Na_2SO_4 induced at 600 to 900°C 1−21632

chromium alloys continued
Ni-Cr, deformed, discontinuous precipitation of γ' phase of KhN78TYu *(Russian)* 1−26466
Ni-Cr, disordered, impurity states, spectrosc. obs. 1−21240
Ni-Cr, phase diagram determination from thermodynamic data 1−12719
Ni-Cr, type KhN73MBTYu, temp.-time depend. of hardness *(Russian)* 1−48377
Ni-Cr (10 wt.%), influence of ternary additions W, Mo, Ti, Ta and Nb on isothermal and cyclic oxidation 1−3983
Ni-Cr (20 wt.%), effects of rare-earths and reactive elements on oxidation resistance 1−16980
Ni-Cr (20 wt.%), high temp. oxidation behaviour with dispersions of various reactive metal oxides 1−53363
Ni-Cr (5.6 wt.%), internal fluoridation 1−11869
Ni-Cr (80, 20, wt.%) coatings, struct. and mech. props., recrystn. annealing and shot blasting effects 1−4001
Ni-Cr alloy, FCC, friction forces estimation, in-situ electron microscopy 1−30233
Ni-Cr alloy tubes, acidification in crevices, effect on H_2 evolution 1−53336
Ni-Cr bonded W_2B_5 and Mo_2B_5, for electric-spark alloying electrodes 1−39536
Ni-Cr cast microconductors, elec. props. 1−47608
Ni-Cr matrix, composition influence on Ni diffusion into W fibres *(Russian)* 1−47294
Ni-Cr refractory alloys, oxidation behaviour, influence of Y implantation 1−48552
Ni-Cr system, phase diagram and thermodynamic data 1−48325
Ni-Cr-Al (57, 40, 3 wt.%), stepped decomp. 1−43356
Ni-Cr-Al-Mo, Co free wear resistant alloy development for BWR control rod rollers 1−23772
Ni-Cr-Al-W-Mo-Ti-C-B, mech. props. depend. on deform. temp. and rate 1−35334
Ni-Cr-Al-W-Ti-Mo-Co, precipitation strengthened, microchem. heterogeneity and mech. props. 1−39343
Ni-Cr-Al-Zr, cyclic oxidation, effect of Zr 1−48569
Ni-Cr-B-Si-C hard facings, struct. form. characts. during deposition 1−8478
Ni-Cr-Fe, secondary ion emission yield variations 1−3551
Ni-Cr-Fe (75, 16, 9 wt.%), intercryst. diffusion and Cr descript. in presence of water vapour, ^{51}Cr tracers appl. *(French)* 1−47283
Ni-Cr-Fe alloys, Mo-bearing, surface film comp. and electrochem. props. 1−43612
Ni-Cr-Fe-Ti-Al (14.7, 8.9, 2.25, 1.1 wt.%), γ' determ. by non-aq. electrolyte-potentiostatic method *(Japanese)* 1−31417
Ni-Cr-Mo, radiation blistering surface erosion by He ions, incidence angle effect 1−33345
Ni-Cr-Nb-Co (15, 10, 6.8-33.5 wt.%), dispersion and precip. hardening, effect of Co 1−16795
Ni-Cr-P-B, amorphous, corrosion props. rel. to alloy comp. 1−35427
Ni-Cr-Si (20, 3 wt.%), containing small addition of Ce, high-temp. oxidation 1−26681
Ni-Cr-Ta-B, containing τ-boride, study at 850°C *(German)* 1−12723
Ni-Cr-W-Co-Mo-Al-Ti alloy KhN50VMKTYuR, recrystn., original grain size effect 1−43364
Ni-Cr-W-Mo-Fe-Al-Ti, ductility, effect of Mg and C 1−48434
Ni-Cr-Y_2O_3, dispersion strengthened gas turbine materials, thermal fatigue testing 1−35388
Ni-Cr-(Al-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652
Ni-Cr-(Al), corrosion in mixed gas environments at elevated temps. 1−3981
Ni-Cr(-Co-Mo), Inconel, plasma-sprayed coatings for gas turbine bucket 1−21643
Ni-Cr(20 wt.%), high temp. oxidation, effect of Si content 1−53364
Ni-Fe-Cr-Al, heat resistance in air at 800°C, struct. dispersion degree influence 1−35436
Ni-Fe-Cr-Nb alloy, γ'' phase, electron diffr. study *(Chinese)* 1−38327
Ni-Mn-Cr alloys, γ-phase, mag. state *(Russian)* 1−30913
$Ni_{16}(Cr,Ti)_6Si_7$ CVD coatings deposited on Hastelloy X 1−31362
NiCr, high temp. dispersion hardened, welded joint thermal fatigue and endurance, postweld heat treatment depend. 1−31510
NiCr-Al powder composite, prep. and plasma deposition 1−39492
$Ni_{1-x}Cr_x$, forced volume magnetostriction temp. depend. 1−47922
Ni_3Cr, ordered, dislocation struct. and strength characts. *(Russian)* 1−25273
Ni_3Cr, ordering effect on the embrittlement susceptibility 1−26619
$Ni_{36}Fe_{32}Cr_{14}P_{12}B_6$, Metglas 2826A, creep and isoconfigurational flow 1−35321
$(NiSi_{0.2})_3(Mo_{0.25}W_{0.15}Cr_{0.4})_3C$, intergranular embrittlement caused by precipitation 1−26594
Pb-Cr-Au alloy for Josephson junction appl., supercond. props. 1−47810
Pt-Cr, elec. transport props., influence of atomic order-disorder transform. 1−34680
steel, CrMo(3, 0.5 wt.%), surface segregation 1−16787
Ti-Al-Mo-Cr (4.5, 5, 1 wt.%), CORONA 5, thermomech. processing-microstruct.-mech. props. rels. 1−48513
Ti-Al-Mo-Cr (4.5, 5, 1.5 wt.%), influence of processing and heat treatment on mech. props. 1−12767
Ti-Al-Mo-Cr alloy granules, surface and internal struct., effect on form. of nonporous material 1−26406
Ti-Al-V-Cr (3,13,11 wt.%), weldments, solidification cracking, SEM study 1−3905
Ti-Al-V-Cr-Zr-Mo, aged, thermal stability 1−26474
Ti-Cr, activation cond. in alloys with negative resistance temp. coeffs. *(Russian)* 1−2938
TiB_2-CrB_2, hot pressing, densification through particle crrep 1−53142
$TiCr_2$, high temp. C14 form, hydride form., phase diagram and thermodynamics 1−8275
$TiCr_{1.8}Hx$, mobility of H, NMR study 1−3283
$Ti_{0.8}Zr_{0.2}Cr_{0.8}Mn_{1.2}$ 1−4070
Zr-Cr-Fe (1.14, 0.08 wt.%), β-quenched, abnormal grain growth during ageing, metallographic study 1−3796
$Zr(CO_{1-x}Cr_x)_2$, hydride prop., cryst. struct. and thermodynamic props. 1−7133
$ZrCr_2D_y$, site occupation, neutron diffr. study 1−7136
ZrO_2/Ni-Cr-Al-Y segmented oxide protective coating, mech. and thermally induced fractures 1−31631
ZrO_2-Y_2O_3/Ni-Cr-Al-Y thermal barrier coated turbine vane, thermal contact resistance 1−30497

chromium alloys continued
ZrO_2-Y_2O_3/Ni-Cr-Al-Y thermal barrier coating lifetime, Y, Al and Cr conc. effect 1−31632
ZrO_2-Y_2O_3/Ni-Cr-Al-Y thermal barrier coating, thermal cycling effects 1−31633
$Zr_xTi_{1-x}Cr_2$, absorption capacity of H 1−7460

chromium compounds
see also chromium alloys
$CrB_{(2)}$ crystals, chemical vapour growth 1−53068
Inconel, C(O)(S) impurities, H discharge cleaning 1−26342
oxide films, plasma etching characts. and anomalous etching modes 1−31738
$Al_{2/3+x}Cr_{2-x}S_4$, cation-deficient spinel, crystallographic and mag. props. 1−34321
Al_2O_3-Cr_2O_3-Cr(Mo) eutectics, melting points determ. *(German)* 1−38509
Al_2O_3-$Cr(NO_3)_3$, mixtures, sintering behaviour 1−53121
Al_2O_3-SiO_2 fibre, Cr_2O_3 stabilized, high temp. props. 1−31388
CaO powders with Cr_2O_3 additions, solid state sintering 1−21401
$CdCr_2S_4(Se_4)$, electronic band struct., discrete variational $X\alpha$ calc. 1−2869
$CdCr_2Se_4$, crit. relax. processes, mag. reson. linewidth meas. 1−26043
$CdCr_2Se_4$, ferromag. semicond., fundamental gap, photoluminesc. determ. 1−43169
$CdCr_2Se_4$, nature and direction of dislocations 1−25280
$CdCr_2Se_4$, pure and Ag^+, In^{3+} doped, spin-phonon relaxation processes 1−21044
$CdCr_2Se_4$, spin wave instability *(Russian)* 1−16437
$CdCr_2Se_4$, UHF pulse length influence on spin wave instability threshold *(Russian)* 1−30933
p-$CdCr_2Se_4$-Al(Cu)(Zn) Schottky barriers, current-voltage characts. 1−20851
$CdCr_2Se_4(S_4)$; ^{111}In (^{111}Cd) hyperfine interactions, TDPAC meas. 1−26093
CoO-ZnO-Cr_2O_3-Fe_2O_3-TiO_2 system formation and colour of spinel solid soln. 1−16544
$(Cr,Mn)_{23}(B,C)_6$, lattice parameters *(Italian)* 1−34302
Cr complex, methyl-hydroxypyridine Cr_2, electronic struct. and UV PES, ab initio MO calcs. 1−10784
Cr complexes, $(C_6H_5)_nPRCr(CO)_5$ (where R=methyl, ethyl, i-propyl, t-butyl), synthesis and IR spectra, vibr., inductive effect 1−26195
Cr complexes, Cr III, trinuclear, antiferromag. coupled, luminesc. 1−8110
Cr complexes, Cr(V)-oxalic acid, EPR study 1−52835
Cr fibre-$(Al,Cr)_2O_3$ eutectic produced by elec. arc melting *(German)* 1−16750
Cr-Al_2O_3 refractory, fusion cast, glass redox condition effect on corrosion. 1−31691
Cr-B-N system, reactions and phase rels. at 1600°C under 1 atm. N_2 *(Japanese)* 1−26437
Cr-Cr_2O_3, black-chrome coated solar collectors, microstruct. and mech. props. 1−53669
Cr-Cr_2O_3, thermodynamic aspects *(German)* 1−8288
Cr-Cr_2O_3 electrodeposits, electrochemistry, review 1−48700
Cr-Cr_2O_3 solar selective surface coatings, review of degradation mechanisms 1−39830
Cr-Er-S family, crystal chemistry *(French)* 1−30184
Cr-Mo black, solar selective, stable absorber 1−48907
Cr-SiC system, reactions under ordinary and plasma heating 1−12774
γ/γ'-Cr_3C_2 eutectic, directionally solified, TEM study 1−3713
$Cr(CO)_6$, free and coord. CO photoionisation spectra, many body effects, CNDO calcs. 1−51122
$Cr(CO)_6$, IR photodissoc. kinetics and mechanisms 1−35555
$CrCl_3$, conc. solns., complex form., X-ray diffr. obs. 1−4065
CrH in sunspot spectrum, $^6\Sigma^+$-$^6\Sigma^+$ IR system 1−9456
Cr(III) complex, tetranuclear rhodoso and Pfeiffer complexes, magnetochem. props. 1−38917
CrK alum, electron spin-lattice relax., mag. field depend. 1−3251
$Cr_xMn_{1-x}As$, Hall resistance modulation 1−25694
$Cr_{1-x}Mn_xSi_2$, temperature dependence of electrical resistivity and thermoelectric power *(Ukrainian)* 1−38800
$Cr(NO_3)_3.9H_2O$ in aqueous soln., intraconfig. Laporte forbidden transition 1−24159
$(Cr_{1-x}Ni_x)_2As$ single crysts., mag. props., conc. depend. meas. 1−12267
$(Cr_{1-x}Ni_x)_2P$, ferromag. and paramag. props. 1−52756
CrO_2 microscopic particle mag. props. meas., remanence curves 1−18262
CrO_2 preparation by oxidative process 1−35203
CrO_3, dielectric constant, dielectric loss, electrical cond. 1−21109
CrO_4^{2-} anions, O_{1s} hole states, broken orbital symmetry, SCF and CJ calc., localised and delocalised description 1−38740
CrO_4^{2-} complexes, host lattices, quantum efficiency luminescence 1−16594
CrO_4^{2-}, K-shell X-ray absorpt. spectra, near edge struct., one-electron theory 1−1104
Cr_2O_3, additions in Li_2O-Al_2O_3-SiO_2 glass crystn. products, ESR obs. of struct. state of Cr^{III} ions 1−52838
Cr_2O_3, crystal struct. and isothermal compression 1−15873
Cr_2O_3, dielectric constant, dielectric loss, electrical cond. and magnetic transition 1−21109
Cr_2O_3 effect on MgO densification and grain growth *(Japanese)* 1−16723
Cr_2O_3 film, energy loss spectra, optically forbidden 3s subshell excitations 1−21308
Cr_2O_3 film, RF sputter-deposited, AES and X-ray diffr. anal. 1−30590
Cr_2O_3, Gibbs free energy meas. using dual electrochemical cells 1−11883
Cr_2O_3, oxidation product of Cr, props. and defect struct. 1−31735
Cr_2O_3, plasmasprayed, thermal diffusivity meas. 1−2719
Cr_2O_3, plasmasprayed, thermophysical props. 1−2939
Cr_2O_3 sinter-reactive powders for refractory production, glass resistance 1−8256
Cr_2O_3, sintering in C powder *(Japanese)* 1−21381
Cr_2O_3, standard reference materials, for quantitative anal. and d-spacing meas. 1−29951
Cr_2O_3-Al_2O_3-Mo, solidified, SEM studies *(German, English)* 1−8300
Cr_2O_3-CoO chemical-spray-deposited films, optical props., substrate temp. effects 1−53009
Cr_2O_3-Cr, black solar selective conversion coatings applied to stainless steel substrates 1−21916
Cr_2O_3-Cr black chrome, electrodeposited selective solar absorber film, oxidation 1−12996
Cr_2O_3-Cr black chrome nuclei electrodeposits on Ni film, TEM study of selective solar absorber microstruct. 1−11994

chromium compounds continued
Cr_2O_3-Cr black chrome solar selective absorber, metallurgical anal. and high temp. degradation 1−13176
Cr_2O_3-MgO refractories, phase transitions during melting of Pb-Zn raw material 1−12737
CrO_2Cl_2, collisionless IR multiphoton excitation, emitter lifetime and vel. distrib. 1−37185
CrO_2Cl_2, vibronic activity and structure change after 580 nm electronic transition 1−10745
$Cr(OH)Cr_2O_7.2H_2O$, prep., dehydration and thermal decomp. 1−35514
$CrO_5.H_2O$, aq. soln., charge transfer transitions, reson. Raman spectra 1−48077
$Cr_{1-x}Rh_xO_2$ solid soln., *(French)* 1−7805
CrS standard Gibbs energy of formation determ. using CaF_2 solid electrolyte 1−8577
$CrS_{1-x}Se_x$, mag. structs. and mag. phase diagram, neutron diffr. study 1−7811
Cr_2Se_3+AnSe solid-state reaction, elec. cond. method obs. of kinetics 1−35525
$Cr_3Se_{4-x}Te_x$, longitudinal and transverse magnetoresist., 5 to 300K, Curie pt. peak, thermal spin disorder decrease *(French)* 1−38797
$Cr_2Ti_{n-2}O_{2n-1}$, homologous series, with (1-21), crystallographic shear struct., microstruct. study 1−20155
$CrWO_4$, XPS valence bond spectra *(French)* 1−3578
$Cs_3Cr_2Cl_9$, Raman scatt. from mol. vibr. 1−3414
$CuCrS_2$, vacuum UV reflectivity spectra, band struct. 1−21228
$(CuCr_2S_4)_x$-$(Ga_{2/3}Cr_2S_4)_{1-x}$, spin glass state destruction, metal-insulator transition, mag., elec. props. *(Russian)* 1−3209
$Cu_yCr_2Se_{4-z}Br_z$ mag. semicond. spinel, thermoelectric power 1−20785
$Cu_{1/2}In_{1/2}Cr_2S_4$ spinel, high mag. field obs. of first order transition, mag. struct. and ordering 1−25942
$Fe_{2-x}Cr_xO_3$, solid soln., IR spectra 1−31134
$Fe_{3-x}Cr_xO_4$, Mossbauer spectroscopy, substitution effect on Verwey transition 1−12438
$Fe_{3-y}Cr_yO_4$, solid soln., IR spectra 1−31134
$FeCr_{2-x}Rb_xS_4$ spinels, room temp. Mossbauer obs. and interpret. 1−34966
$FeCr_2S_4$, second-order phase transition, group-theoretical argument 1−11861
$Fe_3Cr_2S_4$, metal-semicond. transition, high temp. ferromagnetism *(Russian)* 1−34630
$Fe_{0.25}Zn_{0.75}Cr_2(S_{1-x}Se_x)_4$ thiospinel system, Mossbauer investigation *(German)* 1−21092
$Ga_{2/3+x}Cr_{2-x}S_4$, cation-deficient spinel, crystallographic and mag. props. 1−34321
n-$HgCr_{1.9}In_{0.1}Se_4$, elec. cond., magnetoresist., and Hall effect meas. 1−20726
$In_{2/3+x}Cr_{2-x}S_4$, cation-deficient spinel, crystallographic and mag. props. 1−34321
$Mn_{1+x}Cr_{2-x}O_4$, spinel system, magnetic properties 1−47878
$Mn_{2-x}Cr_xSb$, double-phase sample, struct. and mag. props. 1−20401
Mn_2O_3-Cr_2O_3 system, phase diagram determ. in air, X-ray diffr. study 1−21433
(Mo,Cr)-(Cr_2O_3, Al_2O_3) cermet, thermionic energy convertor 1−17227
$NaCrS_2$, vacuum UV reflectivity spectra, band struct. 1−21228
$NaMnCrF_6$, helimag. struct. *(French)* 1−20959
Ni-Cr (20 wt.%), high temp. oxidation behaviour with dispersions of various reactive metal oxides 1−53363
NiO-Cr_2O_3, grain-boundary segregation, STEM 1−26469
NiO-Cr_2O_3 solid solns., reequilibrium kinetics 1−3956
$Pb(Zr,Ti)O_3$-Cr_2O_3 solid solns., diffuse refl. spectra 1−31168
$Rb_2Cr_{1-x}Mn_xCl_4$, single crystal, Jahn-Teller effect, neutron diffraction study 1−20146
$Sn_{1-x}Cr_xTe$, structural phase transition, spin reson. study 1−52831
$SrTiO_3$:$LaCrO_3$ photoanodes, light induced photocurrents 1−30777
$(V,Cr)_3C_{2-x}$, cryst. struct., neutron powder diffr. study 1−34312
$V_{1-x}Cr_xO_2$, metal-insulator transition, press. effect 1−25635
$(V_{1-x}Cr_x)_2O_3$, metal-insulator transition and antiferromag. ordering, elec. resist. and Seebeck coeff. meas. 1−12157
$V_xCr_{3-x}S_4$, electrical and magnetic properties 1−52755
$YCr_{1-x}Mg_xO_3$ and $Y_{1-x}M_xCrO_3$ (M=Ca, Mg), prep., elec. and thermal props. 1−16745
ZnO-Cr_2O_3, annealing effect on texture 1−48371

chromosphere
active regions, chromosphere-corona mass transfer rel. to coronal loops plasma evolution 1−44520
brightness fluctuations, large scale, anal., visible spectra obs. 1−36247
current sheets discovery from screening and emissive props. in radio band 1−54451
emission line profiles of compact formations, calcs. 1−13755
filaments and chromosphere struct., Hα obs. 1−27443
flare corona and transition region, radiation-dominated cooling models 1−32672
flare effects on solar chromosphere, hydrodynamic models *(Russian)* 1−9463
flare impulsive phase, transition zone and corona, C IV OSO-8 obs. 1−54452
flare regions, semiempirical models 1−44517
flares, chromosphere impulsive heating *(Russian)* 1−9464
flares X-ray and UV radiation, effect on ionosphere currents 1−32570
flocculi in chromosphere and transition layer, development, model 1−22754
height of chromosphere, meas. rel. to coronal holes and origin of spicules 1−32673
magnetic fields, strengthening during radiative cooling of high temp. optically thin plasma 1−44526
magnetically guided acoustic shock propagation 1−54455
model of chromosphere over active region, UV line spectra 1−27447
oscillations, fluctuation power, 1.2 mm-11.1 cm obs. 1−13746
oscillations in plage and quiet Sun regions power spectra, visible spectra anal. 1−54446
plages, meridian transit and geomag. disturbances rel. to quasisteady gas flow from solar active regions 1−13754
radiative transfer, multidimensional, non-LTE line form. 1−40447
radio radiation, quiet Sun emission at cm and mm wavelengths rel. to inhomogeneous chromosphere struct. 1−4859
radio sources, brightness distrib. obs. at 2.0 and 4.5 cm during eclipse (1973 December 24) 1−9457
solar disc centre, obs. of chromospheric network-like pattern in brightness distrib. *(Russian)* 1−17806

chromosphere continued
spectral lines of C IV and Si II, profile fluctuations 1−9451
spicule support mechanism 1−36250
spicules, use in model of microwave solar limb brightening 1−54448
steady flows above active regions, OSO-8 obs. anal. 1−36256
sunspot, find struct. morphology determ. 1−40452
sunspot chromosphere, 180-s oscills., temp. gradient and temp. min. determ. *(Russian)* 1−49600
sunspot chromosphere, energy supply from upward propagating Alfvenic energy flux density 1−36251
sunspot parameters, correl. with parameters in late main sequence stars chromospheres 1−36240
sunspot umbral flash, Ca II H and K lines, intensity ratio obs. 1−44530
supergranulation network, radio analogue obs. at 6 cm with 6″ resolution 1−4861
temperature minimum region, variability of far IR temp. min. with solar cycle, comparison with UV obs. 1−36238
transition region, electron and proton vel. distrib. functions 1−36248
transition region, ionisation equilib. calcs. for CNO, effect of electron distrib. functions 1−36249
transition region, longit. sound waves rel. to fluctuations in radio fluxes from small areas of disc sound waves rel. to fluctuations in radio fluxes from small areas of Sun's disc 1−4864
transition region, nonequilib. ionisation due to thermal diffusion and mass flows 1−36237
transition region, proton excitation rates for fine struct. transitions in Be-like ions 1−13745
transition region, shock wave transit theory and related radio fluctuations 1−4862
transition region, temp. and density profiles in wake of propagating shock wave 1−40446
transition region and coronal ions, proton collisional excitation 1−14979
transition region structure from flare spectra UV obs. of Salyut-4 1−27441
transition region supergranule network, line intensity and CNO ion distrib., temp. model 1−54447
transition zone energy balance 1−9452
X-ray energy deposit, horizontal distrib. 1−32680
Ca II emission lines, anal. and comparison with T Tauri stars near IR spectra 1−44549
Ca II K-line, obs. with high temporal resolution rel. to chromospheric propagating waves 1−27465
H^- radiative cooling 1−22764
III emission line spectrum, effects of opacity on line intensity ratio 1−27453
Mg II resonance lines, wing profiles form. in solar atmosphere 1−17800
Na I, spectral lines form. in solar atmosphere 1−27440

chronographs *see chronometers*

chronometers
No entries

CIDEP
free radicals, electron transfer, CIDEP, time-resolved flash photolysis ESR obs. 1−10762
1,4-naphthosemiquinone radicals, CIDEP and kinetics during photoreduction 1−13022
phenoxy radicals in soln., longitudinal spin-lattice relax., CIDEP 1−29004
semiquinone radicals in soln., longitudinal spin-lattice relax., CIDEP 1−29004

CIDNP
acetyloxy radicals, g-factor determ. by chem. polarisation of nuclei 1−19122
dibenzylketone, photolysis, ^{13}C mag. isotope effect, viscosity and temp. depend. 1−31881
FT NMR appls. 1−14152
hexamethylditin, enhancement factors of ^{119}Sn-CIDNP signals, photochemical decomp. 1−37220
methyl cyclohexanone biradicals, CIDNP field-depend. curves, absorpt. and emission 1−28996
octamethyltritin, enhancement factors of ^{119}Sn-CIDNP signals, photochemical decomp. 1−37220
9,10-phenanthrenequinone-fluorene soln., CIDNP, free radical effects 1−14935
radical pairs, CIDNP, high field, electron spin exchange relaxation effects 1−14935
stilbene, photoisomerisation and radical ion recomb., ^1H and ^{19}F CIDNP 1−12971

cinefilming *see cinematography*

cinematography
see also cameras
16-mm clear-print sound-film time-code transfer machine and associated editing table 1−50258
biomechanical system segments, technique for determ. of spatial kinematic parameters from cinematographic data 1−4396
camera problems in colour cinefilm making *(Russian)* 1−45065
cine frame counter, using three digit BCD counter/driver and multivibrator 1−10045
colour reversal cine film processing, light sensitivity increase using NaCl, NaBr, CO-32D film appl. *(Russian)* 1−18316
development inhibitor releasing (DIR) coupler for improving colour reproduction *(German)* 1−5416
fibrogastroscope attachment for motion picture filming, medical diagnosis appl. 1−4351
film materials processing control procedures *(Russian)* 1−45066
front projection special effects, new developments 1−23325
high speed and ultra high speed cinematographic recording techniques *(French)* 1−23331
holographic motion picture systems, film stock, image quality and equipment 1−23335
holography application 1−24370
image stability in integral cinematographic process *(Russian)* 1−18315
instant high-speed motion anal. system 1−5426
magnetic sound film transports, film and video studios appl. 1−5414
metal halogen light sources for cinematography *(Russian)* 1−45064
motion picture film, washing process simulation, objective laws *(Russian)* 1−23339
motion picture production, TV system operation appls. *(Russian)* 1−23342
multiwavelength cinematography using multichannel N_2 laser 1−15160
negative colour cine film *(German)* 1−14189
negative-positive exposure metering in cine photography *(Russian)* 1−23337

cinematography continued
optical soundtracks, distortion balance test procedure 1−51684
optico-physical parameters of high-speed processes, new meas. apparatus and methods 1−23286
photographic data management, photogrammetry of cine film 1−45062
sound 8 mm motion-picture installation with separate image and sound carriers *(Russian)* 1−23336
sound insulation of a scoring stage, external noise abatement appl. *(Russian)* 1−19516
sound negative processing control problems 1−23324
sound recording signals, nonlinear distortion analysis *(Russian)* 1−45063
special effects and animation, overview 1−23326
Super-8 cinefilm, quality comparison with video cassette recorders *(German)* 1−5415
He, liq. boiling mechanisms, study by high-speed filming 1−37771
circuit analysis *see network analysis*
circuit breakers
see also circuit breaking arcs; gas blast circuit breakers
core balance earth-leakage circuit breaker tester 1−5340
fast opening switches for high velocity shock waves in xenon 1−37969
HV vacuum arc switching devices, applications 1−38163
personnel protection from electric shocks, protective measures and effects of current passage through body 1−39906
circuit-breaking arcs
see also circuit breakers; sparks
air blast arcs, phys. mechanism affecting transient response 1−15692
air blast circuit breaker, DC current breaking phenomena 1−11618
air blast circuit breaker, post-arc performance study 1−11617
air postarc channel, thermal layers 1−34169
air-blast arc, quenching props. in vortex double flow 1−34159
bas blast circuit breaker arcs, scaling laws during high current phase 1−34155
boundary layer, arc-supported, arc layer thickness and elec. field meas. 1−11622
boundary variations meas., multi ring RF technique 1−15742
current chopping by arc collapse 1−34150
gas blast arc interruption performance, flow geometry influence 1−15695
gas blast circuit breaker arcs, scaling laws 1−11621
gas flow and arc in double nozzle system, theoretical investigation of interaction 1−15697
gas-blast circuit breaker, press. transients at high current levels 1−34158
haloethane, arc interruption performance meas. 1−15696
haloethane-SF_6 mixture, arc interruption performance meas. 1−15696
HV EM switchgear, screw quenching arc appl. 1−15698
HV vacuum arc switching devices, applications 1−38163
interruption capability of gases and gas mixtures in a puffer-type interrupter 1−34156
low current vacuum arc instability 1−34149
LV contact microstructure, effect of breaking arc *(French)* 1−15676
model circuit breaker, thermal area and press. var. at current levels 1−15691
nozzle clogging effect on current zero region 1−15689
power arcs dynamics study in co-axial electrode geometry 1−15686
vacuum arcs, transverse mag. field interaction, current limitation appl. 1−34148
SF_6 blast arcs, phys. mechanism affecting transient response 1−15692
SF_6 blast switching arcs, stochastic behaviour 1−34154
SF_6 circuit breaking arcs, quenching processes 1−34153
SF_6 circuit breaking arc, short line fault interruption 1−34162
SF_6, gas blast arc interruption and low current arc behaviour 1−15688
SF_6 gas blast circuit breaker, post-arc performance study 1−11617
SF_6 high current discharge study 1−15699
SF_6 interrupter, experimental, current effect on gas flow and performance 1−11439
SF_6 mixtures, arc thermal interruption performance meas. 1−15694
SF_6 model circuit breaker, dielectric recovery study 1−11619
SF_6 puffer breaker arcs, operating mechanism 1−34151
SF_6 puffer circuit breaking arcs, expt. investig. 1−34152
SF_6 puffer circuit-breaker, arc behaviour between nozzle and downstream electrode 1−15690
SF_6 puffer interrupters, full size, thermal limiting curves 1−11620
SF_6-N_2 mixture 1−11620
circuit design *see network synthesis*
circuit layout CAD
CERN 400 GeV SPS, pulse generator with fast turn-off power thyristors for current pulses generation 1−28760
circuit layout computer aided design *see circuit layout CAD*
circuit oscillations
see also circuit resonance
No entries
circuit resonance
see also circuit oscillations
magnetostrictive load, electrical model *(Russian)* 1−38964
two-terminal network meas. by FM signal transmission 1−28033
circuit synthesis *see network synthesis*
circuit theory
see also distributed parameter networks; filters; lumped parameter networks; network analysis; network synthesis
electrostatic and magnetostatic fields energy and balanced 3-phase systems power expressions determ. using power assignment principles 1−19236
circuits *see networks (circuits)*
circular polarisation *see polarisation*
circular waveguides
35 GHz gyromonotron using TE_{01} circular mode, spatial and temporal coherence 1−1536
circumstellar shells
see also stellar atmospheres; stellar winds
A-type shell stars, surface mag. fields from polarisation obs. 1−49641
absorption line prod. in young star cluster 1−17881
accretion disc, time depend. evolution in mass transferring binaries 1−54557
accretion disc around black hole, temp. profile solns. 1−40517
accretion disc round compact star, mag. field lines determ. 1−32693
accretion disc round supermassive black hole, selfgravitation, star form. and orbits *(Russian)* 1−22788
accretion disc-satellite interactions, angular momentum and energy transfer rates 1−32614
accretion discs in black hole binary systems, turbulent mag. dynamo theory 1−13683
circumstellar shells continued
Algol systems, gas stream effects 1−32723
o Andromedae, shell star, circumstellar shell model rel. to photometric activity 1−17846
R Aquarii, symbiotic star, changes in assoc. emission nebulosity 1−9537
R Aquilae, M-type giant star, IUE obs. rel. to silicate grain form. 1−36282
B-type supergiants, circumstellar shell contrib. to 4430 Å interstellar line 1−49766
Be stars, circumstellar layers effect on Balmer jumps rel. to quantitative spectral classification method 1−49692
black hole, time dependent optically thick accretion theory 1−9556
black holes, nuclear burning in massive accretion discs 1−32722
Boomerang Nebula, highly polarised bipolar nebula, equatorial circumstellar disc model 1−9636
Burnham's nebula and T Tauri, H_2 Lyman band emission, model, EUV obs. 1−49655
RS Canum Venaticorum, evidence for circumstellar Hα emission 1−32726
OY Carinae, dwarf nova, accretion disc size determ. from eclipse light curves anal. 1−27509
OY Carinae, eclipsing dwarf nova, accretion disc and hot spot struct. from eclipse light curves obs. 1−54506
Cassiopeia A supernova envelope, cosmic ray particle accel. 1−36123
γ Cassiopeiae, Be star, circumstellar shell parameters from spectrophotometric scanner obs. 1−36290
ρ Cassiopeiae, emission component obs. in circumstellar line profiles 1−49683
cataclysmic binaries, accretion discs size determ. 1−27509
VV Cephei, 1976/78 eclipse egress, spectroscopic obs. 1−54550
U Cephei, Algol type semi-detached binary, circumstellar shell model 1−13806
U Cephei, eclipsing binary, light var. due to accretion disc, stream and hot spot 1−36328
ν Cephei (HD 207260), A-type supergiant, radial vel. meas. rel. to expanding circumstellar shell 1−49654
β Cephei stars, 'bouncing shell' lines rel. to pulsation modes 1−27504
Z Chamaeleontis, dwarf nova, accretion disc size determ. from eclipse light curves anal. 1−27509
CL 2688 (Cygnus Egg Nebula), bipolar nebula, optical spectrophotometric mapping 1−32744
cocoon stars, equilib. of heated gas clouds cooling by conduction in external gravit. field 1−49491
cocoon stars, equilib. of heated self-gravitating masses cooled by conduction rel. to protostellar masers 1−49490
cool stars, broad band near IR polarimetry 1−9489
S Coronae Austrinae, protostar, Hα and Hβ line profiles rel. to electron scatt. in infalling envelope 1−17838
V1057 Cygni, possible protoplanet or cloud at 200 AV distance 1−36283
V1016 Cygni, protoplanetary nebula, neutral shell dimensions from O I 8446 Å spectrophotometry 1−54502
P Cygni, radial vels., energy considerations *(French)* 1−13782
P Cygni, radial vels., energy for spectral lines *(French)* 1−13783
CI Cygni, symbiotic star, expanding envelope, s-process absorpt. lines intensification 1−36297
V1500 Cygni (Nova 1975), obs. of remnant on direct photograph 1−44574
V1668 Cygni (Nova 1978), optically thin dust shell obs. 1−9499
Cygnus X-1, critique of polarimetric evidence rel. to scatt. envelope mass 1−27550
dust producing circular polarisation, appl. to red supergiants 1−22776
dust shell motion and equatorial circular orbits around Kerr naked singularity 1−9559
early-type stars, extended envelope phenomena in upper left of HR diagram 1−17842
envelope ejection mechanisms and distance scale for planetary nebulae 1−4968
evolved stars, search for H I emission from circumstellar shells 1−44537
HD 115473, WR star, circumstellar dust emission, IR photometry and spectra 1−49686
HD 177230 (WN8), absorpt. line Wolf-Rayet star, spectroscopic studies rel. to envelope density 1−44565
HD 20775, Herbig Be star, IR energy distrib. rel. to circumstellar envelope and mass loss rate 1−17850
HDE 226868 (Cygnus X-1), IR photometry rel. to ionised envelope and mass loss rate 1−36280
HDE 226868 (Cygnus X-1), scattering circumstallar envelope model rel. to Monte Carlo study of orbital inclination 1−49723
DQ Herculis, cataclysmic variable binary system with accretion disc, phase shift model 1−36327
DQ Herculis, nova (1934), ejecta C comp., spectral data 1−17845
DQ Herculis (Nova Herculis 1934) distance from shell obs., luminosity implications 1−40493
AM Herculis stars, radiation of hot magnetised plasma accreted by degenerate stars with strong mag. fields 1−22834
W Hydrae, M-type giant star, IUE obs. rel. to silicate grain form. 1−36282
VW Hydri, dwarf nova, changes in shape of accretion disc during supermaximum, photometry and polarimetry 1−27507
IR sources in galactic plane, identification, 4-27 micron obs. 1−54658
late type stars, evolved, circumstellar sheel struct., dust grain role 1−36285
β Lyrae, circumstellar envelope radiation from obs. of He I 10830 Å emission line *(Russian)* 1−17876
β Lyrae, emission line spectrum anal. rel. to primary star atmosphere and gas streams *(Russian)* 1−13810
β Lyrae, gaseous envelope temp. from absolute spectrophotometry *(Russian)* 1−17875
M2-9, bipolar nebula, circumstellar shell driven by stellar wind, visible spectra obs. 1−54476
M-type giants and supergiants, circumstellar dust, origin in photospheres 1−54497
massive stars, search for circumstellar absorpt. and intrinsic colours determ. 1−22800
Mira late type star, light polarisation var. due to circumstellar grains optical charges 1−40489
R Monocerotis and NGC 2261, spectrophotometric investigation 1−27490
MWC 349, radio star, recomb. lines detect. from wind, of accretion disc origin 1−36421
neutron star, X-ray luminosity by matter accretion 1−36321
neutron star magnetic funnel, plasma infall and X-ray prod. 1−36322

circumstellar shells continued
nova, coronal lines formation mechanism *(French)* 1−9520
Nova Cygni 1978 (V1668 Cygni), absorpt. line from circumstellar shell or interstellar matter 1−40485
nova ejecta, CNO nuclei abundances rel. to hydrodynamics of thermonuclear runaway 1−49688
U Orionis, long period variable, circumstellar shell H_2O maser source, SHF obs. 1−54579
ω Orionis, pole-on Be star, linear polarisation var. rel. to axially symmetric distrib. of envelope scatt. material 1−27533
α Orionis, variable M-type supergiant, circumstellar gas shell, size and surface brightness 1−9498
α Orionis (=Betelgeuse), semiregular variable supergiant, light polarisation by circumstellar matter, visible obs. 1−44567
α Orionis (Betelgeuse), circumstellar shell, CO emission at 1.3 mm 1−44556
β Persei, eclipsing binary, Mg II k-line circumstellar envelope interpretation 1−54545
X Persei, IUE obs. of 4U 0352+30 proposed candidate 1−54510
ϕ Persei, shell star, gas ring circumstellar envelope, from radial vel. data 1−54521
δ Pictoris, close binary star, evidence for expanding circumstellar shell from IUE obs. of UV spectrum 1−27559
WX Piscium, IRC+10011, OH-IR star, circumstellar OH shell diameter, UHF obs. 1−44568
radiative transfer, non-linear, in extended stellar atmospheres, method of addition of layers 1−36174
rapidly expanding envelopes, form. of resonance doublet line profiles 1−22778
2S 0921-630, binary, optical counterpart, eclipses of accretion disc, UBV photometry obs. 1−49721
2S 1822−371, occulted accretion disc model for 5.57 hr modulation in optical counterpart 1−49726
V861 Scorpii (HD 152667=OAO 1653−40?), evidence for assoc. H II region from UV spectrum 1−9566
Sharpless 106, bipolar nebula with disc-embedded exciting star, spectrum and struct. 1−27586
Small Magellanic Cloud stars, circumstellar envelope obs., mass loss, UV spectra 1−13846
spherically symmetric accretion problem, summary of solns. 1−22777
SS 433, accretion disc around black hole, cooling regions, stimulated recomb. emission 1−36307
SS 433, eclipsing binary, accretion disc contrib. to overall luminosity, BV obs. 1−54518
SS 433, slaved disc model with beams normal to accretion disc in binary system 1−27528
supernova in NGC 1255, envelope expansion vel. meas. 1−27546
supernova shell luminosity and theoretical light curves 1−9541
T Tauri stars, line emission origin from chromosphere and circumstellar shells 1−49647
T Tauri stars, linear polarization wavelength dependence 1−54495
T Tauri stars, X-ray luminosity origin and light variations, X-ray obs. 1−49653
two-micron sky survey stars, CO microwave emission obs. rel. to mass loss rates 1−40478
UX Ursae Majoris, cataclysmic variable binary system with accretion disc, phase shift model 1−36327
AL Velorum, eclipsing binary, obs. of two eclipses and evidence for atmospheric eclipse 1−27558
white dwarf accretion disc, line spectra and optical continuum, theory and obs. 1−27497
X-ray binary, neutron stars with massive companions, disc accretion, luminosity and rot. 1−44669
young stars with circumstellar envelopes, photometric study of H_2O absorpt. bands in near IR 1−22799
AlCl in C-rich shells, circumstellar Cl chemistry 1−22770
C stars in AFGL catalogue, origin of IR emission 1−9487
OH masers around late-type stars, struct. from VLBI obs. 1−49836
OH masers in late type variables with circumstellar shells, pumping models 1−9495
OH/IR supergiants, circumstellar envelopes, NH_3 absorption line obs. 1−22802
SiO emission from Kleinmann Low Nebula, source nature as star with circumstellar shell 1−9597

civil engineering
see also dams
frames dynamic anal. using two-level finite element method 1−51723
laser technique appl. in geodesy, mine and civil engineering *(Czech)* 1−49420
pumped-storage plant and dam, Wivenhoe, Australia, mid-construction report 1−43737
shore protection structures along Kerala coast, India, effects on shoreline deforms. 1−54067
soil mechanics, improved meas. methods through use of controlled tests 1−27165
undamped elastic shell natural frequencies, finite element calc. 1−24716

civil engineering computing
building structures seismic response spectra, development from earthquake strong-motion time-histories 1−9118
vibration analysis of elastic body in water, by combination of finite element method and source sink method *(Japanese)* 1−6811

cladding techniques
laser surface treatment 1−8460

claddings
CANDU reactor fuel rods, tolerance to power ramp defects, effect of graphite interlayers 1−782
Clinch River LMFBR, blanket rod bundle compaction, cladding response 1−18784
composite materials for fusion appls. 1−18892
fast reactor cladding during transients, deform. and failure modeling 1−41183
fission reactor fuel cladding tubes, meas. of residual stress by X-ray method *(Japanese)* 1−33292
fuel element pellet-cladding interaction, finite element thermal stress anal. 1−783
GCFR cladding, stress anal. codes 1−41165
glassy alloy ribbons, warm consolidation and cladding 1−31382
graded-index compound glass fibre total loss and scatt. loss meas. 1−41866
Inconel 625 (Ni-Cr-Mo) fuel cladding, elevated temp. behaviour 1−48583

claddings continued
irradiated fuel claddings, eddy-current testing techniques using probe coil system 1−50775
irradiation behaviour of clad and wrapper materials for SNR-300 *(German)* 1−23753
laser amplifier, thin-film waveguide, with lossy cladding, small-signal gain improvement 1−15260
LOCA, fuel-and-cladding model of rewetting of nuclear fuel rod 1−18781
nuclear fuel failure mechanisms under reactivity initiated accident conditions, review 1−18746
optical fibre, single-mode, ultra-low-loss, pure SiO_2 cladding and P_2O_5-doped buffer layer 1−11124
pellet-cladding mechanical interaction, absorber assembly design 1−10444
PWR fuel rods containing defects, power ramp and power-cooling-mismatch conditions 1−10450
PWR protection, fuel clad damage prevention *(Croatian)* 1−863
steel, austenite stainless, on Al-Mg (5 wt.%) props. and formability *(French)* 1−8336
steel, Cr-Ni (20, 25 wt.%), Nb-stabilised AGR fuel pin cladding design 1−10441
steel-brass clad plates, explosively or roll bonded, fatigue crack growth and crack closure *(Japanese)* 1−48480
thermal shock in nuclear fuel element with cladding 1−18723
thermohydraulics of coolant, cladding and fuel for Na-cooled and He-cooled FBR 1−18725
Zircaloy, cladding, oxidation by steam in LOCA of LWR, computer calc. 1−810
Zircaloy, effect of dispersion and spheroidization treatment of δ-ZrH_2 on creep and corrosion resistance 1−5848
Zircaloy, unirradiated, coeff. of friction meas. with Al_2O_3 and UO_2 1−33298
Zircaloy clad burst of PWR pressurised fuel rods 1−18782
Zircaloy cladding, mech. restraint effect on deform. 1−48452
Zircaloy cladding, under LOCA conditions, surface products 1−26665
Zircaloy reaction in hydrogen-steam mixtures: implications for TMI-2 core damage 1−41178
Zircaloy-clad UO_2 test fuel rods, pellet-cladding mechanical interaction 1−10439
Zircaloy-UO_2 thermal gap conductance and temp. transients, MPD expt. predictions 1−50822
Zircaloys, stress corrosion cracking by iodine, SIMS molecular beam study 1−762
Cu-clad Nb wire thermometry below 1K using proximity effect 1−44922
Cu-ZZ 1−45609
$Ni_xFe_{3-x}O_4$, solubility in in aqueous boric acid soln., PWR coolant system during operation and cooldown 1−52299
O_2 getter coatings for fission reactor fuel pins 1−18770
Ti thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
(U, Pu)O_2 breached pin performance in reference design fuel pins 1−45614
(U,Pu)O_2 fuel at high burnup, fuel-cladding chemical interaction 1−45615
U-Pu oxide fast reactor fuel pins, fuel-cladding chem. interaction 1−35422
UO_2 test fuel rods, Zircaloy-clad, in-pile diameter meas., pellet-cladding mechanical interaction 1−10439
V cladding on Cu, limiter and protective plate appl. in Tokamaks, thermal testing 1−18893
V thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
VB_2 thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
VB_2, thin film coating on V, reduced T inventory in controlled fusion devices 1−21647
Zr-zz 1−45609

classical algebra *see algebra*

classical field theory
see also classical mechanics; electromagnetic field theory; gravitation; special relativity
abstract potential fields, Markov processes 1−36569
classical and quantum field eqns., symmetry group operators, invariant solns. *(Russian)* 1−36810
steady state field appraisal from a diffuse image 1−82
stochastic mechanics, thermal mixtures 1−36518
two-dimensional integrable field theories connected with simple Lie algebras 1−14270
K_2, chemical bonding, classical nonlinear field theory 1−41292
Li_2, chemical bonding, classical nonlinear field theory 1−41292
Na_2, chemical bonding, classical nonlinear field theory 1−41292

classical mechanics
see also classical mechanics of continuous media; classical mechanics of discrete systems; classical theories of fluid structure
constants of motion in nonrelativistic mechanics 1−40648
Newton's equation of motion, extension 1−40652
non-relativistic mechanics, complete set of integrals, constants of motion 1−5140
sophomore mechanics course 1−17968
teaching, factors influencing student achievement 1−27708

classical mechanics of continuous media
see also elasticity; fluid mechanics; mechanical contact; plasticity
beam modelling, eccentric stiffeners or portions of composite cross-sections, dynamic aspects 1−11299
beam theory, action of forces, boundary conditions *(German)* 1−69
beams, curved, thick-shell or membrane-stiffening isoparametric elements 1−41944
beams, rectangular isoparametric finite elements, accuracy losses due to distortion 1−49942
beams, thick, higher order theories, finite element model 1−49941
boundary-value problems, random, asymptotic expansions of eigenvalues and eigenfunctions 1−18014
compressible material, Prandtl problem *(Russian)* 1−27782
computational methods for local singularities 1−23013
conservation laws, variational formulation 1−18012
double layer grid anal., equivalent sandwich plate *(Chinese)* 1−29526
eigenvalue problems, fluid-structure and acoustic, finite element approach, reduction methods 1−14009
elastic foundations, concept and boundary-value problems, homogeneity and isotropy 1−33888
elastica, nonlinear, inverse problem, homotopy method 1−18017

classical mechanics of continuous media continued
error estimation, mesh adaptation for finite element method 1−24671
exact straight-line elements 1−18020
flexible shells, large deflections, nonlinear boundary value problems *(Ukrainian)* 1−15386
granular media, ideal, equilibrium deform. model 1−30298
grid shells, design problems 1−11304
half-space, elastic, transient response to uniform normal pressure acting over elliptic area 1−24668
hole outline reinforcement in plates 1−19560
homogenisation of a class of nonlinear dissipative materials *(French)* 1−32847
laminar shells of revolution, stressed state, nonlinear axisymmetric deform. and transversal shift *(Ukrainian)* 1−29534
liquid in box with elastic base, motion under surface tension *(Russian)* 1−15387
membrane state shells, axially symmetric, optimal design 1−29527
membranes, corrugated, random oscillations *(Russian)* 1−29530
membranes, vertical, gravity-induced wrinkle lines 1−46677
nonhomogeneous media and vibration theory, book 1−44688
nonlinear mechanics, computational method, conf. Austin, TX, USA (Mar. 1979) 1−22950
nonlinear shell elements, development and eval. 1−11301
nonlinear transient analysis, convergence of implicit-explicit algorithms 1−27779
nonlocal continua, thermodynamics, eqns. of motion *(French)* 1−9834
objectivity and objective time derivatives in continuum physics 1−18011
optimal circular ring sector subject to inequality constraints 1−11302
plane inverse gravimetry problem for contact surface 1−5103
plastic design of structures subject to multiple load conditions, decomposition principle 1−18018
plate weakened by system of cuts, reinforcement using stringers, stress intensities 1−37785
plates, Naghdi-Reissner model, finite element asymptotic anal., biharmonic problem *(French)* 1−29528
plates and shells of variable thickness 1−19559
plates of complex shape, compensating loading method *(Ukrainian)* 1−29529
plates subject to loadings combining in-plane tension and lateral pressure, shear boundary layer 1−51698
quasi-Newton method in finite element calculations 1−23014
rigid body in ideal fluid, integrability of eqns. of motion 1−18013
rods, straight, stability in case of B complex combination of loads 1−18023
rotating shaft, asymptotic expansions of eigenvalues and eigenfunctions 1−18014
rotational dynamics of deformable medium, further generalisation 1−36170
saturated granular materials mechanics 1−24667
shell, uniformly stressed cylindrical, under action of locally applied longitudinal forces, stresses 1−24669
shells, edge effects from asymptotic contour branches 1−11303
shells, linear problems, lower order integration schemes 1−49940
shells, ribbed and reinforced anal., family of special-purpose elements 1−37786
shells, steep soln., asymptotic props. 1−11305
shells of revolution, curvilinear finite element 1−11300
sphere with nonconcentric spherical cavity, axisymmetric stressed state *(Ukrainian)* 1−29543
spring, nonlinear behaviour 1−27752
statical investigation of a shallow shell with double curvature on a rectangular fundament *(Bulgarian)* 1−33890
stress tensor of materials with internal degrees of freedom, asymmetry 1−51699
structural analysis of structures and continua with rigid parts, iterative soln. 1−9836
structural mechanics, unilateral problems, variational unequality, linear anal. 1−1821
symmetry transformation, elastic material point and element, extension to materially smooth uniform body 1−33889
thermal equilibrium problem with free boundary variational methods *(Russian)* 1−14010
toroidal panels subject to external pressure, stability 1−24713
tubes, curvilinear, thick-walled, stress distribution under action of internal pressure *(Russian)* 1−29531
von Karman plate theory, penalty method anal. 1−24666

classical mechanics of discrete systems
see also N-body problems
centrifugal force, identity 1−17977
chaotic motions and transition to stochasticity for heavy rigid body with fixed point 1−40647
charged particle with spin, eqn. of motion in special relativity 1−27776
classical 1-dimensional system, equivalent models 1−27711
classical doubly anharmonic oscillator, exact solns., phase transform. model 1−17994
coefficient of restitution, acoustic method meas., microcomputer appl. 1−40621
coupled mechanical systems, staggered transient analysis 1−9824
dissipative systems with circulatory forces, stability 1−23008
dual form of Noether's theorem with applications to continuum mechanics 1−9828
dynamical systems, differential forms and invariant sets 1−52
Ehrenfest's wind-tree model, a generalisation 1−40644
eigenvalues of random Sturm-Liouville boundary value problems 1−17999
equations of motion with arbitrary functions, invariants, direct method 1−17995
falling raindrops, mass accretion, Newton's second law problem 1−40616
geometric description of general mechanical systems *(Hungarian)* 1−23006
Gylden-Mescherskii problem, mass variation laws 1−22670
gyroscope with Cardan suspension, motion 1−18000
Hamiltonian mechanics, canonical orbital elements development in terms of arbitrary independent variable 1−40328
hand bells, vibrations, teaching and historical approach 1−9817
harmonic oscillator, stochastic frequency and driving force, equal-time second-order moments 1−44764
integrals of motion 1−17991
Kepler problem, Lie symmetries 1−44763
libration points of axisymmetric body moving around axisymmetric body, existence and stability 1−27361

classical mechanics of discrete systems continued
long-time predictions in nonlinear dynamics 1−23009
lorentz-invariant potentials and the nonrelativistic limit, teaching 1−27726
model and integral covariance methods of hybrid systems *(German)* 1−32835
Morin's free fall apparatus 1−27760
multibody system dynamics, flexibility and compliance effects 1−19558
Newtonian systems, first integrals 1−14002
nonlinear discrete systems subjected to nonstationary random excitation, equivalent linearisation 1−9825
nonlinear periodic problems, role of linear Lagrangian in variational method 1−27769
nonlinear spring-mass system, two degree of freedom, subharmonic vibration of order 1/3 *(Japanese)* 1−14003
nonlinear systems with one degree of freedom, free vibrations *(Japanese)* 1−14004
oscillations, auto-, energy condition *(Russian)* 1−27772
oscillator with reflectors at both sides, nonlinear system, stationary random vibration 1−9822
particle dynamics in modified heliocentric coords. 1−19005
particle trajectories in 1/r fields 1−27771
pendulum, parametrically forced, period-doubling bifurcations and chaotic motion 1−40646
periodical motions of the system with three degrees of freedom in the two internal resonance case *(Russian)* 1−9830
plate-rod contact, under tension and bending, discrete interaction 1−19654
resonant motions, extremal props. 1−23007
rigid body in periodic orbit near collinear libration point, steady rotations 1−23002
rotating elastic cylinders, finitely deformed, bifurcation criteria for prismatic, axisymmetric and asymmetric modes 1−40649
rotating polar orthotropic circular discs 1−17992
rotor passing through resonances, non-stationary transitions of motion 1−9823
satellite in elliptic orbit, plane resonance rots., stability 1−23001
spring-mass system, nonlinear, two degree of freedom, subharmonic vibration of order 1/3 *(Japanese)* 1−14003
structural dynamics equations with natural damping and periodic forcing terms, numerical integration 1−40645
symmetry vectors and first integrals of dynamical systems 1−44766
thermomechanical restrictions of differential type *(Ukrainian)* 1−14000
time-dependent nonlinear eqns. of motion, Erkamov systems, Noether's theorem 1−17996
travelling load finite elements, development 1−36491
variable masses, dynamics 1−55
wheel vehicle turn, lateral deviation law nonlinearity *(Ukrainian)* 1−24665

classical theories of fluid structure
see also kinetic theory; liquid theory
BBGKY heirarchy, formal soln. *(French)* 1−42271
BBGKY hierarchy, associated Lie algebra *(French)* 1−38216
charged hard sphere fluid with penetrating or excluded background, equivalence 1−46970
classical liquids, kinetic theory of current fluctuation 1−25136
classical particle in potential of randomly fixed scatterers, self-diffuion energy, particle number 1−42275
cluster perturbation theory 1−38223
computer simulated fluids, equilibrium props., periodic boundary conditions 1−46967
corresponding states of fluids, effective hard sphere of diameters 1−38222
equilibrium theory, existence of fluctuation type solns. 1−38215
hard dumbbell fluids, eqn. of state, Monte Carlo simulation 1−11655
hard sphere ionic system, Monte Carlo simulation, periodic boundary conditions 1−11661
hard sphere system, cluster perturbation theory 1−52038
hard sphere-square well mol. mixture, thermodynamic props., quantum corrections 1−20039
hard spherical molecules, density distrib. inside pores of various shapes 1−15778
hard-core model, dimensionality and universal strong coupling eouations of state 1−11650
hard-sphere classical fluids, integral eqns. 1−11659
hard-sphere fluids, dipolar, second dielectric virial coefficient determ. 1−3315
Lennard Jones liquid, time-autocorrel. function calc., resolution of Liouville operators 1−25130
local densities at interfaces, Born-Green-Yvon approach 1−20515
mixtures, liquid, repulsive forces at high density and temp. 1−30021
molecular fluid, factorisation of direct correl. function, rel. to walls 1−52032
nonuniform Percus-Yevick eqn. soln. 1−2300
pair friction coeff., static correl. effect 1−38218
rare-gas fluids, excess electron states theory 1−25137
reference interaction site model theory for multicomponent molecular fluids 1−46966
rigid sphere fluid, vel. correl. and collective modes 1−20040
semiconductors, molten, double hard sphere model 1−30040
semimetals, molten, double hard sphere model 1−30040
simple molecular liquids, repulsive forces at high density and temp. 1−30021
solution containing r-mer, lattice model of surface layer 1−47328
square-well fluid, thermodynamic functions, integral eqn., perturbation method calcs. 1−51900
Stokes' law, microscopic origin 1−38217
time-autocorrelation functions, resolution of Liouville operator 1−25130
Ar-N_2, struct. props., reference interaction site model 1−46966
Rb, quench echoes, molecular dynamics simulation, anharmonic behaviour 1−30043

classification
see also indexing
2A 0311-227, 2A 0526-328, cataclysmic binaries, UV obs. and classifications 1−54558
Be stars, quantitative spectral classification on low dispersion spectra 1−49692
galaxy clusters, identification new class with bimodal mass distrib. 1−54642
land-cover, classification using digital processing of aerial photographs 1−32549
laserometry, classification of terms for specialists in area of laser meas. 1−6566

classification continued
spectra of stars and galaxies, classification from low dispersion objective prism spectra 1−49532
star clusters in Magellanic Clouds, classification from integrated four-colour photometry 1−9584
stellar IR spectra, classification criteria for medium resolution spectroscopy at 1 to 2 microns 1−49630
stellar spectra, classification of high dispersion spectra of chemically peculiar (Ap and Am) stars 1−54525
stellar spectra, classification outside MK domain 1−54482
stellar spectra, classification with objective prism techniques 1−49531
stellar spectra, MK classification for early type stars, standard stars 1−49624
stellar spectra, MK classification scheme, techniques and instrumentation 1−49623
stellar spectra, objective-prism classification at MK dispersion 1−49625
stellar spectra, rotation effects 1−49626
stellar spectra, S-SC-C sequence, classification problems 1−49660
stellar spectra, two dimensional classification of early type stars via narrow band photometry 1−49634
stellar spectral classification, appl. of MK and related systems to spectrograms of various solutions 1−49633
stellar spectral classification, appl. of photographic broadband photometry with Kodak fine-grain emulsions 1−54399
stellar spectral classification, empirically oriented approach 1−54484
stellar spectral classification, examination from theoretical point of view 1−54483
stellar spectral classification, future developments 1−54398
stellar spectral classification, lessons from past and thoughts on future 1−49631
stellar spectral classification by photoelectric measurements of mol. bands, current status and future prospects 1−49632
stellar spectroscopy, automatic MK spectral classification for early type stars 1−54397
stellar spectroscopy, two dimensional spectral classification using computer 1−49533

classification, pattern *see pattern recognition*

clathrates *see molecules; organic compounds*

clay
Alpine earth pillars, origin and hydrodynamic formation *(German)* 1−27158
archaeomagnetism of Canadian pottery kiln during nineteenth century 1−40051
chamotte refractory, dense, with high thermal shock resist., prod. 1−12702
electrical parameters at metre and centimetre wavelength for sandy-clay soil 1−40123
electron microscope analysis, conf., Edinburgh, UK (Sept. 1979) 1−49265
hydrated mica-montmorillonite, struct. form. during sintering 1−12694
kaolin, addition to Mn-Zn ferrite, effect on mag. microstructure 1−20958
kaolin, deformed, microfabric examination 1−49269
kaolin minerals, IR spectra classif., mineralogical aspects of KAKINO kaolin *(Japanese)* 1−48087
kaolin minerals, IR spectra classif. of kaolinite and halloysite *(Japanese)* 1−48086
kaolin refractories of specified density, prod. parameters 1−12701
kaolinite-hydrated mica (montmorillonite), struct. form. during sintering 1−12694
microstructure classification 1−49266
organic material analysis using SEM 1−49271
Pacific clay, extraterrestrial deep-sea spherules mass distrib. and influx rate 1−54431
pipes, geomag. archaeomagnitude determ. for 1645 AD 1−44105
sediment sources, dispersal and composition along California coast 1−54070
sedimentation rate, dating of core drilled offshore from Italy 1−13386
SiO_2/MgO synthetic clay, uses in radioactive waste treatment 1−28624

cleaning *see surface treatment*

cleanliness *see hygiene*

cleavage fracture *see brittle fracture*

Clebsch-Gordan coefficients
see also elementary particle theory
calculation using root-rational fraction package 1−28945
Clebsch representations and energy-momentum of the classical electromagnetic and gravitational fields 1−18052
finite nonabelian subgroups of SU(N), irreducible representations, Clebsch-Gordon coeff. 1−5536
Lie superalgebra, group with Grassmann structure UOSP(1.2) 1−33130
magnetic groups, Clebsch-Gordan coeff. determ. method 1−7121
magnetic groups, general theory 1−7119
marcasite structure, Clebsch-Gordan coeffs. 1−42334
matrix elements of two-body operators between three-body hyperspherical basis states 1−27821
permutation group, reduction of inner product representations 1−27811
SU(2) theory, relations between Clebsch-Gordan coefficients, recoupling equation 1−5535
SU(3) group, irreducible representations, occupation number in Clebsch-Gordan series *(Chinese)* 1−45159

climatology
see also atmospheric humidity; atmospheric precipitation; sunlight; wind
aerosol effects, radiative-convective model calcs. 1−22408
aerosol effects on radiation balance and climate 1−13501
aerosols and global climate 1−49349
Africa, Late Pleistocene and Holocene, circulation, environmental and climate change 1−17682
NW. Africa, oceanic crust, Oligocene sediment, climatic, tectonic and eustatic history 1−36053
S Africa, rainfall anomalies in meteorological record, temporal and spatial var. 1−17683
albedo and IR effects on Earth radiation budget 1−22485
Antarctica, meteorology and climate *(German)* 1−54227
Arctic Ocean, palaeoclimate and palaeoceanographic events of Late Cainozoic 1−27247
Arctic Ocean in Pliocene and Pleistocene, episodic ice free ocean, nannofossil evidence 1−54247
Arizona summer rainfall, index from 50 yrs data anal. eigenvector anal. 1−44263
S Atlantic Cainozoic climate, geological evidence *(French)* 1−17621

climatology continued
N.Atlantic Ocean, palaeotemp. 18000-40000 yrs BP, sediment record study 1−54235
Belgium, notable climatic and meteorological events since 1800 AD *(French)* 1−36020
BIRAMIS, European climatological satellite mission 1−13580
N. Canada, relative departures in July temps. for past 6000 yr 1−36052
Chad, palaeoclimate of Holocene lake 1−49379
cloud amount in energy balance model 1−17685
cloud optical props. in climate change model, effect of aerosol conc. changes 1−17686
deep-sea palaeoclimatic record, freq. sensitivity and effects of sediment bioturbation 1−9240
central England, future air temp. prediction by statistical anal. of past climate 1−32514
N Florida in Late Wisconsin period, species rich deciduous forest origin 1−49391
fossil fuel resources and their impacts on environment and climate 1−43748
geological period climate and landscape zones 1−54083
glacial 100000 yr cycle, ice sheet/bedrock dynamics model 1−9190
global climate, response to atmospheric chemical comp. changes due to fossil fuel burning 1−44290
global warming, possible climatic consequences 1−40184
greenhouse effect of minor constituents in atmosphere 1−27249
Greenland ice sheet evidence of post-glacial volcanism and its climatic impact 1−22305
history, selected events and lessons 1−4604
Holocene climate of Chad, study of palaeolake 1−49379
Holocene climate of New England, USA 1−49380
ice age phenomena, thermodynamical model 1−44291
Ice Ages on Earth, astronomical implications 1−4606
India monsoon season, cyclonic disturbances number rel. to rainfall 1−22440
interstellar medium, influences on climatology and life 1−22481
Ipswichian interglacial, correl. with Jersey 8 metre raised beach through U series and amino acid dating 1−35955
Japan, climatic division use in estimating hydrological values 1−4573
La Porte weather anomaly of Indiana, USA, 1935-65, history and causes 1−22384
Lake Kuttara, Japan, local climatological investigation *(Japanese)* 1−9188
large scale climate oscillations, thermodynamic model 1−44291
London area, annual and seasonal rainfall (1911-1970), search for urban effects 1−9211
man-made global warming due to increasing CO_2 content, climatic consequences 1−40185
meridional temp. gradients and heat flux, seasonal changes 1−49335
Milankovitch astronomical theory, review 1−9241
Modena, Italy, long-period oscills. in daily temps. 1−32506
modern climatic changes, linear empirical-statistical model 1−22467
New Zealand, mean temp. since 1930, trends 1−13559
Nile basin, Late Quaternary climates rel. to history of River Nile 1−17628
Northern Hemisphere climate model, including, zonal asymmetry 1−54237
one-dimensional circulation and climate model, appl. to lower atmosphere 1−4561
palaeoclimate, design of data network for general circulation study 1−54236
palaeoclimate since Mesozoic, review *(French)* 1−36050
Pleistocene climate, glacial cycle times series anal. 1−54234
Pleistocene glaciation palaeotemperatures, implications of changes of ^2H and ^{18}O enrichment of meteoric water 1−54194
polar atmosphere-sea ice-ocean processes, climatic research polar problems review 1−13562
Late Precambrian glaciations in Africa, palaeomagnetism of mixtite-bearing formations in Namibia 1−40047
present-day climate, simple statistical model 1−22482
Qinghai-Xizang Plateau, S.W. China, radiation and heat balance of Earth surface 1−27233
Quaternary ice age, zonal climate-ice sheet model response to orbital perturbations 1−36054
Roxburgh Hydro, New Zealand, air temp. changes 1−13560
secular response to climatic forcing, role of deep sea heat storage 1−27178
sensitivity to change in external forcing parameters, fluctuation-dissipation theorem 1−49377
SEOCS, European climatological satellite mission 1−13580
snow cover data for continents from satellites, database for climate studies 1−44221
solar radiation and climatic variation, glacial mass budget effect 1−27246
stationary perturbations in simple climate models, latitude sensitivity 1−49378
statistical filter models for predictability of climatic change 1−32514
Thar desert, climatological and meteorological features 1−22439
tree-ring cellulose ^{13}C indicator for part climate change 1−9239
tropical Atlantic Ocean upwelling region evaporation effect on climatology 1−22392
tropicalisation, special related climatological problems *(Hungarian)* 1−36051
USSR, Holocene thermal optimum, climate and vegetation zones *(Russian)* 1−13561
world surface data, quality control and archiving methods 1−49396
zero-dimensional climate models, derivation from one-dimensional models 1−4605
CO_2 climate problem, role of deep sea heat storage in secular response to climatic forcing 1−27178
CO_2 effect on climate and models, temp. effects, of view 1−17684
CO_2 global warming and coastline flooding, poss. disintegration of West-Antarctic floating ice shelf 1−40183
CO_2 increase and climate change, warming effect 1−27248
CO_2 influence on atmospheric temp. and climate *(German)* 1−13718

climb, dislocation *see dislocation climb*

clock paradox *see special relativity*

clocks
see also atomic clocks; chronometers; time measurement
modern and old, a comparison 1−9971

closed circuit television
electronic aberration-pattern recorder for testing solar energy concentrators 1−17152
underwater TV, design and appl. and history 1−22547
closed loop control systems *see closed loop systems*
closed loop systems
see also feedback
integrated imaging irradiance sensor for closed-loop adaptive optics 1−46583
LOFT reactor plant, optimal estimation and control theory appl. 1−50905
magnetic confinement fusion plasma heating using modulator/regulator for neutral beam injection power supply system, overall control system 1−33352
tensile testing, at constant true plastic strain rate 1−35458
$Pu(NO_2)_4$ safeguards at nuclear fuel reprocessing plant, closed-loop control system 1−23764
cloud chambers
droplet density photographic meas. 1−40225
cloud physics *see clouds*
clouds
see also atmospheric precipitation; sky
19 GHz Earth-space radio path, hydrometeor attenuation and depolarisation 1−4599
albedo and IR effects on Earth radiation budget 1−22485
Atlantic cloud cluster in tropics, GATE obs. 1−44285
attenuation of radiowaves in 11 to 110 GHz range, meas. mode near Slough, UK 1−40163
boundary layer, cloud streets rel. to atmosphere longit. instabilities and secondary flows 1−36041
brush fire smoke clouds, IR radiation transfer study 1−40188
cirrus, ice cloud radiative props., variability 1−4608
cirrus cloud affecting solar energy transmission to ground 1−4611
cirrus clouds (tropical), IR radiative props. 1−17669
classification by hybrid optical/digital textural information processing 1−27307
climate change model, cloud optical props. rel. to aerosol conc. 1−17686
cloudburst with very high rainfall rate, obs. at Johannesburg, S.Africa 1−13543
columnar ice crystals, collection of aerosol particles (diameter <1 μm) 1−22451
condensation nuclei and elec. fields in boundary layer of monsoon region 1−9229
condensation nuclei from oil refinery plumes, nitrate particles 1−13203
cool liquid, obs. with aircraft icing and ground base microwave radiometry 1−44268
corona current beneath thunderclouds 1−13535
cumuli in Florida, −10°C water-ice and water-updraught relationships 1−22417
cumulonimbus, cold downdrafts numerical model 1−54222
cumulonimbus obs. in Wright Valley, Antarctica 1−17679
cumulus, microstruct. and precipitation mechanisms 1−22424
cumulus cloud, small, dynamical and liq. water struct. determined from environment 1−4597
cumulus clouds, effects on statistical characts. of short-wave solar radiation *(Russian)* 1−13570
cumulus clouds, non-precipitating, in tradewind boundary layer, time-dependent modelling 1−49323
cumulus convection weather system mass divergence, convection large scale controls 1−22461
cumulus development and entrainment, model 1−49317
cumulus ice nuclei conc., Florida Area Cumulus Expt. 1−22426
cumulus in tropics, 1-D model *(French)* 1−44272
deep convection over S.Florida, USA, 3-D numerical model 1−54185
downdraft region beneath precipitating anvil clouds, temp. and humidity profiles 1−17663
drop size distribution evolution, numerical study 1−49342
droplet evaporation retardation by air pollutants, laboratory expts. 1−17639
droplet spectra evolution, entrainment influence; inhomogeneous mixing model 1−22464
droplets, Prigogine diffusion theorem appl. to atmospheric transfer processes 1−4558
effect on Earth solar and IR radiation budgets 1−22486
electrification, precipitation powered mechanism 1−13551
EM waves, pulse propagation in discrete random scatt. media, theory 1−13547
English Midlands, cloud street wave flow occurrence (1979 May 9) 1−49358
falling raindrops, mass accretion, Newton's second law problem 1−40616
frontal clouds base height, forecasting using atmospheric moisture content data 1−22470
GATE cloud type and amount from SMS-1 data 1−13550
geoelectric field auroral effects, influence of meteorological phenomena 1−4568
hail cloud, hailstone formation process in supercell clouds *(Russian)* 1−44244
hail cloud formation and precipitation stages for Xiyang area, China 1−22478
hail growth in storm clouds, Colorado, USA 1−49339
hail growth mechanism, storm in Colorado, USA, radar obs. 1−49338
hailstone growth thermodynamics, numerical model 1−49340
hailstorms of N.China, classification scheme *(Chinese)* 1−54212
ice cloud radiative props., variability 1−4608
ice clouds, scatt. and extinction at 10.5-μm 1−40187
ice crystal layers at South Pole, during clear sky precipitation 1−54187
ice crystal plates, collection of aerosol particles (diameter >1 μm) 1−22452
ice forming nuclei in convective storm downdrafts 1−49359
ice particle and raindrop images, feature extraction and selection 1−54300
illumination from cloudy sky, math. model 1−36057
laser remote sensing of macrostruct. and optical characts. of clouds *(Russian)* 1−32517
laser sounding, influence of double scatt. on polarisation characts. of echo signals *(Russian)* 1−9249
lidar multiple scattering from clouds, polarisation anisotropy 1−36055
light scattering coefficients of layered clouds, meas. *(Russian)* 1−13569
liquid water content, ground based microwave techniques comparison 1−22527
marine aerosol particles, effects on cloud physics 1−13540
clouds continued
mesospause aerosol layer, ion-induced nucleation of water vap. 1−9217
microstructure calibration sampled from an aircraft 1−32498
monsoon cloud, thermodynamical and microphysical aspects 1−49372
motion, vectors, meas. for Global Weather Experiment by National Environmental Satellite Service 1−54248
noctilucent clouds, obs. in Poland (during 1978) 1−9195
non-spherical particle light scatt. 1−9256
optical halo complex, due to cirrus cloud 1−22484
optical pulse propag. 1−49381
optical radiation field in optically thick atmosphere, theory *(Russian)* 1−32515
optical transmission function determ. and different light scatt. phase functions *(Russian)* 1−40161
particle size, laboratory expt., drop generators for calibration of drop spectrometers 1−44330
pattern recognition techniques 1−54231
photography of particles using colour camera 1−44329
pollutant particles from coal-fired power station, interaction with cloud 1−4231
precipitable water vapour, detection by ground-based microwave radiometry 1−13548
radar 'finger echo' observations of cold front and cloud expansion *(Chinese)* 1−54218
radiation intensity in broken clouds, eqns. for moments in Markov approx. 1−36060
radiative transfer, clouds effects on direct and diffuse solar radiation on oriented sloping surfaces 1−49320
radiative transfer eqn., choice of approx. 1−49385
rainfall rate from thermal microwave emission, contrib. of clouds 1−22389
recognition from incomplete IR spectra 1−27313
referencing practices in journals 1−32485
remote sensing of ice clouds from satellites 1−9293
remote sensing using Nimbus-6 microwave spectrometer 1−49355
research aircraft meteorological instrumentation system 1−44310
review of current problems in cloud physics *(German)* 1−13544
San Juan Mountains, Colorado, USA, seeding potential of storm clouds 1−49352
San Juan Mountains, Colorado, USA, winter storms, microphys. process 1−49351
San Juan Mountains, Colorado, USA, winter storms and precipitation 1−49350
secondary condensation in CO_2 laser beam propag. through cloud medium 1−44297
seeding experiments, performed in Tasmania, Florida and Israel 1−54191
seeding of clouds with chaff, dynamical-electrical model 1−54189
seeding of cumulus, downdrafts as linkages in dynamic seeding 1−4586
seeding of orographic cloud with AgI, aircraft released plume dispersal study 1−49354
seeding of strong convective cloud, numerical model for AgI 1−49353
seeding with AgI pyrotechnics, dry ice or AgI-NH_4I-acetone soln. 1−22425
sky noise temp. variability in 11 to 14 GHz band due to water vapour and clouds 1−36022
sky obscuration by clouds, model for viewing of space from ground 1−4616
solar fluxes and heating rates calc., struct. of typical two stream methods 1−4612
solar radiation transfer, effect of cloud props. on light refl., transmission and absorpt. 1−13572
South Pole clear sky precipitation, obs. of atmos. ice cryst. layers 1−54187
space-time response of a cloud communication channel to an optical signal 1−10923
spectral reflectance meas. technique for gross microphys. props. 1−17667
spherical particles, emissivity, particle size and refractive index effect 1−41583
storms over Oklahoma meso-network on May 20 1977, appl. of diagnostic cloud model 1−36044
stratocumulus-capped mixed layers derived from a three-dimensional model 1−9204
streets of cumuli over British Isles, necessary meteorological conditions 1−44284
sub-cloud layer over land, diurnal variations 1−13508
surfactant addition altering stochastic condensation in cloud and fog *(Russian)* 1−40162
thermal radiation effects in planetary boundary layer cloud *(French)* 1−44269
thermosphere artificial cloud form. *(French)* 1−13625
thunderclouds, radar and acoustic study of in-cloud lightning discharges 1−44254
tropical Pacific, H_2O content, Nimbus-6 microwave radiometry obs. 1−49355
troposphere, cloud cover anomaly rel. to temp. field form., appl. of conjugate eqn. method 1−22468
turbulence (microscale) of layered clouds *(Russian)* 1−32490
turbulent cloud medium, CO_2 laser continuous beam self-action 1−40194
typhoon spiral cloud bands prod. by gravity inertial waves 1−22476
UV radiation in New York, effect of sunshine, cloudiness and haze 1−44267
water acidity, determ. at mountain observatory in Adirondack Mountains of New York State 1−43837
water drop size spectra, condensation theory 1−4593
Ag I in precipitation, determ. of diffusion in clouds, appl. to hail suppression, seeding technique 1−44259
Clusius-Dickel columns *see isotope separation*
cluster analysis *see pattern recognition*
cluster approximation
alkali metal halides, off-centre instability induced by exchange forces 1−2928
alloy, binary electron states density, short-range order effect *(Russian)* 1−12008
alloys, phase diagram calcs., cluster variation method, spinodal and equilib. reactions, review 1−43317
anion complexes, X-ray emission spectra, discrete variational Xα cluster calcs. 1−26309
antiferromagnetism, amorphous, cluster model 1−42973
composite media, dielectric constant, pair-cluster theory 1−34973

cluster approximation continued
dense fluids in one dimension, localisation of electrons, cluster Green function study 1−34644
dichalcogenide anions, electronic struct. 1−12075
dilute alloys, impurity scatt., cluster model anisotropic electron lifetimes 1−34697
dilute f-electron systems, crystal-field and exchange splitting in cluster regime, neutron spectroscopy, calc. 1−47589
dipnictide anions, electric struct. 1−12075
doped semiconductor, metal-insulator transition, cluster model approach 1−47478
energy structure calculation for a cluster containing any number of atoms 1−25604
ferrite, irrad., props. interpret. using method of cluster components *(Russian)* 1−15926
III-V semiconductors, phase diagrams, ternary, cluster variation calcs. 1−43323
isotropic-nematic transition, Maier-Soupe model, 4-particle cluster approximation 1−2602
Jahn-Teller systems, strongly coupled, optical absorpt. spectrum, temp. depend. 1−31110
magnetic alloys, dilute, thermodynamic properties, exact cluster solutions 1−25877
metals, amorphous and liq., electronic structure, embedded mol. cluster approach 1−30619
Mott-Hubbard-Anderson model, modified, unrestricted Hartree-Fock pseudocluster calc. 1−47572
N-body system, two-cluster coupling const. thresholds 1−27806
orthophosphates, dynamics of proton-ion system, cluster approx. 1−52901
partially ionic solids, cluster calculation, self-consistent Madelung potential 1−7503
percolation on square lattice, Monte Carlo simulation 1−27894
SCF-Xalpha scattered wave method, boundary conditions 1−7504
semiconductor, with impurities, topologically disordered system, theory, random cell model 1−30252
semiconductors, deep levels due to substitutional impurity cluster, MTO theory 1−25656
small aggregates, electronic correlations, appl. of variational Gutzwiller method *(French)* 1−30654
spinless fermion model, charge order, order-disorder transform. 1−7293
transition metal alloys, cluster model, SRO coherent potential approx. 1−2862
transition metals, FCC, chemisorption of H_2 on (111) surfaces, embedded cluster calc. 1−12178
Al (110), chemisorption of O, mol. orbital cluster study 1−16188
$Al_2Au(Cu)$, electronic struct., multiple scatt. Xα cluster method with k-depend. boundary conditions 1−42681
Al_8Cu_4 cluster, electron struct. calc. 1−35123
Al_8Cu_6 cluster, electron struct. calc. 1−35123
AlO_4^{5-} clusters, electronic struct., external field effects Xα calcs. 1−42690
AlO_6^{9-} clusters, electronic struct., external field effects Xα calcs. 1−42690
Be (0001), adsorption of H, surface relax. and induced stress, SCF MO cluster calcs. 1−38659
CdS:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
$CdS_{1-x}Te_x$ solid soln., phase diagram calc. using microheterogeneous cluster struct. model 1−48334
Ce electronic struct., f-d hybridisation, cluster calc. 1−47444
Cu (001) surface, chemisorpt. of S, mol. orbitals, discrete variational Xα cluster calc. 1−26770
Cu, electronic struct., multiple scatt. Xα cluster method with k-depend. boundary conditions 1−42681
$Cu(NH_3)_2CO_3$ layer compound, exchange coupling, effective field approx. 1−38923
$Fe_{40}Ni_{40}B_{20}(P_{20})$, amorphous alloys, local electronic struct., cluster model 1−47578
GaAs(Sb) (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
GaSb (110) surface, electronic states induced by surface defects, calc. 1−16337
^{3}He, solid, BCC, nucl. mag. ordering, Neel temp. and paramag. susceptibility 1−11952
InP (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
K-Na(Rb), dil., cluster model electron lifetimes 1−7597
$KNbO_3$, electronic struct. rel. to ferroelec. phase transitions 1−34626
$KZnF_3:V^{2+}$, anal. of transfered spin derities in $3d^3|VF_6|^{4-}$ complex, LCAO MO calcs. 1−25667
$LaBO_3$, B=Ti, V, Cr, Mn, Fe, Co, electronic struct., XPS meas., calc. 1−38714
LaOF, electronic struct., photoelectron and X-ray emission spectra 1−3570
Mo, metallic glass, band struct., superconductivity 1−25621
Nb, metallic glass, band struct., superconductivity 1−25621
Ni (001) surface, angular resolved AES, single scatt. cluster model 1−39197
Ni, chemisorption of acetylene, cluster model, HF-Slater-LCAO calc. 1−39682
NiO clusters, Ni^{2+} spin dependent effective core. pot. 1−34643
ReO_3 (001) surface and surface O vacancy, theory of electronic struct. 1−7685
ReO_3, cluster calculation, self-consistent Madelung potential 1−7503
Si (100), surface dimer struct., cluster calc. 1−7440
Si, interstitial transition metal impurities, electronic struct., Xα calc. 1−47565
Si reconstructed (111)-7×7 surface, electronic struct., Xα-calcs. 1−52621
Si:P, mag. props., cluster model for amorphous antiferromagnetism 1−42973
Si-SiO_2 interface, polaron and bipolaron states in inversion layers 1−7694
Tc, metallic glass, band struct., superconductivity 1−25621
TmSe, electronic struct., f-d hybridisation, cluster calc. 1−47444
UTe, ferromagnet, electronic struct., cluster MS calc. 1−47467
V compounds, multicomponent, valence band formation, p-d covalent mixing 1−34619
YOF, electronic struct., photoelectron and X-ray emission spectra 1−3570
ZnO:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
ZnS:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
cluster approximation continued
ZrC(N)(O), electronic struct., cluster calc. using different mol. orbital methods 1−30628
ZrO_2, electronic struct., cluster calc. using different mol. orbital methods 1−30628
cluster model (nuclear) *see nuclear cluster model*
clustering, impurity *see segregation*
clustering, solute *see segregation*
clusters, atomic *see atomic clusters*
clusters, globular (stellar) *see globular star clusters*
clusters, metal *see metal clusters*
clusters, molecular *see molecular clusters*
clusters, stellar *see stellar clusters and associations*
clusters of galaxies
see also galaxies; intergalactic matter
A2029, cluster members, redshifts and dynamics, cluster rot. possibility 1−49824
Abell 1656 and 1367, diffuse radio emission intracluster gas interpretation, VHF obs. 1−36416
Abell 2255, distorted radio sources as evidence of intergalactic gas 2.5-5 Mpc from cluster centre 1−9682
Abell 2255, nearby compact galaxies, BV photometry and distrib. 1−9662
Abell 2319, 576, rich galaxy clusters, X-ray struct. rel. to detectability of microwave diminutions 1−44650
Abell 754, 993, 1904, multiple red shifts meas. using Medusa spectrograph 1−49521
Abell 754, radio and X-ray obs. 1−22905
Abell 98, two-component struct. obs. 1−54643
Abell clusters, 11.1 cm total intensity and polarisation obs. 1−49831
Abell clusters, absolute mags. of brightest galaxy, gr photometry 1−22878
Abell clusters, coincident B2 radio sources, 1415 MHz obs. 1−17901
Abell clusters, HEAO A-2 sample, redshift used to determine X-ray luminosity function 1−49828
Abell clusters, nearby, radio emission obs. at 102.5 MHz *(Russian)* 1−4988
Abell clusters, radio props. 1−9688
Abell clusters, SIT and CCD surface photometry of brightest galaxy 1−22879
Abell clusters, survey for X-ray sources, X-ray luminosity function 1−49827
Abell clusters, X-ray luminosity functions, cluster radius, X-ray obs. 1−54640
B2 1141+37, giant radio galaxy, identification with tight chain of galaxies 1−22915
binary galaxies binding energy as cluster missing mass 1−13866
blue objects, pairing investigation in and outside clusters 1−40563
4C radio sources angular position correl., clustering 1−36427
Cancer cluster field, deep 610 MHz source counts, 27W catalogue 1−32767
cD cluster, passage of flat disk galaxy, collisional effects on its morphological evolution 1−54601
clusters of galaxy clusters, existence disputed 1−22903
Coma, luminosity segregation in rich cluster 1−22902
Coma cluster, diameter-luminosity relation for elliptical and lenticular galaxies *(French)* 1−9665
Coma cluster, differential luminosity functions for various galaxy types 1−49826
Coma cluster, photoelectric surface photometry 1−9687
Coma cluster, radio halo and intergalactic mag. field origins 1−40569
Compton distortions of cosmic blackbody radiation, appl. to cosmological Compton distortions and radiation temp. meas. 1−44676
computer simulations of galaxy clustering 1−9690
continuous clustering model for extragalactic objects distrib., results obtained by method of statistical reduction 1−9693
correlation functions of higher order, derivation 1−27622
cosmic microwave background, ang. distrib. and intensity in directions of clusters of galaxies *(Russian)* 1−5005
cosmic microwave background fluctuations, contrib. of galaxy clusters and protoclusters 1−9742
covariance function, two point, argument extreme values 1−27623
dynamical evolution of galaxy clusters, theory 1−9696
dynamical evolution of spherical inhomogeneous perturbations in Friedmann background 1−36436
elliptical galaxies, emission line strengths rel. to cluster membership 1−36414
evolution, dynamical, of non point gravitating bodies *(Russian)* 1−13868
evolution and intracluster gas 1−9679
faint galaxies in 15 square degree field near South Galactic Pole, distrib. and mean multiplicity 1−4975
formation, adiabatic perturbations theory rel. to Universe large scale struct. 1−9755
formation, in intergalactic medium dominated by explosions 1−54619
formation, primordial flat layer fragmentation and development of internal cluster struct. 1−13859
formation, whirl theory of origin of struct. in Universe 1−9756
formation epoch, theoretical models 1−9681
Fornax cluster of galaxies, galaxy content obs. 1−44649
galactic cannibalism, correls. between clusters dynamical time scales and Bautz-Morgan types 1−44651
galactic neighbourhood within 9.1 Mpc 1−9676
galaxies/ZZ 1−13864
galaxy evolution in dense clusters, computer simulations of ram-pressure stripping 1−44627
globular star clusters, as touchstones for theories of galaxy clustering 1−40537
gravitational lens effect, cluster in line of sight to quasar 0957+561, time delay 1−44663
hierarchical clustering model for extragalactic objects distrib., results obtained by method of statistical reduction 1−9693
high redshift cluster, first-ranked galaxy type from predicted colours and magnitudes 1−9669
Holmberg 124 (NGC 2805-2814-2820-Markarian 108), H I, H II and vel. distrib. 1−9683
Hubble constant isotropy test method using quasars taking into account supergalactic extinction 1−9747
Hydra I cluster of galaxies, galaxy content obs. 1−44649
intracluster enrichment due to protogalaxies explosion 1−13865

clusters of galaxies continued
intracluster gas, Kelvin-Helmholtz instability rel. to galaxies interstellar gas stripp 1−4985
intracluster gas heating by relativistic electrons, collective effects 1−9644
intracluster medium in a poor Zwicky cluster containing PKS 2247+11 1−36422
Klemola 31 galaxies towards quasar PKS 2070−370, effect on quasar spectra 1−49850
large scale galaxy clustering in Universe, review 1−9692
large scale systems, physical props. from optical obs. 1−9695
large scale universal structure, IAU Symposium 79, Tallinn, Estonian SSR (1977 Sept.) 1−5032
Local Group, estimate of distances of high-vel. H I clouds and Magellanic Stream 1−40540
Local Group, galaxies space motions rel. to Galaxy overall mass distrib. determ. 1−17896
Local Group stability with and without dark mass *(Italian)* 1−44640
Local Supercluster 1−9691
luminosity segregation in Coma cluster 1−22902
magnetic fields in galaxy clusters, morphology 1−49825
missing mass problem, implications of neutrino masses 1−13685
N-body simulations of clustering in expanding Universe 1−9753
nearby small groups, scales and densities 1−9686
NGC 2859 companion galaxies, nearby high-redshift objects discovery 1−9711
number density distributions and galaxy distribution at Virgo-Serpens Caput boundary 1−27624
peculiar velocities, rel. to Universe average matter density *(Russian)* 1−32789
Perseus cluster, nonthermal hard X-ray emission, origin 1−49811
Perseus cluster, X-ray obs. above 10 keV, origin from NGC 1275 1−49830
Perseus supercluster, struct. and galaxies redshifts 1−54639
Perseus supercluster, three-dimensional structure rel. to cell struct. of Universe 1−9694
photography of groups 1−9387
physical cosmology, proceedings of Les Houches summer school, session XXXII, Les Houches, France (1979 July 2 to 27) 1−27684
poor clusters, VLA obs. at 20 cm of radio emission in directions of cD and related galaxies 1−40555
protocluster formation from entropy perturbations in low density universe models 1−54675
protoclusters, theory of gas-dynamic processes 1−22904
protoclusters formation, nonlinear stage of gravit. instability in flat gaseous systems 1−44430
quasi-stellar objects cluster near M82, discovery and redshifts 1−49846
radio halos, form. from cosmic-ray protons 1−4984
rich cluster with z=0.39 galaxy, Q0957+561 AB gravitational lens image formation 1−22924
SC 13, high-multiplicity galaxy supercluster, redshift survey 1−49832
small groups, statistics rel. to galaxy clustering simulations 1−9685
small-scale clustering, rel. to cosmic microwave background large-scale fluctuations 1−54665
Stephan's Quintet, high redshift H I distrib. 1−22906
structural properties, implications of cosmology with material vacuum 1−17918
structure, mass depend. of generalised Schuster density law *(German)* 1−13821
super superclusters role in two component universe model 1−40580
superclusters, struct. and formation 1−13867
superclusters and Lyman α absorption in quasars 1−54641
ultra-high-energy cosmic rays from clusters of galaxies 1−22642
unified treatment, analysis methods 1−54644
Ursa Major Supercluster, member galaxy distrib. 1−4986
velocity dispersion in small systems of galaxies 1−9684
Virgo, new redshifts for galaxies within 6° of centre 1−32766
Virgo Cluster, deep BV photometric anal. of background field 1−40559
Virgo cluster, mass/light ratio from galaxy vels. obs. 1−49829
Virgo cluster, rel. to north galactic density anomaly and nearby galaxies space distrib. 1−44622
Virgo cluster, slow northward motion of M87 rel. to radio, optical emission-line, and X-ray struct. 1−40553
virial masses depend. on crossing times 1−27621
virial theorem appl. to clusters with unseen mass 1−32765
X-ray clusters, origin of hot intracluster gas 1−4987
X-ray clusters, RF and IR spectrum of member galaxies 1−36405
X-ray clusters with bimodal mass distrib., Einstein, satellite imaging obs. 1−54642
X-ray emission, implications for cosmology 1−9754
X-ray observations 1−9689

clutter
see also radar clutter; radar interference
tactical IR imaging detector array criteria 1−24523

c.m.o.s. integrated circuits *see field effect integrated circuits*

c.m.o.s.i.c. *see field effect integrated circuits*

CNDO calculations
acetylenes, substituted, CH stretching freqs., CNDO/2 calcs. 1−24050
adsorbed organic molecules, ^{13}C NMR spectra, quantum chemical interpretation 1−26060
N-alkyl-1,3-bis-(p-chlorophenyl) triazenes, dipole moments, exptl. determ. and calcs. 1−10672
aminomethyl-P-methylphosphinic acids in zwitterionic and mol. forms, CNDO calc., hydration sites 1−28875
aminomethylphosphonic acids in zwitterionic and mol. forms, CNDO calc., hydration sites 1−28875
aromatic electrophilic substitution, free electron approach 1−35508
associative nucleophilic substitution, mechanism, MINDO/3 and CNDO/2 calcs. in compounds of nontransition elements of groups V and VI 1−6166
azolidines, substituted, struct., UV photoelectron spectrosc. obs. 1−24192
benzaldehyde, electronic struct., excited states, moments, CNDO, CI, PPP calcs. 1−19019
benzene sterically hindered derivatives, conformations by UV spectra and CNDO/S calcs. 1−6167
benzylidene aniline, conformation, CNDO/S calcs. 1−10667
binuclear transition metal carbonyls, metal-metal bonding, extended CNDO calcs. 1−51130
binuclear transition metal carboxylates, metal-metal bonding, extended CNDO calcs. 1−51130
biphenylene, mol. energy levels, CNDO and INDO calcs. 1−10668

CNDO calculations continued
carbonium ions, cyanine dyes and protonated Schiff base polyenes, spectra, calcs. using PPP and CNDO/S Hamiltonians 1−10715
carbonyl compounds, multifragment, electronic spectra, CNDO/S CI calcs. 1−24051
carbonyl group-containing mols., photoelectron spectrum, quantum-chemical study, pot. 1−6319
catechol derivatives, enzymatic O-methylation, regression anal. 1−8545
catecholamine, biological response as function of conformation, chirality and electronic characteristics 1−26879
cyanoacetic acid derivatives, NDO calcs., IR obs. 1−14886
cyclic polyenes, spectrosc. CNDO/CI calcs. 1−45851
cyclohexane+cyclohexyl ion, charge transfer, theory 1−15006
cyclopentane+cyclopentyl ion, charge transfer, theory 1−15006
cyclophosphamide metabolites, electronic struct., physical and chemical props., CNDO/S-CI calcs. 1−51125
deep levels, cyclic cluster model, CNDO approx., in covalent solids 1−30675
1-(3,4-dimethyl-5-isoxazolyl)-3-aryltriazenes, dipole moments, exptl. determ. and calcs. 1−10672
N,N-dimethyl-p-nitroaniline, vapour and cryst. phase, shake up phenomena and CNDO/S equiv. core study 1−51123
diphenylhexatriene, vibronic spectra calcs. 1−10744
dipyridyls, CNDO/2 calcs. of torsional isomerisation and electronic struct. 1−10670
ethane, vicinal spin coupling const., dielec. solvent effect, INDO and CNDO/2 calc. 1−51119
ethanes, substituted, CH stretching freqs., CNDO/2 calcs. 1−24050
ethanol complexes, O-H bond vibrs., pot. functions 1−24053
ethylene, $S_0 \rightarrow T_1$ transition probability, CNDO CI calcs. 1−41433
ethylene+$HF(F_2)$, γ-electron mol. complex formation, MO CNDO/2 calcs. 1−35506
ethylthionformate, struct. and vibr. spectra 1−24130
first-row dihydride systems containing 4 valence electrons, geometries from CNDO/2 method 1−33399
5-fluorouracil, oscill. strengths, polarisation, excitation energies, spectra, wave functions, CNDO and PPP calcs. 1−10661
free radicals, molecular orbital electronegativity, semiempirical CNDO LCAO MO calcs. 1−51121
gas-solid reactions, quantum chem. calc., general mechanism, balloon effect *(German)* 1−53472
glass, oxyanion units, optical basicity, SCF CNDO calc. 1−2333
halogen compounds, spin-orbit splittings of ionisation pot., MOC, INDO and CNDO calc. 1−51126
hexafluorobenzene+hexafluorobenzyl ion, charge transfer, theory 1−15006
homoallylic cation, nonclassical reson., EHT and CNDO/2 calcs. 1−41321
ortho-hydroxyazobenzenes, intramol. H bonding 1−10669
ion+molecule charge transfer, theory 1−15006
isomers, conformational anal., enthalpy, entropy and vibr. energy determ., PCILO and CNDO calc. 1−46158
isopropyl alcohol, complexes, O-H bond vibrs., pot. functions 1−24053
LCAO calcs. in solid state, parameteristation 1−12014
metal phthalocyanines, CNDO/2 calcs. of electronic struct. 1−37119
metallocenes of elements of 3d transition series, SCF MO LCAO CNDO calcs. 1−6165
methane+methyl ion, charge transfer, theory 1−15006
methanes, substituted, CH stretching freqs., CNDO/2 calcs. 1−24049
methanol, trans lone pair effect, CNDO/2 SCF perturbation anal. 1−51131
methanol complexes, O-H bond vibrs., pot. functions 1−24053
methylamine, trans lone pair effect, CNDO/2 SCF perturbation anal. 1−51131
methylcyclooctane conformations, combined iterative force field, CNDO calcs. 1−51116
methylene cation geometry from CNDO/2 method 1−33399
trans N-methylformamide, vicinal spin coupling const., dielec. solvent effect, INDO and CNDO/2 calc. 1−51119
(S)-1-methylindan, rot. strength, CNDO/S CI calcs. 1−28943
molecules, closed shell, vertical excitation energies, CNDO and INDO calcs. 1−45856
molecules, cyclic conjugated, diamag. susceptibility, CNDO calcs. 1−1108
molecules with f block elements 1−41318
nitrobenzenes and nitrosobenzenes, substituted and unsubstituted, intense shake-up struct. in XPS spectra 1−19132
nucleic acid bases, oscill. strengths, polarisation, excitation energies, spectra, wave functions, CNDO and PPP calcs. 1−10661
organoboranes, B chemical shift, gauge invariant atomic orbital semiempirical theory 1−14934
orthogonality of valence and core electron MOs, inclusion of pseudopot. 1−19033
phosphoranes, associative nucleophilic substitution, mechanism, MINDO/3 and CNDO/2 calcs. 1−6166
polyatomic charge transfer complexes, inversion and lasing action, CNDO calcs. 1−6164
prostaglandins, hydrophile-hydrophobe equilib., CNDO/SN calcs. 1−1113
pyrazine, lowest excited singlet states, electronic struct. and geometries calcs. 1−14819
pyrylium cations, substituted, electronic struct., solvation and counterion perturbations, bonding, electrochemical props. 1−10638
second-row dihydride systems containing 4 valence electrons, geometries from CNDO/2 method 1−33399
tetrachloroethane, vicinal spin coupling const., dielec. solvent effect, INDO and CNDO/2 calc. 1−51119
thiophosgene, mols. inexcited states, average hole-potential method 1−6163
transition metal complexes, hexamine and hexa-aquo complexes, electronic struct. and parametrisation, CNDO/2 calcs. 1−1110
trichloroethanol complexes, O-H bond vibrs., pot. functions 1−24053
trimethylene selenide, ring puckering pot. functions, rot. consts., vibr., IR and microwave obs. 1−45946
trimethylene sulphide, ring puckering pot. functions, rot. consts., vibr., IR and microwave obs. 1−45946
valence vibration freqs., intramol. interactions effects, CNDO/2 calcs. 1−6176
B hydrides, B chemical shift, gauge invariant atomic orbital semiempirical theory 1−14934
BeF radical in Kr(Ar) gas matrix, ESR and isolation spectra 1−24173
CdS:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546

CNDO calculations continued
$Cr(CO)_6$, free and coord. CO photoionisation spectra, many body effects, CNDO calcs. 1−51122
Fe complexes, electronic struct. of dinuclear transition, He(I) and (II) photoelectron spectra, ab initio SCF calc. 1−6316
$Fe_2(CO)_6S_2$, electronic struct. of dinuclear transition, He(I) and (II) photoelectron spectra, ab initio SCF calc. 1−6316
H_2, dissociative chemisorption on MgO and CaO defect surfaces CNDO investigation *(German)* 1−53473
HCN, CNDO/2, PRDDO and MNDO calc., H-bond strengths, intermol. separations 1−45855
HF-$SO(SO_2)(SO_3)$(sulphoxide)(sulphite) complexes, electronic struct., CNDO/2 calcs. 1−37118
H_2O, CNDO/2, PRDDO and MNDO calc., H-bond strengths, intermol. separations 1−45855
HOO, struct. and bonding, CNDO/2 and INDO calcs. 1−45850
HOS (HSO), struct. and bonding, CNDO/2 and INDO calcs. 1−45850
HSS, struct. and bonding, CNDO/2 and INDO calcs. 1−45850
KCl, self-trapped excitons, non-radiative de-excitation, F- and H-centre prod. 1−12567
Li_2 and Li_{35} BCC cluster, Boyd-Whitehead CNDO parametrisation 1−45853
N_nF_m, s-p separation model, CNDO-MO calcs. 1−1109
Ni, adsorption of CO and N_2, core photoionisation of adsorbates, many-body effects, CNDO formalism 1−39223
Ni, band struct. and chemisorption of H, extended CNDO calc. 1−47447
NiCO, free and coord. CO photoionisation spectra, many body effects, CNDO calcs. 1−51122
$Ni(CO)_4$, free and coord. CO photoionisation spectra, many body effects, CNDO calcs. 1−51122
ZnO:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
ZnS:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
ZnS:Cu, t_2—e localised transition 1−47526

coagulation
aerosols due to turbulence in high-intensity acoustic fields 1−24774
aerosols quasiliquid state, acoustic field action, mechanism 1−29447
aerosols ultrafine particles produced by radiolysis and photolysis, form and evolution 1−43711
colloidal particle deposition on electrode in alternating elec. field, aperiodic electrophoretic drift 1−53482
colloidal particles collected at fluid interfaces, interaction 1−48744
droplets, coagulating, Markovian system, backward Kolmogorov eqn. 1−8623
evolution of system of masses by fragmentation and inelastic collisions, integro-differential eqn. 1−48743
particle coagulation in steady turbulent flow, appl. to smoke aging 1−31915
suspension, electrocoagulation, external elec. field effect on ionic-electrostatic interaction forces 1−26773

coal
see also mining
ash, vaporised, condensation, sticking coefficient, model calc. 1−38524
ashes, analysis using X-ray fluorescence spectrometry 1−50289
bituminous coal classification, appl. of the technique of optimal sections 1−48781
brown coal from Bikin coal field, furnace processes and commercial combustion 1−31979
brown coal-water system, H^+ NMR spin-lattice relax. 1−21071
chemical analysis, instrumental techniques 1−53499
coal/shale interface detector, combines penetrometer and reflectometer meas. 1−36724
combustibility testing in laboratory furnace 1−26747
conversion processes, use of non-fossil derived H_2 1−43828
conversion to gas and liquid fuels, present status 1−39726
crude oil demands and costs and importance of nuclear energy and coal gasification and liquefaction *(German)* 1−13072
dielectric heating of coal and pyrite mixtures, dielectric props. and anal. for pyrite removal from coal 1−43080
Ekibastuz coal with 50% ash content, experimental combustion 1−31976
electromagnetic properties of coal mine strata 1−35935
electrostatic beneficiation using coal-clay triboelectrification 1−20854
energy sources alternative to oil, nuclear energy and coal *(Italian)* 1−31974
environmental control technology for direct combustion, coal-fired generating plant appls. 1−39730
European community coal industry investment requirements *(French)* 1−8661
flash pyrolysis and gasification of coal through laser heating 1−53529
fossil fuels, plasma chemistry, book contrib. 1−34179
gasification and linquefactions R and D, review 1−13071
gasification processes, thermodynamic anal. 1−17147
gasification using HTR process heat 1−48783
handling and storage, environmental effects 1−4226
Kuznetsk 2SS and Donetsk GSSh coals, NO, formation during combustion 1−31978
Kuznetsk coal, combustion in dry-bottom furnaces 1−31977
liquefaction and gasification, use of nuclear energy in gasification *(German)* 1−48782
LMMHD energy conversion systems with solar collectors and cyclone type coal combustors 1−53632
MHD power generation using coal/oil fuel, near term commercialisation 1−53630
non-communist world coal industry, investment, consumer demand and future trends *(French)* 1−8656
nuclear assisted coal conversion for synthetic fuel prod., VHTR process heat appl. 1−53528
nuclear process heat feasibility study using experimental VHTR 1−50752
present position and prospects of alternative energy sources *(German)* 1−43734
pulverised, investigation of ignition and burnout using shock tube techniques 1−26744
raw materials and energy from coal gasificatio: the demonstration plant of the Ruhrchemie/Ruhrkohle for the Texaco coal gasification *(German)* 1−17145
research review, exploration, mining, and preparation in Canada 1−4148
review of production, consumption and future importance to energy industry *(German)* 1−17146
seams, channel wave mapping in UK 1−17695

coal continued
solar gasification of coal, activated carbon, coke and coal and biomass mixtures 1−8687
SRC II fuel oil, characterisation and combustion 1−26748
synthetic natural gas production, purification and cryogenic separation 1−48788
utilisation and conversion, National Coal Board research and development programme, in Britain 1−4150
X-ray fluorescence analysis 1−50290

coating processes *see coating techniques*

coating techniques
see also anodisation; cladding techniques; coatings; electrodeposition; electrophoretic coating techniques; encapsulation; epitaxial growth; metallisation; spray coating techniques; vapour deposition
ceramic prep. of $Al_2O_3.3P_2O_5$ thin layer coating 1−39483
dip coatings, amorphous and cryst., by withdrawing glass panes from organometallic solns. 1−53114
electric-spark coating steel powder material, bonding strength *(Russian)* 1−48567
electroless plating Al_2O_3 powders with Ni and Cu 1−53325
fibres fabrication and performance 1−11190
glass, metallurgical and protective coatings, conf., Geneva, Switzerland, Sept. 1980 1−49879
laser fusion targets, plastic coatings 1−5997
metallurgical coatings, conf., San Diego, CA, USA (Apr. 1980) 1−9765
optical coating preparation for fusion lasers 1−19406
optical fibre fabrication, coating technique for high speed drawing 1−11208
optical fibre secondary coating process, excess loss meas., semi-quantitative method 1−11163
plastic film solar reflectors, metallisation by vacuum deposition 1−13099
polished surface and thin-film coating damage by 1.06 μ laser pulses 1−37529
polyethylene, cryst., thermal energy storage material use and eval., physicochem. props. improvement *(Japanese)* 1−8759
polymer coating prod. by autophoresis *(German)* 1−3957
recent advances in coatings technologies 1−16682
SEM, thin films for specimen coatings, electron backscattering 1−23378
sputtering equipment adaptation for long tubes and strips 1−8228
steel, aluminising by gas atomisation process 1−39539
Al_2O_3-ZrO_2-Al-Ni powder composite, for coating metals 1−21638
Bi_2Se_3 thin film deposition, chemical method 1−12674
Cu coating glass substrates using electroless process 1−16929
Ni-B amorphous-like alloys, electroless plating method using dimethylamine as reducing agent *(Japanese)* 1−43295
TiN coating deposition from N atmosphere by laser irrad. 1−26414

coatings
see also anodised layers; antireflection coatings; claddings; decorative coatings; electrodeposits; electrophoretic coatings; epitaxial layers; insulating coatings; protective coatings; spray coatings; sputtered coatings; vapour deposited coatings; varnish
adhesion determ., scratch test technique, model 1−42662
alumino-silicate coatings on vitroceramic fuel elements, permeability 1−18748
barytic paint, optical props. anal. by IR spectroscopy *(Russian)* 1−8641
battery separators, inorganic-organic, vol. resist. control using filler coating systems 1−32003
ceramic coating development for industrial and utility gas turbines 1−31366
ceramic coatings in diesel engines, microstruct. and thermal effects 1−30597
Cu coated C fibres, high temp. background of internal friction 1−39359
degradation microstruct., correlation with test and use conditions 1−30595
diffusion, in isothermal holding, diffusion coeff. determ. from distrib. of components 1−53354
diffusion, optimum conditions determ., residual stresses calc. 1−35411
dip coatings, amorphous and cryst., by withdrawing glass panes from organometallic solns. 1−53114
film coated glass, asymm. quenching process, theory 1−12764
geothermal energy prod., use of coatings 1−13078
Hialvac glaze, outgassing characts. under ultrahigh vac. conditions 1−40803
ion-implanted surface layers, props. studied by SAW 1−20542
linear induction accelerator dielectric tube selection, coating resistance admissible inhomogeneity 1−37025
magnetite on fracture surfaces of alloy steel, microfractographic invest. *(German)* 1−8431
metal, hydroxide coatings, adhesiveness 1−8464
metallurgical, conf., San Diego, CA, USA (Apr. 1980) 1−9765
microstructure, characterisation methods 1−30593
MnO_2 O_2-selective anode coating for seawater electrolysis 1−8769
polymer, filled, coatings, magnetic field effects on props. *(German)* 1−21601
recent advances in coatings technologies 1−16682
solar collector spectral selective coatings, spectral effects of direct solar irradiance absorptance 1−21919
solar selective coatings, conversion efficiency *(Portuguese)* 1−4212
solar selective surface coatings, review of degradation mechanisms 1−39830
styrene-hexylmethacrylate ultrathin film deposition by withdrawal method 1−31373
surface layer effect on mech. props. in crystals 1−26556
thickness meas., X-ray diffr. 1−53394
thickness measurement of thin films and coatings, criteria for precision evaluation 1−5279
thin, thickness determ. by oblique X-ray diffr. 1−14097
Ag/Pd metal mixture, disperse system, for conductive coating of ceramics *(Bulgarian)* 1−48534
Al coating on polymer film, US adhesion *(German)* 1−8528
η-Al_2O_3, hydroxyl coating, IR spectra 1−3390
CoPt, internal friction peaks due to a coating effect 1−26529
Cr_2O_3-Cr, black solar selective conversion coatings applied to stainless steel substrates 1−21916
Cu, surface layer effect on mech. props. 1−26556
Cu thin coatings on Ni substrate, thickness determ. by oblique X-ray diffr. 1−14097
Fe wire, cold-worked, internal friction peaks due to a coating effect 1−26529

coatings continued
GaAs, oxide film growth by anodization in O plasma, appl. to fabrication of devices and ICs 1−12915
HF-$NaNO_2$ films formed on Si, comp. determ. by IR spectroscopy, aerial oxidation 1−3955
Ni-P, corrosion-mechanical wear in KOH solutions 1−35397
O_2 getter coatings for fission reactor fuel pins 1−18770
Pb-Sb-Te-Cu coating for Pb cables, thickness reduction, mech. props. 1−31563
Si, oxide film growth by anodization in O plasma, appl. to fabrication of devices and ICs 1−12915
Ti coated plasma walls, H adsorption and absorption processes 1−30555
Ti-based coatings for TFTR, D trapping and release 1−25556
TiC overlay coating, friction and adhesive wear 1−31682
TiN coating deposition from N atmosphere by laser irrad. 1−26414
TiN overlay coating, friction and adhesive wear 1−31682

coatings, protective *see protective coatings*

coaxial cables
compressed-gas insulation, conducting particle attached to epoxy resin, influence on breakdown voltage 1−20000
connector pairs, Soviet, loss repeatability meas. 1−23275
noise due to corona discharge from water droplets, pulse distribution characts. obs. 1−15325
RF power meas., electrodynamic reference wattmeter for coaxial channels 1−23258

coaxial lines *see coaxial cables*

cobalt
see also nuclei with .....
adsorption of CO, XPS, UPS and AES study 1−16182
adsorption of Co on TiO_2 supported on alumina in high temp. water 1−53468
anodic films formed in bicarbonate and borate electrolytes, AES anal. 1−48554
Auger spectra identification due to ion and electron impact 1−3553
chemisorption of H_2 on (111) surface, embedded cluster calc. 1−12178
corrosion, high-temp., in SO_2 1−43571
corrosion, in mixed gas environments at elevated temps. 1−3981
Czochralski growth of single crystal 1−3614
determination in Ni electrolytic soln. using flame-atomic absorpt. photometry *(Chinese)* 1−48767
diffusion in SiO_2 films, surface region in profile 1−25508
domain wall centre and domain wall edge NMR reson., ^{59}Co spin echo intensity meas. 1−39007
electrochemical behaviour in bicarbonate and borate electrolytes 1−48553
electrode, interaction with $Na_2O.2B_2O_3$ molten glass under elec. field *(Japanese)* 1−3974
electron and phonon spectra, press. depend. 1−34607
electron mean free path, spin depend. 1−30729
electronic configuration, model pseudopot., calc. 1−30625
extraction from CoAsS ore, using $Fe_2(SO_4)_3$ solns., leaching kinetics 1−2644
ferrofluid, magneto-optical effects 1−26175
ferromagnetic resonance, oxidation effects 1−26042
films, domain struct. near phase transition 1−16463
fine particles, low temp. magnetisation 1−12358
fluctuational form. of pre(ε to γ)-transform. nuclei *(Russian)* 1−11856
gamma source for continuous level gauge 1−221
implanted in solid O_2, Mossbauer studies 1−47987
internal friction at spin reorientation transforms. *(Russian)* 1−42463
ion exchanged dehydrated A zeolite, extended X-ray absorpt. fine struct. 1−26726
ion penetration into Si, fracturing of Si 1−26397
LWRs, sources and causes of radiation build-up with emphasis on ^{60}Co release reduction 1−50953
magnetisation self reversal, appl. to palaeomagnetism 1−12354
martensitic transform. study using proton backscatt. shadow effect *(Russian)* 1−3734
metallic film, ultra-thin, spin polarised, self-consistent band struct. calc. 1−30623
NMR study, crit. region and ferromag. and paramag. phases 1−26067
non-equilibrium defects created by HCP⇌FCC phase changes, positron trapping study 1−8156
orbital and high-field susceptibility calcs. 1−16430
ore availability, Co content effects on Ni-base superalloys 1−48244
oxidation and scale growth, SIMS anal. 1−31767
oxidation of (0001) surface, temp. depend., LEED-AES study 1−34581
powders, fine, prod. by formate pyrolysis 1−39275
powders, prep. by vapour phase reduction of chlorides 1−43297
reserves, Co content effects on Ni-base superalloys 1−48244
Riga Gulf, distrib. of Sc, Hf, Th, Ln, Ce, Eu, Mn, Fe, Co in bottom sediments and suspended matter *(Russian)* 1−13449
secondary ion yields, M^+ and M_2^+, temp. depend. 1−21309
spontaneous magnetisation, modified Zener model 1−34864
steel, stainless type 316, diffusion of Mo^{99}, Zr^{95}, and Co^{60} 1−16094
thermal expansion of single cryst., dilatometric meas. 1−42555
thermoelastic EMF, effect of annealing at $\alpha \rightleftharpoons \beta$ transform. temp. 1−42748
thin films in contact with Al, spin polarised tunnelling, mag. suppression 1−42923
undercooling effect on grain structure *(Japanese)* 1−3712
X-ray Faraday effect and optical activity 1−48047
Al_2O_3-Co cermet, effective medium models for inhomogeneous material optical props. 1−37409
Co^{2+}:$KZnF_3$, optically pumped, CW IR laser action 1−51487
$CdCl_2(Br_2)$:Co, appl. of thermally detected EPR 1−47939
Co (II) in presence of thiopyrimidines, catalytic polarographic prewaves 1−48733
Co:N_2^+, implantation profiles, AES 1−42412
Co/Al_2O_3 codeposited granular films, filling factor determ. 1−30600
Co-Au, neutron spectrum sensitive monitors, for neutron activation anal. 1−48760
Co-Si interface first phase nucleation by electronic instability 1−16191
Co-SiO_2 granular films, mag. and transport props. 1−47888
Co-U, neutron spectrum sensitive monitors, for neutron activation anal. 1−48760
Co(II), sequestriation on polyacrylamidoxime resin for determ. in natural waters 1−53490
^{58}Co implantation in Ni for positron annihilation Doppler broadening meas. 1−32968

cobalt continued
^{59}Co, monocrystal, nuclear orientation thermometer for neutron expts. with oriented targets 1−1047
^{60}Co, gamma-irradiating unit for biological objects *(Ukrainian)* 1−27047
^{60}Co γ-ray chronic irradiation at low dose rate on rhesus monkey, estimation of damage to humans 1−32210
^{60}Co γ-ray irrad. of silkworm eggs *(Chinese)* 1−32188
^{60}Co in ion-exchange resins, storage and disposal *(Japanese)* 1−18777
^{60}Co teletherapy units, revised depth dose data 1−22134
$CsCdF_3$:Co^{2+}, spin Hamiltonian, transferred hyperfine interaction ENDOR spectra 1−52867
Cu:^{57}Co, Mossbauer line diffusional broadening angular depend. 1−16512
GaAs:Co, impurity electron states 1−25657
$KMnF_3$:Co^{2+}, effect of paramag. impurities on EPR linewidth 1−26022
$MgCl_2$:Co, appl. of thermally detected EPR 1−47939
MgF_2:Co, VUV absorpt. spectra, X-ray luminesc. kinetics and thermolum. props. 1−31184
MgF_2:Co^{2+}, d-electron interaction matrices, energy level calc. 1−42729
MgO:Co^{2+}, ESR study 1−34934
$MgTiO_3$:Co^{2+}, fine struct. parameters, ESR study 1−26021
$MgTi_2O_5$:Co^{2+}, photoanodes coloration, solar energy appl. 1−31169
Ni-NiO-Co ferromag. tunnelling junction, spin-polarised tunnelling of electrons *(Japanese)* 1−12210
NiO, Co^{60} and Cr^{51} grain-boundary diffusion 1−25506
SrO:Co^{2+}, off-centre substitutional defects, absorpt and EPR spectra, elec. field effect 1−3245
YIG:Co^{2+}, magnetoelastic props., FMR and static capacitance 1−26006
ZnS:Co, impurity centre resonance line inhomogeneous broadening 1−26248
ZnS-Cu, Co-luminophores to improve photographic quality of IR radiation fields *(Russian)* 1−28101
ZnSe:Co, high energy luminescence bands 1−8128

cobalt alloys
see also cobalt compounds
Alnico, anisotropic permanent magnet, effect of magnetisation distrib. upon field calc. 1−12341
Alnico permanent magnets, elongated single domain particles, rotational hysteresis and magnetisation curling 1−12352
Astroloy, grain boundary void nucleation, produced by room temp. deform. and anneal. 1−8350
Astroloy, high temp. deform. modes 1−21548
Astroloy superalloy, hot isostatically pressed, porosity effect on mech. props. 1−3667
Elinvar, Fe-Ni-Co, precip.-hardening, physicomech. props., Co effect 1−43397
Hastelloy X, Al_2O_3, coating, carburization resistance 1−30594
Hastelloy X, CVD-produced Ni-Si(-Cr-Ti) coatings 1−31362
Inconel 617, corrosion behaviour in H_2 base gas mixture 1−16971
Inconel 617, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
Inconel 617, effect of stressing on intergranular oxidation *(Japanese)* 1−31743
Nimonic 90, Ni-Cr-Co alloy, fatigue behaviour, time dependent deform. 1−35391
rare earth-Co, sorption of H_2 and D_2 at press. up to 1500 atm. 1−20552
rare earth-Co alloy magnets, magnetisation temp. depend. determ. method 1−18260
rare earth-Co alloys, magnetism 1−25894
rare earth-Co Laves-phase, exchange and cryst. field excitations 1−20972
rare earth-cobalt magnets, hysteresis loops meas. using pulsed mag. fields *(Japanese)* 1−5347
rare-earth-Co permanent mag. alloy 1−12384
superalloy, Haynes no. 188, high temp. deform. 1−39404
thoriated W filaments in alloy matrix, interaction at 1200-1600°C 1−16106
ticonal alloy, YuNDK35T5BA, transform. of γ phase, mag. and struct. props. *(Russian)* 1−31457
Udimet 710, thermal fatigue resistance, influence of protective coatings 1−31759
Waspaloy, fracture under hot-forming conditions 1−39460
Al-Co, peritectic transformations during crystallisation 1−47213
Au-Co, galvanomagnetic effects in solid solution and precipitate phases 1−7591
Au-Co (4.8 wt.%), precipitation kinetics by meas. saturation magnetisation 1−48350
Au-Co amorphous film, Hall effect 1−34686
$(CO_xMn_{1-x})_{75}P_{16}Al_9$, amorphous, spin glass-paramag. phase boundary, exchange intractions 1−30957
(Ce-La) $[Co_{1-x}(Cu,Fe)_x]_5$, phase relations and mag. props. 1−8272
(Ce-La-Nd-Pr-Fe)$_2$$Co_{17}$, equilibrium relations among mag. phases 1−26427
Cn-Co, spin glass, Hall effect, elec. cond., mag. susceptibility *(Russian)* 1−47612
Co grains dispersed in liq. Cu matrix, coarsening study 1−53182
Co-Ag-MoS_2 powder metallurgical composite, mech. props. 1−39464
Co-Ag-$NbSe_2$ powder metallurgical composite, mech. props. 1−39464
Co-Al system, new multilayer martensitic phases after repeated $\beta \leftrightarrows \alpha$ transform 1−3732
Co-B, amorphous, elec. resist., remnant crystallinity effects, theory 1−30701
Co-B, amorphous, X-ray and neutron diffr. obs. 1−52079
Co-B sputtered films, Hall effect and anisotropic magnetoresist. 1−7588
Co-Cr, corrosion, Na_2SO_4 induced at 600 to 900°C 1−21632
Co-Cr sputtered film, perpendicular magnetization mode 1−12369
Co-Cr-Al, Co-Cr-Al coating, doped, Al_2O_3 scale morphology 1−31756
Co-Cr-Al (10, 11 wt.%), influence of Pt addition on Al_2O_3 scale adherence in oxidation 1−35433
Co-Cr-Al coating, hot corrosion resistance, effect of modification by active elements 1−31761
Co-Cr-Al-Hf(-Pt) second generation turbine airfoil coatings in marine service 1−30596
Co-Cr-Al-Y coating, laser surface treatment 1−31763
Co-Cr-Al-Y(-Ni)(-Si) superalloy overlay coating, hot-corrosion-resistant, for gas turbine engines 1−31760
Co-Cr-Mo alloys, adhesive wear resist., influence of microstruct. 1−12889
Co-Cr-Nb, thermodynamically calculated phase diagrams 1−16756
Co-Cr-Ni, X-40, gas turbine materials, thermal fatigue testing 1−35388
Co-Cr-P, amorphous, corrosion props. rel. to alloy comp. 1−35427
Co-Cr-Ta, thermodynamically calculated phase diagrams 1−16756
Co-Cr-TaC (10, 14 wt.%), hot corrosion and oxidation 1−31747

cobalt alloys continued
Co-Cr-Ti (25, 2.5-10 wt.%), oxidation, 1173-1373K, effect of Ti 1−39538
Co-Cr-(Al), corrosion in mixed gas environments at elevated temps. 1−3981
Co-Cr-(Ni-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652
Co-Cr(Mn), mag. susceptibility, 1000 to 1800°C, temp. and conc. depend. *(Russian)* 1−12257
Co-Cu, dil., ^{59}Co NMR, influence of short range order and screening *(Russian)* 1−31060
Co-Fe-Si-B amorphous alloys, struct. changes during heating 1−2330
Co-Fe-Si-B amorphous alloys, mag. relax., permeability, domain walls 1−30983
Co-Fe-V alloy, stator core of aircraft electrical alternator, effect of flux and stress conditions on mag. props. 1−12376
Co-Ge, dil., ^{59}Co NMR, influence of short range order and screening *(Russian)* 1−31060
Co-Mn-B amorphous alloy, mag. props. 1−12284
Co-Ni (33 wt.%), deform. twinning under cyclic conditions and strain reversibility in high-strain fatigue 1−30247
Co-Ni (33-45 wt.%), low cycle fatigue, influence of slip 1−31651
Co-Ni base multiphase alloys, strain induced transform. 1−12756
Co-Ni-B sputtered films, Hall effect and anisotropic magnetoresist. 1−7588
Co-Ni-Cr-Al-Y reaction-sintered coating on Co-Ni-Cr-W, mech. props. and environmental resistance 1−31762
Co-Ni-Cr-Nb-Fe, γ''-precip. strengthened, yielding behaviour 1−53237
Co-Ni-Cr-W superalloys coated with Co-Ni-Cr-Al-Y, mech. props. and environmental resistance 1−31762
Co-Ni-Nb, spring, resist. to small plastic deforms., temp. depend. 1−48430
Co-Ni-(Cr), TaC-fibre reinforced, material transport methodology, appl. to impact wear 1−21593
Co-P, amorphous, X-ray spectra and XPS, electron distrib. determ. 1−31234
Co-P, amorphous thin film, optical props., electronic struct., short-range order 1−31212
Co-P electrodeposited amorphous alloy, mag. anisotropy 1−30935
Co-Pt (40 to 67 at.%) thin films, mag. behaviour 1−34862
Co-Pt alloys, interdiffusion 1−16108
Co-Si, dil., ^{59}Co NMR, influence of short range order and screening *(Russian)* 1−31060
Co-Si, energy spectrum struct. of valence electrons *(Russian)* 1−35122
Co-Si, liq., entropy of mixing, electronic contrib. 1−30398
Co-Si(B), spin echo NMR meas. 1−26076
Co-Sm-Cu alloys, directional solidification path and phase diagram 1−35246
Co-Ti, recovery, nonsteady-state coalescence during two-stage ageing treatment *(Russian)* 1−3791
Co-W coatings, produced from Co plating electrolyte and Na_2WO_4 electrolytes, struct. *(Russian)* 1−12929
Co-WC system, pseudobinary eutectic reaction 1−39329
Co-Zr, glassy, d-band splitting, UPS and XPS study 1−12636
Co-Zr amorphous alloy, mag. props. 1−12283
CoAl, APW band struct., densities of states, complex dielec. function 1−7501
CoCrAlY/calcium silicate corrosion-resistant thermal barrier coating 1−39530
$(Co_{0.83}Cu_{0.17})_6Ce$, struct. changes during ageing, mag. props. 1−31508
$(Co_{0.81}Cu_{0.19})_{5.5}Sm$ alloy, struct. and coercive force after heat treatment, X-ray diffr. study 1−20131
$(Co_{0.89}Fe_{0.11})_{72}Mo_3Si_{15}B_{10}$ metallic glass ribbon, induced mag. anisotropy 1−38928
$Co_{58}Fe_5Ni_{10}B_{16}Si_{11}$ metallic glass, Votrovac 6010, Young's modulus changes during structural relaxation 1−43399
$Co_{71.4}Fe_{4.6}Si_{9.6}B_{14.4}$ amorphous alloy, Lorentz electron microscopy 1−12339
CoGa, dilatometric study of vacancy mobility 1−52133
CoGa, ordered, self-diffusion coeffs. and mechanisms, triple defect concept 1−38578
$Co_{100-x}Ga_x$, thermal and constitutional vacancies 1−25258
$Co_2Ga_{2-x}Fe_x$, vacancies and site occupation, Mossbauer, X-ray diffr., and density meas. 1−7984
$Co_{2-x}Ge(Ge_{1-y}Ga_y)$, β and η phase, struct. study *(French)* 1−30137
$Co_{94-x}M_xB_6$ (M=Hf, Zr, Ta, Ti, Nb), glass form. comp. ranges and mech. props. 1−35353
$Co_{78-x}M_xSi_{10}B_{12}$, (M=transition metal), metallic glass, form. and thermal stabilities, alloying substituents influence 1−26420
$Co_{72}Mo_3Si_{15}B_{10}$ metallic glass ribbon, induced mag. anisotropy 1−38928
$(Co_3Ni_{1-x})_{75}P_{16}B_6Al_3$, amorphous, mag. and transport props. 1−7587
CoP layers, cylindrical, amorphous, non-annealed and annealed, influence of torsion on magnetic properties 1−52819
$Co_{76}P_{24}$, amorphous electrodeposited alloy films, Barkhausen noise 1−21012
$Co_{85}P_{15}$, amorphous, magnetisation processes *(Spanish)* 1−12340
CoPt, internal friction peaks due to a coating effect 1−26529
CoSi, liq., entropy of mixing 1−30389
$CoSi_2$-Si, heterostruct. growth by MBE 1−16692
$CoSn_{(2)}$, X-ray spectrum anal. of electronic struct. *(Russian)* 1−48197
Co_3Sn_2, X-ray spectrum anal. of electronic struct. *(Russian)* 1−48197
Co_xSn_{1-x}, amorphous, elec. transport and stability 1−30698
Co_xSn_{1-x}, vapour quenched, mag. behaviour 1−25984
Co_3Ti, electron energy spectra 1−52478
Cr-Co, dil., resistivity anomaly, Neel temp., rel to conc., press. 1−38760
Cr-Co antiferromag. alloys, press. effect on resist. min. 1−25720
Cr-Co-Cu-Fe permanent magnet alloys, deform.-aged, mag. props. 1−12342
Cr-Co-Fe permanent mag. alloy 1−12384
CrCoFe based permanent magnet alloys, mag. hardening 1−12343
Cu-Al-Co, dispersion hardening alloys, temp. depend. of flow and critical shear stresses 1−53194
Cu-Al-Co, hetero-phase, mech. twinning *(Russian)* 1−2464
Cu-Al-Co, noncoherent particle containing, work hardening, plastic deform., slip lines, and inelasticity *(Russian)* 1−3764
Cu-Al(Co) (2 wt.%), solid solns., cyclic deform. behaviour 1−31568
Cu-Be-Co (2, 0.05-1.0 wt.%), Co influence on vol. fraction of discontinuous precipitation cells *(Japanese)* 1−31461
Cu-Co (1.4 and 2.0 wt.%), underaged solid soln., cyclic deform. behaviour 1−31568
Cu-Co alloys, discontinuous precipitation 1−26461

cobalt alloys continued
Cu-Ti(Cr)(Mn)(Fe)(Co)(Ni), intercrystn. internal adsorpt., lattice constants *(Russian)* 1−47044
(Cu-Au)-Co, superposition of precipitation and solid soln. hardening 1−35268
Dy-Co, amorphous, thermal stability, crystn. study by DSC and X-ray diffr. 1−30091
$DyCO_3$, multiplateau H sorption isotherms, Rees theory 1−30553
$DyCo_2$, transport props. rel. to mag. ordering transition 1−42747
$DyCo_3$, H absorption isotherms, Lacher and Rees theories, enhancement 1−52417
$DyCo_3$, magnetostrictive strains, 77K to room temp. 1−21023
$DyCo_{5.3}$, magnetisation, magnetostriction, spin reorientation, mag. field effects *(Russian)* 1−7877
Dy_3Co, metamagnetic phase transitions *(Russian)* 1−20982
Dy_3Co, metamagnetic phase transition, mag. hysteresis and galvanomag. effect 1−52781
$DyCo_3H_x$ (x=0 to 4.25), H_2 desorpt. isotherms 1−2803
$ErCo_2$, ground-state spin dynamics, neutron inelastic statt. meas. and Green's function RPA calc. 1−34874
$ErCo_2$, transport props. rel. to mag. ordering transition 1−42747
$ErCo_3$, magnetostrictive strains, 77K to room temp. 1−21023
(Fe, Co, Ni)-(Zr, Hf) amorphous alloys, mag. props. 1−25905
$(Fe,Ni,Co)_{90}Zr_{10}$, amorphous, Invar characts., thermal expansion, mag. props., and elec. resist. 1−7926
Fe-Co, soft X-ray appearance potential spectra 1−3538
Fe-Co Si liq. system, determ. of activity of components from gas solubility knowledge *(German)* 1−8269
Fe-Co-Si-B amorphous alloy sheets, eddy current losses, field annealing 1−12351
Fe-Co-Si-B amorphous alloys, spin echo NMR meas. 1−26076
Fe-Co-V (50, 0.4-2.0 at.%), ordering transformations 1−35251
Fe-Co-V (50, 2 wt.%), cc Al_2O_3 plasma deposited coatings, effect of impregnation and thermal ageing on insulating props. 1−12773
Fe-Co-W alloys, semihard mag. props. *(Japanese)* 1−26637
Fe-Co-W semihard mag. alloy, mag. anisotropy *(Japanese)* 1−43544
Fe-Cr-Co (55, 27, 17 wt.%), high-coercivity thermomag. treatment 1−42983
Fe-Cr-Co-Si permanent mag. alloy, mag. props. and Mossbauer spectra, heat treatment effect *(Chinese)* 1−52753
Fe-Cr-Co-V-(Ti), hard magnets, U and V-Ti additions effect on mag. and mech. props. 1−52798
Fe-Ni-Co film, production of stable, planar, micron-size magnetic domains 1−52818
Fe-Ni-Co thin film, relaxation processes under electron-nuclear resonance conditions 1−12428
Fe-Ni-Co(-Mo), maraging alloys, deformation and heat treatment, strength increase *(Russian)* 1−43371
Fe-Ni-Nb-(Co), martensite ageing, Co-effect *(Russian)* 1−48380
Fe-Ni-Ta-Co, martensite kinetics 1−3738
Fe-Sb-Co, short range order, zero field NMR investigation 1−52850
FeCo, elec. resist., order depend. determ. 1−47606
FeCo, electron energy spectra 1−52478
FeCo, high-temp. phase transition, kinetic props. 1−30382
Fe_xCo_{1-x}, surface atomic order and ferromagnetism 1−52404
$Fe_{74}Co_{10}B_{16}$, Metglas 2605CO, Mossbauer study, crystn. and Curie temps. 1−39015
$(Fe_xCo_{1-x})_{89}Cr_{11}$, Invar properties, role of crystal and electronic structure 1−20981
FeCoNi-SiB amorphous alloys, zero magnetostriction, heat treatment 1−3230
$Fe_{68}Co_{20}P_{12}$, amorphous electrodeposited alloy films, Barkhausen noise 1−21012
$Fe_{1-x}Co_xSi$ solid solutions, low-temp. specific heat, ferromagnetism 1−20419
$Fe_5Co_{70}Si_{15}B_{10}$, amorphous alloy, X-ray struct. anal. *(Chinese)* 1−25164
$(Gd,Y)_4Co_3$, magnetic and transport props. 1−25898
Gd-Co, amorphous, thermal stability, crystn. study by DSC and X-ray diffr. 1−30091
Gd-Co, amorphous sputtered thin films, TEM study *(Japanese)* 1−21018
Gd-Co, amorphous thin film, perpendicular anisotropy, influence of O_2 adsorption 1−38926
Gd-Co amorphous films, bulk and surface reson. props. 1−12363
Gd-Co amorphous mag. film, domain wall dynamics, in-plane field effects, expt. 1−12370
Gd-Co amorphous RF sputtered films, perpendicular anisotropy and magnetostriction, origin, expt. 1−52810
Gd-Co/Permalloy, amorphous multilayer films, mag. props., meas. 1−12362
Gd-Co/Tb-Fe, amorphous multilayer films, mag. props., meas. 1−12362
Gd-Co-Mo sputtered films, perpendicular anisotropy rel. to oxidation during annealing 1−12281
Gd-Co-Z (Z=Fe, Mo, Cu, Au, Cr, etc.) amorphous films for magnetic bubbles, book contrib. 1−30999
GdCo film, amorphous sputtered, substrate bias effect on O contamination 1−25587
GdCo film, RF sputtered, spatial uniformity, O distrib. influence 1−12364
GdCo film, sputtered amorphous, growth induced perp. mag. anisotropy *(Korean)* 1−12365
GdCo sputtered amorphous films, effect of Ar gas press. 1−25586
$GdCo_3$, magnetostrictive strains, 77K to room temp. 1−21023
$GdCo_3$ sputtered amorphous film, domain struct. depend on anisotropy 1−34913
$GdCo_5$, domain nucleation obs. 1−16457
$Gd_{21}Co_{79}$ amorphous films, induced mag. anisotropy, mag. field annealing effect *(Russian)* 1−25993
Gd_xCo_{1-x}, amorphous, mag. anisotropy 1−25927
Gd_xCo_{1-x} films, mag. and magneto-optical props., mag. field intensity and chem. comp. influence *(Russian)* 1−3223
Gd_xCo_{1-x}, $Gd_x(Co_2Ni_{1-y})_{1-x}$, amorphous films, charged wall form. 1−7914
$Gd(Co_xAl_{1-x})_2$ compounds, mag. props. and reson. studies 1−52847
$Gd(Co_xAl_{1-x})_2$, ESR study 1−7946
$Gd_2(Co_{1-x}Fe_x)_{17}$, mag. anisotropy, NMR study 1−31061
$GdCo_5H_x$, hyperfine field at ^{59}Co nuclei, NMR spin echo study, H conc. effect 1−3292
$Gd(Co_xNi_{1-x})$ ($0 \leq x \leq 0.3$), transport and mag. props. 1−25701
$Gd_{0.2}(Co_xNi_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
$Gd_{0.2}(Fe_xCo_{1-x})_{0.8}$, amorphous, mag. props. 1−3157

cobalt alloys continued
HoCo amorphous films, Hall hysteresis loops in vicinity of compensation temp. 1−25988
$HoCo_2$, transport props. rel. to mag. ordering transition 1−42747
$HoCo_3$, magnetostrictive strains, 77K to room temp. 1−21023
$HoCo_2Si_2$, solid solution, mag. susceptibility, lattice const. *(Russian)* 1−20967
$(La_{0.5}Ce_{0.5})Ni_{5-x}Co_x$, absorption of H_2, hysteresis effects 1−2632
$LuCo_2$, Pauli paramagnet, electronic specific heat in high mag. fields 1−7349
MoCo, μ-phase, amorphous, annealing behaviour 1−12766
Nb-Co-B, phase equilib. at 800°C 1−3699
$Nb_{80}Ga_{20-x}Co_x$, superconducting props., effect of Co impurities 1−38893
Ni-base superalloy, evaluation of γ′ particle spacing along dislocation 1−42392
Ni-Co alloy electrodeposition, surfactants effect 1−16706
Ni-Co-Cr, Rene′ 150, gas turbine materials, thermal fatigue testing 1−35388
Ni-Co-Cr-Al-Y plasma-sprayed coating, coating-substrate interdiffusion 1−30489
Ni-Co-S phase diagram, isothermal section at 1273K 1−48329
Ni-Cr-Al-W-Ti-Mo-Co, precipitation strengthened, microchem. heterogeneity and mech. props. 1−39343
Ni-Cr-Co-Mo, Inconel, plasma-sprayed coatings for gas turbine bucket 1−21643
Ni-Cr-Nb-Co (15, 10, 6.8-33.5 wt.%), dispersion and precip. hardening, effect of Co 1−16795
Ni-Cr-W-Co-Mo-Al-Ti alloy KhN50VMKTYuR, recrystn., original grain size effect 1−43364
Ni-Ti(Nb)(Mo)(Fe)(Co)(Cu)(Al) binary solid solns., anneal hardening 1−31474
$NpCo_2Si_2$, mag. props., high press. Mossbauer study 1−47992
Pd-Co, magnetic anisotropy in Pd rich alloys 1−7826
PdCo, dil., ferromag. to spin glass transition, magnetoresist. study 1−30940
$Pd_{70}Si_{20}Co_{10}$, metallic glass, mag. correlation neutron meas. 1−3142
$Pr_{0.27}Co_{0.73}$, amorphous, crystn., magnetisation, coercivity, laser annealing effects 1−38948
Pr_2Co_{17}, hard axis anisotropy meas., single-point detection technique 1−16438
$R_{67}Co_{33}$ (R=Nd, Sm, Gd, Dy, Er), metallic glasses, defect struct., positron studies 1−43205
Sb-Co alloys, electrodeposition 1−39254
Sc-Co-Si system, crystallochem. analysis 1−52105
$Sc_5Co_4Si_{10}$ and isomorphous compounds, supercond. props. 1−7772
$Sc_5Co_4Si_{10}$, tetragonal struct., X-ray struct. anal. 1−20115
$(Sm,Pr)Co_5$ sintered permanent magnet, mag. props. −60 to +200°C 1−7893
$Sm(Co,Cu,Fe,M)_z$ magnets, M=Ti, Zr, Z=6.8, 7.25, microprobe and TEM study 1−52304
$Sm_2(Co, Cu, Fe, Zr)_{17}$ magnets, resin bonded 1−8252
$SmCo_5$, 4f and band contribution to Sm form factor 1−25678
$SmCo_5$, amorphous sputtered films, crystn., mag. and struct. changes 1−16459
$SmCo_5$ based permanent magnets, methods of determ. perfection of mag. and cryst. texture 1−16460
$SmCo_5$ hydriding kinetics for H_2 storage appls. 1−2804
$SmCo_5$ magnet, hot isostatically pressed 1−8253
$SmCo_5$ magnets, oxidation controlled mag. ageing, mag. losses meas. 1−53305
$SmCo_5$ magnets, texture, liq.-phase sintering effect 1−21386
$SmCo_5$ permanent magnets, mag. props. and microstruct., effect of comp., sintering and heat treatment temp. *(Chinese)* 1−35405
$SmCo_5$ sintered permanent magnet, mag. props. −60 to +200°C 1−7893
Sm_2Co_{17}, modified, sintered permanent magnet, mag. props. −60 to +200°C 1−7893
$Sm_2Co_{10}Cu_{1.48}Fe_{3.16}Zr_{0.194}$ hard permanent magnet, domain wall pinning 1−7875
$Sm_{26}(Ga_{0.35}Co_{0.65})_{17}$, X-ray cryst. struct. determ. 1−2396
$Sm_{0.5}M_{0.5}Co$, (M=Ce 50%, La 20%, Nd 10%, Pr 10% etc.), amorphous sputtered films, crystn., mag. and struct. changes 1−16459
$Sm_{1-x}Nd_xCo_5$, orientation phase transform., magnetisation curves *(Russian)* 1−38931
$Sm_{2-x}R_xCo_{10}Cu_{1.5}Fe_{3.2}Zr_{0.2}$ (R=Gd, Tb, Dy, Ho, Er) magnets 1−7901
$Sm_{2-x}R_xCo_{17-y}Mn_y$ (R=Gd,Er,Dy), magnetic props. 1−25930
α-Sn-Co, state of soln. of Co, Mossbauer study 1−42587
Ta-Co-B, phase equilib. at 800°C 1−3699
$TbCo_2$, transport props. rel. to mag. ordering transition 1−42747
$TbCo_3$, magnetostrictive strains, 77K to room temp. 1−21023
Th_7Co_3Hx, magnetic props. 1−20956
$Th_2(Fe_{1-x}Co_x)_{17}$, ordering, neutron diffr. study 1−25890
Ti-Co, hydride development for hydrogen storage 1−20556
TiC-WC-Co, struct. form. during isothermal sintering 1−16716
$Ti(Fe_{0.5}Co_{0.5})$, off-stoichiometric, mag. props. 1−47923
UCo_2, electronic struct., photoemission study 1−48230
UCo_2, non-stoichiometric, mag. AC susceptibility 1−47847
$U_{66}Co_{34}$, glasses, mag. susceptibility, resistance, magnetisation 1−3148
$U(Co_xNi_{1-x})_2$, ferromagnetism onset 1−47887
$U(Fe_xCo_{1-x})_2$, exchange-enhanced paramagnetism and ferromag. behaviour obs. 1−25873
WC-(TiC)-Co powders, pressing with high hydrostatic pressure 1−3671
WC-β-TiN-Co alloy, sintered, β-free layer formed near surface *(Japanese)* 1−43343
WC-Co, (6 wt.%), cemented alloy, anodic behaviour in H_3PO_4 solns. 1−21630
WC-Co, fracture toughness and stress rupture behaviour 1−39439
WC-Co, struct. defect anal., TEM study 1−20222
WC-Co, VK8 and VK15, subjected to cyclic cantilever bending, residual porosity effect 1−12865
WC-Co (10-30 wt.%) cemented carbides, effects of domain size of binder phase on high temp. strength 1−3912
WC-Co cemented carbide, bend-deform. behaviour and transverse-rupture strength at elevated temps. *(Japanese)* 1−26550
WC-Co compacts, sintering, influence of process variables, optical and electron microscopy study 1−3659
WC-Co composites, grain boundary anal., defect struct., TEM 1−25291
WC-Co detonation deposited coatings, porosities 1−39494
WC-Co detonation-deposited coatings, adhesion to stainless steel 1−4000
WC-Co hard alloy boring tool bits, fracture ductility 1−26623
WC-Co-(TiC) hardmetal, vacuum sintering furnace atm. effect on C content 1−53132

cobalt alloys continued
YCo_2, thermopower and elec. resist., temp. depend. 1−42747
YCo_5, domain wall centre and domain wall edge NMR reson., ^{59}Co spin echo intensity meas. 1−39007
YCo_5, magnetisation density and cryst. struct., polarised neutron study 1−25882
Y_4Co_3, magnetic and transport props. 1−12271
Y_4Co_3, magnetism and supercond., AC susceptibility and elec. resist. meas. 1−25897
YCo_5H_x, hyperfine field at ^{59}Co nuclei, NMR spin echo study, H conc. effect 1−3292
$Y_2(Co_{1-x}M_x)_{17}$ (M=Cu,Al), mag. anisotropy and NMR, individual Co-site contrib. 1−52770
$Y_{1-x}Gd_xCo_5$, magnetocrystalline anisotropy *(Russian)* 1−25926
$Y_{1-x}Nd_xCo_5$, mag. props. *(Russian)* 1−30976
$ZrCo$, $ZrCo_{0.84}Ni_{0.16}$, solubility of H_2, plastic deform. and lattice disordering 1−20388
$Zr(Co_{1-x}M_x)_2$ (M=Cr, Mn, V), hydride prop., cryst. struct. and thermodynamic props. 1−7133
$Zr(Fe_{1-x}Co_x)_2$, hyperfine interactions and local mag. ordering, Mossbauer and NMR study 1−47984

cobalt compounds
see also cobalt alloys
Co complex, cis-$(Co(en)_2(Im)Cl)Cl_2$ where Im=imidazole or substituted imidazole, ^1H and ^{13}C NMR and IR spectra 1−52852
cobalt III complex, Co(III) acetylacetonate, Mossbauer spectra 1−43049
complexes in aqueous solutions and polycrystalline form, X-ray spectra study 1−39182
ferrite, cation site occupation parameter, synchrotron-radiation diffr. data 1−7146
pentaamminepyrophosphatocobalt (III) monohydrate, unidentate, structural model 1−17339
phthalocyanine, and derivatives, thermoelectrical props., influence of gases 1−2995
pigments, inorganic, UV-visible absorpt. spectra rel. to cryst. struct. 1−16581
tetraamminepyrophosphatocobalt (III) dihydrate, bidentate, structural model 1−17339
$AgCl-CoCl_2$, liquid mixtures, excess enthalpies 1−16046
Co black, electroplated selective absorpt. coating, struct., thermal stability, preparation 1−2833
Co complex, $[CO(NH_3)_5NCSAg](ClO_4)_3$, mol. vibr., IR and Raman obs. 1−14906
Co complex, $[Co(CH_3CH)_6]^{2+}$, Urey-Bradley force constants, normal vibrations and Raman active fundamental frequencies 1−35019
Co complex, $[Co(\text{nicotinic acid})_2(acac)_2]_n$, synthesis and characts., IR and photoacoustic spectra, chem. anal. and mag. susceptibility 1−48072
Co complex, $Co_2(CO)_6$di(tri-n-butyl phosphide) anion radical 1−33381
Co complex, $CoCl_2$-bispyridine, electronic, structural and mag. props. of ^{57}Fe atoms created by ^{57}Co electron capture decay 1−26092
Co complex, Co(II)-trimethylphosphine, tetra and pentacoord. compounds, mol. and cryst. struct., EPR spectra 1−52123
Co complex, cobalt pyridine chloride, excitations and mag. ground sate, exchange parameters, spin cluster reson. 1−25880
Co complex, fade-out of NQR lines and motion of $H_5O_2^+$ ion, NMR, E PR and dielectric meas. 1−3289
Co complex, N,N′-ethylenebis(acetylacetonatiminato)Co II, electronic struct., EPR and ENDOR study 1−38976
Co complexes, $Co_2(CO_8)L$ (L=substituted acetylene), dinuclear transition, electronic struct., He(I) and (II) photoelectron spectra 1−6315
Co complexes, Co(pyridine N-oxide)$(H_2O)Cl_2$, IR spectra, metal-ligand modes assignments 1−31142
Co II complexes, X-ray K-absorpt. spectra 1−12601
Co III complexes, X-ray K-absorpt. spectra 1−12601
Co-S melt system, thermodynamic props. 1−2657
$CoAl_2O_4$, solubility in molten Na_2SO_4 at 1200K 1−20386
$Co(As_xS_{1-x})_2$, S Kβ X-ray emission spectra 1−53015
$Co_3B_7O_{13}I$, preparation and cryst. struct. 1−38343
$CoBr_2(Cl_2)$, layered crysts., vibr. struct. of cryst. field spectra, IR absorpt. study 1−34668
$CoCO_3$, spin excitations in longitudinal mag. field 1−38919
$CoCO_3$, trigonal, synthesis under press. in igneous phase 1−35202
$Co(CO)_4^-$, electronic struct., SCF Xα calcs. 1−24037
$Co_2(CO)_8$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
$CoCl_4^{2-}$, spin density, HF calcs., rel. to neutron diffr. results 1−6136
$Co(ClO_4)_2.6H_2O:Mn^{2+}$, structural phase transitions, EPR study 1−2617
CoF_2, electronic, structural and mag. props. of ^{57}Fe atoms created by ^{57}Co electron capture decay 1−26092
CoF_2:Mn, coherent reconstruction of the spin wave spectrum *(Russian)* 1−3164
$CoFe_2O_4$, small-scale prep. by thermal decomp. 1−8262
$Co_xFe_{3-x}O_4$ coating on γ-Fe_2O_3 powder, Mossbauer effect study *(Chinese)* 1−52871
$CoFe_xRh_{2-x}O_4$, Spinel, Mossbauer study 1−7982
$Co_{0.995}Fe_{0.005}S_2$, Mossbauer study in external mag. field, mag. struct., quadrupole splitting 1−26098
Co(II) complexes, axial ligation of Schiff base complexes with Lewis bases and CO, EPR 1−47934
CoIII complexes, circ. dichroism, depend. on outer sphere config. 1−1266
$Co_xMg_{1-x}F_2$, mag. excitation dispersion relation and dynamic susceptibility 1−25914
$Co_{1.75}Mn_{1.25}O_4$, mag. props. and magnetoelectric effect *(Russian)* 1−34918
CoMnP, cryst. struct. determ. 1−15866
$Co_xMn_{0.62-x}Zn_{0.27}Fe_{2.08}O_4$, ferromag. reson. parameters, saturation magnetis. and magnetocryst. anisotropy, 77-300K *(Russian)* 1−16485
$[Co_2(NH_3)_{10}(O_2)](HSO_4)_3(SO_4)$, struct. reinvestigation at room temp. and at 17K 1−34298
$Co_xNi_{1-x}F_2$, mag. excitation dispersion relation and dynamic susceptibility 1−25914
$Co_xNi_{1-x}O$, monocryst. growth, appl. of floating zone technique *(French)* 1−3619
$Co_{1-x}Ni_xS_2$, appl. of kinetic exchange interaction is doubly degenerate narrow band 1−3168
CoO, addition to Mn-Zn ferrite, effect on mag. microstructure 1−20958
CoO, cation diffusion, isotope effect 1−2683
CoO formation on Co, scale growth, SIMS anal. 1−31767
CoO, textural props. 1−38636
CoO undoped crysts., elec. props. 1−30747

cobalt compounds continued
CoO:Li, semiconductor props., electrochem. meas. 1−47742
CoO-ZnO-Cr_2O_3-Fe_2O_3-TiO_2 system formation and colour of spinel solid soln. 1−16544
$Co_{3-x}O_4$, prepared by thermal decomp. of $Co(NO_3)_2$, stoichiometry effect on mag. behaviour 1−7814
Co_3O_4 coating, solar selective, for high temp. solar collector 1−13177
Co_3O_4, cryst. growth, flux method, X-ray struct. determ. *(French)* 1−20143
Co_3O_4 decomposition press. determ. from elec. conductivity meas. 1−43656
Co_3O_4, solubility in molten Na_2SO_4 at 1200K 1−20386
Co_3O_4, textural props. 1−38636
$Co_3P_6O_{18}.14H_2O$, preparation and thermal behaviour 1−39257
$Co(S_xSe_{1-x})_2$, Hall effect and magnetoresistance 1−38796
$CoSe_2$, $d\gamma^{\dagger}$ pyrite type, electron correlation and band width, elec. and mag. props. 1−16423
$CoSi_2$, form. by interdiffusion, growth and oxidation, radioactive ^{31}Si marker expts. 1−47304
$CoSi_2$, oxidation ^{31}Si tracer studies 1−3958
$CoSiF_6.6H_2O$, dielec. props. near struct. phase transition temp., temp. and freq. depend. 1−31080
$CoSiF_6.6H_2O$, polarised absorption spectra, vibr. anal. 1−52934
$CoSiF_6.6H_2O:Mn^{2+}$, EPR 1−34927
$CoSiO_4$, olivine and spinel phases, IR spectra 1−12499
Co_2SiO_4, spinel phase, IR spectra 1−12499
$Co_xZn_{1-x}F_2$, mag. excitation dispersion relation and dynamic susceptibility 1−25914
$Co_xZn_{1-x}Rh_2O_4$ spinel solid soln., mag. dilute, mag. meas. 1−7816
$Co_xZn_{1-x}Rh_2O_4$, spinel solid soln., EPR study 1−3240
$Co_xZn_{1-x}Rh_2O_4$ spinel solid solution, EPR powder spectra 1−7942
$Co(acac)_2$ complex, Mossbauer spectral study 1−31076
Cr_2O_3-CoO chemical-spray-deposited films, optical props., substrate temp. effects 1−53009
$CsCoBr_3$, Ising-like antiferromagnet, quantisation of magnetic excitation continuum 1−12314
$CsCoBr_3$, magnon Raman scatt., interchain coupling 1−39099
$CsCoCl_3$, Ising-like antiferromagnet, quantisation of magnetic excitation continuum 1−12314
$DyCo_3H_x$ (x=0 to 4.25), H_2 desorpt. isotherms 1−2803
Fe-Co-O system, thermogravimetry and X-ray diffr. study at 900°C *(French)* 1−39322
$Fe_{1-x}Co_xCl_2$, mag. props., order parameters effects 1−25938
$Fe_{1-x}Co_xCl_2$, randomly mixed antiferromag. with competing spin anisotropy, neutron diffr. study 1−16428
$Fe_{1-x}Co_xCl_2.2H_2O$, random mixture with competing anisotropies, ordering, Mossbauer study 1−38912
$Fe_{3-x}Co_xO_4$, Mossbauer spectroscopy, substitution effect on Verwey transition 1−12438
$Fe_{1-x}Co_xS_2$, appl. of kinetic exchange interaction in doubly degenerate narrow band 1−3168
$KCo(Au(CN)_2)_3$, piezoelectric, crystal struct., lattice const. determ. 1−25209
$La_{1-x}Sr_xFe_{1-y}Co_yO_3$ series, electrode for O_2 evolution, struct. and elec. cond. 1−31867
Mn-Co-Ni-Cu complex oxide semiconductors, spinel struct., AC hopping cond. 1−20786
Mn-Zn-Co ferrite, Fe-deficient, cryst. growth by Bridgman method, mag. props. 1−8216
MnO-CoO antiferromag. solid soln., thermomag. study 1−52785
$Ni_{0.2}Co_{0.8}LaO_3$ anodic electrocatalyst for H_2 production by H_2O electrolysis 1−43676
$NiCo_2O_4$ anodes, optimization of gas evolving teflon bonded electrodes for H_2 prod. appls. 1−39650
$NiCo_2S_4$ cathodes, optimization of gas evolving teflon bonded electrodes for H_2 prod. appls. 1−39650
$Ni_{1-x}Co_xS_2$, electronic struct. and transport props. 1−47460
$Sr(Co_{1-x}Mn_x)O_3$ perovskite, isotropic temp. factors, spin state change rel. to lattice parameter 1−38354
Ti/CoO_x, photoanode, photoelectrochem. props., visible light response meas. 1−26753
$Zn_{2-x}(Co,Ni)_xGeO_4$ inverse spinel, order-disorder transitions possibility 1−38531
ZnO-CoO(NiO)-Al_2O_3 systems, spinel solid solns., ZnO vapour pressure 1−20370

cochlea *see ear*

codes
see also encoding
computer code for magnetic flux compression by expanding plasma armatures 1−34059
fibre-optic data transmission system characteristics and codes *(German)* 1−24528
laser Doppler anemometer, optimum code in single-particle vel. estimation 1−2117
light interference, direct digital transformation of measured values 1−23298
single frequency codes in laser plasma imagery *(French)* 1−51986

coding *see encoding*

coefficient of thermal expansion *see thermal expansion*

coercive force
see also magnetic hysteresis
Alnico permanent magnets, elongated single domain particles, rotational hysteresis and magnetisation curling 1−12352
amorphous ferromagnet, metastable states in random anisotropy model, Monte Carlo simulation 1−12248
ferrite powder, hard, coercivity field strength dependence on packing density obs. *(German)* 1−52807
ferromagnetic materials, coercive force determ., soln. *(Russian)* 1−3219
garnet bubble film, coercivity meas. method 1−7909
Invar, deformation before heat treatment, effect on props. and fine struct. 1−43440
MnZn ferrite, effect of doping with GeO_2 or SnO_2 on microstruct. and mag. props. 1−30980
rare earth alloys, $R_{1-x}Fe_x$ (R=Sm, Gd, Tb, Dy, Ho, Er, Tm, Lu), amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
steel, low C, type SKF-REMKO, mag. props., review 1−3221
steels, hardness of tempered ports, instrument for nondestructive mag. testing 1−31810
steels, quenched and tempered, mag. charact., correl. with thin-struct., and plasticity 1−31690

coercive force continued
ticonal alloy, YuNDK35T5BA, transform. of γ phase, mag. and struct. props. *(Russian)* 1−31457
$BaFe_{12}O_{19}$, chemically coprecipitation form., DTA, X-ray and magnetic obs. 1−39290
$BaFe_{18}O_{27}$ ferrite, sintered, remanence, coercive force 1−38953
Bi-MnBi composite, mag. props., effects of plane-front solidification and heat treatment 1−12345
Ce-Fe, amorphous, mag. props. and Kerr rot. 1−25970
$(Co_{0.81}Cu_{0.19})_{5.5}Sm$ alloy, struct. and coercive force after heat treatment, X-ray diffr. study 1−20131
CrCoFe based permanent magnet alloys, mag. hardening 1−12343
CrO_2 preparation by oxidative process 1−35203
Dy_3Co, metamagnetic phase transitions *(Russian)* 1−20982
Er alloys, amorphous, mag. and elec. props. 1−25991
Fe, magnetic properties of plastically deformed single crysts. 1−47906
Fe, sintered, Fe_3P addition effect on mag. props. and struct. 1−52805
Fe sinters, magnetically soft, influence of P on props. 1−39476
Fe-Al-Si, sendust, mag. props., appl. as video head for high coercive tape 1−7892
Fe-Co-W alloys, semihard mag. props. *(Japanese)* 1−26637
Fe-Co-W semihard mag. alloy, mag. anisotropy *(Japanese)* 1−43544
Fe-Cr-Co (55, 27, 17 wt.%), high-coercivity thermomag. treatment 1−42983
Fe-Cr-Co-Si permanent mag. alloy, mag. props. and Mossbauer spectra, heat treatment effect *(Chinese)* 1−52753
Fe-Cr-Co-V-(Ti), hard magnets, U and V-Ti additions effect on mag. and mech. props. 1−52798
Fe-Mn, mag. alloys, high-remanence square-loop, mag. props. 1−7894
Fe-Ni, mag. alloys, high-remanence square-loop, mag. props. 1−7894
Fe-Ni-Co film, production of stable, planar, micron-size magnetic domains 1−52818
Fe-Si (3 wt.%), grain-oriented, mag. props., annealing coating and surface condition effects 1−8441
Fe-Si (3%) transformer plate, ferromagnetic domain structure *(Hungarian)* 1−25975
Fe-Si alloy (6 to 7 wt%), ribbon form, prep. grain struct., coercive force, annealing 1−8251
Fe-Si-Al, mag. props. in high-freq. region 1−7882
$Fe_{1-x}B_x$ sputter films, prep. and struct., coercive field obs. 1−26386
$Fe_{100-x}B_x$, amorphous and annealed, Lorentz electron microscopy study 1−30065
FeC_xB_{16-x} amorphous alloy, core loss meas. 1−12360
FeCoNi-SiB amorphous alloys, zero magnetostriction, heat treatment 1−3230
$Fe_{40}Ni_{40}B_{20}$, amorphous, inhomogeneously deformed, domain wall pinning 1−30970
$Fe_{80-x}Ni_xP_{20-y}B_y$ amorphous ferromagnetic alloys, short-wavelength elastic stress effect on coercive force *(German)* 1−31009
FeO_x Berthollide ferrite films deposited by vacuum-arc evaporation 1−12658
γ-Fe_2O_3 magnetic thin film disk media, prep. method by reactive sputtering 1−21350
γFe_2O_3 powder with $Co_xFe_{3-x}O_4$ coating, Mossbauer effect study *(Chinese)* 1−52871
γ-Fe_2O_3-Fe_3O_4 solid solns., changes in coercive force with magnetostrictive anisotropy 1−12353
Fe_3O_4, magnetite particles suspension, high coercive force, synthesis and coating 1−7899
$(\gamma\text{-}Fe_2O_3)_x(Fe_3O_4)_{1-x}$ acicular particles, mag. props. 1−47917
$Fe_{95-x}W_5B_x$, metallic glass, mag. props. and thermal stability meas. 1−20071
Gd-Co amorphous mag. film, domain wall dynamics, in-plane field effects, expt. 1−12370
$GdCo_3$ sputtered amorphous film, domain struct. depend on anisotropy 1−34913
GdFeBi-CdS.Cu.Cl photoconductor sandwich, thermomagnetic switching effect 1−25944
$Li_{0.5}Fe_{2.5}O_4$, spinel, sintering and mag. props. 1−3681
$Li_{0.5}Fe_{2.5}O_4$-Bi_2O_3, high-dispersity powders prep., sintering and mag. props. 1−26412
$MgAl_{0.2}Cr_xFe_{1.8-x}O_4$ ($0 \leq x \leq 0.6$), Cr effect on mag. and elec. props. 1−7190
MnAl, melt extracted, mag. props. and permanent magnet parameters 1−12344
MnAlC, melt extracted, mag. props. and permanent magnet parameters 1−12344
Mo Permalloy film, cathode sputtering deposition mag. props. 1−8226
Ni-Fe-Mn alloys of high const. mag. permeability 1−7887
NiZn ferrite, single cryst. growth by Bridgeman method, mag. charact. 1−8215
Pr-Fe 1−25970
Pr-Fe amorphous alloys, melt-spin, prep. and coercive force 1−47900
$(R_{75}Au_{25})_{100-x}B_x$, (R=Pr,Gd,Tb,Er), elec. and mag. props. 1−3149
(Sm,Pr)Co_5 sintered permanent magnet, mag. props. −60 to +200°C 1−7893
Sm(Co,Cu,Fe,M)$_z$ magnets, M=Ti, Zr, Z=6.8, 7.25, microprobe and TEM study 1−52304
$SmCo_5$ magnet, hot isostatically pressed 1−8253
$SmCo_5$ permanent magnets, mag. props. and microstruct., effect of comp., sintering and heat treatment temp. *(Chinese)* 1−35405
$SmCo_5$ sintered permanent magnet, mag. props. −60 to +200°C 1−7893
Sm_2Co_{17}, modified, sintered permanent magnet, mag. props. −60 to +200°C 1−7893
$Sm_2Co_{10}Cu_{1.48}Fe_{3.16}Zr_{0.194}$ hard permanent magnet, domain wall pinning 1−7875
$Sm_xEr_{3-x}Ga_yFe_{5-y}O_{12}$ thin films, high coercivity, thermomag. writing 1−25943
SmFe, splat quenched, mag. props. *(Russian)* 1−30989
$SmFe_2$, amorphous, quenched, mag. props. meas., 4.2 to 300K 1−38951
$(SmLuCa)_3(FeSi)_5O_{12}$ epitaxial films on CaGeGa garnet, mag. and struct. charact. 1−42988
Tb-Fe amorphous thin films, mag. props., magneto-optic memory appls. 1−12347
$TbFe_2$ films, microstresses and coercive force meas. *(Russian)* 1−25994

coercivity *see coercive force*

coherence
see also light coherence
acoustic signals, coherence function estimation for system with group delay, time window effects 1−6720

coherence continued
coherent scintillator in internal resonance EM field *(Russian)* 1−26275
concepts of coherence, different approaches in physics 1−40660
electron source coherence and brightness, emission and energy broadening 1−37398
EM radiation properties from partially correlated current distrib. 1−1454
excitons, intermediate coherence domain, transient grating expts., exciton-transport theory 1−12037
Heisenberg ring, q or p representations, creation and annihilation operators, coherent states 1−23041
image reconstruction from projections via coherent-optical deconvolution 1−6502
imaging processes and coherence in physics, workshop, Les Houches, France (March 79) 1−36456
neutron beam polarisation, coherent approach 1−37047
tropical Pacific Ocean, temp. fluctuations coherence scales 1−17598
partially coherent synthetic aperture radar imaging, random fade conditions, ocean waves from Seasat-A 1−54294
perfect crystal X-ray and neutron interferometry 1−36782
solar oscillations, statistical significance of reported phase coherence 1−13750
TEM and STEM electron beam coherence and image formation 1−36775
US spectroscopic scattering expts. 1−39584
vector time series in multichannel geophysical data, polarisation and coherence 1−36062
X rays, angular coherency and focusing problems *(Russian)* 1−36778
X-ray characteristic radiation, angular coherency *(Russian)* 1−5448
X-ray photoelectric absorption, coherent and incoherent scatt., $E_X<1$ MeV 1−39180
X-rays, dynamically diffracted, coherence props. 1−11636

coherence distance *see coherence length*

coherence length
superconducting transition temp., pair susceptibility and coherence length 1−12225
Bi-Fe amorphous sandwiches, proximity effect and transition temp. meas. 1−42919
In superconducting microbridge, elec. props. and Josephson effect response to microwave radiation 1−47807
Nb_3Sn, supercond. flux lines, pinning by grain boundaries 1−42930
Pb-In superconducting microbridge, elec. props. and Josephson effect response to microwave radiation 1−47807
Pb-sapphire interface, surface superconductivity and Kapitza resistance 1−20917
Re, magnetic props. in supercond. state, purity effect *(Russian)* 1−25832

coherent accelerators *see collective accelerators*

coherent antiStokes Raman scattering
acetylene, pulsed supersonic mol. beam CARS spectroscopy 1−41387
air, CARS spectra, rot., N_2 and O_2 intensities 1−28980
benzene, multiphoton fragmentation, C_2 detect. CARS probe technique 1−35585
carbon tetrachloride, vibr., relaxation times, band shapes in CARS spectra 1−28981
β-carotene, reson. CARS line shapes via Franck-Condon scatt. 1−15046
coherent picosecond interactions, vibrational dephasing phenomena, book contrib. 1−51562
coherent Raman spectroscopy, theory, practice and appls., book contrib. 1−51563
cycloheptatrienes, transient mol. states in photoisomerisation, CARS spectra 1−13023
cytochrome-c, reson. CARS line shapes via Franck-Condon scatt. 1−15046
flames temp. and concentration meas. appl. 1−13012
methane, Raman scatt. coherent spectroscopy using automated high-resolution CARS spectrometer 1−33065
methane-d_4, Raman scatt. coherent spectroscopy using automated high-resolution CARS spectrometer 1−33065
methyl iodide, vibr., relaxation times, band shapes in CARS spectra 1−28981
molecules, optically active, three wave mixing, Raman and two-photon reson. 1−37546
naphthalene neat crystals, vibr. relax. by ps CARS 1−12485
optical fibre, tuning Raman mixing effects *(Chinese)* 1−51615
pyrene in cyclohexane soln., resonance CARS 1−3380
pyrene-N,N-diethylaniline exciplex in cyclohexane soln., resonance CARS 1−3380
quantum theory of anti-Stokes Raman scattering 1−41780
semiconductors, small-gap, zincblende structure four-wave polarisation CARS 1−46440
spectra calculation, alternative method 1−29338
three-wave mixing in optically active medium, Raman-and two-photon reson. 1−37546
time-resolved, synchronously pumped mode-locked CW dye laser 1−23318
CdS, biexcitons, active nonlinear spectroscopy, propag. effects and Fano interf. 1−46453
CuCl, biexcitons, active nonlinear spectroscopy, propag. effects and Fano interf. 1−46453
GaAs free carrier concentration, four-wave polarisation CARS study 1−46440
GeH_4, rotational struct. of vibr. state $\nu_1(a_1)$, Raman scatt. coherent spectroscopy 1−10739
$^{74}GeH_4$, CARS and IR spectroscopy, vibr. states 1−14891
N_2, CARS spectra, interference effects 1−33467
N_2 CARS thermometry, press. broadened line width 1−14115
N_2, liq., use of synchronously pumped oxazine laser 1−23318
N_2, pressure-induced narrowing of CARS spectrum 1−19105
N_2, spectroscopic contants of electronic ground state using CARS 1−33468
N_2 supersonic jet, press. and temp. distribs. CARS meas. 1−29808
N_2, vibr., relaxation times, band shapes in CARS spectra 1−28981
NO, CARS spectra, interference effects 1−33467
O_2, CARS spectra, interference effects 1−33467
SF_6, vibr.-rot. coupling consts., coherent Stokes and anti Stokes Raman obs. 1−51212
$^{28}SiH_4$, CARS and IR spectroscopy, vibr. states 1−14891
UF_6, vibr.-rot. coupling consts., coherent Stokes and anti Stokes Raman obs. 1−51212

coherent optical transients *see optical coherent transients*
coherent potential approximation *see CPA calculations*
cohesive energy *see binding energy*
coils
see also inductors; solenoids
1.5 MJ pulsed supercond. ohmic heating coil for Tokamak fusion reactor 1−45735
3 MJ coil for superconductive energy storage 1−48928
air-coil design using numerical optimization methods 1−6423
circular coils separated by nonferrous metal sheet, transfer impedance calc. 1−24324
electromotance induced in coil moving with respect to long wire *(Polish)* 1−29169
ferrite core coils, meas. of inductance and Q-factor using direct-reading instrum. 1−40815
generators, helical compressed magnetic field, COMAG III code, numerical studies 1−33017
helical flux compression amplifiers 1−32982
high-inductance explosive magnetic generators with high energy multiplication 1−33027
impedance calc., for NDT of flaws in metallic structs. 1−12945
loudspeaker cone vibration and sound pressure response, voice coil and surround effects *(Japanese)* 1−19534
magnetic field generators, helical compressed magnetic field, COMAG-III two dimensional MHD code 1−34116
magnetometer coils geometry optimisation, fluctuations effects minimisation *(German)* 1−50175
megagauss field generation using pulsed coil 1−33022
megagauss field production by axial compression and cylindrical plasma liners 1−33024
megagauss field production by flux compression with a metallic liner 1−33020
megagauss fields in single-turn coils, production and measurement 1−33013
minigenerator system for megagauss field production with small explosive charges 1−33018
parylene conformal insulation coatings for coil winding industry 1−53366
pulsed currents, fast, high-level, using Rogowski coil 1−23266
pulsed magnetic field generators and their practical application 1−33012
superconducting magnet energy storage coil, conductor qualification tests, stability and fatigue 1−48923
superconducting magnetic energy storage coil, 30 MJ, design 1−53703
superconducting ohmic heating coils, pulsed cable test facility development 1−51992
superconducting ondulator for synchrotron radiation light 1−51009
superconducting toroidal field coil, 12 T, for fusion engineering test facility, scoping study 1−50926
CuNi:Cu:NbTi mixed matrix Rutherford cable, high-field bipolar loss meas. apparatus 1−50159
NbTi superconducting toroidal field coil, bath-cooled with superfluid He 1−51994
coincidence circuits
see also counters
counters, Cox-Isham formula modification for Gandy effect, electronic compensation 1−10610
DAG, digital-analogue generator of coincident pulse pairs for nuclear detector telescope 1−37078
dead time effects of time jitter and metastable gamma-transitions in coincidence systems 1−45802
gamma-ray detection, scintillation counters, parameter calc. 1−10602
multichannel detector system coincidence time distrib. recorder 1−1032
multiple ADC controller for coincidence and scaling, using minicomputer 1−23990
MWPC, trigger system using cathode read-out chambers and a coincidence matrix 1−14784
pair-coincidence matrix for nanosecond range 1−1031
shift-register coincidence electronics system for thermal neutron counters 1−18978
time interval centre marking device 1−45796
^{240}Pu fission neutrons, coincidence counting, shift register method 1−51067
Si(Li) detectors as anticoincidence shield, low level α and β meas. 1−23969
coincidence counters *see coincidence circuits; counters*
cold-cathode tubes
see also counting tubes; photomultipliers; phototubes
No entries
cold rolling
Al, tensile props., planar anisotropy *(Korean)* 1−12799
Armco Fe, quantitative anal. of intergranular surfaces orientation after deform. and recrystn. *(French)* 1−48362
BCC poly cryst. metals, high purity, comment on cold rolling textures *(Japanese)* 1−31479
FCC metals and alloys, Hall-Petch relation appl., effect of prestrain 1−3845
low C, cold rolled microstruct. and recrystallisation *(French)* 1−21478
Permalloy, cold-rolled, magnetoelastic effect in ferromagnet, struct. and processing effects 1−34917
polycarbonate, cold rolling and residual stress effect on impact strength 1−48370
preferred orientation, X-ray texture meas. system, computerised *(German)* 1−21689
roller tool production materials engineering 1−12686
steel, Al-killed, {001} [001] secondary recrystn. 1−53207
steel, aluminised by gas atomisation process 1−39539
steel, cold rolling theories based on equilib. approach 1−12757
steel, cold-rolled sheet, three-dimens. orientation *(Chinese)* 1−53195
steel, Cr-Ni (25, 20 wt.%), ferrite precipitation after cold rolling and ageing 1−12750
steel, eutectoid, cold-rolled, mech. behaviour, effect of rapid annealing 1−21485
steel, killed, cold rolled sheet, surface texture *(French)* 1−21477
steel, low C, ductility improvement by warm rolling and annealing 1−53238
steel, low-C, cold-rolled, magnetic anisotropy, mechanical momentum curves *(Russian)* 1−16910
steel, mild, cold-rolled, 3D anal. of recrystallised textures *(Japanese)* 1−26495
steel, mild, cold-rolled, Young's modulus and texture comparison of models *(Japanese)* 1−43361

cold rolling continued
steel, P, deep drawing, cold-rolled and annealed sheets, spatial orientation distrib. of crystallites *(Chinese)* 1−39345
steel, P textured sheets with high normal plastic anisotropy, elastic props. calc. 1−43402
steel, stainless, cold-rolled 18Cr-8Ni, microstruct. changes with annealing *(Japanese)* 1−26493
steel, stainless, ferritic, Ti stabilised, struct. transforms., heat treatment effect 1−48390
steel, stainless, two-phase, deformation-induced changes in microduplex struct. 1−21556
steel, surface properties of cold rolled sheet, ion microprobe anal. 1−30406
Al, cold rolling theories based on equilib. approach 1−12757
Al, pure, elec. resist., effect of high deform. 1−16913
Al, superpure, recrystn. and grain growth effect of free surface *(Chinese)* 1−35272
Al, texture evolution during tensile strain, quantitative prediction 1−21481
Al-Mg alloy 2024, tensile props., planar anisotropy *(Korean)* 1−12799
Al-steel fibre deformable composite, preparation, heat treatment *(Russian)* 1−16718
Cu alloys, laser irrad. effect on props. *(German)* 1−38404
Cu, OFHC, cold rolled, recrystallisation and ageing, high hydrostatic pressure effect *(Japanese)* 1−48379
Cu, rel. between texture inhomogeneity in cold-rolled and recrystallised polycrystn. specimens 1−48358
Cu-Ni-Sn (9, 6 wt.%), precipitation and recrystallisation 1−26498
Cu-Sn-Be, vol. changes, warping and residual stresses during heat treatment 1−3805
$Cu_{60}Zr_{40}$ cold rolled amorphous alloy defects, electron microscope obs. 1−11678
$Cu_{60}Zr_{40}$, cold-rolling and subsequent annealing, X-ray diffr., DTA and EM study 1−3783
Fe-Co-W semihard mag. alloy, mag. anisotropy *(Japanese)* 1−43544
Fe-Ni-Mn-Ti (10, 5, 1.5 at.%), Mossbauer spectra, annealing and rolling effects on mag. props. 1−39013
Fe-Ni-(C) alloys, recrystn. behaviour of austenite cold rolled, or formed by reverse martensitic transformations *(Japanese)* 1−26453
Fe-Si (3 wt.%), grain-oriented, mag. props., annealing coating and surface condition effects 1−8441
Fe-Si (3 wt.%), texture form. during manufacture of ribbon with rib texture 1−8328
$Fe_{40}Ni_{40}B_{20}$, amorphous, inhomogeneously deformed, domain wall pinning 1−30970
$(Mo_{0.6}Ru_{0.4})B_{18}$ metallic glass superconductor, fluxoid pinning, cold rolling effect 1−20933
Ti-Al-V alloy sheet, hot and cold rolled, elastic props. and crystallographic texture anisotropy *(Russian)* 1−31529

cold shortness *see brittleness*

cold working
see also bending; cold rolling; plastic deformation; slip; work hardening
Hastelloy alloy C-276, Ni-base superalloy, hydride form. 1−53271
nichrome alloy EI435, wires, texture formation during cold draining and annealing *(Russian)* 1−39346
plastic, cold forming, recovery due to viscoelastic props. *(German)* 1−26497
polyethylene, melt crystallized, chain defect distrib. and microstruct., defect size and plastic deform. 1−2348
polymeric materials, cold forming, book contrib. 1−39305
recrystallisation nuclei, growth and form. around particles 1−8340
steel, austenitic, impact properties at low temp. *(Japanese)* 1−26624
steel, austenitic, metastable, struct. and strength *(German)* 1−31460
steel, austenitic corrosion resist., methods of increasing yield point *(Czech)* 1−8373
steel, austenitic stainless, creep, effect of prior cold working 1−3840
steel, austenitic stainless, degree of sensitisation, effect of prior cold work 1−43575
steel, austenitic stainless, exposed to oxygenated Na, form. of $NaCrO_2$ 1−21769
steel, C, dynamic recovery during hot working, model, rel. to cold working *(German)* 1−26522
steel, C 1−53266
steel, cold-drawn U9A wire, ductility, scale effect 1−3860
steel, eutectoid, cold drawn, pitting, crevice and stress corrosion cracking studies 1−53330
steel, HSLA sheet, flow and fracture after cold forming *(French)* 1−3769
steel, low C, susceptibility to cold forming, hardening causes and reduction *(French)* 1−21479
steel, low C, type SKF-REMKO, mag. props., review 1−3221
steel, mild, cold rolled, anisotropy of Young's modulus and texture *(Japanese)* 1−3808
steel, pearlitic, alloying element redistribution during heating 1−31504
steel, quenched and tempered, fatigue cracks, effect of fretting and environment 1−12858
steel, Si, hot-rolled coil, welded joint fracture *(Chinese)* 1−53255
steel, stainless 316, aged, neutron irradiated, cold worked, irradiation induced microstruct. changes 1−2525
steels, C, deformed and tempered, recrystn. and grain growth 1−53202
stel, maraging, anisotropy of shear-spun tubes 1−21554
superplasticity, micrograin, effect of thermal and mech. history 1−52221
Zircaloy-2 pressure tubes, cold-worked, creep ductility in-reactor 1−43430
AgCdO, worked sintered, working and heat treatment effect on strength props. 1−3781
Al-Cu dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Mg (0.03 at.%) alloy, dil., dislocation internal friction peaks with anomalous amplitude effect *(Chinese)* 1−21500
Al-Mg dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Mg-Zn, fully annealed, stretcher strain marks and stress corrosion *(French)* 1−3773
Co-Ni base multiphase alloys, strain induced transform. 1−12756
Cr plate, exposed to oxygenated Na, form of $NaCrO_2$ 1−21770
Cu single crysts., cold worked and neutron irradiated, stress relax. and activation vol. at yield point 1−31492
Fe-C, pure, mech. props. under thermal and deformed ageing conditions 1−26503
Fe-Cr-(Ni) alloys exposed to oxygenated Na, form of $NaCrO_2$ 1−21770
Fe-Ni, mag. alloys, high-remanence square-loop, mag. props. 1−7894

cold working continued
Fe-Ni alloys, exposed to oxygenated Na, form of $NaCrO_2$ 1−21770
Fe-Ni-Co(-Mo), maraging alloys, deformation and heat treatment, strength increase *(Russian)* 1−43371
Fe-Pd alloy systems, linear magneto-striction and elastic props. 1−12374
Nb_3, H cold work peak 1−8338
Ni-Cu (30 wt.%), effect of working temps. on recrystn. behaviour 1−16802
$Sb_2O_5.nH_2O$, fast proton cond., ion-exchange props. and densification under cold pressing 1−7380
$SnO_2.nH_2O$, fast proton cond., ion-exchange props. and densification under cold pressing 1−7380
Ti-Nb, supercond., effect of cold working on precipitation behaviour 1−21452
Zr alloys, irradiation growth, review 1−50779
Zr-Nb (2.5 wt.%), pressure tubes, cold-worked, creep ductility in-reactor 1−43430
$ZrO_2.nH_2O$, fast proton cond., ion-exchange props. and densification under cold pressing 1−7380

collections of physical data
A=106, nuclear data sheets to May 1980 1−17954
A=115, nuclear data sheets to October 1979 1−17955
A=152, nuclear data sheets to September 1979 1−17953
A=191, nuclear data sheets to September 1979 1−22961
A=45-90 nuclei, gamma transition strengths 1−13941
A=85, nuclear data sheets to August 1979 1−22959
A=92 nuclear data sheets to September 1979 1−22960
actinide atoms, resonance charge transfer cross section tables 1−13943
alpha particle energies and intensity values 1−13939
astrophysical formulae, book, second edition 1−9784
aza-compounds, He(II) photoelectron spectra, valence ionisation energies and obs. vibr. progression tables 1−6318
Catalogue of Stellar Identifications (CSI), microfiche edition 1−49538
direct Coulomb M-subshell ionisation by charged particles, nonrelativistic PWBA calcs. 1−17944
ENDF/B-V data for nuclear cross sections, integral testing for radiation protection appls. 1−50964
ENDF/B-V reactor dosimetry file, data testing 1−50991
exciplex laser active media, review 1−1553
gamma-ray energy calibration, IUPAP standards 1−17946
gaseous dielectrics, electron swarm data relevant to HV insulation 1−6920
geomagnetic intensities during July 1968 to December 1969 from Ottawa Magnetic Observatory 1−40061
heavy charged particle impact, K- and L-shell ionis. cross sections, plane wave Born approx. calcs. 1−13942
isonitriles, He(II) photoelectron spectra, valence ionisation energies and obs. vibr. progression tables 1−6318
lanthanide atoms, resonance charge transfer cross section tables 1−13943
laser crystals, physics and properties, book 1−44723
laser lines, optically pumped, CW $\lambda>9$ μm, ordered list 1−49886
lattice stability of AX and AB_2O_4 cpds., data tables 1−52101
methane-propane mixture, phase equilibria, heat of mixing, vol. change on mixing, Gibbs free energies 1−9779
methyl cyanide, isotopic forms, vibr. rot. consts., mol. moments, hyperfine struct., appl. to radio-astronomy 1−13836
Mo binary systems, phase diagrams, thermodynamic data 1−22
molecules, HF values of atomic integrals useful in LCAO-MO calcs. 1−13940
nitriles, He(II) photoelectron spectra, valence ionisation energies and obs. vibr. progression tables 1−6318
NMR-ON experiments, tabulation up to August 1980 1−34945
nuclear data sheets, recent references Jan.-Apr. 1980 1−32809
nuclear decay data, statement of uncertainties 1−5035
ozonograms, total O_3 in atmosphere 1−54228
ozonograms recorded at Uccle, Belgium, (July to Sept. 1979) *(French, Flemish)* 1−36037
photoelectric attenuation factors for photon transport calcs. 1−23130
planetary nebulae, catalogue and bibliographical index on mag. tape and microfiche 1−49539
polymers, low loss, optical consts. meas. 4 to 40 cm^{-1} 1−49885
rainfall in India, daily rainfall tables (1901 to 1950), for 342 stations 1−44289
rainfall record of Cirencester, England (1844 to 1977) 1−32501
range and stopping tables for 2.5-100 MeV/nucleon heavy ions in solids 1−5034
relativistic radiationless transition probabilities for atomic K- and L-shells 1−17945
solar line profiles, investigation of spectra obtained with double-pass monochromator *(Russian)* 1−9458
stars, UV filter photometry from OAO 2 1−40468
stellar open clusters, present data situation 1−36351
old stellar parallaxes, compilation and probable error recalibration 1−40461
sunspots, areas and numbers (1972-6), catalogue 1−32691
thermal negative ion sources, struct. and performance *(Japanese)* 1−22958
Tokamaks, sputtering yield data, comparison of meas. and estimates 1−25024
Be isoelectronic series ions, autoionis. states at. consts. 1−17947
CO_2 isotopic species, laser transition absolute frequencies 1−19320
D_2O, enthalpy, saturation states, thermodynamic props., vapour press., virial coeffs. 1−11886
Ge, refractive index and its wavelength and temp. derivatives 1−9778
H_2O, vapour, absorpt. meas. using tunable far-IR optically pumped laser, data in region 60-105 cm^{-1} 1−10727
Hg_2Cl_2-water system, solubility data compilation and evaluation 1−52298
Mo, alloys and compounds, crystal structure and density data 1−23
Mo, alloys and compounds, diffusion data 1−25
Mo chalcogenides, crystal structures and density data 1−24
Mo, compounds and alloys, thermochemical props. 1−21
Mohalides, crystal structures and density data 1−24
Pb salts, solubility in H_2O and aq. electrolyte soln. 1−9780
Si, refractive index and its wavelength and temp. derivatives 1−9778
$^{235}U(n,f)$, uncertainties in ENDF/B-V fission spectrum 1−50672

collective accelerators
30 MeV high-current accelerator radiation loads and acceptable current losses 1−37024
annular charged-particle beams, eqn. for mean square dimension derived by moments of distrib. function method 1−23924

collective accelerators continued
Auto-Resonant Accelerator, Faraday cup array for meas. of beam profile and HF wave behaviour of electron beam 1−23922
autoacceleration of REB with coaxial resonator *(Japanese)* 1−18930
HF waves impressed on intense relativistic electron beam, structure determ. 1−1478
inertial confinement fusion target, relativistic electron beam conversion to ion beam 1−6060
intense electron beam, collective acceleration by autoacceleration process 1−41261
ion acceleration by electrons, ion energy distrib. funct., automodel soln. *(Russian)* 1−37023
ion acceleration in direct high-current electron beams 1−974
linear, technological appls. 1−14707
low-current-density microsecond electron beam diodes 1−6061
negative ion source, for alkali metals, duo plasmatron and charge exchange canal 1−10568
plasma impurities dynamics, flow, mixing and separation of components, gas-kinetic pressure *(Russian)* 1−25018
protons, in relativistic electron beam propagation in evacuated beam tubes 1−50997
relativistic electron beam, large amplitude cyclotron wave prod. for collective ion 1−46920
relativistic electron beam injection into neutral gas, upper boundary of electron energy distrib. in radial flux near anode 1−33615
standing-wave accelerator struct., beam loading effects 1−50999
toroidal, technological appls. 1−14707

collective states, nuclear *see nuclear collective states and giant resonances*

collimators (optical) *see optical collimators*

collision processes
see also atom-surface impact; atomic inelastic collisions; charge exchange; chemical reactions; elastic scattering of atoms and molecules; elastic scattering of electrons by atoms and molecules; electron attachment; electron impact; elementary particle interactions; intermolecular mechanics; ion-surface impact; molecular inelastic collisions; molecule-surface impact; negative ions; Penning ionisation; plasma collision processes; potential energy surfaces for collision processes; quantum field theory; quasimolecules; radiation quenching
asteroid belt, collisional hypothesis for origin of Kirkwood gaps 1−44467
asteroid belt, effect of collisions on orbital evolution in outer belt and in Kirkwood gaps 1−44468
asteroid-neutron star collisions, one dimensional hydrodynamics rel. to gamma-ray bursts 1−44587
asteroids, collisional break-up rel.to long-period comets orbits 1−40376
Boltzmann collision operator in basis determined by anisotropic Maxwellian weight function 1−14075
charged particle swarms in neutral gases, kinetic theory, review 1−15565
charged particle transport through slab, integral approach of successive collision appl. 1−18179
galaxies slow tidal encounters, N-body simulations rel. to galactic halos form. 1−44628
gas mixtures, polyatomic, kinetic modeling 1−51893
gravitational shocks in vacuum plane-symmetric cosmologies, collisional interactions 1−44425
impact coordinates quantisation *(Russian)* 1−40676
interplanetary dust cloud, numerical simulation of Poynting-Robertson and collisional effects 1−27353
interstellar cloud fragments, effect of collisions on stellar mass spectrum 1−36268
Jeffreys-born integral, generalised, in WKB approx. 1−19152
kinetic formula for collisions with relative acceleration and cross sections in velocity space 1−36587
linear collisions, teaching 1−40624
Monte Carlo radiation transport problems, pattern recognition techniques appl. 1−50079
neutron star-asteroid collisions, as cause of cosmic gamma-ray bursts 1−44586
NGC 5128 (Centaurus A), collision model and dynamical evolution 1−49792
planar three-body problem, isosceles case, triple collision manifold *(French)* 1−17759
Pluto-Charon system, fragmentation and ejection from Neptune satellite system by collision *(French)* 1−32655
Saturn rings, meteoroids impact as cause of east-west asymmetry 1−49572
stars, single, close encounters with hard binaries, computer simulations 1−9582
stellar system dynamics, collision integral divergence in discontinuous random process scheme *(Polish)* 1−32729
three-body problem, planar restricted, collision orbits *(French)* 1−44417
two-body problem, perturbed, collision operator and long-time behaviour 1−40325
ND_3 collision integrals, internal state polarisations, DWBA approach 1−14976
NH_3 collision integrals, internal state polarisations, DWBA approach 1−14976
XeCl, transmission line driven lasers, discharge kinetics, collision processes, Boltzmann eqn. soln. 1−37471

collision sequences, focused *see sputtering*

colloid chemistry *see colloids*

colloids
see also Brownian motion; coagulation; electrophoresis; electroviscous effect; emulsions; gels; magnetic fluids; thixotropy
amphiphilic nematic mesophases, relationship between micellar struct. and diamag. anisotropy 1−46997
caesium perfluoro-octanoate/H_2O system, nematic phase, relationship between micellar struct. and diamag. anisotropy 1−46997
capillary-porous bodies, internal heat and mass transfer accompanying convective drying *(Russian)* 1−6751
charged colloids, stochastic dynamics in Coulomb field 1−33608
crystals, Kossel line geometry, light diffr. expts. 1−35579
distance distrib. functions, using SAXS obtained with Bonse-Hart instrument, indirect transform method 1−29971
drugs aggregation in solns., ultrasonic relaxation 1−52237
dye tagged macromols. and particles, electro-fluorescent light valve mechanism 1−41530
dynamic friction for particles interacting via inverse square law 1−31917
effective diffusion coeff., dynamic light scatt. 1−48740
electrical conductivity, in strong elec. field 1−17112
electrical double-layer interaction energy for two cylinders 1−39694

colloids continued
electrokinetic properties in presence of aqueous SiO_2 1−48746
electrophoretic and diffusiophoretic drift, noninertial, of particles in nonuniform alternating elec.fields 1−17062
Hamaker const. calc. from Lifshitz theory, appl. to wetting phenomena 1−53476
heterodispersed systems, mag. induced optical anisotropy 1−10916
interaction of colloidal particles collected at fluid interfaces 1−48744
intramicellar reversible reaction kinetics, master equation calcs. 1−48741
malonyl gramicidin micelles, multisite ion binding ^{23}Na NMR 1−43713
many-body systems, Brownian dynamics 1−21793
membrane, dynamic colloidal, form. and functioning 1−48726
metal, binary system in liquid, kinetics of breakup 1−7339
metallopolymer coatings, cathodic deposition 1−17063
micellar assemblies, statistical distrib. of solubilised mols. 1−8618
micelle structure, surfactant block model 1−39688
micelle-forming surface active substances used as additive for turbulent friction reduction 1−46731
micelles, quenching, first order rate consts. calc. 1−48742
particle deposition on electrode in alternating elec. field, aperiodic electrophoretic drift 1−53482
polyisoprene filled with technical carbon, relax. processes determined by mobility of active filler particles 1−53478
polymer latexes as model colloids, review 1−53477
polymer mixtures, colloidal struct., form. and effect on props. 1−43708
polystyrene latex colloidal solutions, propag. of nanosecond and picosecond light pulses 1−43714
quarternary cationic surfactants synthesis 1−4123
rhodamine 6G aq.-micellar solns., spectral luminesc. props., component conc. effect 1−43167
sodium cholate (deoxycholate), micelle formation dynamics, ultrasonic absorpt. 1−43647
solvation forces between solid particles immersed in a simple liq. 1−53485
suspension, pair correl. function distortion, shear flow effect 1−19789
suspensions, aerocolloidal, convective deposition rel. to Knudsen number 1−2070
suspensions, Brownian dynamics model 1−6886
tetradecyltrimethylammonium bromide, aq. micelles, pyrene incorporation and fluoresc. for aggregation meas. 1−17111
triton X-100, water-isopropanol soln., light scatt. 1−31916
ultramicroheterogeneous surface of solid, water wetting patterns 1−52393
vinyl, polymerisation in micelles, benzoin derivatives as photoinitiators 1−48688
Ag, colloidal, with adsorbed citrate ion, surface enhanced Raman scatt. 1−6262
$Al(OH)_3$spherical colloidal particles containing dye, prep. and optical props. 1−17115
Au, paracrystal, stacking faults, X-ray anal. 1−30251
C black sols, spectrophotometric vol. distrib. determ. 1−6460
C particles, diamond crystn. theory 1−7102
Fe surface in Na-Hg, Zn impurity adsorption 1−48728
NaCl, synthetic and natural rock salt, electron irrad. induced F-centre and colloid form. 1−2512
TiO_2 colloidal particles, role of sensitiser adsorption in H_2O photochemical cleavage by catalysis 1−35663

colorimeters
see also colorimetry
chemical colorimeter accuracy for analytical meas. 1−31961

colorimetry
see also colorimeters; spectrochemical analysis; spectrophotometry
border visibility, colour differences, luminance contrast, luminance level, separate and combined effects 1−53789
chromaticity coefficient error propag. from spectroradiometric curves *(German)* 1−36718
CIELAB hue-angle anomalies at low tristimulus ratios 1−18275
Coloroid colour system 1−14164
colour checking of dyes in textile industry using colorimeter *(Hungarian)* 1−23288
colour contrast measurement and calc. 1−326
colour tolerance determination of different colour paints *(Hungarian)* 1−23287
colour vision, photometry and colorimetry stimulus, teaching 1−22965
colourfulness concept, and use in deriving grids for assessing colour appearance 1−17383
diffuse reflectance measurements, the gloss trap 1−14163
dominant wavelength and purity, compact computer program for specification 1−18277
gamut of real surface colours 1−18276
luminance-brightness comparisons of separated circular stimuli 1−53788
metric from opponent-colour visual channels 1−17381
nonlinear scale for plotting colour-matching functions 1−53781
product colour appearance instrumentation, physiological and psychological factors 1−28052
reflection holograms in dichromated gelatin, colour control 1−15116
sleazy textile fibre, test *(Hungarian)* 1−14166
spectrophotometry, on-line, for automatic colour meas. 1−14167
standards problem for colour temp. 1−33033
tristimulus space transformation into uniform colour space 1−5355
white light imagery, colour based quality parameters 1−40834 *
Cr vacuum deposited film, mass thickness and true density determ. 1−25597
Si photovoltaic cells for precise light and colour meas. 1−14168

colour
see also colour vision
antireflection coated prisms, colour variations caused by leached layer on glass substrate 1−37589
causes of colour in materials 1−31109
cholesteric liquid crystals, colour, influence of solid support sorptive props. 1−2315
contrast measurement and calc. 1−326
photometry and calorimetry in colour vision, teaching 1−22965
plastics, structured surfaces, colour meas. *(German)* 1−21152
pseudocolour images with volume reflection holograms 1−19287
temporal coding of colour information 1−4281
Young's fringe modulated speckle for color storage and image processing 1−10929
Ag containing glass, coloration and optical anisotropy 1−3351
Al anodic film, coloured materials and photoluminesc. centres distribs. 1−43164

colour continued
Al_2O_3, optical props., influence of impurities and sintering atm. *(German)* 1−35406
CoO-ZnO-Cr_2O_3-Fe_2O_3-TiO_2 system formation and colour of spinel solid soln. 1−16544
Cr_2O_3-CoO chemical-spray-deposited films, optical props., substrate temp. effects 1−53009
$PbMoO_4$ crystals, coloration, absorpt. bands, photocond., photo- and thermolum. 1−21243
SiO_2-Na_2O-CaO-MgO-Al_2O_3-K_2O-BaO glass, decolorisation, Na_2So_4 effect 1−12895
colour blindness *see colour vision*
colour cameras, television *see colour television cameras*
colour centres
see also F-centres; OH^--centres; paramagnetic resonance of colour centres; U-centres; V-centres
aggregate colour centres for optical memories, prod. by ion implantation, X-ray, γ and electron irrad. 1−42380
alkali halides, point defects, two-photon spectroscopy 1−3440
alkali halides, thermoluminescence and radiation induced lattice defects 1−3501
alkali metal halide colour centre quantised dielectric function, Kramers-Kronig relations 1−3359
causes of colour in materials 1−31109
ionic crystal tunable colour centre lasers, review 1−33694
ionic crystals, with anisotropic impurity colour centres, optical memory device appls. 1−8101
phosphors, for fluoresc. lamps, depreciative colour centre phenomena, review 1−48132
photochemical hole burning memories, controlled spatial distributions of colour centres 1−51583
polar crystals, binding energy of D^- centres 1−42706
production, quantum mech. concepts. 1−36
quartz, double electron-nuclear resonance of E′-centres 1−31062
quartz, H_2 interaction under mech. activation, E′-centre conc., EPR spectra proton doublet 1−20395
quartz and quartz glass, gamma radiation-coloured, classification and fracture by laser beam 1−30278
ruby, phosphorescence and coloration stages under optical excitation *(Russian)* 1−31198
scheelite type crystals, thermally and optically stimulated processes 1−3502
AgBr photochromic glass, light scatt. by photosensitive and colour centres 1−48023
AgBr(Cl), binding energy of D^- centres 1−42706
AgCl photochromic glass, light scatt. by photosensitive and colour centres 1−48023
Al anodic film, coloured materials and photoluminesc. centres distribs. 1−43164
Al_2O_3, aggregate defect centre, polarised luminesc. and optical absorption 1−3469
KCl, additively coloured, laser freq. up-conversion obs. 1−37554
KCl, EPR spectra of colour centres due to X-irrad. 1−3260
KCl:Tl, absorpt. spectra, colouring conditions, heat treatment 1−3445
KH_2PO_4, X-irrad., opt. absorpt. and thermolum., 13K to room temp. 1−31208
LiF crystals, X_3^- centre absorpt. explanation of 11.0-eV band 1−12532
LiF, luminesc. and stimulated emission of colour centres 1−12542
LiF, TLD, radiation-induced colour centres at high absorbed dose rates 1−944
LiF:OH colour centre laser, output spectrum, rapid sweep 1−33697
MoO_3, amorphous films, electron diffusion and electrochromism 1−48034
NaCl, EPR spectra of colour centres due to X-irrad. 1−3260
NaCl, IR radiation pulse interaction with colour centres 1−52134
NaF, luminesc. and stimulated emission of colour centres 1−12542
NaF, polarisation spectroscopy meas. of homogeneous linewidth of inhomogeneously broadened N_1-centre band 1−26245
NaI, self-localised exciton luminesc., point defect recomb., phonon contrib. 1−3486
Si, E-centre type defect reorientation and migration 1−2706
SiO_2, crystalline and amorphous, photolum. from E band centres 1−3461
SiO_2, vitreous, doping elements influence on γ-radiation resist., colour centre absorpt. band obs. 1−52978
$SrTiO_3$, conducting, colour centres, EPR and optical absorption meas. 1−3259
WO_3 film, reproducibility of coloration processes 1−34347
colour display tubes, television *see colour television picture tubes*
colour filters *see optical filters*
colour model
$\Delta b=1$ nonleptonic decay, effective weak Hamiltonian, six quark Kobayashi-Maskawa model 1−50423
advanced institute, common trends in particle and condensed matter physics, Les Houches, France (Feb. 1980) 1−27645
Advanced Study Institute on Field Theoretical Methods in Particle Physics, Kaiserlautern, Germany (Aug. 79) 1−27647
Advanced Study Institute on quantum flavourdynamics, QCD and unified theories, Boulder, CO, USA (July 79) 1−13903
Altarelli-Parisi eqns., exact solns. for parton distribs. 1−498
anomalous dimension quark counting at large transferred momenta in QCD 1−50389
anomaly non-matching in composite models 1−14338
anticommuting variables, internal degrees of freedom, and the Wilson loop 1−40934
asymptotic behavior of the vacuum polarization tensor 1−23434
asymptotic freedom in quantum mechanical sum rules valid for nonsingular pots. *(Russian)* 1−36829
b-flavoured mesons, electromagnetic mass difference, MIT bag model calc. 1−14382
bag model with variable bag pressure, hadron spectroscopy 1−45234
baryons, quark oscillatory modes, colour bond struct. 1−5570
baryons and baryonium in QCD_2 1−23409
baryons with strangeness and charm in QCD 1−10156
Bloch-Nordsieck regularization of Altarelli-Parisi equations 1−23412
boson, mass, first-order chiral perturbation theory, leading nonanalytic corrections using QCD 1−14323
bottomonia, two-photon and two-gluon decays, and mass differences between Υ and η_b 1−33183
Callan-Gross relation violations as function of x, Q_2 from QCD 1−23478
charm mesons, nonleptonic decays, colour radius interaction term 1−33179
colour model continued
charmed baryons with strangeness in QCD 1−10156
charmed hadrons, flavour changing radiative decays, short and long distance effects 1−563
charmed meson photoproduction quasipartonic contrib. *(Russian)* 1−41017
charmonium, magic moments in QCD and pot. models 1−33154
charmonium S- and P-state masses from QCD sum rules 1−5603
chiral dynamics, large N 1−23402
chiral invariance in QCD, dynamical symmetry breaking and collective coordinates in Fermi systems 1−50373
chiral invariant regularisation of axial vector current 1−36794
chromodynamics, SU(3) gauge theory, ϕ^4 model, generally invariant theories, classical solns. 1−18356
chromoelectric flux tube thickness, quark confinement, strong coupling on lattice 1−40965
classical chromodynamics of two sources: charges and magnetic moments 1−23480
clustering and hadronisation of quarks in low-p_T inclusive interactions 1−10152
colour triplet diquark condensation, colour gauge theory in hadron physics 1−18441
conference on field theory and strong interactions, Schladming, Austria (Feb. 1980) 1−17925
conference on high energy physics, Geneva, Switzerland, (June-July 1979) 1−5026
conference on particle physics, Manoa, HI, USA (Aug. 1979) 1−13929
confining potential based on local relativistic wave equations 1−10138
confining theories, axial anomaly and bound-state spectrum 1−33166
covariant wave equations and meson spectrum, QCD corrections 1−5561
CP^{N-1} models, dominant euclidean configurations for all N, QCD generalisation 1−28178
CP^{N-1} models, QCD instanton gas, quark fluctuations in multi-instanton background 1−28210
CP invariance problem, connection with complex structure of vacuum state, review *(Russian)* 1−36824
deuterons, isobaric component from de Rujula-Georgi-Glashow quark model 1−23474
diffractive photoproduction of strangeness and charm-overlap of QCD and Regge models 1−14401
diquoniums, $B\bar{B}$ widths, quark potential model 1−521
Dirichlet problem for chromodynamics 1−509
Drell-Yan formula, higher order QCD corrections 1−40964
dynamical symmetry breaking and composite quarks and leptons 1−50347
$e^+e^-\rightarrow$back-to-back jets, opposite side acollinearity distribs., soft gluon emission effects 1−50446
$e^+e^-\rightarrow q_1\bar{q}_1q_2\bar{q}_2$, heavy flavour bound states, QCD calc. 1−23508
effective Lagrangian due to heavy quarks in quantum chromodynamics 1−5590
effective nuclear forces in the quark model with delta and hidden-color channel coupling 1−45430
electroweak symmetry breakdown, subgroup alignment in hypercolor theories 1−33140
exactly colour symmetric Minkowskian chromodynamics, colour generated ang. momentum with merons 1−18437
exclusive processes, higher order QCD corrections, multiple scatt. mechanism 1−10172
exotic baryons, level structures in joined spring model and statistics of quarks 1−45210
experimental quark physics, review *(Hungarian)* 1−485
experimental structure functions and quark models, utilisation 1−5584
extended particle model of hadrons, variant in terms of Grassmann numbers, relation to QCD 1−50381
extended particle model of leptons and quarks, unified field theory 1−10124
F_2^{p-n} moments, leading twist dominance 1−506
f_V and f_{PS} QCD based pot. model estimates, D and F lifetimes 1−14376
fermion field theories, strong-coupling expansion, and large-N limit of Gross-Neveu model 1−23410
fermion mass, first-order chiral perturbation theory, leading nonanalytic corrections using QCD 1−14323
Feynman diagrams, multiloop, evaluation, Gegenbauer polynomial x-space technique QCD, $\sigma_{tot}(e^+e^-\rightarrow h)$ calc., QED appl. 1−10072
flavour, colour, duality and the Pomeron, p+f model 1−10166
glueball spectrum in extended quantum chromodynamics 1−36847
glueballs, spectra, production, decay 1−45240
gluering excitations in QCD 1−23418
gluon+gluon scattering, Regge behaviour of symmetric octet exchange amplitude 1−45199
gluon condensation for arbitrary colour gauge groups, Yang-Mills stability 1−18431
gluon condensation from trace anomaly in quantum chromodynamics 1−18436
gluon distributions and structure functions, QCD and deep inelastic scatt. data 1−28274
gluon fields in SU(2) Yang-Mills eqns., exact solns. 1−445
gluons, rel. to interactions and struct. in nucleus 1−10147
Goldstone mechanism from gluon dynamics, chiral symmetry in QCD 1−510
hadron+hadron, large transverse momentum jets at small angles 1−45379
hadron+hadron, lepton pair production, QCD corrections to Drell-Yan mechanism 1−10145
hadron+hadron scattering, high-p_T, QCD corrections to qq scattering process 1−590
hadron EM form factors at large Q^2, confinement effects *(Russian)* 1−18481
hadron jets, parton model, perturbative QCD model, review 1−14356
hadron photoproduction, large p_T, QCD tests, gluon jet prodn. 1−18487
hadron structure, dispersion sum rule for strangeonium and bottomonium 1−14321
hadron structure function shape, using QCD, operator-product expansion, covariant parton model 1−10159
hadron-quark 'phase transition', statistical bootstrap model 1−18451
hadronic charmed meson and heavy quark flavour prod., QCD estimates 1−520
hadronic collisions, particle prodn., gluon jets, perturbative QCD 1−18392
hadronic energy, polar and azimuthal distribs., first-order perturbative QCD calc. 1−10141
hadronic lepton pair prod., quark form factors and leading double logarithms in QCD 1−45221

colour model continued
hadronic resonances, narrowness, small parameter in $1/N_c$ expansion 1−36787
hadronic $W^{\pm}$ and Z^0 prod., nonleading QCD corrections 1−14337
hadronic weak decays, octet enhancement as nonplanar effect, colour matching 1−18476
hadroproduction of ψ and Υ, inclusive cross-sections and gluon distribs. 1−10279
heavy baryon spectroscopy in the QCD bag model 1−28294
heavy colour embedding in grand unified theories 1−36837
heavy lepton pair prod. in pionisation region, QCD predictions *(Russian)* 1−5605
heavy $q\bar{q}$ pair, leading nonperturbative contribs., QCD vacuum probe 1−36848
heavy quarkonium decay, colour confining parton model 1−5597
Higgs boson, hadronic decay width, perturbative QCD corrections 1−14348
Higgs boson hadronic decay width, renormalisation group estimate in QCD 1−50477
Higgs mechanism, hypercolour dynamic schemes 1−45148
high density, low temperature quark-gluon gas phase, superconducting analogy 1−18389
hyperon one boson exchange interactions, quark exchange scatt. and quark interchange, QCD bag model 1−10249
inclusive π prod. at large p_T, higher twist term in perturbative QCD 1−45213
instanton+anti-instanton system, weakly interacting, structure and stability under external colour electric field 1−45123
instantons, physical significance 1−33112
instantons and QCD at finite temperature, review 1−40940
instantons in the heated quark plasma 1−50384
International School of Subnuclear Physics, Erice, Italy (July-Aug. 1977) 1−27646
International seminar on quantum chromodynamics, Jaca, Spain (June 1980) 1−13904
jet evolution equation, hard processes sensitive to infrared structure of QCD 1−597
jet production and direct photon production in QCD 1−10153
jets, heavy flavour $q\bar{q}$ pair prodn., particle distribs. 1−18449
large ang. momentum hadron pair acoplanarity distrib., double log summing 1−14421
large momentum transfer exclusive interactions, form factors, scattering amplitudes, perturbative QCD calc. 1−14346
large momentum transfer interactions, QCD appl. 1−14357
large n QCD, CP^{n-1} model analogy, pseudoscalar meson dynamics, non-zero θ vacuum, CP violation 1−18428
large sea polarisation in quantum chromodynamics 1−18439
lattice QCD, approx. SU(6)×SU(6)×U(1) symmetry 1−516
lattice QCD, gluonic sector, strong coupling $1/N_c$ expansion, high order 1−18385
lattice QCD, strong coupling $1/N_c$ expansion in gluonic sector 1−5582
lepton+hadron, deep inelastic collisions, gluon jet production, Monte Carlo study 1−23504
lepton+hadron, deep inelastic scattering 1−5631
lepton-hadron deep inelastic collision, parton density beyond leading order, QCD calcs. 1−14324
light baryons, QCD models, spectra, SU(6) breaking 1−45241
light composite fermions from extended technicolour models 1−497
light current quark masses from QCD Lagrangian 1−33163
light hadron (glueball) dynamics 1−45201
local observables, BRS invariant operators 1−33100
long-range interactions in hadron separation with quark confinement, two-body potential model 1−45248
low $p_\perp$ hadronic interactions, reaction mech. and baryon fragmentation distribs. model 1−45207
magnetic vortex condensate in QCD 1−5564
meson decay, hadronic, weak, evolution equations for heavy flavour mesons 1−40988
meson nonets from SU(3) theory, experimental evidence 1−28289
meson spectroscopy, conf., Brookhaven, NY, USA (April, 1980) 1−44689
mesons, heavy, flavoured, nonleptonic weak decay rate 1−40989
mesons as spin waves, chiral symmetry breaking in QCD 1−10146
minimal composite Higgs systems in QCD chiral large N_c limit, technicolour models 1−5586
multi-quark states, classification, production and possible presence in nuclei 1−40968
multicolour QCD, exact equivalence to Fermi string theory 1−14341
multicolour QCD, loop average bootstrap form, self consistent area law 1−18444
multijet structure in quantum chromodynamics 1−499
multiquark states, experimental evidence review 1−45202
multiquark systems, S-wave, dissociation calculations 1−40963
N colour quark-cluster model for mesons, baryons and exotics 1−518
narrow baryon states colour manifestation 1−28293
narrow hadron states and baryoniums, theoretical implications 1−10177
neutron charge factor in quark model with colour hyperfine interactions 1−45283
neutron star quark matter core, phase transition, QCD eqn. of state 1−9555
neutron stars, quark matter phase transition, critical density 1−32721
non-Abelian gauge theories, resumming leading logarithms at short distances, QCD 1−14236
non-Abelian magnetic superconductors and the MIT bag model 1−10165
non-perturbative QCD, Wilson loop average in vacuum fields, gluonic operators 1−495
nonAbelian gauge theories, high-energy behaviour, Reggeization, rel. to Yang-Mills QCD 1−28221
nonleptonic effective weak Hamiltonian and QCD corrections 1−40962
nonrelativistic QCD constants, phenomenological quark-quark interaction 1−10168
nuclear forces, hadronic Van der Waals forces between nucleons, molecular physics of coloured quarks 1−36907
nucleon form factors, asymptotics in QCD *(Russian)* 1−50437
nucleus, antiquark distrib. rel. to that in pions, one-pion exchange model *(Russian)* 1−50408
nucleus in high-momentum frame 1−10226
O(n) confined preons, quarks and leptons as composite states 1−14331
one boson exchange interactions at low energy, NN, πN, $\pi\pi$ scatt., quark interchange QCD bag model 1−10329
one jet inclusive hadron-hadron cross sections, large QCD corrections 1−28353

colour model continued
P-wave quarkonium decays, strong QCD corrections 1−547
pair annihilation effects in multiquark spectroscopy, QCD test, gluon props. 1−28286
particle classification, charm, strangeness and colour 1−28288
particle physics, historical approach quarks, leptons and coloured glue 1−5571
parton state lifetime and impulse approx. 1−40969
perturbative calcs., renormalisation prescription depend., ACD and QED examples 1−45222
perturbative QCD, renormalisation scheme ambiguity 1−50387
perturbative vs. non-perturbative scaling violation in quark fragmentation 1−5601
photon structure function, perturbative, QCD calc., sensitivity to coupling const. definition 1−14391
pion EM mass difference, current algebra and QCD calcs. 1−45280
pion form factor in space-like and time-like region, analytic parametrisation 1−40998
qCD: problems and alternatives 1−10175
QCD, $\Delta I=1/2$ selection rule in Weinberg-Salam model 1−45233
QCD, bound state localisation 1−45243
QCD, chiral dynamics reformation 1−45137
QCD, chiral SU(n)×SU(n) symmetry, boundary conditions, CP-violation 1−28222
QCD, chiral symmetry breaking in BCS theory and pions 1−14343
QCD, chiral-invariant, dynamical breakdown theory, π, K, η_0 appl. 1−14345
QCD, Coulomb gauge IR singularities 1−45224
QCD, definition of scale parameter Λ 1−50396
QCD, EM quark mass shift problem, critical anal. 1−5568
QCD, external field problem in large N limit, lattice, gauge theories 1−18438
QCD, factorisation, chiral symm., current algebra, quantisation, transformation, renormalisation 1−14259
QCD, factorisation, hadron static properties, leading log approx. 1−14360
QCD, flavour singlet distribution functions, scaling violation 1−5572
QCD, gravitational equivalent analogy 1−14262
QCD, hadronic interactions, renormalisation, quark mass, large-p_T behaviour 1−14261
QCD, higher order corrections and scale parameter 1−28281
QCD, inclusive and large momentum transfer processes, perturbative theory 1−14362
QCD, infinite N_c, at finite temp., meson and glueball asymptotic mass level density 1−50385
QCD, infrared structure, rel. to quark confinement, running coupling const. 1−28211
QCD, instantons and the 1/N expansion 1−5579
QCD, loop average eqns. of motion, perturbative anal. *(Russian)* 1−50401
QCD, mass problem 1−14364
QCD, multigluon exchange, IR divergences, Regge behaviour 1−28268
QCD, multiple soft gluon emission probability 1−512
QCD, multiplicity distrib. and inter-particle correl. *(Russian)* 1−50399
QCD, non-perturbative, operator expansion, instanton effects 1−10142
QCD, perturbative, beyond leading order, appls. 1−14358
QCD, perturbative and non-perturbative, review 1−10174
QCD, photon-gluon induced coupling consequences 1−5569
QCD, polarised photon structure function, Feynman diagram method 1−5567
QCD, polarised photon structure functions, operator product expansion method 1−5566
QCD, possible ground state tensorial condensate from SU(2) gauge theory 1−23477
QCD, semiclassical methods, hadronic struct. 1−14260
QCD, Slavnov-Taylor identities in Weinberg's renormalization scheme 1−5565
QCD, space and time like cut vertices, non-singlet sector, scaling violations 1−28278
QCD, U(1) problem, anomalous Ward identities chiral symm. limit, η' mass, CP violation 1−45149
QCD, U(1) problem, current algebra, θ vacuum 1−45228
QCD, unification in Regge limit, reggeon calculus spontaneously broken symm. 1−14315
QCD, use in nuclear calcs., form factors wavefunctions, reactions and scatt. 1−50379
QCD, vacuum as dielec. and paramag. medium bag model, instantons 1−18391
QCD, vacuum polarisation, instability, quark antiquark pair creation, gluonic contributions 1−10130
QCD, vertex function double log. asymptotic behaviour, quark form factors 1−14351
QCD, why it is correct 1−14355
QCD and confinement, general introduction 1−28284
QCD and generalised Abelian models, Green's function methods, instantons, screening, confinement 1−28214
qCD and spectroscopy 1−14354
QCD as white composite fields, loop dynamics and 1/N expansion *(Russian)* 1−5596
QCD at low Q^2, correspondence relations for structure function nonsinglet moments 1−10167
QCD bag, nonperturbative effects, instanton density and chiral symmetry breaking 1−501
QCD calculable observables, heavy quark prod., inclusive cross section 1−500
QCD chiral symmetry breaking, effective lagrangian θ parameter 1−36800
QCD classical tests, scaling violations and anomalous dimensions 1−18426
QCD improvements, complex coupling const. rel. to quark confinement 1−28201
QCD in $2+\varepsilon$ dimensions 1−45225
QCD jets, confinement safe charge meas. 1−14353
QCD jets, leading log approx. and beyond 1−45239
QCD ladder model, hadron struct., flavour nonsinglet probability, Drell-Yan cross section 1−18433
QCD parameter $\bar{\theta}$, calc. in theories with soft CP violation 1−45227
QCD perturbation theory, glue admixture and neutron charge radius 1−50402
QCD phase transition, vacuum permeability from interquark pot. 1−50388
QCD phenomenology, jet perturbation series, energy flow anal., phonon physics, hard scatt. 1−10173

colour model continued
qCD predictions for opposite-sign dimuon production rates in a charged-current inclusive neutrino scattering at high energies 1−5615
QCD systematic tests, non-singlet moments 1−45208
QCD tests in leptoproduction jets 1−45268
QCD vacuum, Goldberger-Treiman constants of dynamical near-Goldstone modes 1−45223
QCD vacuum for gauge groups SU(3) and SU(4) 1−36844
QCD vacuum instability, radiative corrections, asymptotic freedom *(Russian)* 1−40971
QcQc̄ multiquark S-wave states, mass spectra, one-gluon exchange model 1−10144
qq̄, heavy quark bound states, hadronic transitions in QCD 1−10155
quantum chromodynamic Born term corrections, dilepton prod. and leptoprod. 1−513
quantum chromodynamics, hadron production with large transverse momenta 1−28272
quantum flavourdynamics, experimental verification, spontaneous symm. breaking, currents, γ-ω^0 mixing, proton decay 1−14361
quark and gluon decay functions in quantum chromodynamics and recombination model 1−45231
quark bound states, gluon expectation value, chromodiamagnetism QCD theory 1−28220
quark form factors in QCD, exact second order calc. 1−507
quark geometrodynamics, hadron struct. and dynamics 1−28291
quark jets, multiplicity and correlational distrib. *(Russian)* 1−14350
quark mass corrections, EM and weak contributions in QCD 1−5595
quark recombination into mesons, constraints from QCD jet calculus 1−45230
quark-gluon scatt. subprocess, Yang-Mills three gluon vertex 1−40970
quarkonia, para-, ground-state, hadronic decay rate in QCD 1−40990
quarkonium decay, tests of Glashow-Salam-Weinberg theory and QCD 1−45275
quarkonium systems, variational method 1−40972
Regge processes, colour string decay *(Russian)* 1−18458
relativistic confined systems, equivalent potential 1−36786
relativistic Hamiltonian dynamics, momentum-dependent interactions, confinement and quantisation 1−50372
relativistic potential, QCD and single-time formulation of QFT 1−14322
relativistic string model, role in dual models, critical dimension 1−28300
running coupling constant, Yang-Mills QCD, Ward identity-Dyson eqn. approach 1−18393
scalar gluonium (glueball) properties, simple effective Lagrangian model 1−50392
six quark states in cluster model, fractional parentage expansions, nuclear forces 1−45429
skew-symmetric tensor gauge field theory dynamically realized in the QCD U(1) channel 1−50377
SO(14), inclusion of generations 1−40956
soft bag model, Lagrangian 1−5598
spectroscopy, QCD parameters, QCD sum rules and current algebra 1−36840
stabilisation of effective potential for QCD with magnetic field 1−33104
strange baryons with charm in QCD 1−10156
strange hadrons, flavour changing radiative decays, short and long distance effects 1−563
strangeness −2 and −3 baryons in a quark model with chromodynamics 1−45216
string dynamics in QCD 1−28194
string variables, dynamical eqns., general gauge group and QCD 1−28218
structure function, deep inelastic, Nth moment, bounds for the ratio of anomalous dimensions 1−18479
structure functions, non-singlet, leading log QCD evolution equation 1−10210
$SU(3)_{colour} \times U(1)_{EM}$ lattice gauge theory, coloured monopoles 1−45117
SU(6)×SO(3) quark and lepton, symm., unification by exceptional groups, origin 1−28240
SU(7)⊗SU(7) grand unification, subcomponent model, technicolour group 1−5552
SU(N) gauge theory, 1/N expansion, graph counting 1−40939
subquark charges, algebra, wakems and chroms 1−45209
superheavy stable particle detection, grand unification, technicolour, hydrogenic bound states 1−23466
symmetric hadron pairs with large transverse momenta, production cross sections in QCD *(Russian)* 1−36850
T baryonia, L=1, $J^{PC}=1^{--}$, EM decay widths in QCD 1−33185
target-mass corrections in quantum chromodynamics 1−18435
technicolour models, detecting a heavy colored object at the FNAL tevatron 1−45192
technicolour models, weak isospin breaking 1−496
U_1 problem in a two- and in a four-dimensional model, analogies with Schwinger model 1−40925
U(1) problem, self-consistent resolution, chiral perturbation 1−40945
U(N) gauge theory, 2-D, effective potential and bound states, ϕ^4 term and symmetry breaking 1−443
U(N) integrals, 1/N, and the de Wit-'t Hooft anomalies 1−28164
U(N) QCD, 2-D, path integral approach to large-N expansion 1−23411
vacuum fluctuations surrounding soft gluon fields 1−14335
vacuum model filled with empty MIT bags 1−45200
vacuum polarisation, QCD contrib., pseudoscalar unequal mass case 1−18445
vacuum polarisation, QCD contrib., pseudoscalar unequal mass case 1−23481
vacuum symmetry structure in quantum chromodynamics 1−5591
vacuum wave functional, absent in QCD 1−5563
'Van der Waals forces', colour in high-energy physics conf. Coral Gables, FL, USA (Jan. 1980) 1−44712
vertex function in gauge theories, three gluon in QCD 1−23436
weak charged currents in high energy inclusive neutrino physics, review 1−10107
weak non-leptonic decays beyond leading logarithms in QCD 1−50419
weak to strong coupling transition in QCD 1−28285
weakly canonical transformations and the path integral quantization, QCD appl. 1−28277
Wilson's surface roughening in 4-D lattice gauge theories 1−5487
Yang-Mills theory, massless, two-dimensional, fermion propagator, colour singlet states, coloured states, symmetry breaking 1−14252
Yang-Mills vacuum structure 1−45101
cc̄ model of strong interactions 1−33167
D mesons, soft-gluon effects in nonleptonic decays of charmed mesons 1−50420

colour model continued
Δ leading resonance mass spectrum in low order QCD with Migdal regularisation 1−10182
e^+e^-→4 jets, cross sections, QCD non-Abelian nature 1−28334
e^+e^- annihilation, event shape parameter calc. in QCD 1−486
e^+e^- annihilation, jet cross sections, order α_s^2 correction 1−23509
e^+e^- annihilation, LEP energies, QCD event simulation, Monte Carlo program 1−28333
e^+e^- annihilation, multi-jet events 1−23511
e^+e^- annihilation, QCD multi-jet contrib. effects, average multiplicity 1−574
e^+e^- annihilation, QCD tests, jets, gluonium, Higgs bosons and unconfined quarks 1−10237
e^+e^- annihilation, quark form factors and leading double logarithms in QCD 1−45221
e^+e^- annihilation, second order QCD contributions to thrust and sphericity 1−573
e^+e^- annihilation, Sterman-Weinberg jets, renormalisation group approach, QCD calcs. 1−14403
e^+e^- annihilation, Sterman-Weinberg jets, ang. distrib. in QCD 1−45328
e^+e^-→e^+e^-X, photon structure functions, QCD calcs. and possible meas. 1−10216
e^+e^-→$\eta'\gamma$ large energy reactions, η'-meson form factor, QCD calcs. *(Russian)* 1−41003
e^+e^-→h, gluon effects, expt. evidence for QCD predictions 1−23507
e^+e^-→h, perturbative QCD appl. in large momentum transfer interactions 1−14357
e^+e^-→h, quark scatt. off non-perturbative gluonic fields, cross section, coupling consts., QCD calc. 1−18499
e^+e^-→hX, energy-momentum distrib., QCD calc., gluon distrib. approx. 1−18502
e^+e^-→hX, singlet struct. function, QCD beyond leading order, space-and time-like cut vertices 1−28332
e^+e^-→hadron, gluon bremsstrahlung coupling const., single particle spectra, rel. to QCD 1−45327
e^+e^-→hadron jets, perturbative QCD, experimental verification 1−28336
e^+e^-→hadrons, 13-27.4 GeV, hadronic final state, possible QCD effects 1−10239
e^+e^-→hadrons, QCD massive quark model and geometrohadrodynamics 1−45245
e^+e^-→hadrons, QCD tests in hadronic final states, non-perturbative effects, weak interaction phenomena 1−50453
e^+e^-→hadrons, QCD validation, three-jet events, strong interaction coupling const. 1−45326
e^+e^-→hx, QCD predictions, experimental verification and PETRA 1−14363
e^+e^-→jets, gluon jets, QCD multijet struct. and perturbative QCD tests 1−18495
e^+e^-→$\mu^+\mu^-$(hadrons) cross-section ratio, QCD prediction 1−50452
e^+e^- one particle annihilation, parton density beyond leading order, QCD calcs. 1−14324
e^+e^-→qq̄ in QCD vacuum, q-vacuum scatt. model 1−10158
e^+e^-→qq̄ jet broad-backward asymmetry, parton model, gluon EM corrections 1−33193
$e^\pm\gamma$→$e^\pm$X, photon struct. function, QCD contrib., inelastic Compton background 1−14397
e^+h→e^-X, singlet struct. function, QCD beyond leading order, space-and time-like cut vertices 1−28332
eN, deep inelastic scatt., scale breaking in broken colour gauge theory 1−45298
eN deep inelastic scatt., expt. review and QCD results 1−10227
η→3π, U(1) problem in QCD large N limit, CP violation, effective lagrangian approach 1−18475
F mesons, soft-gluon effects in nonleptonic decays of charmed mesons 1−50420
gq→γq, high-p_T production of direct photons and jets in quantum chromodynamics 1−10153
γ, hadronic transitions between heavy-quark states in quantum chromodynamics 1−10155
$\gamma\gamma$→e^+e^-, from e^+e^-→e^+e^-X, 15.5 GeV, gluon spin, colour and bremsstrahlung, jet evolution 1−45252
$\gamma\gamma$→f^0(1270), from e^+e^-→e^+e^-X, 15.5 GeV, gluon spin, colour and bremsstrahlung, jet evolution 1−45252
$\gamma\gamma$→$\gamma\gamma$X, structure functions, QCD calc. 1−14441
$\gamma\gamma$→$\mu^+\mu^-$, from e^+e^-→e^+e^-X, 15.5 GeV, gluon spin, colour and bremsstrahlung, jet evolution 1−45252
$\gamma\gamma$ off shell collisions, jet prod., flavour singlet wave function Q^2 evolution, QCD 1−10140
$\gamma\gamma$→$\pi^+\pi^-$, from e^+e^-→e^+e^-X, 15.5 GeV, gluon spin, colour and bremsstrahlung, jet evolution 1−45252
γp, central photoproduction of ψ and T as test of QCD 1−45320
γp, D*(2010) prod., QCD and statistical model study 1−45319
γp→γX, large p_T, parton transverse momentum effects, QCD calc. 1−14398
γp→$\mu^+\mu^-$X, photon structure functions, QCD calcs. and possible meas. 1−10216
γp→π^0X, large p_T, parton transverse momentum effects, QCD calc. 1−14398
γp→π^+X+opposite side jet, pol. γ, polarised gluon jet prod. from γq→qg, gluon spin 1−569
hh→$\gamma\gamma$X, direct photon pair prod. as QCD check 1−28354
J/Ψ photoprod., momentum distrib., heavy quark pair prod. in QCD 1−14400
K→$\gamma l\nu$, electroweak anomaly, current algebra 1−33176
$K^\pm$p, low p_T hadronic reactions and inclusive resonance prod., quark-parton model, review 1−10283
lh→lX, hadron final states, parton and QCD models 1−45309
lN deep inelastic scatt., N structure function, colour prod. in Pati-Salam model 1−45300
lN→lX, deep inelastic scatt., conf. Erice, Italy, (Mar. 1980) 1−44713
lN→lX, QCD massive quark model and geometrohadrodynamics 1−45245
lN→lX, structure functions, QCD tests 1−45311
ΛN, light quark mass differences and charge symmetry breaking, hypernuclear binding energy 1−18510
μN, deep inelastic scatt., expt. review and QCD results 1−10227
μN deep inelastic scatt., scale breaking in broken colour gauge theory 1−45298
μN inelastic scatt., FNAL, CERN results, parton and QCD theory anals. 1−18488

colour model continued
$\mu N \rightarrow \mu X$, deep inelastic scatt., hadron struct. functions, QCD predictions 1−45306
$\mu N \rightarrow \mu X$, up to 270 GeV, nucleon struct. functions QCD predictions 1−45307
$\mu p \rightarrow \mu X$, deep inelastic scatt., 96 to 219 GeV, quark and gluon momenta 1−45303
$\mu p \rightarrow \mu\mu^+\mu^- X$, photon structure functions, QCD calcs. and possible meas. 1−10216
N leading resonance mass spectrum in low order QCD with Migdal regularisation 1−10182
N structure function, scaling-violation, high twist or QCD 1−559
n-p mass difference, QCD calc., radiative contrib. 1−45281
NN elastic scatt., QCD, dimensional counting rule prediction in constituent interchange model 1−5581
NN scattering, inelastic, multiplicity distribs. in quark model 1−10261
$NN\rho$ weak vertex, parity-violating, sign of $^1/_2$ resonance pole contribs., MIT bag model 1−41062
ν deep inelastic scattering, nonsinglet structure functions, QCD predictions 1−10143
$\nu(\bar{\nu})N$, charged current events, hadronic final states, review 1−10189
νN, charged current heavy quark prod., QCD corrections to structure functions 1−45259
$\nu N \rightarrow \mu^- X$, 200 GeV, struct. functions, QCD parameters, vector gluons 1−45265
$\nu N \rightarrow \mu^- h^+ X$, higher-twist effects in QCD, longitudinal phase-space model 1−33172
$\bar{\nu} N \rightarrow \mu^+ X$, 200 GeV, struct. functions, QCD parameters, vector gluons 1−45265
$\nu N \rightarrow X$, parton model QCD 1−14369
$\bar{\nu}^{\pm} N \rightarrow \mu^{\pm} X$, c and b prodn., charmed hadron final states, QCD calc. 1−18469
$\nu p \rightarrow \mu^- X$, 4-10 GeV, hadron jets, gluon fragmentation 1−45267
$\nu p \rightarrow \mu^- X$, quark singlet and gluon fragmentation functions, QCD anal. 1−14367
pp, 63 GeV, diquark fragmentation and hadronisation, QCD anal. 1−41015
pp, D*(2010) prod., QCD and statistical model study 1−45319
$\bar{p}p$, hard photon and π^+ prod., CIM model and QCD tests *(Russian)* 1−18508
$pp \rightarrow \gamma X$, lowest-order perturbative QCD, u quark jet 1−10269
$pp \rightarrow \gamma X$, QCD anal., large p_T photon correlations, gluon structure function 1−18527
$pp \rightarrow l^+ l^- X$, quantum chromodynamic Born term corrections, dilepton transverse momentum distrib. 1−514
$\bar{p}p \rightarrow \Lambda X$, pol. $\bar{p}$ and Λ, p and Λ or p and $\bar{p}$, large p_T prod., QCD factorisation test 1−14427
$pp \rightarrow \mu^+\mu^- X$, quark-quark bremsstrahlung contrib. to lepton pair transverse momentum, 2nd order QCD effect 1−18519
$pp \rightarrow \mu^+\mu^+$, perturbative QCD appl. in large momentum transfer interactions 1−14357
$pp(\bar{p}p) \rightarrow W^{\pm} X$, 200-600 GeV, single lepton charact., Weinberg-Salam QCD calcs. 1−33202
$pp(\bar{p}p) \rightarrow \gamma Z^0 X$, 200-600 GeV, single lepton charact., Weinberg-Salam QCD calcs. 1−33202
$pp \rightarrow p\pi X$, diquark fragmentation function anal. 1−14436
$pp \rightarrow \pi\gamma X$, γ to π^0 ratios, photon-jet correlations in QCD 1−503
$p\bar{p}$ reactions in super synchrotron, appl. to QCD and unified field theory 1−28782
π form factor, wave functions, evolution eqns. in QCD 1−50431
π form factors, asymptotic behaviour in QCD 1−10214
π mass, first-order chiral perturbation theory, leading nonanalytic corrections using QCD 1−14323
$\pi^0 \rightarrow 2\gamma$, quark colour, flavour and charge constraints 1−5625
$\pi p \rightarrow pX$, quark jets in pion diffractive dissociation 1−10268
πp scatt., high p_T hadronic interactions and jet struct., QCD 1−10280
$\psi \rightarrow \eta(\eta')\gamma$, U(1) problem in QCD large N limit, CP violation, effective lagrangian approach 1−18475
$\psi \rightarrow$ lepton pair+2 gluon jets, QCD calcs., branching ratio 1−541
ψ states, leptonic width radiative corrections, duality, van Royen-Weisskopf relativistic corrections 1−50417
$\psi' \rightarrow \psi\pi^0, \psi\eta$, relative rate, effect of inequality of f_η and f_π 1−33177
$\psi' \rightarrow \psi\pi^0(\eta)$, decay rate ratio and quark masses from QCD lagrangian 1−548
$Q\bar{Q}$, gauge invariant multipole expansion scheme in QCD, colour gluon interaction 1−50394
$q\bar{q} \rightarrow \gamma g$, high-$p_T$ production of direct photons and jets in quantum chromodynamics 1−10153
$q\bar{q}$ states, ^3p_J decay rates, exactly solvable quarkonium model, QCD calc. 1−23475
$Q\bar{Q}$ systems, hadronic transitions and decays, potential models 1−45246
Υ, radiative and other two-body decays, tests of QCD 1−23473
Υ heavy $Q\bar{Q}$ systems, QCD motivated bag, coloured glue effects 1−5604
$\Upsilon \rightarrow$ lepton pair+2 gluon jets, QCD calcs., branching ratio 1−541
Υ states, leptonic width radiative corrections, duality, van Royen-Weisskopf relativistic corrections 1−50417
$\Upsilon' \rightarrow \Upsilon\pi^0, \Upsilon\eta$, relative rate, effect of inequality of f_η and f_π 1−33177
SO(10)×SO(10) multigenerational flavour-colour-hypercolour unification 1−18410

colour perception *see colour vision*

colour photography
additive printing, algorithm for calculating exposure parameters 1−366
astronomy applications, review 1−49530
camera problems in colour cinefilm making *(Russian)* 1−45065
chromaticity of camera lenses having multilayer antirefl. coatings 1−36755
colour micrographs, documentation *(German, English)* 1−31798
differential formula adapted to CIELUV equation, reproduction quality appl. *(German)* 1−360
dual colour slide projector control unit 1−14200
dual slide fader, used with automatic slide changers 1−10033
incoherent spatial filtering, colour coding, colour film recording 1−51399
instant high-speed motion anal. system 1−5426
negative colour cine film *(German)* 1−14189
polychromatic processing technique for colour image transparencies *(Chinese)* 1−50244
processor VA-35MC, mass printing 35 mm colour release prints appl. *(Russian)* 1−45067

colour photography continued
programmable colour slide fader, using tape recorders and digital control 1−10031
Ag halide, photographic process investigation, mole per mole developing reaction *(German)* 1−13026

colour picture tubes, television *see colour television picture tubes*

colour television cameras
electronic, zoom lenses *(German)* 1−29367
lens performance test instrument 1−41814
lenses, variable focus, optical design *(German)* 1−29366
optics for Voyager mission 1−4743

colour television picture tubes
phosphor research developments, review *(Japanese)* 1−19398
Zn chalcogenide single crysts., vapour phase growth, use for laser screens of projection colour television 1−43254

colour vision
see also eye
acuity-colour discrimination relationship after ruby laser treatment of CSR patients 1−48993
binocular filters as an aid to colour discrimination by dichromats 1−53929
binocular summation, effect of wavelength 1−13247
blue mechanism, temporal modulation sensitivity, meas. made without chromatic adaption 1−13233
blue/yellow hue cancellation, test of identity of site 1−4280
border visibility, colour differences, luminance contrast, luminance level, separate and combined effects 1−53789
chromatic antagonism, test of identity of site 1−4280
chromatic difference steps of moderate size measured along theoretically critical axes 1−17391
colour contrast depend. on viewing conds. 1−39927
coloured contact lens investigation, vision aid for red/green defectives *(German)* 1−22164
colourfulness concept, and use in deriving grids for assessing colour appearance 1−17383
cone dark adaption and surround configuration 1−8870
cone sensitivity, chromatic discrimination model eqns. 1−43877
contrast measurement and calc. 1−326
cortical receptive field profiles, 2D spectral anal. 1−8868
cube-root colour spaces and chromatic adaption 1−17392
deuteranopia, absence of the Ives effect 1−17394
difference formulae, evaluation by a colour scaling expt. 1−17400
difference sensitivity rel. to stimulus pattern spatial freq. 1−13244
differential thresholds, determ. from isomeric matching 1−22011
dimensions of colour space 1−53790
discrimination, clinical assessment, illumination of the Farnsworth-Munsell 100-hue test 1−43935
discrimination deterioration under high press. Na-illumination 1−4278
discrimination from isomeric matching and different types of primaries fusion 1−4277
discrimination from the ergo-ophthalmological stand point 1−48994
global colour metrics and colour-appearance systems 1−17380
heterochromatic additivity and the CFF response 1−43876
inter- and intra-individual variability of color matching functions, expt. results 1−43878
long wavelength foveal insensitivity in rhesus 1−13243
loss in cerebral infarction patient rel. to Stiles Π_1 mechanism 1−32121
luminance-brightness comparisons of separated circular stimuli 1−53788
McCollough effect and contingent after effect theory 1−8866
metric from opponent-colour visual channels 1−17381
minimally distinct border technique and related topics, bibliography 1−44737
Munsell notation colours, absolute identification, trainability and systematic shifts 1−17382
nonlinear scale for plotting colour-matching functions 1−53781
opponent chromatic valence additivity obs. 1−13248
perception in spatially complex visual fields, model 1−13250
photometry, MDB technique and its historical background *(Italian)* 1−4348
photometry and calorimetry in colour vision, teaching 1−22965
private cones, differential spectral photic damage 1−35820
product colour appearance instrumentation, physiological and psychological factors 1−28052
receptor pigments in the African cichlid fish, Haplochromis burtoni 1−8869
road traffic lights, optical charact., visual perception and recognition process *(German)* 1−22020
rod-cone interaction, temporal analogue of MacAdam ellipses 1−4272
spatio-temporal freq. response, colour difference discrimination 1−43879
street signs, effect of eye spectral sensitivity in retroreflection meas. *(German)* 1−48995
target size, influence on detect. threshold for luminance and chromaticity contrast 1−4279
temporal coding of colour information 1−4281
testing, a century of pseudo isochromatic plates 1−46
testing, comparison of various types of fluoresc. lamps. 1−8944
testing device, the colour rule 1−13305
tritan-like anomaly in children 1−48992
tritanopia, transient, failure of time-intensity reciprocity in adaption to longwave light 1−8867

columbium *see niobium*

COM *see computer output to microfilm*

coma *see aberrations*

combination scattering spectra *see Raman spectra*

combinational mathematics *see combinatorial mathematics*

combinatorial mathematics
see also graph theory
SU(n), character generator, combinatorial method 1−450

combustion
see also explosions; flames; heat of combustion; reaction kinetics
AC machines, combustion chambers with variable cross section, acoustic oscillations *(Russian)* 1−29453
acetaldehyde, oxidation in stirred flow reactor, oscillatory ignition, cool flames 1−29795
airblast atomisation, mean drop size, linear scale effects 1−24869
alkylbenzenes, thermodynamic props. modelling, chemical graph theory 1−4117
analysis instrumentation, conf., Baton Rouge, LA, USA (Apr. 1980) 1−27682

combustion continued
asymmetric, with convection, numerical anal. 1−2101
atmospheric fluidised bed combustor technology, Georgetown University's experience 1−51868
brown coal from Bikin coal field, furnace processes and commercial combustion 1−31979
burning particle motion in gas flow 1−15555
closed loop combustion control, flue gas analysis 1−31863
coal ash droplets in combustion flows, laser transmission for sauter mean dia. meas. 1−19839
coal utilisation and conversion, National Coal Board research and development programme, in Britain 1−4150
diagnostics by multiangular absorpt., book contrib. 1−53521
dibenzo-p-dioxins, chlorinated, origin in fire trace chem. reactions 1−53426
droplet combustion, gas phase particulate formation in gas turbine combustors 1−26746
Ekibastuz coal with 50% ash content, experimental combustion 1−31976
electrostatic fuel spray plumes, modelling 1−21728
flames temp. and concentration meas. by coherent antiStokes Raman scattering method 1−13012
fluidised bed combustion in pressurised systems, problems of reduction of atmospheric pollution by flue gases *(German)* 1−43668
gas turbine combustor film turbulence 1−24767
gasless system, ignition by combustion wave, limiting conditions 1−13008
ignition criterion, D-T mixtures, integral time function calcs. *(Russian)* 1−24975
inhomogeneous nonlinear burning media, dissipative struct. 1−26745
Kuznetsk coal, in dry-bottom furnaces 1−31977
liquid phase pyrolysis, effect on combustion, two-phase model 1−29796
luminous combustion, transition to luminous detonation 1−11563
luminous combustion wave, transition to luminous detonation wave 1−11562
methane gas mixing in air, conserved scalar imaging using linear spark 1−34020
methane-F_2, combustion, chemiluminescence study, visible emission, vibr. and rot. parameters 1−26749
methylcyclohexane-Cl mixture, combustion, upper temp. limit *(Russian)* 1−4094
modelling, numerical methods appl. 1−4096
noise, measurements on single oil drops and other diffusion flames 1−31857
nonsteady combustion waves in nonlinear heat conduction 1−24826
nozzle flow of forming aerodisperse system, momentum losses 1−46822
optimisation for energy economisation *(German)* 1−35531
organic materials subjected to CO_2 laser radiation, thermal decomp. product screening action changes 1−53428
oscillating arc in combustion flow, spherically symmetrical model for sound emission 1−19988
perfect gas, thermal wave propag., sustained by exothermic reaction, bremsstrahlung effect 1−2102
physical and chemical processes in combustion phenomena *(Japanese)* 1−53424
propane combustion ahead of nozzle critical section, supersonic air stream glow 1−13010
propane-air microwave stimulation combustion bomb in extended lean limit 1−39642
pulverised coal, investigation of ignition and burnout using shock tube techniques 1−26744
second law analysis of combustion processes 1−17056
solid fuel, combustibility testing in laboratory furnace 1−26747
soot emission from spray combustion flame at high ambient press. *(Japanese)* 1−17055
spin combustion, phenomenological theory 1−31862
spray combustion model with locally homogeneous two-phase flow, evaluation 1−4090
SRC II fuel oil, characterisation and combustion 1−26748
turbulent Ar-methane jet, multiangular absorption diagnostics 1−2050
vapour cloud, unconfined, explosion high propag. rate, appl. to Flixborough 1−46823
Cu-Al alloys and intermetallics, synthesis under combustion and thermal explosion conditions 1−53137
DF, combustion driven chem. laser performances of several reactant systems 1−37491
F atom generators, combustion driven, for DF chem. lasers 1−37489
H_2, catalytic combustion in the diffusion controlled regime, corona discharge augmentation 1−29654
H_2 combustion characteristics, meas. of burning velocity by laser-Doppler anemometry 1−4087
H_2-F_2-O_2 mixture, photochemical induced combustion, appl. to chemical lasers 1−4088
NO_x formation during combustion of Kuznetsk 2SS and Donetsk GSSh coals 1−31978
Na spray fire analysis using NACOM computer code 1−14654
O_3, premixed, combustion laminar steady-state flame modeling 1−39640
SiC CVD thermionic diodes combustion performance 1−53638
Ti burning by laser beam, thermochemical process evolution *(Russian)* 1−31861
Ti combustion in H_2, formation of hydrogenated products 1−13007
V, combustion in N_2, struct. form. of products 1−21727

comets
abundance of C_2 and CN from narrowband filter photometry obs. 1−22728
atmospheres, solar wind modification of outer ion coma 1−32658
P/ Borrelly (1980i), total visual magnitude estimates, (1981 March 6 to 18) 1−54425
P/Borrelly (1981i), visual obs. of abnormal brightness (1981 January 25 to February 26) 1−44499
Bowell (1980b), struct. and spectra at 7.17 AV 1−49577
Bradfield (1979 X), C_2, CO^+ and CO_2^+, UV obs. 1−49575
Bradfield (1979 X), CN band anal., near IR obs. 1−54421
Bradfield (1979l) rapid plasma tail axis turning (1980 Feb.) 1−22730
Bradfield (1980t), discovery posns. and appearances (1980 December) 1−27423
Bradfield (1980t), outburst, 1981 January 13, and precise prediscovery position, (1980 July 18) 1−32665
Bradfield (1980t), perihelion brightening and 1981 Jan. magnitudes 1−32662
Bradfield (1980t), precise position, 1981 January 9, parabolic orbital elements and ephemeris 1−32664
comets continued
Bradfield (1980t), precise posns., elements and ephemeris (1980 Dec.-1981 Jan.) 1−27426
Bradfield (1980t), splitting of nucleus, (1981 January 19 to 21) 1−36223
Bradfield (1980t), total visual magnitude estimates, (1981 January 24 to February 2) 1−44504
Bradfield (1980t), visual magnitude estimates, (1981 January 14 to 20) 1−36221
Bus (1981b), discovery, approximate position and daily motion 1−44505
Bus (1981b), precise positions, orbital elements and ephemeris 1−49576
Bus (1981b), precise posns. (1981 March) 1−44507
Cernis-Petrauskas (1980K), antitail, posn. angle and length 1−17792
P/ Chernykh (1978 IV), orbit evolution (1660 to 2060) 1−17791
2060 Chiron, possible comet, discovery, orbit and physical nature 1−44470
comae, key ion-molecule reactions, rate consts. 1−54422
dust collection and analysis during rendezvous mission 1−13658
dust hole, gas and dust prod. rate, effect of radiative transfer 1−40422
dust tails, origin of striae 1−44496
P.Encke, brightness as function of heliocentric distance, model 1−27431
P/Encke, total visual mag. estimates and coma diameters (1980 Sept.-Oct.) 1−13731
P/Encke, total visual magnitudes and coma diameters (1980 October) 1−9429
P/ Encke, total visual mags. and coma diameters (1980 Nov.) 1−17794
P/Encke, UV spectrum obs. by IUE 1−9430
evolution into asteroids, search for asteroid comet-like outgassing, UV obs. 1−9405
expanding haloes in cometary comae 1−40425
formations from interstellar matter, Lyttleton scheme *(Russian)* 1−4823
gas and dusty particle mixture, strong shock wave propagation, similarity solns. 1−2024
grains simulation from water ice sublimation from organic substances *(Russian)* 1−54426
P/Gunn, prediscovery record on Palomar Sky Survey (1954 August 8) 1−54423
P/Halley, Giotto mission 1−32590
P/Halley mission, orbital design and feasibility for spacecraft encounters 1−27358
head, mag. field direction determ. method 1−44498
Helin-Dunbar (1980p), discovery posns. 1−9422
Helin-Dunbar (1980p) found to be α Leonis ghost image 1−9427
ionosphere, physicochemical and dynamical processes, flow profile 1−9420
ionospheres, global oscills. and devel. under different solar wind conditions 1−54420
isophotometric atlas, pt.I 1−4782
Jupiter family comets, perihelion longit. distrib. 1−17789
Kohoutek (1973 XII), H prod. rates from ground-based Fabry-Perot obs. 1−54419
P/Lexell (1770 I), correl. with summer ecliptical meteor showers 1−36217
life-forms from comets 1−9423
light outburst interpretation involving solar wind and interplanetary mag. field 1−22726
long-period comets, characts. of distrib. of perihelia 1−44510
long-period comets, orbital statistics rel. to interstellar origin 1−44512
long-period comets, orbits clustering rel. to missing planet in asteroid belt 1−40376
long-period comets, physical and dynamical evolution 1−44509
long-period comets, shortage of objects in elliptical orbits 1−44508
P/Longmore (1981a), recovery posns. and ephemeris correction 1−32661
Lovas, probable comet discovery and approximate position, (1980 December 5) 1−22733
Lovas (1980s), approx. posns. (1980 December) 1−27422
Lovas (1980s), possible short period comet, ephemeris (1980 November 7 to 1981 January 26) 1−27428
P/Lovas (1980s), precise positions, orbital elements and ephemeris 1−40423
Lovas (1980s), precise positions, parabolic orbital elements and ephemeris 1−27429
Lovas (1980s), precise posn. (1980 December 9) 1−27425
Lovas (1980s), precise posns. (1980 December) 1−27424
magnetospheres, induced laboratory simulation 1−49554
magnitudes, coma dia. and tail details for seven objects (1974 Feb.-1980 Mch.) 1−9425
Meier (1978 XXI), radio obs. in 18 cm OH lines 1−9421
Meier (1980q), discovery and positions (1980 November 6 and 7) 1−9431
Meier (1980q), ephemeris (1980 Dec.-1981 June) 1−27420
Meier (1980q), OH absorpt. lines obs. and OH parent prod. rate 1−17795
Meier (1980q), precise positions, parabolic orbital elements and ephemeris 1−13733
Meier (1980q), precise posns., elements, ephemeris and Mags. (1980 Nov.-Dec.) 1−13735
Meier (1980q), total visual magnitude estimates, (1980 November 10 to 30) 1−17795
meteoroid emission, motion relative to parent comet, solar radiation effects 1−22736
MHD-calculations for cometary plasmas 1−4824
molecules in comets, present and future obs. from space 1−54370
neutral atmosphere, CN accel. by solar radiation press. 1−22727
nuclei, phase transition of ice rel. to heart and mass balance 1−17790
nuclei, volumetric electrolysis of ice rel. to outburst activity 1−54410
one-apparition comets, dynamical problems in preparation of catalogue 1−44511
orbit, effect of interplanetary mag. field, Lorentz scatt. appl. 1−22669
orbital elements, statistical dependences rel. to evolutionary connections between small bodies of solar system *(Polish)* 1−32635
orbital evolution, temporary satellites captures by Jupiter 1−49574
orbits, evolution of size and shape in presence of resistive medium 1−13732
origin, prod. from disintegration of asteroidal planet 1−40375
Palomar Sky Survey object (1954), semi-accurate positions (1954 August 8) 1−13736
Panther (1980u), discovery posns. (1980 December) 1−36218
Panther (1980u), ephemeris continuation, 1981 January 26 to March 7, and magnitude obs. 1−36220
Panther (1980u), ephemeris continuation (1981 February 15 to July 15) 1−44502

comets continued
Panther (1980u), precise and approximate positions (1980 December 28 to 30) 1−32659
Panther (1980u), precise positions, improved parabolic orbital elements and ephemeris 1−36222
Panther (1980u), precise posns., elements and ephemeris (1980 Dec.-1981 Jan.) 1−27427
Panther (1980u), precise posns., magnitudes and coma diameters (1980 Dec.-1981 Jan.) 1−32663
Panther (1980u), total visual magnitude estimates, (1981 February 17 to March 26) 1−54424
Panther (1980u), total visual magnitude estimates, (1981 January 23 to February 13) 1−44500
precise positions on Minor Planet Circulars 5455-5540 for 15 objects 1−4812
precise posns. on minor Planet Circulars 5541−5604 for six objects 1−9409
precise posns. on Minor Planet Circulars 5605-5658 for 14 objects 1−22713
precise posns. on Minor Planet Circulars 5659-5722 for 12 objects 1−32644
precise posns. on Minor Planet Circulars 5723-5798 for nine objects 1−44465
precise posns. on Minor planet circulars 5799-5858 for 16 objects 1−49561
precise posns. on Minor Planet Circulars 5859-5920 for 62 objects 1−54411
radiation force experienced by dust, theory 1−44494
P/Russell 2 (1980), discovery and precise positions (1980 September 28 and October 2) 1−4825
P/Russell 2 (1980o), positions, elements and ephemeris (1980 Sept.-Nov.) 1−4826
P/Russell 2 (1980o), precise positions, orbital elements and corrections to ephemeris 1−4828
Russell (1980l), precise positions, improved orbital elements and ephemeris 1−4827
P Schwassmann-Wachmann 1, outburst obs. (1981 February 10) (1981 February 10) 1−40424
P/Schwassmann-Wachmann 1, V-band and JHK photometry, (1980 December to 1981 February) 1−44503
P/Schwassmann-Wachmann 2 (1979k), total visual magnitudes and coma dias., (1981 January 25 and February 6) 1−44501
secular perturbations, theoretical anal. 1−44423
solar cycle UV flux vars., effect on cometary gas 1−22731
stellar perturbations of Oort cloud 1−22696
P/ Stephan-Oterma (1980g), continuation ephemeris (1980 Dec.-1981 June) 1−9428
P/Stephan-Oterma (1980g), favorable apparition (1980 Dec.) 1−9424
P/Stephan-Oterma (1980g), total visual mag. estimates and coma diameters (1980 Sept.-Oct.) 1−13731
P/ Stephan-Oterma (1980g), total visual magnitude estimates, (1980 November 3 to 19) 1−17793
P/Stephan-Oterma (1980g), total visual magnitude estimates (1980 November 28 to December 15) 1−32660
P/Stephan-Oterma (1980g), total visual magnitudes and coma diameters (1980 October) 1−9429
P/Stephan-Oterma (1980g), total visual magnitudes and coma dias., (1981 January 6 and 9) 1−36219
P/Stephan-Oterma (1980g), visual magnitudes and coma diameters, (1981 January 25 to February 10) 1−44506
tails, plasma accel. by ion-acoustic turbulence 1−36225
P/Tempel-2 (1978 V), spectrophotometric obs. of outburst 1−36224
three-dimensional distributions of minor planets and comets 1−44469
P/Tuttle (1980h), ephemeris and magnitude analysis 1−9426
P/Tuttle (1980h), total visual mag. estimates and coma diameters (1980 Oct.) 1−13731
P/ Tuttle (1980h), total visual magnitude estimates, (1980 December 15 to 27) 1−27430
P/Tuttle (1980h), total visual magnitudes and coma diameters, (1980 November 2 to 13) 1−13737
P/Tuttle (1980h), total visual magnitudes and coma diameters (1980 October) 1−9429
P/Tuttle (1980h), visual magnitude estimates and coma diameters (1980 November 17 to December 11) 1−27421
UV spectra, primitive material 1−32657
West (1976 VI), C, S and CS prod. rates from UV spectrum obs. 1−44497
West (1976 VI), icy grain halo, nucleus model and emission 1−22732
West (1976 VI), Na I D-line emission obs. rel. to Na source in comets 1−27419
West (1976 VI), striated dust tail, particle fragmentation phenomenon 1−22729
P/West-Kohoutek-Ikemura (1980r), recovery, approximate position and ephemeris 1−13734
zodiacal light particles originating from cometary core-mantle dust grains 1−36216

commensurate-incommensurate transformations
adsorbed layer, commensurate-incommensurate transition caused by instability to dislocation form. 1−42634
adsorbed monolayer, interaction with substrate, commensurable-incommensurable transition 1−7477
biphenyl, soft modes associated with incommensurate phase transitions, Raman scatt. study 1−52943
bis(p-toluene sulphonate) ester of 2,4-hexadiyne-1,6-diol, incommensurate phase, ESR spectra 1−26040
coupling between phase solitons and strain 1−42508
double sine-Gordon equation: a stable 2π-kink and commensurate-incommensurate phase transitions 1−44868
finite temp. effects in one and two dimensions 1−42510
fluctuation effects 1−25402
incommensurate crystal, multicritical point near commensurate point *(Russian)* 1−30356
Ising model with competing interactions 1−25860
mag. struct. between incommensurate and commensurate phases, elec. resist. and mag. susceptibility meas. 1−12269
monolayer film on graphite, two-dimens. registry transition, Monte Carlo calc. 1−11979
one-dimensional physics, theory 1−42756
second-order transitions, incommensurate superstruct. form. due to fluctuation effects 1−52290

commensurate-incommensurate transformations continued
sine-Gordon fields, one and two dimensional 1−40745
soft modes at an incommensurate structural phase transition 1−30362
structural phase transitions into incommensurate phases 1−11841
TCNQ salt, TSF-TCNQ, organic cond., commensurability and fluctuating conductivity 1−34696
tetramethyl ammonium zinc chloride, model of successive phase transitions 1−39045
tetramethylammonium cobalt tetrachloride:Mn, EPR study of incommensurate-commensurate transition 1−38972
tetramethylammonium tetrachlorocobaltate, incommensurate-commensurate phase transitions, X-ray diffr. study 1−11860
tetramothylammonium copper chloride, successive phase transitions 1−11859
thiourea, ferroelec., soft mode in disordered-incommensurate-commensurate transform 1−21139
transition metal compounds, CDW, review 1−30653
TTF−TCNQ, modulated phases, press. effect 1−7332
TTF-$Br_{0.79}$, commensurate Peierls transition, transport, mag., thermal and optical props. 1−47624
TTF-TCNQ, first order phase transition under high press., theory 1−20377
two dimensional, critical behaviour 1−25405
$BaMnF_4$, Brillouin and Raman study of phonons, commensurate-incommensurate transform. 1−43109
$BaMnF_4$, struct. and antiferromag. transitions, incommensurate modulation, theory 1−7325
$Ba_2NaNb_5O_{15}$, incommensurate phases, X-ray diffr., birefr., and DTA meas. 1−34472
Cr-Co, dil., resistivity anomaly, Neel temp., rel to conc., press. 1−38760
Cs_2CdBr_4, struct. phase sequence with incommensurate phases, X-ray diffr. and NQR meas. 1−7324
Cs_2HgBr_4, struct. phase sequence with incommensurate phases, X-ray diffr. and NQR meas. 1−7324
Cs_2ZnBr_4, struct. phase sequence with incommensurate phases, X-ray diffr. and NQR meas. 1−7324
K_2SeO_4, commensurate and incommensurate, lattice dynamics 1−8017
K_2SeO_4, crit. behaviour at incommensurate structural phase transform. 1−25429
K_2SeO_4, dielec. props., hydrostatic press. effect 1−52903
K_2SeO_4, specific heat, phase transition, 48-800K 1−38553
K_2SeO_4, successive phase transitions, Brillouin scatt. 1−48097
K_2ZnCl, elastic anomaly near normal-incommensurate-commensurate transition 1−20319
$(NH_4)_2BeF_4$, transformation to incommensurate phase, elec. props. *(Russian)* 1−43077
Nb (110) with Pd overlayer, H uptake kinetics, electronic struct. effects 1−42839
$NbSe_2$ (2H), CDW effects, US vel. meas. 1−25379
$NiBr_2$ and $Ni_{0.92}Zn_{0.08}Br_2$, incommensurate mag. phase, press. depend. 1−52752
Pd overlayers on N band Ta, structure, relation to H uptake 1−11980
PrB_6, low temp. phase transitions and mag. struct. 1−38936
Rb_2ZnCl_4, ^{87}Rb NMR study, phase transition, elec. field gradient in paralec. phase 1−12408
Rb_2ZnCl_4, crit. phenomena and anomalous thermal hysteresis accompanying normal-incommensurate phase transitions 1−39046
Rb_2ZnCl_4, thermodynamic props. associated with phase transitions 1−16040
$Rb_2ZnCl_4:Mn^{2+}$, EPR study of commensurate-incommensurate transformation through forbidden hyperfine lines 1−16039
TaS_2 (2H and 1T), CDW effects, US vel. meas. 1−25379
TaS_2, CDW transitions, X-ray diffr. study 1−20104
TaS_2(1T), Mott versus Anderson localization 1−12034
$TaSe_2$, CDW state under press., Landau theory 1−52508
$TaSe_2$, charge density wave incommensurability, X-ray scatt. study 1−30944
U film, critical current mechanism *(Russian)* 1−47826
$USb_{1-x}Te$ solid soln., mag. phase diagram 1−47886

commerce
liquefied natural gas market and trade trends 1−48784
solar power, commercial prospects to year 2000 *(Italian)* 1−48804

communication channels
optical fibres, direct image transmission using spectral devices 1−10937

communication networks
see also computer networks; television networks
air pollution monitoring network design and synthesis by modification 1−32079
modelling, using soap films, vector methods 1−49914
nuclear power plant post-accident radiation monitoring, plant communications improvements 1−50954

communication overhead lines
see also telecommunication cables
optical waveguides, manufacture and props. of cables *(German)* 1−19432

communication overhead transmission lines *see communication overhead lines*

communication systems *see telecommunication systems*

communication theory *see information theory*

communications applications of computing *see communications computing*

communications applications of control
see also communications computer control
construction and operation of data collection systems *(German)* 1−18205

communications computer control
see also communications computing; electronic switching systems
wind profile remote sensing by acoustic Doppler radar 1−32561

communications computing
see also communications computer control
EM models for antenna performance, EMC and biological effects 1−17455
speech processing, twin-zygosity determ. 1−33858
tactually cued vocoder for Japanese language 1−49157
whistlers, occurrence rate automatic obs., using microcomputer 1−4658

commutator motors
DC motors position drive regulators optimised setting for arcing under brushes minimisation *(Russian)* 1−34137
magnetic materials and components in communication engineering and data transmission, conf., Bad Nauheim, Germany (April 1980) *(German)* 1−27658

Commutators
see also commutator motors
spectral analyser commutator with triggered buffer storage device 1−41281
compacting *see densification*
comparators (circuits)
see also phase comparators
compensated current comparator with automatically zeroing flux 1−28031
mutual inductance standardisation resonance bridge with current comparator 1−28034
standards comparator, inductance and capacitance *(Polish)* 1−5338
thermoelement comparator for automatic AC-DC difference measurements 1−36692
compasses
see also navigation
laser gyrocompass, rotating-mirror system, theory based on Sagnac effect *(German)* 1−37534
compensation
see also error compensation
Bourdon tube, temp. compensation *(Rumanian)* 1−32977
current comparator with automatically zeroing flux 1−28031
cutting tools, automatic wear compensation *(French)* 1−39470
dynamometer tensoresistors, temp. compensation *(Rumanian)* 1−32976
four-electrode meas. of conductivity of solutions, circuit for temp. compensation *(Bulgarian)* 1−50154
microparticle quantitative analysis by electron beam wavelength and energy dispersive systems 1−5283
polyene semicond., compensation effect, electrical cond. 1−25729
temperature change effects, mechanical quantities meas. *(German)* 1−27909
US beam profiling using correlation systems 1−37750
compensation, charge *see charge compensation*
complementarity
axiomatic quantum mechanics, uncertainty and complementarity, review 1−40666
fundamental principles of quantum theory 1−9859
quark confinement, gauge theories, duality transform., excitations, coupling consts. 1−18390
complementary metal-oxide-semiconductor integrated circuits *see field effect integrated circuits*
complete computer programs
see also subroutines
ARANO, computer program for assessment of radiological consequences of atmospheric radioactive releases 1−39856
conic skew-ray tracing with the TI-59 in machine code and assembly language 1−19401
contours and vertices extraction from digital images, logical approach, in APL 1−49415
DTHETA program for calc. Bragg angles and interplanar spacings for diffr. maxima 1−42263
Earth conductivity, calc. for transient electromagnetic (coincident loop) method with HP-67 calculator 1−17556
geophysics plotting program, PRP, in FORTRAN IV 1−49411
human lung, simulation of gas transport and mixing, in FORTRAN 1−35791
mineral assemblages, MANTLE program to calculate 30 kbar norm assemblage in FORTRAN IV 1−49413
molecular Cartesian coordinate evaluation program for Texas Instruments TI 59 calculation 1−46156
oil exploration in Tabasco region of Mexico, seismic data anal. in FORTRAN 1−49414
on-line data processing using TI 59 programmable calculator for isotope-ratio mass spectrometer 1−50266
particle simulation, elementary concepts, Fortran program 1−6926
planet Mercury, MERC program for topographic data production, in FORTRAN IV 1−49529
POWLS-60. Program for refinement of powder diffraction data (POWDER LEAST SQUARES) in FORTRAN 1−2290
ray-tracing program for the HP-97 1−33787
real gas characteristics, van der Waals eqn. program for pocket calculator *(German)* 1−24912
spark-source mass spectrometry, photoplate data reduction, in BASIC 1−14208
X-ray powder diffr. data, XRDPLT program in FORTRAN IV 1−46955
complex angular momentum plane
see also angular momentum theory; Pomeranchuk poles and trajectories; Regge poles and trajectories
scattering on spherical potential, angle-dependent amplitude 1−5163
soliton solutions of Korteweg-de Vries equation, particle motions and dynamics 1−79
spin algebras and elementary particles in the infinite momentum frame 1−5526
$pp \rightarrow pn\pi^+$, angular dependence of diffraction dissociation 1−5654
πN, shadow poles associated with resonance, multichannel S-matrix 1−5643
$\pi^-\pi^- \rightarrow \pi^- X^-$, high energy 1−10263
compliance constants *see elastic constants*
composite insulating materials
aluminised mylar multilayer insulation thermal cond. obs., 77 to 300K 1−5326
cryogenic composite polystyrene insulation fabrication 1−8268
cryogenic thermal insulation system optimisation and selection 1−5323
heat resisting, thermal characts. *(German)* 1−25182
Al_2O_3 fibre based porous insulating material, thermal cond. 1−11927
composite materials
see also cermets; composite insulating materials; composite superconductors; concrete; eutectic alloys; fibre reinforced composites; fibres; filled polymers; laminates
adhesive bonding produced by deform., and effect on mech. props. 1−31573
anisotropic three-layered plates of finite deflection, approx. anal. 1−46675
antifriction, stress distrib. 1−21596
beam modelling, eccentric stiffeners or portions of composite cross-sections, dynamic aspects 1−11299
biological tissue characterization, US scattering theory 1−6701
borosilicate glass bonded carborundum of high porosity, fracture induced melting effects 1−21581
boundary elements for heat conduction 1−51687
brittle composites, obs. on nature of micro-cracking 1−39427
composite materials continued
brittle material, composite shells with round reinforced cut-out cyclic loading by external hydraulic press. 1−11358
clad materials for fusion applications 1−18892
composites, moisture absorpt. expts., effect of failure to dry specimens prior to exposure 1−7386
compression testing, loading 1−31795
corundum reinforced with filamentary mullite crystals, prod. and props. 1−31406
cylinders, hollow, interacting with environment, 3D wave processes 1−41980
cylindrical shells with a filler, natural vibrs. freq., boundary conditions influence 1−46694
DCB specimens, numerical stability and convergence criteria for dynamic fracture eqn. 1−48463
deformation and strength properties prediction, review 1−12811
diamond-metal bonded composites, cold sintering 1−21409
dielectric constant, pair-cluster theory 1−34973
dielectric materials, multicomponent, prototypes prediction using entropy of electron density 1−42665
elastic compliances, theoretical determ. 1−7226
elastic composite materials, mode I delamination fracture toughness, determ. method 1−48473
elastic slip, homogenisation using energy method *(French)* 1−15452
epoxy-epoxy composite, simulative study of fatigue crack growth behaviour in two dissimilar materials *(Japanese)* 1−26607
epoxy-metal composite, simulative study of fatigue crack growth behaviour in two dissimilar materials *(Japanese)* †−26607
fatigue behaviour, of composite materials 1−31591
glass reinforced Al-Mg-Si powders, strength of cold-pressed compacts 1−43299
glass-glass-ceramic composite system, simulated strength-grain size study 1−39426
glass-mica composite materials, fabrication, effects of temp., pressure and water 1−12715
glass-mica composite materials, form. and props. 1−48313
glass/Cu system, calc. of thermal conductivity by sphere packing model 1−47313
graphite particle reinforced Al composite alloys, bearing performance 1−26634
holographic interferometer technique for composite material struct. anal. 1−15097
hybrid composites, mechanical props., book contrib. 1−39451
Inconel 600-diamond, bonded composites, cold sintering 1−21409
inelastic, long-term failure 1−12812
isentropic densification 1−12689
metal, fatigue crack growth suppression using prestressed reinforcing members 1−48459
metal sheet block specimen preparation technique for determ. of complete pole figures 1−43637
metal-based, prod. method using MHD under quasiweightlessness conditions *(Russian)* 1−31386
metallic, electrochemical method for revealing transition zone microstructure 1−39569
metallography *(German, English)* 1−43630
multipolymer systems 1−12954
non-destructive testing 1−35456
orthotropic composites, bending analysis using polarisation-optic method *(Russian)* 1−11316
orthotropic shell, variable thickness, with complex shape filler, stress-strain state 1−15401
orthotropic shell-filler system, elastic and isocoelastic behaviour under action of body forces 1−29554
particleboard, wood-adhesive composite material, cathodoluminescence SEM of fracture surface morphology 1−21684
percolative conduction, effect of anisotropy, exptl. model 1−12084
phosphate porous filler based lightweight refractory 1−12707
plastic zone in vicinity of tip of hard inclusion in antiplane strain 1−29576
plate, composite, subjected to antisymmetric time-depend. moisture and temp., hygrothermal stress 1−37788
plates, locally heated, strength and thermal stresses, heat transfer effect 1−29573
plates, with periodical edge cracks, fracture 1−1888
polymer impregnated concrete, electron radiation induced polymerization effect on mech. props. 1−43307
polymeric, interface stressed state 1−48435
polymeric, linear viscoelasticity, model rheological eqns. of state 1−16827
polymeric, mechanical and electrical relaxation, heredity functions calc. using inverse Laplace transform 1−46682
polymeric, relaxation processes, time integral characts. of four-parameter description 1−15424
pulse surfaces propagation, nonhomogeneous material with aftereffect 1−29611
rail shear-test method, stress distribs. expt. and analytical study applied to composite materials 1−35308
reinforced elastomer, amorphous material, sandwich model 1−42329
reinforced materials, cylindrical ribbed shells, initial failure 1−29574
resistance composites, dielec. gaps effect on conductance 1−38824
rotating polar orthotropic circular discs 1−17992
scattering theory, multiple, for discrete elastic random media 1−9864
shear stresses, normal, meas. of first difference, equipment and specimen rigidity influence 1−15459
shells with openings, stress-strain state, review 1−19561
short-fibre composites, mechanical props., book contrib. 1−39451
sintered, mass transfer of liquid metals 1−7403
statistical mechanics, for props. prediction 1−15423
steel, stainless, composite, localized corrosion and treatment *(Japanese)* 1−53342
steel, stainless and C steel composite, stress corrosion cracking and tensile strength 1−3986
steel bars in reinforced concrete, corrosion studied by electrochemical impedance meas. *(French)* 1−39508
steel reinforced concrete, fatigue performance of reinforcement bars 1−8410
steel-Cu composites, multilayer, mech. props. 1−21391
steel-diamond, bonded composites, cold sintering 1−21409
steel-Nb-Zr-B, electric spark alloyed 1−39465
stress intensity factors computation for cracks at interfaces by method of sections 1−29624

composite materials continued
styrene-acrylonitrile co-polymer impregnated mortar, effect of radiation on props. 1−39373
thermoelasticity and plasticity 1−48455
thick film dielectric composite, AC conduction 1−52557
thoriated W filaments in alloy matrix, interaction at 1200-1600°C 1−16106
time-temp. depend. axial failure, prediction 1−48474
two-component composites, bounds on elastic and EM props. 1−42448
unidirectionally reinforced composite plate, response to blast loading 1−19603
viscoelastic composite materials, mode I delamination fracture toughness, determ. method 1−48473
wall with crenelated ambient temp. variation, transient heat conduction, thermal anal. *(French)* 1−29509
walls made from heat-insulating materials, heat resist. calc. 1−29516
wood based, antifriction props. 1−48522
wood composites, fatigue props. 1−31593
wood-polymer composites, prep. by electron beam accelerator, dynamic viscoelasticity 1−12787
Ag-KCl composite, crit. behaviour of dielec. const. near percolation threshold 1−39024
Ag-thermosetting polyester composites, DC elec. cond. 1−30791
Al, Al_2O_3 particle strengthened, creep 1−43414
Al-Cu-Mg (4, 1.5 wt.%), mica particle dispersed, casting fluidity 1−20295
Al-$CuAl_2$ eutectic composites, hardness meas. 1−31603
Al_2O_3, bidisperse struct., fracture toughness and bending strength 1−53274
Al_2O_3-Cu, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
Al_2O_3-SiC materials with aluminochromophosphate binder, dilatometric study 1−30430
$2Al_2O_3.SiO_2$-Al_2O_3 mullite-corundum ceramic, heat resist. and strength rel. to fracture surface struct. 1−43476
BeO-SiC composites, obs. on nature of micro-cracking 1−39427
C, two-phase material, rate of radiation induced shrinkage 1−34374
C/C composites, struct. and strength, review 1−48421
CaO-Fe_2O_3-B_2O_3 glass-metal composites, prep., struct. and props. meas. 1−31414
CaO-Fe_2O_3-SiO_2 glass-metal composites, prep., struct. and props. meas. 1−31414
Co-Ag-MoS_2 powder metallurgical composite, mech. props. 1−39464
Co-Ag-$NbSe_2$ powder metallurgical composite, mech. props. 1−39464
Cu-Al_2O_3 dispersion reinforced composite, mech. props. 1−39384
Cu-based, fracture laws and singularities *(Russian)* 1−3885
Cu-C (graphite), hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
Cu-glass composite, thermal cond. *(Japanese)* 1−16116
Cu-Sn porous skeleton, PTFE impregnated, antifriction props. 1−35400
Cu-Sn-Nb multiple core conductors, superconducting props., hydrostatic extrusion effect 1−34836
Cu-Sn-WSe_2-(graphite)-Pb powder metallurgical composite, mech. props. 1−39464
Cu-Su-Ni-diamond composite sheet materials, prod. and props. 1−21392
Fe-graphite powder materials, causes of wustite inclusion form. 1−39281
Fe-Teflon composite, mag. props. meas., Fe microparticle dipole-dipole interactions 1−21014
Fe-Zn composite electrochemical materials with SiO_2 dispersoid *(Russian)* 1−48302
Mo_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
$N_{59}Fe_{19}Si_8B_{14}$ amorphous composite alloy, fabrication 1−16713
Na_2O-B_2O_3-SiO_2 glass/Ni composite, thermal expansion mismatch effect on thermal diffusivity 1−25469
Ni/Pb strips, joining by Pb capillary infiltration of porous Ni strips 1−39283
Ni-Mo-MoS_2 powder metallurgical composite, mech. props. 1−39464
Ni-SiO_2 film composite, dispersion hardened, struct., autoion microscopy *(Russian)* 1−38211
NiCr-Al powder composite, prep. and plasma deposition 1−39492
NiZn ferrite-PZT ceramic heterogeneous system, magnetoelec. effect 1−52823
Pb(Zr, Ti)O_3-based antiferroelec.-ferroelec. multilayer composites, electromech. behaviour 1−26128
Pb(Zr,Ti)O_3-polymer extruded composite, electromech. transducer appl. 1−21408
Pd particles randomly embedded in KCl, far IR radiation absorpt. 1−39096
SiC reinforced Al alloys, mech. props. 1−48509
β-Si_3N_4−β-SiC composites, fracture toughness obs. 1−26602
Ta-diamond, bonded composites, cold sintering 1−21409
Ti-glass composite, matrix impregnation with Si, dilatometric study 1−21390
TiC-C, electrical conductivity, C phase content up to 40 vol.% 1−16282
TiC-Cr steel composites, sintered, corrosion resist. 1−39495
TiC-steel materials, nitriding 1−39533
TiC-VC composites, creep parameters, effect of changes in struct. 1−21530
TiC-ZrC composites, creep parameters, effect of changes in struct. 1−21530
TiN-Al_2O_3, high-temperature compatibility of components 1−21709
TiN-MgO, high-temperature compatibility of components 1−21709
TiN-ZrO_2, high-temperature compatibility of components 1−21709
W, saturation with Cu or Cu alloy for composite material manufacture *(Russian)* 1−48303
W-Re composite tube fabricated by chemical vapor deposition for application in an 1800°C high thermal efficiency fuel-processing furnace 1−12669
W_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
WC based, wear resist. improvement by heat treatment 1−35398
WC-Co, struct. defect anal., TEM study 1−20222
WC-Co composites, grain boundary anal., defect struct., TEM 1−25291
ZnO-Sn, power-law currents and role of traps 1−30753
Zn_2SiO_4:Mn phosphor, composite films on Si, growth and elec. props. 1−3082
Zr-C composite cathodes, surface layers study using electron probe X-ray microanal. 1−30530
ZrC-C, electrical conductivity, C phase content up to 40 vol.% 1−16282
ZrN-Al_2O_3 composites, for electric spark alloying of steel 1−39535

composite materials continued
ZrO_2, Ba-mica/Y_2O_3 stabilised composite, thermal diffusivity 1−2722
ZrO_2-CaO, elec. props., influence of phase transitions, X-ray electron spectral anal. 1−30448

composite models of hadrons
see also parton model; quark models
1/N interpretation of the α expansion in composite models 1−23476
composite systems viewed as relativistic quantal rotators: vectorial and spinorial models 1−14344
dyon solutions, finite energy, to Yang-Mills-Higgs equations 1−45107
dyonium system, spin properties, behaviour of wave function under interchange of particles *(Russian)* 1−23470
elastic and inelastic diffractions of composite hadrons, shadow approach 1−45348
elementary particles as microuniverses 1−36851
extended particle model 1−5574
extended particle model of hadrons, variant in terms of Grassmann numbers, relation to QCD 1−50381
high energy inelastic hadron reactions, constituent model, cross sections, geometric aspects 1−14326
internal state functions 1−28308
internal state functions and internal equations of particles 1−28271
quark mass formula from rishon graphical representation 1−493
subnuclear matter, abnormal state prod. in high multiplicity collisions 1−33160
universality of weak interactions, lepton and quark structure 1−477
eN, deep inelastic scatt. processes of electrons on polarised nucleons *(Chinese)* 1−18489
K decay modes and struct. from rishon graphical representation 1−543
π decay modes and struct. from rishon graphical representation 1−543

composite particles
see also alpha-particles; deuterons; nuclei with mass number 1 to 5; tritons
soluble model, Fock-Tani representation 1−644

composite superconductors
critical state stability and training phenomenon, theory 1−47824
internally cooled, stability against flux jumps of current and temp. distrib. 1−7791
losses, at high level of mag. field excitation 1−52702
losses, mag. field var. depend., theory and expt. 1−47790
losses at high levels of mag. field excitation 1−47788
magnet, pulsed dipole, with circulatory refrigeration system, for Nuclotron Accelerator project 1−6063
multifilament composite subjected to transient axial fields, expt. and theoretical study of losses 1−52694
multifilamentary composites, AC losses, penetration hysteresis and eddy currents 1−47791
multifilamentary composites, coupling mechanisms, stress effects and flux pinning, review 1−47825
Cu/Nb, thermal magnetoresist. of Cu matrix, meas. 1−47797
Cu/NbTi composite superconductor, thermal magnetoresist. of Cu matrix, meas. 1−47797
Cu-Nb_3Sn, in situ, superconducting props., influence of Ga additions *(Japanese)* 1−42894
Cu-Nb_3Sn, supercond. composite wires, discontinuous fibre prep. methods, review 1−12688
CuSn bronze matrix for supercond. composites, mech. props. and elec. resist., 4.2K 1−8368
NB_3Sn-Cu supercond. wire, prpe. by consumable arc melting 1−48294
Nb/Ge layered composites, quasi-two-dimens. supercond. props. 1−3118
Nb-Al multifilamentary supercond. composites, prod. by powder processing 1−48300
Nb-Al multifilamentary wires, fabrication by powder metallurgy, supercond. props. 1−48297
Nb-Al_2O_3(α) cermets, supercond., elec. and thermal props. 1−20911
Nb-Hf/Cu-Sn-Ga, flux pinning, strain scaling law 1−52726
Nb-Hf/Cu-Sn-Ga composite-processed high-field superconductors, stress and diffusion effects 1−52724
Nb-Nb_3Sn, single core and multifilamentary, HVEM obs. of microstruct. *(Chinese)* 1−20410
Nb-Ti, HT-50, thermal cond. and residual resistivity rel. to temp. and mag. field 1−52696
Nb-Ti, multifilamentary wire, superconductor stability against heat pulses in superfluid He 1−47795
Nb-Ti (46.5 wt.%) filamentary composite, microstruct./superconducting prop. rel. 1−47828
Nb-Ti filaments in Y matrix, phase props. 1−21423
Nb-Ti internally cooled cabled supercond., development 1−20934
Nb-Ti multifilamanetary supercond., phys. mech. and elec. props. 1−52733
Nb-Ti multifilamentary composite in Cu matrix, losses in transverse alternating and rotating fields 1−47800
Nb-Ti-Cu-Ni, superconducting paramagnetic props. matrix mix depend., magnetisation meas. 1−3091
Nb-Ti(Zr) supercond. wires, mono- and multifilamentary, voltage-current characts. 1−7795
Nb_3-Sn-Cu in situ supercond. wire in solenoid, performance meas. 1−16419
Nb_3Al multifilamentary wire, crit. currents at high fields 1−52729
Nb_3Sn multifilamentary wire, high-field current improvement by two-stage reaction 1−47833
Nb_3Sn based superconducting tape, thermal cond. meas. 1−30876
Nb_3Sn diffused layer tubular elements, supercond. props. *(Russian)* 1−25849
Nb_3Sn, multifilamentary, formed by solid state diffusion, growth, and struct., supercond. props. 1−48301
Nb_3Sn, multifilamentary, crit. props., 8 to 14 T 1−52732
Nb_3Sn, multifilamentary and tape, shear transform. at low temp., TEM study 1−38890
Nb_3Sn multifilamentary composites, improved strain resist. 1−47831
Nb_3Sn, multifilamentary composite, influence of tensile and bending strains on critical current 1−52728
Nb_3Sn multifilamentary superconductor, upper crit. field 1−47823
Nb_3Sn multifilamentary superconducting composite, Kirkendall porosity suppression 1−47835
Nb_3Sn multifilamentary superconductors, fabrication techniques and props. 1−52731
Nb_3Sn multifilamentary superconductor, heat treatment effect 1−53211
Nb_3Sn multifilamentary wires, in situ prep., high field props., effect of additives to Cu-Nb melt 1−47830

composite superconductors continued
Nb_3Sn multifilamentary wire, bend strain tolerance 1−52738
Nb_3Sn superconducting composite produced by modified external diffusion method, props. 1−47834
Nb_3Sn wires, mono- and multifilamentary, voltage-current characts. 1−7795
Nb_3Sn-Cu multifilamentary supercond. composites, mag. props. meas. 1−47792
Nb_3Sn(SnGa), filamentary cond., crit. temp., synergism between strain and neutron irrad. 1−16392
NbTi multifilamentary supercond. for ISR high luminosity insertion, characts. 1−51006
NbTi:Cu-matrix multifilamentary composite conductors carrying transport current, transient field losses 1−52695
NbTi:Cu(CuNi), multifilamentary supercond. magnets, AC losses under fast ramp rate 1−50176
NbTi/Cu, composite supercond., take-off and recovery current behaviour 1−42903
NbTi/Cu superconductor, transient heat transfer and recovery 1−52697
NbTi-Cu metastable supercond. composite, stability depend. on Cu-to-supercond. ratio 1−52734
V_3Ga microcomposite wires, powder metallurgical prep. and supercond. props. 1−48296
V_3Ga multifilamentary superconductors, fabrication techniques and props. 1−52731
V_3Ga multifilamentary wire, metallurgical processing and props. 1−53129

composition measurement *see chemical analysis*

compressibility
see also compressibility of gases; compressibility of liquids; compressive strength
alkali metal halides, mixed, prediction of compressibility 1−30296
alloy, compressibility determ. from density 1−25359
Bingham's variational inequalities approx. by penalty function for incompressibility constraint 1−46719
α-βbrass, microduplex, superplastic flow and cavitation behaviour during compressive deform. 1−16858
chemical potentials in solids 1−42453
coating wear resistance evaluation for bulk metal forming 1−31685
diamond indentor-anvil technique, megabar press. in submicron vols. 1−28003
dislocation structure evolution under influence of compression anisotropy 1−34349
energy dispersive X-ray diffractometry using profile anal. for high press. expts. 1−29999
explosive material compressibility, strain gauge transducer system for sample thickness meas. 1−9966
geophysics, high press. phenomena 1−32416
graphite, pristine and intercalated with K, press. effect, X-ray diffr. meas. 1−34420
ionic crystals, Gruneisen coeff. from static and shock compression data 1−16005
magnetic flux compression to isentropically compress matter 1−32998
metal contact surface, healing of micropores at uniform compression *(Russian)* 1−47338
metals, compression and rarefaction waves, numerical modeling 1−15438
plate, rectangular, stability under bilateral compression with residual stress *(Russian)* 1−37821
PMMA, impact response determ., compression, shear loading 1−15950
polydiacetylene crysts., compressibility under hydrostatic press. 1−15946
polystyrene-poly(2,6-dimethyl-1,4-phenylene oxide) mixture, compressive yield, fracture behaviour and yield stress 1−35352
pressure measurements, absolute, high press. 1−32995
protein ligand complexes, high press. effects 1−41529
rare earth-La-Sn alloys, anomalous phys. props. 1−25827
relativistic electron beams, use for matter compression 1−30326
ring, nonlinear elastic, strained deformable state, heating effect *(Russian)* 1−37800
steel, Cr, powders, struct. and props. 1−53248
thin plates buckled in shear, compressive stiffness 1−41965
X-ray camera attachment to diffractometer for compressibility meas. 1−45098
Al cylinder, axial compression, stress and flow patterns 1−34403
Al-Cu-Mn, D16 type, compressive strength in shock 1−53231
Al-steel fibre deformable composite, preparation, heat treatment *(Russian)* 1−16718
β-B, thermal and elastic props. meas. 1−20426
Be, cold isostatically pressed/hot isostatically pressed, deform. under shock compression 1−35340
C fibre reinforced epoxide, failure under superposed press. in three-point bending 1−35339
Ce, volume compression up to 4 GPa 1−7254
Cr_2O_3, crystal struct. and isothermal compression 1−15873
Cu powder, vel. of sound under compression *(German)* 1−25378
FeO, compressibility, energy dispersive X-ray diffr. in diamond anvil squeezer 1−21529
Fe_2O_3, crystal struct. and isothermal compression 1−15873
He, solid, sound velocity and eqn. of state meas. at high press. 1−38612
$KC_8(C_{24})$ graphite intercalates, X-ray lattice const. and compressibility meas. 1−2413
$KFeS_2$, shock compression up to 120 GPa, high press. phase K at. vol. 1−44170
MgIn $L1_0$-type ordered alloy, anisotropic lattice compression 1−34425
N_2O, solid, thermal expansion and thermodynamic props. X-ray studies *(Russian)* 1−2659
NaCl, single crysts., compression along [001] direction 1−30293
Nb-Ti multifilamanetary supercond., phys. mech. and elec. props. 1−52733
α-β-Ni-Ag, microduplex, superplastic flow and cavitation behaviour during compressive deform. 1−16858
$Ni_{3.14}Si$ elastic characts. and thermal props., Curie pt. effects 1−38428
PdZn $L1_0$-type ordered alloy, anisotropic lattice compression 1−34425
Sm, Hugoniot, shock-particle velocity curve 1−38465
SrF_2, phase relations and compressibility 1−8286
Ta, compressibility meas. by energy-dispersive X-ray diffr. in diamond-anvil cell 1−30307
TlBr(Cl), self consistent ground state and optical props. 1−47454
$TmSe_{1-x}Te_x$, valence mixing, mag., elec., and mech. props. 1−42726
α-U, compressibility meas. by energy-dispersive X-ray diffr. in diamond-anvil cell 1−30307

compressibility continued
V_2O_3, crystal struct. and isothermal compression 1−15873
ZrO_2-Y_2O_3/Ni-Cr-Al-Y thermal barrier coating, thermal cycling effects 1−31633

compressibility of gases
see also high pressure phenomena and effects
inert gas, dense, triplet interactions with multiparameter pot. 1−37295
metal hydrides, props. and appls., conf., Colorado Springs, CO, USA (April 1980) 1−6
organic, compressibility factor, antisymmetry of logarithm 1−29834
polytropic gas, compression by explosive piston 1−34034
rare gases, extrapolated equation of state at high temps. and densities 1−42119
reduced volumetric expansion and isothermal compressibility factor plots 1−47264
N_2, compressibility factor, antisymmetry of logarithm 1−29834
N_2-methane mixture, compressed and liquefied, (p,V,T) meas. 1−30352
O_2, compressibility factor, antisymmetry of logarithm 1−29834
SF_6, compressibility factor calc. and meas. 1−11511
SF_6, pure, PVT obs. near crit. pt., scaling hypothesis verification 1−38036
Xe, compressibility factor, antisymmetry of logarithm 1−29834

compressibility of liquids
alcohols soln., interferometric techniques for TVM and TACM studies 1−2566
alkali metals and halides, molten, solubility, sound vel., and compressibility 1−15783
amines, dilute aq. solns., isentropic compressibility determ. 1−20294
BBCA-p-anisal-p-toluidene nematic mixtures, US vel., specific vol., and related props. 1−15952
crystal-liquid instability and pressure-induced glass transition 1−38491
cyanohexyloxybiphenyl-cyanooctyloxybiphenyl mixtures, density meas. near reentrant nematic phase 1−30291
drag reducing polymers, aq. soln., adiabatic compressibility and solvation 1−51822
electron-hole liquids, crit. temp. and surface tension 1−47513
locally nonuniform fluids, equilibrium microscopic description 1−11663
metal, static structure factor changes by varying pair pot., computer simulation 1−25131
metals, liquid, sound velocity and compressibility, struct. factors 1−30328
methane, liquid, shock compression and principle of corresponding states 1−38426
piezothermal method applied to molecular organic compounds and water−liquid phases and melting 1−30431
polymer interface, properties, compressibility effects, stability 1−38237
polymer interface properties, compressibility effect 1−38251
polymers, amorphous flexible chain, surface tension 1−7430
reduced volumetric expansion and isothermal compressibility factor plots 1−47264
smectic liquid crystals, polymorphic, US studies 1−47171
thermal relaxation under shock compression 1−38427
water, supercooled behaviour, percolation model 1−7065
Ar, liq., shock compression, 21 to 91 GPa, eqns. of state calc. 1−30288
Ar, orthobaric liq., molar vel. and isothermal compressibility, pVT data 1−38422
$Ca(NO_3)_3$ in aqueous and non-aqueous solns., isentropic and apparent molal compressibility 1−25375
Cd, US speed, compressibility and struct. factor 1−46986
D_2 liquid, shock compression data 1−38495
D_2O, supercooled behaviour, percolation model 1−7065
H_2 liquid, shock compression data 1−38495
^3He, liq., ground state props., three-body-correl. effect 1−52385
^4He, isothermal compressibility calc. using analytical eqn. of state *(Russian)* 1−30504
In, US speed, compressibility and struct. factor 1−46986
KNO_3-KBr(NaBr) fused salt mixtures, US speeds and isothermal compressibilities 1−52231
Li-Mg liquid alloys, density, compressibility, specific heat and neutron diffr. 1−25449
N_2, liq., shock compression, 21 to 91 GPa, eqns. of state calc. 1−30288
N_2, saturated and compressed fluid, (p,V,T) meas. 1−30351
NH_3, dilute aq. solns., isentropic compressibility determ. 1−20294
NaBr-KBr($NaNO_3$) fused salt mixtures, US speeds and isothermal compressibilities 1−52231
$NaNO_3$-KBr fused salt mixtures, US speeds and isothermal compressibilities 1−52231
O_2, liq., shock compression, 21 to 91 GPa, eqns. of state calc. 1−30288
Te-Se mixture, press. induced semicond.-metal transition obs. 1−25771

compressible flow
see also compressibility
aerofoil, lenticular, inflated, thin, flow past at zero angle, of incidence 1−11419
air flow, heat transfer, press. drop for array of staggered plates 1−37920
air plasma on ballistic path in air-heavy gas mixture, simulation 1−42066
airstream mixing in tee, heat transfer effects 1−37932
arbitrary discontinuity decay on curvilinear surface 1−51798
boundary layers, compressible, momentum thickness, friction coeff. calc. *(Chinese)* 1−1928
boundary layers, laminar and turbulent, vectored injection 1−19668
centrifugal fan impellers, comparison, mass flow rate, turbulence 1−29715
circulation zones downstream of bluff bodies and gasdynamic screens 1−29700
computer-aided analysis, KOMPAKT, a fast technique for describing single-dimensional compressible media *(German)* 1−10415
constitutive surfaces in fluid mechanics 1−29724
divergent nozzle, flow and heat characts. of accelerated transonic air flow 1−24861
drag on sphere, kinetic theory, generalised normal soln. method 1−24844
duct flows, inverse problem, time-depend soln. method 1−15541
ducts, variable area, axially symmetrical compressible flow 1−29714
electrostatic probe for detecting charged particles in a gas-dynamic flow 1−34023
free shear layer, viscous stability, compressibility effects 1−24762
gas, plane parallel nonstationary motion 1−19735
gas flow and arc in double nozzle system, theoretical investigation of interaction 1−15697
gas in recirculation flow, time meas. using resonance absorption technique 1−24898
gas mixture, radial diffusion in Poiseuille flow., super-Burnett correction 1−19807

compressible flow continued
heat and mass transfer *(Japanese)* 1−24780
heat-pipe oven, press., density and vel. distrib. anal., device limitations 1−40870
ideal gas, 2-D flow, in channels with gas dynamic discontinuities present, calculation algorithm *(Russian)* 1−6893
ideal gasdynamics in Hamiltonian form with benefit for numerical schemes 1−2012
mixed sub-supersonic flow in channels with permeable wall 1−29784
Navier-Stokes equation, numerical integration method 1−46767
nozzle, accelerated compressible flow, turbulent boundary layer heat transfer, free stream turbulence effects 1−29683
optimal control of a perfectly conducting compressible fluid column 1−15507
partly-moving surface, sucking or blowing, asymptotic solns. laminar boundary layers, compressible gas 1−19669
pipe inlet region, compressible laminr flow, boundary layer development, flow parameters for varying Mach nos. 1−11463
pipe with elastic walls containing flowing viscous liquid, automodel solution *(Ukrainian)* 1−38011
polyatomic gases, inverse mixture, flow in resonator, gasdynamic model 1−46284
porous layer saturated with compressible ideal gas, natural convection 1−29685
rarefaction shock wave detection near liquid-vapour transform. point 1−29726
rotating annulus, Stewartson layer splitting due to surface-mounted obstacle 1−37959
rotating gas, finite difference method 1−37941
rotational inviscid flow with rolled vortex sheets, analytic algorithm 1−29704
rough permeable surface, cooling, mass transfer and drag of compressible reacting gas 1−19694
shell, cylindrical, filled with ideal compressible fluid, transients under shock excitation 1−19754
shock excitation in cylindrical shell-ideal compressible fluid system, transients 1−19754
shocks, reduction of energy available for adiabatic processes, artificial energy method 1−6873
slow nonisothermal gas flow eqn. derivation 1−24834
sound interacting with hydrodynamic turbulence in compressible liquid, nonlinear theory 1−51750
spherically symmetric flows by the dissipative finite difference scheme 1−13682
spinning flow of compressible fluid 1−37950
steps, two-dimens. recirculating separation flow; pulsed wire anemometer meas. 1−19737
subcritical compressible flow, finite element anal. and iterative soln. 1−19740
subsonic mean flow, sound propag. in non-uniform ducts, finite element method 1−51653
subsonic mean flow, sound propag. in non-uniform ducts, weighted residuals method 1−51652
subsonic turbulence in compressible fluid, energy spectrum of vortices 1−51749
subsonic viscous gas flow separation, ahead of step, Navier-Stokes eqns. numerical soln. 1−19761
summed monomeric flows of gas mixtures with bimolecular chemical reactions *(Russian)* 1−11477
supersonic air intake model with compression, flow over wedge of finite widths 1−24837
supersonic boundary layer equation solutions 1−15513
swirling gas flow, effects of compressibility, viscosity and heat transfer 1−46761
symmetric profile, subsonic vertical entry into compressible fluid, method of conical flows calc. 1−19738
thermoconvective instability of vibrating viscous gas in reactive environment 1−19675
three dimensional compressible flow through rotating blade row, linearised anal. 1−51796
transport approach 1−2013
turbulent gas flow beyond one and two component nozzles in channel, mixing characts., expt. 1−6851
two-dimensional compressible turbulent boundary layers, mean flow data 1−11386
two-dimensional steady compressible flow, solution of laminar boundary layer eqn. 1−6842
unsteady laminar laser heated boundary layers at a three-dimensional stagnation point 1−24763
unsteady thin airfoil theory, aerodynamic coeffs. 1−15505
vertical compression wave impact on curved wall *(German)* 1−42071
viscous compressible fluid config., hydromag. pulsations, radiative transfer effects 1−46821
viscous heat-conductive gas in interaction with inner heat source, flow instability *(Ukrainian)* 1−15506
vortex-turbulence spectrum, influence of compressibility 1−19736
wind tunnel, two-dimensional, sidewall boundary layer effect, similarity rule 1−46722

compression, bandwidth *see bandwidth compression*

compressive strength
see also compressibility
brittle material, composite shells with round reinforced cut-out cyclic loading by external hydraulic press. 1−11358
ceramic, strong, compressive strength effect on mech. performance 1−43465
composite shell in axial compression, ductile fracture 1−1897
composites, compression testing, loading 1−31795
compressed tubular wound rods, reinforcement arrangement effect on load bearing capacity 1−31629
concrete, compressive zone of flexural members, new testing method 1−43640
concrete, failure, crack initiation and propag. 1−43525
concrete, triaxial compressive creep, 20 to 320°C 1−43467
concrete cores, point-load strength test 1−8509
elastomer, elastic strain energy function, Valanis Landel type, meas. methods 1−3812
epoxy resin, fibre reinforced epoxies, mechanical strength, effect of low temp. irradiation 1−31526
fibre cloth reinforced phenolic composites, high-temp. thermal and mech. props. 1−20480

compressive strength continued
foam-ceramic, strength study, porosity depend. *(Russian)* 1−16834
glass, flat, ion-exchange strengthening, calc. methods 1−53249
glass, foamed, cell size effect on strength 1−53236
glass, strength under contact micropressure 1−31560
glass, strengthening by ion-exhange method 1−39480
glass, surface layer, deformation props., changes after ion exchange 1−16163
glass, technical, effect of design and technological factors on strength 1−43458
E-glass fibre reinforced polyester resin, compression strength 1−8377
glass optical fibres, surface compressed, static fatigue 1−51614
glass-mica composite materials, form. and props. 1−48313
glass-textolite laminates, mech. props. anisotropy 1−48436
glassy C's, prep. from lignins and lignin condensates 1−39260
graphite, oxidation influence on strength and porosity 1−43552
graphite reinforced epoxy sandwich struct., multispecimen fully reversed fatigue system 1−8408
gypsum, strength in hydrostatic tension 1−31562
halogenate crystals, mechanoluminescence 1−52995
Hugoniot elastic limits and compression parameters for brittle materials 1−38463
Kevlar-49 fibre reinforced polyester resin, compression strength 1−8377
mixed mode fracture angle and fracture loci under compressive loading 1−48460
optical fibres, compressive strengthening by porous glass process 1−51613
organic fibre unidirectionally reinforced epoxy, strength anisotropy eval. 1−12813
organic fibre/glass fibre reinforced textolite hybrid composite, strength in plane stress 1−31550
organo-textolite laminates, mech. props. anisotropy 1−48436
paperboard beams, failure mechanism in bending 1−12796
phosphate porous filler based lightweight refractory 1−12707
plastics, fibre reinforced, impact compressive fracture, anisotropics props. *(Japanese)* 1−31610
PMMA, mixed mode fracture angle and fracture loci under compressive loading 1−48460
polyimide, mechanical strength, effect of low temp. irradiation 1−31526
polythene, high density, dynamic compression tests at high strain rates *(French)* 1−43420
polyvinyl acetate, swollen network, gel, elasticity and compression meas. 1−53227
polyvinyl alcohol, swollen network, gel, elasticity and compression meas. 1−53227
Portland cement, hydrated, low-porosity, compressive strength 1−43433
Portland cement clinker doped with CaF_2, struct. and props. 1−39293
Portland cement concrete, in situ, assessing compressive strength by internal fracture tests 1−35463
pyrocerams, effect of design and technological factors on strength 1−43458
rocks, effect of strain rate on strength in uniaxial compression test, computer model *(Japanese)* 1−35320
sapphire, compressive failure under 300 W/cm^2 CO_2 laser heating 1−29310
semiconductor materials, mechanical test machine for small specimens 1−21667
steel, fibre reinforced polystyrene impregnated concrete, strength props. 1−43469
steel, reinforced epoxy resin, compressive strength 1−21512
steel armour plate, texture influence on mech. and ballistic props. 1−43367
steel-casting taps, SP-12, sonic NDT 1−12950
styrene-acrylonitrile co-polymer impregnated mortar, effect of radiation on props. 1−39373
Ag_3Mg, long period ordered alloys, plastic deform. 1−12834
Al-Cu-Mn, D16 type, compressive strength in shock 1−53231
AlN, based high-density ceramic, prep., mech., thermal and dielec. props. 1−31390
C fibre reinforced Ni, uniaxially aligned composite, tensile and compressive strengths under high press. 1−35338
C fibre reinforced plastics, matrix heat treatment influence on mech. props. 1−16822
C/C composites, struct. and strength, review 1−48421
C-fibre reinforced polyester resin, compression strength 1−8377
CaO-Al_2O_3-SiO_2 glass, annular specimens, bending strength determ. by radial compression 1−3867
$(CaO)_3SiO_2$ mortars, temp. increases effect on microstruct. and strength 1−43431
Cr-Cu-Cr model layer composite, deform. relations, compressive stress *(Russian)* 1−48418
Fe, cast, graphite shape effect on mech. props. 1−43470
LiO_2-Al_2O_3-SiO_2:F, glass-ceramic, strengthening mechanism 1−43432
Mo_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
Nb, etch angle control, by internal stress variation 1−21623
Ni-P, electroless deposited, microstruct. and fatigue props. 1−53282
Ni_3V, long period ordered alloys, plastic deform. 1−12834
SiC refractories, shape of powder grains effect on props. 1−31554
W_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
WC, mixed mode fracture angle and fracture loci under compressive loading 1−48460
ZrC-WC, solid solution, creep, conc. depend. 1−16838

compressors
axial compressors, two-dimens. boundary layer theory *(German)* 1−11365
heat pump controllable compressors, rotary piston and epicyclic, developments and characts. *(German)* 1−35680
Heat pump technology and applications, conf. Dusseldorf, Germany (June 1980) *(German)* 1−35675
heat pumps, air-to-air, steady state and seasonal efficiencies with continuously speed-modulated compressors, for space heating *(German)* 1−35681
heat pumps, electric, load following, free-piston variable stroke compressor development for space heating *(German)* 1−35682
outdoor machinery acoustic noise source power meas. and in situ calc. *(French)* 1−1763
space heating screw compressor electric heat pump systems, operational and control characts. *(German)* 1−35683
specific heat, polytropic, determ., appl. to reciprocating air compressor 1−205

Compton effect
astrophysical plasma, converging flow, Compton scatt. in diffusion approx., radiative transfer 1−54366
atom, Compton electron scattering, momentum densities and differential cross sections *(French)* 1−37330
atoms, momentum expectation values evaluation from Compton profiles 1−33430
bone density determination by coherent-Compton scatt. 1−26991
Circinus X-1, high-energy inverse Compton gamma rays theory 1−49858
collimated gamma rays in air Compton current and radiated EM field produced 1−33609
cosmic blackbody radiation, method of determining cosmological Compton distortions and radiation temp. 1−44676
cosmic microwave background, temp. diminutions towards two rich galaxy clusters rel. to X-ray structs. 1−44650
Cygnus X-3, high-energy inverse Compton gamma rays theory 1−49858
deep inelastic Compton scattering as a test of a whole-charge quark model *(Russian)* 1−41001
diamond, ground state properties, LCAO SCF ab initio HF method 1−34609
diheptyloxyazoxybenzene, liquid-crystal and solid phase, anisotropy, compton profiles 1−31222
electron density meas. using Compton effect *(Japanese)* 1−35112
elements, Z=1-100, photon cross-section and mass attenuation coeffs. 1−45909
energy and momentum conservation for electron interactions with EM radiation 1−10898
flare stars, inverse Compton effect interpretation for red dwarfs 1−9522
laser beams, backscattering against high energy electrons 1−29240
liquid Ar Compton γ spectrometer 1−37050
medical tomography using 90° Compton scatt., lung appl. 1−43966
NGC 7582, 2992, X-ray emission-line galaxies, synchrotron self-Compton model 1−13856
QED, two dimens. approx. 1−28247
radiographic secondary radiation, voltage, energy, and material dependency 1−40002
radiotherapy planning, Compton scatter imaging of transverse body sections 1−43961
resonant Compton effect in superstrong magnetic fields 1−3527
S, orthorhombic, electronic ground state density of states, charge densities, autocorrelation function 1−37106
special relativity, energy-momentum relationship using gamma ray Compton scatt., demonstration 1−27720
third-row elements, integral Compton scatt. cross sections, for 279 keV γ-rays 1−1149
X-ray binaries quantum cyclotron emission, high mag. field Compton scatt. cross-section 1−36331
X-ray photoelectric absorption, coherent and incoherent scatt., $E_X<1$ MeV 1−39180
X-ray scatt. obs. for Be and graphite targets using position sensitive proportional counter 1−28138
Ag, K-shell electrons, Compton scatt. of 145 keV γ-rays 1−47112
BF, isotropic and directional Compton profiles calc. 1−33512
Be, electronic distribution, X-ray Compton scatt. 1−26300
CO, isotropic and directional Compton profiles calc. 1−33512
Ce, band structure, Compton profile, and $\gamma \rightarrow \alpha$ transition 1−47445
Ce, isostructural $\gamma \rightarrow \alpha$ phase transition investig. by Compton scatt. 1−47234
Cr atom and ions, Rayleigh and Compton cross sections of photon scatt. 1−19067
Fe-B amorphous alloy, correl. between atomic and electronic struct. 1−30084
FeTi, Compton profile determ. 1−3533
β-$FeTiH_{1.7}$, Compton profile determ. 1−3533
Ga, liq. and solid, electron momentum distrib. determ. by Compton scatt. 1−48192
Ge, electronic structure in solid and liq. state by γ-ray Compton scatt. 1−31223
Li, polycrystalline, X-ray Compton profile 1−43213
Mg, momentum density distribution for Compton scatt. and positron annihilation 1−48193
N_2, isotropic and directional Compton profiles calc. 1−33512
Nb-Mo alloy, band struct., Fermi surface and Compton profile 1−38709
Ne, momentum expectation values evaluation from Compton profiles 1−33430
Se, electronic structure in solid and liq. state by γ-ray Compton scatt. 1−31223
Si, band struct. self-consistent calcs., Compton profiles, X-ray struct. factors 1−38711
Si:H, amorphous, Compton profile meas. 1−21288
Te, trigonal, self-consistent electronic spectrum, charge and momentum density and compton profile 1−12026

Compton profile *see Compton effect*

Compton scattering *see Compton effect*

computation *see calculation*

computer-aided analysis
see also analogue simulation; CAD; digital simulation; electric machine analysis computing; hybrid simulation; power system analysis computing
ceramics, microstructural analysis system, semiautomatic 1−39307
coherent optical computing, an introduction *(Italian)* 1−51405
electron energy-loss spectra, acquisition, storage display and processing system, TEM conjunction 1−23198
ESCA spectra, computer-aided meas. system *(Japanese)* 1−26778
fatigue strength analysis, computer program system *(Japanese)* 1−43481
fluidised bed heat store for power generation, assessment by computerised modelling 1−43810
imploding hollow plasma liner, numerical model for injected mag. field 1−34109
microprocessor-based real time system for eye motion analysis 1−49087
noise and vibration problems, modal analysis design aid 1−37700
optical aberration coefficients, automatic computation 1−19272
US probes, prediction of transient response using computer method 1−26699
water flow in confined areas, computer-aided numerical anal. *(Dutch)* 1−38012
X-ray powder diffr. profile anal., computer program *(Japanese)* 1−46954
Ni electrocrystallisation, computer aided anal. 1−53360

computer-aided design *see CAD*

computer-aided instruction
see also education
Brownian motion, 2-dimens., model expt. using microcomputer 1−27702
geometrical optics and lens design teaching 1−44744
physics, simulations using programmable pocket calculations 1−40620

computer-generated holography
binary digital holograms, representation-related errors, unified anal. 1−41619
binary holograms, recent developments 1−15119
composite matched filters constructed by multiple exposure or computer holography 1−15253
conference, Los Angeles, CA, USA (Feb. 1980) 1−13921
electron beam computer generated holograms for aspheric testing 1−19299
encoding methods and optical testing 1−6518
haloed line effect for casting shadows 1−1513
hologram lenses 1−15114
hybrid holographic computer-made image processing 1−15099
image quality algorithm *(Russian)* 1−1515
interferometric holograms for laser beam scanners 1−41640
IR 10.6 μm holography 1−15129
laser beam scanners constructed from vol. holograms 1−41641
microwave holograms, computer generated, teaching 1−22970
nondetour phase digital hologram anal. 1−19283
optical testing appls. 1−15120
radio camera, Bojarski exact inverse scatt. theory and holography comparison 1−51413
real-time holography with microwaves and millimeter waves 1−51414
wave aberration retrieval from point spread function or OTF data 1−37420

computer graphics
see also curve fitting; interactive systems
aerodynamic data processing complex, basic program *(Russian)* 1−40882
biomedical images quantitative reading 1−53837
biophysics experiments, appl. of minicomputer with interactive graphics system *(Russian)* 1−49165
contours and vertices extraction from digital images, logical approach, in APL 1−49415
crystal shapes, computing and drawing 1−2356
geomag. and gravity anomaly data interpretation, interaction computer graphics method 1−32543
geophysics plotting program, PRP, in FORTRAN IV 1−49411
heavy ion radiotherapy treatment planning, graphics appl. 1−27001
interactive image processing package for remote sensing and photogrammetry *(French)* 1−49274
manipulation and display of molecular structures 1−19205
molecular structure, manipulation and graphic display, program implementation 1−19207
nuclear power system, interactive simulation using minicomputer-graphics facility 1−28838
petrological and geochemical diagrams generator, interactive, Telecino 1−49412
structural models, graphical representation, allowance for thermal vibr. anisotropy of atoms 1−7045
treatment planning system, 3D interactive system 1−22126
X-ray powder diffr. data, XRDPLT program in FORTRAN IV 1−46955

computer interfaces
see also CAMAC; computer peripheral equipment; data communication equipment
Biomation transient recorder interface to LSI-11 computer 1−36639
biomedical thermograph interface improvement 1−8957
calculator interfacing of a dynamic mechanical analyzer 1−39567
data acquisition system interfacing to PDP 11 for on-line analysis 1−27940
data-only interface between Biomation 8100 waveform recorder and Z80 microcomputer system, signal averaging appl. 1−50112
digital computer interface for NMR spectrometer 1−14148
digital panel meter, microprocessor interfacing 1−9974
MIR-2 computer and expt. hardware and software interfacing 1−244
Mirror Fusion Test Facility, control consoles, hardware and software 1−10530
Mirror Fusion Test Facility operator consoles and graphic control panels 1−6035
Nairi-2 computer data interface improvement 1−245
nuclear instrumentation module counter print loop, interface to small computer, parallel I/O ports 1−10615
nuclear research reactors, data acquisition system, distributed terminal support 1−50919
serial data link as process chromatograph, process control computer interface 1−31967
signal averager interface between a Biomation 6500 transient recorder and an LSI-11 microcomputer 1−40765
system control interface, high performance liquid chromatography 1−31921

computer networks
see also distributed processing
National Weather Service, Advanced Data Control Procedures network implementation 1−40182
optical, splices, connectors and power couplers, for field and office use 1−11118
serial data link as process chromatograph, process control computer interface 1−31967
variable optical/tap distributor using movable liquid drops 1−46550

computer operator training *see training*

computer output to microfilm
electron microscope images, computer simulation on 35 mm film 1−28132

computer peripheral equipment
see also computer output to microfilm; data communication equipment; interactive terminals; printers; punched tape equipment
interval timer, high-resolution, and buffered storage system for neurophysiological expts. 1−13368

computer peripherals *see computer peripheral equipment*

computer printers *see printers*

computer programming *see programming*

computer programs, complete *see complete computer programs*

computer programs (listings) *see complete computer programs*

computer science education
learning, to use microprocessors in design 1−40611

computer software
not used for applications software for which see specific applications
see also programming
No entries

computer storage devices *see digital storage*

computer subroutines *see subroutines*

computerised communications control *see communications computer control*

computerised control
see also chemical engineering computing; communications computer control; computerised materials handling; electrical engineering computing; mechanical engineering computing; nuclear engineering computing; power system computer control
CANDU reactors, intelligent safety system design 1−50904
heart, artificial, microcomputer control system 1−32317
heat pump comfort conditioning system, microcomputer applications 1−53656
high-temp. X-ray diffraction expts., microprocessor control system 1−33084
optical gauging with image sensing camera and programmable microprocessor controller 1−44884
programmable processors *(Spanish)* 1−10616
Ratan-600 radiotelescope, data links in automated control system *(Russian)* 1−49508
STEM, nervous system ultrastruct., direct anal. using software control of electron beam 1−17538
thermocouples in microprocessor controlled systems, thermoelectromotive voltage linearization *(Bulgarian)* 1−9979
vinyl chloride monomer, air pollution, leak detection, computerised control gas chromatography 1−31965
X-ray exposure factors, microcomputer controlled diagnosis 1−22140
$Pu(NO_3)_4$ safeguards at nuclear fuel reprocessing plant, closed-loop control system 1−23764

computerised instrumentation
see also astronomy computing; astrophysics computing; automatic test equipment; biology computing; chemical engineering computing; chemistry computing; computerised monitoring; computerised spectroscopy; computerised tomography; electrical engineering computing; electronic engineering computing; geophysics computing; nuclear engineering computing; physics computing
μ SAM2, spectral anal. microcomputer for optical spectral calibration *(German)* 1−18279
acoustic telescope meas. system, for architectural acoustic meas. 1−29485
ACTA, automated image anal. system for absorpt., fluoresc. and phase contrast studies of cells 1−32332
active optical system, closed loop control 1−46498
aerodynamic data processing complex, basic program *(Russian)* 1−40882
anethetised patients, microprocessor monitoring of EEG 1−22156
arm prosthesis, microprocessor controlled 1−13354
automated holographic drop-size analyser 1−37437
automated stopped-flow/unsegmented solution-storage analyzer 1−26776
automatic digital ellipsometer 1−44988
balloon orientation system, high-altitude, single-chip microcomputer appl. 1−44405
basilar membrane nonlinear model, two-tone suppression meas. *(Japanese)* 1−49000
batch measuring for low mass parts, automatic system *(Hungarian)* 1−227
biological signals, A/D convertor, for microprocessor peripheral *(Spanish)* 1−22175
biomedical γ-camera systems, adjustable zoom-mode gain control 1−8983
biomedical dual photon absorptiometry system, meas. of mineral content of human hip and vertebrae 1−22124
biomedical microprocessor-based complex waveform generator 1−32293
biomedical osmometer, automatic, model OMKA1Ts-01 1−49134
biomedical system for anal. of active and passive isokinetic movements 1−35904
blind reading aids, automatic conversion of printed data *(Italian)* 1−53930
boiler feedwaters with low conductivity, pH meas. appl. 1−27944
brain, current density vector measurement apparatus under direct computer control 1−32337
calculator interfacing of a dynamic mechanical analyzer 1−39567
CAMAC utilisation for general or specific acoustical meas. *(Hungarian)* 1−37744
cardiac X-ray images, microcomputer-based instrument for recording metal marker position 1−32245
cardiopulmonary resuscitation instrumentation 1−13357
coefficient of restitution, acoustic method meas., microcomputer appl. 1−40621
cold rolling band preferred orientation, X-ray texture meas. system, computerised *(German)* 1−21689
contour and shape meas. technology, new developments *(German)* 1−9968
coordinate measuring devices, application of microcomputers 1−23177
corona pulse sequences obs., negative, statistical props evaluation 1−15708
cosmic ray data acquisition and processing by Nairi-2 computer 1−4778
crack tip opening displacement, minicomputer-controlled laser-interferometer technique 1−23299
data acquisition system interfacing to PDP 11 for on-line analysis 1−27940
data recording and analysis using PET minicomputer 1−40764
deployable optical system sensing and control 1−46497
digital AC bridge with two programmable sources 1−28035
digital panel meter, microprocessor interfacing 1−9974
discrete particle laser Doppler anemometry data processing 1−29815
displacement meas. by holographic interferometry, automatic readout system 1−234
Doppler US system for peripheral artery disease diagnosis 1−13299
Doublet III fusion reactor vacuum system interlocks, programmable controllers appl. 1−10528
ECG, dynamic CRT display for 24 hour anal., representation based on contour method, microprocessor-based system 1−53925
ECG cylindrical coordinator system 1−32302
echocardiographic tracking system, dynamic, variable gate width, microprocessor-based 1−32219
electroacoustical digital coordinate measurement, improvement of accuracy 1−23172
electron micrographs using dynamical electron scattering, computer simulation 1−50276

computerised instrumentation continued
electrophoresis microscope, computer-controlled, for cell mobility meas. 1−53948
EXOSAT spacecraft, onboard Data Handling Subsystem 1−49473
eye movements analysis system, EOG quantification during diverse activities 1−32283
fast ion conductors, complex impedance, automated multifreq. meas. 1−33008
film balance system, microcomputer-controlled, applic. to data collection and analysis from mixed monolayers 1−32967
flow velocity measurement using microprocessor for implementation of on-line cross-correl. 1−24904
foot-floor contact patterns during gait, electronic meas. system 1−35899
gamma ray counter, microprocessor-controlled 1−45797
gas and liquid chromatography, microcomputer based system 1−31920
gas chromatograph with IEEE 488 interface, microcomputer based 1−53517
gas chromatography, VISTA interactive microcomputer-based data system, multichannel control 1−8627
gas polarisation meas. system controlled by calculator *(French)* 1−46845
gated time-domain anal. instrumentation for diagnosis of mechanism noise 1−15347
geothermal heat flow, probe for use in sea bed boreholes 1−44314
glaucoma, automation of mass screening 1−22157
gonioreflectometer, computer-controlled, spectral refl. characts. meas. 1−18282
HP 3820A, electronic total station for angle and distance measurement 1−223
HP 3820A, geometrical constraints distance and angle measurement system 1−224
hybrid holographic interferometer with computerised fringe analysis 1−1529
image alignment system, microcomputer based 1−46584
implanted physiologic stimulators, noninvasive programming 1−32314
infrared scanning camera, control by microcomputer 1−44915
integrated imaging irradiance wavefront sensor, real time minicomputer control 1−46585
interferential wavelengths comparison with real-time signal processing 1−14174
interferometer, computer-controlled, for spatial coherence meas. through turbulent atm. 1−46226
interferometers, processing analysis of interferograms *(Polish)* 1−50199
ion microscopy, direct digitisation for quantification 1−53488
IR array radiometer with automatic pattern recognition for medical thermography 1−13313
irradiated/fuel pin data acquisition and control for gamma scanning nuclear 1−23840
Jeep door body distortion non-contact mean system 1−24470
laboratory apparatus 1−44890
laboratory gas chromotography automation using microcomputers 1−31963
laser anemometer system for velocity meas. in laminar and turbulent flow in pipes 1−24903
laser Doppler velocimeter for marine biological appls., microcomputer-based 1−2113
laser scanning system for reproduction of X-ray transparencies 1−35876
length measurement using intersecting laser beams, microprocessor control 1−23301
liquid chromatography, VISTA interactive microcomputer-based data system, multichannel control 1−8627
liquid chromatography system control interface 1−31921
liquid steel, automatic temp. meas. during BOS process, digital display, computer interface 1−23238
low-loss dielectric meas. at high press., automated system based on PET 2001 microcomputer 1−14142
low-temperature plasma probe characteristic recording automatic system 1−2235
mass balance system for shipboard use 1−54258
medical instruments, microcomputer-based, modular design 1−49145
microcomputer-based system for motor vehicles reflector and headlight testing 1−321
microdensitometer, use of for analysis of X-ray powder diffraction photographs 1−18350
microprocessor analyser of cardiostimulating impulses *(Bulgarian)* 1−49158
microprocessor based voltage meas. system characts. 1−36705
microprocessor system of operational data processing for geophysical experiments *(Russian)* 1−49401
microprocessor-based airborne meteorological data collection system 1−4669
microprocessor-based displacement transducer 1−36629
microprocessor-based distance meas. system characts. 1−236
microprocessor-based flow controller functions and test results 1−27956
microprocessor-based hygrometers characts. 1−40799
microprocessor-based magnetic, characts. *(Hungarian)* 1−36075
microprocessor-based X-ray diffractometer *(Italian)* 1−11068
microprocessor-controlled bridge for resistance thermometer 1−36656
microscope stage, programmable, temp.-controlled for biomedical investigations 1−35855
microwave complex impedance meas. with desk-top computer 1−28023
MIR-2 computer and expt. hardware and software interfacing 1−244
Mirror Fusion Test Facility, control consoles, hardware and software 1−10530
Mirror Fusion Test Facility, local control and instrumentation system software 1−10529
Mirror Fusion Test Facility, local control and instrumentation system foundation 1−10533
model SA-601 stack-gas analyser *(Japanese)* 1−32070
modified split Hopkinson bar, use of microcomputer in data analysis 1−18242
MOS structures, low-dose ion implants, on-line capacitance-voltage doping profile meas. 1−25803
multichannel system for examining voltage-pulse shapes 1−18202
multiple ADC controller for coincidence and scaling, using minicomputer 1−23990
multitasking chromatography computer system 1−53505
myocardial contractility measuring system, microcomputer-based 1−32271
nuclear medicine, ECG synchronised system for γ-camera cardiac studies 1−9001
on-line display used with cathode ray tube film measuring device 1−50113

computerised instrumentation continued
ophthalmic instruments, microprocessor applications 1−49148
optical fibres, properties meas. over wavelength range 0.85 microns to 1.7 microns *(German)* 1−19450
optical fibres access couplers for optical information systems, mode-controlled meas. *(German)* 1−19456
optical fibres characterisation using microprocessor based system *(German)* 1−19446
optical pulse reflectometer prospects *(German)* 1−18284
optics in metrology and quality assurance, seminar, Los Angeles, CA, USA (Feb. 1980). 1−27662
PDX toroidal field coil and structural instrumentation 1−10539
pendulum balance for high temp. mag. susceptibility meas. 1−50180
physical experiments, instruments for automatic measurement, data acquisition and reduction 1−18204
physics instrumentation, computer controlled systems *(Japanese)* 1−40766
pneumatic conveyors air particles velocity and mass meas., PET microcomputer appl. 1−36630
precision rotary table for angular measurement *(German)* 1−27913
process gas chromatographs with integral microprocessors 1−8628
process stream boiling point monitor using microcomputer for data correl., hydrocarbon stream 1−23240
programmable precision measuring instrument with standards class accuracy for strain gauge measurements 1−23214
psychrometer, intelligent electronic, for humidity meas. 1−40798
radiation monitoring, master-slave dose-rate monitoring system with ionisation chambers 1−937
radiotelescope RT-22 guidance using M-6000 computer 1−4772
Ratan-600 radiotelescope, data links in automated control system *(Russian)* 1−49508
reflectometer, microprocessor controlled *(Dutch)* 1−329
regional cerebral circulation meas., mobile device 1−27000
resistivity and Hall effect meas. apparatus, automated 1−50169
respirable airborne silica determ. by X-ray diffr. analysis 1−35736
reverse neutron time-of-flight diffractometer with Fourier chopper (ASTACUS) 1−25125
SAM2−a spectral analysis microcomputer 1−44880
Satellite Data Acquisition System (SATDAS), for air-sea interaction data acquisition using satellite telemetry 1−54249
scintillation gammacamera with computer based data processing system 1−45776
seismograph system for detection of microearthquakes *(German)* 1−40217
selective level meter, microcomputer control facility, meas. accuracy of 0.1 dB, automatic calibration 1−44958
SEM, on-line computer systems, interfacing, use of microprocessors 1−14220
signal averaging using Biomation 8100 waveform recorder and Z80 microcomputer system 1−50112
sound-level analyser, microcomputer based *(German)* 1−24616
spark breakdown potential meas., in ternary gas mixtures 1−15743
spectral radiometer system, microprocessor controlled, field measurements 1−44986
spectral radiometer system, multipurpose, microprocessor-based 1−44985
speed and versatility of laboratory, production and bench instruments 1−40774
stack particulate monitor, optical based, microprocessor controlled 1−48937
STEM, nervous system ultrastruct., direct anal. using software control of electron beam 1−17538
STEM, on-line computer systems, use of microprocessors 1−14220
streaming potential technique, microcomputer appls. 1−53506
superconducting MHD magnet design for Coal-Fired Flow Facility Trial 1−48881
surveying instrument, microprocessor controlled 1−49429
thermocouples in microprocessor controlled systems, thermoelectromotive voltage linearization *(Bulgarian)* 1−9979
time digitizers, computer controlled for half-life meas. 1−28816
TLD, automated control of background signals 1−962
total organic carbon analyzer 1−26781
true RMS voltage determ., economical methods 1−28022
TV Thomson scattering plasma diagnostic, user-oriented data acquisition and control system 1−2249
unified automation system for experiments on expeditions, portable data processor based Elektronika-60 microcomputer *(Russian)* 1−49400
US evaluation and quality control tool for adhesive bonds, computer equipment 1−12946
US hyperthermia treatment, computer controlled system 1−13302
US level meas. system, advantages 1−230
US meas. system *(French)* 1−24632
US tissue characterisation, microprocessor-based system 1−13367
UV spectrometer/polarimeter, satellite instrument package, solar rad., Earth atmosphere obs. 1−40348
vestibular testing, clinical instrumentation system, eye movements anal. 1−13341
vibro-acoustic research, HP 9825A calculation based system *(Croatian)* 1−29488
video interferogram analysis system, microprocessor based 1−44999
visual acuity determination, automatic instrument 1−22142
VLF digital measurement, by microprocessor *(Spanish)* 1−22159
void velocimeter, accuracy improvement using microcomputer signal control *(Japanese)* 1−19843
well logging profiles, computerised relative depth correlation method *(Hungarian)* 1−32545
X-ray diffractometer DRON-2.0 automation subsystem *(Russian)* 1−45099
X-Y scanning stage, microcomputer control, use with light microscopes in automated image anal., for cytology studies 1−53950
ZT-40 reversed field pinch, control and data acquisition system 1−6007
$In_{2-x}Sn_xO_{3-y}$-SiO_x-Si solar cells, automated steady-state admittance spectroscopy for surface studies 1−26832
Pd-SiO_2-Si MIS devices, gas effects on interface state spectrum 1−38864

computerised manufacturing control *see manufacturing computer control*

computerised materials handling
nuclear materials, safeguarding on-line accountability data 1−14630
nuclear materials safeguards, computerized nuclear material system at Sandia National Laboratories 1−18758
nuclear materials safeguards, facility-integrated computer system for materials accountability 1−18759

computerised monitoring
acoustic noise level monitoring, distributed processing system appl. 1−51670
AE monitoring, modified techniques for computerized preventive maintenance systems 1−4020
biotelemetry data, long term physiological monitoring using an on-line real-time system 1−32335
CANDU reactors, shutdown monitoring computer system 1−10498
cardiac arrhythmia bedside monitor 1−17516
cardiac arrhythmia monitor IGB.MAC2, closed loop evaluation 1−17517
D.C. Cook PWR, computerised security and radiation monitoring system 1−18919
ECG monitor, microprocessor-based, for ambulatory patients 1−17514
fatigue damage indicator, microprocessor controlled 1−17012
JT-60 fusion reactor, control and monitoring system 1−926
metals in solution, computerised corrosion rate monitoring method 1−8468
obstetric delivery monitoring, data recording and processing 1−32303
patients, microcomputers in arrhythmia monitoring 1−9047
Shoreham nuclear station, online computing for surveillance, maintenance, radiation monitoring 1−23807
weather monitoring, microcomputer-based Doppler system 1−40223
whistlers, occurrence rate automatic obs., using microcomputer 1−4658

computerised navigation
Meteosat image preprocessing and image navigation system 1−36061

computerised pattern recognition
biomedical images quantitative reading, interactive system 1−53837
breast thermographs, direct meas. and on-line automatic interpretation 1−43943
cell membrane particle diameters, computer meas. from electron micrographs 1−32327
cervical cancer pre-screening cell samples, low resolution slit-scan pattern recognition 1−35865
cervical cells, model for low resolution slit scan meas. 1−35862
cloud classification by hybrid optical/digital textural information processing 1−27307
cloud pattern recognition techniques 1−54231
cytological specimens, automated classification based on features extracted from nuclei images 1−35864
DNA electron micrographs, automated recognition of line structures 1−50287
ECG, arrhythmia, quantitative diagnosis by the serial scatter diagrams of RF-interval *(Japanese)* 1−35900
ECG body surface maps, automated classification 1−17519
exoatmospheric moving object detection by hybrid optical/digital image processor 1−24364
fracture scanning images evaluation, by opt. struct. computer anal., for steel 1−48604
histopathology, automated, scene segmentation, techniques evolved from cytology automation 1−35863
image processing and recognition techniques and guidelines 1−29225
IR array radiometer with automatic pattern recognition for medical thermography 1−13313
medical radiographic image processing and pattern recognition, computer algorithm advances 1−53893
microphotometric images of splencytes and lymphocytes from leukemic mice, computer discrimination 1−35922
optical pattern recognition, matched-spatial-filter processors, refinements and appls. 1−33624
person recognition from EEG spectral patterns 1−4374
radio aperture synthesis, closure phases method 1−54393
remote sensing data processing system development *(Japanese)* 1−49394
SEM automated image anal. for rapid feature characterization 1−18341
soil multispectral reflectance studies 1−9299
tissue section analysis, feature selection and image processing 1−35921
turbulence, image anal. of experimental data 1−19681

computerised picture processing
see also computer-generated holography
astronomical images anal. by moments 1−36194
astronomical plates, solar system occultations prediction using automated microdensitometry techniques 1−44411
atomic images, electron microscopy, digital processing 1−50282
automatic interferogram analysis system 1−19292
basalt flows in Big Desert Area, Idaho, Landsat data 1−9301
biomacromolecular structures using image processing of electron micrographs 1−43851
biomedical image restoration for diagnosis purposes, two-dimens. modelling, appl. on minicomputer systems 1−53836
biomedical IR thermograms of bone and joint pathology, computer processing 1−8970
breast thermographs, direct meas. and on-line automatic interpretation 1−43943
cardiac scintillation camera images, pattern analysis 1−53898
cell membrane particle diameters, computer meas. from electron micrographs 1−32327
cervical cells, model for low resolution slit scan meas. 1−35862
chest radiograph boundaries, piecewise linear detection methods 1−53897
contour and shape meas. technology, new developments *(German)* 1−9968
contours and vertices extraction from digital images, logical approach, in APL 1−49415
cytological specimens, automated classification based on features extracted from nuclei images 1−35864
digital image processing, appls. to astronomy, conference, Pasadena, California, (1980 August 20 to 22) 1−44708
digital speckle-pattern shearing interferometry 1−33043
digitized scanning transmission electron microscopy, for biological and methodological problems 1−53941
electron micrographs, unified processing for periodic and non-periodic specimens 1−53940
electron micrographs using dynamical electron scattering, computer simulation 1−50276
electron microscope images, computer simulation on 35 mm film 1−28132
electron microscopy appl. of digital image processing, Semper system 1−18342
electron microscopy treatment of images, conf., Poitiers, France (June 1980) 1−49875
elliptical galaxies, minor axis orientations meas. using interactive computer method 1−54605
exoatmospheric moving object detection by hybrid optical/digital image processor 1−24364

computerised picture processing continued
gamma-ray telescope spark chamber photographic data processing by desktop calculator 1−4777
gas bubbles in liqs., size and position determ. by hologram reconstruction digital 3D processing 1−10938
high performance image processing and laser beam recording system 1−46246
histopathology, automated, scene segmentation, techniques evolved from cytology automation 1−35863
holographic interference pattern quantitative evaluation under image processing aspects 1−15105
hybrid optical/digital image processing system and applications 1−37433
hybrid optical/digital image processor 1−24365
image alignment system, microcomputer based 1−46584
image anal. using table digitiser, programming fundamental qualities in local anal. *(German, English)* 1−8519
image processing and recognition techniques and guidelines 1−29225
image processing software for Faint Object Camera on Space Telescope 1−27394
image processing techniques for computed tomography *(Japanese)* 1−8984
image restoration, comparison of 4 linear and 1 nonlinear method 1−15093
images from Voyager, digital picture processing techniques for Jupiter and Saturn 1−36193
interferogram processing *(Russian)* 1−44991
interferograms, processing and analysis *(Polish)* 1−50199
ion microscopy, direct digitisation for quantification 1−53488
iterative image restoration by method of steepest descent in computer based digital image processing system 1−46238
Landsat for low order soil survey 1−9162
LANDSAT MMS data, interactive digital anal. system, geometric correction and registration procedure *(Italian)* 1−4665
Landsat MSS for coil series and conditions 1−9159
laser image recorder, high-resolution, with integral wet film processor 1−45054
LIPS architecture 1−9298
map-guided interpretation of remotely-sensed imagery 1−17712
medical radiographic image processing and pattern recognition, computer algorithm advances 1−53893
medical radioisotope images, edge detection algorithm 1−53862
metamorphic rocks, texture study 1−53199
Meteosat image data processing defective classification technique 1−4663
microphotometric images of splencytes and lymphocytes from leukemic mice, computer discrimination 1−35922
multi-spectral imagery acquired in remote sensing appls., computer-aided processing techniques 1−17704
multispectral remote sensing data contextual classifiers 1−9297
Upper Nile soil salinisation, Landsat data 1−9192
on-line motion analysis using a TV system 1−32955
optical computing conf., Washington, DC, USA (April 80) 1−49877
optical filters, digitally computed operators *(French)* 1−51380
optical microscopy, tissue selection anal., pattern recognition 1−35921
particle analysis by digital processing of three-dimensional hologram reconstructions 1−15101
particulate quantitative characterisation by SEM automatic image analysis 1−5284
photographic data management, photogrammetry of cine film 1−45062
powder diffraction photographs, analysis using automatic microdensitometer 1−18350
pulmonary vasculature in cardiac failure, anal. by computer evaluation of radiographs 1−9015
quadratic programming for digital image restoration, Fredholm integral eqn. soln. 1−6491
radioisotope pulmonary functional images, automatic construction 1−53861
regular biological objects, 3D image reconstruction technique 1−40034
remote sensing data exploratory classification *(Italian)* 1−4624
salinity detection, Landsat data 1−9302
SEM, array processors 1−50278
SIMS, image processing for surface element distrib. determ. 1−31283
software image processing system CIPS *(Italian)* 1−4667
soil boundaries, image enhancement and spectral eigenvalue classification 1−9300
soil energy, multispectral data 1−9160
soil map, method 1−9303
soil moisture reflectance in IR band 1−9191
soil-vegetation mappings in Big Desert Area, Idaho 1−9161
stellar speckle interferometer data, photon noise effect on image reconstruction, computer expts. 1−54394
stellar spectral classification, present state and future developments of automatic techniques 1−54396
stellar spectroscopy, automatic MK spectral classification for early type stars 1−54397
stellar spectroscopy, two dimensional spectral classification using computer 1−49533
TEM images, electronic recording and processing 1−50279
turbulence, image anal. of experimental data 1−19681
VICAR image processing system portability 1−27395
video interferogram analysis system, microprocessor based 1−44999
Viking Lander Martian scene, multispectral data G-mode cluster anal. *(Italian)* 1−44440
X-ray astronomy, maximum entropy method algorithm, appl. to Einstein Observatory image restoration 1−44437

computerised power station control *see power station computer control*

computerised power system control *see power system computer control*

computerised process control *see process computer control*

computerised signal processing
see also biology computing; computerised pattern recognition; computerised picture processing; medical diagnostic computing
auditory brain stem evoked potentials, computer identification 1−17509
biomedical Doppler US signals, real-time calc. of pulsatility index 1−32214
CAMAC utilisation for general or specific acoustical meas. *(Hungarian)* 1−37744
cardiac arrhythmia monitor IGB.MAC2, closed loop evaluation 1−17517
ECG, construction of isochrone or isopot. maps by computer 1−32277
ECG, software routine for reproducible processing 1−4379
EEG, automated anal. with microcomputers 1−49146
EEG, delta rhythm topography during sleep, system for study 1−27014
computerised signal processing continued
EEG analysis system of the National Cooperative Dialysis Study 1−22147
EEG spike and wake activity, high-speed automatic anal. 1−4373
electro/acousto-optic technology review 1−19409
EMG, automatic anal., technique and results in healthy and ill subjects *(French)* 1−27013
EMG, gait exam. in clinical routine, microcomputer implementation 1−32280
EOG, eye movements quantitative anal. using computer-based system 1−32283
epileptic cat cortex, unit spontaneous bursting activity, microcomputer anal. method 1−4393
gravitational constant, absolute meas. by laser interferometry, computer processing of signals *(Russian)* 1−44992
microcomputer data processing system fdr medical time series signals *(Japanese)* 1−40015
multi-channel array processing for noise elimination 1−36638
ocean wave radar method (synthetic aperture), data processing 1−49397
optical digital computing, survey 1−15083
performed music, analysis, synthesis, and display by computer 1−37729
radio signal spectral analyser (shortwave), real time computer method for Doppler spectra 1−4630
scintillation gammacamera with computer based data processing system 1−45776
seismic short period waves, second order autoregressive representation 1−54287
seismograph system for detection of microearthquakes *(German)* 1−40217
signal averaging using Biomation 8100 waveform recorder and Z80 microcomputer system 1−50112
underwater sound analysis using programmable signal processor 1−24601

computerised spectroscopy
see also spectroscopy computing
astronomical near-IR spectral imaging Michelson interferometer 1−27398
atomic absorption spectrophotometer, double-beam, functional analog to digital converter 1−351
Auger analysis using spectrometer-computer system 1−31924
automated calculation of optical constants in IR region 1−8030
automated nuclear geophysical instrument parameters 1−32560
biomolecules, multidimensional spectroscopic data correl. in conformation transition 1−9057
computer controlled Raman spectrometer, noise suppression *(Russian)* 1−40874
computer controlled scanning monochromator, appl. to inductively coupled plasma-atomic emission spectrometry 1−49399
conference, Washington, DC, USA (Apr. 1980) 1−44706
dielectric time domain spectrometer, dual channel sampling oscilloscope 1−286
digital computer interface for NMR spectrometer 1−14148
electron energy-loss spectra, acquisition, storage display and processing system, TEM conjunction 1−23198
electrooptical multichannel spectrometer interfaced to PDP 11/20, fast Raman spectrosc. appls. 1−50227
elemental mapping using digital storage and colour display of X-ray image data 1−23399
energy dispersive X-ray fluorescence analysis 1−45087
ESCA spectra, computer-aided meas. system *(Japanese)* 1−26778
ESCA spectrum automatic interpretation by knowledge-driven method 1−31959
ESR, reagent efficient computer controlled stopped flow technique 1−28044
ESR spectroscopy collection and anal. by KRS 4200 minicomputer system 1−40896
fast large-field mirror systems for spectroscopy and space research, computerised design 1−24469
fine gamma spectrometry, multiple meas. channel facility, real-time operation, possibilities 1−23943
gas mixture analysis by millimetric and submillimetric RF spectroscopy 1−31960
geological materials, automated X-ray fluoresc. anal. 1−22555
high-current hollow electron beam spectrometer 1−1000
inelastic electron tunnelling spectrometer, computerised 1−50243
internal reflection spectroscopic system, rapid scan 1−45033
IR spectrometer coupled with process computer, sensitivity limit determ. *(German)* 1−14186
IR spectrometer using computer controlled CW colour centre laser, 2.2-3.3 μm range 1−18311
laser induced do enhancement using Rockwell AIM-65 microcomputer data acquisition and control system 1−14106
laser micro-spectrograph for trace element monitoring in mild steel, nucl. power station appls. *(German)* 1−21815
laser microspectrograph, robust portable computerised, Si meas. in reactor mild steel 1−43730
mass spectral data, computer controlled peak top search procedure 1−28120
microprocessor-based optical spectroscopy system 1−348
neutron spin echo spectrometer, IN11 model, charact. and computer control system 1−33364
NMR, solid-state, microprocessor-based programmer using pulse pair concept 1−23282
peptidyl amide, ^{1}H NMR, fine struct. anal., solvent effects 1−14917
photodetector absolute calibration with spectral analysis microcomputer *(German)* 1−45020
photoselection spectrometer by a simple modification of a luminescence spectrometer 1−50239
plasma diagnostics, on-line micro-computerized facility 1−46928
PMMA, IR spectra, automated calculation of optical const. 1−8030
quadrupole SIMS instrument, computer based instrument control and data acquisition 1−28121
scanning Auger microprobe interfaced to minicomputer system for control of spectrum acquisition and display 1−21828
SIMS, image processing for surface element distrib. determ. 1−31283
spectrophotometer, for long lasting kinetics data acquisition 1−50189
temperature-induced phenomena, automated FT IR obs. 1−50241
thermoplastic elastomers, complex relative permittivity spectra using dielec. spectroscopy at sub-audio freqs. 1−9996
UV photoelectron spectroscopy, transient species detect. using microcomputer-controlled modulation 1−28129
UV/visible spectrometer 1−45032

computerised spectroscopy continued
Mg atomic absorption analysis, automatic sample preparation and data handling I−27941
Si low conc. remote meas. in nuclear reactor struct. materials, computerised laser analysis I−31958

computerised test equipment *see automatic test equipment*

computerised tomography
abdominal anatomy recognition from CT scans, 3-D model driven system I−53896
analogue transaxial tomography, reconstruction from projections by coherent-optical deconvolution I−53875
angiotomography, modification of dynamic CT scanning I−53889
attenuation coefficient of X-rays, an accurate parametrisation I−26996
bandpass filter for enhancement of spinal canal tissue reconstruction I−26981
basic principles of the CT-system I−13319
bile duct diagnosis, current radiological situation *(German)* I−9002
biopsy procedures in brain, multiple scan sections interpretation, 3D viewer I−17493
blood flow through large vessel, determ. using CT I−49101
blood-pool imaging, appl. of 7-pinhole multigated tomography I−4360
brain, single photon emission CT, special charact. and pot. I−32239
cerebral blood flow, determ. with the EMI CT scanner I−22109
colour video enhancement terminal for computerised tomography I−49122
Compton 90° scattering tomography, lung appl. I−43966
conference, Leeds, England (Sep. 80) I−40594
dynamic spatial reconstructor, appl. to 3D imaging of heart, lungs, and circulation I−49123
effective energy, definitions I−49121
EMI CT scanners, survey of 29 British machines I−49099
EMI early scanners, improved image display I−13318
emission CT, annotated bibliography I−27694
emission CT, single-photon, constant attenuation compensation using filtering methods I−53871
emission CT recent developments in instrumentation I−32238
emission CT using a scintillation detector *(Japanese)* I−32236
emission tomographic reconstruction by matrix inversion I−17490
emission tomography, 7-pinhole, in vivo simulation of ^{201}Tl myocardial scintigraphy I−22115
emission tomography, quantitative imaging using the Cleon system I−40005
fan beam, view sampling requirements I−26989
fan beam image reconstruction algorithms, rapid execution I−53867
fan-beam CT systems with rotating and stationary detector arrays I−49116
Fourier multiaperture emission tomography, quantum noise calcs. I−53877
gamma emission computed tomography of fission reactor fuel bundles I−43635
gamma ray source coded aperture imaging with off-axis rot. slit I−33081
health and social value of computerised medical imaging I−49932
heart, beating, towards useful imaging with a conventional CT scanner I−53869
heart, positron emission CT, review I−32241
heart imaging, stop-action method using ECG-gated CT I−53868
heavy ion radiotherapy treatment planning, graphics appl. I−27001
high-resolution hybrid digital-optical processor for transaxial tomography I−53879
high-speed three-dimensional system, dynamic spatial reconstructor I−17492
hybrid emission tomograph, HEADTOME-I, clinical appls. *(Japanese)* I−32235
image enhancement based on spatial domain technique I−53895
image evaluation by entropy I−22114
image processing, absolute limits I−17494
image processing techniques for computed tomography *(Japanese)* I−8984
image quality, influence of focal spot I−43948
image reconstruction, fast implementation of a minimum varience estimator I−53865
image reconstruction by direct Fourier methods I−32246
image reconstruction from projections using circular harmonic expansion I−53876
intracranial diseases diagnosis, comparison of ^{99m}Tc-MAA brain scan and CT *(Japanese)* I−9009
lesion detection and S/N ratio in CT images I−40001
liver, positron tomographic imaging with ^{68}Ga iron hydroxide colloid I−43986
Los Alamos Scientific Laboratory industrial appls. I−48644
lung cancer, CAT contrib. to dosimetry and treatment evaluation I−13316
Medicor Works' whole-body computer tomograph model 0100/0150 I−13320
microwave CT I−32229
multiple photon coincidence tomography I−32240
Neuro PET, data acquisition and data reduction I−22130
neuroradiograms, holographic viewing method I−8961
optical computing conf., Washington, DC, USA (April 80) I−49877
optics in four dimensions, conf., Ensenada, Mexico (Aug. 1980) I−40589
pancreatic disease evaluation by positron emission tomography, review I−32242
performance characteristics evaluation I−49098
phantom, precise alignment procedure I−8992
phantoms, three-dimensional, and cone-beam X-ray projections, math. generation I−35884
photon energy calibration, comparison of equivalent methods I−22120
photon energy depend. of Xe ionisation detectors, anal. I−35880
pixel decomposition for 2D image reconstruction I−53866
polar sampling theorems and their application to computer-aided tomography I−51393
positron emision tomography, design considerations I−53872
positron emission, appl. in biological investigations and clinical diagnosis I−32234
positron emission, soft tissue tumours and peripheral vascular disease I−32243
positron emission, system design criteria I−43992
positron emission tomography, feasibility of time-of-flight reconstruction I−43955
positron emission tomography I−22131
positron tomograph with 2.4 mm resolution, design features I−1040

computerised tomography continued
pulse echo and Doppler reconstructive tomography I−53854
quantitative radiology appls. and methods I−9016
radiation method of NDT, new I−39575
radiation method of NDT, new I−39576
radiation treatment planning on the basis of CT pictures I−44003
radiation treatment planning system, 3D interactive system I−22126
radioisotope CT using a rotating chair, basic studies I−53882
reconstruction from projections via coherent-optical deconvolution I−6502
review of tomography methods using computer scanning I−53890
rotating aperture devices in X-ray tomography I−43969
sampling, effects on CT images I−32231
scanner for radiation therapy treatment planning I−22125
scanner selection and specification for radiation therapy I−8993
scanners, software-hardware struct. I−13321
scanners, theory and application I−43998
scanners intercomparison I−40003
specific gravity measurement rel. to CT numbers I−43964
spectral artifact corrections framework I−53870
temporal bone, high resolution CT-scan I−43958
temporal-bone imaging, manipulation of CT data I−53888
thorax, new mode of CT-scanning I−4358
TLD-700, human organ dosimetry after multiple scan computerised X-ray tomography, model expts. I−13326
Tokamak diagnostics using computerised tomography techniques I−51988
transmissive US CT, breast cancer appl. I−53838
transverse-continuous-rotate CT scanners, design constraints and reconstruction algorithms I−49104
treatment planning system I−22128
two-phase flow density distribution measurement technique, aerospace appl. I−11482
ultrasonotomography, state-of-the-art review *(Japanese)* I−26971
US attenuation CT, appl. of phase insensitive detect. and freq.-dependent meas. I−53839
US attenuation tomography, reconstruction with correction for refr. errors I−53841
US reflectivity 3D imaging, exact inverse scatt. solns. for plane, cylindrical, and spherical apertures I−51656
x-ray tomographic imaging of boiling from heated rod bundles [nuclear reactors], nuclear reactor operation simulation I−14677
X-ray tube output measurement, failure anticipation I−26979
^{99m}Tc prior administration, effects on an X-ray CT scan I−49113
Xe ionisation detectors, X-ray intensity response anal. I−35881

computing applications to aerospace engineering *see aerospace computing*
computing applications to art *see art*
computing applications to astronomy *see astronomy computing*
computing applications to astrophysics *see astrophysics computing*
computing applications to biology *see biology computing*
computing applications to biomedical engineering *see medical computing*
computing applications to business *see administrative data processing*
computing applications to chemical engineering *see chemical engineering computing*
computing applications to chemistry *see chemistry computing*
computing applications to circuit layout design *see circuit layout CAD*
computing applications to civil engineering *see civil engineering computing*
computing applications to communications engineering *see communications computing*
computing applications to control system design *see control system CAD*
computing applications to education *see educational computing*
computing applications to electric machine analysis *see electric machine analysis computing*
computing applications to electrical engineering *see electrical engineering computing*
computing applications to electronic engineering *see electronic engineering computing*
computing applications to engineering *see engineering computing*
computing applications to geophysics *see geophysics computing*
computing applications to history *see history*
computing applications to information science *see information science*
computing applications to linguistics *see linguistics*
computing applications to literature *see literature*
computing applications to manufacturing *see manufacturing data processing*
computing applications to mathematics *see numerical analysis*
computing applications to mechanical engineering *see mechanical engineering computing*
computing applications to medical administration *see medical administrative data processing*
computing applications to medical diagnostics *see medical diagnostic computing*
computing applications to medicine *see medical computing*
computing applications to music *see music*
computing applications to natural sciences *see natural sciences computing*
computing applications to nuclear engineering *see nuclear engineering computing*
computing applications to physics *see physics computing*
computing applications to power system analysis *see power system analysis computing*
computing applications to power system design *see power system CAD*
computing applications to psychology *see psychology*

concrete
acoustic wave propag., experimental and theoretical study of multiple scatt. I−24563
compressive zone of flexural members, new testing method I−43640
damping, effect of stress, frequency, curing mix, and age I−48406
deformation and fracture under impact and blast shock loading I−43466
failure, crack initiation and propag. I−43525
fatigue testing device I−26687
fire-damaged, thermoluminesc. test I−8510
fission reactor material, GCFR pressure vessels I−14585
flexural fatigue behaviour of plain concrete I−8411
flexural strength I−53234
heat induced decomposition following LMFBR core meltdown I−10477
LMFBR, prestressed concrete reactor vessel, transient anal., finite element method I−33324

concrete continued
LMFBR prestressed concrete reactor vessels, containment capability 1−33325
magnetite-aggregate, interaction with Na following reactor accident 1−50825
mass concrete mech. props. at elev. temps. 1−43468
microcracking mechanics under fatigue loading 1−43526
missile impact damage against reinforced concrete structures 1−841
missile impact with reinforced concrete structures 1−839
point-load strength test 1−8509
Portland cement concrete, in situ, assessing compressive strength by internal fracture tests 1−35463
prestressed concrete containment vessel for LMFBR, dynamic relaxation computer program 1−23758
prestressed concrete pressure vessels for HTR, development 1−18780
radiation shield, gamma-ray buildup factors for slant incidence 1−943
radioactive waste, embedding in plastic resin or concrete *(German)* 1−14644
reinforced, holographic interferometrical anal. 1−15103
reinforcing bar debonding in concrete, detection by acoustic emission technique, feasibility study 1−39551
spalling and transient heat transfer 1−5882
steel, fibre reinforced polystyrene impregnated concrete, strength props. 1−43469
steel reinforced, fatigue performance of reinforcement bars 1−8410
steel reinforcements in carbonated concrete, corrosion intensity 1−39479
styrene-acrylonitrile co-polymer impregnated mortar, effect of radiation on props. 1−39373
surface roughness, meas. by acoustic interferometry and speckle correlation *(French)* 1−1792
triaxial compressive creep, 20 to 320°C 1−43467
US pulse velocity testing, for in-situ strength, validity 1−26701
water release rates following reactor accident, modelling 1−50826

concurrency (computers) *see multiprocessing systems*

condensation
see also clouds; drops; fog
aerosols ultrafine particles produced by radiolysis and photolysis, form and evolution 1−43711
coal ash, vaporised, condensation, sticking coefficient, model calc. 1−38524
diffusion tensor symm. props., new phase formation theory 1−42522
direct contact condensation of vapour on a spray of subcooled liquid droplets 1−19548
dropwise condensation of steam in vertical tubes, heat transfer 1−37915
dropwise condensation on surfaces having different thermal conductivities 1−37783
dropwise condensation theory, heat transfer through individual drops 1−37778
film condensation of binary gas-vapour mixtures, effect of wall temperature variation 1−33886
film condensation of stationary vapour on vertical surfaces, heat transfer coefficient determ. 1−37770
film condensation of vapour, elec. field crit. strength *(Russian)* 1−42521
flat plate, laminar flow, binary mixture film condensation 1−19700
fog droplets, growth by condensation, effect of radiative exchange 1−22388
gas cooled condensers, tube row effect *(German)* 1−37782
heat and mass transfer, experimental data generalisation 1−37914
heat transfer with condensation of moving vapour on horizontal cylinders, correspondence of theoretical and experimental data 1−29694
horizontal tubeside condensation, predictions using flow regime criteria 1−37926
ice nucleation and condensation-freezing at low supersaturation levels *(French)* 1−13541
immiscible gravity driven bubble, closed periodic condensation-evaporation cycle 1−19701
interstellar refractory grains, role of thermal condensation rel. to metal depletions 1−4948
isotopic mixtures, selective excitation by laser radiation, homogeneous condensation 1−46144
liquid evaporation mechanisms, book contrib. 1−38525
momentum transfer in evaporation and condensation, mass transfer effects 1−24855
multicomponent vapours in presence of inert gases 1−33885
nonlinear stability of film condensation 1−37784
nonpolar molecule cryocondensates, binary mixtures, surface elec. charge generation 1−2608
n-octane-like fluids, condensation induced in mol. dynamics simulations 1−38522
saturated vapour, laminar film condensation on inclined pipes, film thickness, analytic soln. 1−1912
secondary condensation in CO_2 laser beam propag. through cloud medium 1−44297
self-similar condensing flows in porous media 1−19703
small trough, laminar film condensation, condensate motion, surface tension effects 1−19704
steam, wrinkled film condensation *(Japanese)* 1−16034
sticking coefficient, model calc. 1−38524
Taylor instability in boiling, melting and condensation or evaporation 1−19702
thin film thickness meas. rel. condensation rate, quartz resonator appls. *(Polish)* 1−36625
transient condensing flow through porous medium 1−42086
tubes, turbulent film heat transfer coeffs. during condensation 1−37909
vapour condensation, homogeneous nucleation, stochastic anal. 1−40711
water, nucleation mechanism, thermodynamic relations 1−16144
water vapour, spontaneous condensation during non-adiabatic expansion to two-phase region *(Russian)* 1−51695
weak evaporation or condensation, molecule internal degrees of freedom excitation effects 1−25417
Au nucleation on NaCl, depend. on deposition rate and time 1−20586
Ce oxide, trivalent behaviour, implications for cosmochem. and thermodynamics 1−25421
γ-Fe_2O_3, condensation from vapour phase above a melt in a solar parabolic concentrator 1−7309
GaAs, CVD, rate processes, book contrib. 1−39248
$Pb_{1-x}Sn_xTe$ crystal growth by vapour-liquid-cryst. mechanism 1−8217
SF_6, compressed, surface discharges at condensation state 1−15712

condensation continued
SF_6 expansion in Ar carrier gas, mixed cluster form., HEED study 1−42527
Sb cluster, nucleation by inert gas condensation, technique for amorphous substance investig. w.r.t. order 1−26394

condensers (electric) *see capacitors*

condensers (steam plant)
computational dynamic modeling of thin film evaporators and condensers 1−19715
$FeSO_4$ passivation procedure for brass condenser pipes in power stations *(Rumanian)* 1−16961

condensing *see condensation*

conductance, electric *see electric admittance*

conductance, electric, measurement *see electric admittance measurement*

conductance measurement, electric *see electrical conductivity measurement*

conducting materials
see also bimetals; electrolytes; metals; semiconductor materials; superconducting materials
thermo-physical properties measurement at high temperatures 1−23242

conduction, heat *see heat conduction*

conduction bands
see also Fermi level; semiconductor materials
actinide compounds, antiferromagnetic-ferromagnetic transition, electron correlation effects, Hubbard and RKKY models 1−47881
diamond (111), clean and Ga-chemisorbed, electronic struct. 1−12166
ferromagnetic semiconductor, cond. band struct. 1−34621
graphite intercalation compounds with Li, K, Rb, Cs, UPS, XPS and AES studies 1−48238
heterojunctions in thermal equilibrium, extrinsic and intrinsic heterojunctions theory 1−3055
intermediate valence compounds, two-band model 1−7565
neopentane, fluid, depend. of cond. band energy and electron mobility on density 1−51905
noble gas crystals, nodal surfaces of ψ-function, band struct. calcs. *(Russian)* 1−47427
rare earth alloys, crystal field origin and magnetoelasticity 1−20942
rare earth compound, van-Vleck magnet, mag. excitation spectrum 1−20943
rare earth cpds., multipolar f-electron-conduction band interactions 1−20688
rare earth metals and alloys, magnetotransport, quadrupole and orbital exchange effects 1−20708
semiconductor, effective density of states in cond. and valence bands, arbitrary band struct. 1−12009
semiconductor junction, deep levels, anal. of thermal and optical transients 1−12059
semiconductor-insulator and MIS struct., image force influence on band gap 1−7739
semiconductors, acceptor level two-photon ionisation 1−47558
semiconductors, electronic struct. and dielec. props., universal tight-binding calc. 1−42671
semiconductors, hot photoexcited electrons, distrib. function in quantising mag. field 1−25739
semiconductors, magnetic, conduction electron spin polarisation, spin transition 1−47890
subband struct., electron-phonon interaction effect 1−12177
tetramethylsilane, fluid, depend. of cond. band energy and electron mobility on density 1−51905
zero-gap semiconductor surface states *(Russian)* 1−52630
Ag-Pd, $PdM_{4,5}N_{4,5}N_{4,5}$ Auger spectra 1−12628
AlAs, electron-hole droplet condensation, crit. points and ground states 1−52493
$Al_xGa_{1-x}As$:Sn(Te), donor related centre, symmetry, ballistic phonon attenuation 1−16257
$Al(OH)_3$, proton cond., band model 1−47288
As, electron spectrum changes due to press. *(Russian)* 1−52481
$Bi_{1-x}Sb_x$, cyclotron mass of cond. band near semimetal-semicond. transition, expt. 1−16218
CaF_2, reflectivity, fluoresc. and photoelectron spectra, 20 to 100 eV 1−3466
$Ca(OH)_2$, proton cond., band model 1−47288
n-Cd_3As_2, screening length, carrier degeneracy effect, Bodnar and Kane-type band models 1−47675
Cd_3P_2, Shubnikov-de Haas oscills., cond. band struct. determ. 1−42675
Ce, isostructural $\gamma \rightarrow \alpha$ phase transition investig. by Compton scatt. 1−47234
$Ce_x(La_{0.76}Y_{0.24})_{1-x}As(Sb)(Bi)$, elec. resistivity investigations 1−20706
CuCl, diamagnetic anomaly model, energy bands, defect and impurity levels 1−20633
Cu_2O, nonparabolicity of the Γ_7^+ valence band 1−16231
p-Cu_2S-n-ZnS heterojunction, current flow and energy band diagram meas. 1−34782
Eu-ZZ 1−12029
$Ga_{1-x}Al_xAs$, conduction band struct., deep levels, high-press. Hall effect meas. 1−2987
GaAs (110), cond. band surface plasmons in EELS 1−48202
GaAs, electron transport props. at high elec. field 1−7629
GaAs, three-valley model, microwave noise, coupling const. between Γ and L valleys 1−30796
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, electronic props. and multi-interface structs., two-dimens. electron gas 1−12186
n-GaAs-$Al_xGa_{1-x}As$-GaAs graded interface barrier conductivity 1−16347
$GaAs_{1-x}P_x$, final-state interactions in core excitations, photoelectron spectra 1−48219
GaP, electron-hole droplet condensation, crit. points and ground states 1−52493
n-GaP, uniaxially deformed, IR absorpt. spectra 1−21207
GaSb, L-band spectroscopy, Shubnikov-de-Haas effect in high mag. field under uniaxial stress 1−47456
GaSb:Se,Te, conduction band minima, elec. props., hydrostatic press. effects meas. 1−30631
GaSb:Te, inversion of Γ and L cond. bands under hydrostatic press. 1−47457
$Gd(Al_{1-x}Cu_x)_2$, magnetoresistance and band struct. near Curie temp. 1−7589
Ge, interband Faraday rot. at L-point 1−26173
Ge, two-component electron-hole liq. in ⟨110⟩ stressed crysts., calc. 1−47514

conduction bands continued
Ge:GaAs(110) heterostructure formation, LEED, AES and work function obs. 1−16345
Ge:P(As)(Sb), electron phonon interaction in intermediate conc. region 1−2579
$GeSe_2$, crystalline and glassy films, optical spectra and electronic struct. 1−48115
$Hg_{1-x}Mn_xTe$, effective mass of cond. band electrons, Shubnikov-de Haas oscills. 1−25617
$Hg_{1-x}Mn_xTe$, magnetoresistance and Hall effect props. 1−2989
InAs-GaSb semimetallic superlattices, far IR magnetoabsorpt. and cyclotron reson. 1−31131
InAs-GaSb superlattice, IR magnetoabsorption and luminescence study 1−52920
InSb, effective density of states in cond. and valence bands, arbitrary band struct. 1−12009
InSb, nonlinear light absorpt. investigation 1−26158
Ir, valence and conduction band energy dispersions, angle-resolved photoemission study 1−21326
Li, FCC lattice, ab initio HF calcs. using full-symmetry anal. of basis-set expansions 1−7500
$LiNbO_3$, EELS, conduction band density of states deduced 1−39198
$MgCl_2$, band struct. vacuum UV refl., XPS and UPS spectra 1−12625
$Mg(OH)_2$, proton cond., band model 1−47288
Na, FCC lattice, ab initio HF calcs. using full-symmetry anal. of basis-set expansions 1−7500
Na_xWO_3, electronic struct. near metal-semicond. transition, XPS study 1−47458
Na_xWO_3(100), single crystal surfaces, high-energy-electron-loss spectra 1−48203
Nb intercalation compounds, $M_{1/3}NbS_2$ (M=Mn, Cr, Fe, Co, Ni), $Fe_{1/4}NbSe_2$, optical refl. spectra 1−21226
$Pb_{1-x}Sn_xTe$ ion implanted films, implantation induced damage 1−7191
Pr chalcogenides and pnictides, cryst. field, press. effects 1−20682
rare earth compounds, antiferromagnetic-ferromagnetic transition, electron correlation effects, Hubbard and RKKY models 1−47881
Sb, free carrier contributions to second and third order elastic consts. 1−47143
$(Se_{37}Te_{32}As_4Ge_{32})_{100-x}Ni_x$, chalcogenide amorphous semicond., electrical cond. and optical absorpt. 1−20730
p-Si electrode, photoelectrochem., effects of inversion layer 1−4097
Si, two-component electron-hole liq. in ⟨110⟩ stressed crysts., calc. 1−47514
a-Si:H Schottky barrier diode, band struct., conductance-capacitance freq. depend. 1−7704
SmS(Se)(Te), band struct. under press., semiconductor-metal transition 1−2872
Ta intercalation complexes, $M_{1/3}TaS_2$ (M=V, Mn, Cr, Fe, Co, Ni), $Mn_{1/4}TaS_2$, optical refl. spectra 1−21226
Te, electron and phonon spectra, press. depend. 1−34607
Te surface, optical props. of quasi two-dimens. electron systems 1−12482
Ti_2FeO_x (CoO_x) (NiO_x) ($0 \leq x \leq 0.5$), hydrogenation characts. 1−21715
Tm chalcogenides and pnictides, cryst. field, press. effects 1−20682
U monochalcogenides and monopnictides, cond. and valence band states, spin polarised photoemission study 1−47468
UO_2, cohesive props., self consistent muffin-tin orbital calc. 1−47523
V_2O_5, energy band structure, theory 1−2868
WO_3(100), single crystal surfaces, high-energy-electron-loss spectra 1−48203
Yb_2O_3, ^{70}Yb SXAPS 1−26313
ZnSe:Co, high energy luminescence bands 1−8128
$Zn^{2+}(Zn_{(1-x)/2}{}^{2+}Sn_{(1+x)/2}{}^{4+}Fe_{(1-x)}{}^{3+}Fe_x{}^{2+})O_4$, electron exchange processes, ^{57}Fe and ^{119}Sn Mossbauer studies 1−52873

conduction electron spin resonance *see CESR*

conduction in solids, ionic *see ionic conduction in solids*

conductivity, electrical *see electrical conductivity*

conductivity, thermal *see thermal conductivity*

conductors (electric)
see also bimetals; overhead line conductors; wires (electric)
400 kJ 250 kA pulsed energy storage coil design 1−48927
microconductors mechanical testing, min. sample length determ. 1−53373
two parallel conductors carrying identical AC, skin effect *(Polish)* 1−29168
Ni-Si(Cr)(Mn)(Ga) cast microconductors, elec. props. 1−47608

conduits, electric *see electric conduits*

confinement, plasma *see plasma confinement*

connecting *see joining processes*

connectors (electric) *see electric connectors*

conservation laws
see also C invariance; CP invariance; CPT invariance; elementary particle symmetry; P invariance; T invariance
σ-model, nonlinear, supersymmetric chiral field, 1/N perturbation theory and quantum conservation laws 1−50329
baryon number nonconservation, selection rules, partial unification 1−45196
baryon number nonconservation 1−10134
continuum mechanics, variational formulation 1−18012
cosmic asymmetry between matter and antimatter 1−49872
gauge theories, symmetries and conservation laws 1−410
general relativity, invariant transformations, conservation laws, and energy-momentum 1−18098
gravitation, conservative theories, motion of extended bodies 1−50006
Kepler problem, Lie symmetries 1−44763
lepton and baryon number non-conservation, operator analysis, ν interactions, baryon decay 1−456
lepton number nonconservation 1−10134
Miura transform and existence of infinite number of conservation laws of cylindrical KdV eqn. 1−49948
N-positional Potts model, quantum version, conservation laws 1−184
Noether's theorem, local versus global conservation 1−9902
non-Abelian zilch, free field conserved tensors 1−33107
particles with spin moving in external fields, relativistic equations 1−23415
periodic solutions 1−10102
principle chiral fields, conservation laws and scatt. theory elements 1−14274
real Goldstone bosons associated with spontaneously broken lepton number, massive Majorana neutrinos 1−28261
structure of the vacuum and neutron and neutrino oscillations 1−14297

conservation laws continued
super-chiral fields, Backlund transformations, local and non-local conservation laws 1−28238
$K^+p \rightarrow K^+\pi^+\pi^-p$, 32 GeV/c, diffractive events, s- and t-channel helicity conservation *(Russian)* 1−23523

consoles, remote *see remote consoles*

constant current modulation *see amplitude modulation*

constant current sources
electrometer modification for const. current I-V meas. 1−36703
low DC generation by nonlinear matched pairs of bipolar transistors 1−28026
low-temperature plasma probe characteristic recording automatic system 1−2235
NMR spectroscopy, DC-current control using SQUID-gradiometer systems 1−36712
stabilizer for spectrometer electromagnets 1−44972

constant voltage diodes *see avalanche diodes; Zener diodes*

constants
see also elastic constants; gravitational constant; lattice constants; optical constants
absolute ampere meas. by a coil system 1−36702
IAU (1976) System of Astronomical Constants 1−32605
IAU System of Astronomical Constants, nutational motion of Earth *(Russian)* 1−40046
CeS, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138

constitution diagrams *see phase diagrams*

construction industry
see also civil engineering
laser use and hazard assessment 1−44031

constructional engineering *see civil engineering*

contact (mechanical) *see mechanical contact*

contact angle
see also capillarity; surface tension; wetting
advancing, receding and 'equilibrium' contact angles 1−16148
binary metallic systems, solid-liquid vapours contact angle calc. 1−42610
bubble diameter on detachment in flowing liquids 1−37994
bubbles or drops in uniform flow, deformation 1−37996
cyclohexane on polyethylene, contact angle and equilib. spreading props. 1−30522
equilibrium shape of fluid interface and contact angle, general eqns. 1−16151
fluid meniscus in capillary tube, finite element numerical simulation of steady movement 1−34549
interfacial profile in the contact line region of a finite contact angle system 1−16146
liquid crystal orientation on surface-treated substrate, polar and nonpolar contribs. meas. 1−42292
liquid penetration into capillary tubes 1−11959
liquid transfer from one solid surface to another, slow transfer case, approx. calc. method 1−7425
photoresist adherence on metal film, contact angle meas. 1−38629
polydimethylsiloxane spreading on variable geom. surface, adhesional contact form. 1−7424
polymeric solids, contact angle hysteresis, wetting force meas. 1−30523
porous body, liquid infiltration process 1−11960
spreading liquid on hydrophobic solid, contact angle and equilib. spreading props. 1−30522
wetting of solid Fe by liquid Sn *(Japanese)* 1−2777
Hg porosimetry, influence of contact angle on hysteresis 1−47330

contact e.m.f. *see contact potential*

contact lenses
clinical comparison of spin-cast and lathe-cut hydrogel lenses 1−17521
coloured contact lens investigation, vision aid for red/green defectives *(German)* 1−22164
flexible, power and tear vol. exchanges 1−27027
forces retaining a contact lens on the eye between blinks 1−17417
soft, effect of varying prism and truncation on performance 1−27028
soft, theoretical model for predicting parameter changes 1−27026

contact potential
see also contact resistance
Kelvin method of measurement involving scanning of bucking voltage, automatic data acquisition 1−14141
latent voltage image development studies by contact potential different *(Japanese)* 1−33068
Al-Al_2O_3 contact potential, Schottky emission through Al_2O_3 thin films 1−30807
Cu (111) adsorption of S, electron and positron workfunction correlation 1−25792
GaAs (110) cleared surface work function, effect of chemisorbed O_2 1−16174
GaAs (110) surfaces, electron affinity and ionisation energy, temp. depend. 1−38838
GaAs {100} MBE layers, surface crystallography, electronic props., and chem. reactivity, stoichiometry effects 1−7439
Ir (110), coadsorption of H_2 and CO 1−7466
Ir(110)(1×2) reconstructed surface, adsorption of water, LEED, XPS, contact pot., and thermal desorption meas. 1−38663
p-Si (111) surfaces, cleavage steps, electronic and struct. props., work function meas. 1−7711
Si-SiO_2 system electrophysical props. and oxide film growth correlation 1−25807
Ti films, surface planes with high work function 1−38837
W adsorption of Ag, AES, LEED and contact pot. difference 1−42625

contact resistance
see also contact potential
composites, resist., dielec. gaps effect on conductance 1−38824
Al contacts, room temp. sintering in vac. and in O_2 1−16339
Al-Si (2%) alloy films, magnetron-sputtered, electromigration and ohmic contact props. 1−34501
n-CdTe-In, contacts formation and stability 1−7736
Cu point contacts current-voltage characts. 5 to 300K 1−3048
p-GaAs to Au/Zn/Au multilayer ohmic contacts 1−3062
n-GaAs-metal ohmic contacts form., elec. modelling 1−34792
InGaAsP layer lattice-matched to InP, contact with AuZn, comp. depend. 1−3063
InP, n and p type, low resistance ohmic contacts 1−30823

contact resistance continued
n-Si/Ni-P, ohmic contact form. by electroless plating, contact resist. variation with P conc. 1−30821
Ta_2N-Ni films, RF sputtering prep. of Ni films, props. and interdiffusion anal. 1−35174
contactors
see also relays
sliding contact materials for energy and communication techniques, wear *(German)* 1−12893
contacts, electrical *see electrical contacts*
continuous creation hypothesis *see cosmology*
continuum hypothesis *see set theory*
continuum mechanics *see classical mechanics of continuous media*
contours, surface *see surface contours*
contrast transfer function *see optical transfer function*
control facilities
Candu nuclear plants, computers for reactor instrumentation and control, development trends 1−876
control gear, electric *see electric control equipment*
control nonlinearities
see also hysteresis; nonlinear systems
saccadic eye movement inequalities, vergence interactive effect model 1−8859
control system analysis
see also correlation methods; describing functions; frequency response; linearisation techniques; perturbation techniques; phase space methods; piecewise-linear techniques; poles and zeros; sensitivity analysis; stability; state-space methods; step response; transfer functions
fusion reactor plasma position feedback control, effective mode approx. 1−912
fusion reactors, TETR plasma control system analysis with power supply dynamics and diagnostic filtering 1−916
satellite attitude control, model reference adaptive control system characts. 1−44409
control system CAD
fusion reactor, JT-60, plasma control system CAD 1−917
control system computer aided design *see control system CAD*
control system synthesis
see also correlation methods; describing functions; frequency response; linearisation techniques; perturbation techniques; phase space methods; piecewise-linear techniques; poles and zeros; sensitivity analysis; stability; state-space methods; step response; transfer functions
fusion reactor, TFTR, feedback control design 1−910
plasmatron control design, system identification theory *(Russian)* 1−2254
solar once-through subcritical steam generator, nonlinear dynamic model 1−43742
control systems
see also adaptive systems; closed loop systems; distributed parameter systems; model reference adaptive control systems; optimal control; physical instrumentation control; time-varying systems
rocket altitude, characts. *(Japanese)* 1−226
control theory
see also adaptive control; control nonlinearities; control system analysis; control system synthesis; controllability; minimum principle; optimal control; proportional control; stability; three-term control; two-term control
asymptotic anal. in mathematical physics and control theory, common features 1−49953
energy-economics systems, appl. of classical and optimal control theory 1−43747
controllability
see also stability
quantum object controllability theory 1−18075
controllers
see also cryostats; instruments; servomechanisms; thermostats
contactless regulator of temp. difference between electrodes, thermal EMF meas. instrument 1−5306
DC motors position drive regulators optimised setting for arcing under brushes minimisation *(Russian)* 1−34137
digital temperature controller, precision instruments for use in range −100 to +300°C, utilisation in automatic test systems 1−300
microprocessor-based flow controller functions and test results 1−27956
optical gauging with image sensing camera and programmable microprocessor controller 1−44884
proportional temperature control using PBL 3708 IC *(Italian)* 1−23208
system suitable for wide range operation, stabilising controller 1−6422
temperature contactless device *(Russian)* 1−9978
thermal controller with adjustable slope for study of TSC in insulating materials *(Italian)* 1−5342
Hg plasma sputtering system pressure regulator *(French)* 1−12656
convection
see also convection in liquids
accretion discs around supermassive black holes, effects of nuclear burning on convection and mass inflow 1−32722
aerosols, convective deposition rel. to Knudsen number 1−2070
annuli, concentric spherical, natural convection, finite difference anal. 1−6864
annulus, horizontal, gas-containing, with irregular boundaries, natural convection expts. 1−1986
asymptotic model of two-dimensional convection in the limit of low Prandtl number 1−46739
atmosphere, aerosol particles size distrib. for convective-diffusive process of coagulation *(Russian)* 1−9208
atmosphere, nonstationary freely rising turbulent convective flows 1−32511
atmosphere, time-dependent convection in tradewind boundary layer with non-precipitating cumulus clouds 1−49323
atmosphere boundary layer, convection in presence of shear rel. to longit. instabilities and secondary flows 1−36041
atmosphere boundary layer, mixing length in turbulent stratified flow *(Russian)* 1−13516
atmospheric convectively mixed layer, entrainment zone, lab. expts. 1−4578
Benard cell, far from equilibrium perturbation formalism 1−40732
Benard problem, Lorenz model, effect of external random forces on static and dynamic behaviour 1−42051
Benard two-component convection, laser with saturable absorber, limit cycle behaviour 1−33647
convection continued
bifurcation of stable periodic flows in an Ekman layer and in a convection boundary layer 1−42049
binary fluids, Soret and Dufour effect driven, thermal convection 1−6857
blunt bodies, radiative-convective heat exchange during hypersonic flow, radiation reflection effect 1−51776
body force influenced flow computation, inertial relaxation method for numerical stability 1−19676
boiling, forced convection, in vertical concentric annuli, critical heat flux 1−33882
boiling, nucleate, heat transfer in forced convection 1−33881
boiling liquid, forced convection heat transfer coeff., periodic heat flux effect 1−29697
boundary layer equations, laminar, free convection past vertical flat plate, arbitrary blowing variations 1−1911
boundary layer on plate, buoyancy effects on heat, mass transfer, local nonsimilarity method anal. 1−1972
boundary layers, laminar, behaviour of mixed convection near point of zero skin friction 1−29645
boundary-layer solutions of single-mode convection equations 1−46741
Boussinesq fluid self gravitating sphere, high Rayleigh number convection, appl. to stellar interiors 1−9471
buoyancy induced transport in low temp. water saturated porous media 1−19797
α Canis Majoris A (Sirius A), acoustic flux generation in convection zone 1−54486
cavity geometry prediction from scanned surface temp. data, cavity side temp. 1−24656
cellular convection, projection-iteration procedure *(German)* 1−41938
cellular structures, selection of wave numbers *(French)* 1−11368
Cepheid variables, effects of convection on pulsation 1−40501
ceramic, convectively heated, spacially varying thermal cond. effect on thermal stress magnitude 1−2714
circular fins, convective, optimisation 1−11289
closed cylinder with rotating disk, forced laminar convection, viscosity effect 1−29698
closed gas centrifuge, thermal convection linearised eqn. eigenvectors, adjoint matrix eigenvectors 1−872
coalescing disperse system, kinetic equation, convection and turbulent interdiffusion 1−51848
colloidal capillary-porous bodies, internal heat and mass transfer accompanying convective drying *(Russian)* 1−6751
combined heat and mass transfer in mixed convection over a horizontal flat plate 1−37930
concentrated source in porous medium, steady thermal convection 1−24792
conduction-convection coupling for laminar boundary layer flow on flat plate *(French)* 1−51778
conference, heat transfer and fluid mechanics, Los Angeles, CA, USA, (June 1980) 1−27678
conjugate heat transfer for vertical pipe 1−37917
convection-diffusion problems, finite-element anal. 1−29664
convective diffusion to drop arbitrary absorption conditions, diffusion boundary layer approx. 1−24778
convective heat transfer problems, with change of phase, finite element anal., book contrib. 1−24817
cooling of particulate bed in fast fission reactor 1−5863
cosmic rays interplanetary propagation, nonstationary diffusion-convection model rel. to behaviour during solar cycles 19 and (20) 1−36144
crystal growth, by gas phase transport, natural convection in sealed tube 1−11704
crystal growth from melt, thermocapillary convection 1−2374
cumulus cloud, small, dynamical and liq. water struct. determined from environment 1−4597
cumulus convection weather system mass divergence, convection large scale controls 1−22461
currents in heated and rotated container *(German)* 1−37937
cylinders, concentric inclined, convective flow through porous media, successive over-relaxation method calc. 1−1987
cylinders, with square cross section, transient thermal stresses of convective heat transfer 1−37766
cylindrical heated wire, in air thermomech. oscills. 1−11345
diffusion convection problems, finite element approx., upwinding and anisotropic balancing dissipation 1−14079
diffusion-convection eqns. with dominating convection term, oscillation limits for weighted residual method 1−14078
diffusion-convection problems in 1-D, optimal finite element solns. 1−9951
drops, moving ordered system at high Peclet numbers, convective heat and mass transfer 1−15490
duct with spanwise periodic rect. protuberances, laminar forced convection 1−42052
Earth core, upper bounds for turbulence convective mag. dynamos 1−49201
Earth mantle, planform of convection beneath Pacific Ocean 1−22318
Earth mantle, thermal convection of internally heated infinite Prandtl number fluid in spherical shell 1−4483
enclosure, thermal insulation, convection, heat radiation effect, numerical study 1−1983
enclosures, inclined, air-filled, flow visualisation, laser-doppler anemometer expts. 1−6862
enclosures, spherical, natural convection heat transfer from arbitrary bodies 1−1985
enclosures, tilted rectangular, small aspect ratio, free convection, finite difference calc. 1−1982
evaporation at subatmospheric pressures, interfacial heat transfer enhanced by differential vapour recoil mechanisms 1−33883
explicit forward-time central-space convective diffusion eqn., von Neumann stability 1−29668
film penetration model for high-flux mass and heat transfer 1−24784
finned horizontal tube, natural convection heat transfer from fins 1−19546
fins, radiating-convecting steady periodic heat transfer 1−29699
flat plate, semi-infinite, forced convection 1−29692
flat plate collectors, anal. of cover spacing to minimise convective losses 1−32040
flat plate with adiabatic starting length, forced convection, average heat transfer coeff. 1−24803
flat plate with const. heat capacity, convective heat transfer to laminar flow 1−46736
fluid pressure, Navier-Stokes eqns., convective accel. effect 1−19724

convection continued
fluids, natural convection in low aspect ratio enclosures, flow patterns 1−6860
forced heat transfer, historical notes *(French)* 1−49922
free convection effect on tangential stress of moving vertical plates 1−46746
free convection in incompress. laminar steady state flow 1−6859
free convection in rectangular cavity, influence of Prandtl number 1−33957
free convection near corner of vertical porous plates in porous medium 1−37768
free surface layers, convection onset with radiative heat generation 1−29690
freezing on finned tube, conduction-controlled or natural-convection-controlled heat transfer 1−37780
fusion reactor, lithium-cooled blanket, MHD convection, finite-element anal. *(Japanese)* 1−895
galactic relativistic electrons, convection effect on propag. 1−9334
gas, compressible, nonstationary spatial motions Navier-Stokes equation, numerical integration method 1−46767
gas-particle flow, heat transfer with stepwise wall temp. variation *(Japanese)* 1−34003
gastrointestinal haemorrhage thermocoagulation by convective heat transfer, efficacy obs. 1−4383
geomagnetic tail, mantle plasma convection in steady-state model 1−17736
heat carriers in closed loop, natural circulation dynamics *(Russian)* 1−1975
heat generating fluid in closed cavity, natural convection 1−24791
heat generating fluid layer, thermal convection 1−37929
heat pipes with convective heat transfer, parameters 1−50124
heat transfer in MHD channels and its influence on channel performance 1−13148
heat transfer problems in atmosphere, moving temp. sensors 1−27312
heated surface, natural convection, periodic pressure pulsations effect 1−19698
heated viscous incompressible fluid motion 1−24782
highly convective flows, QUICK algorithm, finite difference method, book contrib. 1−18029
holographic recording of fluid current 1−38031
horizontal circular cylinders, boundary layer regime for laminar free convection 1−24789
horizontal ice cylinder encompassing max. density point, natural convection, thermal instability 1−24794
horizontal layers, convection perturbation, preferred wave numbers 1−19712
horizontal tube, flow stability, combined free and forced convection 1−24796
hydromagnetic oscillatory flow past infinite vertical porous plate, force convection and mass transfer effects 1−54356
hydrothermal, around radiative waste depository in hard rock, math. model 1−793
impinging air jet array with spent fluid removal, average convective heat transfer 1−33961
incompressible dissipative fluid, flow past accelerated porous plate, free convection effects 1−37902
infinite coaxial cylinders with anisotropic porous filling, convection, permeability anisotropy effects 1−34009
instabilities in plasmas, bifurcation theory approach with numerical appls. 1−2192
instability with temp. gradient and rot. vector oblique to gravity, effects of diffusion 1−4760
jets and wakes, coflowing, instantaneous velocity fields of coherent structures 1−29744
Kibaues Volcano, Hawaii, evidence for ground gas geothermal convection from Rn concs. meas. 1−17591
laminar convection, stationary, with dissipation in variable property fluid, variational approach 1−37906
laminar natural convection, over vertical frustum of cone, surface temp. var. effects 1−19691
laminar natural convection in air filled cavity 1−51780
late-type giant stars, photospheric convection cells rel. to nature of SiO masers 1−9472
layered double-diffusive convection in porous media 1−46742
LMFBR, penetration of hot liquid pool into vertical solid surface 1−41182
LMFBR damaged core, natural convection analysis using SSC-L code 1−45696
LMFBR sub-assemblies transient heat transfer calc. 1−23722
longitudinal vortex stability in mixed convective flow in porous media 1−37943
low-Prandtl-number convection in a layer heated from below 1−46738
magnetosphere connection, evidence for influence of interplanetary mag. field B_y-component on magnetopause reconnection 1−22637
mantle constraints provided by plate vels., gravity, topography and heat flow 1−40098
Marangoni instability in chemical reaction, surface deform. effects 1−51770
mass transfer from single bubble and dense phase of fluidised bed 1−51866
mixed convection in isothermal horizontal tube 1−37905
mixing of passive scalar stripes by a three-dimensional multi-mode vector field 1−29691
mixture in vertical porous layer, stationary convective flow stability 1−37903
modal representation truncation effects 1−51772
Moon, effect of hydrostatic tides on lunar asymmetry and crystal-liquid differentiation 1−4785
natural convection effects on melting in vertical cylindrical enclosure 1−29688
natural convection flow above point heat source, stability 1−37910
natural convection in enclosures, conf., Orlando, FL, USA (July 1980) 1−15
non-Newtonian boundary layers, convective heat transfer 1−29671
nonlinear hydromagnetic under rotational constraint 1−15491
nonlinear nonstationary convective heat- and mass-transfer eqn. integration 1−24783
nonlinear Rayleigh-Benard convection between poorly conducting boundaries 1−37911
nova outbursts hydrodynamics, role of convection in accreted envelopes 1−49688
convection continued
optically thin boundary layer near flat plate, radiative and convective heat transfer, blowing effect 1−15487
optimal control least-square penalty finite element calc. methods 1−1802
penetration of free convection into a lateral cavity 1−51773
permeable porous insulators, convective thermal transfers *(French)* 1−51689
piston-cylinder enclosure, sinusoidal piston motion, free convection expts. 1−1984
planar supersonic separated flows, convective transfer correlations, laminar and turbulent 1−24802
plane horizontal natural convection, higher order boundary layer effects 1−24805
plasma, cooling, wall boundary-layer convection calc. *(German)* 1−6002
plasma device, linear 1−19867
plate arrays, discrete in-line, staggered, continuous, convection, numerical finite difference calc., comparison 1−1803
Poiseuille flow, thermally developing, with scattering, combined radiation convection 1−24800
porous bodies, enhancement of simultaneous radiative and convective heat transfer 1−19798
porous layer, fluid-saturated, finite-amplitude cellular convection 1−6888
porous layer saturated with compressible ideal gas, natural convection 1−29685
porous media, nonuniform thermal gradient and adiabatic boundaries effects 1−24793
porous medium, heated from below, thermal disturbances during natural convection 1−1969
porous medium, magnetothermohaline convection, oscillatory modes, overstability 1−37901
porous plate, vertical, infinite, oscillatory flow effects of mass transfer and free convection currents 1−42056
power-law fluid, convection heat transfer from isothermal flat plate, correlating eqn. 1−1954
protostars, effect of D burning on inner convection zone form. and hydrostatic core evolution 1−44554
radiant flux detectors for machinery element thermal conditions 1−28063
radiation-convection problems, thermally developing flow, including radiation scatt., spline collocation soln. 1−1970
Rayleigh-Benard, four-mode coupling model *(French)* 1−42050
Rayleigh-Benard convection, Navier-Stokes eqns., approx. solns., min. number of modes 1−46748
Rayleigh-Benard convective state evolution to turbulence, thermoconvective oscillators *(French)* 1−51769
Rayleigh-Benard problem, two-component, tricritical behaviour 1−40733
Rayleigh-Bernard convection, spatially damped, wavenumber variations 1−37913
rectangular cavity, unsteady natural convection, scale anal. 1−1967
rectangular channels in thermal interaction with ambient medium *(French)* 1−37767
rectangular enclosure with inlet and outlet channels, incompressible gas convection theory 1−19696
rectangular enclosures with concentrated energy sources, laminar natural convection 1−24790
review, temp., viscosity and surface tension relations 1−1973
review of heat transfer 1−33956
rib roughened heated pins, cluster of seven, convection, resistance and temps. 1−5841
rib roughened pins, single and cluster of seven, forced convection heat transfer 1−5840
rotating fluid, free convection flow past vertical proous plate 1−1990
rotating radiating nongray fluid, convective instability, Bernard problem 1−24795
saturated porous cavity, Rayleigh-Bernard convection *(French)* 1−24779
semiinfinite horizontal plate, mixed convection, buoyancy and skin friction effects 1−46752
semiinfinite vertical plate, MHD free convection flow, dissipation effects 1−24887
shocks and discontinuities in Eulerian mesh 1−19752
slightly eccentric annuli, heat transfer anal. 1−24797
slot, vertical, natural convection, wall conduction, radiation effects, finite difference anal. 1−6863
solar, granulation, numerical simulation 1−40458
solar atmosphere, search for large-scale convection cells 1−9444
solar collector coverglass heat loss, effect of combined tilt and end clearance upon natural convection in high L/D rectangular honeycomb 1−13167
solar collectors, natural convection in slat, flat-plate and vee-corrugated collectors, interferometric exam. 1−32049
solar convection zone, fast model 1−27439
solar interior, convective turbulence excitation of g-mode oscills. with periods near 160 minutes 1−27466
solar interior, convective turbulence rel. to global oscills. excitation 1−27467
solar photosphere, convective flow fields rel. to mag. flux tubes hydrodynamic instability and sunspots 1−9445
spheres, concentric, convection, multicellular flow transition, two-dimensional axisymmetric numerical model 1−1971
spheres, concentric spherical, natural convection heat transfer in porous media, numerical anal. 1−1988
staggered array of discrete vertical plates, natural convection enhancement 1−24787
star core He flash, role of convection simulation 1−40477
stars, intermediate mass, convection and nucleosynthesis rel. to surface comps. during advanced evolution 1−49608
stars, time scale of thermohaline mixing 1−27481
stars, variable, pulsational stability and turbulent convection 1−32714
stars extended horizontal branch, envelopes convective mixing rel. to sdB/sdO transition 1−49645
stellar convection, multimode numerical soln. for convection in spheres 1−9468
stellar convection equations, closure of system 1−22784
stellar interiors, convection/rot. interaction rel. to mag. mixing and stellar evolution 1−17831
stellar interiors mixing, evolutionary models and tests based on open clusters HR diagrams 1−36267
stellar surface, convection layers in Cepheid variables 1−13784
storms over Oklahoma meso-network on May 20 1977, appl. of diagnostic cloud model 1−36044
structure and convection zone from five minute oscill. mode anal. 1−27469

convection continued
Sun, convection zone, depth from oscill. data 1−27470
Sun, convection zone, screening effects 1−40445
Sun, mag. activity in convection zone rel. to solar luminosity vars. 1−9461
supercritical fluid vertical tube flow, turbulent combined forced and free convection 1−37907
supercritical region with variable props., laminar free convection 1−29799
supergiant stars, mass loss and convection rel. to light vars. amplitudes and pulsation consts. 1−17836
Taylor's hypothesis, temporal vel. and temp. derivatives, probability density functions 1−1926
thermal convection problems, neutral stability curves, Benard types 1−33954
thin fluid layer heated from below, turbulent convection and instabilities 1−11395
three-dimensional, in tilted rectangular boxes, Galerkin and explicit finite difference calc., laser interferometer expts. 1−1979
three-dimensional convection modes in rectangular boxes of fluid saturated porous material 1−51771
time dependent cellular convection *(German)* 1−37934
transient convective heat transfer from a wall with capacitance and resistance 1−29514
transient convective-conductive heat transfer, CONDIF code user manual 1−29512
transient convective-conductive heat transfer, explicit finite element soln., book contrib. 1−19718
transient convective-conductive heat transfer, finite element anal. of CONDIF code 1−29511
transient turbulent thermal convection flow, boundary layer behaviour 1−24807
turbulent diffusion at interface between turbulent and non-turbulent flow 1−11387
turbulent medium, order-disorder transition 1−51777
turbulent pipe flow, convection distrib. 1−51870
two-component liq. layer heated from below, Soret-driven convective instability 1−24766
two-layer system, convection, finite difference calc. 1−19779
two-phase flow, combined conductive, convective and radiative heat transfer additivity 1−29679
variable viscosity connection, wavelength depend. and appls. to planetary interiors 1−15482
vertical 90° corner, laminar natural convection, matched asymptotic expansions method 1−29696
vertical enclosures, natural convection, stratification effect 1−1981
vertical flat plate, free convection heat transfer, axial heat conduction effects 1−19545
vertical flat plate, natural convection during freezing, interferometric observation 1−24808
vertical parallel plates, mixed convective flow stability, longitudinal pumping effects 1−19699
vertical parallel plates with open or closed edges, natural convection expts. 1−24788
vertical plate, laminar free convection, correlation over Prandtl number range 1−37900
vertical wall, combined free and forced convection due to wall vel. and temp. oscillations 1−19708
viscoelastic fluids, combined laminar forced and free convection heat transfer 1−29666
viscoplastic fluid, convection in rectangular enclosure, numerical calc. 1−19697
viscous incompressible fluid, laminar flow, unsteady convective heat exchange in longitudinal bundle of rods 1−46744
viscous incompressible liquid in rotating cylindrical tank, heat convection effect 1−51775
white dwarfs, acoustic fluxes generated in convection zones 1−49646
Al_2O_3, convectively heated, spacially varying thermal cond. effect on thermal stress magnitude 1−2714
CO_2 nonequilibrium hypersonic flow over blunt bodies convection, friction stress calc. 1−19747
CO_2, supercritical, free convective heat transfer 1−29684
He, Rayleigh-Benard convection, instrumental attenuation 1−33959
O, transport in DC discharge, chem. reactions effects 1−15601
Pt wire, inclined, free convection heat transfer *(Japanese)* 1−15362
Si floating zone melting, gravity influence on thermocapillary convection 1−3615

convection in liquids
air-water bubble flow, forced convective heat transfer 1−46735
Benard convection layer, rate of magnetic field penetration 1−19711
boundary layer, free convection, laminar around horizontal circular cylinder *(Japanese)* 1−15469
cavities, enclosed, natural convection, finite element soln. 1−19693
cellular convection at an oscillating temperature difference *(German)* 1−37936
channel, internally heated annular, in parallel flow, saturated convective boiling, critical heat flux 1−19710
channel flow, Graetz type, transfer problems, integral transform technique 1−2079
chemically active liquid, horizontal layer convective stability in presence of transverse flow 1−42104
cholesteric liquid cryst., convective instabilities, linear stability anal. 1−52063
conductive-convective heat transfer, finite element soln. 1−24781
coupled Van der Pol equations 1−42055
cylindrical tubes, laminar vertical upward flow friction, buoyancy effect 1−24883
dielectric liquid, nonisothermal electroconvection 1−51876
diffusion, nonstationary, differential difference method *(Russian)* 1−15540
diffusion field ahead of growing columnar front, columnar-equiaxed transition 1−38566
EBR II, LMFBR, forced to natural convection transition 1−36993
elliptic cylinder two-dimens. hydrodynamic pressure, effects of viscous and convective inertia terms *(Japanese)* 1−46737
enclosed body, natural convective flow between body and spherical enclosure 1−1964
ethylene glycol-water mixtures, boiling, heat transfer, Prandtl number effect 1−1953
extraction of liquids, large-scale surface instability development 1−48777
free convection heat transfer characteristics in a melt water layer 1−37931

convection in liquids continued
free convective viscous flow past a hot vertical plane wall with periodic suction 1−46750
glass melt, effect of siting of electrodes on convection 1−9985
glass melts, bubble form. in convective currents 1−15481
goethermal wells, natural convection promotion 1−8666
holographic recording system for fluid phenomena on the NASA space shuttle SL-3 mission 1−15121
III-V compounds, epitaxial growth during forced cooling of soln. in melt, mass and heat transfer influence 1−43280
internally heated liquids in cylindrical convection cells 1−5870
layer, horizontal, of differentially and internally heated fluid, influence of sidewalls on onset of convection *(German)* 1−24816
liquid, binary mixture, in inclined rectangular cavity, free convection, conc. distrib. 1−1956
liquid crystal films, smectic, cholesteric, and Rayleigh-Benard order 1−34231
liquid metal, diffusion expts., convection effects 1−25479
LMFBR pump coastdown, turbulent and laminar flow in transition to natural convection 1−23799
LWR, forced convective subcooled boiling in heated annular channels 1−14577
magnetisable fluid, convection, with internal heat release in horizontal coaxial gap 1−6899
Marangoni convection effects on floating zone steady and oscillatory temp. distrib. 1−11392
metal reactor coolant, forced and natural circulation, in-core expts. 1−23730
metals in reactor cores, natural convection anal. codes 1−23729
mixed laminar convection between two coaxial horizontal cylinders, heat transfer *(French)* 1−1966
natural convection in an inclined channel bounded by permeable material 1−11469
nematic liquid cryst., convective instabilities caused by elliptical shear flow 1−52054
nematic liquid crystal with phase transition, convection study 1−46740
nonuniformly stratified fluid, turbulent natural convection 1−19713
ocean, instability to Langmuir circulations 1−49282
PHWR, heat transfer in CANDU fuel bundle, experimental and theoretical comparisons *(Rumanian)* 1−41161
polymer solutions, electrodiffusion anemometry 1−15516
Rayleigh-Benard convection, side wall effect on pattern formation 1−46749
rotating spherical annulus with uniform axial gravitational field 1−1961
shallow horizontal convective circulation, two-layer model 1−1968
slots, vertical, Hele-Shaw, containing silicone oil, holographic interferometry, temp. var., free convection expts. 1−1980
smectic-A liquid cryst., convective instabilities, linear stability anal. 1−52063
solute, chemically active, convective diffusion in rectilinear flow, math. anal. 1−2100
sphere, heated, causing free convective flow at large Grashof number 1−11396
stability of free convection in horizontal cylindrical annulus 1−15493
steady-state convective diffusion in thin spherical layers 1−51779
thermal instability in liquid droplets on a heated surface 1−37933
transient and steady natural convection in single and multi-fluid layers with heat generation 1−5867
turbulent dispersion in open channel flow, random flight model 1−19785
turbulent flow, variational principle 1−19677
turbulent fluid, random convection, stochastic model of two-particle dispersion and concentration fluctuations 1−1948
turbulent transport in combined free and forced convection between vertical plates, buoyancy effects 1−1963
turbulently convecting fluid layer, radiative heat transfer 1−1962
uniformly heated vertical tubes, forced convection boiling, critical heat flux 1−19706
viscoplastic liquid between parallel vertical plates, stationary convection 1−51823
viscoplastic Shvedov-Bingham liquid, combined convection in plane vertical layer 1−29731
viscous liquid, flow in pipes, convective heat exchange intensification by ribbon swirlers 1−15488
water, forced convection boiling, thermoacoustic oscillations in annuli 1−29681
water, horizontal layer heated from below, turbulent natural convection 1−1959
water, irradiated, cooled by air flow, natural convection flow visualisation 1−6861
water cooled through 4°C, transient 2-D laminar natural convection 1−1958
water flooding problem, finite element method 1−6887
weakly conducting, stability in EHD, spherical concentric electrodes 1−2088
wire-wrapped rod bundles, hydraulic characts., physical models 1−23734
H_2, supercritical storage tank heat leakage by natural convection 1−48918
^3He-^4He mixture, superfluid, heated from below, undamped second-sound waves 1−30515
^4He, liq., turbulence onset, effect of Prandtl number 1−16123
N_2, forced convection heat transfer, bubble form. 1−15479
Na, liquid, surrounding core-catcher plate of LMFBR 1−5869
Ne, forced convection heat transfer, bubble form. 1−15479
Sn-Pb molten alloys, dissoln. of solid Cu under static conditions 1−34481

convergence
see also convergence of numerical methods
doubly stochastic measures, covariance functional study 1−5231
four-arm bridge characteristic improvement, structural methods 1−28028
Schrodinger equation, radial, convergence, computer derivation of eigenvalues and eigenfunctions 1−23038
superconducting transition temperature series solution, convergence radius problem *(Chinese)* 1−20895
two-centre charge distrib. corresponding to arbitrary Slater-type orbitals, Fourier transforms 1−1066

convergence of numerical methods
body force influenced flow computation, inertial relaxation method for numerical stability 1−19676
convection, optimal control least-square penalty finite element calc. methods 1−1802

convergence of numerical methods continued
elasticity theory, boundary value problem with mixed boundary conditions, numerical soln. *(German)* 1−33900
explicit forward-time central-space convective diffusion eqn., von Neumann stability 1−29668
Hilbert spaces, finite- and infinite-dimensional, linear convergence of quasi-Newton methods 1−13995
iterative methods for fission reactor power distrib. calcs. 1−45585
Lane-Emden equation of stellar struct., convergent power series solns. 1−22782
least squares method, a convergence in general method 1−40351
multigroup method for shielding calcs., error estimate 1−5822
nonlinear transient analysis, convergence of implicit-explicit algorithms 1−27779
planetary theories, comvergence of iterative methods *(French)* 1−40336
polymers, long-range forces, multipole expansion technique 1−19227
trusses, elastic, optimal design by approximate compatibility 1−37794
unconstrained variational statements, comparison of convergence for solutions associated with finite element schemes 1−24729

conversion electron spectra
depth selective conversion electron Mossbauer spectroscopy, interactive anal. methods 1−23932
electrostatic cylindrical mirror spectrometer for conversion electron Mossbauer spectroscopy 1−37052
natural ^{57}Fe abundance absorbers anal. in conversion electron Mossbauer spectra 1−47985
^{A}Bi, A=206, 207, γ-free, Si(Li) detector with proportional counter meas. 1−10603
^{56}Co, γ-free, Si(Li) detector with proportional counter meas. 1−10603
^{123}Cs decay, gamma and conversion electron radiation following decay of 1.7 s, ^{123}Cs^{m} and 5.9 min ^{123}Cs 1−23588
^{83}Kr, isomer shift calibration, internal connversion electron spectra and Mossbauer spectra 1−16510
^{A}Nb, A=94, 96, from (p,n) 1−14493
^{96}Nb levels, J$^{\pi}$, transition multipolarity and conversion electrons from ^{96}Zr(p,nγ) 1−28414
^{A}Tc, A=97, 98, 100, γ-, γγ-coincidence conversion electron spectra, level schemes J$^{\pi}$, from (p,n) 1−14493

convertors
see also analogue-digital conversion; digital-analogue conversion; direct energy conversion; frequency convertors; image convertors; magnetohydrodynamic convertors; magnitude convertors; power convertors; solar absorber-convertors
air blast circuit breaker, DC current breaking phenomena 1−11618
angle-code convertor, two-channel instrument contactless selsyn, digital readout 1−18247
electromagnetic angular-velocity converter 1−50111
inductive converter measuring physical quantities 1−23215
multijunction thermal convertor, method for reduction of AC-DC transfer error caused by Thomson effect 1−36694
multijunction thermal convertor with adjustable output voltage/current characts. 1−36693
optical telecommunication components *(German)* 1−19472
reactive current convertor for meas. of reactive current and power in nonsinusoidal systems 1−36697
thermal convertors as AC-DC transfer standards, international comparison 1−36690
thermal voltage convertor for AC-DC voltage transfer standard, errors 1−40818
time measurement, nanosecond intervals, circuit for conversion into code 1−50108

conveyors
pneumatic, air particles meas., PET microcomputer appl. 1−36630

cooling
see also Joule-Thomson effect; low-temperature production; magnetic cooling; quenching (thermal); refrigeration; supercooling
1 m scale D-shaped internally-cooled supercond. test coil evaluation 1−44967
20 MJ supercond. ohmic heating coil conceptual design 1−48929
20 T stationary-field water-cooled electromagnet design 1−44962
adiabatic flat plate, film cooling, effectiveness, heat transfer coeff. and turbulence 1−19690
anthracene, in inert gas, seeded supersonic beams, coding 1−6332
Argonne supercond. heavy-ion linac forced-circulation cooling system 1−45747
atomic and molecular gases, laser radiation induced fast deep coding 1−46841
automatic radiation detector cooling system using a cryogenic liq. 1−40797
bronze wire mesh screens, thermal regenerators, isothermal pressure drop 1−38005
chalcogenide glass melts, quenched, cooling rate to onset of crystn. 1−43331
Community Annual Storage Energy System 1−26846
condenser, gas cooled, tube row effect *(German)* 1−37782
cryogenic detector cooler Joule-Thomson, thermal analysis 1−32992
Czochralski seed holder, water cooled, design 1−53082
dispersed gas, flow heat transfer and precipitates in initial section of pipe during cooling 1−1957
E glass fibres, production and charact. of materials having high sp. surface areas, by leaching 1−39298
engineering conference, Madison, WI, USA (Aug. 1979) 1−44718
epoxide resins, shrinkage and internal stress during curing *(Japanese)* 1−25354
fibre reinforced viscoelastic plate, cooled from cure temperature to room temperature, residual stresses 1−20428
full coverage film cooling, comparison of heat transfer data for three injection angles 1−33873
full-coverage film cooling, heat transfer data and numerical simulation 1−33874
fusion reactor, MFTR, integrated cooling system, process control 1−904
gas cooling by light, total velocity distrib. as Boltzmann eqn. soln. 1−19856
glass, cool-down characteristics to cryogenic temps. 1−44932
heat exchanger, super compact, porous media enhances heat transfer 1−33871
heat pumps, metal hydride conversion and storage system, thermodynamic anal. 1−48893
hydrair cooling of spherical food products, analysis of heat transfer 1−37781
cooling continued
interstellar dense clouds, heating and cooling processes *(Russian)* 1−49779
liquid film cooling, 3-D measurements of turbulence structure, full-coverage and recovery regions 1−20518
liquid film cooling, full-coverage, recovery region hydrodynamics 1−20519
LWR, Zircaloy-4 rod, transient cooling process in reactivity initiated accident 1−18776
metals, comparative study of cool-down characteristics to cryogenic temps. 1−44932
naphthalene, jet-cooled, SVL fluoresc. spectra 1−37239
natural convective cooling of particulate bed in fast fission reactor 1−5863
neutron stars, cooling curves 1−9549
Newton's law of cooling, rel. to length of coffee breaks 1−17978
ocean barotropic response to cooling, appl. to 18° water south of Gulf Stream 1−27177
oceanic lithosphere, cooling models rel. to oceanic heat flow estimates 1−35958
one dimensional melting including subcooling, variable time step finite difference method 1−38508
ovalene, in inert gas, seeded supersonic beams, coding 1−6332
pentacene, in inert gas, seeded supersonic beams, coding 1−6332
porous heat generating element, penetrative gas cooling stability 1−15495
porous materials, thermal regenerators, isothermal pressure drop 1−38005
refractory, electrocast, mathematical model for cooling 1−3701
regenerative refrigerator, comparison of theoretical performance in adiabatic and isothermal regimes 1−44924
rough permeable surface, cooling, mass transfer and drag of compressible reacting gas 1−19694
seasonal thermal energy storage of chilled water in aquifers 1−53690
sodium coolant for solar-thermal plants, hot section design 1−53559
solar absorption cooling, eval. of open-type systems 1−17279
solar chromosphere, H^{-} radiative cooling 1−22764
solar ejector freon refrigeration machine, cycle design parameters selection 1−13082
solar flare plasma, radiative cooling of optically thin plasma rel to mag. field strengthening 1−44526
solar flares, radiation-dominated cooling models of flare corona transition region 1−32672
solar heating and cooling system installed at 'Ayase' solar house *(Japanese)* 1−26847
solar passive heating and cooling, European Rand D 1−32002
solar power heat storage units for heating and refrigeration 1−17302
solar/electric district heating and cooling system, CASES, using solar energy and surplus heat from community buildings 1−48805
spray evaporative cooling of heated surface 1−38618
stainless steel, cool-down characteristics to cryogenic temps. 1−44932
stainless steel, spheres, thermal regenerators, isothermal pressure drop 1−38005
steel, alloy, forgings, temp. field calc. for batch cooling 1−3798
steel, cylindrical parts, math. model of cooling process, taking account of austenite decomp. 1−3800
steel, stainless type 304, influence of prior deform. on continuous cooling sensitisation 1−16806
steel shells, cooling in water and air, heat transfer coeffs. determ. 1−3799
superconducting magnet precooling gas-filled thermal switch configuration and performance 1−44934
superconducting magnets, forced two-phase He cooling tubular system 1−50181
superconductor, composite, internally cooled, stability against flux jumps of current and temp. distrib. 1−7791
superconductor, training phenomenon, critical state stability and plastic yield 1−42927
tetracene, in inert gas, seeded supersonic beams, coding 1−6332
thiophosgene, supersonic expansion, vibr. struct., laser induced fluoresc. excitation spectrum 1−29012
three-level system, laser cooling by spontaneous anti-Stokes scatt. 1−41437
trapped ions, light-pressure cooling in three-dimensions 1−194
turbine glades gas-film cooling efficiency study and calculation method *(Russian)* 1−6848
turbogenerators with superconducting excitation winding, thermal considerations *(Rumanian)* 1−32991
underheated liqs. in channels, hydraulic resist. calcs. *(Russian)* 1−6858
water cooled through 4°C, transient 2-D laminar natural convection 1−1958
white dwarfs, cooling rate rel. to ZZ Ceti stars pulsation period changes 1−44562
Al, cool-down characteristics to cryogenic temps. 1−44932
Au atoms cooled by laser radiation press., accumulation in mag. traps 1−15034
Au-Cd (47.5 wt.%), cooling rate effect on microstruct. and acoustic emission energy during thermoelastic transformation 1−53177
CO_2 waveguide laser cooled by a Peltier thermoelectric module 1−19353
CO_2-N_2 mixture, kinetic cooling theory 1−46849
Cu, cool-down characteristics to cryogenic temps. 1−44932
Fe, whisker matrices, thermal regenerators, isothermal pressure drop 1−38005
Fe-C(P)(P-C) eutectic liq. alloys, viscosities by capillary method 1−25483
Fe-Ni, cooling rate effect on lath martensite morphology *(Japanese)* 1−48378
GeTE-MnTe-PbTe, physicochemical props., in GeTe-based solid solution region 1−16022
He forced cooling channels, flow instability, temp. and pressure oscillation obs. 1−46817
He-cooled fusion reactor, thermal and hydraulic anal. 1−18883
^{4}He, superfluid, film-boiling states, heat flux and temp. fluctuation obs. 1−47323
^{4}He, superfluid, space cooling system active phase separator mechanism 1−44938
I_2, in inert gas, seeded supersonic beams, coding 1−6332
K_2TiO_4 fibres, growth by slow cooling, flux growth reactions *(Japanese)* 1−21722
Nb-Ti, multifilamentary wire, superconductor stability against heat pulses in superfluid He 1−47795
Ni-Al(-Ti)(-Cr), ageing accompanied by γ′-phase precipitation, struct. form. during slow cooling *(Russian)* 1−12763
Ni-Si, ageing accompanied by γ′-phase precipitation, struct. form. during slow cooling *(Russian)* 1−12763

cooling, splat *see splat cooling*
cooling towers
see also water supply
atmospheric effects of cooling towers 1−4233
natural draft, noise control 1−29456
Cooper Hewitt lamps *see mercury vapour lamps*
Cooper pairing *see Cooper pairs*
Cooper pairs
see also BCS theory; Josephson effect
antiferromagnetic superconductor, spin density waves, supercond. crit. props., theory 1−12232
DC Josephson effect, tunnelling current 1−52717
diatomic molecules and Cooper pairs, relationships 1−11943
Fermi system, spin polarised, Cooper pairing 1−2743
HF fields, Cooper coupling of electrons 1−52692
Josephson effect, AC, Cooper pair momentum, rel. to electrostatic potential 1−52718
Josephson junctions, quantum noise, Cooper pairs 1−3103
neutron Cooper pair of $^3P_2$-dominant pairing with two-dimensional character under the ALS structure 1−45444
stimulation and suppression of superconductivity by high frequency field at multiquantum absorption 1−34826
superconducting transition temp., pair susceptibility and coherence length 1−12225
superfluid, nonuniform anisotropic, BCS ground state, current density 1−11944
superfluid Fermi systems, isotropic, couplings between internal and translational degrees of freedom 1−2755
two-fluid models for describing nonequilibrium phenomena *(Dutch)* 1−47785
Cu-clad Nb wire thermometry below 1K using proximity effect 1−44922
CuCl, diamagnetic anomaly model, energy bands, defect and impurity levels 1−20633
CuCr/Pb, proximity sandwiches, transition temp. Cooper limit 1−7788
Nb, supercond., electron-phonon coupling, press. effect, tunnelling study *(Russian)* 1−20921
Ta, supercond., electron-phonon coupling, press. effect, tunnelling study *(Russian)* 1−20921
coordination complexes
inorganic complexes are indexed under the appropriate metal compound headings
biological systems, metal ligand complexing 1−12966
charge-transfer complexes, applications 1−42766
complex formation with multidentate ligands, thermodynamic props., chelate effect 1−12965
metal chelates, metal bridge effect, SCF and LCAO calcs. 1−1111
metal complex formation by metal salt-ligating molecule mixture 1−12964
metal complex formation const. 1−8535
protein ligand complexes, high press. effects 1−41529
solids, low-dimensional, physics and chem., conf., Tomar, Portugal (Aug.-Sept. 1979) 1−40600
copolymerisation *see polymerisation*
copper
see also nuclei with .....
(100) surface, chemisorption of CO, XPES assignment 1−7464
400 kJ 250 kA pulsed energy storage coil design 1−48927
α-band hole excitation energies, hole-phonon interaction 1−7557
addition to refractory metals, effect on diffusion boronising and siliconising 1−53357
adhesion to polyethylene, interface bubbles effect 1−17020
adhesive joints with PTFE, joint form. and failure, metal surface condition depend. 1−53398
adsorbed CO, core-level XPS spectrum, MO cluster model study 1−53053
adsorbed CO on (100) surface, C-O stretching vibr. mode lifetime 1−7448
adsorbed CO on (100) surface, collective vibr. mode, inelastic electron scatt. study 1−16637
adsorbed O_2 and clean surfaces crystallographic incident beam effects AES 1−26317
adsorbed S, submonolayer coverage, positronium thermal desorption thermodynamics 1−52632
adsorption, multiple-site, on amorphous $Fe_2O_3.H_2O$ 1−39677
adsorption at n-ZnTe/electrolyte junction, effect on electrolum. 1−16360
adsorption of ^{3}He or ^{4}He, binding energy meas. by dynamic gas diffusion technique 1−42604
adsorption of Br on (001) surface, angle-resolved photoemission study 1−48237
adsorption of CN on Cu, surface enhanced Raman scatt. 1−8055
adsorption of CO, EELS study 1−35137
adsorption of CO, XPS, UPS and AES study 1−16182
adsorption of CO isotopic mixture on (100) surface, collective vibr. modes, IR spectra 1−28971
adsorption of CO on (111) surface, relative coverage determ. using isotopic mixing, LEED 1−16181
adsorption of I_2, on (111) and (100) surfaces, EXAFS obs. 1−25564
adsorption of O_2 on Cu(100), ion scatt. spectroscopy study in ultrahigh vacuum 1−52438
adsorption of O on (110) surface, He beam diffr. study 1−38652
adsorption on W, work function variation, field emission microscopy study 1−34585
alloyed with $Nb_3(AlGe)$ superconductor, flux-pinning centres 1−25847
amorphous and liquid, electronic structure, embedded mol. cluster approach 1−30619
anodic and cathodic behaviour in acidic $CuSO_4$ soln. rel. to I^- conc. *(Japanese)* 1−48694
anodic dissolution, anode potential oscillation obs. 1−7336
armatures for compressed magnetic field generators, effects of metallurgical microstructure 1−33015
atom, integral Compton scatt. cross sections, for 279 keV γ-rays 1−1149
atom, X-ray absorpt. edge, ab initio SCF calc. 1−6277
backscattering electron emission, angular distrib. anisotropy meas. 1−21307
bicrystals, incompatible, strain accommodation 1−21558
binding change effect on K-shell ionisation by deuterons and α-particles 1−10817
bright plating, kinetics of levelling 1−43609
bulge test: a comparison of theory and experiment for isotropic and anisotropic films 1−35302
copper continued
cathode species in glow discharge, negative ion form. 1−38167
chemisorption geometry of c(2×2) overlayer on (001) surface, angle-resolved core-level XPS study 1−39214
chemisorption of acetylene, Hartree-Fock-Slater-LCAO studies, cluster models 1−52430
chemisorption of H_2 on (111) surface, embedded cluster calc. 1−12178
chemisorption on Ni (111), comparison of chemisorption on Zn 1−16177
clad Nb, Meissner effect induced by proximity effect 1−3096
coarse grained, cubic, lattice strain *(German)* 1−25198
coated C fibres, high temp. background of internal friction 1−39359
coating for optical fibre, magnetron sputtering 1−15296
coatings, thin, on Ni substrate, thickness determ. by oblique X-ray diffr. 1−14097
cold rolled, recrystallisation and ageing, high hydrostatic pressure effect *(Japanese)* 1−48379
commercial purity sheet, texture effect on mech. response γ during forming 1−26511
compressed, in contact with Fe, thermoelectric effect 1−7595
compressed powder, elec. cond., influence of ageing and elec. field strength 1−43545
concentration in Kitakyushu district, Japan (1976-7) aquatic environment 1−17636
contact with liq. Bi, elec. resist. meas. on Bi at high press. and temp. 1−20721
cool-down characteristics, to cryogenic temps. 1−44932
core hole de-excitation, Auger yield meas., secondary electron emission correction 1−26318
corrosion by LiCl, search for suitable inhibitors *(Japanese)* 1−3984
corrosion in perchloric acid, effect of thiocyanate ions 1−16978
corrosion inhibition, eval. of 1:2:4-triazole 1−16950
corrosion inhibition effect, of benzotriazole, impedance studies 1−43569
creep, low temp., quantum effects 1−15947
creep, low-temp., strain valve depend. 1−43407
creep, struct. model, physical mechanism 1−39381
creep, transient, US stress effect *(Russian)* 1−12791
crsytalline metals Hall effect 1−32828
cryogenic metals, brittle fracture, notch testing 1−48471
crystallisation from melt by Stepanov method under zero-gravity conditions 1−31329
crystals, cyclic loading, constitutive eqns. 1−3830
crystals, spherical, thermal oxidation in CO_2 *(German)* 1−31854
cubic crystals, slightly distorted, Coulomb type defects, X-ray exam. *(Russian)* 1−2425
cutting effect on surface deform. 1−53344
cyclic deformation of polycrysts. 1−31569
cyclic life prediction, high temp., damage accumulation model 1−34412
cyclic strain hardening in polycrystals deformed at various temps. 1−3768
deformation heterogeneities, during tension, in single crysts. *(French)* 1−48412
deformation inhomogeneities in single crystal, struct. and orientation gradients 1−12836
deformation studies, in situ X-ray topography 1−21528
deformed, surface layer thermal loss of strength, annealing medium influence 1−35279
dendrites and single crystals, electrolytic method for growth in gel 1−20596
desorption of CO, laser stimulated photodesorption, mol. vibr. coupling 1−43698
determination in Ni electrolytic soln. using flame-atomic absorpt. photometry *(Chinese)* 1−48767
diffusion in Ge stimulated by H atom recombination at low temp. 1−38603
dislocation drag mechanisms, electron drag on mobile dislocations 1−15902
dislocation motion, in high purity foils, obs. at 20K during microdeform., TEM 1−30232
dislocation reson. damping study by US study of sandwich single crystals 1−52148
dislocation structs., associated with fracture surface topographies in stage II fatigue crack growth 1−16890
dislocation structures adjacent to fatigue cracks propagating at high rates 1−42388
dislocations glissile on (001) planes 1−11767
dispersion strengthened crystals, dislocation density effect on creep 1−26553
divacancy interaction energies and relaxations, static lattice model 1−42373
ductile fracture, of tough-pitch bars, annealing effect *(Japanese)* 1−26603
durability under neck-forming conditions 1−3859
dynamic recrystn., under tensile deform. *(Japanese)* 1−26494
electrical resistivity, low temp., electron-phonon contrib. 1−7582
electrode, adsorbed cyanide complexes, surface enhanced Raman scatt. and cyclic voltammetry meas. 1−35056
electrode, adsorbed pyridine, surface plasmon enhanced Raman scatt. freq. and angular resonance 1−35053
electrode, adsorption of pyridine, surface enhanced Raman scatt. 1−12484
electrode, lightning protector blocks, arcing mechanisms 1−46935
electrode, pyridine (tetraalkylammonium) ion adsorpt., reson. Raman scatt. 1−39100
electrode surface effect on initial arc movement 1−34168
electrodeposition, on Cu(100) plane and polycrystn. Cu substrate, sulphanilamide effect 1−43283
electrodeposition, on Pt electrode, pulsating current effect on surface roughness and porosity 1−43673
electroless plating Al_2O_3 powders 1−53325
electroless plating kinetics, rate law for formaldehyde-EDTA baths 1−31368
electrolytes, acidic bath development, low metal ion ionisation *(Hungarian)* 1−35535
electrolytic, composite materials, fracture laws and singularities *(Russian)* 1−3885
electron mean free path, energy depend., ESCA obs. 1−20293
electron mean free path between two inelastic collisions 1−34387
electron-phonon scatt. rate from magnetoacoustic expts. 1−16217
electron-phonon scatt. rates from magnetoacoustic expts. 1−12017
electronic struct., multiple scatt. Xα cluster method with k-depend. boundary conditions 1−42681
electronic structure of mag. impurities, first principles calc. 1−34653
electroplated, contact metallisation systems for solar cells 1−32020
electroreflectance, polarisation and cryst. struct. effects 1−3370

copper continued
elemental surface composition of Cu slipring contact, AES examination in ultrahigh vacuum system 1−47349
energy linearised scheme, relativistic band struct. calc. 1−20607
energy storage and dissipation during plastic deform. 1−12829
equation of state, selfconsistent cell model calc. 1−30349
explosive loading, dynamic extension diagram, study using electronic inertia method 1−31805
extended screw dislocation−(111) defect elastic interactions 1−2497
extraction behaviour of Cu and Pb from binary soln. containing NO_3^- and Versatic acid 10 *(Japanese)* 1−26734
extraction from Cu decorated dislocations in Si, X-ray and IR obs. 1−25275
faceting of (210) surface by activated N_2, LEED, RHEED, and AES study 1−7469
fatigue, cavity spacings determ., limitations on use of intergranular fracture surfaces 1−12863
fatigue, low-cycle, anal. based on hysteresis energy 1−39418
fatigue, low-cycle, C-ion implantation effect 1−3920
fatigue at low strain amplitudes, TEM study 1−8403
fatigue crack growth in single crystal, high frequency, threshold behaviour 1−3915
fatigue crack growth in threshold region, environmental influence 1−26578
fatigue crack propag., and threshold at 77 and 293K 1−26579
fatigue crack propagation, influence of crystalline orientation on environment 1−31650
fatigue damage, comparative study in air or vacuo *(French)* 1−26622
fatigue deform. and microstruct. stability in single crysts. 1−31649
fatigue induced grain boundary cavitation, SANS obs. 1−3917
fatigued, correlating back stresses and friction stresses 1−31641
fatigued, evolution of dislocation struct. in polycryst. specimens 1−53284
FCC crystal, new technique to study cross slip 1−11766
FCC crystal, stage I to II transition in work hardening 1−12758
FCC single crystal, latent hardening 1−12759
fibre texture rel. to ghost phenomenon *(German)* 1−31487
film, aggregated, interband transitions, optical props. meas. 200 to 1000 nm 1−43197
film, high-dose Au^+ and Ta^+ implantation, sputtering limitations, backscatt. meas. 1−11775
film, inelastic scatt. of 100 keV electrons *(Russian)* 1−31251
film, sputtering yields for Ar and O_2 ion bombardment, Rutherford backscatt. obs. *(Japanese)* 1−31260
film, two-dimens. localisation, resist. meas., 1 to 20K 1−47763
film, vapour deposited at various incidence angles, microstruct. 1−12001
films and semiinfinite layers, electron backscatt., anal. 1−26325
finite shape change anal. appl. to single crystals *(German)* 1−31565
foam, vacuum applications 1−27997
foil, Fermi liquid exchange parameter determ. 1−16265
foil thickness meas. from convergent beam diffr. patterns 1−50101
foils, scale factor manifestation in tension 1−16836
forest dislocation intersection in stage I deform. of single crystal 1−12827
friction at low temps. 1−12887
galvanic electrolysis using negative suspension electrode system 1−8580
glass/Cu system, calc. of thermal conductivity by sphere packing model 1−47313
grain boundary cavity growth, during high-temp. creep and fatigue 1−43443
grain-boundary diffusion in Al bicrystals *(Polish)* 1−16089
Hall coefficient, low field, in pure and defect-containing samples, 4.2 to 77K 1−7590
Hall-Petch relation appl., effect of prestrain 1−3845
hardening during cyclic loading 1−31614
high pressure meas. standards, shock-wave physics contributions 1−32954
hybrid reactor materials, neutron emission spectra 1−10440
impurities, incorporation in Au coatings being deposited from neutral electrolytes 1−38687
instrumentation wires, thermocouple effects 1−44918
ion bombarded by 1-40 keV Ar ions, ejection of surface recoils 1−53031
ion bombardment of (110) plane, focusing of particles in surface half-channels 1−31252
ion implanted with ^{161}Dy, crystal field, Mossbauer spectroscopy 1−16266
ion implanted with H^+ at ambient temp., spongelike blister obs. 1−7216
ion scattering, low energy, correlated atomic vibrs. effect 1−8180
ion-(410) stepped surface impact, two scatt. energies 1−26346
ion-polishing technique to reveal voids at particles 1−4026
isoelectronic sequence, quadrupole polarisation and dynamical correl. effects 1−24273
isoelectronic series ions, fine struct. separations explicit empirical formula 1−46145
isothermal internal friction, high temp., 370-680°C 1−53225
Kapitza conductance, 0.3 to 1.3K 1−20546
Kemess porphyry Cu-Mo deposit, BC, Canada, geology and age 1−32437
Knoop microhardness testing, two diagonal meas. method to reduce scatter 1−4033
laser, plasma parameters meas. in afterglow 1−6544
laser heating kinetics in oxidizing medium, interf. effect 1−35449
liquid, dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
liquid, impurity diffusion 1−25477
liquid, impurity diffusion 1−25478
liquid, transport coeff. calc. from effective interatomic pot. 1−30692
liquid, wetting of irrad. UO_2 fuel 1−52397
liquid metal embrittlement by Bi with Sb additive 1−35365
localisation of electron states, XPS calc. *(Russian)* 1−3565
magnetoacoustic dispersion, low-field 1−3024
magnetoresistance, transverse, meas. 1−42746
mechanoluminescence, and acoustic emission meas. 1−46642
metastable alloy form. by ion implantation, channelling and TEM study 1−2486
mirror surface, ion implanted Cu:Al, oxidation for laser pulse reflectivity and damage resistance 1−29312
mirror surface defects, laser damage resistance 1−29311
molecule, pot. energy curves calc. for lowest closed-shell states within nonempirical RHF formalism 1−24061
monolayers of Na and Cs on (111) surface, clean and O_2-exposed, electronic struct., EELS, AES, UPS, and work function meas. 1−42841
neutral molecule low energy sputtering 1−3556
neutron irradiated, positron-lifetime study 1−2529
neutron irradiated single crysts. in situ straining in HVEM, dislocation interactions 1−42432
copper continued
neutron irradiation at 327°C 1−2524
nuclear antiferromagnetism, NMR study 1−2757
nuclear magnetism, thermodynamics and mag. reson. 1−52788
optical constants determ., surface EM wave attenuation meas. *(Russian)* 1−26155
orvergrowth, substrate grain boundary propag., field ion microscope studies 1−11998
overlayer on Ni surface, electron density of states, calc. 1−47723
overlayer on Ru (001), effect on O_2 and N_2O chemisorption 1−34582
oxidation, stoichiometry and struct. of CuO films 1−7493
oxidation in dry air at 1123K, impressed current and short circuiting effect 1−3985
particles, Zn impurity redistribution due to ascending diffusion *(Russian)* 1−11906
photoemission, angle resolved, for band struct., surface states determ. 1−31300
plasma-sprayed coatings for gas turbine bucket 1−21643
plastic deformation, damage occurring 1−39372
plastic deformation and creep, low temp., effect of mag. field *(Russian)* 1−21508
plastic strain component, for low cycle fatigue 1−26536
plated graphite powder lubricants, Cu-deposition with solid reducing agent 1−12677
plates, thickness meas. with portable gamma-ray meter 1−23386
point contacts, current-voltage characts. 5 to 300K 1−3048
point defect absorption mechanisms by grain and twin boundaries 1−20240
point defect clustering during heavy ion irrad. 1−52186
poisonning of Pt catalyst, Cu poisoning, voltammetric study *(French)* 1−31906
polycrystal US velocity and elastic constant averaging 1−7264
polycrystalline, cyclic stress-strain response, ion implantation effect 1−21531
polycrystals, fine struct. anal., second approx. of approx. method appl. 1−29966
positrons and electrons, relative transmission 1−47130
powder, dynamic polarisation echoes 1−26105
powder, ultrafine, sintering, necking stage 1−48298
powder, vel. of sound under compression *(German)* 1−25378
powder filled polyethylene, wear mechanism, running-in effect 1−12882
powder production, atomisation of liq. metals using twin roller technique 1−3648
powder production by electrolysis, control criterion 1−53138
powders, coefficient of external friction in pressing 1−12684
powders, fine, prod. by formate pyrolysis 1−39275
precipitates in plain carbon steel relation between H_2 discharge and dissolved (C+N) *(Japanese)* 1−26518
proton irradiation, expt. evidence for stress-induced blister formation 1−7215
α-quartz with radiation induced SiO_4^{5-}/Cu^+ centres, paramag. centres and lattice consts. correl. w.r.t. temp. characts. *(Russian)* 1−12399
radiation hardening at low dose at 77K 1−26565
recrystallised Cu (99.997%), cyclic torsional deform. up to high total strains *(German)* 1−8399
refractive index, anomalous dispersion, and EXAFS at K edge, meas. 1−16543
relaxation due to vacancies 1−30337
river and lake water, existence of fulvic acid Cu complex 1−40147
rolled, complete texture function determ. 1−48366
rough surface, inelastic Mie scatt. 1−21203
roughened surface enhanced Raman scatt. by plasmon enhancement of EM fields 1−43105
saturation of W for composite material manufacture *(Russian)* 1−48303
scattering of 5-30 keV H^+,H^- from surfaces, recoil energy distrib. 1−16640
secondary electron emission under proton bombardment 1−43230
secondary ion yields, M^+ and M_2^+, temp. depend. 1−21309
self-diffusion coeff. calc. at any temp. and press. from single meas. 1−11898
shear modulus calc., variation limits *(Russian)* 1−43392
shock loaded, lattice defect study by positron annihilation 1−26298
shock waves excited by intense relativistic electron beam *(Russian)* 1−52229
SIMS, sputtered atoms spectral ionisation probability, correlation with electron density of states 1−31278
sintering, one component model system, nucleation and dislocation movement in necks 1−53133
sintering mechanism diagrams 1−39261
sliding friction, lubricating action of polyethylene film 1−12879
slip, {110} {110}, in slightly deformed single crysts. 1−25285
slip activation volume, after neutron irradiation, stress relax. at yield point 1−31492
smoke, nucleation and growth of fume particles, time-resolved light scatt. meas. 1−43715
specific heat, anharmonic contribution 1−30412
sputtering and surface migration by slow-ion bombardment 1−26353
sputtering behaviour, effect of ion bombardment induced orientation 1−8184
steel, low C, Ni and Cu implanted plates, frictional props. 1−43539
steel-Cu composites, multilayer, mech. props. 1−21391
stepped surface, mol. scatt. dynamics 1−39202
stopping power of matter for alpha particles at extreme relativistic energies 1−18989
strength determination upon dissociation of cumulative jet 1−26583
stress-corrosion cracking in neutral electrolyte, anion effects 1−35417
structural transfomation, role of vacancies 1−2620
substrate for Pd (111) epitaxial film growth, Auger line shape meas. 1−25593
substrate grain boundary propag. into overgrowth, field ion microscope studies 1−11998
substructure after deform. in dynamically recrystallised single cryst. 1−21534
surface, (001), chemisorpt. of S, mol. orbitals, discrete variational Xα cluster calc. 1−26770
surface, (001), O_2 covered, struct. determ. by angle-resolved SIMS 1−30537
surface, (100), 10 keV Ar ion scatt. from ion-induced damage structs., energy spectra 1−21316
surface, (100), vibr. lifetime for adsorbed CO 1−16180

copper continued
surface, (111), interpretation of UPS using time reversed LEED formalism 1−16662
surface, (410), structure determ. by ion scatt. spectroscopy 1−20530
surface, annealed and prebombarded, ion-induced desorpt. of adsorption layers 1−25557
surface, effect of partial O_2 press. on noble gas ion bombardment 1−31276
surface, He^+ and H^+ irrad., gas bubble superlattice and surface struct. 1−25333
surface, ion bombarded, pyramid and core form. 1−16649
surface, keV neutral impact, secondary electron yield rel. to incident angle and energy 1−16641
surface, optical elec. field enhancement arising from surface-plasmon excitation 1−52952
surface, oxidised, interaction with formic and propionic acids, XPS, UPS and LEED 1−17097
surface (001), angle-resolved photoemission spectra, comparison with direct-transition theory 1−39216
surface (001), image pot. saturation obs. in LEED meas. 1−3033
surface (100), diffraction of H_2 1−48214
surface (100), low energy Ar atom and ion scatt., ion fraction, ionisation, and neutralisation 1−12620
surface (100), low energy Ne atom and ion scatt., ionisation and neutralisation 1−12619
surface (110), specular beam LEED anal. limitations due to scatt. angle meas. 1−11965
surface (111), chemisorbed CO, IR spectra, dipole coupling effects 1−8054
surface (111), electron and positron workfunction correlation 1−25792
surface (111), low-energy positron diffr. rel. to LEED 1−42269
surface layer effect on mech. props. 1−26556
surface oxide monolayer investigation at high primary ion current densities 1−31956
surface texturing by sputter etching, appl. for solar selective absorbing surfaces 1−32038
surfaces, air-oxidised sputtering kinetics invest. using SIMS *(Russian)* 1−8178
tensile flow stress at room temp., effect of grain size and strain 1−21555
texture and fatigue correl. in polycrysts. 1−31491
texture changes in running surfaces as result of frictional stress 1−12891
texture stability under fatigue conditions, computer simulation 1−3782
thermal diffusivity, meas. by flash method with positive or negative pulse 1−2719
thermoelectric EMF, tensile stress and press. effects 1−52548
thick film conductors, sintering mechanism 1−31377
thin film resistivity, grain-boundary scatt. effect meas. 1−7759
TMMC:Cu, nonmagnetic impurity effect on low-temp. susceptibility 1−7828
3d transition metals in contact with Cu, electronic struct. influence on friction in vac. 1−26635
tribomechanically loaded, strength of subsurface region, dislocation cell struct. 1−21592
two-dimensionally coupled fine particles, lnT depend. 1−12089
vapour concentration determ., in high-current air arcs 1−15738
vapour laser, pulse repetition freq. limiting mechanism 1−33665
vapour laser, transverse-discharge, energy characts. 1−46311
vapour laser, upper laser level kinetic investigation 1−51456
vapour laser, vapour produced by electrical explosion of conductors, vap. density meas. 1−24407
vapour laser radiation, pulsed, in ADP crysts., SHG 1−51554
void nucleation and growth under electron irradiation 1−15888
water pollution in Sri Lanka, Cu ions waste and potable water 1−21945
wedge cavities, SEM obs., commercially pure 1−3919
welding to stainless steel, low-cost TIG process for cryogenic and vac. system welds 1−5320
wire, bamboo-struct., creep in and out of diffusion-controlled deform. stress range *(French)* 1−43446
wire, explosion, rectangular current pulse supply 1−52003
wire, swaged and drawn, difference hardness distribs. 1−3780
wire explosion, inhomogeneous, in water *(Korean)* 1−46942
work hardening and twinning at temps. 4.2 to 300K 1−31489
X-ray and gamma-ray photoeffect cross sections 1−48195
X-ray anomalous scattering by total reflection in L-edge region 1−35115
X-ray emission line $K\beta_{2,5}$, deep-band probe, fine struct. 1−8165
X-ray spectroscopy techniques for solids *(Dutch)* 1−12596
XPS core-level ang. distrib. meas., appl. of two-beam Kikuchi-band theory 1−8187
yielding at different stages of work hardening in single crystal 1−12761
yielding in highly perfect crystals, etch pit obs. 1−12835
A_2Se_3:Cu amorphous, RF cosputtered films, cond. temp. depend., optical absorpt., Fermi level shift 1−42781
Ag_2SeO_4:Ni^{2+}(Cu^{2+}) single crysts., gel growth, X-ray diffr. and IR spectra 1−12644
Al/Cu interface, flat plate solar collectors, thermal contact cond. 1−48905
Al-Cu finned tube, heat emission and resistance, thermo-aerodynamic charact. *(Russian)* 1−6750
Al-Cu-Al three layer system, electron backscatt. 1−35135
Al_2O_3-Cu, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
a-As_2Se_3:Cu, film, time resolved dark injection 1−20886
Au-Cu-inert gas laser, four-colour emission 1−33669
BaS:Cu, photoluminesc., influence of Er 1−39133
$Ba_{0.5}Sr_{0.5}Nb_2O_6$:Fe^{3+}, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
$Bi_{12}GeO_{20}$:Cu, $Bi_{12}SiO_{20}$:Cu, Czochralski growth method, dopant distrib. 1−21339
(Ca_xSr_{1-x})S:Cu, Nd, electroluminophor, luminesc. meas. 1−52998
p-$CdCr_2Se_4$-Cu Schottky barriers, current-voltage characts. 1−20851
$CdGeP_2$:Cu glasses, cond., temp. depend. rel. to cryst. state cond. 1−42780
Cd_3P_2:Cu, and undoped, influence of press. on elec. props. 1−38772
CdS:Cu, C-centre electron capture cross-section 1−7559
CdS:Cu, cryst. field splitting and energy levels, cluster calc. 1−47546
CdS:Cu, deep level characts., steady-state const. capacitance method 1−38744
CdS:Cu, I-V characts. hysteresis and photocurrent field quenching 1−3023
CdS:Cu, photoconductivity degradation; role of shallow donors, expt. 1−34748
copper continued
CdS:Cu sintered layer, prep. and spectral sensitivity 1−53118
$CdTl_2Te_4$:Cu, fused, surface tension and microhardness 1−7426
$CdTl_2Te_4$:Cu, impurity solubility determ. by microhardness method 1−7200
Cr high-speed electroplating on Cu or Fe from dilute acid soln. 1−8244
Cr-Cu-Cr model layer composite, deform. relations, compressive stress *(Russian)* 1−48418
Cu clusters, struct. and electronic props., binding energy, ab initio LCAO-MO-SCF study 1−41304
Cu, corrosion products, differential reflectometry study 1−16940
Cu electrocrystn., on single cryst. of Cu(110) plane, sulphanilamide effect 1−48283
Cu II, electron quadrupole transition probabilities, many-electron theory 1−24082
Cu II hollow cathode laser, multiwatt operation 1−29259
Cu II sequestriation on polyacrylamidoxime resin for determ. in natural waters 1−53490
Cu III to Ge VI, isoelectronic series, electric dipole transitions, energy levels and oscillator strengths 1−19059
Cu, lattice dynamical model, phonon dispersion rels. 1−7274
Cu, polished metal, emittance meas. *(Japanese)* 1−21906
Cu powders, mechanically activated, sintering behaviour *(German)* 1−39268
Cu, rel. between texture inhomogeneity in cold-rolled and recrystallised polycrystn. specimens 1−48358
Cu single cryst. rod, periphery deform. band development during drawing *(Japanese)* 1−31537
Cu solid dissolution, into molten Sn, under static conditions 1−16078
Cu sulphurisation prevention in transformer insulating oil, anticorrosion coating props. *(Japanese)* 1−21622
Cu tough pitch, determ. of rel. density changes in high strain gradient presence 1−35314
Cu VI, emission spectra analysis in Fe III-Cu VI isoelectronic sequence 1−45890
Cu:^{57}Co, Mossbauer line diffusional broadening angular depend. 1−16512
Cu:Pb single cryst. film, pulsed laser annealing 1−8341
Cu/Nb composite superconductor, thermal magnetoresist. of Cu matrix, meas. 1−47797
Cu/NbTi composite superconductor, thermal magnetoresist. of Cu matrix, meas. 1−47797
Cu/Ni bilayers, high angle grain boundaries, nucleation and migration, TEM study 1−38385
Cu/Ni bilayers, nucleation of high-angle grain boundaries, TEM obs. 1−38384
Cu/Ni thin laminates, vacuum deposited, microstruct., TEM study 1−12662
Cu/Sn(Pb) (15 wt.%) powder mixture, resist. meas. during inductive liq. phase sintering *(German)* 1−3657
Cu/steel galvanic couple, atmospheric corrosion, weight loss and electrochem. meas. 1−43567
Cu/W (110) surface, static SIMS study 1−31290
Cu/Zn galvanic couple, atmospheric corrosion, weight loss and electrochem. meas. 1−43567
Cu-Al_2O_3 dispersion reinforced composite, mech. props. 1−39384
Cu-Al_2O_3 polycrysts., additive strength contribs. 1−31476
Cu-BrZz0.2-M2 bimetal transition layer combination on press. welding, struct. fracture *(Russian)* 1−3792
Cu-clad Nb wire thermometry below 1K using proximity effect 1−44922
Cu-clad NbTi supercond. wire, AC losses, flux jumps, quench behaviour, under coil simulation conditions 1−47801
Cu-glass composite, thermal cond. *(Japanese)* 1−16116
Cu-H_2SO_4 boundary, in situ photoemission spectra study, adsorpt. effects 1−35149
Cu-He afterglow, energy and charge transfer, rate consts., spectra 1−38189
Cu-He gaseous plasmas, energy transfer processes 1−25091
Cu-Nb sandwiches, transmission ESR above and below supercond. transition 1−21049
Cu-Nb superconducting multifilamentary composites, coupling mechanisms, stress effects and flux pinning, review 1−47825
Cu-Nb_3Sn, supercond. composite wires, discontinuous fibre prep. methods, review 1−12688
Cu-Nb_3Sn superconducting multifilamentary composites, coupling mechanisms, stress effects and flux pinning, review 1−47825
Cu-SiO_2 precipitate-strengthened, morphology of strengthening phase *(Russian)* 1−47418
Cu-V_3Ga superconducting multifilamentary composites, coupling mechanisms, stress effects and flux pinning, review 1−47825
Cu-ZZ 1−45609
Cu-ZnO-Al_2O_3 catalysts, CO converson, X-ray absorpt. near edge struct. 1−28992
Cu_2, electronic struct., ab initio relativistic core pot. studies 1−41302
Cu_3, theoretical prediction of vibr. spectra of group IB trimers, mol. struct. determ. 1−51112
Cu_n, matrix-isolated, assignment of electronic spectra, appl. of mag. circular dichroism 1−41532
CuO_x-Cu solar selective absorber, emittance meas. *(Japanese)* 1−21906
Fe powder compact, pure and Cu-infiltrated, sintering behaviour on A_3-cyclic heating *(Korean)* 1−16714
Fe/Cu, microlaminate condensates, struct. and props. determ. 1−16721
GaAs:Cu, impurity electron states 1−25657
GaP:Cu, electron-bombarded, ESR study 1−31023
GdFeBi-CdS.Cu.Cl photoconductor sandwich, thermomagnetic switching effect 1−25944
n-Ge:Cu, elec. cond. and anomalous magnetoresist. near semicond.-metal transition 1−25744
Ge:Cu, impurity energy level press. depend., elec. props. 1−20661
Ge:Cu, internal friction in dislocation cores 1−25371
GeTe:Cu, rhombohedral and cubic, kinetic effects 1−38789
H_2SO_4:Cu(Fe), phase relax. kinetics, electron spin-echo obs. 1−14946
He-Cu hollow cathode laser with multiple electrodes 1−29293
KCl:Cu, thermally stimulated exoelectron emission, thermoluminesc., rel. to colour centres 1−43252
KI(Br)(Cl):Cu, mag. circular dichroism of off-centred Cu^+ and on-centred Cu^+ 1−8047
$KZnF_3$:$Mn^{2+}$$Cu^{2+}$($Ni^{2+}$), kinetic exchange at low charge transfer energies 1−38924
$Li_2B_4O_7$:Cu phosphor, preparation and characteristics, TLD appl. 1−959
Mn^{2+}-Cu^{2+} mixed pairs, EPR study 1−21038
NB_3Sn-Cu supercond. wire, prpe. by consumable arc melting 1−48294

copper continued
$(NH_4)_2Mg(SO_4)_2.6H_2O:Cu^{2+}$, ENDOR spectrosc., nucl. spin decoupling 1−10002
NaCl:Cu^+, recombination luminesc. 1−39164
NaCl:Cu^{2+}, fluorescence spectra 1−3455
Nb-Ti multifilamentary composite in Cu matrix, losses in transverse alternating and rotating fields 1−47800
Nb_3-Sn-Cu in situ supercond. wire in solenoid, performance meas. 1−16419
Nb_3Sn-Cu multifilamentary supercond. composites, mag. props. meas. 1−47792
NbTi:Cu superconducting wire, lap joint resistance, intrinsic crit. current 1−47829
NbTi:Cu-matrix multifilamentary composite conductors carrying transport current, transient field losses 1−52695
NbTi:Cu(CuNi), multifilamentary supercond. magnets, AC losses under fast ramp rate 1−50176
NbTi/Cu, composite supercond., take-off and recovery current behaviour 1−42903
NbTi/Cu superconductor, transient heat transfer and recovery 1−52697
NbTi-Cu metastable supercond. composite, stability depend. on Cu-to-supercond. ratio 1−52734
Ni/Cu, microlaminate condensates, struct. and props. determ. 1−16721
Ni^{2+}-Cu^{2+} mixed pairs, EPR study 1−21038
$Pb_{0.92}La_{0.08}Nb_2O_6:Fe^{3+}$, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
n-PbTe:Cu film, magnetoresist. and Hall effect meas. 1−7643
$RbCdCl_3:Cu^{2+}$, Jahn-Teller effect, ESR study 1−52535
Si:Cu, energy levels and degeneracy ratios of impurity levels *(Japanese)* 1−2906
n-Si:Cu, impurity states, solid solution precipitation, γ-irrad. effects 1−42718
Si:Cu, ion implanted, depth profile meas. by ion-induced X-ray emission 1−2495
Si:Cu wafers, intrinsic rocking curve meas. by double crystal method *(Japanese)* 1−2629
Si:Fe, Cu impurity conc. determ. by neutron activation anal. *(German)* 1−31941
SrS:Cu, photoluminesc., influence of Er 1−39133
SrS:Cu, Yb, phosphors, photo- and electro-luminesc. 1−3476
W wire reinforced Cu, fatigue failure modes 1−3934
ZnO:Cu, cryst. field splitting and energy levels, cluster calc. 1−47546
ZnO:Cu, electron irrad., ESR obs. of new Cu centres, electron configs. *(German)* 1−26029
ZnO:Sm, Cu, phosphors, electrolum. and photolum. 1−43183
ZnO:Sm, Cu phosphors, photo and electroluminescence spectra obs. 1−16593
ZnS:Cu, Al, phosphor, particle growth, flux effects 1−48311
ZnS:Cu, cryst. field splitting and energy levels, cluster calc. 1−47546
ZnS:Cu, t_2←e localised transition 1−47526
ZnS:Cu,Al phosphor, cathodolum. saturation and decay characts. 1−26280
ZnS:Cu,Nd,Cl, thin film, direct current electrolum. and Nd luminescence centres 1−3495
ZnS:Cu luminophore, photoluminesc., depend. on Cu conc. 1−16598
ZnS:Mn, Cu, Cl thin films, elec. props., electroluminesc., switching 1−39159
ZnS:Mn, Cu powder phosphors, time resolved DC electrolum. studies 1−43184
ZnS-Cu, Co-luminophores to improve photographic quality of IR radiation fields *(Russian)* 1−28101
ZnSe:Cu, deep level characts., steady-state const. capacitance method 1−38744
ZnSe:Cu, final state effects in deep impurity excitation spectra 1−2920
ZnSe:Cu, impurity diffusion, luminesc. modification 1−38596
ZuO:Cu, impurity states, dynamic Jahn-Teller coupling 1−25662

copper alloys
see also brass; copper compounds
α-band hole excitation energies, hole-phonon interaction 1−7557
bronze surface hardened by roller burnishing, effect of heating on hardness and struct. of surface layer 1−16885
bronze wire mesh screens, thermal regenerators, isothermal pressure drop 1−38005
bronze-Al, type D (CDA-614), laser surface melted, enhanced corrosion resistance 1−31724
bronze-WSe_2-Pb-Ni, sintered material containing solid lubricants alloying effect on friction charact. 1−31678
bronzes, wear resist., effect of diffusional redistrib. of alloying elements 1−16899
[CC] Cu-Zn, mass spectrometric study of Zn partial characts. 1−17091
crystals, solid soln. hardening 1−35263
Cu-Pd-Ag dental alloys, age-hardening characts., X-ray diffr., elec. resist and hardness meas. *(Japanese)* 1−3757
Duralumin, plasticity in low cycle fatigue 1−31643
eutectic melt, rapid quenching, microstruct. and mech. props. obs. *(German, English)* 1−43382
FCC crystal, stage I to II transition in work hardening 1−12758
laser irrad. effect on props. *(German)* 1−38404
Manganin wire, continuous meas. of hydrostatic press., liq.-solid hybrid system *(Japanese)* 1−50150
monel film, H diffusion coeff. meas. *(French)* 1−52349
rare earth-$(Cu,Ga)_2$ alloys, unit cell consts. and comp. ranges 1−25201
rare earth-Cu_xAl, magnetization meas. 1−25876
saturation of W for composite material manufacture *(Russian)* 1−48303
solid solns., dilute, impurity potential model for residual resist. calc. *(Russian)* 1−47631
spin glass, relax. effects, magnetoresist. meas. 1−25956
strip, high strength bronze for contacts, terminals, and connectors 1−43531
substitutional solid solutions, impurity grain-boundary relax. *(Russian)* 1−47095
thermodynamic excess potentials, electronic components 1−20420
Ag-Cu, anal. by elastic and inelastic gamma-ray scatt. 1−48771
Ag-Cu-Pb melt, surface props. calc. using lattice model 1−20511
Al-Ag-Cu ternary eutectic system, structs. expected during steady state directional growth 1−8296
Al-Cu, 2017-T4, fatigue crack grwoth under mode II loading *(Japanese)* 1−43492
Al-Cu, 3003 alloy, pitting corrosion in aq. glycol solns., charact. and relevance to solar thermal collector systems 1−39517

copper alloys continued
Al-Cu, dil., thermal diffuse X-ray scatt. 1−43214
Al-Cu, hardening mechanism during high temp. ageing *(Russian)* 1−12752
Al-Cu, liq. alloy, surface composition, AES study 1−30527
Al-Cu, off-centre E-gun deposition source in planetary evaporation system 1−12670
Al-Cu, polycryst., third-order elastic moduli, US vel. obs. 1−31517
Al-Cu, study on the temp. of thermal spike 1−25256
Al-Cu, twin dendrite growth during directional crystn. *(Russian)* 1−25599
Al-Cu, type 2024, fatigued, and stress corroded, prefracture damage determ. by X-ray double cryst. diffractometry 1−31639
Al-Cu, type 2024 alloy, X-ray double cryst. diffr. and topography for fatigue failure prediction 1−31820
Al-Cu, type 2024-T3, fatigue fracture mode transitions, environmental effects 1−39419
Al-Cu, type 2024-T351, cyclic loading, constitutive eqns. 1−3830
Al-Cu, type 2124 T351, fatigue crack growth retardation 1−8423
Al-Cu, type 2219-T851, fatigue crack growth response following high load excursion 1−43514
Al-Cu, type 2219-T851, fatigue crack growth, SIMS and AES study 1−31638
Al-Cu (0.2=3.5 wt.%), vacancies characteristics, elec. resist. temp. coeffs. 1−2431
Al-Cu (0.5 wt.%) anomalous internal friction phenomenon *(Chinese)* 1−52228
Al-Cu (0.5 wt.%) thin film, electromigration, texture and grain struct. effects 1−34502
Al-Cu (1-12 at.%), splat-cooled, X-ray diffr. line anal. 1−7131
Al-Cu (2.8 wt.%), crysts., shear localisation 1−25294
Al-Cu (2.8 wt.%) alloy, containing Θ′ precipitates, cyclically strained, dislocation structs. 1−52140
Al-Cu (33 wt.%), off-eutectic, unidirectional solidification *(Korean)* 1−16766
Al-Cu (4 wt.%), containing plate-like precipitates, lamellar model validity for yield stress variation 1−21545
Al-Cu (4 wt.%), precipitation nucleation of Guinier-Preston zones, ageing effect on channelling conditions *(French)* 1−3740
Al-Cu (4 wt.%), strain rate dependent behaviour as function of precip. state 1−21536
Al-Cu (45 at.%), rapidly solidified, vacancy ordered phases 1−26448
Al-Cu (4.5 wt.%), directionally solidified, anisotropic tensile props. *(Japanese)* 1−3834
Al-Cu (4.5 wt.%), epitaxy and surface melting by high powered directed energy 1−47410
Al-Cu compacts, liquid phase sintering 1−39271
Al-Cu dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Cu eutectic alloys, selective absorbers for solar photothermal conversion 1−32045
Al-Cu evaporated film, lattice parameters and homogeneous elastic stresses, $\sin^2\Psi$ meas. method 1−30604
Al-Cu solid soln., destabilisation and induced work-hardening during plastic deform. 1−31490
Al-Cu solid soln. alloy microstructure, segregation, thermal and elec. cond. *(Japanese)* 1−48347
Al-Cu sputtered films, Cu distrib., AES and SEM study 1−30582
Al-Cu strip, electromigration damage, constant DC stressing, TEM obs. 1−52337
Al-Cu-Ga system, phase diagram *(Chinese)* 1−48323
Al-Cu-In (4, 0.06 wt.%), precipitation of θ′ phase *(Japanese)* 1−26470
Al-Cu-Mg, high-strength granulated, heat treatment by stepped heating 1−3803
Al-Cu-Mg, type 2024 alloy, analytical study of microconstituents 1−26786
Al-Cu-Mg (4, 1.5 wt.%), mica particle dispersed, casting fluidity 1−20295
Al-Cu-Mg alloy, component design for low cycle high temp. loading 1−34415
Al-Cu-Mg alloy D16, corrosion cracking in chloride soln., polarisation effect 1−26676
Al-Cu-Mg-Fe-Ni, type 2618A alloy, fatigue threshold 1−48468
Al-Cu-Mg-Mn alloy D16, corrosion cracking in chloride solution, H liberation 1−35440
Al-Cu-Mg-Si, duralumin, extrusion *(Polish)* 1−16830
Al-Cu-Mg-Si alloys, metallographic anal. for phase identification 1−17015
Al-Cu-Mn, D16 type, compressive strength in shock 1−53231
Al-Cu-Mn alloys, short surface fatigue cracks, growth rate models 1−53269
Al-Cu-Si, planar growth, role of constitutional undercooling 1−3718
Al-Cu-Si film, electromigration behaviour, surface struct. 1−2933
Al-Cu-Si-Mg, precipitation hardening L70 type, microplasticity 1−35315
Al-$CuAl_2$ eutectic, directionally solidified, thermal expansion 1−52320
Al-$CuAl_2$ eutectic alloys, unidirectionally solidified, lamellar structure 1−43329
Al-$CuAl_2$ eutectic composites, hardness meas. 1−31603
Al-Mg(-Cu) alloys, strain rate sensitivity and plasticity 1−21559
Al-Si(Cu), film, electromigration behaviour, surface struct. 1−2933
Al-Zn-Mg Cu, type 7075-T6, relationship between shear lip size and fracture toughness 1−12857
Al-Zn-Mg-Cu, 7075, effect of ageing on props. 1−48402
Al-Zn-Mg-Cu (5.2, 2.5, 1.5 wt.%), stress corrosion cracking susceptibility, effect of loading direction and environment 1−39503
Al-Zn-Mg-Cu (5.7, 2.5, 1.5 wt.%), microstruct. and fatigue fracture correlation 1−31642
Al-Zn-Mg-Cu (6,2,x wt.%), effect of Cu content and deform. mode on fatigue crack propag. 1−12856
Al-Zn-Mg-Cu (6.2, 2.6, 0.15 wt.%), fatigue crack propagation and fatigue life, effect of shallow notch 1−8435
Al-Zn-Mg-Cu alloy, fatigue crack initiation of notches 1−31646
Al-Zn-Mg-Cu alloy V93pch forgings, quenching water temp. effect on struct. and mech. props. 1−48392
Al-Zn-Mg-Cu alloys, type 7075, stress corrosion crack-tip surface chemistries, anal. 1−48580
Al_2Cu, electron struct., X-ray emission spectra and XPS 1−35123
Al_2Cu, electronic struct., multiple scatt. Xα cluster method with k-depend. boundary conditions 1−42681
Al_2Cu, morphology *(French)* 1−52106
Au-Cu, X-ray absorpt. spectra, chem. shifts 1−26302

copper alloys continued
AuCu-Zn, irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
$AuCu_3$ superstructure, concentration of vacancies, interaction with edge dislocations 1−42416
Au_3Cu, order-disorder transitions, lattice parameters 1−47235
AuCu(II), irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
B fibre reinforced Al-Cu, mech. props. *(Slovak)* 1−48405
Be bronze wire electrode double-gap spark chamber 1−1008
Be-Cu anisotropic crystals, impurity elec. resistivity *(Russian)* 1−47603
$C_{40}Ti_{59}$, amorphous, quenched-in resist. rel. to atomic movements 1−34675
Ce-Cu liq. alloys, high temp. heat content and heat capacity, levitation calorimetry 1−11877
(Ce-La) $[Co_{1-x}Cu_x]_5$, phase relations and mag. props. 1−8272
$CeCu_2Si_2$, mag. susceptibility and kinetic parameters *(Russian)* 1−30927
$CeMg_{11}Cu$, struct., hydrogen sorption-desorption cycles *(French)* 1−20560
Co grains dispersed in liq. Cu matrix, coarsening study 1−53182
Co-Cu, dil., ^{59}Co NMR, influence of short range order and screening *(Russian)* 1−31060
Co-Cu, phase diagram calc., phase boundaries, thermodynamic props. 1−16753
Co-Sm-Cu alloys, directional solidification path and phase diagram 1−35246
$(Co_{0.83}Cu_{0.17})_6Ce$, struct. changes during ageing, mag. props. 1−31508
$(Co_{0.81}Cu_{0.19})_{5.5}Sm$ alloy, struct. and coercive force after heat treatment, X-ray diffr. study 1−20131
Cr-Co-Cu-Fe permanent magnet alloys, deform.-aged, mag. props. 1−12342
Cu-Ag, dil., thermal diffuse X-ray scatt. 1−43214
Cu-Ag, two-phase alloy, tensile deform. 1−48445
Cu-Ag (2 at.%), radiation-induced segregation near grain boundaries and voids, direct obs. 1−16789
Cu-Ag-Au, elec. resist. and electron-phonon interactions, pseudopot. method *(Russian)* 1−2950
Cu-Ag-Hg-Sn, Au rich dental amalgam, phase equilib. *(German)* 1−26424
Cu-Ag(In)(Ni), very dil., electron irrad., interstitial trapping by impurities 1−52179
Cu-Al, Ar^+ excited Al Auger electron emission 1−48216
Cu-Al, α phase solid soln., low temp. work hardening 1−43360
Cu-Al, double ribbons, geometry and props. 1−20242
Cu-Al, FCC alloy, Shockley partial dislocations, anisotropic elasticity and solute interaction effects 1−7178
Cu-Al, isothermal internal friction, high temp., 370-680°C 1−53225
Cu-Al, lattice thermal cond., phonon scatt. by dislocations 1−52249
Cu-Al, martensitic transform., alloying elements effect *(Russian)* 1−26455
α-Cu-Al, single crystal, solid soln. hardening and mech props. 1−12753
Cu-Al, specific heat, quasi-local phonon modes around dislocations 1−20342
Cu-Al, surface, effect of partial O_2 press. on noble gas ion bombardment 1−31276
Cu-Al (0.6 at.%), multiplication of dislocations in single crysts. 1−11757
Cu-Al (1 at.%), dislocation vels., revised meas. in single crysts. 1−11758
Cu-Al (10 at.%), two-step annealing, recrystallisation *(Japanese)* 1−53197
Cu-Al (13.43 wt.%) alloy, electron irradiated, climb mechanism of dissociated dislocations 1−11764
Cu-Al (16 at.%) double ribbons, extended jogs 1−52138
Cu-Al (1.3(3.8)(7.6) wt.%), adherence of sulphide scale to metallic base 1−3961
Cu-Al (2 wt.%), fatigue process, in-situ study by HVEM 1−3899
Cu-Al (30.8 to 40.9 wt.%). γ-phase, long-period superstruct. 1−30015
Cu-Al (5.8 at.%), deformed, stages of hardening in surface region 1−35280
Cu-Al (6-17 at.%), residual elec. resist., effect of low temp. plastic deform. and subsequent annealing *(Russian)* 1−8442
Cu-Al alloys, heavily deformed α_2 phase, stacking disorder and annealing behavior 1−15910
Cu-Al alloys, low temp. molar heat capacities and interrelations of thermodynamic props. 1−16055
α-Cu-Al alloys, short-range ordering, optical investigations 1−8091
Cu-Al alloys, solid solution hardening, conc. depend. of stress equivalence 1−16796
Cu-Al alloys and intermetallics, synthesis under combustion and thermal explosion conditions 1−53137
Cu-Al bronzes, inductive liquid phase sintering 1−31383
Cu-Al single crysts., dislocations mobility 1−47087
α-Cu-Al single crysts., in-situ electron microscopy of twinning in deform. 1−31571
Cu-Al solid soln., single crysts., work hardening and twinning at temps. 4.2 to 300K 1−31489
α-Cu-Al solid solns., rel. of mech. props. to fine struct. *(Russian)* 1−53208
α-Cu-Al solid solns., thermally activated plastic deform., 20 to 300K *(Russian)* 1−12790
Cu-Al thin film, isothermal evaporation, comp. profile, SIMS and X-ray anal. 1−31357
$Cu-Al_2O_3$, oxide dispersion strengthened, diffusion of Ni 1−42586
Cu-Al-Co, dispersion hardening alloys, temp. depend. of flow and critical shear stresses 1−53194
Cu-Al-Co, hetero-phase, mech. twinning *(Russian)* 1−2464
Cu-Al-Co, noncoherent particle containing, work hardening, plastic deform., slip lines, and inelasticity *(Russian)* 1−3764
Cu-Al-Fe-Ni (14, 4.5, 1 wt.%), ion-plated coatings for sheet metal forming dies 1−30592
Cu-Al-Ni, β_1 to β_1' transform. under uniaxial tensile stress, morphology study *(Russian)* 1−12736
Cu-Al-Ni, martensitic transform. and ageing effect *(Japanese)* 1−26458
Cu-Al-Sn, laser surface melted, enhanced corrosion resistance, elemental nonuniformities 1−43610
Cu-Al(1 at.%), plastic deformation and creep, low temp., effect of mag. field *(Russian)* 1−21508
Cu-As liq. system, Henrian activity coeff. of As 1−48675
Cu-Au, corrosion pitting and tunnelling, surface recrystn. model 1−43608
Cu-Au, dil., thermal diffuse X-ray scatt. 1−43214
Cu-Au, spectrochem. anal., quantitative, Monte Carlo methods appl. 1−21806
Cu-base binary alloys, phase diagram calc. 1−16755
Cu-Be, local Be vibr. anharmonism *(Russian)* 1−52242

copper alloys continued
Cu-Be, precipitation, effect of Be content and prior plastic strain, TEM study 1−3759
Cu-Be, recrystallisation and ageing, high hydrostatic pressure effect *(Japanese)* 1−48379
Cu-Be (22.6 wt.%), secondary reaction associated with eutectoid transformation *(Japanese)* 1−26452
Cu-Be alloy dynode surfaces, ESCA, AES and SEM analysis 1−7434
Cu-Be alloy strip, stress relaxation in bending 1−26527
Cu-Be alloys, for electric connectors, stress relax. behaviour 1−43404
Cu-Be-Co (2, 0.05-1.0 wt.%), Co influence on vol. fraction of discontinuous precipitation cells *(Japanese)* 1−31461
Cu-Bi, striation and faceting of grain boundaries due to Bi 1−52150
Cu-BrZr0.2-M2 bimetal transition layer combination on press. welding, struct. fracture *(Russian)* 1−3792
Cu-Cd alloys, struct. obtained electrolytically on single cryst., Cu cathodes 1−30598
Cu-Co (1.4 and 2.0 wt.%), underaged solid soln., cyclic deform. behaviour 1−31568
Cu-Co alloys, discontinuous precipitation 1−26461
Cu-Cr Kondo system, mag. Gruneisen parameter, thermal expansion and heat capacity meas. 1−42946
Cu-Cr-Mg precip. hardened alloy, fatigue, low cycle high temp., damage mechanisms 1−35393
Cu-Cr-SiO_2, flow stress and work hardening behaviour 1−35281
Cu-Cr-Zr, low-alloy, recrystn. 1−3779
Cu-Er (0.04 at.%), EPR spectra of Er^{3+} ions, uniaxial stress effect 1−47944
Cu-Fe, dil., resist. and Hall effect, 4.2 to 77.3K spin glass behaviour *(Russian)* 1−30946
Cu-Fe (0.1-2.0 at.%), internal friction, effect of preliminary US deform. *(Russian)* 1−8361
Cu-Fe (2 at.%), radiation-induced segregation near grain boundaries and voids, direct obs. 1−16789
Cu-Fe (2 wt.%), generation of migrating boundaries by vacancies, precipitation kinetics 1−20237
Cu-Fe EFTEC 4S alloy for electronic uses, mech. and chem. props. *(Japanese)* 1−26405
Cu-Fe Kondo system, mag. Gruneisen parameter, thermal expansion and heat capacity meas. 1−42946
Cu-Fe single cryst., deformed and annealed, struct. changes of Fe particles 1−43459
α-Cu-Ge, thermodynamic factor and rel. chem. potential of impurity component 1−20421
Cu-Ge (12.46%), Fourier X-ray line shape analysis of lattice defects from a single reflection 1−42372
Cu-Ge (5 at.%), neutron diffr. topographic obs. of layer substruct. 1−52127
Cu-Ge alloys, solid solution hardening, conc. depend. of stress equivalence 1−16796
Cu-Ho metallic glass, sputtered, in-situ meas. by small-angle X-ray scatt. 1−25173
Cu-In (10 at.%), supersaturated, enhanced diffusion and precipitation due to low energy ion bombard. 1−39210
Cu-In (4.6 wt.%) bicrysts., discontinuous precipitation study *(German)* 1−3741
Cu-Ir-O, liq., O soln. thermodynamics, Ir solubility, meas. 1−20391
Cu-Mn, anomalous vol. expansion and magnetovolume effect, electronic struct. calc. 1−26001
Cu-Mn, appl. of dynamical study of magnetisation in spin glasses 1−20989
Cu-Mn, corrosion, dealloying, in NaCl 1−21629
Cu-Mn, Mn conc. changes effect on alloy surface at temp. lower than evaporation threshold *(Russian)* 1−21323
Cu-Mn, spin glass, conc., jumps and induced anisotropy in magnetoresist. 1−38762
Cu-Mn, spin glasses, low temp. excitations, evidence of $T^{3/2}$ behaviour 1−34885
Cu-Mn (Fe)(Co), spin glass, Hall effect, elec. cond., mag. susceptibility *(Russian)* 1−47612
Cu-Mn (3 at.%), spin glass, relaxation time spectral distrib., neutron scatt. study 1−47896
Cu-Mn (3 to 8 at.%) single crysts., plastic behaviour and strain hardening 1−3856
Cu-Mn (5 at.%), neutron spin echo obs. of spin glass dynamics 1−34903
Cu-Mn (9 wt.%) spin glass, field-induced mag. transition 1−25957
Cu-Mn alloys, solid solution hardening, conc. depend. of stress equivalence 1−16796
Cu-Mn-Al (42, 2 wt.%), cold-rolled sheet, anisotropy of damping capacity *(Japanese)* 1−42446
Cu-Mn-Al Heusler alloys, ageing 1−31511
Cu-MoS_2-Ni-Pb sintered material containing solid lubricants alloying effect on friction charact. 1−31678
Cu-Nb, dil., supercond. props., microstruct. influence *(Russian)* 1−3086
Cu-Nb_3Sn, in situ, superconducting props., influence of Ga additions *(Japanese)* 1−42894
Cu-Ni, clustering kinetics, neutron diffuse scatt. study 1−7342
Cu-Ni, composition of Ar ion bombarded surface layers at elevated temps. *(Japanese)* 1−53028
Cu-Ni, constantan, desorption of He, quantum statistical theory 1−16187
Cu-Ni, electronic surface density of states, surface segregation 1−7686
Cu-Ni, preferential sputtering by Ar ions, dose rate effect, AES study 1−16642
Cu-Ni, sputtering, Cu depletion from grain boundary region, 873K 1−26345
Cu-Ni, sputtering at high temp., in situ AES study 1−3557
Cu-Ni, surface comp. under Ar^+ ion bombard., ion scatt. spectroscopy and in situ AES meas. 1−8182
Cu-Ni, X-ray absorpt. spectra, mag. moments, and band theories 1−26307
Cu-Ni (0-10%), solid soln. and strain hardening 1−35267
Cu-Ni (10 wt.%), monolayer chemisorption of C 1−11983
Cu-Ni (40 at.%), sputter-induced modification of surface comp., AES study 1−21322
Cu-Ni (50 at.%) foil, bulge test: a comparison of theory and experiment for isotropic and anisotropic films 1−35302
Cu-Ni alloys, cyclic hardening 1−26504
Cu-Ni melts, Mo solubility 1−39315
Cu-Ni surface, oxygen covered, O_2^+ ion bombarded, secondary ion form. and sputtering *(German)* 1−8185

copper alloys continued
Cu-Ni-Al-Si (5,5,1 wt.%), alloy 644, high performance, stress relax. behaviour at 200°C 1−43403
Cu-Ni-Fe (26, 8 wt.%), precipitation, study by electron microscopy, X-ray diffr. and hardness meas. *(Japanese)* 1−3745
Cu-Ni-Fe alloy, corrosion mech. in air saturated aqueous NaCl soln. 1−16965
Cu-Ni-Fe alloy, corrosion mech. in air saturated aqueous NaCl soln., protective surface, layer composition 1−16966
Cu-Ni-Si (corson) alloy, temper condition fracture toughness *(Japanese)* 1−21571
Cu-Ni-Sn, laser surface melted, enhanced corrosion resistance, elemental nonuniformities 1−43610
Cu-Ni-Sn (10, 6 wt.%), spinodal, low cycle fatigue 1−26617
Cu-Ni-Sn (9, 6 wt.%), precipitation and recrystallisation 1−26498
Cu-Ni-Ti, plasma-sprayed coatings for gas turbine bucket 1−21643
Cu-Ni-Zn, coherent phase diagram 1−3695
Cu-Ni-Zn single crysts., annealing effects on mech. props. 1−26520
Cu-Pb, liq., segregated, neutron diffr. obs. of struct. above miscibility gap 1−25144
Cu-Pb alloy melt, vibration effects on struct. during solidification 1−53168
Cu-Pb liq. alloys, thermodynamic props. 1−12721
Cu-Pd, (001) surface, AES and LEED obs. *(Japanese)* 1−25538
Cu-Pd-Ag alloys, age-hardening characts., X-ray diffr., elec. resist. and hardness meas. *(Japanese)* 1−3756
Cu-Rh(Pt), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
Cu-S, liq., thermodynamic anal. 1−48328
Cu-S dilute solns., Gibbs free energy 1−16061
Cu-Sb (0.15 at.%), inner adsorption and collection recrystn., temp. depend. *(Russian)* 1−8315
Cu-Sc, dil., vacancy-Sc binding energy 1−7206
Cu-Si, Auger electron emission, Si(LMM), by Ar^+ ion bombardment, origin 1−26344
Cu-Si, dynamically loaded, deform. substruct. and fracture 1−26554
Cu-Si, no-standards quantitative EDS anal. *(Chinese)* 1−53497
Cu-Si (4 at.%), helical dislocations in low stacking fault energy FCC alloy 1−11759
Cu-Sn, diffusion of ^{64}Cu and ^{113}Sn in ordered β-brass phase *(German)* 1−20443
Cu-Sn (16.9-17.9 at.%), binary alloy interdiffusion of β and γ phases *(Japanese)* 1−2708
Cu-Sn (22.5 at.%), liq., elec. resist. and thermopower, pseudopot. determ. 1−30711
Cu-Sn (8wt.%), solidification, solute distrib. and diffusion behaviour *(Japanese)* 1−3717
Cu-Sn alloy, columnar dendrite study *(Korean)* 1−12006
Cu-Sn alloys, peritectic for phase growth *(Japanese)* 1−8293
Cu-Sn filler effect on friction and wear of PTFE 1−53301
Cu-Sn porous skeleton, PTFE impregnated, antifriction props. 1−35400
Cu-Sn-Be, vol. changes, warping and residual stresses during heat treatment 1−3805
Cu-Sn-Nb multiple core conductors, superconducting props., hydrostatic extrusion effect 1−34836
Cu-Sn-WSe_2-(graphite)-Pb powder metallurgical composite, mech. props. 1−39464
Cu-Su-Ni-diamond composite sheet materials, prod. and props. 1−21392
Cu-Su-Zn, bronze BrOTs, rapid chem. anal. 1−17132
Cu-Ti, glassy, d-band splitting, UPS and XPS study 1−12636
Cu-Ti, influence of additional alloying with Ga, Zn, Ge, Si, Al on precipitation 1−43347
Cu-Ti, recovery, nonsteady-state coalescence during two-stage ageing treatment *(Russian)* 1−3791
Cu-Ti (0.7-0.9 wt.%), age hardening 1−21498
Cu-Ti (4 wt.%), single crysts., spinodally decomposed, fatigue behaviour 1−48501
Cu-Ti (4.12 wt.%) solid solution, kinetics of cell formation *(Ukrainian)* 1−16779
Cu-Ti alloys, hardening by modulated structs. 1−21462
Cu-Ti amorphous alloy, comp. order meas. using neutron and X-ray diffr. 1−30086
Cu-Ti dilute alloy single cryst. strengthening during ageing 1−43353
Cu-Ti dilute alloys, cellular reaction 1−8313
Cu-Ti dilute alloys, precipitation hardening 1−43354
Cu-Ti polycryst. alloys, (1.6 at.%), mechanical and elec. meas. 1−43416
Cu-TiO_2 monocryst., plasticity 1−21547
Cu-Ti(Cr)(Mn)(Fe)(Co)(Ni), intercrystn. internal adsorpt., lattice constants *(Russian)* 1−47044
Cu-Y metallic glass, sputtered, in-situ meas. by small-angle X-ray scatt. 1−25173
β-Cu-Zn, disordered, creep, nonstoichiometry effects 1−21523
β-Cu-Zn, γ irradiated, order-disorder transform. and elec. resist. *(Russian)* 1−38405
Cu-Zn (30 wt.%), slip band form. and deform. dynamics in single crysts., photometric study 1−20234
Cu-Zn (43 wt.%), precip. of α-rods from parent β-phase, crystallographic orientation relationships 1−8307
Cu-Zn alloys, effect of mating material on prow formation process in adhesive wear *(Japanese)* 1−31672
Cu-Zn alloys, interdiffusion and Kirkendall effect 1−11921
Cu-Zn alloys, solid solution hardening, conc. depend. of stress equivalence 1−16796
Cu-Zn alloys, twinned massive α precipitates, orientation relationships 1−8308
β-Cu-Zn-Al, diffr. effects during surface martensite particle anal. 1−38389
Cu-Zn-Al, singularities of martensitic transform. *(Russian)* 1−43336
βCu-Zn-Al alloy, dislocations before and after thermoelastic martensitic transform., X-ray topography 1−21446
Cu-Zn-Al alloy, internal friction during martensitic transform., new aspects 1−38448
Cu-Zn-Al alloys, superelastic, fatigue props. 1−31644
Cu-Zn-Au(Al), Martensitic transform., DO_3 order effect 1−26459
Cu-Zn(-Ni) alloys, Portevin-Le Chatelier effect, grain size depend. of mobile dislocation density 1−21552
Cu-Zr, amorphous, prepared by twin-roll quenching and melt spinning, reproducibility and homogeneity 1−26419
Cu-Zr, amorphous and liquid, electronic structure, embedded mol. cluster approach 1−30619
Cu-Zr, glassy, d-band splitting, UPS and XPS study 1−12636
copper alloys continued
Cu-Zr metallic glass, rapid quenched and sputtered, in-situ meas. by small-angle X-ray scatt. 1−25173
Cu-Zr powders, laser amorphisation, alloy microstructure 1−3669
Cu_{55}-Ni_{45} alloy, high temp. elec. resist. behaviour 1−30717
(Cu-Au)-Co, superposition of precipitation and solid soln. hardening 1−35268
CuAl, thermal expansion calc. from third-order elastic consts., isotropic continuum model 1−38565
CuAu alloys, TEM obs. of surface misfit dislocations, rel. to stress corrosion cracking 1−4004
CuAu-type cubic alloys, elastic and mag. props., effect of atomic order *(Russian)* 1−7827
Cu_3Au, dislocation damping and pinning, room temp. to 423K, long-range order degree role 1−42393
Cu_3Au, displacement cascade damage produced by fast particle irrad. 1−42428
Cu_3Au, influence of atomic order-disorder transitions on thermopower and elec. resist. 1−16278
Cu_3Au, radiation damage by recoil atoms from photonuclear reactions 1−42436
Cu_3Au, radiation order-disorder transform., initial transient 1−52256
Cu_3Au, radiation-induced order-disorder transform. 1−20381
CuBe, photoemission due to multiply charged Ti ion interaction from laser plasma 1−31262
CuCd, electron spin reson. study, hyperfine coupling tensors 1−45997
Cu_4Cd_3, struct., alternative description 1−15833
CuCr/Pb, proximity sandwiches, transition temp. Cooper limit 1−7788
CuFe dilute alloy, NMR spin-lattice relaxation 1−26063
CuHg, electron spin reson. study, hyperfine coupling tensors 1−45997
Cu_7In_3, X-ray cryst. struct. determ. 1−30136
CuMg, electron spin reson. study, hyperfine coupling tensors 1−45997
CuMn, metallic spin glasses, computer model, RKKY interaction 1−21001
CuMn, spin-glass, susceptibility, freq. and field depend. 1−42976
Cu_2MnAl, Heusler alloy, ^{65}Cu nuclei hyperfine interaction with external mag. field 1−26082
$Cu_2Mn(Al_{1-x}Sn_x)$, Heusler alloy, spin-disorder resist. 1−7603
CuMnNi spin glass, simultaneous ESR and magnetisation meas. 1−7939
CuNi:Cu:NbTi mixed matrix Rutherford cable, high-field bipolar loss meas. apparatus 1−50159
$Cu_{0.5}Ni_{0.5}$, secondary ion yields, M^+ and M_2^+, temp. depend. 1−21309
CuNi(Fe), electron-phonon interaction, Point-contact spectroscopy 1−11829
$Cu_{0.83}Pd_{0.17}$, influence of atomic order-disorder transitions on thermopower and elec. resist. 1−16278
CuPt, order-disorder transition, high press. effect 1−52280
CuPt, quenched alloys, SRO comparison by dark-field electron microscopy 1−15767
$Cu_{100-x}Si_x$, liq., partial densities of states, soft X-ray spectroscopy study 1−30612
CuSn bronze matrix for supercond. composites, mech. props. and elec. resist., 4.2K 1−8368
Cu(Sn) dilute alloys, enhancement effects of diffusion and impurity correlation coeff. 1−30446
Cu_2Ti, amorphous alloy, local struct., EXAFS and X-ray scattering 1−30087
β-Cu_4Ti precipitates, dislocation structure and intrinsic disorder obs. 1−16781
$Cu_{50}Ti_{50}$, amorphous, electron radiation damage, elec. resist. meas. 1−34371
CuZn, electron spin reson. study, hyperfine coupling tensors 1−45997
α-$Cu_{1-c}Zn_c$, Fermi surface props. 1−52469
Cu_5Zn_8, struct. and variance 1−34281
CuZnAl shape memory alloys, fatigue behaviour 1−31656
$Cu_{40}Zr_{60}$, $Cu_{60}Zr_{40}$, amorphous, electron radiation damage, elec. resist. meas. 1−34371
Cu_5Zr, synthesis, characterisation and struct. *(French)* 1−38328
$Cu_{50}Zr_{50}$, amorphous, sorption of H_2, press.-comp. isotherms 1−34572
$Cu_{57}Zr_{43}$, amorphous, vibr. states calc. and elastic consts. determ. 1−20343
$Cu_{57}Zr_{43}$ model amorphous alloy, computer simulation of deform. 1−26531
$Cu_{60}Zr_{40}$, amorphous and cryst., low temp. electronic props. and specific heat 1−30620
$Cu_{60}Zr_{40}$ cold rolled amorphous alloy defects, electron microscope obs. 1−11678
$Cu_{60}Zr_{40}$, cold-rolling and subsequent annealing, X-ray diffr., DTA and EM study 1−3783
$Cu_{60}Zr_{40}$, glass, Young's modulus meas. during relax. and crystn. 1−15943
Cu_xZr_{100-x}, metallic glasses, defect struct., positron studies 1−43205
$CuZr_2(Hf_2)(Ti_2)$, H_2 absorpt. 1−20558
$(Cu_{60}Zr_{40})_{1-x}Mn_x$ metallic glass, mag. impurity interactions and spin glass props. 1−25931
ErCu, competition between multi-q antiferromagnetic struct. 1−25883
$Er_xY_{1-x}Cu$, antiferromagnetic ordering, resistivity and sp. ht. 1−25699
EuCu, cryst. struct., X-ray diffr. study 1−20130
$EuCu_2$, $EuCu_5$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
Fe, cast, tensile props. and hardness, influence of Cu additions *(Chinese)* 1−35349
Fe-C-Cu-S sintered material, mech. friction and linear props., depend. on Fe powder prep. method 1−21385
Fe-Cu, atmospheric rust, self-protection mechanism 1−21633
Fe-Cu, high-melting, heats of soln. meas. in an EM levitation field *(German)* 1−7333
Fe-Cu, phase diagram 1−21421
Fe-Cu, phase diagram calc., phase boundaries, thermodynamic props. 1−16753
Fe-Cu (44 wt.%) two-phase alloy oxidation obs. 1−3967
Fe-Cu alloys, high density, sintered from composite powder, mech. props. 1−3668
Fe-Cu alloys, liq. phase sintered, microstructural development and evolution 1−39341
Fe-Cu compacts, sintering, anal. of dimens. changes 1−3662
Fe-Cu liquid alloys, activities meas. by transportation method *(Japanese)* 1−30393
Fe-Cu system, homogenisation, during sintering in a system with limited solubility of components 1−3672

copper alloys continued
Fe-Cu-(Ni), supersaturated ferrite form. during decomposition of austenite 1−31418
$Gd(Al_{1-x}Cu_x)_2$, magnetoresistance and band struct. near Curie temp. 1−7589
Gd_xCu_{1-x}, amorphous, mag. anisotropy 1−25927
Hf-Cu, supercond. amorphous alloys, low temp. ion implantation 1−30863
HoCu, competition between multi-q antiferromagnetic struct. 1−25883
$La_{70}Cu_{30}$, amorphous supercond. thermal cond. meas. 1−47798
$LaNi_{4.9}Cu_{0.1}$, hydride kinetics during formation-decomposition cycling 1−3744
$LaNi_{5-x}Cu_x$ Haucke cpd., low temp. heat capacity and H_2 absorpt. 1−30417
$LaNi_{5-x}Cu_x$ hydrides, proton spin relax. rate meas. 1−3284
Mg-Al-Zn-Cu, struct. and mech. props., Cu effect 1−8395
Mg-Cu metallic glass, thermodynamic props. 1−30424
Mg-Mn-Cu, (1.5, 0.3 wt.%), grain boundary struct. recover, TEM obs. 1−21524
Mg_2Cu industrial hydride reservoirs, technological aspects and characts. for H_2 storage 1−17320
Mg_2Cu, surface anal. using XPS and AES 1−2784
Mn-Cu, electrical resistivity determ., temp. and pressure depend. 1−12090
γ-Mn-Cu (6 at.%), magnons, inelastic neutron scatt. study 1−7820
γ-Mn-Cu alloy, neutron and X-ray diffr. study 1−30939
Mn-Cu alloys, decomp. processes, small angle neutron scatt. and positron annihilation study 1−53184
Mn-Cu alloys, plasticity, corrosion-resistance tempering kinetics, Ni, Cu, Al alloying effect *(Russian)* 1−21489
Mn-Cu-Fe (10.4, 1 wt.%), Mossbauer study of magnetic and martensitic transform. 1−52775
Mn-Cu-(Ni)-(Cu)-(Al), alloying addition effect on transformations and mech. props. *(Russian)* 1−21489
γ-MnCu, X-ray and neutron scatt. meas. of mag. struct. 1−38909
Mo-Cu(-Ni) composites, sintered, mech. props., comp. and strain depend. 1−26517
Nb fibre reinforced Cu-Sn, supercond. props. *(Japanese)* 1−25821
Nb-Cu-Al(Ga)(Ge)(Si)(Sn), metallographic struct. and supercond. transition temp. *(German)* 1−34821
Nb-Hf/Cu-Sn-Ga, flux pinning, strain scaling law 1−52726
Nb-Hf/Cu-Sn-Ga composite-processed high-field superconductors, stress and diffusion effects 1−52724
Nb-Ti-Cu-Ni, superconducting paramagnetic props. matrix mix depend., magnetisation meas. 1−3091
NbTi:Cu(CuNi), multifilamentary supercond. magnets, AC losses under fast ramp rate 1−50176
$NdCu_4$, mag. susceptibility and Knight shift meas. 1−31046
$NdCu_5$, mag. susceptibility and Knight shift meas. 1−31046
Ni-Cu, anisotropy of magnetoresistivity meas. as function of applied mag. field 1−7586
Ni-Cu, Auger L_3MM transitions, backscatt. factor calc., Monte Carlo method 1−21301
Ni-Cu, dil., nuclear spin-lattice relaxation time 1−34953
Ni-Cu, electronic struct. theory 1−20618
Ni-Cu, surface segregation, atom-probe field-ion microscope study 1−42611
Ni-Cu (30 wt.%), effect of working temps. on recrystn. behaviour 1−16802
Ni-Cu (30 wt.%), recrystn. grain sizes, effect of working temp. before annealing *(Japanese)* 1−3765
Ni-Cu (41.4 wt.%), elec. resistivity depend. on SRO 1−47610
Ni-Cu alloys, local environment effect on atomic mag. moment 1−38916
Ni-Cu matrix, composition influence on Ni diffusion into W fibres *(Russian)* 1−47294
Ni-Cu system alloys, irradiated, high-temp. annealing, elec. cond. depend. *(Russian)* 1−35288
Ni-Cu-P amorphous alloy, nuclear dipole-dipole interaction and short range order 1−12417
Ni-Mn-Cu ternary alloy system, interdiffusion at 1173K 1−7397
Ni-Ti-Cu shape memory alloys, TEM obs. 1−12744
Ni-Ti(Nb)(Mo)(Fe)(Co)(Cu)(Al) binary solid solns., anneal hardening 1−31474
$Ni_{0.4}Cu_{0.6}$, compositionally modulated alloys, neutron diffr. anal. 1−12263
$Ni_{0.84}Cu_{0.16}$ (111), photoemission, surface energy band dispersion 1−53055
Pb-Cu dil., liquid alloy, O_2 activity 1−26425
Pb-Sb-Te-Cu coating for Pb cables, thickness reduction, mech. props. 1−31563
Pb-Sn-Fe-Cu (1, 0.06, 0.01 wt.%), nonuniform plastic flow, in simple tension, influence of material parameters 1−3822
Pd-Cu (0-10 at.%), diffusivity of H 1−7385
Pd-Si-Cu, amorphous and cryst., electronic props., positron annihilation study *(Russian)* 1−43210
Pd-Si-Cu, most stable metallic glass from phase diagram 1−53159
$Pd_{77.5}Cu_6Si_{16.5}$, amorphous, model mechanics of inhomogeneous plastic flow, V-notch bending tests 1−21506
$Pd_{77.5}Cu_6Si_{16.5}$, amorphous, homogeneous flow 1−26569
$Pd_{78}Cu_6Si_{16}$, alloy, viscosities and glass formation *(Japanese)* 1−30438
$Pd_{78}Cu_6Si_{16}$ amorphous alloy, ductile-brittle transition, in rel. to V-notch bending tests 1−21565
PdSiCu, amorphous, US propag. at low temps. 1−42473
PdSiCu metallic glass, US attenuation and velocity, temp. and amplitude depend. 1−15958
$Pd_xSi_{1-x-y}Cu_y$, (x=0.73, y=0.06; x=0.79, y=0.04), amorphous and cryst., positron annihilation meas. 1−53013
Sc-Cu-Si system, crystallochem. analysis 1−52105
$Sm(Co,Cu,Fe,M)_z$ magnets, M=Ti, Zr, Z=6.8, 7.25, microprobe and TEM study 1−52304
$Sm_2(Co, Cu, Fe, Zr)_{17}$ magnets, resin bonded 1−8252
$Sm_2Co_{10}Cu_{1.48}Fe_{3.16}Zr_{0.194}$ hard permanent magnet, domain wall pinning 1−7875
$Sm_{2-x}R_xCo_{10}Cu_{1.5}Fe_{3.2}Zr_{0.2}$ (R=Gd, Tb, Dy, Ho, Er) magnets 1−7901
Sn-Pb molten alloys, dissoln. of solid Cu under static conditions 1−34481
SnCu film, liquid-like struct., elec. resistivity 1−25596
$Tb_{0.25}Cu_{0.75}$ amorphous alloy, small-angle neutron and X-ray scatt., thermal stability, density and mag. props. 1−25165
Ti-Al-Mo-V-Fe-Cu-Zr-Sn martensitic alloy, struct. and mech. props. 1−16791
Ti-Cu, supercond. amorphous alloys, low temp. ion implantation 1−30863
Ti-Cu (2.5 wt.%), kinetics and morphologic oxidation props. 1−35431
Ti-Cu conductive thin films, evaporation deposition geometry influence on adhesion 1−35178

copper alloys continued
$TiBe_{2-x}Cu_x$, specific heat anomaly, phason interpretation 1−12328
$Ti(Be_{0.9}Cu_{0.1})_2$, ferromag., high-field magnetisation 1−16426
$Ti(Be_{0.95}Cu_{0.05})_2$, ferromag., high field magnetisation 1−16426
$TiBe_{2-x}Cu_x$, antiferromag., analogy with antiferroelectricity 1−8007
$TiBe_{2-x}Cu_x$, ferromag. transitions, mag. props. meas., itinerant electron model 1−47845
$Ti_{1-x}Cu_x$ metallic glass, H_2 absorpt. props. 1−20557
TiCuH, polycryst. and glassy, neutron scatt. study of H vibrs. 1−7276
TmCu, competition between multi-q antiferromagnetic struct. 1−25883
TmCu, cubic, quadrupolar interactions, parastriction and third-order mag. susceptibility 1−21030
TmCu, paramagnetic phase, quadrupolar interactions 1−34857
V-Cu-Al(Ga)(Ge)(Si)(Sn), metallographic struct. and supercond. transition temp. *(German)* 1−34821
WC-Cu pseudoalloys, mech. props. 1−31615
$Y_2(Co_{1-x}Cu_x)_{17}$, mag. anisotropy and NMR, individual Co-site contrib. 1−52770
Zn-Al-Cu-Mg (3.5-4.5, 0.75-1.25, 0.03-0.08 wt.%), castings, mech. props. 1−43506
Zr-Cu, supercond. amorphous alloys, low temp. ion implantation 1−30863
$Zr_{1-x}Cu_x$ metallic glass, H_2 absorpt. props. 1−20557
$Zr_{1-x}Cu_x$, supercond. metallic glass, thermal cond. and specific heat, low energy excitations 1−30878

copper compounds
see also copper alloys
acetate, forbidden ligand-field transitions, Raman intensity de-enhancement 1−43114
chalcogenides, quaternary, Cu_2ABX_4 (A=Zn,Mn,Fe,Co; B=Si,Ge,Sn; X=S,Se), elec. mag., and EPR studies 1−34868
complex, square cluster tetrakis-[μ-metoxo-μ-acetato (0,0′) copper (II)], cryst. and mol. struct. 1−20177
copper(II) calcium acetate hexahydrate, EPR linewidth rel. to exchange interactions 1−52830
copper acetyl acetonate, ice nucleating activity, dispersity effects 1−48752
β-copper phthalocyanine crysts., refl. spectra meas. excitons, charge transfer 1−21225
CuI, thermal-vibr. effect on X-ray integrated intensities near Cu K absorpt. edge, temp. factors determ. 1−34190
cyanide complexes adsorbed on Cu electrodes, surface enhanced Raman scatt. and cyclic voltammetry meas. 1−35056
diethylammonium copper tetrachloride, spin-wave relaxation in field induced paramag. phase 1−7955
ethylammonium copper chloride, high-temp. phase transform., dielectric and optical props. 1−42533
formate, tetrahydrate and isomer, field-induced antiferromag. to ferromag. transition, process magnetisation 1−34908
formate tetrahydrate, topotactically dehydrated, cryst. struct. 1−34342
formate tetrahydrate, two-dimensional six-vertex system, fluctuations and polarization correlations 1−7297
formate tetrahydrate and formate bisurea dihydrate, magnetisation curve anal., exchange and anisotropy fields 1−52802
fulvic acid Cu complex in lake and river water 1−40147
halide photochromic films 1−8145
halide vapour lasers, Cu atom recomb. kinetics 1−51459
halides, ionic crysts., covalent bonds 1−20106
mixed halides, IR absorpt. and Raman scatt. study 1−48124
phthalocyanine crystal, NH_3 adsorption and $\alpha \rightarrow \beta$ phase transition obs. 1−11857
phthalocyanine evaporated films, fast photocond. decays 1−42817
radioisotope-heated thermoelectric generator, using segmented thermoelectrics, 10% efficient, development 1−48884
tetramothylammonium copper chloride, successive phase transitions 1−11859
TTF-CuBDT, spin-Peierls transition press. depend. 1−7601
$[ClF_4][CuF_4]$, growth by detonation synthesis, cryst. struct. 1−25224
$CaCu_3Ti_4O_{12}$, appl. of crystallographic and mag. structs. of materials with threefold orbital degeneracy 1−2405
CdO/Cu_2O heterojunction solar cells, fabrication, photovoltaic meas., Auger anal. 1−43771
CdS substrate for $CuInSe_2$ MBE layers, growth, solar conversion efficiency 1−16695
CdS:Cu_xS solar cells formed by dry barrier tech., spectral response characts., 0.4 to 1.0 μm 1−4198
CdS:Cu_xS thin film solar cells, low cost fabrication 1−21878
CdS/Cu_2 S thin film solar cell fabrication using electrophoretic deposition 1−4199
CdS/Cu_2S solar cell: basic operation and anomalous effects 1−17202
CdS/Cu_2S solar cells, repulsive traps 1−26836
n-CdS/p-$CuInSe_2$ solar cell heterojunction, minority carrier diffusion length 1−16297
$CeCu_2Si_2$, XPS from Ce core level 1−48231
$CsCuCl_3$, EPR line broadening, effect of cooperative Jahn-Teller effect 1−52833
$(Cu,Zn)Cs_2(SO_4)_2.6(H,D)_2O$, study of cross-relax. by ENDOR 1−3296
$(Cu,Zn)Cs_2(SO_4)_2.6H_2O$, study of cross-relax. by pulsed ENDOR 1−3295
Cu complex, $[Cu(CH_3CN)_6]^{2+}$, Urey-Bradley force constants, normal vibrations and Raman active fundamental frequencies 1−35019
Cu complex, $[Cu(nicotinic\ acid)_2(acac)_2]_n$, synthesis and characts., IR and photoacoustic spectra, chem. anal. and mag. susceptibility 1−48072
Cu complex, α-bis(N-methylsolicylaldiminato)-copper (II), proton spin relax. rate at high fields 1−34875
Cu complex, bis(adiponitrile)copper(I) nitrate, heat capacity, order-disorder transition 1−11878
Cu complex, bis(biuretato)Cu(II,III), Raman and IR spectra, normal coord. anal. 1−1244
Cu complex, bis(dialkyldithiocarbamato)^{63}Cu(II) ESR spin probe, mol. reorientation investig. 1−7937
Cu complex, Cu(pyridine N-oxide)$Cl_2.H_2O$ dimeric complex, spin Hamiltonian tensors 1−42936
Cu complex, dimethylammonium trichlorocuprate (II), (II), 1-dimens. cryst., mag. anisotropy and susceptibility 1−52754
Cu complex bis(oxamidato)Cu(II,III), Raman and IR spectra, normal coord. anal. 1−1244
Cu complex with L-citrulline amino acid, ESR linewidth, bonding, mag. susceptibility, hyperfine struct. 1−52834
Cu complexes, Cu^{2+} cryst. hyperfine field interaction parameters 1−7572
Cu complexes, Cu(pyridine N-oxide)$(H_2O)Cl_2$, IR spectra, metal-ligand modes assignments 1−31142

copper compounds continued
Cu halide clusters, IR vibr. matrix isolated spectra 1−10881
Cu I, atom-atom interaction pot., EXAFS study 1−3536
Cu II complexes, compressed trigonal bypyramidal, ESR at 295 and 77K, solvent effects 1−24174
Cu II complexes, square pyramidal, ESR at 295 and 77K, solvent effects 1−24174
Cu II-Fe III heterobinuclear complex, crystal struct., antiferromag. coupling, molar mag. susceptibilty 1−47058
Cu III VI_2 epitaxial layers, growth conditions 1−42650
Cu porphine, energy levels, charge and spin distrib. calc. using one-orbital HF Slater theory 1−51108
Cu^{2+} complexes, EPR spectra, strain broadening of lines in g-parallel region, microwave freq. depend. 1−7938
Cu-As-Se chalcogenide semicond., drift mobility, photoinduced changes *(Russian)* 1−38781
Cu-Fe-O system, oxidation kinetics of $CuFeO_2$ 1−39486
Cu-Li-Fe-O system, prep. and props. of spinel solid solns. 1−12708
Cu^{2+}-NO complexes, spin coupling constant, Q and X band, EPR obs. 1−24177
CuAlXSe, (X-Ge, Sn), prep. and cryst. struct. 1−2412
Cu_3Au (001), slip identification by TEM 1−25282
CuBr, A-X and B-X systems, rot. struct. anal. 1−45931
CuBr, Debye-Waller effect on forbidden gap 1−20626
CuBr, exciton polariton, resonant Brillouin scatt. 1−52959
CuBr, excitonic polaritons, dispersion, hyper-Raman scatt., theory and meas. 1−2880
CuBr, excitonic polariton dispersion, reson. Raman scatt. under two-photon excitation 1−35043
CuBr, luminescence at high excitation densities 1−12555
CuBr, polaritons associated with nearly degenerate excitons, dispersion and refl. 1−25648
CuBr, reflection spectra, band struct. rel. to CuCl 1−42687
CuBr, temp. depend. of spin-orbit coupling and energy gap, reflectivity spectrum 1−38757
$(CuBr)_n$ clusters, IR vibr. matrix isolated spectra 1−10881
CuCN-KCN system, gas phase, mass spectra 1−2607
$Cu_n(CN)_m$, sublimation and mass spectra 1−2607
CuCl, A-X band system, rot. struct., mol. consts., visible obs. 1−51218
CuCl, biexcitons, active nonlinear spectroscopy, propag. effects and Fano interf. 1−46453
CuCl, Debye-Waller effect on forbidden gap 1−20626
CuCl, diamagnetic anomaly model, energy bands, defect and impurity levels 1−20633
CuCl, electrical resistance at high press., optical microscopy and X-ray diffr. 1−34701
CuCl, exciton longitudinal-transverse splitting, k-depend. 1−25638
CuCl, excitonic molecule distrib. under giant two-photon excitation 1−38726
CuCl, excitonic polaritons, picosecond time-of-flight meas. 1−47502
CuCl, excitons as a new quantum system 1−2876
CuCl film, excitonic molecule two-photon excitation, Raman scatt. 1−30645
CuCl, hyper-Raman scatt. via biexcitons 1−52939
CuCl, interband electronic Raman scatt. of polarised light 1−39088
CuCl, luminescence at high excitation densities 1−12555
CuCl, mech. for low temp. anharmonicity 1−30334
CuCl, nonequilibrium Bose condensation, excitonic molecules 1−34631
CuCl, optical gain, induced absorpt. in high density exciton system 1−8103
CuCl, press.-induced phase transitions and absorpt. edge shifts 1−2619
CuCl, pure and stoichiometric, synthesis 1−4075
CuCl, two photon resonant, coherent Raman scatt. via excitonic molecules 1−39077
$CuCl_2$, X-ray absorpt. edge, ab initio SCF calc. 1−6277
$CuCl_2$-graphite intercalation cpd., electronic props. 1−42679
$(CuCl_4)^{2-}$, static distortions induced by Jahn-Teller effect, ang. overlap model, absorpt. and EPR spectra 1−20675
$(CuCl)_n$ 1−10881
$CuCl_{1-x}Br_x$, phonon mode behaviour 1−12486
$Cu_nCl_mBr_{n-m}$ clusters, IR vibr. matrix isolated spectra 1−10881
$CuCl_{1-x}I_x$, phonon mode behaviour 1−12486
$CuCl_2.2H_2O$, magnetoelastic interactions eval. *(Russian)* 1−31002
$CuCrS_2$, vacuum UV reflectivity spectra, band struct. 1−21228
$CuCrS_2$-MS_2 (M=Ti,Sn), pseudo-binary system, cubic phases *(French)* 1−47248
$(CuCr_2S_4)_x$-$(Ga_{2/3}Cr_2S_4)_{1-x}$, spin glass state destruction, metal-insulator transition, mag., elec. props. *(Russian)* 1−3209
$Cu_xCr_2Se_{4-y}Br_y$, mag. semicond. spinel, thermoelectric power 1−20785
CuF electronic struct., HeI and HeII photoelectron spectra 1−29037
CuF_2 electronic struct., HeI and HeII photoelectron spectra 1−29037
CuF_2, g-factors, ab initio HF and multiple scatt. Xalpha calcs. 1−24036
$Cu_{0.7}Fe_{2.3}O_4$, struct., oxidation states, of Fe, Cu, spectrometric anal. *(French)* 1−20667
CuFeS, chalcopyrite, high temp. thermodynamic props. 1−26763
$Cu_{4.5}Fe_{1.25}S_{4.7}$, bornite, mag. transitions and mixed valences, mag. and Mossbauer studies 1−52778
CuGaInSe, growth of large grain thin films on amorphous substrates, quasi-rheotaxy 1−35180
$CuGa_xIn_{1-x}Se_2$ thin films for solar cells prepared by flash-evaporation 1−13132
$CuGaS_2$, crystal growth, props. 1−16677
$CuGaS_2$, crystn. from In solns., phase diagram 1−20091
$CuGaS_2$, Raman mode press. depend., phase transitions 1−21201
$CuGaSe_2$, anisotropic thermal expansion, X-ray powder diffr. study 1−47261
$CuGaSe_2$, crystn. from $CdCl_2(I_2)$ solns., phase diagrams, cathodoluminesc. meas. 1−48247
$CuGaSe_2$, donor-acceptor transition, cathodoluminescence spectra 1−43188
$CuGaSe_2$, edge luminescence spectra, impurity levels 1−8138
$Cu_3Ga_5Se_9$, synthesis, X-ray powder diffr. and thermographic anal. 1−3646
$CuGaTe_2$, UV reflectivity spectra 1−12526
CuGaXSe, (X-Ge, Sn), prep. and cryst. struct. 1−2412
$CuHPO_4H_2O$, X-ray cryst. struct. determ. *(French)* 1−2407
$Cu_6Hg_3As_4S_{12}$, cryst. struct. determ. 1−25221
$CuHg(NCS)_4$, and complexes, synthesis, struct. and softness parameter 1−8565
$CuHg(NCS)_2(NCSe)_2$, and complexes, synthesis, struct. and softness parameter 1−8565
copper compounds continued
$CuHg(NCSe)_4$, and complexes, synthesis, struct. and softness parameter 1−8565
CuHgSeCl, X-ray cryst. struct. determ. 1−15845
CuI, cubic, optical consts. and exciton-phonon interaction obs. 1−3355
CuI electrode, chlorophyll coated, for solar photovoltaic cell 1−43762
CuI, radioactive tracer diffusion meas. of Cu^+ diffusion 1−7383
CuI, reflection spectra, band struct. rel. to CuCl 1−42687
CuI, $Z_{1,2}$ exciton-polaritons, magneto-optical studies 1−26178
Cu(II) complex, 1,3-diaminopropane, EPR investig. 1−43001
Cu(II) complex, 3,3′-diaminodipropylamine, EPR investig. 1−43001
Cu(II) complex, phenyl-1, 9-diphenyl-1, 3, 7, 9-nonantetraones, IR-visible spectra and mag. susceptibility 1−21188
Cu(II) complexes, paramag., EPR linewidth anal., unresolved hyperfine struct. effects 1−14943
Cu(II) complexes with chirial acids and amines, visible circular dichroism 1−52913
Cu(II), ion selective electrode, XPS 1−42617
Cu(II) mixed complexes, solns., EPR investig. 1−24175
Cu(II)bis-(diethyl-dithiocarbamato):Zn(II) bis-(diethyl-dithiocarbamato), ^1H ENDOR spectra, ESR linewidth 1−16502
$Cu_{1/2}In_{1/2}Cr_2S_4$ spinel, high mag. field obs. of first order transition, mag. struct. and ordering 1−25942
$CuInS_2$, chemical transport by I_2 1−31323
$CuInS_2$, crystal growth, props. 1−16677
$CuInS_2$ epitaxial layers obtained by chemical vapour transport, growth and props. 1−30588
$CuInS_2$, phase relations rel. to melt growth 1−3702
$CuInS_2/S_n^{2-}$ system, photoelectrochemistry 1−43785
$CuInS_2$-GaP heterostructure prep. by LPE 1−52447
$CuIn_5S_8$, phase relations rel. to melt growth 1−3702
$Cu_{0.5}In_2S_4$, X-ray single-cryst. struct. determ. 1−15863
$CuInSe_2$, crystal growth, chemical transport by I_2 1−31323
$CuInSe_2$ epitaxial layers, single-source evaporation prep., struct. and elec. props. 1−38690
n-$CuInSe_2$, photocond., band gap determ. 1−20807
$CuInSe_2$, reflectance near bandgap 1−52912
$CuInSe_2$, refractive index, absorpt. index, ellipsometric meas. 1−8031
$CuInSe_2$, UV reflectivity spectra 1−12526
$CuInSe_2$:Fe, EPR characterisation 1−34929
$CuInSe_2$-$CuInS_2$ system, interaction of components, physicochemical characteristics 1−31432
$Cu_3In_5Se_9$, synthesis, X-ray powder diffr. and thermographic anal. 1−3646
$CuInTe_2$, refractive index, absorpt. index, ellipsometric meas. 1−8031
$CuInTe_2$, secondary electron emission 1−16630
$CuInTe_2$, UV reflectivity spectra 1−12526
$Cu_3In_5Te_9$, synthesis, X-ray powder diffr. and thermographic anal. 1−3646
CuInXSe, (X-Ge, Sn), prep. and cryst. struct. 1−2412
CuK double sulphate, electron spin-lattice relax., mag. field depend. 1−3251
$CuLn(WO_4)_2$ (Ln=rare-earth or Y), cryst. struct. and thermal stability 1−30201
$Cu_x^{II}Mn_{1-x}^{II}Fe_2^{III}(OH)_8$, phase transform., ferromag. props., ferrite form. *(German)* 1−25423
$Cu_{1.8}Mo_6S_8$, electronic props. of Chevrel phases, positron angular correlation study 1−31226
$Cu_xMo_6S_{8-y}$, homogeneity range 1−31440
$Cu_xMo_6S_6I_2$, Chevrel phase materials, synthesis and props. 1−16051
$Cu(NH_2)_2CO_3$ layer compound, exchange coupling, effective field approx. 1−38923
$Cu(NH_4)_2(SeO_4)_2.6H_2O$, X-ray cryst. struct. determ. 1−42346
$Cu_9Na_6(PO_4)_8$, synthetic, X-ray cryst. struct. determ. 1−15851
CuO additions effect on formation, recrystn. and sintering of Mg_2SiO_4 1−8260
CuO electronic states, IR vibr. const. by laser induced fluoresc. 1−37209
CuO films on glass substrate, stoichiometry and struct. 1−7493
CuO, granules, porous struct., mechanical strength 1−16833
CuO thin film doping by alkali metals, spark mass spectrometry anal. *(French)* 1−2488
CuO-Cu_2O, copper-black solar selective layers prep. by anodic oxidation, optical and struct. props. 1−53668
CuO_x-Cu solar selective absorber, emittance meas. *(Japanese)* 1−21906
Cu_2O, crystal growth from melt, float zone techniques 1−3618
Cu_2O, crystallites, form. by thermal oxidation in CO_2 *(German)* 1−31854
Cu_2O crystals, excitonic photocond. and structural defects 1−3013
Cu_2O, exciton energy levels under uniaxial stress 1−38730
Cu_2O, exciton gas, evidence for Bose-Einstein statistics 1−25641
Cu_2O, exciton screening, two-photon absorpt. *(Russian)* 1−42695
Cu_2O, excitons as a new quantum system 1−2876
Cu_2O films, epitaxial growth by oxidation of Cu 1−2844
Cu_2O, nonparabolicity of the Γ_7^+ valence band 1−16231
Cu_2O, physico-chemical props. at high temps. 1−42777
Cu_2O, self-diffusion of O, SIMS meas. 1−2682
Cu_2O single cryst., exciton absorpt. spectra, hydrostatic press. effect 1−42702
Cu_2O, time-resolved resonant two-photon absorpt. spectroscopy 1−52966
Cu_2O, two-photon spectroscopy on even parity excitons 1−48107
Cu_2O-Cu, optical absorption spectra rel. to photovoltaic effect 1−43767
$Cu_3P_6O_{18}.14H_2O$, preparation and thermal behaviour 1−39257
CuPbAsS_3, anomalies in electrophysical props. 1−20822
$CuPbSbS_3(AsS_3)_2$, cryst. struct. and twinning 1−25223
CuS, valence of Cu, XPS study 1−35143
CuS_2, valence of Cu, XPS study 1−35143
Cu_2S film growth on CdS faceted substrate, growth rate, morphology, grain boundaries 1−34590
Cu_2S, noncrossover optical transitions 1−12522
Cu_2S, preparation by spray pyrolysis *(French)* 1−3620
Cu_2S thin films for solar cell appls., prep. and stoichiometry 1−17205
Cu_2S, valence of Cu, XPS study 1−35143
Cu_2S/CdS solar cell, I-V relationship 1−4176
Cu_2S/CdS solar cell, mesh grid struct., series resist. anal. using equiv. cct. representation of ohmic losses 1−35652
Cu_2S/CdS solar cells, short-circuit currents, Cu_2S optical absorption coeff. influence control 1−32013
Cu_2S-CdS, effects of basal plane of CdS single crystal on Cu_2S growth 1−8713
Cu_2S-CdS films in solar cells, grain size, dislocation density and microscopic defect struct. 1−35660
Cu_2S-CdS heterojunction diode, electric props. rel. to composition 1−8713

copper compounds continued
Cu_2S-CdS heterojunction, tunneling currents 1−13120
Cu_2S-CdS heterojunction solar cells, photodetection props. 1−17206
Cu_2S-CdS solar cells with rough interfaces, theoretical anal. 1−53610
Cu_2S-In_2S_3 system, phase relations rel. to melt growth 1−3702
p-Cu_2S-n-ZnS heterojunction, current flow and energy band diagram meas. 1−34782
Cu_2S-ZnO solar cells, pn^+-type, theoretical advantages 1−53608
p-$Cu_{2-x}S$-n-CdS heterojunction, CD impurity influence on photovoltaic effect *(Russian)* 1−30786
$Cu_xS/Cd_yZn_{1-y}S$ and $Cu_xS/Cd_xZn_{1-x}S$, CdS thin film solar cells using chemically sprayed films 1−48840
Cu_xS-CdS solar cells, minority-carrier transport parameters, nondestructive SEM meas. 1−13119
$CuSO_4$ aqueous soln., diffusive interface, heat and mass transfer 1−1960
$CuSO_4.5H_2O$, crystallization as a mass transfer phenomenon 1−34262
$CuSO_4.5H_2O$, linear Heisenberg antiferromag., spin dynamics in mag. field 1−25966
$CuSO_4.5H_2O$, Weissenberg photographs, triclinic-cell parameters from one cryst. setting 1−2288
CuSe, valence of Cu, XPS study 1−35143
$CuSe_2$, valence of Cu, XPS study 1−35143
Cu_2Se, noncrossover optical transitions 1−12522
Cu_2Se, valence of Cu, XPS study 1−35143
Cu_2Se-Tl_2Se, phase equilibria, DTA and X-ray anal. 1−31433
$Cu_{2-x}Se$ ($2.01 \geq 2-x \geq 1.75$), phase diagrams and props. 1−35242
$Cu_{2-x}Se$ films, vacuum evaporated, elec. props., appl. for solar cells 1−4205
$Cu_{2-x}Se$ on n-type semiconductor substrates, photovoltaic props. 1−8716
$Cu_{2-x}Se$ resistivity, thermoelectric power, thermal field influence 1−7648
$Cu_{2-x}Se$, self-diffusion of Cu, ionic cond. 1−2691
$Cu_{2-x}Se$, transition to superionic phase, unusual behaviour 1−7327
$Cu_{2-x}Se$-Si heterojunction, elec. and photovoltaic props., appl. for solar cells 1−4205
Cu_2Se_2, valence of Cu, XPS study 1−35143
$CuSeO_4.5H_2O$, linear Heisenberg antiferromag., spin dynamics in mag. field 1−25966
Cu_2Te, noncrossover optical transitions 1−12522
$Cu_2Te_{1-x}S_x(Se_x)$, conductivity, Hall coeff., thermoelectric power, rel. to phase transformations 1−38803
β-$Cu_2V_2O_7$, ziesite, cryst. struct. and fumarole temp. indicator 1−54077
CuV_2S_4, synthesis conditions, comp. and mag. props. 1−43289
$Fe_{1-x}Cu_xCr_2S_4$, Mossbauer spectral line shape in presence of electron hopping 1−21091
$Fe_{1-x}Cu_xCr_2S_4$, XPS study 1−16663
Ge/GaAs/CuBr heterojunction interface energy band discontinuity transitivity test 1−16346
$(GrTe)_{0.94}Bi_{0.05}Cu_{0.01}$ solid soln., Cu impurity entrainment by nonuniform temp. field 1−30484
K_2CuF_4:Mn^{2+}, kinetic exchange at low charge transfer energies 1−38924
K_2CuF_4:Mn^{2+}, mag. impurity props. magnetic dipole light absorpt. *(Russian)* 1−47879
$K_2Cu_xZn_{1-x}F_4$, at percolation threshold, Heisenberg ferromag. susceptibility 1−34865
$K_2Cu_xZn_{(1-x)}F_4$, critical temperature of randomly diluted two-dimensional Heisenberg ferromag. 1−7832
Li-CuM_2S_4 cells (M=Co, Fe, Ni), charge and discharge characts. 1−32005
Mn-Co-Ni-Cu complex oxide semiconductors, spinel struct., AC hopping cond. 1−20786
$Ni(OH)_2/Cu(OH)_2$ coprecipitate system, XPS, matrix dependent inelastic mean free path 1−53520
$PbCu_xMo_6S_8$, Chevrel phase materials, synthesis and props. 1−16051
$RbAg_{4-x}Cu_xI_5$, thin film, elec. ionic cond., optical absorpt. 1−25496
$Sn_{0.8}Cu_{0.4}Mo_6S_8$, superconducting coatings, props. and struct. 1−30871
SnO_x/ZnS/Cu_xS/ZnS:Mn(Sm)/Al electrolum. thin film struct., spectral props. 1−52999
$TlCu_{2-x}Fe_xSe_2$, irreversible antiferromag. to ferromag. transition 1−34882
$YbCu_xSi_2$, Yb valence state, X-ray photoemission and absorption obs. 1−29034
ZnO/Cu_2O heterojunction solar cells, effect of RF sputter deposition temp. on photovoltaic perform. 1−32025

copper zinc alloys *see brass*

copying *see reproduction (copying)*

Corbino effect
see also Hall effect
Si:N_2^+ implanted layer on p-Si, Corbino magnetoresist., lateral photovoltaic meas. 1−47738

Coriolis force
see also rotation
cyclones, influence of β-effect in boundary layer friction field on vertical motions 1−22472
diimide radical, in-plane vibr., Green's function anal., pot. energy, Coriolis and rot. distortion const. determ. 1−37167
ethylene-d_0(-d_4), fundamental band assignments, Coriolis interactions 1−28947
hexahalides, octahedral, mol. dynamics, general quadratic valence force field calcs. 1−19072
methylene blue, IR intensities and Coriolis interactions 1−29041
sea ice dynamics, change in horizontal divergence with inertial period due to Earth rot. *(Japanese)* 1−9171
travelling ionospheric disturbances (TIDs) large-scale, Coriolis effect rel. to transmission in F_2-layer 1−27337
XY_4 tetrahedral ions, mol. consts. 1−14855
H_2S, IR spectra, vibr. band anal., Coriolis interacting band, microwave transitions 1−41380
H_2Se, IR spectra, vibr. band anal., microwave transitions, ground state const., Coriolis interacting band 1−45953
IF_5, in excited vibr. state, microwave spectra, Coriolis reson., rot. const. 1−45943
N_2O_3, symmetrical, mol. consts., GVFF calcs. 1−41453
NOF_3, gas phase IR spectra 1−37200
NSCl, mol. force fields, mean vibr. amplitudes, pot. energy and Coriolis consts. calcs. 1−37168
NSF, mol. force fields, mean vibr. amplitudes, pot. energy and Coriolis consts. calcs. 1−37168
O_3, force field study *(German)* 1−45935
$OPCl_3$, IR and Raman matrix isolation spectra, band contour anal. and mol. force fields 1−1235
P_4S_3, vibr. anal., force and first-order Coriolis coupling coeff. determ. *(German)* 1−6235

cornea *see eye*

corona
see also electric breakdown; flashover; solar corona
AC, from water droplets to overhead conductor, audible noise and EM radiation obs. 1−15326
air, breakdown process in rod-to-plane gaps with DC voltages 1−20019
air, DC corona at high temperatures and low pressures 1−52002
air, negative ion mobility in negative corona discharge 1−15681
air, positive glow corona, partition into two patches emitting alternately 1−42233
air, streamer influence zone at cathode of positive point to plane corona discharge 1−11610
air ion-electron kinetics, spark breakdown, ion mobility and current 1−38179
air-SO_2 negative corona discharge in flowing gas mixture 1−15680
aircraft discharger, negative corona discharges upon electrodes of carbon fibre materials 1−11623
breakdown props. of atmospheric air, effects of elevating temp. 1−15590
coaxial conductor noise level obs., audible and radio, due to corona discharge from water droplets 1−15325
cylindrical conductors in air, AC corona onset voltage, surface roughness effect 1−19998
DC corona and sparkover observations for up to 1 MV 1−15725
electron density in laser jet 1−2215
electrostatic, compound corona performance meas. 1−50162
EM pulse response of insulated cables lying on ground, corona effects 1−34142
field calc., numerical methods 1−15705
gas, corona discharge current, active synchronous component relative importance 1−11611
gas discharge and their appl., conference, Edinburgh, Scotland (Sept. 1980) 1−13934
gaseous dielectrics, symposium, Knoxville, USA (Sept. 1980) 1−5031
high pressure corona discharge, gas dynamic interactions, current and voltage at breakdown 1−38176
HV laboratory atmosphere, mobility of ions formed during corona 1−46937
HV large conductor-tower air gaps, switching surge discharge characts. 1−15683
HVAC/DC hybrid transmission line corona and electric field effects 1−38165
hyperboloidal electrodes, Laplace eqn. solution, appl. to dielectric testing in nonuniform elec. fields 1−11616
inception time in atm. air 1−20020
inhomogeneous plasmas, coronas, evaluation of interferograms *(Russian)* 1−25084
initial field strengths of unipolar corona at elevated air pressure, obs. 1−2275
insulating surfaces, corona discharges and electrostatics *(French)* 1−42235
insulation testing, external partial discharges inception and ranges, in air 1−15704
insulator chains, behaviour during corona discharge *(Rumanian)* 1−2263
laser beam self-focusing in corona of laser-irrad. targets 1−46465
multiple interacting point-to-point air gaps, negative corona 1−20017
negative, rod/plane, electrical characts. at 5 to 760 torr 1−20013
negative, simulation model 1−20012
negative corona pulse sequences obs., statistical props. evaluation 1−15708
nonlinear plasma dynamics at high intensity laser interaction 1−34172
overhead power lines, AC and DC, HV, audible noise prediction formulae 1−37697
Peek's law, theoretical evaluation 1−20021
plastics films treatment, packaging appl. 1−16939
point-plane, electrical wind and ionic species obs. 1−20014
polyethylene, surface modification by corona and plasma discharges, and free radicals, ESCA study 1−12917
polypropylene films, corona-discharge treatment, process parameters treatment 1−48541
positive glow corona, point-to-plane, current density on plane electrode obs. 1−15706
positive impulse, in rod/plane gap, humidity influence obs. 1−15707
positive point, streamer counter appl. 1−14774
positive streamer corona, fine structure and propagation mechanism 1−20010
positive streamer corona development, due to NO_x produced by its own discharge 1−20009
power transmission lines, EHV and UHV, rainfall rate influence on corona performance 1−37699
Princeton Large Torus Tokamak, giant recomb. edges, particle transport effects 1−19944
pulse Trichel corona ionisation current growth theory 1−46946
space charge and V/I characts. computation using equipotential charge shells 1−20016
superthermal corona propag. from CO_2 laser irrad. microtargets 1−25012
transition region, longit. sound waves rel. to fluctuations in radio fluxes from small areas of disc sound waves rel. to fluctuations in radio fluxes from small areas of Sun's disc 1−4864
Trichel pulse, in low-pressure CO_2, one-dimens. simulation method 1−20011
V-shaped flashover voltage characts. in needle to plane electrode using discharge model 1−15732
Al corrosion in air, electrochemical interaction between electrical coronas and metal surfaces obs. 1−21651
CO_2 compact high-pressure laser, excitation with surface corona stabilised glow discharge 1−41736
CO_2-air coronas, spectroscopic anal. of cylindrical regions of space charge 1−20018
O_3 concentration in negative corona discharge, iodometric determ. 1−52001
S, orthorhombic, dark decay of positive surface pot. 1−52629
SF_6 and SF_6-N_2 mixtures, negative point breakdown and prebreakdown corona process 1−11624
SF_6, compressed, negative corona thresholds in space charge fields, mathematical model 1−11626
SF_6 corona inception conditions, influence of electrode characts. 1−11628

corona continued
SF_6, impulse breakdown and prebreakdown corona processes 1−7027
SF_6, mobility of ions, gaseous discharges characts. 1−11625
SF_6, positive and negative DC corona, partial-discharge pulse height distrib. and freq. 1−20005
SF_6, trace decomp. prod. effects, point-plane positive DC corona 1−38180
SF_6-N_2 mixtures, flashover studies using direct applied voltages 1−19997
SF_6-N_2 mixtures, impulse breakdown and prebreakdown corona processes 1−7027
SF_6-N_2 mixtures, positive and negative DC corona, partial-discharge pulse height distrib. and freq. 1−20005
coronagraphs
see also solar corona
Lyot coronagraph for outer white light corona space obs. *(Russian)* 1−4766
corpuscular streams *see cosmic rays; solar wind*
correlation methods
see also correlators
asymmetric resonant systems, narrow-band fluctuation Gaussian noise correlation function *(Russian)* 1−23114
BWR fuel channel inlet flow rate, noise analysis estimation 1−740
BWR plant, neutron flux fluctuations, local steam transit time determ. using correlation methods 1−45721
cosmic radio background fluctuations, search for antipodal correls. rel. to ghost images in Universe 1−32778
cosmic ray intensity fluctuations during Forbush decreases, correlational and spectral anal. 1−36136
cross correlation flowmeters, principles and design 1−29802
fracture scanning images evaluation, by opt. struct. computer anal., for steel 1−48604
galaxies, n-point correl. functions rel. to large scale clustering in Universe 1−9692
galaxies positions, correls. rel. to large scale systems physical props. 1−9695
ionosphere drifts data analysis, efficient method using full correl. anal. 1−27300
IR spectral imaging with Michelson interferometer 1−24512
laser anemometry by photon correlation with simply periodic gated sampling 1−42112
laser flow meas. optical systems and signal analysis methods 1−42111
laser picosecond pulse CW autocorrelation meas. 1−1607
moisture meas. dual-frequency method accuracy and sensitivity 1−27994
optical information correlation processing with twin-wave interferometer 1−19280
photoelectric registration of stellar transits, cross-correlation appl. 1−4775
SAW acousto-optical signal processing possibilities and limitations 1−24362
sodium boiling detection, acoustic-neutron noise correl. 1−23802
speckle correlation variation in hologram interferometry to distinguish rigid body rotations 1−41621
speed meas., crosscorrelation method appl., using ITV camera 1−242
stellar rotation determ. for late spectral type stars, photoelectric cross-correl. method 1−36191
true RMS voltage determ., economical methods 1−28022
two phase flow velocities meas. using image correlation 1−51891
US beam profiling using correlation systems 1−37750
correlation theory
see also correlators; information theory
atmosphere pressure field remote sensing, spatial error correl. rel. to information content *(Russian)* 1−9276
digital correlator, three level, for radio astronomy, true correl. anal. 1−9376
discrete particle laser Doppler anemometry data processing 1−29815
noise correlation functions for anisotropic noise fields 1−37712
optical Doppler turbulent-velocity meas. device, correlation function of photocurrent 1−46831
pressure and pressure gradient sensor pairs for linear acoustic arrays, anal. of cross correlation 1−29468
vibrating bodies, linear, elastic, means and autocorrelations 1−1859
correlators
see also correlation methods; correlation theory; information theory
autocorrelator, holographic, using controllable magnetooptic transparency 1−41645
coherent intensity correlator 1−6496
digital full-autocorrelator for photoelec. pulses 1−45019
digital product transition correlator 1−23207
dynamic joint-Fourier-transform correlator by Bragg diffr. in photorefractive $Bi_{12}SiO_{20}$ 1−51384
holographic word recognition 1−6523
lensless matched spatial filter correlator experiments 1−6637
lensless matched spatial filter wavelength-scaling correlator with holographic elements 1−6638
multichannel time correlator for atomic collision expts. 1−41284
narrow band correlators based on heterodyne filters 1−19958
optical correlator based on correlated random partial diffusers 1−1501
optical correlator using partial diffusers 1−6489
optical correlator using spatially and temporally incoherent light 1−51401
real time spectral analysis of radioastronomy signals, digital correlator arithmetic section 1−9385
real-time optical correlation with solid-state sources 1−51395
scanning optical correlator 1−37428
time-integrating acousto-optic correlator for decimal/residue conversion 1−46240
wedge interference filters as dispersive elements of spectral instrums. 1−1682
correspondence principle
H-like nlm states, asymptotic props., correspondence principle appls. 1−6125
corrosion
see also corrosion protection; corrosion testing; electrochemistry; stress corrosion cracking; surface chemistry
AGR, Hinkley Point B, graphite corrosion, coolant chemistry, carbon deposition 1−10442
alkali silicate glasses, ion irradiated, water vapour action 1−8461
alloy mixed surface, surface inhomogeneity determ. using scanning probe impedance technique 1−26652
alloys, corrosion resistance in high temp. and conc. H_2SO_4 1−39546
bronze-Al, type D (CDA-614), laser surface melted, enhanced corrosion resistance 1−31724
ceramic, interaction with liquid Na 1−16935
corrosion continued
coating degradation microstruct., correlation with test and use conditions 1−30595
differential reflectometry, optical technique for corrosion phenomena study 1−14170
double-layer activation for the detection of non-uniform wear of corrosion 1−39702
eddy current detection of corrosion damage in heat exchanger tubes 1−8522
electrochemical theory, achievements 1−39502
epoxy resin and adhesive, physical mechanism for deterioration in props., mech. and chem. attack 1−43566
fatigue corrosion, lecture *(Japanese)* 1−1
fibre reinforced epoxy resin, physical mechanism for deterioration in props., mech. and chem. attack 1−43566
fibre reinforced plastic laminates, US data dispersion as meas. of hygrothermal effects 1−35455
fission reactor materials, metallurgical aspects *(Spanish)* 1−761
four point method, for corrosion rate determ. 1−43548
geothermal systems, corrosion and materials selection for energy recovery facilities 1−53551
glass, bioresistance, chem. stability 1−17051
glass, chemical stability of glass and glass-ceramics for radioactive waste encapsulation 1−43562
glass, electrochemically coloured, chem. stability 1−12901
glass, leaching and corrision by water, model, radwaste appl. 1−31700
glass, simulated nuclear waste, immersed in water, kinetics of surface-layer formation 1−26643
glass, surface and solution analytical techniques 1−16930
glass, surface problems, SIMS appl. 1−3550
glass surface, reactions with aq. solns., SIMS study 1−31701
glass weathering resistance for solar appls. 1−12909
Hastelloy G, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
Hastelloy X, corrosion behaviour in high temp. H_2+CO+CO_2 gas mixture 1−48585
Hastelloy-X, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
Haynes alloy no.20, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
heliostat mirror degradation characterisation 1−12912
heliostat mirror degradation inhibition during wet process manufacture 1−12914
heliostat mirrors, second surface Ag, surface studies of corrosion 1−12911
impedance measurement of corrosion rates 1−12896
Incoloy 600 (800), corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
Incoloy 800, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
Incoloy 800, differential composition profiles of passive films 1−17120
Incoloy 800, high temp. sulfidation, corrosion resist. 1−43611
Incoloy 825, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
Inconel 600, differential composition profiles of passive films 1−17120
Inconel 600, high temp. sulfidation, corrosion resist. 1−43611
Inconel 600, surface inhomogeneity determ. using scanning probe impedance technique 1−26652
Inconel 617, corrosion behaviour in H_2 base gas mixture 1−16971
Inconel 617, corrosion behaviour in high temp. H_2+CO+CO_2 gas mixture 1−48585
Inconel 617, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
Inconel 617, secondary ion mass spectrometry for carburisation study 1−17140
localized, treatment *(Japanese)* 1−53342
metal hydrides, electronic struct., bonding and chemisorpt. for H_2 storage appls. 1−2807
metallic glasses, corrosion resistance 1−43615
metallic glasses, form., mech. and mag. props., appls. 1−35228
metallised polymer solar reflectors, abrasion resistance, solar reflectance, weatherability and dust accumulation 1−13098
metals, alloys and semiconductors, oxidation, conf., Poitiers, France (June 1980) 1−44694
metals and alloys, corrosion, aqueous, ion implantation effect 1−21649
metals and alloys, dry corrosion kinetics, matter transfer *(French)* 1−48575
metals in solution, computerised corrosion rate monitoring method 1−8468
mirror degradation, characterisation using AES, ESCA and SIMS 1−11065
Monel-400 boiler tube from CANDU reactor corrosion products props. 1−23773
pearlitic steel, use in BWRs, corrosion resistance 1−28598
phosphate esters, frictional characteristics 1−26633
polycarbonate films, effect of corrosive agents and temp. on physiomech. props. 1−26646
potential variation around a pit 1−16949
power stations, thermal, corrosion types and protection techniques and coatings 1−39519
precious metal contact members, unevenness influence on corrosion *(German)* 1−31746
rare earth cpd., $R_xHF_{1-x}O_2$, MHD generator appl. 1−26842
rate and Tafel consts., simultaneous determ., new method 1−48599
RBMK-1000, water plant chem. anal., corrosion activity 1−28597
reactor fuel rod, Na austenitic corrosion model appl. 1−3980
refractories, coal ash slag attack 1−3944
refractory alloy, chromatically contrasted, metallographic exam. after corrosion and creep tests *(German)* 1−48639
refractory crucibles, interaction with Zn sinter-melt 1−12907
refractory MHD materials, alkali corrosion and vaporisation 1−43559
Sialon, interaction with molten Si 1−3951
silicate glass network, pH depend. and electrochemical interpretation of dissolution rate 1−21609
silicate glass surfaces, durability and corrosion 1−31697
silicates, reactivity with NaOH soln. 1−53310
solar mirror degradation, Ag-glass interface deterioration in second surface mirrors 1−13094
solar mirror degradation, progressive changes in microstruct. and comp. 1−13096
solar mirror degradation due to corrosion, study using SEM, electron microprobe, AES and X-ray photoelectron spectroscopy 1−21847

corrosion continued
solar mirrors, corrosion resistance and electrochem. eval. 1−12913
solar mirrors, polymer coated for corrosion resistance, reactions at Ag/polymer interface 1−12931
solar second surface mirrors, natural aging of soda-lime-silicate glass in a semi-arid environment 1−12908
stainless steels Kh18N10T and steel 20, corrosion rate, rel. to surface treatment 1−28602
steel: stainless 304L, single phase and duplex, temp. effect (25-289°C) on pit initiation in 100 ppm Cl^- soln. 1−16947
steel, abrasive wear rate, corrosive medium effect 1−31753
steel, anodic solution in electrolyte containing an oxidant, Mn content influence *(Russian)* 1−43588
steel, atmospheric corrosion, weight loss and electrochem. meas. 1−43567
steel, austenitic, stainless, corrosion by V_2O_5, 700-1100°C *(Korean)* 1−12927
steel, austenitic stainless, acidification in crevices, effect on H_2 evolution 1−53336
steel, austenitic stainless, corroded heating coil of dyeing apparatus, role of design *(German)* 1−8488
steel, austenitic stainless, corrosion fatigue behaviour in H_2SO_4/NaCl media, effect of metallurgical variables 1−39411
steel, austenitic stainless, corrosion in liquid Na loops, anal. diffusion model 1−8485
steel, austenitic stainless, inhibition effect of 4,7-diphenyl-1,10-phenanthroline spectro-electrochem. studies 1−48557
steel, austenitic stainless, intercrystalline corrosion, dislocation distrib. effect., in 08Kh18N10T *(Russian)* 1−3963
steel, austenitic stainless, intergranular corrosion mechanism in oxidising acids 1−26673
steel, austenitic stainless, sensitisation and corrosion susceptibility, effects of deform. induced martensite 1−43605
steel, austenitic stainless, SUS 304, corrosion behaviour in high temp. $H_2+CO+CO_2$ gas mixture 1−48585
steel, austenitic type 304, high-temp. water effect, oxide formation 1−8470
steel, austenitic-peritic duplex AF 22, corrosion in chloride and sulphide containing environments 1−43580
steel, autstenitic stainless, Cr-Ni-Mo (AM-350), corrosion behaviour in LWR coolant 1−48582
steel, C, corrosion and magnetite growth in water at 310°C 1−26658
steel, C, corrosion behaviour in high temp. $H_2+CO+CO_2$ gas mixture 1−48585
steel, C, type SAE 1010, corrosion and deposition during H_2S-water soln. exposure 1−16951
steel, C and stainless, gamma radiation effect on corrosion products in high temp. water 1−780
steel, chemical surface characterisation by SIMS, GDOS, DIMS and XPS 1−31953
steel, corrosion product removal from fracture surfaces for metallographic exam. 1−31779
steel, corrosion resistance and stationary potential, nonmetallic inclusions effect 1−3990
steel, Cr, high temp. corrosion *(Czech)* 1−12928
steel, crevice corrosion and corrosion cracking, conditions similarity 1−35444
steel, ferritic and austenoferritic, mechanisms and kinetics of corrosion by S at high temps. *(French)* 1−35428
steel, interdendritic segregation, effect of C content, solidification and corrosion *(French)* 1−31452
steel, low alloy, fatigue crack growth, influence of environment and stress ratio 1−26585
steel, martensitic, corrosion-resist., operation at temps. up to 650°C 1−16886
steel, martensitic stainless, heat treatment influence on struct., mech. props. and corrosion in aq. media *(French)* 1−48393
steel, medium C martensitic, fatigue crack nucleation, role of cyclic wear 1−12876
steel, mild, behaviour in Egyptian soil, effect of differential aeration 1−39506
steel, mild, behaviour in Egyptian soil, effect of resist., water content and temp. differentials 1−39507
steel, mild, corrosion by mixture of elemental S and water 1−4006
steel, mild, corrosion in kraft white liquor, potentiostatic polarization, S addition effect 1−31721
steel, mild, corrosion layer investigation by direct imaging mass spectrometer 1−31766
steel, mild, effect of alloy element additions on pitting corrosion 1−16955
steel, mild, effects of SO_2, NO_3 and ferric ions on corrosion in conc. H_2SO_4 1−8476
steel, mild, temp. effect on pitting corrosion in de-aerated $NaHCo_3$-Cl solns. 1−16941
steel, N-Cr-Mn, containing ferrite, precipitation and corrosion after isothermal annealing 1−53185
steel, Ni-Cr, high temp. corrosion *(Czech)* 1−12928
steel, plain C, high temp. sulfidation, corrosion resist. 1−43611
steel, pore growth speed during H_2 corrosion *(Russian)* 1−48568
steel, stainless, 06KhN28MDT corrosion resistance, simulated welding thermal cycle effects 1−35453
steel, stainless, 20 Cb-3, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
steel, stainless, 300, pit initiation, sulphide inclusion morphology effect 1−26659
steel, stainless, 304, S and P effects in intergranular corrosion 1−39516
steel, stainless, 304, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
steel, stainless, atmospheric pitting, role of non-metallic inclusions 1−39504
steel, stainless, composite, localized corrosion and treatment *(Japanese)* 1−53342
steel, stainless, corrosion, high-temp., in NH_3 gas 1−35445
steel, stainless, corrosion in sea water, new technique for predicting performance 1−12921
steel, stainless, corrosion resistance eval., localised *(Japanese)* 1−48573
steel, stainless, corrosion-mechanical wear in KOH solutions 1−35397
steel, stainless, Cr-Ni-Nb, corrosion resistance in nitric acid soln. in presence of Cr^{6+} and Fe^{3+} ions 1−48584
steel, stainless, Ferralium 255, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
steel, stainless, structure and properties, N effect 1−48433
steel, stainless, surface oxides, Raman backscatt. spectroscopic studies 1−31159
steel, stainless 304, surface inhomogeneity determ. using scanning probe impedance technique 1−26652
steel, stainless 304 and 316, high temp. sulfidation, corrosion resist. 1−43611
steel, stainless 316, critical pitting potential in sulphuric acid containing Cl^- ions 1−31728
steel, tool, interaction with perfluoroalkylether fluid with additive during oxidation-corrosion testing 1−43573
steel bars in reinforced concrete, corrosion studied by electrochemical impedance meas. *(French)* 1−39508
steel electrode, corrosion in organic acid soln. 1−48560
steel reinforcements in carbonated concrete, corrosion intensity 1−39479
steel tube, HK40, physical and chem. study of carbonaceous deposit and corrosion 1−39528
steels, boiler, in synthetic flue gas, influence of HCl on corrosion 1−16957
steels, weathering, characterisation of atmospheric corrosion products 1−16954
Tafel slope determ. of corrosion reaction by coulostatic method 1−48600
ternary alloy electrodeposition, developments (1972-1978) 1−8247
thermal barrier coatings for industrial and utility appl., corrosion resistance 1−31708
thermal electric generating station heat transport systems, corrosion and corrosion product movement and fouling mechanisms 1−26682
Zircaloy, effect of dispersion and spheroidization treatment of δ-ZrH_2 on creep and corrosion resistance 1−5848
Ag-Au alloy, corrosion pitting and tunnelling, surface recrystn. model 1−43608
Ag-glass interfaces of solar mirrors, Auger anal. of diffusion 1−12910
Al alloy, heat resistant type AAA 2618, pitting tendency, microstruct. effect 1−48563
Al alloy 5052, corrosion, effect of variations in seawater 1−31727
Al alloys, crevice corrosion and corrosion cracking, conditions similarity 1−35444
Al, corrosion, chem. nature, dissolution mechanism of Al_2O_3 and Al powder in various electrolytes 1−35420
Al, electrochemical interaction between electrical coronas and metal surfaces obs. 1−21651
Al, laser-modified surface, electrochem. and corrosion behaviour 1−21650
Al passive film breakdown in H_3BO_3-$Na_2B_4O_7$ by detection and anal. of electrochem. noise 1−39531
Al, pitting corrosion in electrolytes, evolved gas anal. 1−35418
Al, precursive blistering and localized corrosion 1−43581
Al, pure, sea water CO_2 system effect on corrosion 1−39510
Al, reaction with AgI 1−48564
Al-Cu, 3003 alloy, pitting corrosion in aq. glycol solns., charact. and relevance to solar thermal collector systems 1−39517
Al-Mg, type 5052, sea water CO_2 system effect on corrosion 1−39510
Al-Mg alloy, in H_3PO_4, aminophenols as corrosion inhibitors 1−31713
Al-Mg-Zn, cast, comp. optimisation 1−3849
Al_2O_3 refractory, high temp. corrosion resistance to lignite ash slags 1−3960
Al_2O_3-ZrO_2-SiO_2 glass, alkaline durability and struct. determ. 1−31699
B_2O_3-SiO_2 glass, weathering with and without antireflection films, effect on transmittance 1−53309
C filled polyethylene cathode/metallic anode galvanic cell, O_2, pH, salt conc. effects 1−26671
CaO-Al_2O_3-SiO_2 glasses, reactivity with NaOH soln. 1−53310
CaO-Al_2O_3-SiO_2-(Na_2O), corrosion by H_3PO_4 1−53308
1.8CaO.SiO_2/(M-Cr-Al-Y) thermal barrier coating (M=Ni, Co), hot corrosion behaviour 1−31710
n-CdTe, photoelectrochemical props., photocorrosion reaction 1−17074
Co, corrosion in mixed gas environments at elevated temps. 1−3981
Co, electrochemical behaviour in bicarbonate and borate electrolytes 1−48553
Co, high-temp. corrosion in SO_2 1−43571
Co-Cr, corrosion, Na_2SO_4 induced at 600 to 900°C 1−21632
Co-Cr-Al coating, hot corrosion resistance, effect of modification by active elements 1−31761
Co-Cr-Al-Hf(-Pt) second generation turbine airfoil coatings in marine service 1−30596
Co-Cr-Al-Y(-Ni)(-Si) superalloy overlay coating, hot-corrosion-resistant, for gas turbine engines 1−31760
Co-Cr-P, amorphous, corrosion props. rel. to alloy comp. 1−35427
Co-Cr-TaC (10, 14 wt.%), hot corrosion and oxidation 1−31747
Co-Cr-(Al), corrosion in mixed gas environments at elevated temps. 1−3981
Co-Ni-Cr-W superalloys coated with Co-Ni-Cr-Al-Y, mech. props. and environmental resistance 1−31762
$CoAl_2O_4$, solubility in molten Na_2SO_4 at 1200K 1−20386
Co_3O_4, solubility in molten Na_2SO_4 at 1200K 1−20386
Cr-Al_2O_3 refractory, fusion cast, glass redox condition effect on corrosion. 1−31691
Cu, corrosion in perchloric acid, effect of thiocyanate ions 1−16978
Cu, corrosion products, differential reflectometry study 1−16940
Cu electrodes, impedance studies of benzotriazole inhibitive effect on corrosion in NaCl medium 1−43569
Cu in $(Cu(NH_3))SO_4$, influence of NH_3 conc., temp. and substitution of sulphates by carbonates 1−48556
Cu, practical experience rel. to basic data 1−12918
Cu/steel galvanic couple, atmospheric corrosion, weight loss and electrochem. meas. 1−43567
Cu/Zn galvanic couple, atmospheric corrosion, weight loss and electrochem. meas. 1−43567
Cu-Al-Sn, laser surface melted, enhanced corrosion resistance, elemental nonuniformities 1−43610
Cu-Au alloy, corrosion pitting and tunnelling, surface recrystn. model 1−43608
Cu-Mn, corrosion, dealloying, in NaCl 1−21629
Cu-Ni-Fe alloy, corrosion mech. in air saturated aqueous NaCl soln. 1−16965
Cu-Ni-Fe alloy, corrosion mech. in air saturated aqueous NaCl soln., protective surface, layer composition 1−16966
Cu-Ni-Sn, laser surface melted, enhanced corrosion resistance, elemental nonuniformities 1−43610
Fe alloys, corrosion in high press. and temp. water *(Japanese)* 1−48574
Fe alloys, ternary and binary, S vapour corrosion at elev. temps *(French)* 1−31745

corrosion continued
Fe, Armco, crevice corrosion and corrosion cracking, conditions similarity 1−35444
Fe, atmospheric rust, self-protection mechanism 1−21633
Fe, cast, MgS as cause of higher corrodibility of nodular type rel. to grey type 1−43572
Fe, cast, reductive dissoln. of γ-FeOOH in corrosion scales in near-neutral waters 1−43568
Fe, corrosion and passivation, bicarbonate effects 1−31726
Fe, corrosion by mixture of elemental S and water 1−4006
Fe, corrosion in HCl, inhibition by iodide and quinoline 1−26660
Fe, corrosion in mixed gas environments at elevated temps. 1−3981
Fe, electrochemical and corrosion behaviour in acetonitrile soln. 1−48561
Fe, passive, pit formation in cathodic polarisation, dissoln. of passive film and pit initiation 1−39514
Fe, rust film, amorphous, short range struct., electron diffr. study 1−31739
Fe, salt-induced corrosion behaviour 1−16942
Fe-Al, corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
Fe-base alloys, corrosion behaviour, in high temp. $H_2+CO+CO_2$ gas mixture 1−48585
Fe-Cr (13(18) wt.%), Na_2SO_4-coatings effect on oxidation and corrosion behaviour 1−16943
Fe-Cr (5 wt.%), salt-induced corrosion behaviour 1−16942
Fe-Cr (9 wt.%), corrosion mechanism in CO_2 1−35432
Fe-Cr alloys, electrochemical corrosion in ultra-high purity conditions 1−39541
Fe-Cr-Al, corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
Fe-Cr-Mo-B amorphous alloy, anodic behaviour in HCl, Mo effects 1−21628
Fe-Cr-Ni passive film breakdown in H_2SO_4 by detection and anal. of electrochem. noise 1−39531
Fe-Cr-P-C, amorphous, corrosion props. rel. to alloy comp. 1−35427
Fe-Cr-(Al), corrosion in mixed gas environments at elevated temps. 1−3981
Fe-Cr(Ni), ion implanted, electrochemical corrosion 1−4007
Fe-Cu, atmospheric rust, self-protection mechanism 1−21633
Fe-Ni-B alloys, amorphous, corrosion behaviour 1−21637
Fe-Ni-Cr, surface oxides, Raman backscatt. spectroscopic studies 1−31159
Fe-Ni-Cr-P-B glassy alloys, crevice corrosion 1−16956
Fe-Ni-Cr-V-P-B glassy alloys, sputtering prep., corrosion behaviour 1−16969
Fe-P-C, amorphous, corrosion behaviour, additive metallic components effects 1−35425
Fe-Si, corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
$Fe_{60}Cr_{10}Ni_{10}P_{13}C_7$, amorphous, corrosion behaviour 1−21637
$Fe_{70}Cr_{10}P_{13}C_7$, amorphous, corrosion behaviour 1−21637
$Fe_{70}Cr_{10}P_{13}C_7$, amorphous, corrosion behaviour, crystn. effect 1−35425
$Fe_{0.85}Mn_{0.15}Ti$-H, surface poisoning by O_2, CO and H_2O 1−2806
$Fe_{20}Ni_{60}B_{20}$, amorphous, corrosion behaviour 1−21637
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, corrosion behaviour, crystn. effect 1−35425
FeTi-H, surface poisoning by O_2, CO and H_2O 1−2806
GaAs liquid junction solar cells, suppression of electrode photocorrosion by sulphonated anthraquinones 1−32019
$LaNi_5$-H, surface poisoning by O_2, CO and H_2O 1−2806
Mn-Cu alloys, plasticity, corrosion-resistance tempering kinetics, Ni, Cu, Al alloying effect *(Russian)* 1−21489
Mo alloy VM-1, corrosion, high-temp., in NH_3 gas 1−35445
Mo, corrosion resistance mechanism 1−53347
n-$MoSe_2$ photoelectrochem. compatibility with redox electrolytes 1−4208
Na/S cells, container corrosion, in situ evaluation 1−48818
Na-S cells, resistance rise 1−21871
Na_2O-CaO glass, weathering effect on transmittance 1−53309
Na_2O-CaO-SiO_2 glass for solar mirrors, natural aging in semi-arid environment 1−12908
Na_2O-CaO-SiO_2 glass bottle, containing alcoholic-soln., solid products formation *(Japanese)* 1−21618
Nb alloy 5VMTs, deep gas corrosion, principles of simulating 1−31754
Nb, corrosion behaviour in HCl solns. 1−53338
Nb in aq. electrolytes under open-circuit conditions, electrochem. behaviour of thin oxide films formed on surface 1−26650
Ni alloy, heat and corrosion resistance depend. on thermal treatment of type EP958VD alloy *(Russian)* 1−16963
Ni alloy KhN56VMTYu, corrosion, high-temp., in NH_3 gas 1−35445
Ni alloys, corrosion in high press. and temp. water *(Japanese)* 1−48574
Ni, corrosion in acid media in presence of stable or reducible anions *(French)* 1−26651
Ni, corrosion in mixed gas environments at elevated temps. 1−3981
Ni, corrosion resistance mechanism 1−53347
Ni, preoxidised, coated with Na_2SO_4, hot corrosion behaviour *(Korean)* 1−12926
Ni-base superalloys, B-1900, NASA-TRW VIA, 713C, and IN-738, ESCA study of hot corrosion and oxidation 1−3982
Ni-Cr, corrosion, Na_2SO_4 induced at 600 to 900°C 1−21632
Ni-Cr alloy tubes, acidification in crevices, effect on H_2 evolution 1−53336
Ni-Cr-P-B, amorphous, corrosion props. rel. to alloy comp. 1−35427
Ni-Cr-(Al), corrosion in mixed gas environments at elevated temps. 1−3981
Ni-Fe, corrosion in transpassive region, alloy comp. and medium acidity influence *(French)* 1−48577
Ni-Mo, corrosion resistance mechanism 1−53347
Ni-Mo base alloy, precipitation of NiMo, effect on tensile and corrosion props. 1−12747
Ni-Mo-Fe (29, 4 wt.%), high temp. corrosion in mixed HCl-H_2O vapour atm. 1−12919
Ni-Nb (10 to 98 wt.%), corrosion in KOH soln. 1−31729
Ni-P, corrosion-mechanical wear in KOH solutions 1−35397
$NiAl_2O_4$, solubility in molten Na_2SO_4 at 1200K 1−20386
$Ni_xFe_{3-x}O_4$, solubility in in aqueous boric acid soln., PWR coolant system during operation and cooldown 1−52299
NiO, solubility in molten Na_2SO_4 at 1200K 1−20386
Pb surface, aqueous corrosion film, Raman and IR spectra study 1−21187
Pb-acid battery positive plates, influence of PbO_2 active mass on corrosion rate of spines 1−53575
corrosion continued
PbO aq. corrosion films in 0.1 M chloride solns., IR and Raman spectra 1−8146
PbO_2 on Ti composite anodes, corrosion rates during electrolysis 1−39478
Pt tubes, acidification in crevices, effect on H_2 evolution 1−53336
Si_3N_4 based material, resist. to corrosion by acid and alkali solns. 1−35413
SnO_2, corrosion, by fused borax, effect of electric field 1−8463
Sr-Sn-Al-Pb alloy, corrosion in H_2SO_4 1−21627
Ta alloy TV10, deep gas corrosion, principles of simulating 1−31754
Ti coating modification by scanned electron and laser beams 1−20268
Ti-(Pd), corrosion in electroplating, Pd effect *(German)* 1−43596
Ti-Al alloys, gas-abrasive wear resist. of AT3 and AT6 alloys 1−16900
Ti-Al-V (6, 4 wt.%), fretting fatigue, environmental effects 1−26626
TiC-Cr steel composites, sintered, corrosion resist. 1−39495
U corrosion mechanism investigation using stable isotopes with ion microprobes 1−31765
U-Pu oxide fast reactor fuel pins, fuel-cladding chem. interaction 1−35422
W, electrochem. behaviour, formation and dissoln. of WO_2 in H_2SO_4 solns. 1−43570
WC, corrosion in H_2SO_4, catalytic activity changes 1−8459
WC, corrosion resistance in H_2SO_4 1−8458
WC-Co, (6 wt.%), cemented alloy, anodic behaviour in H_3PO_4 solns. 1−21630
n-WSe_2, photoelectrochem. compatibility with redox electrolytes 1−4208
Y_2O_3-ZrO_2 thermal barrier coating, resistance to hot salt corrosion 1−31709
Zn, atmospheric corrosion, weight loss and electrochem. meas. 1−43567
Zn in corrosion in KOH solution, effects of additives 1−53320
Zr-transition metal alloys, corrosion resist., binary microalloying additions influence 1−3997
ZrO_2 fusion cast refractory, corrosion by glasses 1−31692
ZrO_2-Y_2O_3/(M-Cr-Al-Y) thermal barrier coating (M=Ni, Co), hot corrosion behaviour 1−31710

corrosion control *see corrosion protection*

corrosion fatigue *see stress corrosion cracking*

corrosion fatique testing *see corrosion testing*

corrosion prevention *see corrosion protection*

corrosion protection
see also anodisation; corrosion; corrosion protective coatings; packaging
cathodic-protection system design for corrosion control in complex metallic structures 1−12924
dinonylnaphthalenesulfonate, corrosion inhibitor, mechanism, heats of adsorpt. 1−39673
fission reactors, water treatment, corrosion prevention, R and D, review 1−28528
forged high-press. vessels, materials used for construction 1−28009
heliostat mirrors, reflector edge seal development for corrosion protection 1−13103
medieval glass, corrosion retardation by glow discharge film 1−53313
metal surface protective plastic power coating in electrostatic field *(Rumanian)* 1−31731
metallic cation, corrosion inhibition and passivation 1−16953
metallopolymer coatings, cathodic deposition 1−17063
power cables, SF_6 compressed gas-insulated, Al alloy sheaths corrosion protection and protective coatings *(French)* 1−31714
power stations, thermal, corrosion types and protection techniques and coatings 1−39519
silica glass, alkaline soln. attack, inhibition by alkaline earth ions, expt. 1−31698
steel, corrosion and protection in saturated $Ca(OH)_2$ contaminated with NaCl 1−53335
steel, mild, amine oleate based inhibitors in temporary protective coatings, chem. study 1−39513
steel, mild, corrosion control in crude oil distillation 1−53332
steel, mild, corrosion inhibition in H_2SO_4 by thiourea and derivatives 1−39515
steel piles, corrosion protection in marine environment 1−35416
Al, by Zn in aq. glycol soln. 1−43576
Al, pitting corrosion inhibition, repassivation process function 1−16948
Al-Mg alloy, in H_3PO_4, aminophenols as corrosion inhibitors 1−31713
Cl corrosion prevention in terminal vias prior to ball limiting metallurgy 1−26641
Cu, 1:2:4-triazole corrosion inhibitor eval. 1−16950
Cu, corrosion in perchloric acid, effect of thiocyanate ions 1−16978
Cu electrodes, impedance studies of benzotriazole inhibitive effect on corrosion in NaCl medium 1−43569
Fe and steel, acid corrosion inhibition by n-alkylquaternary ammonium cpds., effect of ammonium group 1−39505
Fe, atmospheric rust, self-protection mechanism 1−21633
Fe-Cr(Ni), ion implanted, conc. profiles and electrochem. props. *(Japanese)* 1−42411
Fe-Cu, atmospheric rust, self-protection mechanism 1−21633
$FeSO_4$ passivation procedure for brass condenser pipes in power stations *(Rumanian)* 1−16961
LiCl inhibitors, boiling tests on steel and Cu samples *(Japanese)* 1−3984
Ti-(Pd), corrosion in electroplating, Pd effect *(German)* 1−43596

corrosion protective coatings
ceramic thermal-barrier coating, corrosion-resistant, for gas-turbine engine air-cooled components 1−39530
CVD coatings, corrosion and wear resistant, exploitation 1−53365
flame sprayed coatings of metal and ceramic, techniques 1−3948
galvanised Al, corrosion under wet storage conditions 1−12922
galvanised Fe, corrosion under wet storage conditions 1−12922
laquer powder coatings, quality assessment *(German)* 1−16927
metal, epoxide-polyamide coated, elec. props. on local scale relationship to corrosion 1−31722
metal coatings, sprayed, laser glazing 1−43597
metallurgical coatings, wear and corrosion performance in Na 1−21598
passive films, on ferritic steel, spectrochem. anal. 1−43721
plasma surface coating, hard material powders and hard alloy powders 1−21617
plasma-polymerized coating, corrosion protection 1−16979
poly-paraxylylene film oxidation resistance improvement 1−12904
polymer layer, protective, on electrodeposited selectively absorbing surface in solar collector 1−35230
polymeric conformal coatings for implantable electronic devices 1−22162
power cables, SF_6 compressed gas-insulated, Al alloy sheaths corrosion protection and protective coatings *(French)* 1−31714

corrosion protective coatings continued
power stations, thermal, corrosion types and protection techniques and coatings 1—39519
refractory alloy, mech. stresses during isothermal and cyclic oxidation, addition effect on oxide scale adherence 1—48562
solar mirrors, polymer coated for corrosion resistance, reactions at Ag/polymer interface 1—12931
steel, Al coated, burner and heat exchanger material durability evaluation, of warm air heater *(Japanese)* 1—53381
steel, C, alloying additions, effect on reaction with liq. Zn *(Japanese)* 1—3971
steel, C, carbochromized and chromosiliconised, electrochem. and anticorrosion props. 1—26678
steel, C, heat-treatment, effect on reaction with liq. Zn *(Japanese)* 1—3972
steel, Cr, type X20Cr13, corrosion fatigue, surface layer formation effect at 200°C *(German)* 1—53329
steel, mild, corrosion inhibition by oleates of various amines in temporary protective coatings 1—31723
steel, mild, passivity breakdown in sea water in presence of sulphate reducing bacteria 1—53337
steel, rolled products, oxidation rate and ductility of 15A, stripcoat influence 1—53355
steel, Si, galvanised coating development, mechanism, interface energy effect 1—12932
steel, stainless, corrosion protection by thermal oxide coating 1—35437
steel, stainless, corrosion protection in liquid Li, by Mo, Mo-Ti and Al diffusion coating 1—35438
steel piles, corrosion protection in marine environment 1—35416
Al, diffusion, on stainless steel and Ni alloy 1—35438
Al flame-sprayed active coatings, cavitation behaviour 1—21646
Al passive film breakdown in H_3BO_3-$Na_2B_4O_7$ by detection and anal. of electrochem. noise 1—39531
Al-Zn coatings on steel, corrosion protection 1—12934
γ-Al_2O_3 anodic coatings on Al-Mg alloys, protection against stress corrosion cracking in saline water 1—12923
C films coated on prosthetic devices, gaseous flow through 1—17099
Co, anodic films formed in bicarbonate and borate electrolytes, AES anal. 1—48554
Co-Cr-Al, Co-Cr-Al coating, doped, Al_2O_3 scale morphology 1—31756
Co-Cr-Al-Y(-Ni)(-Si) superalloy overlay coating, hot-corrosion-resistant, for gas turbine engines 1—31760
Co-Ni-Cr-Al-Y reaction-sintered coating on Co-Ni-Cr-W, mech. props. and environmental resistance 1—31762
Cr, coating on steel, thick-layer, fretting corrosion resist. 1—31752
Cu sulphurisation prevention in transformer insulating oil, anticorrosion coating props. *(Japanese)* 1—21622
Fe oxide films, deposited on Au substrate, open circuit behaviour 1—53311
Fe-Cr-Ni passive film breakdown in H_2SO_4 by detection and anal. of electrochem. noise 1—39531
Mo and Mo-Ti, diffusion on stainless steel and Ni alloy 1—35438
Mo, CVD on graphite, struct., annealing effects 1—12668
Mo-B-Si coatings on Mo, phase transitions in high temp. oxidation 1—39522
$MoSi_2$/B coatings on Nb and alloys, plasma deposited, oxidation resist. 1—53359
Na_2SO_4 coating on preoxidised Ni, hot corrosion behaviour *(Korean)* 1—12926
Ni alloy EI437B, corrosion protection in liquid Li, by Mo, Mo-Ti and Al diffusion coating 1—35438
Si-Al_2O_3 high temperature coating for superalloys 1—31758
SiC, plasma deposition, film props. meas. 1—43277
SiO_2 based enamel for alloy steel, phase comp. and props. control 1—35415
Sn on C steel, corrosion fatigue, influence of cavitation erosion and effect of surface coatings on resistance 1—39450
Sn tungstate conversion coating, deposition, surface anal. 1—12933
Ta, by low press. plasma spraying 1—21343
Ti, by low press. plasma spraying 1—21343
Ti-Pd, passivation by laser surface alloying 1—35451
TiC coatings on Armco Fe and C steel, appl. and props. 1—8482
W, anodic oxide film. comp., influence of anodising parameters and charging curves 1—48558
W, anodic oxide films, morphology and dissolution, SEM study 1—48559
W, corrosion-resistant shapes fabrication by plasma spraying and activated sintering 1—21644
Y_2O_3-ZrO_2 thermal barrier coating, resistance to hot salt corrosion 1—31709
Zn flame-sprayed active coatings, cavitation behaviour 1—21646
Zn on C steel, corrosion fatigue, influence of cavitation erosion and effect of surface coatings on resistance 1—39450
Zn-Al (15 wt.%) flame-sprayed active coatings, cavitation behaviour 1—21646
$Zn_3(PO_4)_2$ films, Fe^{2+}/Fe^{3+} system in phosphate soln. influence on protective props. 1—48536
$Zn_3(PO_4)_2$ films obtained from solns. containing Zn^{2+}, Fe^{2+}, Fe^{3+}, and Co^{2+}, physicochem. obs. 1—53316

corrosion testing
α-brass, stress corrosion cracking in ammonical $CuSO_4$ soln., use of scratching electrode technique 1—31719
constructional materials, using method of crack stoppage 1—53388
crevice corrosion testing, electrochem. methods 1—31774
four point method, for corrosion rate determ. 1—43548
glass contact refractories, rotating corrosion test 1—53369
hydrogen probe under stress 1—4035
laser microspectrograph, robust portable computerised, Si meas. in reactor mild steel 1—43730
metallic materials, corrosion cracking resistance test method 1—53387
plastic film solar concentrators, exposure testing of plastic films 1—13097
qualitative determ. of pits by X-ray radiography *(German)* 1—31793
steel, austenitic stainless, constructional, corrosion cracking testing 1—53388
steel, austenitic stainless, stress corrosion cracking inhibition, scratching electrode technique 1—31720
steel, constructional, corrosion cracking testing 1—53388
steel, corrosion fatigue crack kinetics test method, aq. media, at increased temps. and pressures 1—35479
steel, ferritic low alloy, stress corrosion cracking susceptibility assessment, comparison of methods 1—31778

corrosion testing continued
steel, stainless, corrosion sensitivity, potentiokinetic reactivation method 1—31717
steel, stainless, crevice corrosion testing, electrochem. methods 1—31774
steel 17, low-cycle fatigue expt. design 1—26706
Ti alloys, constructional, corrosion cracking testing 1—53388

corundum
see also ruby; sapphire
bubble formation in growing crystals 1—15824
ceramics, light transmittance, effect of technological parameters 1—53307
crystal growth, by Verneuil method, thermal process parameters influence on face development 1—31339
dislocation structure in large crysts. 1—20212
doped, spectra and radioluminesc. kinetics, impurities effect 1—3463
electrocorundum, quantitative determ. of β-Al_2O_3 phase *(Polish)* 1—47066
freeze-drying prep., mech. props. 1—48306
mullite-corundum ceramics, prod. by hot pressing, mullite form. 1—12692
profiled crystals, melt growth mechanisms depend. on thermodynamic parameters 1—30107
quenched, violet luminesc. under UV excitation 1—26267
reinforced with filamentary mullite crystals, prod. and props. 1—31406
thermoluminescence properties, dopant and growth method influence, γ-ray detect. appl. 1—26288
transparent ceramic, microstruct. 1—8444
α-Al_2O_3:Pb, impurity location, channelling technique 1—2544
Al_2O_3-CaO-B_2O_3-SiO_2 system, corundum ceramic, B_2O_3 influence on sintering and mech. props. 1—31378
Al_2O_3-SiO_2, mullite-corundum ceramic, hot pressing study 1—12700
Al_2O_3-SiO_2 system with melting of mullite, correctness of phase diagram construct. and melting character 1—42517
Al_2O_3-SrO-TiO_2-SiO_2-B_2O_3 ceramic, thermal shock resist., effect of electrofused corundum additions 1—8416
$2Al_2O_3.SiO_2$-Al_2O_3 mullite-corundum ceramic, heat resist. and strength rel. to fracture surface struct. 1—43476
$MgAl_2O_4 \rightleftarrows Al_2O_3 + MgO$, spinel⇄corundum+periclase, equilib. boundary, calibration curve for press. above 100 kbar 1—21427
Nb-$Al_2O_3(\alpha)$ cermets, supercond., elec. and thermal props. 1—20911

cosmic background radiation
see also radiofrequency cosmic radiation
angular momentum effects on chronometric theory of cosmology 1—27640
anisotropies in microwave and X-ray backgrounds, cosmological models 1—44675
black body shape, constraints on possible distortions 1—54668
brightness anisotropy caused by gravitational lens motion rel. to background *(Russian)* 1—54369
galaxies background light, use as cosmological probe 1—44674
gamma rays at 1-20 MeV distinguishment from vertical atm. component 1—9737
IR background radiation, estimation *(Polish)* 1—32776
optical background radiation, estimate *(Polish)* 1—32776
Planck distribution, effect on Universe models 1—9745
primodial radiation, polarisation and anisotropy in anisotropic universe 1—44677
primordial gravitational-wave spectrum, possible effects of high-energy microprocesses 1—44429
soft X-ray diffuse background origin from plasma in local interstellar medium 1—49755
temperature variation from entropy perturbations in low density universe models 1—54675
UV background, massive neutrino decay evidence 1—17916
UV background erroneously measured from Aries A-8 1—9739
UV diffuse background, review 1—13887
X-ray background, contrib. of active galactic nuclei 1—49859
X-ray background, QSO contrib., UV excess object obs. 1—13878
X-ray background, quasar contribution, implications of X-ray spectrum of (QSO 0241+622) 1—9712

cosmic dust
see also meteoroids
R Aquilae, M-type giant star, IUE obs. rel. to silicate grain form. 1—36282
Barnard 335, dark dust globule, luminosity and dust mass, radio and IR obs. 1—9630
Barnard 35 mol. cloud, heating requirements for dust cooling rates from CO obs. 1—49761
Boomerang Nebula, highly polarised bipolar nebula, equatorial circumstellar disc model 1—9636
in 3C 382, broad-line radio galaxy, hot dust thermal radiation rel. to IR flux vars. 1—40556
charged dust collapse, spherical and plane-symmetric models 1—9896
circumstellar shells producing circular polarisation, appl. to red supergiants 1—22776
circumstellar shells round evolved late type stars, struct., dust grains role 1—36285
S.Coalsack dust complex, H I self-absorption, 21 cm. obs. 1—32735
comet dust halo, gas and dust prod. rate, effect of radiative transfer 1—40422
comet light outburst, gas and dust release, interpretation 1—22726
Comet West (1976 VI), dust grains temp. rel to Na I D-line emission and cometary Na source 1—27419
comet West (1976 VI), striated dust tail, particle fragmentation phenomenon 1—22729
cometary dust collection and analysis during rendezvous mission 1—13658
cometary dust tails, grains electrostatic disruption rel. to origin of striae 1—44496
R Coronae Austrinae dark cloud, polarimetric obs. of grain and mag. field props. 1—54577
CRL 2688, bipolar refl. nebula, model with light scatt. by dust comp. 1—49763
V1668 Cygni (Nova 1978), optically thin dust shell obs. 1—9499
dark cloud complexes structure, determ. from general star counts 1—9620
dark clouds size distrib. used to determine galaxy distance and dust content 1—44648
deep-sea spherules from Pacific clay, fused interplanetary dust model 1—54431
diffuse clouds dust albedo increase in VUV due to H_2 fluoresc. 1—49777
elephant-trunk globules formation in Rosette nebula, evidence from CO obs. 1—9610
Friedmann background of dust, dynamical evolution of spherical inhomogeneous perturbations 1—36436
galaxies, dust content from dark cloud complex distrib. 1—27607

cosmic dust continued
galaxies, dust shrouded, IR sources, luminosity functions 1−49785
GL 2688 (Cygnus Egg Nebula), evidence for dust grains size vars. from spectrophotometric mapping 1−32744
grain motion and destruction in interstellar clouds 1−13831
grains in dense interstellar clouds, contribs. to cloud heating and cooling *(Russian)* 1−49779
grains in reflection nebulae rel. to IR fluxes 1−49745
grains on Orion Nebula and nearby H II regions 1−44615
HD 115473, WR star, circumstellar dust emission, IR photometry and spectra 1−49686
HD 20775, Herbig Be star, IR energy distrib. rel. to circumstellar envelope and mass loss rate 1−17850
Herbig-Haro objects, continuous spectra energy distrib. interpretation dust scatt. continua 1−54582
HFE 2, IR source, mol. cloud dust temp., heating mechanism, IR obs. 1−54584
W Hydrae, M-type giant star, IUE obs. rel. to silicate grain form. 1−36282
icy grained halo in Comet West (1976 VI), nucleus model and emission 1−22732
intergalactic dust, prediction from model of galaxy form. in explosion-dominated intergalactic medium 1−54619
interplanetary, albedo, determ. from zodiacal light brightness 1−44493
interplanetary charged dust in Jupiter magnetosphere, trajectory and spatial distrib. 1−22717
interplanetary dust cloud, numerical simulation of Poynting-Robertson and collisional effects 1−27353
interplanetary dust grains, distrib. of temp. maxima for micrometeorites decelerated in Earth's atmosphere 1−22742
interplanetary dust optical reflectivity, meas. for single micron size irregularly shaped grains 1−13656
interplanetary grains, size distrib. and physical props. from lunar microcrater anal. 1−44492
interplanetary grains electrostatic potential, influence of thermoionic effect 1−36155
interplanetary matter, effect of interplanetary mag. field, Lorentz scatt. appl. 1−22669
interplanetary particle density above ecliptic plane, from Earth obs. 1−54418
interstellar amorphous grains, far IR emission efficiency, wavelength depend. 1−9623
interstellar charged dust grains, behaviour in shock waves with mag. precursors 1−44608
interstellar cloud containing supernova infrared echo 1−44579
interstellar clouds, grain surface reactions rel. to molecules form., evidence from laboratory simulation 1−13844
interstellar dense molecular clouds, heating by early type star rel. to radio and IR emission *(Italian)* 1−9638
interstellar dust, coagulation in turbulent gas of contracting protoplanetary cloud 1−44620
interstellar dust, effects on struct. and dynamics of H II regions 1−9616
interstellar dust as surface for H_2 recomb., energy distrib. *(Russian)* 1−49782
interstellar dust cloud, UV, visible and IR optical depths calc. 1−40550
interstellar dust grains, far UV radiation scatt. rel. to galactic contrib. to UV diffuse background 1−9738
interstellar dust grains, form. in supernova remnants rel. to isotopic anomalies in meteorites 1−22641
interstellar grain size spectrum origin 1−22871
interstellar grains, affect of redox reactions on optical props. 1−27575
interstellar grains, surface reactions contrib. to Si chemiskry in dense clouds 1−13827
interstellar grains IR absorption spectra, comparison with silicates, carbonaceous chondrites and carbonates 1−35974
interstellar matter, Mg and (Fe, Si) phase separation 1−9631
interstellar molecular clouds, mol. depletion onto dust grains rel. to H_2CO and HCO^+ abundances 1−9618
IR emission by dust grains in circumstellar shell surrounding Type II SN 1−4927
Jupiter magnetosphere, ring origin from Io volcanic dust, model 1−32650
Jupiter magnetosphere dust, effect on magnetosphere electrons and ions 1−32652
Jupiter magnetosphere dust, time var. and ring origin 1−32651
Jupiter magnetosphere dust for Io volcanoes physical processes 1−32649
Kleinmann Low Nebula, far IR emission, polarisation interpretation 1−9621
lynds 1627, 1630, extended dust clouds in Orion Molecular Complex, CO obs. 1−54596
Lynds 43, mol. cloud, IR source, dust temp., heating mechanism, IR obs. 1−54584
M1-92, bipolar refl. nebula, model with light scatt., by dust comp. 1−49763
inM31 (Andromeda Nebula), dust distrib. from photometry of central region 1−44644
M82, gross struct. of dusty halo from photographic UBV surface photometry 1−49815
in M82, two layer dust model fit to IR spectrum from 16 to 30 microns 1−49810
M-type giants and supergiants, circumstellar dust, origin in photospheres 1−54497
Markarian 9, Markarian 10, type 1 Seyfert galaxies, 2175 Å absorpt. meas. from IUE spectra 1−54607
Mars cloud formations, local, absolute albedo, determ. of dust particle size 1−49556
mass column density in line of sight to Sagittarius A West 1−49835
meteoric dust particles in mesosphere and stratosphere 1−22409
meteoroids, results of Pioneer 10 and 11 expts. in interplanetary space and near Saturn 1−40428
nebulae, radiative transfer, effect of dust albedo 1−49749
NGC 4151, Seyfert galaxy, IR emission feature due to dust thermal emission 1−44632
in NGC 5128 (Centaurus A), character of dust lane from radial vels. of H II regions 1−36376
NGC 5128 (Centaurus A), dynamical evolution of postcollision gas-dust disc 1−49792
NGC 7027, planetary nebula, dust, far IR emission line and continuum obs. 1−49744
NGC 7027, planetary nebula, far IR continuum due to dust grain emission 1−13835
cosmic dust continued
NGC 7582, 2992, X-ray emission-line galaxies, internal extinction due to dust 1−13856
NGC 972, NGC 4433, irregular M82 type galaxies, spectrophotometric evidence for interstellar dust 1−27600
novae dust shells, optical depth in IR 1−9517
Perseus arm inner side, extinction of OB stars, photometry obs. 1−36406
planetary nebulae, effect of dust on central stars Zanstra temps. determs. 1−44555
Pleiades reflection nebulae, results of interstellar H_2 UV obs. 1−44602
protoplanetary dust condensations, stability round T Tauri star RU Lupi 1−40522
protostars dusty cocoons, maser sources, population inversion and saturation behaviour 1−36374
quasars, reddening by dust rel. to IR and optical obs. of H lines 1−54651
quasi-stellar objects, effects of reddening by dust on optical and IR spectrophotometry 1−54650
reddening in UV H I lines of Seyfert galaxies and low redshift quasar 1−49793
reddening of Sharpless 148 control star 1−4970
reflection nebulae polarisation, diagnostic for dust grains, appl. to Orion Nebula 1−36366
refractory interstellar grains in solar neighbourhood, evolution 1−4948
Saturn atmosphere, composition and struct., aerosol nature and distrib. 1−49573
Sharpless 106, bipolar nebula, stellar radiation scatt. by dust in outflowing ionised gas 1−27586
sources, deep sea sediment exam. *(Japanese)* 1−22747
spherules in deep-sea sediments 1−4822
in spiral galaxies outer regions, dust-to-gas ratios 1−44629
suprathermal interstellar grains, prod. 1−17883
Taurus dark cloud, dust grains mantle accretion rel. to anomalous UV extinction curve 1−49772
Taurus dust cloud towards 3C 123, interstellar lines, VHF and visible obs. 1−9599
4 Vesta, surface texture and dust coating, optical polarimetry simulation 1−22711
white holes containing charged fluid, emitted EM radiation, spectral props. 1−36326
zodiacal light particles originating from cometary core-mantle dust grains 1−36216
H II regions, extragalactic location of dust responsible for visual extinction 1−4950
H II regions ionisation fronts, effect of dust particle abundance on struct. 1−32742
interstellar H II/mol. cloud complexes in southern hemisphere, 1.0 mm maps and radial density distribs. 1−13823
cosmic radiation *see cosmic background radiation*
cosmic radiations, radiofrequency *see radiofrequency cosmic radiation*
cosmic radio waves *see radiofrequency cosmic radiation*
cosmic ray absorption
No entries
cosmic ray alpha-particles and helium nuclei
mountain altitude, charged nucleonic component mass spectra, p.d. ^{4}He spectra 1−36153
Solar ^{3}He rich events enrichment mechanisms during accel. mode injection 1−36131
α-particle flux meas. by Venera 11 and 12 interplanetary probes 1−4731
cosmic ray apparatus
see also particle detectors
Buckland Park air shower array, design and performance 1−45783
data acquisition and processing by Nairi-2 computer 1−4778
gamma-ray telescopes, scintillation time-of-flight systems 1−36185
HEAO 3 gamma-ray spectrometer 1−32623
high-energy cosmic gamma ray burst, ground-based detection system 1−13650
hodoscope calorimeter for high energy hadrons 1−1023
hodoscopes containing scintillation detectors *(Russian)* 1−51030
hodoscopic spectrometer, centre of gravity distribution for electromagnetic showers 1−51064
multichannel scintillation arrangement, for investigating cosmic ray var. on basis of cosmogenic radiocarbon 1−36188
muons, arrival time distrib. in EAS, meas. system 1−6107
neutron monitor, Pb-free, spectral sensitivity of differing geometry of device 1−36189
neutron monitors, coupling coeffs. for cosmic ray variations investigation 1−36187
plastic CR-39 solid-state track detector, characts. and applics. *(Japanese)* 1−23976
space telescope superconducting magnet system 1−49517
track detectors, automated track measurements in CR-39 1−10597
Be bronze wire electrode double-gap spark chamber 1−1008
MgO film, determ. of electron path lengths 1−36154
Ne hodoscope display construction for cosmic ray detection *(Japanese)* 1−51070
cosmic ray composition
see also cosmic ray alpha-particles and helium nuclei; cosmic ray deuterons; cosmic ray electrons; cosmic ray mesons; cosmic ray muons; cosmic ray neutrinos; cosmic ray nuclei; cosmic ray photons
10^{14} eV ray causing Cherenkov light in atmos. 1−13651
galactic cosmic rays, comp. rel. to origin and isotope anomalies in meteorites 1−22641
galactic cosmic rays, Ne, Mg, Na and Al neutron rich isotopes 1−13649
galactic cosmic rays composition and origin from shock wave accel. of interstellar grains 1−27348
galactic cosmic rays from radio halos, composition and power law energy spectra 1−36118
isotopic composition anomalies, implications for stellar nucleosynthesis models 1−54335
mountain altitude, charged nucleonic component mass spectra, p.d. ^{4}He spectra 1−36153
nuclei (B to Fe), composition energy depend. and energy spectra to above 100 GeV per nucleon 1−9338
PeV energies, composition from EAS of muons 1−13652
primary and secondary cosmic rays in stratosphere, singly charged, balloon obs. 1−36151
relative abundances of photons and nucleons, review of baryon asymmetry of the Universe 1−33150
scaling validity up to 10^{20} eV, high energy cosmic ray composition 1−44399

cosmic ray composition continued
secondary cosmic rays, integral generation multiplicities and coupling coeffs. in atmosphere of Earth and planets 1−36149
secondary nuclei/primary nuclei ratio, rel. to cosmic ray accel. and propag. models 1−44395
slow heavy penetrating particles in cosmic radiation 1−54336
Solar ^{3}He rich events enrichment mechanisms during accel. mode injection 1−36131
solar flare accelerated Mg, isotopic comp. 1−54439
solar flare cosmic ray particle abundance during 1973-77 (solar minimum) 1−9448
^{10}Be abundance, implications for galactic cosmic rays age 1−4730
^{12}C/^{13}C primary cosmic ray isotopic composition, atm. effect 1−40292
Fe rich, solar cosmic ray particles, interplanetary obs. from Prognoz 6 1−36130
^{16}O/^{17}O/^{18}O primary cosmic ray isotopic composition, atm. effect 1−40292

cosmic ray deuterons
mountain altitude, charged nucleonic component mass spectra, p.d. ^{4}He spectra 1−36153

cosmic ray effects and interactions
see also high-energy cosmic ray interactions
antiprotons in modified closed galaxy model 1−40290
Cerenkov light from extensive air showers, arrival time struct. 1−4732
Cherenkov light in atmos. due to 10^{14} eV primary 1−13651
chondrite ^{53}Mn activity, depth and size depend. 1−22741
Earth atmosphere, prod. of quasi-trapped electron fluxes at energies >80 MeV at 200-250 km 1−36142
electron path lengths in MgO, new method of determ. 1−36154
high energy neutrino flux, from scatt. by high energy cosmic rays 1−17745
interstellar clouds interaction, COS-B obs. of high-energy γ-ray emission from Orion cloud complex 1−22865
interstellar dense clouds, cosmic ray ionisation as heating mechanism *(Russian)* 1−49779
interstellar magnetosound waves dissipation due to interaction with cosmic rays *(Russian)* 1−49459
irradiation of solar system rocks and long term variations 1−44401
lunar 1−13708
meteorite cosmic ray exposure ages based on Ne concs. 1−13653
meteorite cosmic ray tracks and obtainable data 1−36232
meteorite radionuclides, of Allan Hills meteorites 1−40432
meteorite thermoluminescence equilib. rel. to orbit 1−40433
planetary atmospheres, integral generation multiplicities and coupling coeffs. for secondary cosmic radiation 1−36149
protons in clusters of galaxies, secondary electrons prod. rel. to cluster radio halo form. 1−4984
radiation from bremsstrahlung of nonthermal protons and nuclei 1−36117
relativistic electrons in clusters of galaxies, collective effects in intracluster gas heating 1−9644
Saturn, albedo neutron decay as source of high-energy magnetosphere protons 1−40395
Saturn, cosmic ray neutron albedo as source of energetic protons in magnetosphere 1−40387
Saturn atmosphere, splash albedo prod. of high-energy trapped radiation penetrating ring system 1−40394
Saturn rings, albedo neutrons as source of very energetic protons in radiation belt 1−40396
sediments of sea-floor, cosmic-ray produced ^{59}Ni 1−54430
solar neutrino secular variations, measurable by obs. of ^{41}Ca in Earth crust 1−54337
stony meteorites, proton conc. and irradiation history 1−22740
stratosphere, albedo particles flux contrib. to excess radiation at heights of 200 to 300 km 1−36141
supernova explosions, short-term effects of ^{14}C production 1−54528

cosmic ray electrons
in Crab Nebula, relativistic electrons origin rel. to radio emission from filaments 1−13837
energy spectrum, meas. by time of flight method *(Japanese)* 1−9339
galactic, diffusion-convection eqn. soln. and energy spectra *(Russian)* 1−22643
galactic distrib. from gamma-ray flux 1−9335
galactic halo electrons, accel. in X-ray clusters rel. to radio spectra 1−36405
galactic relativistic electrons, convection effect on propag. 1−9334
galactic source distrib. 1−13648
interstellar electron energy spectrum and galactic X-ray and gamma-ray emission 1−27347
isolation from predominant proton background by two methods using Interkosmo 17 satellite 1−36152
North Polar Spur, relativistic electrons in ionised gas as source of radio continuum 1−44652
NP 0532, Crab pulsar, cosmic ray electrons energy distrib. and nebula emission spectrum 1−36317
path lengths in MgO, new method of determ. 1−36154
quasi-trapped electron fluxes with energies >80 MeV at height of 200-250 km, meas. 1−36142
radio-galaxy clouds, electron accel. model 1−44647
relativistic electrons in clusters of galaxies, collective effects in intracluster gas heating 1−9644
secondary cosmic rays, integral generation multiplicities and coupling coeffs. in atmosphere of Earth and planets 1−36149
secondary electrons in clusters of galaxies, prod. by relativistic protons rel. to cluster radio halo form. 1−4984
solar energetic particles in interplanetary medium, Venera 11 and 12 meas. 1−9336
solar flare electrons, mildly relativistic electrons escape from mag. loop into upper corona 1−4874
solar flare electrons, particle radiation signatures from locally energised flaring loop 1−44519
solar flare nonrelativistic electrons, temporal diffusion profile 1−4723
solar flare particles, accel. mechanism 1−36132
solar flare particles, energy spectra anal. 1−36129
solar flare-related intensity distrib. 1−22755
solar flares, particle accel. by shock wave 1−9453
solar relativistic electrons accelerating heavy positive ions 1−44396
supernova envelope originating cosmic rays, particle energy spectrum and accel. 1−36121
zenith angle distribution, meas. by time of flight method *(Japanese)* 1−9339

cosmic ray energy spectra
10^{14} eV ray causing Cherenkov light in atmos. 1−13651
11-year variations, spectrum of expected anomalies upon reversal of general solar mag. field 1−36146
balloon emulsion chamber experiments *(Japanese)* 1−22654
electrons, energy spectrum and zenith angle distrib. meas. by time of flight method *(Japanese)* 1−9339
extraterrestrial variations spectrum anal., investigation of atmospheric, geomag. and extraterrestrial vars. 1−36150
galactic and quasi-trapped electrons anal. using Interkosmos 17 data 1−36152
galactic cosmic rays, energy spectra vars. during 22-year intensity cycle 1−36145
galactic cosmic rays, energy spectrum after second order Fermi accel. in interstellar space 1−44394
galactic cosmic rays from radio halos, composition and power law energy spectra 1−36118
galactic electrons, diffusion-convection eqn. soln. *(Russian)* 1−22643
gamma ray cosmic background at 1-20 MeV distinguished from vertical atm. component 1−9737
gamma rays, statistical evaluation of spectral line obs. 1−49492
heavy ions of low energy, Space Shuttle expt. 1−49464
muons, energy spectrum and zenith angle distrib. meas. by time of flight method *(Japanese)* 1−9339
neutrons, spectral sensitivity of Pb-free monitor for differing geometry of device 1−36189
NP 0532, Crab pulsar, cosmic ray electrons energy distrib. and nebula emission spectrum 1−36317
nuclei (B to Fe), energy spectra to above 100 GeV per nucleon 1−9338
PeV energies, composition from EAS of muons 1−13652
primary and secondary cosmic rays in stratosphere, singly charged, balloon obs. 1−36151
solar cosmic ray spectrum formation at Earth and of source 1−36133
solar cosmic rays, spectral characts. based on diffusion model 1−22650
solar energetic particles in interplanetary medium, Venera 11 and 12 meas. 1−9336
solar flare particles, time and spectral characts. 1−36134
solar flare protons, escape into interplanetary space, energy spectrum 1−22575
solar flare protons and electrons, energy spectra anal. 1−36129
solar flare relativistic particles, spatial anisotropy, rigidity spectrum and propag. characts. 1−40291
supernova envelope originating cosmic rays, particle energy spectrum and accel. 1−36121
ultra-high-energy cosmic rays from clusters of galaxies 1−22642
vertical muon flux, charge ratio in momentum region 0.3 to 2 GeV 1−32586

cosmic ray geophysical effects *see geophysical aspects of cosmic rays*

cosmic ray jets *see cosmic ray showers and bursts*

cosmic ray mesons
lunar variations of neutron and meson components of cosmic rays, anal. 1−36140

cosmic ray muons
arrival time distrib. in EAS, meas. system 1−6107
energy spectrum, meas. by time of flight method *(Japanese)* 1−9339
flux meas. using spark chamber calorimeter *(Russian)* 1−40294
geological applications to prospecting *(Russian)* 1−17747
muon charge ratio from new scaling variable model 1−41014
secondary cosmic rays, integral generation multiplicities and coupling coeffs. in atmosphere of Earth and planets 1−36149
solar neutrino detector, cosmic ray muon background *(Russian)* 1−49467
vertical muon flux, charge ratio in momentum region 0.3 to 2 GeV 1−32586
wind causing muon asymmetry, theory 1−49462
zenith angle distribution, meas. by time of flight method *(Japanese)* 1−9339

cosmic ray neutrinos
decay of massive neutrinos, evidence in UV background 1−17916
heavy neutrino-electron coupling, constraints imposed by cosmic-ray positrons 1−45172
high energy neutrino flux, from scatt. by high energy cosmic rays 1−17745
massive neutrinos and the large-scale structure of the Universe 1−27619
non-zero rest mass, cosmological questions 1−49504
solar neutrino detector, cosmic ray muon background *(Russian)* 1−49467
solar neutrino secular variations, measurable by obs. of ^{41}Ca in Earth crust 1−54337
tau neutrino, origin, lower mass limit and contrib. to cosmic neutrino flux 1−40293
^{81}Br solar neutrino detector feasibility from ^{81}Kr^m EC rate 1−17746

cosmic ray neutrons
albedo neutron decay in Saturn magnetosphere, as source of high-energy protons 1−40395
albedo neutrons in Saturn magnetosphere, as source of very energetic protons in radiation belt 1−40396
lunar variations of neutron and meson components of cosmic rays, anal. 1−36140
monitors, coupling coeffs. for cosmic ray variations investigation 1−36187
solar cosmic ray burst of 1977 Nov. 22, and interaction with terrestrial atmos. 1−4726
spectral analysis model for neutron monitor data 1−4721
spectroscopy, sensitivity of Pb-free monitor for differing geometry of device 1−36189

cosmic ray nuclei
see also cosmic ray alpha-particles and helium nuclei; cosmic ray neutrons; cosmic ray protons
balloon emulsion chamber experiments *(Japanese)* 1−22654
galactic, with Z≥110 in meteoric olivines *(Russian)* 1−32587
galactic cosmic rays, Ne, Mg, Na and Al neutron rich isotopes 1−13649
solar flare cosmic ray particle abundance during 1973-77 (solar minimum) 1−9448
solar relativistic heavy positive ions, preferential accel., coherent mechanism 1−44396
^{12}C/^{13}C primary cosmic ray isotopic composition, atm. effect 1−40292
O ionic charge in quiet time from phase lag with galactic cosmic rays 1−40287
^{16}O/^{17}O/^{18}O primary cosmic ray isotopic composition, atm. effect 1−40292

cosmic ray-nucleus reactions
for inelastic cosmic ray-nucleus scattering, see "cosmic ray-nucleus scattering"
pp total cross section energy depend. from cosmic ray-nucleus reactions 1−45347

cosmic ray-nucleus scattering
No entries

cosmic ray origin
see also cosmology; element origin
concomitant acceleration and propagation models, implications for secondary nuclei/primary nuclei ratio 1−44395
electrons, relativistic, in Crab Nebula filaments, evidence for pulsar prod. from radio emission obs. 1−13837
electrons in radio-galaxy clouds, self-consistent turbulence accel. model 1−44647
galactic cosmic ray synthesis, implications of anomalous isotopic comps. 1−54335
galactic cosmic rays, halo origin 1−36118
galactic cosmic rays, origin rel. to isotopic anomalies in meteorites 1−22641
galactic cosmic rays composition and origin from shock wave accel. of interstellar grains 1−27348
galactic cosmic rays from binary stars, accel. and origin 1−36120
gamma ray cosmic background at 1-20 MeV distinguished from vertical atm. component 1−9737
heavy ions of low energy, Space Shuttle expt. 1−49464
secondary electrons in clusters of galaxies, prod. by relativistic protons rel. to cluster radio halo form. 1−4984
sequential acceleration and propagation models, implications for secondary nuclei/primary nuclei ratio 1−44395
supernova envelope originating cosmic rays, particle energy spectrum and accel. 1−36121
in supernovae remnants, relativistic charged particles accel. by supersonic MHD turbulence 1−17743

cosmic ray photons
see also cosmic ray X-rays; solar cosmic ray photons
Cerenkov light from extensive air showers, arrival time struct. 1−4732
Cerenkov radiation produced in large cosmic ray showers at 1500 m above sea level 1−17744
diffuse gamma-ray background in Hoyle-Narlikar cosmology, theory 1−32775
EAS γ-ray bundles in 10^{14} eV collisions, high tranverse momentum and multiplicity 1−22655
gamma radiation recording, scintillation time-of-flight systems of modern telescopes 1−36185
gamma ray cosmic background at 1-20 MeV distinguished from vertical atm. component 1−9737
gamma rays, COS-B obs. of high-energy emission from Orion cloud complex 1−22865
gamma rays, high energy prompt transient emission from supernovae 1−9727
gamma rays, statistical evaluation of spectral line obs. 1−49492
gamma-ray burst detection by Konus expt. on Venera 11 and 12 probes 1−9731
gamma-ray burst detection by SNEG-2MZ instrument on Venera 11 and 12 probes 1−9732
high-energy cosmic gamma ray burst, ground-based detection system 1−13650

cosmic ray propagation
acceleration by shock wave fronts with plasma motion in turbulent medium 1−36123
acceleration in interstellar medium due to long magnetosound wave interaction *(Russian)* 1−49459
antiprotons in modified closed galaxy model 1−40290
concomitant acceleration and propagation models, implications for secondary nuclei/primary nuclei ratio 1−44395
galactic cosmic ray electrons, diffusion-convection eqn. soln. and energy spectra *(Russian)* 1−22643
galactic cosmic ray nuclei, evidence for leaky-box model from energy spectra to above 100 GeV per nucleon 1−9338
galactic cosmic rays, acceleration and propagation mechanisms 1−36119
galactic cosmic rays, confinement time from ^{10}Be abundance 1−4730
galactic cosmic rays, energy spectrum after second order Fermi accel. in interstellar space 1−44394
galactic cosmic rays, modulation by coronal holes, three dimens. nature 1−40289
galactic cosmic rays, propag. eqn. numerical soln. rel. to modulation region size and diffusion coeff. 1−36126
galactic cosmic rays asymmetry at Earth, modulation by coronal holes magnetic field extension 1−40288
galactic cosmic rays from binary stars, accel. and origin 1−36120
galactic relativistic electrons, convection effect on propag. 1−9334
interplanetary anisotropic diffusion, expected anomalies in 11-year intensity vars. upon general solar mag. field reversal 1−36146
interplanetary effects on 27-day intensity variation (1936-1965) 1−22646
interplanetary propag. of solar cosmic rays 1−22644
interplanetary propagation, anisotropic diffusion theory 1−36125
interplanetary propagation, anisotropy of cosmic ray distrib. from diffusion approximation 1−36124
interplanetary propagation, diffusion coeff. vars. rel. to relation between cosmic ray intensity and solar activity 1−36147
interplanetary propagation, diffusion-convection theory rel. to intensity modulation during solar cycle (20) 1−54334
interplanetary propagation, influence of interplanetary mag. field global struct. on cosmic ray modulation 1−22648
interplanetary propagation, long-period vars. in cosmic ray anisotropy 1−36138
interplanetary propagation, modulation effects in solar wind mag. traps 1−36139
interplanetary propagation, nonstationary diffusion-convection model rel. to behaviour during solar cycles 19 and (20) 1−36144
interplanetary propagation of galactic cosmic rays, gradient drift rel. to 22-year intensity cycle 1−36145
interplanetary shock waves and turbulent accel. of energetic particles 1−22647
neutron monitor data from polar and equatorial sites, spectral anal. model 1−4721
protons diffusion distance in clusters of galaxies, rel. to cluster radio halo form. 1−4984

cosmic ray propagation continued
sequential acceleration and propagation models, implications for secondary nuclei/primary nuclei ratio 1−44395
Solar ^{3}He rich events enrichment mechanisms during accel. mode injection 1−36131
solar cavity, propag., interaction with Earth magnetosphere 1−49460
solar cosmic rays, spectral characts. based on diffusion model 1−22650
solar electrons from flares (nonrelativistic), temporal diffusion profile 1−4723
solar flare burst, propag. allowing for diffusion coeff. time depend. 1−22649
solar flare protons and electrons, accel. mechanisms 1−36132
solar flare relativistic particles, spatial anisotropy, rigidity spectrum and propag. characts. 1−40291
solar flares, particle accel. by shock wave 1−9453
solar plasma flows rel. to 27-day cosmic ray var. 1−22646
solar protons, equatorial zone of avoidance during 1970-74 decline 1−27349
solar relativistic heavy positive ions, preferential accel., coherent mechanism 1−44396
solar wind influence on galactic cosmic ray propag. 1−4722

cosmic ray protons
antiproton flux in primary cosmic radiation 1−27351
antiprotons, propagation in atmosphere, Monte Carlo simulation *(Chinese)* 1−44397
antiprotons in modified closed galaxy model 1−40290
background, isolation of cosmic ray electrons by two methods using Interkosmos 17 satellite 1−36152
bremsstrahlung of nonthermal protons and nuclei 1−36117
in clusters of galaxies, relativistic protons rel. to clusters radio halos form 1−4984
flux meas. by Venera 11 and 12 interplanetary probes 1−4731
geomagnetic cutoff latitude of solar protons during strong mag. disturbance 1−4727
interplanetary fluxes and anisotropy, Mars 7 obs. rel. to solar wind vel. 1−22645
mountain altitude, charged nucleonic component mass spectra, p.d. ^{4}He spectra 1−36153
primary and secondary cosmic rays in stratosphere, singly charged, balloon obs. 1−36151
production in supernova remnants, relativistic charged particles accel. by supersonic MHD turbulence 1−17743
solar cosmic rays, link with equatorial annular current devel. in mag. storm 1−36103
solar cosmic rays energy spectrum var. during 21st and 22nd solar cycles 1−36127
solar energetic particles in interplanetary medium, Venera 11 and 12 meas. 1−9336
solar flare burst, propag. allowing for diffusion coeff. time depend. 1−22649
solar flare particles, accel. mechanism 1−36132
solar flare particles, energy spectra anal. 1−36129
solar flare particles, escape into interplanetary space, energy spectrum 1−22575
solar flare particles penetration into Earth polar caps 1−36135
solar flare protons at Earth, forecasting based on EM emissions 1−4725
solar flares, particle accel. by shock wave 1−9453
solar protons, equatorial zone of avoidance during 1970-74 decline 1−27349
solar wind proton temperature gradients and flow vel. depend. 1−49468
supernova envelope originating cosmic rays, particle energy spectrum and accel. 1−36121

cosmic ray showers and bursts
see also cosmic ray electrons; cosmic ray X-rays
balloon emulsion chamber experiments *(Japanese)* 1−22654
Buckland Park air shower array, design and performance 1−45783
Cerenkov light from extensive air showers, arrival time struct. 1−4732
Cerenkov radiation produced in large cosmic ray showers at 1500 m above sea level 1−17744
Cherenkov techniques for studying cosmic-ray shower development 1−27352
Earth atmosphere, integral generation multiplicities and coupling coeffs. for secondary cosmic radiation 1−36149
EAS γ-ray bundles in 10^{14} eV collisions, high tranverse momentum and multiplicity 1−22655
EAS electron density spectrum *(Chinese)* 1−49465
muons, arrival time distrib. in EAS, meas. system 1−6107
optical burst from primordial black holes explosions, new upper limit 1−36324
PeV energies, composition from EAS of muons 1−13652
planetary atmospheres, integral generation multiplicities and coupling coeffs. for secondary cosmic radiation 1−36149
solar flare particles, shock wave at Earth causing galactic cosmic rays intensity decrease 1−36137
solar relativistic heavy positive ions, preferential accel., coherent mechanism 1−44396
wind causing muon asymmetry, theory 1−49462
zenith angle dependence of cosmic ray shower development, time structure of atmospheric Cherenkov pulses 1−44398

cosmic ray solar modulation
11-year cycle, effects on atmospheric ^{14}C prod. and transport model 1−36019
11-year intensity variations, expected anomalies upon reversal of general solar mag. field, comparison with expt. 1−36146
22-year modulation, assoc. with Sun polar mag. field polarity reversal *(Japanese)* 1−9337
27-day intensity variation between 1936 and 1965 1−22646
anisotropic intensity oscillation of galactic cosmic rays (Oct. 1977) 1−4728
anisotropy of cosmic rays, long-period vars. 1−36138
eleven-year cosmic ray cycle, effect of Earth heliographic latit. and rel. to solar activity indexes 1−36143
Forbush decreases, intensity fluctuations study using Izmiran scintillation supertelescope 1−36136
galactic cosmic ray perturbation by solar wind 1−4722
galactic cosmic rays, 11-year var. resulting from anisotropic diffusion in interplanetary space 1−36125
galactic cosmic rays, 22-year intensity cycle correl. with solar mag. field direction 1−36145

cosmic ray solar modulation continued
galactic cosmic rays, modulation by coronal holes, three dimens. nature 1−40289
galactic cosmic rays, modulation region size from numerical soln. of propag. eqn. 1−36126
galactic cosmic rays asymmetry at Earth, modulation by coronal holes magnetic field extension 1−40288
intensity modulation during solar cycle 20, rel. to solar and terrestrial activity indices 1−54334
interplanetary propagation, influence of interplanetary mag. field global struct. on cosmic ray modulation 1−22648
lunar variations of neutron and meson components, depend. on solar activity epoch 1−36140
rigidity dependence of scintillations in 50-300 GV range 1−4729
secondary cosmic ray intensity, rel. to solar activity HL-index 1−36147
solar cavity, propag., interaction with Earth magnetosphere 1−49460
solar cycles 19 and 20, behaviour of solar activity and cosmic rays 1−36144
solar wind magnetic traps, modulation amplitudes from Monte Carlo anal. 1−36139
variations in intensity and anisotropy during 1972-75, rel. to anomalous behaviour of solar wind vel. 1−36148
cosmic ray variations
see also geomagnetism
11-year intensity variations, expected anomalies upon reversal of general solar mag. field, comparison with expt. 1−36146
22-year modulation, assoc. with Sun polar mag. field polarity reversal *(Japanese)* 1−9337
anisotropic intensity oscillation of galactic cosmic rays of Oct. 27-28 (1977) 1−4728
anisotropy of cosmic rays, long-period vars. 1−36138
anisotropy variations during repeating Forbush decreases, rel. to anomalous behaviour of solar wind vel. 1−36148
eleven year cycle in spectrum, for 21st and 22nd solar cycle 1−36127
eleven-year cosmic ray cycle, effect of Earth heliographic latit. and rel. to solar activity indexes 1−36143
extraterrestrial variations spectrum anal., investigation of atmospheric, geomag. and extraterrestrial vars. 1−36150
Forbush decreases, intensity fluctuations study using Izmiran scintillation supertelescope 1−36136
galactic, intensity variations, phase lag with quiet time O component, O ionic charge 1−40287
galactic cosmic rays, 11-year var. resulting from anisotropic diffusion in interplanetary space 1−36125
galactic cosmic rays, 22-year intensity cycle correl. with solar mag. field direction 1−36145
intensity variations (1958 to 1975) 1−44393
long-term variations, investigation on basis of cosmogenic radiocarbon via multichannel scintillation arrangement 1−36188
lunar variations of neutron and meson components of cosmic rays, anal. 1−36140
meteorite cosmic ray exposures and flux variation 1−13653
neutron variations investigations, aspects of exptl. procedures 1−36187
rock irradiation record of lunar, terrestrial and meteoritic samples 1−44401
secondary cosmic ray intensity, rel. to solar activity HL-index 1−36147
solar cosmic ray burst of 1977 Nov. 22, and interaction with terrestrial atmos. 1−4726
solar cycles 19 and 20, behaviour of solar activity and cosmic rays 1−36144
solar electrons from flares (nonrelativistic), temporal diffusion profile 1−4723
solar neutrino secular variations, measurable by obs. of ^{41}Ca in Earth crust 1−54337
tridiurnal variation origin, possible mechanism 1−49461
cosmic ray X-rays
background radiation anisotropy, cosmological models 1−44675
diffuse X-ray background, nature and implications for cosmology 1−9754
interstellar diffuse X-ray emission, implications for local interstellar medium 1−36371
cosmic rays
see also cosmic ray absorption; cosmic ray apparatus; cosmic ray composition; cosmic ray effects and interactions; cosmic ray energy spectra; cosmic ray origin; cosmic ray propagation; cosmic ray showers and bursts; cosmic ray solar modulation; cosmic ray variations; galactic cosmic rays; geophysical aspects of cosmic rays; high-energy cosmic ray interactions; primary cosmic rays; solar cosmic ray particles
conference, Erevan, USSR (June 1979) 1−32795
cosmic X-rays *see cosmic ray X-rays*
cosmogony *see cosmology*
cosmology
see also black holes; element origin; general relativity; red shift
2.7K microwave background radiation, dipole and quadrupole anisotropy obs. 1−54664
anisotropic and inhomogeneous relativistic cosmologies 1−22939
anisotropic spatially homogeneous cosmologies, metrics 1−54678
asymmetry between matter and antimatter 1−49872
atomic and gravitational metrics, Dirac's large number hypothesis 1−40583
background radiation angular momentum effects in chronometric theory 1−27640
background radiation anisotropy, cosmological models for anisotropies of microwave and X-ray background 1−44675
background radiation in optical and IR ranges, estimate *(Polish)* 1−32776
baryon asymmetries evolution, superheavy gauge boson role, SU(5) unification 1−27642
baryon asymmetry, CPT invariance, thermodynamics 1−13899
baryon asymmetry evolution, Higgs boson role 1−27643
baryon asymmetry of the Universe, review 1−33150
baryon generation hierarchy 1−32784
baryon production through superheavy fermions in grand unified theories 1−32785
baryon-number domain structure and first order phase transition of vacuum 1−40585
Bianchi V cosmological models, diagonal, filled with perfect fluid, canonical quantisation 1−9750
big bang, singularities, oscillating Universe 1−22937
big bang and supernovae, neutrino physics 1−13900
big bang theory, negligible gravitational constant 1−5006
bimetric general relativity and cosmology 1−9882
cosmology continued
birth of Universe, contrib. to theories by radioastronomical techniques, review 1−4783
black hole astrophysics, book contrib. 1−22830
black holes, as indicator to conditions in early Universe *(Russian)* 1−13897
black holes, primordial, motion in early Universe, present likely distrib. 1−49710
black holes formation mechanism is early Universe, mass spectrum and cosmological consequences 1−49708
Bogoliubov transformation, implementability in spatially homogeneous and isotropic universes 1−54674
Brans-Dicke theory, scalar interaction 1−32885
bright Universe cosmology 1−17922
chaotic cosmologies and topology of multiply connected universes 1−5007
chronometric cosmology, rel. to X-ray luminosity-redshift relationship 1−13881
closed conformal infinitesimal transformations and cosmological spaces *(French)* 1−49866
closed inhomogeneous model, self-gravitating static massive vector field in general relativity 1−40687
closed oscillating Universe, relation between G and h 1−40581
closed universe implied by massive neutrinos 1−49865
clusters of galaxies, dynamical evolution 1−9696
conference on expanding Universe physics, Jadlowy, Poland (Sept. 1978) 1−49881
cosmic censorship, black holes, particle orbits 1−44805
cosmological constant, grand unification and symmetry behavior in the early universe 1−27641
cosmology and gravitation, (spin, torsion, rot. and supergravity), conference, Erice, Italy (1979 May 6 to 18) 1−44714
Cowling's theorem in non-flat space-time 1−50018
creation of Universe, and origin of fundamental length scale 1−9748
deceleration parameter, determ. from use of quasars C IV 1549 Å as standard cosmic candle 1−13879
deceleration parameter (q_0), possible determ. using lunar occultations and laser ranging obs. 1−49863
density perturbations evolution, implications of fine-scale anisotropy in relict radiation 1−9741
dimensional analysis appl. 1−13898
dimensionless numbers, equivalence in Hagedorn's thermodynamic model 1−32777
Dirac number, cosmological baryon number derivation comparison with inertial free mechanics 1−27638
distance measurement using giant H II regions, results from obs. of galactic H II region (NGC 3603) 1−44605
dynamics of Universe and spontaneous symmetry breaking 1−22933
early Universe, effects of heavy right-handed neutrinos 1−54360
early Universe, entropy generation by dissipative processes near Higgs phase transition 1−5009
early Universe, lepton and hadron formation, black holes, quantum gravity 1−22938
early Universe evolution, spontaneously broken gauge theory phase transitions, SU(2)×U(1)→U(1) 1−32787
Einstein's field equations, Kerr-NUT type solns. 1−36437
elementary particle properties from cosmological and astrophysical data, review 1−40586
EM Bianchi cosmologies 1−36441
entropy perturbations in post-recombination epoch, nonlinear evolution 1−36438
entropy perturbations in postrecombination epoch, linear evolution 1−9746
exact Bianchi-type-VIII and type-IX cosmological models with matter and electromagnetic fields 1−13895
exact inhomogeneous cosmologies with eqn. of state $p=\gamma\mu$ 1−17920
exotic relics from the big bang 1−44681
expanding cooling universe, baryon asymmetry thermalisation in SU(5) unification 1−9749
expanding inverse, TCP conservation in cosmology 1−44684
expanding Universe, clustering of relic neutrinos 1−49868
expanding Universe, damping of relativistic shock waves 1−13891
expanding Universe, particles clustering within a Friedmann model 1−44679
extragalactic objects large scale distrib. results obtained by method of statistical reduction 1−9693
false vacuum at finite temp., first order phase transitions in spontaneously broken gauge theories 1−50326
fractionally charged particles and quark non-emergence *(Russian)* 1−50397
Friedman Universe, open, spontaneous symmetry breaking 1−32791
Friedmann background of dust, dynamical evolution of spherical inhomogeneous perturbations 1−36436
Friedmann universes, cosmological redshift time depend. 1−9744
galaxies, colours of faint field objects, interpretation 1−32749
galaxies background light, use as cosmological probe 1−44674
galaxies evolution, evidence from optical obs. 1−9680
galaxies evolution, photometry of complete sample of faint objects 1−9667
galaxies large scale systems, physical props. from optical obs. 1−9695
galaxies redshifts, Hubble const. determ. *(Russian)* 1−13854
galaxy clustering, correlation functions of higher order, derivation 1−27622
galaxy clustering, large scale, in Universe, review 1−9692
galaxy clustering, no evolutionary effects to Z=0.4-0.7 from distrib. in S.Galactic Pole field 1−4975
galaxy clustering in expanding Universe, N-body simulations 1−9753
galaxy clusters formation, primordial flat layer fragmentation and development of internal cluster struct. 1−13859
galaxy counts and evolution at faint magnitudes 1−32750
galaxy distribution and evolution of Universe *(Russian)* 1−5010
galaxy formation, in intergalactic medium dominated by explosions 1−54619
galaxy formation epoch, theoretical models 1−9681
galaxy protoclusters, theory of gas-dynamic processes 1−22904
galaxy protoclusters formation, nonlinear stage of gravit. instability in flat gaseous systems 1−44430
galaxy superclusters, struct. and formation 1−13867
galaxy superclusters formation, implication of obs. of Perseus supercluster 1−54639
Gamow cosmology, massive neutrino halo formation, self-gravitating system 1−54677

cosmology continued
gauge-invariant cosmological perturbations 1−13896
general relativity, book 1−17952
general relativity, experimental verification of parameterised post Newtonian formalism, book contrib. 1−18143
general relativity and gravitation, book 1−17948
general relativity and gravitation, book 1−17949
general relativity models, review, book contrib. 1−22936
general relativity with a background metric 1−18082
generalised cosmological Friedmann equations without gravitational singularity 1−36440
geometry of space-time with Kottler-Weyl-Trefftz metric *(German)* 1−9360
ghost images in Universe, deep radio search 1−32778
Godel-like cosmological solutions 1−32781
grand bang, symmetry breaking in GUT's, first order phase transition 1−54676
grand unification, mag. monopole confinement at high temps., early Universe 1−14300
gravitational bimetric theory, strong field approx. test 1−54670
gravitational bounce inequality for spherical boundary surface class 1−138
gravitational collapse prevention, Universe ultimate collapse theory extension 1−54367
gravitational constant and cosmological constant, non-time-varying 1−23064
gravitational constant in early Universe, possible negative value *(Russian)* 1−54368
gravitational field eqns., two-soliton solns., anisotropic cosmology 1−142
gravitational field equations approx. 1−18081
gravitational matter-antimatter asymmetry and four-dimensional Yang-Mills gauge symmetry 1−50022
gravitational motion of fluid obeying equation of state 1−36536
gravitational radiation dominated Robertson-Walker cosmologies 1−22932
heavy weakly interacting fermions, masses and lifetimes, cosmological constraints 1−44683
Higgs boson, light, cosmological consequences 1−40928
high density hadronic matter, thermodynamic model, Hagedorn's bootstrap, cosmological predictions 1−18456
historical background and current situation 1−18105
homogeneous Bianchi models, viscous dissipation and evolution 1−54679
homogeneous isotropic Universe, propagators and pair production 1−17923
Hoyle-Narlikar cosmology, diffuse gamma-ray background theory 1−32775
Hubble constant isotropy test method using quasars taking into account supergalactic extinction 1−9747
Hubble law, statistical invalidation 1−49820
Hubble modulus anisotropy, upper limit from cosmic microwave background obs. 1−40579
inflationary universe model, soln. to horizon and flatness problems 1−49871
isotropic homogeneous Friedmann Universe, creation of sound waves *(Russian)* 1−32792
large scale universal structure, IAU Symposium 79, Tallinn, Estonian SSR (1977 Sept.) 1−5032
lepton number breaking, neutrino mass spectrum, cosmological constraints 1−23453
lepton numbers of the Universe, grand unification ideas 1−32786
local and global aspects of gravitation and cosmology, book 1−27690
local inhomogeneities in Robertson-Walker background, flux conditions at boundary surfaces 1−49864
Magellanic Stream, Galaxy mass and Universe age 1−9678
magnetohydrostatic model, inhomogeneous, Petrov type 1D 1−22934
magnetoviscous fluid, non-degenerate Petrov type I model 1−36538
massive neutrinos, decay evidence in UV background 1−17916
massive neutrinos and the large-scale structure of the Universe 1−27619
massless particles and cosmology, post recombination density perturbations 1−32788
material vacuum, implications for cosmology, active galactic nuclei and noncosmological redshift 1−13892
metric implied by nonsymmetric unified field theory 1−36548
MHD Universe in general relativity, anisotropic spatially homogeneous nondegenerate Petrov type I model 1−13889
microwave background, ang. distrib. and intensity in directions of clusters of galaxies *(Russian)* 1−5005
microwave background, cosmological anisotropies interpretation and review 1−54667
microwave background, dipole anisotropy and spectrum distortions 1−54663
microwave background, interferometric limits on very small-scale fluctuations 1−9740
microwave background large-scale fluctuations, role of galaxies small-scale clustering 1−54665
microwave background radiation, origin and amplitude of ang. fluctuations 1−9742
microwave background radiation spectrum, effect of variable vacuum energy density 1−27637
microwave blackbody radiation, method of determining cosmological Compton distortions and radiation temp. 1−44676
N=8 supergravity, cosmological constant 1−36800
neutrino masses, theory and expt. 1−33136
neutrino oscillations, possible cosmological effect of CP-violation 1−50361
neutrinos, degenerate, self-gravitating, relativistic limits on masses 1−22679
neutrinos and the age of the Universe 1−13894
neutron electric dipole moment, cosmological lower bound from grand unification 1−50432
non-standard cosmologies, review 1−32779
Olber's paradox, general historical discussion 1−32782
open and closed Universal models 1−40582
orderly cosmos, implications for origin of life 1−49178
particle creation in gravitational field 1−50029
particle production in early Universe, nonlocal, quantum effects, anisotropic model 1−17921
perfect fluid exact spatially homogeneous cosmologies, Bianchi type VIII soln. 1−49867
phase transitions, pedagogical implications 1−32790
phase transitions, temperature v. curvature, symmetry restoration in field theories 1−5008
cosmology continued
physical cosmology, proceedings of Les Houches summer school, session XXXII, Les Houches, France (1979 July 2 to 27) 1−27684
plane symmetric Universe, perfect fluid model, physical and geometrical properties 1−13890
plasma, ultrarelativistic, collision damping of gravitational waves *(Russian)* 1−40689
pregalactic black hole accretion, radiation contrib. to 3K background 1−44680
primatons (black-hole like photons), possible ylem constituents 1−49873
primeval nucleosynthesis, bearing on present day light element abundance, cosmological implications *(Polish)* 1−49869
primodial radiation, polarisation and anisotropy in anisotropic universe 1−44677
primordial black holes, effects on D abundance 1−13893
primordial black holes, evolution 1−54542
primordial black holes as a cosmological test of grand unification 1−22935
primordial black holes explosions, new upper limit on optical bursts 1−36324
primordial black holes formation, hydrodynamics and depend. on eqn. of state 1−13799
primordial gravitational-wave spectrum, possible effects of high-energy microprocesses 1−44429
primordial nucleosynthesis, consistency of standard model 1−44685
primordial nucleosynthesis, role of anomalous neutrino interactions 1−54672
primoridal magnetic field rel. to non-zero neutrino rest mass 1−49504
protogalactic explosions and intracluster chemical enrichment 1−13865
QSO evolution and intergalactic medium 1−22918
quantum field theory in curved space-time, unquantised gravity, cosmology, black hole appls. 1−18118
quark decays in the early Universe, matter-antimatter asymmetry 1−44682
quasar evolution, effect of brightness amplification by gravitational lenses 1−49848
quasars, evidence for non-uniform space distrib. and cosmological evolution 1−9718
quasars, intergalactic X-ray absorption effects on spectra 1−32748
quasars Lyman alpha absorbing clouds, possible nature 1−44662
quasars surface density, meas. using optical and radio surveys 1−9719
quasars with absorption lines, Hubble diagram 1−13882
quasars with flat and steep radio spectra, cosmological evolution 1−44656
quasi-stellar objects anomalous redshifts, model based on Hoyle-Narlikar theory of gravitation 1−9710
radio sources, extragalactic, cosmological evolution from 408 MHz source count 1−27628
radio sources, extragalactic, large scale distrib. 1−9703
radio sources, redshift-ang. diameter relation test 1−49844
radiosources, extragalactic, flat and steep spectrum sources at 1400 MHz, cosmological evolution functions 1−36425
relativistic early history and Lemaitre 1−54680
relativistic gravitational collapse, equilibrium configuration explosion and reorganisation 1−23074
relativistic heavy ion collisions, cosmological events relevance 1−14544
relativistic space-time Universe with microwave background radiation 1−9751
relic θ-matter, θ gauge interaction, confinement *(Russian)* 1−40587
relict monopole confinement at superhigh temp., unified field theory *(Russian)* 1−23469
review of models 1−44740
Robertson-Walker and anisotropic Bianchi type-I universes, MHD perturbations, review 1−36439
Robertson-Walker background, local inhomogeneities, general framework 1−22931
Robertson-Walker Universe, positive frequency part for quantised scalar field 1−36442
rotating cosmological models, global rotation 1−13888
rotational perturbations of Friedmann universes 1−27639
Schwarzschild space-time and construction of lattice cosmologies 1−32780
self-consistent universe, extended Mach principle laws of physics and universe symmetry 1−49900
Seyfert galaxies, space density estimate 1−13861
singularities, anal. within framework of Einstein general theory of relativity 1−54359
singularity of homogeneous cosmological models with EM fields 1−54673
soliton solutions of the Einstein equations generated from cosmological solutions with additional symmetry 1−27836
spatially flat universe, microwave background anisotropy 1−49862
star formation density in Universe, estimate and implications 1−44678
first stars, origin rel. to form. of globular clusters and galaxies 1−17917
static Lyttleton-Bondi sphere, relativistic field eqns. 1−36549
steady-state cosmology with material vacuum, appl. to galaxy clusters and galaxies evolution 1−17918
SU(5) and SO(10) grand unification, soft CP violation, global matter-antimatter symmetry of Universe 1−14299
superclusters and Lyman α absorption in quasars 1−54641
supergravity, N=1, axial gravit. superfield eqn. of motion, cosmological term *(Russian)* 1−9905
superheavy magnetic monopole search, Big Bang prod., unified gauge theories 1−50365
time's arrow in an oscillating Universe 1−18396
time arrow reversal in cosmological models *(Russian)* 1−9752
time asymmetry, macroscopic processes, rel. to singularities 1−18109
torsion field and nonlinear spinor theorems, spontaneous symmetry breaking 1−18134
unified gauge theories, spontaneously broken, decay of the false vacuum in the very early Universe 1−40584
Universe, baryon asymmetry, kinetics of origin *(Russian)* 1−40588
Universe, particle horizon, and broken-symmetric theory of gravity 1−36443
Universe, size diameter and curvature *(Russian)* 1−27644
Universe, struct., age and size from a two component model 1−40580
Universe average matter density, rel. to clusters of galaxies peculiar vels. *(Russian)* 1−32789
Universe cell structure, evidence from three-dimensional distrib. of galaxies and clusters 1−9694
Universe cell structure, existence disputed 1−22903
Universe closure density, implications of neutrino masses 1−13685
Universe large scale structure, adiabatic perturbations theory 1−9755

cosmology continued
Universe large-scale structure, galaxies number-magnitude count at South Galactic Pole 1−17895
Universe mass density, effect of dark matter and neutrino mass 1−54669
universe models, low density, entropy perturbations, gravitational growth 1−54675
Universe models from present obs. 1−9745
Universe primordial expansion rate, spontaneous symm. breaking 1−9743
far-UV background radiation, galactic and extragalactic contribs. 1−9738
V/V_{MAX}-test for distribution sources, effect of variability 1−9378
vacuum models with Taub-NUT type expansions 1−49870
vacuum plane-symmetric cosmologies, interacting gravit. shocks theory 1−44425
variable masses, dynamics 1−55
velocity field of bright nearby galaxies, evidence for open Universe from galaxies space distrib. 1−44622
very early Universe, monopole prod. suppression in SU(S) grand unified gauge theory 1−32783
Wheeler universes, topology 1−17919
whirl theory, rel. to origin of struct. in Universe 1−9756
workshop on hadronic matter at extreme energy density, Erice, Sicily, Italy (Oct. 1978) 1−17939
world model, possibility of spherical condensation form., protogalaxy form. 1−44686
world potential, Friedmann universe and world potential, theory 1−54671
X-ray astronomy, extragalactic, rel. to cosmology, review 1−9754
pp, very high energy, collapsed hadron matter prod., early Universe 1−586
He abundance, determ. in globular clusters 1−36357
He abundances, evidence for differences across Galaxy from globular cluster luminosity functions 1−36364
He/H ratio, primordial, results from galaxies with spectra of giant H II regions 1−13845

cosmotrons
proton synchrotron beam loss due to fluctuations in RF voltage amplitude 1−33356

Costa Ribeiro effect *see dielectric phenomena; phase transformations*

Cotton-Mouton effect *see birefringence; magneto-optical effects*

Cottrell atmospheres
Cu-Al, lattice thermal cond., phonon scatt. by dislocations 1−52249
Fe-Ni-C martensitic alloys, unstable flow mechanism, effect of C content and deform. rate 1−21543

Cottrell locking *see Cottrell atmospheres*

Couette flow
see also jets
aerosols, nonspherical, motion in viscous medium, particle-wall fluid-dynamic interaction 1−17114
channel, two dimens. Couette flow, self-oscillatory regime initiation 1−29782
duct, generalised Couette flow of non-Newtonian fluids, heat transfer along thermal entry zone 1−29674
duct, generalised Couette flow of non-Newtonian fluids, thermal inlet region heat transfer 1−29673
laminar, velocity gradient meas. by homodyne light scatt. 1−11481
laminar-turbulent transition in a circular Couette flow 1−42025
laminar-turbulent transition in Taylor-Couette flow 1−42024
microthermopolar fluids, Couette flow between concentric rotating cylinders 1−1955
model equation of Boltzmann eqn., plane Couette flow problem appl. *(Chinese)* 1−1999
rarefied gas, cylindrical Couette flow, with heat transfer and porous surface 1−19756
shear flow between concentric cylinders, drop migration 1−29738
Taylor vortices temporal development in rotating fluid 1−15496
turbulence transition, Landau and stochastic attractor pictures 1−51746
two heated rot. cylinders, nonisothermal Couette flow, loss of stability 1−37938
velocity distributions in plane turbulent channel flows 1−2080
viscometric slow Couette flow, turbulent instability, extension to pipes and channels 1−19758
viscous stratified fluid, MHD Couette flow 1−29792

counter accessories
see also counting circuits
No entries

counters
see also Cherenkov counters; counting tubes; fission counters; Geiger counters; proportional counters; scintillation counters; semiconductor counters; spark counters
beta-gamma-coincidence counting corrections 1−6110
coincidence counters, Cox-Isham formula modification for Gandy effect, electronic compensation 1−10610
ionising radiations, detection and meas., book 1−17958
liquid fuel droplets and coal particles, optical sizing under combustion conditions 1−23167
nuclear instrumentation module counter print loop, interface to small computer, parallel I/O ports 1−10615
Si diode dosimeter with memory, CMOS digital counter 1−9029

counters (circuits) *see counting circuits*

counting circuits
see also coincidence circuits; pulse height analysers; scaling circuits
charge sensitive recorder for photomulitiplier pulses produced by scintillation 1−18977
data reduction systems for HEP experiments 1−14779
drift chamber, electronics and results for the central detector 1−14778
drift chamber electronics for high intensity particle beams 1−14776
drift time and charge division electronics system for the Axial Field Spectrometer vertex detector 1−14777
frequency weighted flip-flop logarithmic ratemeters, logarithmic conformity for random pulses 1−23991
homodyne interferometer band reversible counter 1−44994
Johnson's counter, anal. and design *(Chinese)* 1−23985
multiple time digitizers and a trigger system for drift chambers 1−14753
pulse amplitude spectrometer dead time counting errors and countermeasures 1−1035

counting tubes
see also dekatrons
No entries

coupled superconductor devices *see superconducting junction devices*

couplers (electric connectors) *see electric connectors*

coupling (process) *see joining processes*

CP invariance
charm particles, decay, partial width, CP violation effect *(Russian)* 1−45273
cosmological baryon-number domain structure and first order phase transition of vacuum 1−40585
expanding cooling universe, baryon asymmetry thermalisation in SU(5) unification 1−9749
horizontal flavour chirality, Fermion mass matrix, CP-nonconservation 1−50345
hyperon nonleptonic decay, unified phenomenological approach 1−36861
large n QCD, CP^{n-1} model analogy, pseudoscalar meson dynamics, non-zero θ vacuum, CP violation 1−18428
minimal SU(5) model, baryon generation, K-M mechanism, superheavy Higgs boson decay 1−50362
mixing schemes, Weinberg-Salam model, ν oscillations T and CP invariance 1−28199
neutral mesons, transitions, multiquasar schemes CP violation parameters *(Russian)* 1−50398
neutrino oscillations, Dirac- and Majorana-type mass mixing 1−45177
neutrino oscillations, possible cosmological effect of CP-violation 1−50361
neutron electric dipole moment, cosmological lower bound from grand unification 1−50432
QCD, chiral SU(n)×SU(n) symmetry, boundary conditions, CP-violation 1−28222
QCD, CP invariance problem, connection with complex structure of vacuum state, review *(Russian)* 1−36824
QCD, U(1) problem, anomalous Ward identities chiral symm. limit, η' mass, CP violation 1−45149
QCD parameter $\bar{\theta}$, calc. in theories with soft CP violation 1−45227
quark decays in the early Universe, matter-antimatter asymmetry 1−44682
SO(10) unification group with complicated Higgs structure, no CP violation 1−45195
SO(3) gauge group broken to U(1), CP-violation in charged sector of Georgi-Glashow model 1−50316
spontaneous CP nonconservation and natural flavour conservation in SU(2)×U(1) minimal model 1−40958
SU(2)×U(1) gauge theory, spontaneously broken CP invariance, effective QED Lagrangian 1−50324
SU(3)×U(1), CP violation 1−14292
SU(5) and SO(10) grand unification, soft CP violation, global matter-antimatter symmetry of Universe 1−14299
three neutrino oscillations, CP nonconservation 1−28258
topless gauge theories, neutral currents, SU(2), CP violation and neutral gauge bosons 1−14317
U(4) theory, eight quarks, CP violation in Weinberg-Salam model 1−10119
Weinberg-Salam model, lepton self-mass, Higgs scalar and heavy-quark masses 1−33137
$\eta \rightarrow 3\pi$, U(1) problem in QCD large N limit, CP violation, effective lagrangian approach 1−18475
K^0-$\bar{K}^0$ mass matrix, CP violation large distance effects, penguin diagrams 1−18460
K^0-$\bar{K}^0$ systems, SU(2)×U(1)×S_3 model mixings and CP violations *(Chinese)* 1−45189
K^0-$\bar{K}^0$decay amplitude anal. in complex energy eigenstates model 1−50410
$K^{\pm} \rightarrow \pi\pi\pi$, CP violation in Kobayashi-Maskawa model 1−50422
$\psi \rightarrow \eta(\eta')\gamma$, U(1) problem in QCD large N limit, CP violation, effective lagrangian approach 1−18475
$\Xi \rightarrow \Sigma\gamma$, weak gamma decays and the nonleptonic weak Hamiltonian 1−50425

CPA calculations
actinide 5f compounds, excitation spectrum, carrier conc. and temp. depend., CPA calc. 1−47469
alloy, binary electron states density, short-range order effect *(Russian)* 1−12008
alloy, disorder, creation of freq. gaps in phonon spectra 1−11832
alloy, randomly substituted, Fermi surface 1−12019
alloy thin film, substitutionally disordered, electronic struct., CPA calc. 1−16386
alloys, disordered interstitial, band struct., single-site CPA calc. 1−16222
alloys, narrow-band, electron density of states, cluster-Bethe-lattice method 1−12010
alloys disordered, optical cond. calcs. 1−35001
binary alloys, with short-range order, enthalpy of formation *(Russian)* 1−31890
binary alloys with short range order, elec. resistance in CPA 1−47611
n-component disordered alloys, diagrammatic equivalent of coherent pot. approx. *(Chinese)* 1−52459
correlation effects in mixed polymers, mag. alloys, different-orbitals-for-different-spins 1−2900
exciton-phonon system, first and second order optical responses 1−35062
extended Hubbard model, alloy analogy, metal-insulator transition 1−34605
ferromagnet, magnetic excitations and struct. disorder in Heisenberg system 1−12277
ferromagnetic alloys, spin wave stiffness, const. depend. on ordering 1−16432
metallic alloys, random, containing heavy elements, electronic struct., relativistic theory 1−25611
metals with vacancies, elec. resist. *(Russian)* 1−30714
quasi-one dimensional conductor, substitutionally disordered, Peierls transition 1−12102
random alloys, conc. momentum distrib. of electrons 1−25609
random systems with inhomogeneous concentration, config. average of ensemble treatment *(Chinese)* 1−20600
semiconductors, disordered, interband absorpt. spectra, CPA calc. 1−52474
spin glass, classical planar, harmonic collective excitations 1−12309
superconductor, dirty, CPA, off-diagonal, energy gap and transition temp. determ. 1−12231
transition metal alloys, cluster model, SRO coherent potential approx. 1−2862
transition metal alloys, coherent potential approx. and ordering processes, thermodynamic derivation 1−7499

CPA calculations continued
transition metal alloys, X-ray spectra relative position of 3d bands of elements *(Russian)* 1−43220
transition metal binary alloys, short-range order, effect of Fermi level position *(Russian)* 1−7502
Ag_cPd_{1-c}, electronic struct., KKR-CPA calcs. 1−25623
CsCl-type alloys, effects of SRO and LRO on electronic struct. 1−2865
Cu-Mn, anomalous vol. expansion and magnetovolume effect, electronic struct. calc. 1−26001
Cu-Ni, X-ray absorpt. spectra, mag. moments, and band theories 1−26307
α-$Cu_{1-c}Zn_c$, Fermi surface props. 1−52469
EuO(S), s-f model, CPA calcs. with Coulomb repulsion, density of states 1−42670
Fe-Al disordered alloys, disappearance of ferromagnetism, spin glass transition 1−38943
Fe-Ni invar alloy, anomalous thermal expansion 1−38559
Li-Mg(Al), soft X-ray emission meas., comparisons with KKR-CPA calcs. 1−31239
$Nb_{1-c}Mo_c$ alloy, phonon linewidths 1−42486
Ni-Cu alloys, local environment effect on atomic mag. moment 1−38916
$Pd_{73}Ag_{27}$ random alloy single cryst., electronic struct., angle-resolved photoemission and KKR-CPA calc. 1−43242
refractory monocarbides, substoichiometric, LCAO-CPA studies of C vacancies 1−2856
$(SN)_x$, (SN-H)$_x$, density of states of valence band, CPA calc. 1−20613
Si:H, density of states, CPA calc. 1−47425
TiO(C), energetic-vacancy stabilisation mechanisms 1−2914
$U_xTh_{1-x}As(Sb)$, electronic struct., relativistic KKR-ATA calc. 1−47424

CPT invariance
baryon asymmetry of Universe, thermodynamic considerations 1−13899
causality, use of Feynman propagator in S-matrix formalism 1−32870
cosmology and elementary particles, review 1−40586
Einstein's Hermitian theory of relativity as unification of gravo- and chromodynamics *(German)* 1−147
expanding inverse, TCP conservation in cosmology 1−44684

crack detection
see also cracks
acoustic emission, appl. to real time NDT 1−4043
acoustic emission research, developments 1−12944
acoustic microscopy techniques, assessment as NDT for SiC and Si_3N_4 structural components 1−43619
acoustical holography for US imaging of nuclear press. vessel weld lines 1−11254
alternating current field meas. for sizing and detection 1−12941
broadband flaw detection transducers, appl. to acoustic emission pulse shape and spectrum recording 1−29498
capillary flaw detect., crack detectability, drying regimes effect 1−8501
ceramics, defect characterization using scanning laser acoustic microscope, cracks, laminar flaws, porosity and solid inclusions 1−21685
composites, non-destructive testing 1−35456
detection and extension, US and magnetic leakage method eval. 1−21690
eddy current methods, for NDT, finite element anal. 1−43626
eddy current testing, of mag. struct. *(Japanese)* 1−34861
eddy-current method meas. for crack propag. detection *(Chinese)* 1−1899
electric potential technique, for crack growth monitoring 1−39549
fatigue crack, compressive bending stress effects on US techniques 1−12940
fatigue crack growth monitor, noncontact, using EM radiation charact. emitted by test specimen 1−31773
fatigue crack initiation life, of welded joints, automatic detection 1−48635
fatigue cracks flaw inspection of rolling stock axles and other parts 1−4017
fatigued landing gear, damage tolerance, crack detection methods *(German)* 1−8516
focused US probes, for contact inspection 1−48622
graphite fibre reinforced epoxy resin, AE monitoring of damage progression, radiographic verification 1−4021
laser-interferometric minicomputer-controlled technique for crack tip opening displacement 1−23299
magnetic rubber inspection, conventional and innovative appls. 1−48596
mechanical reliability technique, for crack initiation and fatigue *(French)* 1−31823
metal rod, electromagnetic-acoustic excitation and radial vibrations, coupling effect of electromagnetic and elastic waves 1−39574
metallic up-graded surfaces *(German)* 1−48603
metals, crack length measurement in fracture toughness testing, from potential field geometry changes 1−17001
metals, fatigue electrochemical detection 1−43629
optical fibre devices, for detection of plastic strain and cracking 1−43633
oxide films on metals and semiconductors, macrodefect detect. by electrochem. method 1−21656
particle accelerator appls. 1−23875
pressure vessels, US inspection 1−48595
pyroceramics, microbrittleness determ. by luminesc. flaw detection 1−21663
rapid automatic recorder for pulse signals 1−21659
schizeophonics inspection 1−43620
semi-finished products *(German)* 1−35471
sizing, optimisations of crack tip US diffr. technique 1−53378
standardless sensitivity selection technique 1−48621
steel, A106B AE monitoring of crack growth 1−4029
steel, A470, crack growth monitoring, at elevated temps. by elec. potential technique 1−39549
steel, calcs. of US refl. and transmission by cracks filled with liquid Na 1−26709
steel, crack formation during failure, electric potential and US method, comparison 1−4037
steel, ferromagnetic rods, and wires, eddy current methods selectivity, in surface examination *(German)* 1−8515
steel, low alloy, crack length meas. method using crack-opening displacement 1−8508
steel, stainless, Type 304, corrosion fatigue crack growth, acoustic emission detection *(Japanese)* 1−53389
steel, stainless 304, crack growth monitoring, at elevated temps. by elec. potential technique 1−39549
steel bars, nondestructive test device based on eddy-current transducer *(Polish)* 1−48601

crack detection continued
steel plates, adsorpt. and hysteresis behaviour of crack-detecting liq. penetrants 1−47374
steels, high tensile welded low alloy, sound emission obs. of cold cracking propag. *(German)* 1−8514
stress wave rad. from growing cracks 1−46710
surface defect detection using eddy currents *(French)* 1−21688
temporal method of extracting a periodic signal from noise for problems in technical diagnosis 1−35492
threaded fasteners, NDT *(German)* 1−35470
tomographic anal., for weld defects detection *(Japanese)* 1−39553
UHF inspection, method of adapted filtering, flow signal eval. in near zone 1−4038
ultrasonic transducers, directivity determ. 1−35483
US echo flaw detector, compensating noise suppressor 1−4036
US flaw detectors 1−31800
vibration holography appl. *(German)* 1−35469
weld inspection, P-scan system 1−53368
welded joint, algorithm for flaw identification using US quality control data 1−39570
welded joints of complex structs. 1−4015
welds, tomographic anal. *(Japanese)* 1−39553
X-ray image of flaws, boundary determ. on basis of phase-frequency anal. 1−35487
X-ray shielding devices testing 1−40013
SiC, surface flow detection by scanning photoacoustic spectroscopy 1−35454
Si_3N_4, surface flow detection by scanning photoacoustic spectroscopy 1−35454
Ti test sample fatigue crack detect. using an optical Fourier spectrum analyser 1−8492

crack-edge stress field analysis
see also penny-shaped cracks
angle crack problem, max. stress criterion 1−47157
angle ply laminates, through cracks, assumed stress finite element anal. 1−46698
angled crack problem, max. strain criterion 1−47156
antiplane shear waves, diffraction by Griffith crack, rigid strip, anal. by Fredholm integrals 1−6808
axisymmetric elastic solids, stress conc. at grooves, boundary integral eqn. method *(Russian)* 1−19640
beam in pure bending, crack opening, statically admissible stresses, asymptotic method *(French)* 1−24753
beam with round crack, stress-conc. factor determ. in bending 1−1896
bimaterial interface, arrest of transverse crack propagating at right angles to interface 1−35346
blunt crack band anal., finite element choice effects 1−24746
composite plates, with periodical edge cracks fracture 1−1888
composites, stress intensity factors computation for cracks at interfaces by method of sections 1−29624
corner crack, stress-intensity factors from 3-D quarter-point element modal displacements 1−11349
corner points, in plane elastic media, Mode I stress intensity factors 1−37798
crack patching, crack opening displacement approach 1−37848
cylinder, hollow, under torsion, stress intensity factors of parallel external circular cracks 1−11348
cylindrical shells plane-strain bending deform. 1−33314
directional stability of crack propagation 1−46713
dynamic crack propagation in a viscoelastic strip 1−33916
dynamic stress intensity factors using J-integral and finite element method 1−1880
eddy-current method meas. for crack propag. detection *(Chinese)* 1−1899
elastic body under antiplane strain, system of curved slits 1−29626
elastic solid, imperfectly conducting penny shaped crack, steady state thermal stresses 1−19644
elastic solid, infinite, with an annular crack, effect of shear on stress field 1−24744
embedded crack, stress-intensity factors from 3-D quarter-point element modal displacements 1−11349
fatigue crack closure, assessment using Westergaard stress function 1−46705
fatigue crack closure in modes I and II, elastic-plastic anal. 1−46697
fatigue crack propagation, energy considerations 1−46708
fatigue crack tip, macroscopic residual stress distrib. 1−8412
finite rectangular plate, Griffith crack, thermal stress singularities at tip 1−14650
glass plates, tensile fracture, stress field near crack 1−35345
Griffith crack in transversely isotropic medium, effect of two rigid inclusions 1−24752
Griffith crack problem under asymmetrical loads, stress intensity factor *(Chinese)* 1−29618
Griffith cracks, coplanar, diffraction of antiplane shear wave 1−15434
Griffith cracks, two coplanar under impact load, transient anal. of stress wave 1−1879
half space, arbitrary surface loads, continuous analysis of stresses 1−14012
infinite elastic solid bonded to cylindrical inclusion, external crack, thermal stresses 1−19645
intensity factors for embedded irregular cracks 1−19650
invariant Γ integrals 1−46700
isothermal crack problems, mixed boundary-value problem, orthogonal polynomial solns. 1−15451
kinking, energy release rate, closed form solution 1−19642
LMFBR, cracked subassembly ducts, dynamic response 1−33315
LMFBR, prestressed concrete reactor vessel, transient anal., finite element method 1−33324
metal beam with surface crack, stress intensity coeff. determ. in three-point bending 1−1895
mode I branch cracks and their implications for combined mode failure 1−1898
one-parameter charact. by HRR singularity 1−46709
penny-shaped cracks, embedded in layered composite, normal and radial impact 1−15446
penny-shaped cracks, in infinite transversely isotropic medium, asymmetrical loading 1−11353
penny-shaped cracks, micropolar thermoelasticity 1−1884
photoelastic fringe pattern, linear and nonlinear least-squares anal. 1−15456

crack-edge stress field analysis continued
plane elasticity crack problems, case of loading discontinuities, numerical soln. 1−37843
plate, critical eval. of numerical solns. to benchmark surface-flaw problem 1−33929
plate, oscillating, with crack, stress intensity factors using finite element anal. 1−37841
plate, skew parallel cracks, interaction effects, critical stress of fracture 1−19646
plate, uniform isotropic, stress distrib. near sharp-angled defects 1−33932
plate, V-notched, fracture analysis, singular finite elements 1−67
plate with edges partially in contact, notched, elastic equilib. 1−33931
plates, biaxially stressed, path stability, in fracture propag. 1−37847
plates with cracks, time-dependent inelastic deformation, boundary element method 1−19586
pressure vessel surface flaws and nozzle corner cracks, effect of flaw shapes on stress intensity 1−29628
quench-test specimens, transient stress intensity factors for edge and corner cracks 1−1891
rectangular crack in infinite elastic medium, dynamic stress concentration 1−33934
running cracks, under constant velocity, elastodynamic forms of caustics 1−37842
short cracks, stress analysis 1−29627
small-scale yielding at the tip of a through-crack in a shell 1−19649
steel, pressure vessel, crack growth and initiation characterisation 1−48643
steel plates, brass clad, fatigue crack growth and crack closure behaviour *(Japanese)* 1−43482
steels, crack length and specimen thickness influence on fracture toughness 1−31598
stress corrosion cracking in engineering materials, plastic fracture mechanics, implications of recent developments 1−3975
stress distribution, due to an external crack opened by two inclusions 1−37846
stress intensity factor of anti-plane strain edge crack during propagation and arrest, effect of reflected stress waves 1−46707
stress intensity factors at propagating tips of bifurcating crack and skew, elastodynamic anal. 1−46699
stress wave rad. from growing cracks 1−46710
surface crack, stress-intensity factors from 3-D quarter-point element modal displacements 1−11349
thermally driven penny shaped crack enlargement, stability considerations 1−37851
thin plate, crack growth with creep, rel. to plastic zone near crack tip 1−41983
three dimensional surface crack problem by Rayleigh Ritz method *(Japanese)* 1−15444
three dimensional unidirectional composite containing broken fibres, stress around cracks 1−3881
unbounded solid with coplanar system of fine inclusions 1−1894
unstable extension of internal and edge cracks, prediction of path 1−41984
warm prestressing, theory, expt. validation and implications for elastic-plastic failure criterion 1−47160
wear, fracture mechanics approach, stress intensity assoc. with subsurface crack 1−11809
wedge-shaped crack, stress singularity at vertex, variational method 1−24748
Al-Cu-Mn alloys, short surface fatigue cracks, growth rate models 1−53269

crack inspection *see crack detection*

crack-tip stress field analysis *see crack-edge stress field analysis*

cracking *see cracks; fracture*

cracking, stress corrosion *see stress corrosion cracking*

cracking, thermal stress *see thermal stress cracking*

cracks
see also crack detection; crack-edge stress field analysis; crazing; fatigue cracks; penny-shaped cracks; stress corrosion cracking; thermal stress cracking
andesite, dilatancy and microcracks, creep vel. rel. to uniaxial compression *(Japanese)* 1−49264
angle ply laminates, through cracks, assumed stress finite element anal. 1−46698
anisotropic bodies, fracture criterion of flat ellipsoidal cracks 1−1892
Battelle Benchmark geometries, stress intensity factors determ. 1−1886
brittle materials, statistical variation of strength 1−8418
central crack propag., viscoelastic effects 1−1837
ceramic, strength, stress state effect 1−16893
ceramic, strong, compressive strength effect on mech. performance 1−43465
ceramic materials with different structs., creep accompanying comparison and extension *(Russian)* 1−20308
ceramics, median/radial crack system, elastic/plastic field anal. 1−26601
ceramics, slow crack growth, influence of testing prodedure on determ. of charact. fracture parameters *(German)* 1−4010
composite plates, with periodical edge cracks fracture 1−1888
diamond, frictional anisotropy due to surface and sub-surface damage 1−31673
dislocation and cracks, book contrib. 1−2461
dislocations in metallurgy, book 1−27
ductile pipes, stability of circumferential through cracks, nuclear plant appl. 1−14649
dynamic crack and punch problems, complex variable methods and closed form solns. 1−29621
dynamic crack propag., optical method of caustics anal. 1−2561
dynamic fatigue, flaw characts., residual contact stresses influence 1−26600
edge dislocation interaction with wedge crack in hydrostatically compressed crystal *(Russian)* 1−42382
elastic solid, infinite, with an annular crack, effect of shear on stress field 1−24744
elastic wave scattering from planar cracks in isotropic media 1−37645
EM field effect on crack tip and propagation 1−19648
EM pulse emission during crack nucleation in insulating solids 1−21586
energy release rate in elastodynamic crack propagation 1−29617
external crack, opened by two inclusions, stress distrib. 1−37846
external line cracks in 2-D elastostatics 1−24750
external load effects on stability loss near vertical crack 1−19600
fibrous composites, macroscopic fracture 1−21584

cracks continued
fission reactor fuel rods containing defects, power ramp and power-cooling-mismatch conditions 1−10450
fracture, ductile, characterisation, effect of specimen size and geometry 1−48641
fracture, scale effects, review 1−26582
fracture, slow to fast transition under post-yield condition 1−47168
fracture mechanics, problems in expt. procedures 1−25365
fracture transition correlation, fracture diagrams, elastoplasticity 1−24751
glass, foamed, cell size effect on strength 1−53236
glass, protective and lubricious coatings, mech. props. 1−53327
glass, strengthened by ion exchange and quenching, durability, temperature-force depend. 1−43509
glass fibre reinforced polyester sheet, accelerated weathering test appl. to improved surface durability 1−48542
glass tubes, crack bifurcation under hydrostatic press. 1−26587
graphite, oxidation effects on toughness and slow crack growth 1−21568
graphite, polycrystn., subcritical crack growth 1−21567
graphite electrodes, crack damaged, current distrib. anal. *(German)* 1−3883
Griffith crack, dynamic propag. in finite rectangular plate 1−46702
Griffith crack problem under asymmetrical loads, stress intensity factor *(Chinese)* 1−29618
Griffith cracks, coplanar, diffraction of antiplane shear wave 1−15434
growth of cracks, in creeping solids, anal. 1−37849
Hastelloy alloy C-276, Ni-base superalloy, hydride form. 1−53271
Homalite 100, energy loss during crack propag. and arrest 1−38440
hydraulic fracturing, crack growth and numerical models of pore pressure 1−44173
inelastic deformation around crack tip due to microcracking 1−1890
J integral, of a mixed mode crack, and its appl. 1−46712
J-integral and crack tip plastic blunting relationship 1−47167
kinking, energy release rate, closed form solution 1−19642
laminar viscoelastic plates, crack growth kinetics *(Ukrainian)* 1−15445
line plastic-zone model for steady mode III crack growth in an elastic-plastic material 1−11352
LMFBR pressurised pipes, crack propag. due to ductile fracture 1−41184
mechanically unstable test specimens, with finite differences in crack areas, J_{IC} meas. 1−1885
metallisation system for electromigration improvement 1−16102
metals, blind cracks development in repeated loading, method for studying 1−35480
metals, ductility reserve, effect of local residual stresses close to notch roots and cracks 1−31556
metals, sharp defect tips, redistribution of elec. and thermal fields *(Russian)* 1−2562
microcrack, appl. of unzipping model of fatigue cracks 1−3918
microcrack propagation during brittle fracture, surface shape and indentor size influence 1−16874
nonsymmetric external loads relative to crack, local fracture criterion 1−24754
nuclear fuel particles, coated, mechanical loading effects *(German)* 1−37002
patched crack, crack opening displacement approach 1−37848
physical characteristics of crack nucleation and growth 1−42455
piecewise uniform structures, thermoelastic stresses, cracking 1−15449
plastic alloy, thin cracked plates, determ. of plastic strains and strain energy dissipation 1−47152
plate, internally cracked, of nonlinear material, loaded biaxially at infinity, upper-bound on J 1−19641
plate, oscillating, with crack, stress intensity factors using finite element anal. 1−37841
plate, skew parallel cracks, interaction effects, critical stress of fracture 1−19646
plates, cracked, tensile loaded in elastic plastic range, finite-element-method and Dugdale model anal. *(German)* 1−41985
plates with cracks, time-dependent inelastic deformation, boundary element method 1−19586
plexiglass plate, stress intensity factor determ., semi-theoretical and expt. approach 1−3877
PMMA, fracture toughness and crack growth rate relationship *(Japanese)* 1−43484
PMMA, fracture transition correlation, fracture diagrams, elastoplasticity 1−24751
polycrystals, ultrafine grain size, Hall-Petch relation, effect of microcracking and intrinsic obstacle strength 1−21551
polyester, 3D body, elliptical planar crack, fracture criteria 1−48512
pore closure kinetics and plane crack displacement in diffusional flux *(Russian)* 1−2694
propagation, non-steady state in stress corrosion cracking, fracture kinetics anal. 1−37845
propagation, quasibrittle, stress relaxation kinetics 1−30312
propagation, theory of non-steady state fracture kinetics anal. 1−37844
propagation characts., effect of material nonhomogeneity 1−25361
pyrophyllite, crack development during dilatancy rel. to wave vel. changes 1−22337
quartz, crack propagation in presence of H_2O, chemomech. weakening 1−22336
quartz, natural, synthetic fluid inclusions, formation 1−47155
quartz, sputtered, quality test based on electromigration 1−21655
refractories, crack kinetics and texture relationship, effect on fatigue behaviour *(German)* 1−39412
rock dilatancy, reversible Griffith crack model 1−40122
rock microcrack closure under uniaxial stress 1−44171
rocks dilatancy, sliding crack model 1−40121
running cracks, under constant velocity, elastodynamic forms of caustics 1−37842
rupture mechanics, thermodynamic description *(French)* 1−15448
scattering of elastic waves by a surface-breaking crack 1−27796
sital pyroceramic, surface layer optical property and struct. investigation, mech. finishing 1−1659
small-scale yielding at the tip of a through-crack in a shell 1−19649
spatial problems in theory, review, elastic and limit equilib. of solids with cracks under force loading 1−33930
splitting fracture, crack growth, general mechanism 1−2563
steel, AISI 316, creep crack growth 1−39455
steel, alloy, transition temp. characterisation using fracture toughness parameter 1−26584
steel, austenitic stainless, creep crack growth rate at high temp., new parameter for prediction 1−25364

cracks continued
steel, austenitic stainless, plastic zone obs., −196°-950°C, using recrystn. technique 1−39368
steel, Cr-Mo, creep crack propagation, applicability of fracture mech. parameters *(Japanese)* 1−43483
steel, Cr-Mo, quenched, creep crack growth 1−39455
steel, ferritic, creep crack propagation, effect of prior damage 1−16896
steel, high and medium C, crit. crack opening determ. in bending tests 1−21661
steel, high-strength, AISI 4340, pre-loading conditions effect on crack initiation and propag. in SCC *(Japanese)* 1−26669
steel, line pipe, time-dependent ductile fracture 1−48516
steel, low alloy, martensite morphology, TEM study *(German)* 1−8305
steel, low alloy, reactor pressure vessel, acoustic emission during elastic-plastic deform. around crack 1−3843
steel, Ni-Cr-Mo, crack branching in delayed failure, effect of pre-austenite grain size *(Japanese)* 1−26604
steel, quenched, acoustic meas. of stress fields and microstruct. 1−48594
steel, SCM, H_2 absorbability, effect on cracking behaviour *(Japanese)* 1−43480
steel, stainless fibre reinforced Al_2O_3 castables, high temp. mech. props. 1−31524
steel, structural BS 4360 50B, influence of stored energy on crack arrest 1−39415
steel, structural HT 60 and SUS 304, statistical eval. of role of randomly distributed pits and cracks in corrosion fatigue 1−39542
steel, tool, abrasive wear, effect of internal notches 1−16909
steel, transmission line pipe, relationships between mech. props. and extension and arrest of cracks 1−31637
steel, type 40 Kh, fatigue damaged, nitrogenated, healing mechanism *(Russian)* 1−16869
steels, high-strength AISI 4340, notched plates, nucleation and growth of stress corrosion cracks 1−39545
steels, sintered, crack growth characts. 1−12867
stress intensity factors at propagating tips of bifurcating crack and skew, elastodynamic anal. 1−46699
subsurface damage in solid particle erosion, mechanics 1−11810
SYNROC, accelerated irrad. testing using fast neutrons 1−42429
TEM in situ obs., of crack propag. in tensile deformed metals 1−7174
theory, spatial problems, mech. concepts and math. methods 1−29625
theory for semiinfinite areas bound by a curvilinear contour 1−51720
thin, aligned or random, effect on material props. 1−15450
three-layer plate with crack in centre layer, stress intensity factor 1−46703
Ti-Al-Sn, type 6242 alloy, time depend. crack growth 1−48500
vibration of cracked rectangular plates 1−11333
viscoelastic material, growth theory 1−46704
wear, fracture mechanics approach, stress intensity assoc. with subsurface crack 1−11809
Ag coatings, mech. props. meas. 1−12784
Al, coatings, mech. props. meas. 1−12784
Al, wear process, anal. using finite element method 1−11811
Al-Mg alloy AMg6, unit crack propag. energy, depend. on chemical comp. 1−39449
Al-Mg alloys, hot-rolled, edge cracking 1−8424
Al-Zn-Mg (0.25, 0.8 wt.%), creep crack growth, critical anal. 1−12874
Al_2O_3, corundum ceramics, light transmittance, effect of technological parameters 1−53307
Al_2O_3, crack growth from small flaws in larger grains 1−26597
Al_2O_3, hot-pressed, correl. of fracture toughness and crack lengths from Vickers hardness indentation *(German)* 1−35344
Al_2O_3, slow crack growth, influence of testing rate and grain size *(German)* 1−4011
β-Al_2O_3, strength controlling flaws 1−43511
Al_2O_3-SiO_2, mullite-corundum ceramic, hot pressing study 1−12700
$AlPO_4$, crystal growth, solubility and perfection study 1−16676
Au coatings, mech. props. meas. 1−12784
Au-Sn-Al metallizations on GaAlAs LED, interfacial void struct. 1−16195
C-fibres, from mesophase pitch, flaws anal. 1−8376
Cu, commercially pure, wedge cavities, SEM obs. 1−3919
Cu, polycryst., tribomechanically loaded, strength of subsurface region, dislocation cell struct. 1−21592
Fe, BISRA-AH, wedge cavities, SEM obs. 1−3919
Fe, cast, abrasive wear, effect of internal notches 1−16909
Fe, cast, ductile, hot rolling and forging 1−48403
Fe, monocryst., tribomechanically loaded, strength of subsurface region, dislocation cell struct. 1−21592
Fe-Si, transition correlation, fracture diagrams, elastoplasticity 1−24751
Ge, coatings, mech. props. meas. 1−12784
KH_2PO_4 single crystals, Vickers microhardness meas., indentation load depend. 1−20311
Mo, in situ TEM fracture obs., plastic zone struct. 1−39440
NaCl:Mn, Suzuki phase precipitates, gold decoration study 1−20409
Ni powder, precipitated, swelling at elevated temps. due to gas liberation 1−3661
Si single crysts., calc. of pressure inside H induced cracks 1−53279
Si_3N_4, hot-pressed and reaction-sintered, correl. of fracture toughness and crack lengths from Vickers hardness indentation *(German)* 1−35344
Ti alloy VT14, pressure vessel, spherical, correlation between mech. props. and failure stresses 1−3933
Ti-Al-V-Cr (3,13,11 wt.%), weldments, solidification cracking, SEM study 1−3905
Ti-Al-V-Sn (6,6,2 wt%), subcritical crack growth under sustained load 1−53270
Ti-Al-V-Sn (6,6,2 wt.%), weldments, solidification cracking, SEM study 1−3905
W, in situ TEM fracture obs., plastic zone struct. 1−39440
W powders, sintered bars and wires, influence of grain size on props. *(German)* 1−43296
WC-Co cemented carbide, bend-deform. behaviour and transverse-rupture strength at elevated temps. *(Japanese)* 1−26550
Zn, cleavage cracks interaction with forest dislocations 1−42389
ZnS, CVD, polycrystalline, contact damage 1−31531
Zr-Nb (2.5 wt.%), stressed in torsion, hydride redistrib. and crack growth 1−53252
ZrO_2 based heat resistant materials, temp. held during annealing 1−35284

cranking model, nuclear *see nuclear cranking model*

crazing
see also stress corrosion cracking
ABS, rubber roughening of plastics, fatigue damage mechanisms 1−31595
fracture-crazing-yield transitions, under hydrostatic pressure 1−8419
plastic, cold forming, recovery due to viscoelastic props. *(German)* 1−26497
plexiglass, Dugdale-Barenblatt equilibrium model for crazes 1−53297
PMMA, growing craze, rapid response to stress pulse 1−53276
polycarbonate, bisphenol A, fatigue and crazing, X-ray obs. 1−35361
polycarbonate, fracture toughness, effect of stress cracking 1−48496
polycarbonate, oriented, crazing 1−35359
polychlorotrifluoroethylene, craze velocity depend. on press. and temp. of environmental gas, N_2 and CH_4 1−39489
polyethylene, craze existence at crack tip in environmental stress cracking, direct evidence 1−48546
polyethylene, high-density, crazing and shear lip formation in notched crack propag. 1−48510
polymer crazes, thermodynamics of quasiequilibrial growth 1−38442
polymers, combined relax. spectrosc. investigs. 1−38447
polymers, glassy Dudgale-Barenblatt equilibrium model for crazes 1−53297
polystyrene, craze velocity depend. on press. and temp. of environmental gas, N_2 1−39489
polystyrene, high impact, fluid mobility and solubility parameters effect on mech. props. 1−53323
polystyrene, high impact, rubber roughening of plastics, fatigue damage mechanisms 1−31595
polystyrene, press.-induced environmental stress crazing and cracking, mechanistic aspect 1−43565
polystyrene high impact film, development from glassy polymers, mechanical props. 1−12716
PMMA, craze velocity depend. on press. and temp. of environmental gas, N_2 1−39489

creation hypothesis, continuous *see cosmology*

creation of electron pairs *see electron pair production*

creep
see also creep fracture; creep testing; diffusion creep; elastic aftereffect; irradiation induced creep; recovery-creep; stress relaxation
adhesives, bonded, stress depend. of creep 1−8380
alloys, particle strengthened, back stress concept 1−12838
anelastic deform. in creep, stochastic model *(Czech)* 1−47153
beam, inhomogeneous, subjected to ageing, creep theory optimisation 1−19593
biaxial stress change expts., in high-temp. creep 1−39394
biological materials, solid, linearization of relaxation and creep curves 1−3811
bone, human tibial, creep props., nonuniformity of distrib. under tensile testing 1−17436
buckling time in structures under varying loads 1−29588
cavity growth and creep under uniaxial stresses in polycrystalline material 1−52222
ceramic materials with different structs., creep accompanying comparison and extension *(Russian)* 1−20308
circular solid cylinder, thermal stress relaxation from creep deformation 1−19589
component design for low cycle high temp. loading 1−34415
composites, inelastic, long-term failure 1−12812
concrete, triaxial compressive creep, 20 to 320°C 1−43467
crack extension, in creeping solids, anal. 1−37849
cyclic strain determ. 1−7246
cylinder, circular, transversely isotropic, subjected to torsion, plastic and creep stresses 1−51710
cylindrical high pressure container, thick-walled *(German)* 1−51708
dislocation acceleration 1−20230
dislocation link length models, for creep and strain hardening 1−12841
dispersion hardened alloy 1−26481
dispersion hardened system, dislocation-inclusion interactions during creep 1−42415
dynamic straining expts., in HVEM, review 1−31579
Earth interior, effects of transient rheology on postglacial rebound and mantle viscosity meas. 1−22314
elasto viscoplastic flow, effects of boundary conditions 1−29571
electron microscopy, of basic processes 1−2457
elevated temperature deform., description in terms of threshold stresses and back stresses 1−12804
FCC solid solution alloys, creep behaviour *(Czech)* 1−3838
friction stress, determ. in creep, incubation period models 1−52223
glass, fracture and flow 1−8402
glass ceramics, soln.-precipitation creep 1−31522
glass fibre reinforced polypropylene, non-linear viscoelastic behaviour in creep 1−48422
glass reinforced plastic box beams, creep behaviour 1−8369
glassy polymers, glassy, deformation kinetics in wide temp. range (−200 to 100°C) 1−3816
grain boundary cavity growth, plastic creep flow effects 1−2705
Hastelloy alloys X and S, generation of reliable design data for long term high temp. creep appls. 1−39398
ice Ih, creep and failure 1−53239
IMI 685, Ti-Al-Zr alloy, fatigue behaviour, time dependent deform. 1−35391
IN-738 Ni-base superalloy, creep life extension, regenerative heat treatments 1−16860
Inconel 718, creep-fatigue-environment interaction 1−3829
Inconel alloy MA 754, oxide dispersion strengthened, creep and stress rupture behaviour 1−12808
Inconel MA 754, oxide strengthened, predeform. effect on creep and stress rupture 1−26559
incubation periods, during transient creep 1−52224
intergranular crack growth, at high temps. 1−12877
intervertebral discs, creep behaviour under a constant axial compressive load 1−32164
isotropic materials, relaxation characts. rel to creep 1−46680
life prediction, parametric methods, parameter choice rel. to deform. mechanisms 1−39399
LMFBR components, low-cycle fatigue at high temps. 1−41171
low cycle fatigue with creep, nonisothermal loading, kinetic deform. criterion 1−34411
mass concrete mech. props. at elev. temps. 1−43468

creep continued
mechanical behaviour of materials, conf., Cambridge, England (Aug. 1979) 1−27673
medial collateral ligament, artificial, design and fixation 1−49161
metal, compressed beam, elevated temp. effect on stability under loading 1−31559
metal, creep, connection between structural changes and mech. behaviour, eqn. 1−39387
metal crystals, low temp. creep 1−43407
metals, creep, low temp., quantum effects 1−15947
metals, creep, struct. model, physical mechanism 1−39381
metals, normal FCC, effect of mag. field on low temp. plastic deform. and creep *(Russian)* 1−21508
metals, plastic deformation in creep and active loading, test installation 1−16990
metals, polycryst., creep and creep-fatigue, high temp., deform. and intergranular fracture 1−34416
metals and alloys, strength, conf., Aachen, Germany (Aug. 1979) 1−5030
micromechanical modelling using distributed parameters 1−38438
model deformation, constitutive model, physically-based 1−8363
Nimonic 80A, creep deform. and cavitation damage under a triaxial tensile stress 1−39395
Nimonic 90, creep, friction stresses and anelasticity 1−12837
Nimonic 90, Ni-Cr-Co alloy, fatigue behaviour, time dependent deform. 1−35391
nonaxisymmetrically heated cylinders, creep linearisation 1−15409
nonlinear hereditary ageing material, mixed variational eqn. *(Russian)* 1−15417
nuclear reactors, pellet-cladding mechanical interaction, absorber assembly design 1−10444
olivine, high-temp. creep, dynamic recrystallization of single crystals 1−22329
oxide glass, viscoelastic and plastic behaviour near glass transition 1−35297
pipe bends, creep behaviour under in-plane bending, ring element method 1−29578
pipe diffusion importance, in creep data correlation 1−12843
pipes, thick-walled, plain and welded, creep deform. 1−35343
plates, rectangular, bent into circular cylinder, creep transition 1−11320
PMMA, density and mech. props., effects of thermal history 1−35327
PMMA, growing craze, rapid response to stress pulse 1−53276
polycarbonate, viscoelastic deform. in complex stress state 1−31519
polycrystals, deform. 1−31578
polyester fibres rubberised with butyl resin, creep, effect of water and seawater 1−31551
polyethylene, ultrahigh modulus, stiffness and creep 1−31582
polymer fabrics, anisotropic technical, nonlinear time depend. deofrm. processes 1−12788
polymeric materials, relaxation processes, time integral characts. of four-parameter description 1−15424
polymers, semicrystn., IR studies on deform. 1−35328
polypropylene, non-linear viscoelastic behaviour in creep 1−48422
polystyrene, high impact, fluid mobility and solubility parameters effect on mech. props. 1−53323
polystyrene in tri-m-tolyl phosphate soln., torsional creep and creep recovery meas. 1−34389
polyvinyl acetate, creep meas., hygrothermomechanical characterisation 1−11805
polyvinylidene fluoride, multiple transitions, thermally stimulated creep and TSC studies 1−38296
power law creep eqn. 1−43451
pressurised membranes, plasticity and creep, small deflection theory 1−11323
pressurised spherical vessel, anisotropic creep props. considering large strains 1−24695
process heat gas cooled reactor systems applications, structural materials requirements 1−45627
quantum effects, in low temp., creep of metals 1−15947
refractory alloy, chromatically contrasted, metallographic exam. after corrosion and creep tests *(German)* 1−48639
refractory metals and alloys, extrapolating min. creep rates, evaluation of methods 1−11806
residual creep life determ., metallographic methods 1−31544
review, controlling mechanisms, in single phase metals and alloys 1−31577
rheonomic material model nonisothermal strain curves for tests with periods of ageing, expanded masing principle 1−3865
shell, anisotropic, spherical, creep transition under uniform internal press. 1−6788
shells with openings, stress-strain state, review 1−19561
Sialon, micromechanisms for fracture and plasticity 1−8401
solid solution, edge dislocation, in equilib. and gliding, vacancy and substitutional solute distrib. 1−20203
steady-state flow, at large strains 1−12842
steel, 15%Cr-15Ni-Mo-Ti-B, ageing and creep behaviour 1−16846
steel, $2\frac{1}{4}$% Cr 1% Mo, uniaxial creep life, effect of hydrostatic pressure 1−31552
steel, γ'-$Ni_3(Al,Ti)$ hardened, free dislocation density during creep, second phase particle effect 1−3853
steel, AISI 316, butt-welded tubes with internal pressure, creep 1−39396
steel, AISI 316, creep crack growth 1−39455
steel, alloy, fatigue-creep interactions, damage 1−35392
steel, alloy, stabilized, creep and struct. *(Czech)* 1−48425
steel, austenitic, creep behaviour following multiple mech. thermal treatment 1−16864
steel, austenitic stainless, crack growth rate under high temp. creep, fatigue, and creep-fatigue interaction 1−26588
steel, austenitic stainless, crack growth rate under high temp. creep, fatigue and creep-fatigue interactions, role of fracture mech. parameter 1−26589
steel, austenitic stainless, creep, Portevin-Le-Chatelier effect and dynamic strain ageing *(Czech)* 1−48426
steel, austenitic stainless, creep-fatigue interaction, interactive damage eqn. 1−34414
steel, austenitic stainless, deformation hardening at elevated temp. 1−35282
steel, austenitic stainless, elevated temp., low-cycle fatigue life, effect of rising mean strain 1−8436
steel, austenitic stainless, fatigue, low-cycle, under creep-fatigue interaction 1−8414
creep continued
steel, austenitic stainless, fatigue, low-cycle thermal-mech., under creep-fatigue interaction 1−35390
steel, austenitic stainless, fatigue life, low-cycle, high temp., effect of strain wave shape 1−43495
steel, austenitic stainless, props. and microstruct., TEM and SEM study 1−35394
steel, austenitic stainless, twin boundary sliding during high-temp. creep 1−43447
steel, austenitic stainless, type 1Kh18N9T, creep with programmed stress intensity variation, plastic prestraining 1−39385
steel, austenitic type 25Cr-20Ni, stress drops expts. during high temp. creep (1133 and 1193K) 1−8398
steel, C-Mn-Nb, Al killed, high temp. and mech. props. *(French)* 1−21494
steel, Cr-Mo, creep life, effect of hydrostatic press. 1−16859
steel, Cr-Mo, quenched, creep crack growth 1−39455
steel, Cr-Mo (2.25, 1 wt.%), ausscheidung und kriechfestigkeit (Precipitation and creep resistance) *(German)* 1−3752
steel, Cr-Mo (2.25, 1 wt.%), comp. effects on creep ductility 1−26561
steel, Cr-Mo (2.25, 1 wt.%), thermally aged fatigued, and creep deformed, TEM study 1−8386
steel, Cr-Mo-V, void form. during creep of 15Kh11F and 12Kh1MF *(Russian)* 1−26542
steel, Cr-Mo-V (0.5, 0.25 wt.%), creep and microstruct., austenitising treatment effect 1−8357
steel, Cr-Mo-V (0.5, 0.5, 0.25 wt.%), behaviour of cracks in creep 1−39400
steel, Cr-Mo-V (0.5, 0.5, 0.25 wt.%), creep damage and life assessment 1−39397
steel, Cr-Mo-V (0.5, 0.5, 0.25 wt.%), prior room temp. deform. effect on creep, rupture and cavitation 1−39401
steel, high-strength heat-resistant 30Kh3NM3FTs, props. and appl. 1−8394
steel, low alloy ferritic, creep behaviour, influence of heat treatment 1−16863
steel, martensitic, corrosion-resist., operation at temps. up to 650°C 1−16886
steel, martensitic, inheritance by martensite of deform. structure of original austenite 1−16840
steel, pressure vessel, weld simulation heat-treated specimens, TEM invest. rel. to stress-relief cracking 1−35384
steel, stainless, 1Kh18N9T, nonisothermal strain curves for tests with periods of ageing, expanded masing principle 1−3865
steel, stainless, type 304, creep and stress relaxation at room temp. 1−35311
steel, stainless, type 304, creep at low stresses 1−21505
steel, type 316, creep/fatigue props. at 625°C 1−39369
steels, ferritic, cavity nucleation and growth 1−43462
steels, low-C 2.25 Cr-1 Mo, effects of trace elements on creep strength and ductility 1−43441
strain measure, Lebesgue integral of function of weighted function 1−11319
stress corrosion, dry, brittleness and delayed failure *(French)* 1−48543
stress-strain state of reinforced cylindrical shells in transient creep conditions 1−24703
stresses and strains for nonisothermal loading processes, scalar properties of relationship 1−19594
strips, rectangular, subject to torsion, transient creep bounds 1−15415
structural element material damage during creep 1−51707
subgrain boundaries, numerical study of long-range internal stresses 1−25289
superplastic materials, origin of high ductility, free energy for superplasticity and dislocation creep 1−52220
surface layer of nonstructural element with nonsteady thermal effects, thermal stress state 1−29510
theory 1−2558
transient creep, incubation periods 1−52224
transient creep in upper mantle 1−32402
viscoelastic, birefringence in unloading process under combined stresses 1−43094
viscoelastic plates and shells, deform. stability at elevated temps. 1−11324
vulcanizate, pure gum rubber, long-time creep representation 1−39377
Zircaloy, effect of dispersion and spheroidization treatment of δ-ZrH_2 on creep and corrosion resistance 1−5848
Zircaloy-2, rel. between strain rate, strain to failure and lifetime 1−35317
Ag, creep, low temp., quantum effects 1−15947
Ag, crystals, low temp. creep 1−43407
Al, Al_2O_3 particle strengthened, creep 1−43414
Al, Al-Cu(Si), evaporated films, lattice parameters and homogeneous elastic stresses, $\sin^2\Psi$ meas. method 1−30604
Al alloy, fatigue and creep, alternating, method of predicting endurance at crack initiation and growth states 1−12869
Al, cell structs. produced by cyclic and monotonic deform., comparison using transient creep curves 1−12849
Al, commercially pure, grain boundary sliding as origin of superplasticity 1−53235
Al contacts, room temp. sintering in vac. and in O_2 1−16339
Al, creep, low temp., quantum effects 1−15947
Al, creep behaviour following stress change, substruct. influence 1−12840
Al, crystals, low temp. creep 1−43407
Al, cyclic creep behaviour and internal stresses 1−11807
Al, deformation at low stress in early stage of fatigue and creep 1−53232
Al, dislocation struct. evolution during high press. creep 1−7180
Al, EM study of substruct. during creep 1−30237
Al laminated composites, creep 1−8389
Al, mobile dislocation density and velocity, during in situ creep in HVEM 1−53242
Al, thermoactivation parameters and dislocation behaviour at creep under high hydrostatic pressure 1−34404
Al-Mg (2 wt.%), creep mechanism at high temp., stress depend. 1−38378
Al-Mg (5 wt.%), creep behaviour following stress change, substruct. influence 1−12840
Al-Mg (5 wt.%), creep mechanism and stress exponent 1−12816
Al-Mg (5.5 at.%), FCC solid solution alloys, creep behaviour *(Czech)* 1−3838
Al-Si piston alloys AL25 and AL30, creep and heat resist. 1−35330
Al-Zn (5 wt.%), creep behaviour following stress change, substruct. influence 1−12840
Al_2O_3, refractory concrete, creep 1−31523

creep continued
Al_2O_3-SiO_2 based mullite refractory, creep in neutral and reducing media 1−31553
B fibres, time-temp. depend. axial failure, prediction 1−48474
B reinforced Al composites, time-temp. depend. axial failure, prediction 1−48474
Be, plastic flow, imbedded zone form., obs. during creep *(Russian)* 1−3826
Cd, creep, low temp., quantum effects 1−15947
Cd, crystals, low temp. creep 1−43407
Cd single crysts., creep in temp. range 1.5 to 393K 1−43412
Cd-Ag, stepwise creep curves at 4.2K, Portevin-Le Chatalier effect 1−21526
Cd-Ag(Zn) alloys single cryst., deformation at very low temp. 1−43408
Cd-Sn (0.08 wt.%) single cryst., discontinuous creep 1−43415
Co-Cr-(Ni-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652
Cr-Mo steel, tertiary creep model 1−43461
Cu, creep, low temp., quantum effects 1−15947
Cu, crystals, low temp. creep 1−43407
Cu, dispersion strengthened crystals, dislocation density effect on creep 1−26553
Cu, grain boundary cavity growth, during high-temp. creep and fatigue 1−43443
Cu, transient creep, US stress effect *(Russian)* 1−12791
Cu-based composite materials, fracture laws and singularities *(Russian)* 1−3885
β-Cu-Zn, disordered, creep, nonstoichiometry effects 1−21523
Eu_2O_3, monoclinic, thermally activated creep 1−39364
Fe, electrolytic, creep deform., caused by cathodic H charging *(Japanese)* 1−31538
α-Fe, plastic deform. by determ. and anal. of creep data 1−12845
Fe-Cu (1.8 wt.%), ausscheidung und kriechfestigkeit (Precipitation and creep resistance) *(German)* 1−3752
Fe-P-C glass, viscoelastic and plastic behaviour near glass transition 1−35297
$Fe_{40}Ni_{40}P_{14}B_6$, metallic glass, viscous flow and hot forming 1−43463
Mn-Zn ferrite, dislocation climb controlled creep *(Japanese)* 1−43460
Mo, single crysts., high-temp. creep and dislocation struct. 1−12848
Mo steel, tertiary creep model 1−43461
MoS_2-Mo porous material, densification kinetics in hot pressing 1−53123
Nb-Zr-C, heat resist., mech. props. and struct., residual vac. gas comp. effect 1−3861
Ni alloy, oxide dispersion hardened, creep 1−26481
Ni base alloys, particle-strengthened, creep behavior, role of alloy matrix 1−3900
Ni-base alloys, transient creep 1−16865
Ni-base heat-resist. alloys, dislocation arrays formed during creep 1−15896
Ni-base superalloy, evaluation of γ' particle spacing along dislocation 1−42392
Ni-base superalloy, IN-939, interrelationship of γ' size, grain size and mech. props. 1−31574
Ni-base superalloy, oxide dispersion and precip. strengthened, creep and stress rupture behaviour 1−12809
Ni-Cr-(Al-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652
$Ni_{36}Fe_{32}Cr_{14}P_{12}B_6$, Metglas 2826A, creep and isoconfigurational flow 1−35321
PB, crystals, low temp. creep 1−43407
Pb, creep, low temp., quantum effects 1−15947
Pb-Sb-Te-Cu coating for Pb cables, thickness reduction, mech. props. 1−31563
Pd-Fe-Si (5.1, 16.8 at.%) metallic glass, hot deform. 1−43454
$Pd_{77.5}Cu_6Si_{16.5}$, amorphous, homogeneous flow 1−26569
Se, vitreous, viscoelastic and plastic behaviour near glass transition 1−35297
$Si_{3.9}Be_{0.1}N_{3.8}O_{0.2}$ hot pressed ceramic, thermomech. props 1−3871
SiC, gas phase impregnation 1−21363
Si_3N_4, hot pressed with low amounts of additives, mech. props. 1−16736
Si_3N_4 polyphase systems, fabrication, microstruct., props., review 1−8261
Si_3N_4, reaction-bonded, interaction between creep, oxidation and microporosity 1−48417
Ti alloy, 679, thermal stability invest. *(Chinese)* 1−53254
Ti alloys, mech. props., improvement by optimising struct. 1−16842
Ti, enhanced plasticity in commercially pure specimens subjected to creep testing 1−16861
Ti, stress/strain ageing phenomena relation to creep behaviour in 25-400°C 1−16854
Ti-Al-Mo-Sn-Si (4, 4, 2, 0-0.5 wt.%), high temp. strength, influence of Si 1−31640
Ti-Al-Zr-Sn-Mo(Nb)(W), mech. props. and struct., effect of Mo, Nb and W 1−16845
Ti-V-Si (30, 0.1 at.%), precip. and struct. of Si-rich phases, influence on mech. props. 1−8309
Ti-V-(Si) BCC alloys, high temp. deform., 500-800°C 1−16862
Ti-Zr-Al-Si (5, 5, 0.5 wt.%), back-stress-based rationale for creep behaviour during dynamic ageing 1−21515
Ti_3Al-(Nb), steady-state creep 1−31532
TiB_2-CrB_2, hot pressing, densification through particle crrep 1−53142
TiC-VC composites, creep parameters, effect of changes in struct. 1−21530
TiC-ZrC composites, creep parameters, effect of changes in struct. 1−21530
V_3Si, supercond. intermetallic cpd., electroplastic effect 1−16912
W, dislocation density in high temp. creep, determ. by rocking cryst. method *(Russian)* 1−25274
W monocrystals, creep behaviour at moderate temp. *(Russian)* 1−48419
W, single crysts., high-temp. creep and dislocation struct. 1−12848
Zn, creep, low temp., quantum effects 1−15947
Zn, creep, pyramidal forest dislocations effect *(Russian)* 1−2455
Zn, crystals, low temp. creep 1−43407
Zn, thermoactivation parameters and dislocation behaviour at creep under high hydrostatic pressure 1−34404
Zn, twin boundary mobility, effect of forest dislocation density *(Russian)* 1−2470
Zn-Al (22 wt.%) eutectoid alloy, creep behaviour, tested in torsion 1−8365
Zr, grain boundary cavity growth, during high-temp. creep and fatigue 1−43443
creep continued
Zr-Sn-Mo (4.5,1 wt.%), creep behaviour in temp. range 300-750K 1−53230
ZrC, creep and long-term strength 1−39386
ZrC, creep kinetics and long term strength 1−31557
ZrC-NbC-Mo_3C_2 solid solutions, high temp. creep, powder metallurgy preparation *(Russian)* 1−16835
ZrC-WC, solid solution, creep, conc. depend. 1−16838
creep fracture
adhesion of metals, high temp., role of creep, hot hardness and sintering 1−26714
alloy, creep crack growth at elev. temp., review 1−3879
andesite, dilatancy and microcracks, creep vel. rel. to uniaxial compression *(Japanese)* 1−49264
austenitic stainless steel, type 304, with crack, creep and fatigue fracture *(Japanese)* 1−39366
composites, unidirectional, creep rupture behaviour 1−21583
fatigue, cumulative damage at elev. temps., design concepts 1−31662
graphite fibre reinforced epoxy, T300/934, creep rupture behaviour 1−21583
Inconel 625 (Ni-Cr-Mo) fuel cladding, elevated temp. behaviour 1−48583
intergranular crack growth, at high temps. 1−12877
intergranular cracking, concept of fracture state *(Czech)* 1−48486
life prediction, parametric methods, parameter choice rel. to deform. mechanisms 1−39399
metals, high temp. He embrittlement, model based on grain boundary cavity nucleation and growth 1−15949
metals, polycryst., creep and creep-fatigue, high temp., deform. and intergranular fracture 1−34416
plate, internally cracked, of nonlinear material, loaded biaxially at infinity, upper-bound on J 1−19641
steel, $2^1/_4$% Cr 1% Mo, uniaxial creep life, effect of hydrostatic pressure 1−31552
steel, AISI 316, butt-welded tubes with internal pressure, creep 1−39396
steel, AISI 316, creep crack growth 1−39455
steel, alloy, creep cavitation and rupture under uniaxial and multiaxial stresses 1−35342
steel, austenitic stainless, creep crack growth rate at high temp., new parameter for prediction 1−25364
steel, austenitic stainless, props. and microstruct., TEM and SEM study 1−35394
steel, C-Mn-Nb, Al killed, high temp. and mech. props. *(French)* 1−21494
steel, Cr-Mo, creep crack propagation, applicability of fracture mech. parameters *(Japanese)* 1−43483
steel, Cr-Mo, quenched, creep crack growth 1−39455
steel, Cr-Mo (2.25, 1 wt.6), thermal fatigue strength under creep fatigue interaction 1−3935
steel, Cr-Mo (2.25-1 wt.%) decarburized and aged, creep rupture 1−35348
steel, Cr-Mo-V (0.5, 0.5, 0.25 wt.%), creep damage and life assessment 1−39397
steel, Cr-Mo-V (0.5, 0.5, 0.25 wt.%), prior room temp. deform. effect on creep, rupture and cavitation 1−39401
steel, ferritic, creep crack propagation, effect of prior damage 1−16896
steel, heat-resistant, creep, prefracture microstruct. changes 1−16895
steel, stainless, creep rupture at non-stationary stress and temp. loading conditions 1−15948
steel, stainless 304, eval. of creep-fatigue interaction by linear damage rule and fracture appearance *(Japanese)* 1−35351
steel, stainless typ 316, welds, effect of specimen size on reproducibility of creep rupture test results 1−17011
steels, low-C 2.25 Cr-1 Mo, effects of trace elements on creep strength and ductility 1−43441
thin plate, crack growth with creep, rel. to plastic zone near crack tip 1−41983
Zircaloy-4, creep rupture at non-stationary stress and temp. loading conditions 1−15948
Al-Zn-Mg (0.25, 0.8 wt.%), creep crack growth, critical anal. 1−12874
Fe-Ni alloys, creep rupture props., H_2 effects 1−16877
Ni-base superalloys, Co-free, development and props. 1−48503
Si_3N_4, reaction-bonded, interaction between creep, oxidation and microporosity 1−48417
creep-recovery *see recovery-creep*
creep testing
constant stress compression creep apparatus, computer controlled data acquisition system 1−12948
film materials, universal test instrument 1−16993
laboratory, engineering systems 1−8495
multiple-creep-test apparatus for NaI scintillation material 1−39560
plastic materials, simple test rig for creep modulus determ. *(German)* 1−39563
plastics, 1−16987
polycrystal creep testing under constant stress using shaped cam lever, analytical design 1−12949
polymer fibres and films, apparatus for isometric heating and thermomech. testing 1−17013
polymeric materials, reinforced, numerical description and systematic eval. of creep in tests *(German)* 1−39564
semiconductor materials, mechanical test machine for small specimens 1−21667
space shuttle insulation, combined load testing at 1100°C 1−48602
tension-torsion creep-ruptures testing machine 1−21676
crestatrons *see travelling-wave-tubes*
crimping
No entries
critical constants, thermal *see critical points*
critical current density (superconductivity)
A15 supercond. composite wires, discontinuous fibre prep. methods, review 1−12688
multifilamentary composites, coupling mechanisms, stress effects and flux pinning, review 1−47825
review, of superconducting critical parameters *(Russian)* 1−3124
SQUID interferometer, DC, theory in external mag. field including finite geom. of system 1−9999
$(Mo_{0.8}Ru_{0.4})B_x$ metallic glass superconductor, fluxoid pinning, cold rolling effect 1−20933
Nb tunnel junctions, reactive ion etching fabrication 1−47811
Nb-Al multifilamentary wires, fabrication by powder metallurgy, supercond. props. 1−48297

critical current density (superconductivity) continued
Nb-oxide-Pb alloy tunnel junctions, fabrication by reactive ion bean oxidation 1−47812
Nb-Pb submicron Josephson tunnel junctions, reactive ion beam oxidation 1−38897
Nb-Ti, superconducting wire, stability when overheated 1−50153
Nb-Ti (46.5 wt.%) filamentary composite, microstruct./superconducting prop. rel. 1−47828
Nb-Ti multifilamanetary supercond., phys. mech. and elec. props. 1−52733
Nb-Ti(-Ta)(Hf), superconducting, upper crit. field and high field crit. current density 1−47821
Nb-Ti(Sn)(Ge)(Hf), flux pinning, strain scaling law 1−52726
Nb-Ti(Zr) supercond. wires, mono- and multifilamentary, voltage-current characts. 1−7795
Nb_3Al tapes, critical current density meas. 1−3125
$Nb_3(AlGe)$, superconductor alloyed with Cu, flux-pinning centres 1−25847
$Nb_3(AlGe)$ tapes, critical current density meas. 1−3125
Nb_3Ge tape superconductors with high current density at high temp. and field 1−52678
NbN materials development for practical superconducting devices 1−52730
Nb_3Sn diffused layer tubular elements, supercond. props. *(Russian)* 1−25849
Nb_3Sn multifilamentary composites, improved strain resist. 1−47831
Nb_3Sn superconducting composite produced by modified external diffusion method, props. 1−47834
Nb_3Sn superconductor, strain scaling law for flux pinning 1−42929
Nb_3Sn wire, prod. by in situ process, supercond. props. 1−48295
Nb_3Sn wires, mono- and multifilamentary, voltage-current characts. 1−7795
NbTi-Cu metastable supercond. composite, stability depend. on Cu-to-supercond. ratio 1−52734
NbTiTa high-field superconducting alloy 1−47827
Pb-Ge system, critical currents and pinning forces 1−52735
PbIn alloy supercond. tunnel junction electrode, ion beam inducer changes in oxide composition 1−52710
$Pb_xMo_{6.3}S_8$, supercond., critical parameters *(Russian)* 1−38901
Ti-Nb-Hf, superconducting props. 1−47773
Ti-Nb-Si amorphous ribbons, superconductivity, mechanical props. 1−16394
Ti-Nb-Si-M (M=Mo, Ru, Rh, Pd, Ir, B, C, Ge), ductile amorphous alloys, supercond., mech. props. 1−30894
Ti-V-Si, amorphous, crystallisation effect on superconducting props. 1−52687
V_3Ga, flux pinning, strain scaling law 1−52726
V_3Ga microcomposite wires, powder metallurgical prep. and supercond. props. 1−48296
V_3Ga multifilamentary wire, metallurgical processing and props. 1−53129

critical currents
see also critical current density (superconductivity); flux creep; flux flow; flux pinning
film, critical characts. *(Russian)* 1−3123
high current superconductor, quench props. 1−47796
Josephson junction, low-probability punchthrough 1−52708
Josephson junctions with large crit. current ×normal resist. product, high freq. response meas. 1−16412
measurement standards, development 1−44952
nonlatching Josephson interferometer made with small-area junctions 1−47817
normal-superconducting boundaries, nonlinear current-voltage characts. 1−30886
point contact arrays, coherence and disorder 1−3099
superconducting metals, hot electrons at low temp., crit. current hysteresis meas. 1−30845
superconducting point contact, clean, efficient higher harmonic generation meas. near crit. current 1−20923
superconducting ring with Josephson weak link, QED flux tunnelling 1−42915
thin film, critical fields and currents in microwave field, calc. 1−25831
thin film superconductor, self-heating induced phenomena and appls. 1−25850
type II superconductors, metastable states and one-particle pinning near critical field *(Russian)* 1−30897
Al film, superconductivity destruction by current *(Russian)* 1−42926
In film, superconductivity destruction by current *(Russian)* 1−42926
NB_3Sn-Cu supercond. wire, prpe. by consumable arc melting 1−48294
Nb superconducting film, peak effect in parallel mag. field *(Russian)* 1−42933
Nb-Al, A15 phase prep. by direct precipitation, microstruct. and supercond. props. 1−47832
Nb-Al multifilamentary supercond. composites, prod. by powder processing 1−48300
Nb-Au-Nb planar proximity effect microbridge, critical currents 1−38896
Nb-NbO_x-Pb tunnel junction study, proximity effect *(Russian)* 1−47804
Nb-Sn point contact, critical current, tunnelling-type temp. depend. 1−3107
Nb_3-Sn-Cu in situ supercond. wire in solenoid, performance meas. 1−16419
Nb_3Al multifilamentary wire, crit. currents at high fields 1−52729
Nb_3Al, supercond., direct solid-state precip. processing 1−43294
Nb_3Sn multifilamentary wire, high-field current improvement by two-stage reaction 1−47833
Nb_3Sn diffusion-layer superconductor, characterization techniques 1−47774
Nb_3Sn microbridges, Josephson effect 1−47808
Nb_3Sn, multifilamentary, crit. props., 8 to 14 T 1−52732
Nb_3Sn, multifilamentary composite, influence of tensile and bending strains on critical current 1−52728
Nb_3Sn multifilamentary superconductor, upper crit. field 1−47823
Nb_3Sn multifilamentary superconductors, fabrication techniques and props. 1−52731
Nb_3Sn multifilamentary superconductor, heat treatment effect 1−53211
Nb_3Sn multifilamentary wires, in situ prep., high field props., effect of additives to Cu-Nb melt 1−47830
Nb_3Sn multifilamentary wire, bend strain tolerance 1−52738
Nb_3Sn ribbons, critical current on *(Russian)* 1−52736
NbTi multifilamentary supercond. for ISR high luminosity insertion, characts. 1−51006

critical currents continued
NbTi:Cu superconducting wire, lap joint resistance, intrinsic crit. current 1−47829
Sn, film, superconductivity destruction by current *(Russian)* 1−42926
U film, critical current mechanism *(Russian)* 1−47826
V superconducting foil, critical current, O_2 gas treatment 1−52737
V-Ga, A15 phase prep. by direct precipitation, microstruct. and supercond. props. 1−47832
V_3Ga multifilamentary superconductors, fabrication techniques and props. 1−52731

critical field, superconducting *see superconducting critical field*

critical fluctuations
see also fluctuations in superconductors
classical particle in potential of randomly fixed scatterers, self-diffuion energy, particle number 1−42275
closed time path Green's functions, appl. to crit. dynamics 1−9962
cooperative spontaneous emission, polarised light fluctuation 1−37446
critical mag. susceptibility temp. modulation of AC susceptibility study 1−12260
crystal-fluid phase transform, metastable states 1−47210
cyclohexane-aniline, critical fluctuations under shear flow 1−7296
fluctuation-dissipation theory of nonlinear viscosity *(Russian)* 1−32946
Ising systems, compressible, weakly first-order transitions, theory 1−18169
locally nonuniform fluids, equilibrium microscopic description 1−11663
metastability, statics and dynamics 1−7291
nematic-smectic A phase transition, anisotropic sound attenuation and dispersion 1−20317
noise-induced phase transition and the percolation problem for fluctuating media with diffusion *(Russian)* 1−27882
random uniaxial anisotropy magnets, infinite susceptibility phase 1−16453
squaric acid, two-dimensional phase transition, light scatt. studies 1−8082
stacking fault, stratification, thermofluctuational and quantum nucleation of new phase 1−30250
trimethylammonium cobalt trichloride, one-dimensional ferromagnet, critical fluctuation dynamics 1−38915
two-dimensional six-vertex system, fluctuations and polarization correlations 1−7297
Co, fluctuational form. of pre(ε to γ)-transform. nuclei *(Russian)* 1−11856
^3He, liquid, small volume fluctuations, contrib. to thermodynamics props. 1−42599
$Hg_{3-x}AsF_6$, one-dimensional liq., fluctuations and freezing 1−7304
KH_2PO_4 type ferroelectric, polarisation fluctuation spectra studied by light scattering *(Japanese)* 1−48101
Na_xGa_{1-x} liquid mixtures, conc. fluctuation depend. on press. 1−20403

critical mixtures
benzyl alcohol solutions, electro-optical Kerr effect, sign change near critical solubility temp. 1−35013
butylcellosolve-water critical liquid system near upper and lower crit. consolute pts., shear viscosity obs. 1−52274
conducting, binary, elec. field effect 1−16019
COOB-hexyloxycyanobiphenyl, reentrant nematic liq. cryst. mixture, AC calorimetric study 1−11851
cyclohexane-aniline system, adsorption at liq.-vapour interface 1−7427
fluid mixtures, binary, high press. thermodynamics and phase equil. 1−38503
fluid mixtures, critical, under shear flow, light scattering 1−52958
fluid mixtures, supercritical phase behaviour, lattice-gas model 1−30370
n-hexane-o-phenetidine critical binary system US absorpt. obs. 1−42468
isobutyric acid-deuterium oxide liq. mixture, crit. exponent determ., neutron and light scatt. 1−20402
isobutyric acid-H_2O mixture near its critical point, DC electrical cond. fluctuations meas. 1−16077
isobutyric acid-water, critically quenched mix., struct. factor from light scatt. meas. 1−48103
liquid mixtures, H-bonded, lattice model, phase diagram, critical points, Ising model 1−34468
2,6-lutidine-H_2O mixture, supercooled, nucleation kinetics 1−16049
2,6-lutidine-water, critically quenched mix., struct. factor from light scatt. meas. 1−48103
methane-water system, supercritical phase behaviour, lattice-gas model 1−30370
iso-octane-m-toluidine, crit. binary systems, US absorpt. 1−37735
sound propagation in critical binary mixtures 1−24552
stratifying solutions, hypersound absorpt. near critical point *(Russian)* 1−38470
Van der Waals mixtures, binary fluid, critical lines and phase equilibria 1−52254
water, solubility, in binary alcohol mixtures, crit. soln. composition 1−20372
In-Te system, liq. phase equil., existence limits of two-phase region, crit. demixing temp. 1−42528

critical opalescence
isobutyric acid-D_2O fluid mixture, crit. exponents, isotope exchange effects 1−2609
light scatt. ang. depend. near crit. point, medium anisotropy effect 1−43135
methyl alcohol-n-hexane(CS_2)(cyclohexane), opalescent mixtures, RF cond. meas. 1−30774
TGS, light scatt. spectra, central peak, crit. opalescence 1−26222

critical phenomena
see also critical fluctuations; critical mixtures; magnetic transitions; phase equilibrium; phase transformations; renormalisation
1/n expansion modification 1−14087
1/n expansion through self consistent approach, resummation 1−217
2 D Ising model with impurity bonding, phase transformations *(Russian)* 1−40723
anisotropic homogeneous quenched bond-mixed Potts ferromagnet, critical props. 1−42964
binary fluids, quenched in one phase region, dynamic behaviour 1−5265
bond-percolation in square lattice, crit. exponents, renormalisation-group calc. 1−5251
Bose systems, critical behaviour, perturbative renormalisation group anal. 1−27864
coexistence curve and critical isotherm in density-density plane 1−23135
connectivity index for lattices of nonintegral dimensionality 1−32930
convection instability, Benard cell, far from equilibrium perturbation formalism 1−40732

critical phenomena continued
correlation function series expansions, renormalisation group anal. 1−30958
correlation-length exponent in two-dimensional percolation and Potts model, Monte Carlo renormalisation calcs. 1−32934
critically branched chains and percolation clusters 1−32927
cubic fields, bicritical crossover, the spherical and van der Waals limits 1−34883
cyanobenzylidene octyloxyaniline, viscosity and surface tension meas., critical behaviour 1−2779
dilute ferromagnet, excitations near percolation threshold 1−7868
dissipative structures and broken symmetry 1−40738
eight vertex Ashkin-Teller and Gaussian models, critical line universality 1−40726
field theoretic approach to second-order phase transitions, review 1−9958
first-order transitions, demagnetising effects and critical exponent renormalisation for Schofield's linear model 1−52257
fluid, square-well, molecular dynamical calcs. of viscosity above critical density 1−25135
four state Potts model, critical exponents 1−5238
Gaussian model, d-dimensional, differential real-space renormalisation 1−36577
Heisenberg models, O(2) and O(3) in (1+1) dimensions, finite lattice methods in quantum Hamiltonain field theory 1−27892
Ising chain with transverse field, impurity magnetisation 1−27887
Ising model, dynamic critical phenomena, real-space renormalisation group formalism 1−3200
Ising model, finite lattice methods in quantum Hamiltonian field theory 1−27891
Ising model, four-dimensional, crit. behaviour, Monte Carlo renormalisation group calc. 1−21008
Ising model, I-D, with power-law potential, correlation function 1−27889
Ising model, mixed-spin renormalisation group calcs. 1−20990
Ising model, quenched dilute random bond, crit. region approx. difference eqn. 1−14072
Ising model, random band, real space renormalisation group 1−23120
Ising model, two-dimensional, dynamic crit. phenomena, renormalisation group calc. 1−3201
Ising systems with bond impurities, concentration expansion 1−32928
liquids, classical, mode coupling theory of dynamic critical phenomena 1−7292
marginally, universality, and expansion techniques for critical lines in two dimensions 1−23141
metastability, statics and dynamics 1−7291
n-vector model, n=5 or 6, correction to scaling exponents and critical properties 1−27890
number theory and critical exponents 1−5266
percolation, crossover to random animals and compact clusters, two parameter space renormalisation 1−5244
percolation, triangular lattice, critical surface for three-colour site percolation 1−5243
percolation and phenomenological renormalisation, transfer-matrix approach 1−189
percolation on square lattice, Monte Carlo simulation 1−27894
percolation phenomena, scaling studies, thermodynamic equation of state 1−44851
percolation phenomena in d-dimensional lattices (d=2 to 7), scaling studies, cluster numbers 1−9942
polymer, branched, sol-gel transition and percolation analogy, stat. field theory and polymer size distrib. 1−53423
polymer dilute system, crossover, Wilson-Fisher to gaussian fixed points, parametric representation 1−20043
polymer solution, isolated chain, single-scaling field approach 1−46979
polymer solutions, polydisperse, truncation theorems for spinodals and critical points of mean-field models 1−46982
polymers, mean field theory, critical and 'uncritical' exponents 1−38295
Potts model, dilute, q-component, annealed, on decorated square lattice 1−44854
Potts model, infinite state, 1-D, first- and second-order phase transformations 1−5261
Potts model, q-state, 2-D, static and dynamic critical phenomena, review 1−40720
Potts model, triangular, with two- and three-site interactions, critical point 1−44852
q-state hierarchical Potts model, stable fixed point, critical exponents 1−5242
quenched system under Gaussian random fields conjugate to anisotropic spin fields, renormalised field theory 1−40746
radiatively induced spontaneous symmetry breaking and phase transitions in curved spacetime 1−23450
random resistor networks, non-universal critical behaviour 1−47597
renormalisation group, real-space, lower-bound approx. 1−209
scaling at a bifurcation point 1−27902
Schlogl model critical behaviour 1−39617
self avoiding walk in two dimensions, phenomenological renormalisation 1−27886
semi-infinite systems, special trasition critical exponent calcs. 1−36599
spin models, Van der Waals, differential renormalisation 1−38945
square lattice, self-avoiding walks, renormalisation 1−23137
superconductor, scaling behaviour in mag. field, renormalisation anal. 1−34830
superlattice critical scatt. of neutrons and X-rays near Ising-like phase transformation 1−36574
surface critical exponents for self-avoiding walks on the tetrahedral lattice 1−36573
temperature for unique equilibrium, N-vector models 1−23117
thermodynamic quantities near critical points in presence of chemical reaction 1−215
tricritical behaviour, phase transition approach to two-component Rayleigh-Benard problem 1−40733
two-dimensional models, crit. props. 1−32935
Yang-Lee edge singularity, equation of state and dynamical props. 1−32940
Z_N, model on square lattice, phase diagram 1−5237
^{4}He, liquid, λ-transition and rescaled occupation number representation 1−25515
S, liquid, equilib. polymerisation, critical effects 1−26742

critical points
see also boiling point; melting point
antiferromagnet, cubic, uniaxially stressed, phase diagram 1−12293
biaxial Lifshitz point in disordered phase, free energy calcs. 1−210
binary and multicomponent mixtures, critical points, stability limits, non-linear eqns. 1−36589
butylcellosolve-water critical liquid system near upper and lower crit. consolute pts., shear viscosity obs. 1−52274
classical fluid, critical diffusion, viscosity, frequency depend. 1−47269
commensurate-incommensurate transform., coupling between phase solitons and strain 1−42508
cyclohexane-aniline binary fluid, crit. conc. fluctuations, shear induced effects 1−16018
cyclohexane-aniline system, adsorption at liq.-vapour interface 1−7427
diffusion process, expansion of master eqn. containing critical point 1−5262
electrolytes, liquid and solid, charge density and order-parameter waves near critical point 1−2591
ethane, phase diagram under high press. 1−38506
ethane, viscosity meas., temp. range including critical region 1−46839
fluid mixtures under pressure 1−30357
fluids, permittivity near critical point, thermodynamic treatment 1−23138
Freon-113, coexistence curve, critical indices *(Russian)* 1−42526
gas-gas equilibria of second kind, critical double point, coexistence surface geometry 1−6918
graphite, adsorption of ehtylene, spreading press. and enthalpy 1−7450
graphite, adsorption of ethylene, surface excess meas., crit. region 1−7449
Heusler alloys, order-disorder phase transitions, model 1−52258
ice, phase relations under pressure 1−2614
incommensurate crystal, multicritical point near commensurate point *(Russian)* 1−30356
inhomogeneous superconductors, modulated alloys, large period, tricritical point 1−20903
Ising model, 2-D, semi-infinite, two-point correlation functions 1−7863
Ising model, critical temperatures of square lattices 1−23122
Ising transverse model, quantum effects in critical props. 1−50064
isobutyric acid-D_2O fluid mixture, crit. exponents, isotope exchange effects 1−2609
kinetic Ising model, Migdal renormalisation-group transformation, arbitrary dimensions 1−3186
Landau-de Gennes model of first order transitions, Gaussian approx. calcs. *(Chinese)* 1−47208
Lennard-Jones fluid, fifth virial coeff. in two dimens., integral equation results 1−11652
Lennard-Jones fluids, thermodynamic props., quantum mech. effects 1−52036
Lennard-Jones triple-point bulk and shear viscosities, Hamiltonian mechanics and nonequilib mol. dynamics 1−2669
Lifshitz points in Ising systems with competing interactions 1−7867
light scatt. ang. depend. near crit. point, medium anisotropy effect 1−43135
liquid crystals and plastic crystals at high pressure 1−38272
liquid mixtures, H-bonded, lattice model, phase diagram, critical points, Ising model 1−34468
liquid near critical point, scaled eqn. of state and virial expansion, equilibrium props. 1−16013
2,6-lutidine-water mixture, coexistence curve near lower crit. point 1−20358
magnetic critical behaviour of high-temp. series in finite field 1−42967
Markov process, expansion of master eqn. containing critical point 1−5263
metal hydride, cooperative model, time correlation functions and tricritical point 1−20355
metamagnetic transition in longitudinal pulse field, abnormal effects 1−12295
methane-ethane mixtures, Rayleigh scatt. and thermal diffusivity 1−12514
multicomponent order parameters, phase transitions, Landau theory 1−25406
multicomponent phase equilibria, indirect determ. of concs. 1−38501
nitrobenzene-n-hexane mixture, ultrasonic shear viscosities near critical point 1−25487
nitroethane-isooctane solution, depolarised Rayleigh intensity 1−3424
noncritical interface near critical end point 1−27908
percolation problem, critical exponent sign 1−9938
polar substances, limiting solid volume estimation, triple point 1−25407
polymer chain in solvent mixture, collapse 1−38232
polymer chains in poor solvent, Lagrangian theory, tricritical props. 1−38229
polymer solutions, multiple critical points 1−38247
polymers, thermomechanical tests results processing 1−16988
polyphenyls, thermotropic liq., cryst. system, phase equilib. 1−38516
Potts model, extended, mag. eigenvalue 1−9944
Potts model, finite size scaling and critical point exponents 1−23121
Potts model, two-dimens., multicrit. point, scaling theory 1−9943
simple fluids, shear induced phase transitions 1−2592
sound attenuation, dispersion near liquid-vapour critical point 1−25374
spin glass, Sherrington-Kirkpatrick model, crit. dynamics 1−12307
spin systems, n-component, crossover functions by renormalisation-group matching 1−34895
spinodal decomposition, relaxational tricritical model 1−52301
steam, dynamic viscosity, improved representative eqn. 1−46840
steam, viscosity, in critical region 1−29820
succinonitrile triple point near 58°C for thermometer calibration 1−36660
TGSe, press.-induced tricritical nature, dielec. const. and spontaneous polarisation meas. 1−26141
TGSe-DTGSe system, tricritical points, spontaneous polarisation 1−39047
thiourea, phase diagram at atmos. press. under elec. field, theoretical anal. 1−48016
three liquid phase coexistence in system water-acetonitrile-benzene-n-hexane, approach to tricritical point 1−7315
triethylamine-D_2O, sp.ht. anomaly near critical soln. point 1−25448
two-dimensional Z(q) models, phase diagrams 1−40725
$AgNa(NO_2)_2$, two sublattice model of phase transition 1−3343
AlAs, electron-hole droplet condensation, crit. points and ground states 1−52493
Ar, liq., shear viscosity meas. at low shear rates near triple point 1−20439
Ar, liquid, isochoric thermal cond. as function of triple points 1−52367
As, shear deformations, displacive phase transitions 1−2595
C, PT phase and reaction diagrams, review 1−43322
CO_2, viscosity meas., temp. range including critical region 1−46839
Cd-Ga, struct., X-ray small-angle scatt., critical points 1−7074

critical points continued
CdTe, far IR dielec. spectrum, multiphonon struct., crit. point anal. 1−31156
Ce, critical indices for $\gamma \rightleftharpoons \alpha$ transform. *(Russian)* 1−2612
CeSb, antiferromagnet, mag. phase diagram, neutron diffr. study 1−20983
Dy-Th, mag. phase diagram, search for Lifshitz points 1−12292
GaP, electron-hole droplet condensation, crit. points and ground states 1−52493
Gd-Lu(Y), mag. phase diagram, search for Lifshitz points 1−12292
H absorption in alloys, Lacher theory, multiplateau extension 1−20555
H_2O, compressed, supercritical region, proton spin-lattice relax., spin-rot. interaction mechanism 1−47966
^{3}He, solid, BCC, mag. order explained by planar four spin exchange 1−2772
^{3}He-^{4}He liquid mixture, phase diagram near tricritical point 1−2759
^{3}He-^{4}He mixture, superfluid, heated from below, undamped second-sound waves 1−30515
^{3}He-^{4}He mixture, thermodynamic props., mag. field effects 1−2760
^{4}He, HCP-FCC transition from triple point to 3.9 kbar, calorimetric study 1−20506
^{4}He, liquid, thermal conductivity in critical region 1−52374
^{4}He, nonasymptotic critical dynamics near superfluid transition 1−25519
Kr, liq., isochoric thermal cond. as function of triple points 1−52367
Kr, liq., shear visicosity meas. at low shear rates near triple point 1−20439
Li-Na, liq., thermoelec., power over entire conc. range 1−38764
N_2, liquid, isochoric thermal cond. as function of triple points 1−52367
ND_4Cl, second harmonic generation and type of multicritical point 1−34471
NH_4Cl, heat capacity, thermal conductivity and phase transitions 1−30386
NH_4Cl, press. induced multicrit. pt., SHG obs. 1−38504
Ne-Xe, coexistence surface near critical double point 1−38049
Ne-Xe, critical exponents, vapour-liquid and gas-gas equilibria 1−7310
$Pb_{5-x}Ba_xGe_3O_{11}$, ferroelectric, high press. studies 1−34995
$Pb(Ti,Zr)O_3$, thermodynamic description near triple point 1−21140
SF_6, pure, PVT obs. near crit. pt., scaling hypothesis verification 1−38036
Sb, shear deformations, displacive phase transitions 1−2595
SbSI, tricritical point investigation by NQR *(Russian)* 1−12466
SiC, electron-hole droplet condensation, crit. points and ground states 1−52493
$SrTiO_3$, stressed, Pott's model transition near bicrit. point, XY to Gaussian crossover 1−26143
Ta, superconducting, critical props., emission current effects 1−25836
Tb-Th(La)(Gd), mag. phase diagram, search for Lifshitz points 1−12292
Xe, depolarisation factor of light scattered in crit. region 1−38048
Xe, liq., shear viscosity meas. at low shear rates near triple point 1−20439
Xe, liquid, isochoric thermal cond. as function of triple points 1−52367
Xe, ultrasonic shear viscosities near critical point 1−25487

critical temperature, superconducting *see superconducting transition temperature*

CRO *see cathode-ray oscilloscopes*

crocidolite *see asbestos*

crops *see farming*

cross-sections (nuclear) *see nuclear reactions and scattering*

crosstalk
demultiplexer, slab waveguide, multimode optical transmission 1.0 to 1.4 μm region 1−11166
pulse-width modulated pictures on orthogonal carriers for cross-talk effect control 1−19273

crowdions
KCl:OH^-, UV photodissociation of OH^--centres, H defect form. 1−26247

CRT *see cathode-ray tubes*

crushing strength *see compressive strength*

cryogenic pumps *see cryopumping*

cryogenics
see also cryopumping; cryoscopy; cryostats; cryotrons; Joule-Thomson effect; low-temperature production; low-temperature techniques; magnetic cooling; refrigeration
1 m scale D-shaped internally-cooled supercond. test coil evaluation 1−44967
closed-cycle thermally activated regenerative cryogenerator 1−50140
composite polystyrene insulation fabrication 1−8268
conference, Genova, Italy (Sep. 1980) 1−9771
cryogenic wind tunnels, design 1−15562
cryosurgical system, cooling power 60 W at −195°C *(Czech)* 1−44926
cryoturbogenerators, 3-phase, electromagnetic characts. dependance upon current in windings and damping shells *(Russian)* 1−50137
engineering conference, Madison, WI, USA (Aug. 1979) 1−44718
epoxy resin and fibre glass cloth-epoxy composite, Young's modulus and internal friction, temp. depend. 1−43391
fibre glass cloth-epoxy composite, dynamic Young's moduli and internal friction 1−43390
insulating materials, thermal and elec. resist., loading effect 1−14139
insulation thermal cond. meas., steady-state apparatus 1−5325
insulation thermal cond. meas. by cylindrical boil-off calorimeter 1−5314
large cryogenic systems, refrigeration power minimisation 1−44935
laser-fusion target chamber engineering technology 1−45734
Linde cycle, operating on multicomponent working fluid, thermodyanmic efficiency anal. *(Russian)* 1−5322
liquefier design for H_2 and D_2 using boiling off of He vapour 1−5321
liquid and solid vapor pressure vaporisation/sublimation beloq 1 atm. 1−47217
magnet system, compound current leads optimisation 1−14125
magnetic field effects on thermoelec. EMF of Chromel-Copel thermocouple 1−44928
metallurgical approach 1−48351
metals, brittle fracture, notch testing 1−48471
powder and fibre insulator performance, 90 to 300K 1−9987
second law anal., review 1−14123
second law analysis in cryogenic processes 1−14124
sheath thermocouple, low temp, characteristics *(German)* 1−44919
shock compressed solid at low temperatures, thermodynamics 1−11813
steels, mechanical behaviour 1−53191

cryogenics continued
strain amplitude of US travelling wave in solid bodies at He temps. 1−19524
superconducting magnet cryogenic system operating costs and tradeoffs 1−44968
superconductor, internally cooled cabled, development 1−20934
temperature scale establ. using Josephson junction noise and ^{60}Co γ-ray anisotropy thermometers 1−18222
thermal insulation system optimisation and selection 1−5323
turbogenerators with superconducting excitation winding, thermal considerations *(Rumanian)* 1−32991
US, at Los Alamos Scientific Laboratory 1−36663
vacuum seals, superleaktight stainless steel hollow O-rings 1−14127
vermiculite, exfoliated powder, heat transfer characts. rel. to cryogenic insulation use 1−5319
GaAs L-band cryogenically cooled FET amplifier, used for radio astronomy 1−36182
Ge, diode low-temp. transducer and liquid cryogen level indicator 1−9980
H_2 storage, design and test of liquid H_2 automobile refuelling station 1−17321
H_2 storage, large scale, using cryoadsorption 65 to 150K 1−43824
H_2 storage using cryoadsorbents, 65 to 150K, techniques+economics 1−21932
He, liquid, boiling in tubes, burnout 1−37772
He, supercritical, friction factor for flow in straight tube 1−42106
I_2, electrical resistance at high press. and low temp. 1−34700
N_2, liq., boiling at pressures below atmospheric, heat transfer intensification 1−37774
N_2, liq., forced convection heat transfer, bubble form. 1−15479
N_2, liquid, surface discharge development dynamics 1−42222
Ne, liq., forced convection heat transfer, bubble form. 1−15479
Pb:Au, superconducting, US energy gap meas. 1−42904
Si diode low-temp. transducer and liquid cryogen level indicator 1−9980

cryopumping
cryosorption, of N_2 on solid CO_2 1−52415
cyclotron, 20K cryopump with high conductance baffle design 1−40808
ionisation gauge measurements in vacuum chambers with surface cryopumps 1−280
review of techniques 1−40804
rudiments and pump selection criteria 1−274
Si-^{3}He interface, phonon reflection coeff., effect of cryopumping at Si surface 1−20499

cryoscopes *see cryoscopy*

cryoscopy
No entries

cryosorption *see sorption*

cryostats
Argonne supercond. heavy-ion linac forced-circulation cooling system 1−45747
cryogenic engineering, conf., Genova, Italy (Sep. 1980) 1−9771
demountable, for making elec. meas. down to 0.3K 1−44927
EPR/ENDOR spectrometers, 9 GHz, coaxial system for adjustment of cavity coupling in cryostat 1−14160
far IR-optical, variable temp., for light transmission and photocond. studies 1−40792
ferromagnetic resonance at X-band, cryostat for range 6 to 300K *(Chinese)* 1−5327
'in situ' radiation damage studies 1−44933
ion-implantation, variable temp. 1−40796
Joule-Thomson cryogenic detector cooler, thermal analysis 1−32992
optical cryostat for studies of CdS crystal luminesc. spectra, single He crystal utilisation 1−18237
scintographic medical imaging using superheated supercond. γ-ray detector, cryostat design 1−8978
Spacelab 2 Superfluid Helium experiment 1−47324
superconducting cyclotron, resistive displacement transducer for cryogenic environment 1−14711
superconducting cyclotron magnet cryostat, leak detection using liq. He 1−23897
superconducting MHD dipole magnet, cryogenic aspects 1−48882
superconducting MHD magnet design for Coal-Fired Flow Facility Trial 1−48881
superconducting MHD magnet failure mode and safety analysis 1−48883
superconducting pulsed dipole magnet with circulatory refrigeration system, for Nuclotron Accelerator project 1−6063
welding of stainless steel to Cu, low-cost TIG process for cryogenic and vac. system welds 1−5320
X-ray variable temperature, using steady state vapour bubble principle 1−44925
Ge(Li) planar diode X-ray spectrometer and cryostat construction 1−995
He gas flow monitor design 1−14122
He, superfluid, 700 mm. diameter, operating at 1.8K and atm. press. 1−40791
^{3}He portable cryostat for astrophysical IR bolometers 1−49518
^{3}He refrigerator for Mossbauer experiment ^{4}He cryostat 1−10055
N_2, liquid, novel electromagnet design for use in Hall effect studies on Ge specimens 1−14126

cryotrons
heat switch for persistent current loops 1−40795

crystal atomic structure
see also crystal atomic structure of alloys; crystal atomic structure of elements; crystal atomic structure of inorganic compounds; crystal atomic structure of organic compounds; electron diffraction crystallography; lattice constants; neutron diffraction crystallography; space groups; superlattices; X-ray crystallography
analyticity breaking and Anderson localization in incommensurate lattices 1−7114
anomalous scatt. and direct method combination in determ. of cryst. struct. *(Chinese)* 1−52093
binary BCC, FCC, and PC systems, ground states and structs., pairwise interaction model 1−7345
binary compounds, AB-type systematisation of stable cryst. struct., pseudopot. orbital-radii approach 1−34260
Bravais lattice operator, one-band approx. 1−38704
cubic structures, geometric concept of nested polyhedra units 1−34282
double electron-nucleus resonance, as method of structural anal. 1−30012
electron distribution, nonuniform, dynamic response 1−52505
FCT structure, special points calc. 1−2355
HCP crystals, elastic consts. evaluated from dynamic atomic displacements 1−6760

crystal atomic structure continued
ideal crystal, n-dimensional crystallography, basic symm. element 1−30122
lattice-order simulation, cryst. growth approach, cluster variation method 1−20095
lattices and symmetry 1−13963
microcluster structural changes, effect of three-body interactions 1−7095
molecular planes, atomic deviation statistics 1−47021
pair potential rel. to cryst. struct., mol. dynamics study 1−20112
phase refinement on the crystal structures containing heavy atoms *(Chinese)* 1−47022
point group theory, time reversal symmetry 1−448
point groups, unitary group, symmetrised powers, icosahedral group 1−13992
potential energy calculations of molecular and crystal structures in Fourier space 1−30105
simultaneous eqn. soln. for obtaining lattice consts. of low-symm. cryst. systems *(Chinese)* 1−52092
spheres of two different sizes, close-packed structures, packing densities 1−38310
statistical operators method 1−15821
structural models, graphical representation, allowance for thermal vibr. anisotropy of atoms 1−7045
tensor reduction symmetry *(Russian)* 1−38317
Z-module crystallography for incommensurate crystal phases 1−7113

crystal atomic structure of alloys
A15 β-W structure, dimensional anal. 1−52107
A15 compounds, effective radii and volumes for elements 1−42339
dimensional analysis of the crystal structures of intermetallic phases 1−38332
f-electron systems, crystalline electric field and struct. effects 1−17940
hydrides of intermetallic compounds, stability, struct., kinetics, review 1−53450
intermetallic compound struct. rel. to hydride form. 1−20121
intermetallic compounds, atomic struct., electronic struct., mag. and supercond. props. *(Polish)* 1−52110
interstitial alloys, atomic arrangement and mobility at high degrees of interstice filling *(Russian)* 1−2430
Invar, deformation before heat treatment, effect on props. and fine struct. 1−43440
Laves phase AB_2 cpds., hydride prop., cryst. struct. and thermodynamic props. 1−7133
rare earth alloys, R_5Ir_3 and R_3Ir_2, cryst. struct. 1−34289
rare earth intermetallic hydride formers, atomic volume contraction 1−20125
rare earth ternary alloys, RSbPd, cryst. struct., X-ray diffr. study 1−30138
rare earth-$(Al,Ga)_2$, alloys, unit cell consts. and comp. ranges 1−25201
rare earth-$(Cu,Ga)_2$ alloys, unit cell consts. and comp. ranges 1−25201
rare earth-Co(Ni), high press. $H_2(D_2)$ sorption, struct. of hydrides (deuterides) 1−20552
rare earth-Ni alloys, atomic vol. contraction as function of partial coordination number coeff. 1−25202
rare earth-transition metal alloys, cryst. chem. 1−25446
transition metal binary alloys, short-range order, effect of Fermi level position *(Russian)* 1−7502
transition metal binary alloys, struct. stability in terms of cryst. struct. maps 1−15831
transition metal-metalloid alloy structs., amorphous and crystalline similarities 1−42312
unit cell dimension calc. from atomic diameters 1−34290
Al-Cu (1-12 at.%), splat-cooled, X-ray diffr. line anal. 1−7131
Au-In-Sb, phase equilib., crystal struct. *(German)* 1−8281
Au-Mn(20.7 wt.%), 2D antiphase struct. of $Au_{31}Mn_9$, high-voltage-high resoln. electron microscopy determ. 1−15834
$CaNi_5H_x$, cryst. struct. X-ray diffr. study 1−52109
$CeMg_{11}Ni(Cu)(Zn)$, struct., hydrogen sorption-desorption cycles *(French)* 1−20560
Co-Al system, new multilayer martensitic phases after repeated $\beta \rightleftarrows \alpha$ transform 1−3732
$(Co_{0.83}Cu_{0.17})_6Ce$, struct. changes during ageing, mag. props. 1−31508
$(Co_{0.81}Cu_{0.19})_{5.5}Sm$ alloy, struct. and coercive force after heat treatment, X-ray diffr. study 1−20131
$Co_{2-x}Ge(Ge_{1-y}Ga_y)$, β and η phase, struct. study *(French)* 1−30137
Cu_4Cd_3, struct., alternative description 1−15833
Cu_5In_3, X-ray cryst. struct. determ. 1−30136
Cu_5Zn_8, struct. and variance 1−34281
Cu_4Zr, synthesis, characterisation and struct. *(French)* 1−38328
$DyFe_3H_x$, cryst. struct. and mag. props 1−7132
$DyGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
$ErGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
$Er_2Ni_{21}B_6$, struct. from X-ray diffraction *(Ukrainian)* 1−15835
$ErTi_2Ga_4$, crystal structure by X-ray diffraction *(Ukrainian)* 1−20117
EuAg, cryst. struct., X-ray diffr. study 1−20130
Eu_3Ag_2, cryst. struct., X-ray diffr. study 1−20130
EuCu, cryst. struct., X-ray diffr. study 1−20130
Fe-B sputtered amorphous film, crystn. and atomic-scale struct. 1−11681
$Fe_{2-x}Ge(Ge_{1-y}Ga_y)$, β and η phase, struct. study *(French)* 1−30137
$Fe_{0.12}Mn_{1.1}Sb$, environment of Sb, X-ray determ., anomalous dispersion method 1−15836
$Fe_{0.9}Mn_{0.1}Ti$, activation and reactivity props. under $H_2(D_2)$ press., hydride phase struct. 1−20123
FeTi, activation and reactivity props. under $H_2(D_2)$ press., hydride phase struct. 1−20123
FeTi-H(D) phases, precipitation and struct., TEM and neutron diffr. study 1−20122
HfV_2D_4, ordering of D, cryst. struct., neutron diffr. study 1−38329
$HoGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
K-Cs alloy, crystalline phases at low temp. 1−38331
KPd_4Si_4, prep. and cryst. struct. *(German)* 1−34288
$K_{1.28}Pt_4Ge_4$, KPt_4Si_4, prep. and cryst. struct. *(German)* 1−34288
$La_3Ga_2Ni_4$, cryst. struct. 1−30140
$LaNi_5$, $LaNi_{5-x}Al_x(Mn_x)$, and deuterides, neutron and X-ray diffr. profile anal. and cryst. struct. 1−20119
$LaNi_5H_x$, substituted, H coords., number, vol. and dissoc. press. 1−25205
$LaNi_{5-x}Mn_x$ and hydrides, thermodynamic and struct. props. 1−20126
$LuGa_3$, cryst. struct. by X-ray methods *(Ukrainian)* 1−20116

crystal atomic structure of alloys continued
$Mg_2Ni(H,D)_x$, struct. study by X-ray and neutron diffr., sorption isotherms 1−20124
Mg_2NiH_x, cryst. struct. and polymorphic transition, X-ray diffr. study 1−47043
α-Mn, cubic structures, geometric concept of nested polyhedra units 1−34282
α-Mn, related structs. 1−34283
Mn-Ge, crystal and mag. struct., X-ray and neutron diffraction anal. 1−3144
$MnAl_6$, X-ray cryst. struct. determ. 1−42340
$Mn_{23}Y_6$ deuterides, cryst. struct., neutron diffr. study 1−20120
$(Mo,W)_3Ga$, obtained by high press. treatment cryst. struct. and supercond. temp. 1−38330
$Mo_{50}Ni_{50}$, EXAFS studies in amorphous and cryst. states 1−31233
$Na_{1.25}Pd_4Si_4$, prep. and cryst. struct. *(German)* 1−34288
$NaPd_3Si_2(Ge_2)(Sn_2)$, prep. and cryst. struct. *(German)* 1−34288
Nb-H system, phase transitions in nonstoichiometric hydride phases 1−20103
Nb-Si films, co-evaporated, A-15 type, struct., long-range order parameter and supercond. props. 1−34596
Nb_4H_3, structure sequence during temp. variation *(Russian)* 1−25199
Ni-Fe-Cr-Nb alloy, γ'' phase, electron diffr. study *(Chinese)* 1−38327
$Ni_{13}Ga_3Ge_6$, crystal struct. 1−38334
$NiZn_{3.r}$, cryst. struct. determ., vacancies, valence electron conc. 1−20127
$PtBi_{2.r}$, cryst. struct. determ. *(German)* 1−2397
Pt_2Si_3 metastable phase, ion beam induced formation, struct., props. 1−15838
$RbPt_4Ge_4(Si_4)$, prep. and cryst. struct. *(German)* 1−34288
Sc-M-Si (M=Mn, Fe, Co, Ni, Cu), crystallochem. analysis 1−52105
Sc-Mn-Si system, phase equilib. and cryst. struct. of cpds., X-ray and microscopic analyses *(Ukrainian)* 1−20118
$Sc_5Co_4Si_{10}$, tetragonal struct., X-ray struct. anal. 1−20115
$ScGa_2$, cryst. struct. by X-ray methods *(Ukrainian)* 1−20116
$Sc_{44}Ir_7$, with $Mg_{44}Rh_7$ struct. type, struct. anal. 1−11721
$Sc_{44}Os_7$, with $Mg_{44}Rh_7$ struct. type, struct. anal. 1−11721
$Sm_{26}(Ga_{0.35}Co_{0.65})_{17}$, X-ray cryst. struct. determ. 1−2396
$Tb_{0.803}\text{-}Pr_{0.197}$ and $Tb_{0.798}\text{-}Pr_{0.202}$, martensitic transformation and mag. structs. between Sm-type and HCP structs. 1−26460
$TbGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
Th-Cd system, phase diagram and cryst. struct. determ. 1−53158
TiFe hydrides, crystal structure 1−15837
TiNi cold worked, psuedoelastic behaviour, cryst. struct. and microstruct. 1−2395
$TiZn_{16}$, cryst. struct. 1−30163
Tl_7Sb_2, struct. and variance 1−34281
$TmGa_2$, cryst. struct. by X-ray methods *(Ukrainian)* 1−20116
$TmGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
$Tm_2Ni_{21}B_6$, struct. from X-ray diffraction *(Ukrainian)* 1−15835
$UNi_{5-x}In_x(Sn_x)(Zn_4)$, substitution study, X-ray obs., unit cell and microhardness 1−33294
UPd_3, transport props., lattice consts., susceptibility and sp. ht. 1−25698
U_3Si, struct. and phase stability at low temps. 1−11722
W-Ga, crystn. at high press., cryst. struct. of intermediate phases 1−38330
YCo_5, magnetisation density and cryst. struct., polarised neutron study 1−25882
$\alpha\text{-}YD_x$, location of D, neutron diffr. study 1−38333
$Y_6(Fe_{1-x}Mn_x)_{23}$ (x=0.8, 0.9), mag. struct. 1−25889
$Y_6(Fe_{1-x}Mn_x)_{23}$, preferential ordering of Mn and Fe, neutron diffr. studies 1−11723
YNi, X-ray cryst. struct. determ. 1−30135
$Yb_2Ni_{21}B_6$, struct. from X-ray diffraction *(Ukrainian)* 1−15835
$Zr(Co_{1-x}M_x)_2$ (M=Cr, Mn, V), hydride prop., cryst. struct. and thermodynamic props. 1−7133
$ZrCr_2D_x$, site occupation, neutron diffr. study 1−7136
$ZrNi_{5-x}In_x(Sn_x)(Zn_x)$, substitution study, X-ray obs., unit cell and microhardness 1−33294
ZrV_2D_x, D site occupation, D conc. depend., neutron diffr. study 1−7135
$ZrV_2D_x(H_x)$, site occupation, neutron diffr. study 1−7136

crystal atomic structure of elements
f-electron systems, crystalline electric field and struct. effects 1−17940
GE (110), photoelectron diffr. effects., XPS angular distribs. 1−53050
graphite, lattice struct. and micromorphology relations, electron diffr. and electron microscopy studies *(German)* 1−34285
rare gas solids, crystal struct., statistical-mechanical calcs. 1−34286
Al, coarse grained, cubic, lattice strain *(German)* 1−25198
^{243}Am, phase transformations up to 18 GPa rel. to rare earth elements 1−38529
Cr, BCC metal smokes, formation by gas-evaporation, cryst. struct. and habits 1−25197
Cu, coarse grained, cubic, lattice strain *(German)* 1−25198
Cu polycrystals, fine struct. anal., second approx. of approx. method appl. 1−29966
Fe, BCC metal smokes, formation by gas-evaporation, cryst. struct. and habits 1−25197
Fe, coarse grained, cubic, lattice strain *(German)* 1−25198
Fe, crystalline, amorphous and liquid, struct., freq. distrib. function 1−15832
Ga, liq. and solid, EXAFS, temp. and anisotropy effects 1−31231
Ge:Ag(Li), impurity effects in crystn., elec. and struct. props. 1−34365
Hf, thermophysical properties rel. to conduction electron mean free path 1−2941
I_2, high press. phase, mol. dissociation obs., crystal. struct. study 1−20316
α-Mn, struct. and variance 1−34281
Mo, BCC metal smokes, formation by gas-evaporation, cryst. struct. and habits 1−25197
Mo, crystal structure and density data 1−23
N_2, structure at 49 kbar and 299K 1−34284
Nb, BCC metal smokes, formation by gas-evaporation, cryst. struct. and habits 1−25197
Ni polycrystals, fine struct. anal., second approx. of approx. method appl. 1−29966
Pd, trigonal crystals, prep. and X-ray diffr. study *(German)* 1−34287
Pt polycrystals, fine struct. anal., second approx. of approx. method appl. 1−29966
Se rhombohedral struct., phase transform., Se_6 mols., X-ray diffr. study 1−11720

crystal atomic structure of elements continued
Si:P(As), crystal pot. investigated by convergent beam electron diffr. technique, doping influence 1−7198
Ta, BCC metal smokes, formation by gas-evaporation, cryst. struct. and habits 1−25197
Ti, thermophysical properties rel. to conduction electron mean free path 1−2941
α-U, neutron Laue photographs of cryst. satellite reflections, low temp. 1−47041
V, BCC metal smokes, formation by gas-evaporation, cryst. struct. and habits 1−25197
W, BCC metal smokes, formation by gas-evaporation, cryst. struct. and habits 1−25197
Zr, thermophysical properties rel. to conduction electron mean free path 1−2941

crystal atomic structure of inorganic compounds
actinides and 4f materials, conference, Zurich, Switzerland (Apr. 1980) 1−44701
alkali halide crysts., ionic radii, screened Coulomb pot. calcs. 1−11730
beryl, positron annihilation lifetime spectra, changes on dehydration 1−16624
braunite II, rel. to bixbyite and braunite 1−15871
cordierite, positron annihilation lifetime spectra, changes on dehydration 1−16624
difluorides, MF_2 (M=divalent cation), rutile struct., elasticity and phase transform. 1−39360
F 1−34319
feldspar, labradorite Ca/Na positions derived from high-resoln. electron microscopy and optical diffr. 1−47046
ferrites, microwave applications, book contrib. 1−30919
forsterite, pseudo-symmetries of crystallographic coordination polyhedra 1−15826
forsterite-tephroite series, crysts. struct. refinement 1−47048
graphite containing $FeCl_3$ and $MoCl_5(WCl_6)$, layer compounds, synthesis, gamma-resonance spectra and struct. 1−7147
graphite intercalation compound with AsF_5, single cryst. struct. studies by X-ray diffr. 1−42364
graphite intercalation compounds, conf., Provincetown, MA, USA (May 1980) 1−32798
graphite intercalation compounds with KH, KHg, RbHg, X-ray, EPR and NMR studies and struct. 1−42363
graphite intercalation compounds with KHg and RbHg, struct. and electronic props. 1−38769
graphite-$FeCl_3$ intercalation compounds, small-angles X-ray scatt. 1−34331
hexaazamacrocycle, cryst. and mol. struct. 1−25254
II-V semiconductors, physicochemical props. and appl., review 1−15872
ionic crystals, electron-gas theory, many-body effects 1−47524
IV-VI compounds; cryst. struct. and cubic/rhombohedral phase boundary 1−2404
IV-VI compounds, cubic to rhombohedral phase transition, microscopic model 1−2384
lanthanide oxides, structural anisotropy, physical and mechanical properties 1−7152
metal phosphites, monovalent, prep. and crystallographic study *(French)* 1−47054
micas, white synthetic, cell dimensions, polymorph type and IR spectra 1−47050
opal containing silica spheres of two different sizes, close-packed structures 1−38361
oxide ceramics with tetragonal potassium-tungsten bronze struct., X-ray struct. investig. and dielec. props. 1−30169
oxides, ternary, press. induced phase transform., comprehensive rule 1−30385
oxides with tetragonal potassium tungsten bronze struct., synthesis and X-ray struct. investig. 1−39288
pyrographite-Li, synthesis, conductivity, struct. and chem. composition 1−47627
pyrophosphatase of yeast, inorganic, X-ray structural study, calc. of phases and model at 6 Å resoln. 1−4246
α-quartz, struct. and electronic props. from SiO_4 and Si_3O_4 models 1−20135
rare earth eithosphosphates, thermal decomposition, charact. new solid phases *(French)* 1−4080
rare earth fluorides RF_2-RF_3, anion-excess fluorite-related superstruct. phases 1−25236
rare earth selenites, synthesis and characterisation 1−25232
rare earth ternary noble metal borides, struct. chem. and mag. props. 1−25237
rare earth-Al_2 alloys, crystal field, neutron diffr. studies 1−25673
rare earth-Rh_4B_4, magnetic superconductor, crystal field role 1−25856
rare earth-transition metal hydrides, struct. relationships 1−20141
$S_4N_4Cl_2$, X-ray struct. anal. 1−34336
serpentines, synthetic, ordering, IR spectra and cell dimensions 1−43125
silicates, layer, varieties of order and disorder, review 1−38338
solid solutions, in multicomponent systems, ferroelec. props. rel. to crystal chem. parameters 1−34993
superionic conductors, disorder role in cond. and ionic diffusion 1−34516
ternary silicides, RRu_3Si_2, cryst. struct. determ. by X-ray powder diffr. 1−20160
Tl_2TeO_3, cryst. struct. *(French)* 1−47064
transition metal carbides (nitrides), cubic struct., phase constitution and ordering 1−30166
transition metal complexes, linear chain, struct. chem. and synthesis 1−42365
transition metal trichalcogenides, structure, band props., resistivity and charge density waves 1−42764
tridymite, press. induced phase transitions 1−47224
Tutton salt crystals, Jahn-Teller centre configurations, lattice struct. 1−3248
tveitite, anion-excess fluorite related superlattices 1−7139
$[ClF_4][CuF_4]$, growth by detonation synthesis, cryst. struct. 1−25224
$[Rh(NH_3)_6]_3[Rh(SnCl_3)_4(SnCl_4)][SnCl_6].4H_2O$, crystal and mol. struct. 1−25215
$AgAlXSe_4$ (X-Ge, Sn), prep. and cryst. struct. 1−2412
Ag_2F, intercalation by acceptor organic mol., struct. studied by X-ray diffr. 1−34327
$AgGaXSe_4$ (X-Ge, Sn), prep. and cryst. struct. 1−2412
AgI-type solid electrolyte, triplet correls., two-dimens. mol. dynamics model 1−34515

crystal atomic structure of inorganic compounds continued
$AgInXSe_4$ (X-Ge, Sn), prep. and cryst. struct. 1−2412
AgO_x, Ag rich, struct. features, Ag agglomerates *(German)* 1−34317
Ag_3PO_4, I- and II-modifications, cryst. struct., rel. to ionic cond. props. 1−34334
β-Ag_2S, fast-ion conductor, diffuse X-ray scatt. study 1−30463
Ag_2S, solid state chem. and electrochem., review 1−31870
Ag_3SBr, low temp. modifications, X-ray diffr. obs. 1−20455
Ag_3SI, low temp. modifications, X-ray diffr. obs. 1−20455
$Ag_xTa(Ti)S_2$, intercalated, struct. and staging 1−30185
$Al_8B_4C_7$, synthesis and X-ray crystallography, unit cell dimensions 1−30182
$Al_{2/3+x}Cr_{2-x}S_4$, cation-deficient spinel, crystallographic and mag. props. 1−34321
$Al_xGa_{1-x}Sb$, lattice consts., composition depend., X-ray diffr. study 1−7149
$Al_3Na(OH)_6(CrO_4)_2$, crystallographic and IR study *(French)* 1−47063
β-Al_2O_3, struct. and quantitative determ. in electrocorundum *(Polish)* 1−47066
Al_2O_3, structural refinement of neutron and X-ray data by Rietveld method 1−29960
β″-Al_2O_3-K_2O, fast-ion conductor, ion-ion correlations and cryst. struct., X-ray scatt. study 1−34328
β″-Al_2O_3-Na_2O, fast-ion conductor, ion-ion correlations and cryst. struct., X-ray scatt. study 1−34328
Al_2O_3-SiO_2:Fe^{3+}, mullite, Fe^{3+} struct. position, powder diffr. obs. 1−25217
γ-AlOOH-Al_2O_3, kinetic time-temp. study 1−26735
$9Al_2O_3.2B_2O_3$, X-ray cryst. struct. determ. *(Japanese)* 1−15879
$Al_2(SO_4)_3$, crystal struct., X-ray powder diffr. obs. 1−30202
AsSeI, cryst. struct. determ. and synthesis 1−25231
B-4d(5d) transition metal solid solns., unit cell dimensions, electron microprobe anal. 1−38347
B-As(Ge)(Se) solid solns., unit cell dimensions, electron microprobe anal. 1−38347
$(Ba_{0.98}Ca_{0.03}Zr_{0.02})(AL_{1.1}Ni_{0.48}Ti_{64})O_{16}$, hollandite type phase, struct. and chemistry 1−30149
Ba_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
$Ba^{2+}Fe_3^{2+}Fe_{16}^{3+}O_{27}^{2-}$ W-hexaferrites, preferred Fe^{2+} sites, Mossbauer effect obs. 1−31065
$Ba_5Fe_4S_{11}$, cryst. struct. and stability range 1−38351
$Ba_n(Fe_2S_4)_0$, one-dimens. struct., prep. and props. 1−13970
$Ba_4Li_2Nb_{10}O_{30}$ crystals, dielec. props., ferroelec. transition, cryst. struct., meas. 1−52894
$BaMF_4$ (M=Fe, Mn, Co, Ni, Mg, Zn), condensed modes, group theoretical anal. 1−12461
$BaMnF_4$, struct. and antiferromag. transitions, incommensurate modulation, theory 1−7325
$BaPbO_3$, superconductivity study 1−20908
$Ba_4R_2F_{17}$, R=Pr, Nd, Gd, Dy, cryst. struct., electron diffr. study 1−20145
$Ba_2R^{3+}Ir^{3+}O_6$ and $Ba_3R^{3+}Ir_2O_9$ (R=rare earth and Y) cryst. struct. and IR spectra *(German)* 1−38349
$Ba_5(ReO_5)_3O_2$, cryst. struct., evidence for O_2^- anion *(French)* 1−20154
$BaSbO_2Cl$, single-crystal X-ray obs., orthorhombic symm. *(French)* 1−20162
$BaSb_3O_5(OH)$, X-ray cryst. struct. determ. *(French)* 1−34293
$Ba_3Sn(Pb)O$, perovskite-type struct., interphases between Zintl phases and real salts *(German)* 1−31442
$BaSn_2S_3$, X-ray cryst. struct. determ. *(French)* 1−30154
$Ba_xTi_{8-2x}Ga_{10+2x}O_{31}$, cryst. struct., electron microscopy 1−30147
$Ba_xTi_{8-x}Ga_{2x}O_{16}$ hollandite, incommensurate superlattice ordering 1−30148
$Ba_xTi_{8-x}Mg_xO_{16}ZZ$ 1−30148
$BaTiO_3$, cryst. struct. determ., X-ray diffr. profile anal. 1−25212
$BaUO_4$, intense luminesc. and cryst. struct. 1−21258
$BaUS_3$, atomic positional parameters, neutron diffr. powder method 1−15841
$Ba_{(4-2z)}Zr_{(z+z/2)}F_{16}(0\leq z\leq 0.232)$, X-ray cryst. struct. determ. *(French)* 1−15848
$BaZrS_3$, atomic positional parameters, neutron diffr. powder method 1−15841
BeF_2 and $BeCl_2$, cryst. struct., stability and phase transition at high-press. 1−27155
$BeSiN_2$, struct. and chem. bonding 1−30168
$Bi_{12}(Fe_{1/2}X_{1/2})O_{20}$ sillenite-type phases, Bi^{5+} tetrahedral radius determ. *(French)* 1−52113
$Bi_{12}(Ga_{1/2}X_{1/2})O_{20}$ sillenite-type phases, Bi^{5+} tetrahedral radius determ. *(French)* 1−52113
$Bi_{12}GeO_{20}$ films fabrication by RF sputtering 1−3623
$Bi_{2-x}La_xWO_6$ (0.4≤x≤1.0), X-ray crystallographic data 1−11732
δ-Bi_2O_3, phase stabilisation by rare earth oxides, R_2O_3, elec. cond. and struct. studies 1−34512
$(Bi_2O_3)_{1-x}(Yb_2O_3)_x$, δ-phase stabilisation, elec. cond. and struct. studies 1−34512
$Bi_{0.765}Sr_{0.235}O_{1.383}$, superionic cond. and cryst. struct. *(French)* 1−38352
$Bi_4Te_3O_{12}$ single cryst., prep., struct. and dielec. props. 1−39021
$BiVO_4$, structural refinement of neutron and X-ray data by Rietveld method 1−29960
$Bi_{12}(Zn_{1/3}X_{2/3})O_{20}$ sillenite-type phases, Bi^{5+} tetrahedral radius determ. *(French)* 1−52113
$C_{36}K$, intercalation cpd., lattice phonons, inelastic neutron scatt. obs. 1−42490
CO_2, single cryst. struct. refinement 1−15862
$Ca_{20}Al_{32-2x}Mg_xSi_xO_{68}$, quaternary phase, cryst. struct. 1−30142
$CaAl_2Si_4O_{12}.2H_2O$, wairakite, lattice consts. as function of chemical comp. 1−47047
$2CaAl[BO_3]O{\equiv}Ca_2[AlO_3BO]_2$, synthetic, cryst. struct. determ. 1−25228
$Ca_3(CaNb_2)O_9$, perovskites, vibr. spectra, order phenomena on octahedral sites *(French)* 1−21205
$CaCl_2$, cryst. struct., stability and phase transition at high-press. 1−27155
$(CaCl_4)(Mg(H_2O)_6)_2$, full-matrix least-squares cryst. struct. refinement 1−15856
γ-$CaCl_2.4H_2O$, γ-form, X-ray cryst. struct. determ. *(French)* 1−15865
$CaCu_3Ti_4O_{12}$, appl. of crystallographic and mag. structs. of materials with threefold orbital degeneracy 1−2405
Ca_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
CaF_2-YF_3, anion-excess fluorite-related superstruct. phases 1−25236
$CaFe_{2+k}O_{4+x}$, intergrowth process *(French)* 1−34324

crystal atomic structure of inorganic compounds continued
$CaMg_2Cl_6.12H_2O$, tachyhydrite, cryst. struct. determ. *(French)* 1−15855
$Ca_3(Mg_{0.86}Fe_{0.14})(Mg_{0.92}Fe_{0.08}[B_2O_5]_2)$, cryst. struct. determ. 1−25229
$CaMgSi_2O_6$, atomic charges estimation from X-ray diffr. intensity data 1−7140
$CaMn_7O_{12}$, bond lengths, Jahn-Teller distortion of Mn^{3+} octahedra 1−15878
$Ca_3(NH_4)_2(P_2O_7)_2.6H_2O$, X-ray cryst. struct. determ. 1−15847
$Ca_2(PO_4)_2$:Cr, Ni, whitlockite struct., IR spectrosc. obs. 1−26197
$Ca_5(PO_4)_3Br$, struct., radius of Br^- ion 1−42349
$Ca(ReO_4)_2.2H_2O$, cryst. struct. determ. 1−42361
$CaSO_4$, anhydrite, charge density, X-ray and neutron diffr. meas. 1−30145
$CaSb_4O_4(OH)_2(SO_4)_2.2H_2O$, peretaite, atomic arrangement and twinning 1−42351
$Ca_3Si_6O_{15}.7\ H_2O$, nekoite, cryst. struct. determ. 1−47049
$Ca_3Sn(Pb)O$, perovskite-type struct., interphases between Zintl phases and real salts *(German)* 1−31442
Ca_3TeO_6, X-ray cryst. determ. 1−34301
$CaZrS_3$, atomic positional parameters, neutron diffr. powder method 1−15841
$CaZr_xTi_{3-x}O_7$, x=0.85 and 1.30, X-ray cryst. struct. refinement 1−42342
$Ca_3[BO_3BO]_2$, cryst. struct. determ. 1−25228
$Ca[B_3O_4(OH)_3].H_2O$, colemanite, anomalous thermal expansion, temp. depend of cell parameters 1−52317
$Cd_2NiCl_6\ 12H_2O$, X-ray cryst. struct. determ. *(French)* 1−30158
$Cd_4NiCl_{10}.10H_2O$, X-ray cryst. struct. determ. *(French)* 1−30159
$Cd_2P_4Cl_6$, least squares refinement, Cd slightly distorted FCC stacking *(French)* 1−15877
$Cd_{1-x}Pb_xF_2(0\leq x\leq 1)$ mixed crystals, prep. and structure 1−3616
CdR_2S_4, R=rare earth, struct. and mag. props. 1−38356
CdS, high temp. polymorphism at press. up to 8 GPa, X-ray diffr. study 1−2625
$CeCoC_2$, cryst. struct. 1−30199
$CeMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
$CePO_4$, crystal struct. determ., appl. as nuclear waste matrix element 1−52117
$Ce_xU_{1-x}C_2$ (X=0.33, 0.67), struct., lattice parameters, neutron diffr. obs. 1−34306
Cl_2, molecular, force free and other mdels for crystal struct. 1−52114
Co complex, Co(II)-trimethylphosphine, tetra and pentacoord. compounds, mol. and cryst. struct., EPR spectra 1−52123
Co inorganic pigments, UV-visible absorpt. spectra rel. to cryst. struct. 1−16581
$Co_3B_7O_{13}I$, preparation and cryst. struct. 1−38343
$CoFe_2O_4$, cation site occupation parameter, synchrotron-radiation diffr. data 1−7146
CoMnP, cryst. struct. determ. 1−15866
$[Co_2(NH_3)_{10}(O_2)](HSO_4)_3(SO_4)$, struct. reinvestigation at room temp. and at 17K 1−34298
Co_3O_4, cryst. growth, flux method, X-ray struct. determ. *(French)* 1−20143
$(Cr,Mn)_{23}(B,C)_6$, lattice parameters *(Italian)* 1−34302
Cr_2O_3, crystal struct. and isothermal compression 1−15873
$Cr_{1-x}Rh_xO_2$ solid soln., *(French)* 1−7805
$Cr_2Ti_{n-2}O_{2n-1}$, homologous series, with (1-21), crystallographic shear struct., microstruct. study 1−20155
Cs-graphite stage-1 intercalation cpd., structural study at high temps. 1−34273
$CsBi_2S_3$, synthesis and crysts. struct. 1−30189
Cs_2CdBr_4, struct. phase sequence with incommensurate phases, X-ray diffr. and NQR meas. 1−7324
$CsClO_4$, neutron diffr. meas. at high press. and low temp. *(German)* 1−20033
Cs_3CoCl_5, struct. of 295K, neutron diffr. study 1−30146
CsH_2AsO_4, deuterated, struct. in ferroelec. and paraelec. phases, neutron diffr. study 1−47057
$CsHSO_3$, X-ray cryst. struct. determ. 1−15846
Cs_2HgBr_4, struct. phase sequence with incommensurate phases, X-ray diffr. and NQR meas. 1−7324
$Cs_2Mo_6S_6$, pseudo-one-dimens. metal, prep. and struct. characteriz. 1−38357
$CsNb_2O_{18}$, struct. study by IK absorpt. and diffusion Raman spectra *(French)* 1−25218
$Cs_2NpO_2Cl_4$, crystal struct. 1−47061
$Cs_3R_2(NH_2)_9$, R=Ce,Nd,Sm, struct. and props. *(German)* 1−34315
$CsSbS_2$, cryst. struct. determ. 1−25226
Cs_2Se, crystal struct., new modification *(German)* 1−34316
$CsUO_2(NO_3)_3$, cryst., Raman scatt. anisotropy 1−8061
$Cs_3Yb(SO_4)_3$, X-ray cryst. struct. determ. 1−7151
Cs_2ZnBr_4, struct. phase sequence with incommensurate phases, X-ray diffr. and NQR meas. 1−7324
$Cs_3[Mo_2O_6F_3]$, cryst. struct. and vibr. spectra 1−34314
Cu complex, bis(adiponitrile)copper(I) nitrate, heat capacity, order-disorder transition 1−11878
Cu II-Fe III heterobinuclear complex, crystal struct., antiferromag. coupling, molar mag. susceptibilty 1−47058
Cu-Li-Fe-O system, prep. and props. of spinel solid solns. 1−12708
CuAlXSe, (X-Ge, Sn), prep. and cryst. struct. 1−2412
$Cu_{0.5}Fe_{2.5}O_4$, struct., oxidation states, of Fe, Cu, spectrometric anal. *(French)* 1−20667
$CuGaXSe_4$ (X-Ge, Sn), prep. and cryst. struct. 1−2412
$CuHPO_4H_2O$, X-ray cryst. struct. determ. *(French)* 1−2407
$Cu_6Hg_3As_4S_{12}$, cryst. struct. determ. 1−25221
CuHgSeCl, X-ray cryst. struct. determ. 1−15845
$Cu_{0.5}In_{2.5}S_4$, X-ray single-cryst. struct. determ. 1−15863
$CuInXSe_4$ (X-Ge, Sn), prep. and cryst. struct. 1−2412
$CuLn(WO_4)_2$ (Ln=rare-earth or Y), cryst. struct. and thermal stability 1−30201
$Cu(NH_4)_2(SeO_4)_2.6H_2O$, X-ray cryst. struct. determ. 1−42346
$Cu_9Na_6(PO_4)_8$, synthetic, X-ray cryst. struct. determ. 1−15851
$CuPbSbS_3(AsS_3)$, cryst. struct. and twinning 1−25223
β-$Cu_2V_2O_7$, ziesite, cryst. struct. and fumarole temp. indicator 1−54077
Dy complex, $Dy[S_2P(C_6H_{11})_2]_3$, cryst. and mol. struct., trigonal prismatic vs. octahedral coordination 1−25233
$DyMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
$Er_4Ge_3O_9(OH,F)_6$, cryst. struct. determ. 1−25225
Er_7I_{10}, Er_4I_5, cryst. struct., condensed clusters *(German)* 1−34310
$ErMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
Eu pnictides, cryst. chem. 1−25234
crystal atomic structure of inorganic compounds continued
$EuHfS_3$, form. in EuS-HfS_2 system, X-ray phase and struct. investig. 1−30172
$EuMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
Fe oxides, high-press. polymorphs of high density 1−49259
Fe tychite, cryst. struct. determ. 1−2414
$Fe_3K(OH)_6(CrO_4)$, crystallographic and IR study *(French)* 1−47063
$FeLu_2S_4$ pseudo-spinel, disordered cations, X-ray diffr. and Mossbauer obs. 1−25241
$Fe_{0.25}Nb_{0.75}Se_3$, metal-insulator transition and CDWs, rel. to crystal struct. 1−47718
Fe_2O_3, crystal struct. and isothermal compression 1−15873
Fe_3O_4, cryst. struct. at low temp. rel. to Verwey transition 1−11734
Fe_3O_4, partial charge ordering 1−11735
β-FeOOH porous cryst. struct. 1−52118
$Fe_xP_{1-x}B_x$, (x<0.15), ^{57}Fe Mossbauer and X-ray study 1−26087
FeS_2, Mossbauer spectra, crystal struct. 1−52880
$FeSc_2S_4$, pseudo-spinel, disordered cations, X-ray diffr. and Mossbauer obs. 1−25241
$FeYb_2S_4$ pseudo-spinel, disordered cations, X-ray diffr. and Mossbauer obs. 1−25241
GaAs (110), photoelectron diffr. effects., XPS angular distribs. 1−53050
$Ga_{2/3+x}Cr_{2-x}S_4$, cation-deficient spinel, crystallographic and mag. props. 1−34321
Ga_2S_3:Mn^{2+}, crystal struct., stacking faults, ESR obs. *(German)* 1−21037
$GaTe_xSe_{1-x}$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
$GdMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
H, Na-Y zeolites, neutron diffr. study of cations and protons distrib. 1−7145
H_3ClO_4, solid phase, rot. pot. and equilib. orientation of H_3O^+ ion 1−52094
$H_{3+n}(PMo_{12-n}V_nO_{40}).mH_2O$ (n=2,3; m=30-36), pseudo-Keggin type struct., role of H_2O mol. 1−38358
$H_4(SO_4)_2.3Na_2SO_4.H_2O$, struct. determ. from diffractometric data 1−42359
H_2TeO_6, cubic, neutron structural refinement 1−15853
$HfAlC_{2-x}$, synthesis and crystal struct. 1−30165
HfI_4, X-ray struct. anal., IR and Raman spectra *(German)* 1−34308
Hg_3GeO_4, X-ray cryst. struct. determ. and refinement 1−42347
Ho_2C, ferromagnetism, crystal-field effect, struct., neutron-diffr. obs. 1−47851
$HoMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
In-S, phase diagram, spinel-type solid solution, struct. study *(French)* 1−20147
InCl, α and β modifications, cryst. struct., stereochemically active $(5s)^2$ lone pairs 1−25214
$In_{2/3+x}Cr_{2-x}S_4$, cation-deficient spinel, crystallographic and mag. props. 1−34321
$In_xGa_{1-x}Se$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
$In_2Mo_6Se_6$ and $In_2Mo_6Te_6$, pseudo-one-dimens. metal, prep. and struct. characteriz. 1−38357
In_5S_4, X-ray cryst. struct. determ. and refinement 1−11726
$KAlF_4$, single-cryst. neutron diffr. struct. determ. 1−34297
$K_8(Al_6Si_6O_2)Cl_2$, cryst. struct., distance least squares modelling 1−42360
$K_2Ca_5(SO_4)_6.H_2O$, cryst. struct. determ. 1−30190
$KCl:Ca^{2+}(Ba^{2+})(Pb^{2+})(Sr^{2+})$, impurity ion effect on lattice parameter 1−52122
$KCl:Ca^{2+}(Sr^{2+})(Eu^{2+})$, gamma irrad. effects on lattice parameter and colour centre conc. 1−52176
$KCo(Au(CN)_2)_3$, piezoelectric, cryst. struct., lattice const. determ. 1−25209
δ-$KEr[PO_3]_4$, cryst. struct. determ. 1−25230
α-$KEr[PO_3]_4$, cryst. struct. determ. 1−30192
$KF.4KNbO_3$, struct. of double fluoride and metaniobate 1−42358
$KI_3.H_2O$, cryst. struct., neutron diffr. study 1−30143
$K_3(K_{0.333}.H_2O_{0.667})_6Na_2(Na_{0.38}.H_2O_{0.12}{}^+.H_2O_{0.500})_6Fe_6{}^{3+}O_2(SO_4)_{12}.6H_2O$, struct. rel. to parent cmpd. 1−42343
β-$K_2Mg_2(MoO_4)_3$, cryst. struct. 1−3597
$KMnF_3$, cubic phase, atomic thermal motion refinement in struct. at 198K and 293K 1−30198
$K_2Mo_6S_6$ and $K_2Mo_6Se_6$, pseudo-one-dimens. metal, prep. and struct. characteriz. 1−38357
$K_3Na(H_2P_2O_7)_2$, neutron diffr. struct. refinement *(French)* 1−15864
KNb_2O_{18}, struct. study by IK absorpt. and diffusion Raman spectra *(French)* 1−25218
$KNbOP_2O_7$, crystal struct. study 1−20163
$K_2Ni_4(PO_4)_2(P_2O_7)$, cryst. struct. investigation 1−20170
$K_2O.B_2O_3.4SiO_2$, crystal struct., X-ray obs. *(Japanese)* 1−11738
$K_2Re_3S_6$, cryst. struct., occurrence of $[Re_6S_8]$ clusters *(German)* 1−34311
K_2SnCl_6, pressure induced structural transformation 1−30381
$K_3Ti_5NbO_{14}$ and $Rb_3Ti_5TaO_{14}$, synthesis and layer struct. 1−38353
$K_4UO_2(CO_3)_3$, cryst. struct., X-ray diffr., Raman and IR obs. 1−20134
K_xVF_3, cryst. and mag. struct., comp. depend. 1−13971
$K_2VOP_2O_7$, cryst. struct. study 1−20164
$K_3V(VO_4)_2$, high pressure synthesis, glaserite type struct. 1−2408
$K_2WO_4.5\text{-}7WO_3$, bonding, phase range, and anion struct., Raman spectra study *(German)* 1−35025
β-KYb_2F_7, struct. refinement *(French)* 1−34320
$K_6[Al_4Si_6O_{20}].[B(OH)_4]Cl$, kalborsite, cryst. struct. determ. 1−30193
$K[AuCl_4].2H_2O$, X-ray cryst. struct. determ. *(French)* 1−30153
$K[H_3NO_3P]$, X-ray cryst. struct. determ. 1−20133
$K_3[Pt\{(SO_3)_2H\}Cl_2]$, X-ray cryst. struct. determ., extremely short H bond 1−15850
$(La,Ca)C_2O_2$ system, structural studies at high temp. *(French)* 1−47065
$LaAlO_3$, synthesis, struct. and elec. props. *(Polish)* 1−53147
$LaCl_{3-x}I_x$, mixed halide phases, X-ray powder diffr. patterns 1−26439
$LaCoC_2$, cryst. struct. 1−30199
$LaMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
LaO_3-Al_2O_3 system, form. conditions and struct. *(Polish)* 1−53147
La_2O_3-ThO_2-$3La_2O_3.WO_3$, thermodynamic stability and phase equilibria 1−3711
(LaO)AgS, superionic conductor, prep., cryst. struct. and elec. conductivity 1−30468
$LaRu_2Si_2$, new ternary silicide, cryst. struct. determ. by X-ray powder diffr. 1−20160
LaS_2, struct., reversible transition at approx. 750°C 1−25293
γ-La_2S_3, refined cryst. struct., Th_3P_4-$ZrSiO_4$ struct. ratio 1−30183
$La_3S_4(Se_4)$, Jahn-Teller band transition, mag. props. 1−20679
$LaSe_2$ and $LaSe_{2-x}$, struct. and twinning 1−25293

crystal atomic structure of inorganic compounds continued
$LaSi_3N_5$, crystallographic study 1−25211
$La_{1-x}Sr_xFe_{1-y}Co_yO_3$ series, electrode for O_2 evolution, struct. and elec. cond. 1−31867
Li borates, crystallochem. characts. 1−30197
Li-graphite intercalation compounds, neutron scatt. 1−34330
$LiAlSi_2O_6$, atomic charges estimation from X-ray diffr. intensity data 1−7140
$Li_8(Al_6Si_6O_{24})Cl_2$, cryst. struct., distance least squares modelling 1−42360
$LiGaO_2.8H_2O$, X-ray cryst. struct. determ. *(French)* 1−34294
$Li_xH_{1-x}RP_2O_7$ (R=Tm, Yb, Lu), prep., cryst. struct., IR spectra, and chem. anal. 1−34305
α-$LiIO_3$, cryst. struct. and phase transitions *(Chinese)* 1−25206
$2LiIO_3.HIO_3$, cryst. struct. and phase transitions *(Chinese)* 1−25206
$LiNbO_3$, electro-optic and crystallographic props. 1−3368
$LiNdGeO_4$, cryst. struct. study 1−20165
$Li_2O.3B_2O_3$, X-ray diffr. cryst. struct. determ. *(Japanese)* 1−20171
$LiR(PO_3)_4$ (R=rare earth), prep., cryst. struct., IR spectra, and chem. anal. 1−34305
$LiRbSO_4$(V), X-ray cryst. struct. of room-temp. phase 1−30156
Li_2SO_4, solid electrolyte, cryst. struct. of plastic form. at 908K 1−30179
$LiTaO_3$, X-ray powder diffraction studies 1−38359
LiZn borates, crystallochem. characts. 1−30197
$LiZn(IO_3)_3$, cryst. struct. and phys. props. *(Chinese)* 1−53160
$Li[B(SO_3Cl)_4]$, X-ray cryst. struct. determ. 1−15870
Lu complex, $Lu[S_2P(C_6H_{11})_2]_3$, cryst. and mol. struct., trigonal prismatic vs. octahedral coordination 1−25233
$Lu_{15}C_{19}$, cryst. struct., X-ray diffr. obs. *(French)* 1−2400
LuOOH, X-ray structural refinement 1−30157
$LuRuB_2$ ternary boride, cryst. struct. study using X-ray diffr. 1−20158
MMo_6S_8, M=Pb, $Ag_{1.5}$, Chevrel phase materials, synthesis and props. 1−16051
$MMo_6S_8I_2$, M=Cu_x, $Fe_{0.5}$, Chevrel phase materials, synthesis and props. 1−16051
M=Mg, Ni, Zn, cation distrib., props. of brownmillerite phase 1−47052
$(Mg, Fe)_3(PO_4)_2$, cation ordering, Mossbauer spectra study 1−21090
$(Mg,Mn)_{1.97}Mn_{0.78}{}^{3+}Fe_{0.19}{}^{3+}BO_5$, takeuchiite, cryst. struct. determ. by high resoln. TEM 1−34291
MgF_2 and $MgCl_2$, cryst. struct., stability and phase transition at high-press. 1−27155
$Mg(Gd_xYb_{1-x})_2S_4$, struct. and mag. props. 1−38356
$MgGeN_2$, struct. and chem. bonding 1−30168
MgH_2, polymorphism up to 80 kbar and 650°C 1−34275
$Mg_{x/2}Li_{1-x}IO_3$, cryst. struct. type variation with composition *(Chinese)* 1−2398
$MgNbCuO_4$, cryst. struct. 1−25208
Mg_2NiH_4, thermodynamic and crystallographic studies 1−21714
MgO, atomic C content, IR anal. of OH-containing defects 1−31146
$Mg(OH)_2$, dehydration, X-ray scatt. study 1−8567
$MgSiN_2$, struct. and chem. bonding 1−30168
$Mg_2Si_2O_6$, atomic charges estimation from X-ray diffr. intensity data 1−7140
Mn borates, crystallochem. characts. 1−30197
$Mn_{2-x}Cr_xSb$, double-phase sample, struct. and mag. props. 1−20401
MnO, atomic charges estimation from X-ray diffr. intensity data 1−7140
6-MnP_4, prep. and X-ray cryst. struct. determ. 1−34299
α-$MnSO_3.3H_2O$, X-ray cryst. struct. determ. 1−15857
Mn_2SiO_2, atomic charges estimation from X-ray diffr. intensity data 1−7140
Mo chalcogenides, crystal structures and density data 1−24
Mo compounds, crystal structure and density data 1−23
MoS_2 crystal struct., synthesis conditions effect 1−7141
Mohalides, crystal structures and density data 1−24
ND_4IO_4, neutron diffr. studies at 100K 1−15839
ND_4ReO_4, neutron diffr. studies at 100K and 205K 1−15839
ND_3SO_3, struct. study by ENDOR-detected NMR, bond angles, neutron diffr. data 1−39008
$NH_4Al(SO_4)_2.12H_2O$, cryst. struct., X-ray and neutron diffr. studies 1−30203
$(NH_4)_2BeF_4$, ferroelec. phase, X-ray diffr. cryst. struct. determ. 1−30196
NH_4CoF_3, structural phase transitions, X-ray and neutron diffr. 1−2616
$(NH_4)_2CuCl_4.2H_2O$, disorder of NH_4 ions, high precision neutron diffr. study 1−30151
$NH_nD_{4-n}NO_3$, (0<n<4), phase IV, IR and Raman vibr. spectra, heteroionic coupling 1−3379
$NH_4IO_3.2HIO_3$, cryst. struct. determ. by non-Fourier series method 1−30191
$(NH_4)_3In(SO_4)_3$, low-temp. form, X-ray cryst. struct. determ. 1−15844
$NH_4In(SeO_4)_2.4H_2O$ cryst. struct. 1−25216
NH_4MnF_3, structural phase transitions, X-ray and neutron diffr. 1−2616
$(NH_3OH)Al(SO_4)_2.H_2O$, cryst. struct., X-ray and neutron diffr. studies 1−30203
$(NH_4)_{0.67}Tl_{0.33}H_2PO_4$, X-ray cryst. struct. determ. *(French)* 1−15867
$NH_4U_3F_{13}$, X-ray cryst.-struct. determ. *(French)* 1−15869
$NH_4UO_2(NO_3)_3$, cryst., Raman scatt. anisotropy 1−8061
$(NH_4)_2ZnCl_4$, non-crystallographic symms. in superstruct. 1−20151
NH_4ZnF_3, structural phase transitions, X-ray and neutron diffr. 1−2616
$(NH_4)_3[Mo_2O_2F_9]$, $(NH_4)_2[MoOF_5]$, cryst. struct. and vibr. spectra 1−34314
Na rare earth orthophosphates, vanadates and arsenates, structs. 1−25239
$Na_8(Al_6Si_6O_{24})Br_2(Cl_2)$, cryst. struct., distance least squares modelling 1−42360
$Na_8(Al_6Si_6O_{24})I_2$, cryst. struct. and thermal expansion, distance least squares modelling 1−42360
$Na_{3(1-x)}Al_x\square_{2x}PO_4$, x=0.025 and 0.2, cryst. struct. rel. to ionic cond., powder neutron diffr. study 1−34335
$(Na_{0.5}Bi_{0.5})TiO_3$-$CdTiO_3$ system solid solns., synthesis, struct. and dielec. props. 1−39042
$Na_{2-x}Ca_{1-x}Al_xSiO_4$, carnegieite phases, ionic cond. and crystallographic data 1−20450
$Na_{12}Ca_3Fe_2[Si_6O_{18}]_2$, imandrite, cryst. struct. determ. 1−30195
$(Na_{1.31}Ca_{0.38}K_{0.03}Mg_{0.03})_{1.75}Zr(Si_6O_{15}).2.9H_2O$, elpidite, cryst. struct. 1−30200
$Na_3CaPS_2O_7$, fosinaite, X-ray cryst. struct. determ. 1−2415
$Na_{2-x}CaSi_{1-x}P_xO_4$, carnegieite phases, ionic cond. and crystallographic data 1−20450
$Na_6Ca[Zr(Si_6O_{18})]$, cryst. struct. study 1−20168
$Na_2(CoO_4)$, synthesis and cryst. struct. *(German)* 1−30186
Na_2CrO_4, struct. at 296K, neutron obs. 1−42348
$NaGaHP_3O_{10}$, prep. and characterisation 1−35164
NaH_2PO_4, cryst. struct. neutron diffraction at room temp. 1−47053
$NaH_3(SeO_3)_2$, hypothetical degenerate struct., low-freq. Raman spectra 1−11737
$Na_2KSb(Cs)$ photocathode, struct. studied by XPS 1−42353
$Na_5Lu(MoO_4)_4$, X-ray cryst. struct. determ. and refinement 1−2416
$Na_5Lu(WO_4)_4$, X-ray cryst. struct. determ. and refinement 1−2416
$Na_3Mn(PO_4)(CO_3)$, sidorenkite, cryst. struct. determ. 1−25227
$Na_2Mo_6Se_6$, pseudo-one-dimens. metal, prep. and struct. characteriz. 1−38357
$NaNbO_3$-$PbTiO_3$ system, ferropiezoceramic solid soln. form. and characts. 1−39286
$(Na_2O)_2$:$11Al_2O_3$, cryst. struct. and ionic cond. 1−34333
Na_3PO_4, high temp. II-modification, cryst. struct., rel. to ionic cond. props. 1−34334
$Na_3R(AsO_4)_2$, R=rare earth, structural evolution *(French)* 1−34323
$NaR(SO_4)_2$, R≡La-Lu, Y, cryst. struct., X-ray diffr. study 1−20144
$Na_2Re_2S_6$, cryst. struct., occurrence of $[Re_6S_8]$ clusters *(German)* 1−34311
$Na_2SO_4SbF_3$, bidendate complex, cryst. struct. determ. by X-ray diffr. *(French)* 1−15876
$Na_3Sc_2(PO_4)_3$, cryst. struct. at 60°C 1−20167
$Na_4Sc_2Si_4O_{13}$, cryst. struct. determ. 1−25222
$Na_5Tb(MoO_4)_4$, X-ray cryst. struct. determ. and refinement 1−2416
Na_2UBr_6, cryst. struct., fast-ion conductor 1−11731
β-$Na_xV_2O_5$, cryst. struct., elec. and mag. props. 1−12274
$NaZr_2(PO_4)_3$-$Na_3Y_2(PO_4)_3$, ionic conductivity 1−2677
$Na_7[BiBr_6][Bi_2Br_{10}].18H_2O$, X-ray cryst. struct. determ. 1−15861
$Na_5[Fe(CN)_5(SO_3)].10.5H_2O$, X-ray struct. determ. 1−20132
$Na_6[Pd(SO_3)_4].2H_2O$, struct. determ., rod packing 1−34295
$Na_9(β\text{-}SiW_9O_{34}H).23H_2O$, X-ray cryst. struct. determ. 1−42344
Nb_5As_3, cryst. struct. determ. 1−30164
NbN_x, γ and δ phases, x≃0.85 cryst. struct., lattice distortion, neutron diffr. study 1−20139
$NbOAsO_4.2H_3AsO_4.5H_2O$, cryst. synthesis and characts., thermal decomp. products 1−38341
Nb_2P_5, high-pressure synthesis and struct. 1−11724
$NbSe_3$, structure, band props., resistivity and charge density waves 1−42764
$Nd_4Br_6S_3$, X-ray cryst.-struct. anal. *(French)* 1−30152
NdI_3, absorpt. spectrophotometry and X-ray diffr. studies 1−25235
$NdMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
NdOI, absorpt. spectrophotometry and X-ray diffr. studies 1−25235
$NdOsO_4$, crystal struct determ. 1−30180
$Nd_4Os_6O_{19}$, cubic oxide, characterisation and struct. meas. *(French)* 1−52119
$Nd_xZr_{1-x}O_{2-x}$, 0.25<x<0.55, fluorite and pyrochlore structs., neutron powder diffr. study 1−15874
Ni complex, $NH_4Ni[S_2C_2(CN)_2]_2.H_2O$, cryst. struct., elec., mag., and optical props. 1−25719
$Ni_{0.89}Fe_{2.11}O_4$, phase equil., stoichiometry and lattice parameter, additives effect 1−38505
^{18}O self-diffusion in LiO_2 polycrystals, gas-phase anal., rel. to cryst. struct. 1−893
P_4O_7, cryst. struct. 1−30162
Pb complex, bis(p-aminobenzoato)Pb(II), crystal and mol. struct. studied by X-ray diffr. 1−42356
$Pb_{1-x}Ag_5Mo_6S_8$, struct., elec. and supercond. props. 1−42884
$(Pb_{1-x}Ba_x)Nb_2O_6$ solid solns., struct. features rel. to conc. in two-phase region *(Russian)* 1−12724
$Pb_{1-x}Bi_xMo_6S_8$, struct., elec. and supercond. props. 1−42884
$PbBi_4Ti_4O_{15}$, mixed oxide ferroelec. with layer type struct., X-ray powder diffr. obs. *(Chinese)* 1−47051
$PbCu_xMo_6S_8$, Chevrel phase materials, synthesis and props. 1−16051
n $PbF_2.PbBr_2(I_2)$ cryst. struct. composed of fluorite-like blocks and single halogen layers 1−38340
$Pb_{1-x}In_xMo_6S_8$, struct., elec. and supercond. props. 1−42884
$Pb_8K_2(PO_4)_6$, apatites without hexad anion 1−34322
Pb_2NbCoO_6, perovskite, high-temp. X-ray phase investig. 1−30171
$PbO\text{-}PbF_2\text{-}Nb_2O_5\text{-}NbO_2F$ system, phase anal. using electron and X-ray diffr. 1−20157
β-PbO_2, powder neutron diffr. study 1−15842
$2PbO.SiO_2$, X-ray cryst. struct. determ. 1−42341
$Pb_2Si_{0.76}Ge_{0.24}O_4$, solid soln., OD structure *(German)* 1−15849
Pb_2SiO_4, OD structure *(German)* 1−15849
$Pb(Ti_{1-x}Zr_x)O_3$ solid solns., struct. features rel. to conc. in two-phase region *(Russian)* 1−12724
PdB_2O_4, prep. and cryst. struct. determ. 1−25219
$PrCoC_2$, cryst. struct. 1−30199
$PrMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
$Pr_{1-x}Mn_{1+x}O_3$ perovskites, struct. and mag. props. 1−38934
$PrOHSO_4$, cryst. struct. 1−25238
Pt complex, cis-chloroammineglycinato platinum (II) crystal struct. determ. 1−42354
Pt complex, cis-dichloroammineglycine platinum (II), crystal struct. determ. 1−42354
PtP_2O_7, cryst. struct., X-ray diffr. study *(French)* 1−52120
Rb-Ga double phosphates, prep. and characterisation 1−35164
$RbAg_4I_5$ superionic conductor, cryst. struct. in −45 to 135°C range 1−7148
$Rb_2Cr_{1-x}Mn_xCl_4$, single crystal, Jahn-Teller effect, neutron diffraction study 1−20146
RbH_2PO_4, cryst. struct. in paraelec. and ferroelec. phases 1−2403
$RbIO_3.2HIO_3$, cryst. struct. determ. 1−30194
$Rb_2Mo_6S_6$, pseudo-one-dimens. metal, prep. and struct. characteriz. 1−38357
$RbNbO_3$, cryst. struct., lattice energy, X-ray diffr. study *(German)* 1−34318
$RbNb_2O_{18}$, struct. study by IK absorpt. and diffusion Raman spectra *(French)* 1−25218
$Rb_xP_8W_{32}O_{112}$ single cryst., tunnel struct. built from ReO_3-type blocks and P_2O_7 groups 1−15854
$Rb_2ZnBr_4(Cl_4)$, satellite faces of incommensurate structs. 1−30187
Rh complex, dichlorobis(ethylenediamine)Rh(III) nitrate, cis and trans isomers cryst. struct. 1−34326
$RhAsO_4$, cryst. struct., X-ray diffr. study *(German)* 1−52121
$RhPO_4$, cryst. struct., X-ray diffr. study *(German)* 1−52121
$(SN)_x$, cond. single crysts., growth and props. *(Japanese)* 1−21335
$Sb_4O_4(OH)_2SO_4$, Klebelsbergite, cryst. struct. determ. 1−38336
$Sb_2O_3.2SO_3$-$2H_2O$, X-ray cryst. struct. determ. *(French)* 1−30150

crystal atomic structure of inorganic compounds continued
Sb_2WO_3, structural intergrowth phenomena, X-ray diffr. and electron microscopy study 1−20150
$ScTa_{1-x}Nb_xO_4$, struct. and luminesc. 1−13972
Si_2FeO_3F, prep., struct., and props., Mossbauer resonance spectra *(French)* 1−52112
$(SiH_3)_2O$, electronic struct., rel. to silicates 1−14813
SiO_2, cryst. struct., stability and phase transition at high-press. 1−27155
SiO_2-Al_2O_3-P_2O_5 system, phase relationships and ternary compound $4SiO_2.Al_2O_3.3P_2O_5$ *(German)* 1−39319
SiO_2-TiO_2, phase equilibria, TiO_2 effect on α-β transform, in cristobalite 1−48332
$SmFeB_4$, X-ray cryst. struct. determ. 1−15843
SmI_3, absorpt. spectrophotometry and X-ray diffr. studies 1−25235
$SmMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
Sm_2O_2S films, crystallographic struct. after electron beam annealing *(French)* 1−11989
γ-Sm_2S_3, refined cryst. struct., Th_3P_4-$ZrSiO_4$ struct. ratio 1−30183
$SnHPO_4$, struct. studied by X-ray and neutron diffr., H-position examined by proton and phosphor NMR 1−30188
SnI_2, SnI_4, single crystal growth in SiO_2 gels 1−3591
SnO, struct. refinement and thermal expansion 1−15868
$Sn_{0.30}WO_3$, Sn atom distrib., X-ray anal. and electron diffr. *(French)* 1−15875
$SnYb_3Rh_4Sn_{12}$, superconductors, cryst. struct. determ. 1−38363
$Sn_4Sb_6S_{13}$, X-ray cryst. struct. electron 1−30155
$SrBi_4Ti_4O_{15}$, mixed oxide ferroelec. with layer type struct., X-ray powder diffr. obs. *(Chinese)* 1−47051
Sr_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
$(Sr(H_2O)_8)_2(BiBr_{10})$, X-ray cryst. struct. determ. 1−15860
$Sr_2(OH)_2[Cu(OH)_4]$, cryst. struct. investigation 1−20169
Sr_3SnO, cryst. struct., phase diagram of Sr-Sn system *(German)* 1−39309
$Sr_3Sn(Pb)O$, perovskite-type struct., interphases between Zintl phases and real salts *(German)* 1−31442
$Sr_3(SrNb_2)O_9$, $Sr_3(CaNb_2)O_9$, perovskites, vibr. spectra, order phenomena on octahedral sites *(French)* 1−21205
$Sr_2(Ta_{1-x}Nb_x)_2O_7$, ($x \simeq 0.12$), perovskite-type slabs, ferroelec. phase transitions, cryst. struct. 1−34296
$Sr_2Ta_2O_7$, perovskite-type slabs, ferroelec. phase transitions, cryst. struct. 1−34296
$SrZrS_3$, atomic positional parameters, neutron diffr. powder method 1−15841
$Sr[Fe(CN)_5NO]$ and hydrates, TGA-DTA, IR and X-ray powder diffraction study 1−31145
$TR_4Ge_3O_9(OH,F)_6$, TR=Er-Lu, cryst. struct., X-ray studies 1−20166
TaC powders, comp. and struct., annealing effect 1−21476
TaN, cubic, thermal stability 1−39326
Ta_4P_5, X-ray powder profile refinement of cryst. struct. 1−30174
$Ta[PS_4][S_2]$, X-ray cryst. struct. determ. 1−15840
$TbMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
TbO(OH), magnetic transition temp., struct., neutron diffr. obs. 1−42345
Tb_2TiO_5, $\alpha \rightarrow \beta$ transition at ~1500°C 1−21442
$Te(OH)_6.Ag_2HAsO_4.AgH_2AsO_4$, synthesis and crystallographic data *(French)* 1−47055
$Te(OH)_6.Ag_2HPO_4.AgH_2PO_4$, synthesis and crystallographic data *(French)* 1−47055
$Te(OH)_6.K_2SO_4$, X-ray cryst. struct. determ. 1−15859
$Te(OH)_6.NaHAsO_4.NaH_2AsO_4$, synthesis and crystallographic data *(French)* 1−47055
$Te(OH)_6.Na_2HPO_4.NaH_2PO_4$, X-ray cryst. struct. determ. *(French)* 1−11729
$Te(OH)_6.Na_2HPO_4.NaH_2PO_4$, synthesis and crystallographic data *(French)* 1−47055
$Te(OH)_6.Na_2SO_4$, X-ray cryst. struct. determ. 1−15858
$Te(S_2O_7)_2$, X-ray cryst. struct. determ. 1−34300
$ThC_{(0.77)}$, powder neutron diffr. study of Debye-Waller factors *(French)* 1−7279
$ThFe_4P_{12}$, cryst. struct. 1−34309
$Th_6Mn_{23}D_{16}$, cryst. struct. determ. by neutron diffr. 1−20142
$ThOs_4P_{12}$, cryst. struct. 1−34309
Th_7P_{11}, cryst. struct., one-dimens. superstruct. 1−38345
$ThRu_4P_{12}$, cryst. struct. 1−34309
$ThRu_3Si_2$, new ternary silicide, cryst. struct. determ. by X-ray powder diffr. 1−20160
TiC powders, comp. and struct., annealing effect 1−21476
TiC_x, cubic struct., phase constitution and ordering 1−30166
TiC_xN_y, cubic phase, explosion by elec. current pulse, phase composition of products formed 1−30167
TiH_m, cubic phase, explosion by elec. current pulse, phase composition of products formed 1−30167
TiO_2, cryst. struct., stability and phase transition at high-press. 1−27155
TiO_2+R_2O_3 system (R=rare earth), reactions under shock waves, crystallographic parameters of products 1−39598
TiO_y, cubic phase, explosion by elec. current pulse, phase composition of products formed 1−30167
Ti_2O_3, electron density study 1−52484
Ti_4O_7, $(Ti_{1-x}V_x)_4O_7$, order-disorder transition of Ti^{3+}-Ti^{3+} pairs, elec. resist., sp. ht., mag. susceptibility, and struct. studies 1−11715
$TiS_{1.67}$, $(2H)_2$=2C type superstructure, high-resolution electron microscopy 1−20149
Tl_3AsS_4, struct., diffr. patterns, IR and Raman spectra 1−2406
Tl_3AsSe_4, struct., diffr. patterns, IR and Raman spectra 1−2406
$TlB_5O_8.4H_2O$, cryst. struct. and chem. *(French)* 1−2401
$TlCu_3S_2$, X-ray cryst. struct. determ. 1−11727
$Tl_2Mo_6Se_6$ and $Tl_2Mo_6Te_6$, pseudo-one-dimens. metal, prep. and struct. characteriz. 1−38357
$Tl_xNb_{2+x}F_{1-y}$, pyrochlore, ionic cond., ^{205}Tl and ^{19}F NMR study of ionic motion and struct. 1−30460
$TlNb_9O_{28}$, struct. study by IK absorpt. and diffusion Raman spectra *(French)* 1−25218
Tl_3PS_4, struct., diffr. patterns, IR and Raman spectra 1−2406
Tl_3PSe_4, struct., diffr. patterns, IR and Raman spectra 1−2406
Tl_2S, intercalation by acceptor organic mol., struct. studied by X-ray diffr. 1−34327
$Tl_3Ti_4NbO_{14}$, synthesis and layer struct. 1−38353
$TmCl_3.6H_2O$, far IR vibr. spectrum, space group 1−26219
$Tm_2(SO_4)_3.8H_2O$, far IR vibr. spectrum, space group 1−26219
UCl_5, cryst. struct., fast-ion conductor 1−11731
UF_3-CsF system, phase diagram, crystal structure 1−5980
UF_3-KF system, phase diagram, crystal structure 1−5980
crystal atomic structure of inorganic compounds continued
UF_3-RbF system, phase diagram, crystal structure 1−5980
UO_2, lattice distortion and quadrupolar ordering 1−25220
UO_2, temp. depend. of atomic thermal displacements, Rietveld powder profile refinement method 1−30204
$U(OH)_2SO_4$, crystal field effects, perturbational model 1−20687
$U_6O_4(OH)_4(SO_4)_6$, crystal field effects, perturbational model 1−20687
$URh_2Si_2(Ge_2)$, mag. props., neutron diffr. study 1−47857
URu_3B_2, crystal structure determ. by X-ray diffr. 1−11733
$U(SO_4)_2.4H_2O$, crystal field effects, perturbational model 1−20687
UTe_x ($1.33 \leq x \leq 1.5$), intermediate valence state, mag. susceptibility meas. 1−20669
$(V,Cr)_3C_{2-x}$, cryst. struct., neutron powder diffr. study 1−34312
VC_x, cubic struct., phase constitution and ordering 1−30166
VF_2, cryst. distort., domain and modulated struct. 1−13971
V_2GaO_5, X-ray cryst. struct. determ. 1−11725
VN, thermodynamic props. in homogeneity range 1−30416
$V_{41}Ni_{36}Si_{23}$, struct. of I phase, pseudo superstruct. 1−34292
VO_2, metal-dielec. phase transition 1−30794
V_2O_3, crystal struct. and isothermal compression 1−15873
V_2O_3, electron density study 1−52484
β-$VO(PO_3)_2$, chain polyphosphate 1−34303
$VOSO_4.3H_2O$, cryst. struct., H bonds *(French)* 1−30144
VP_4, high press. synthesis 1−35204
W complex, tetrahydridoatetrakis (tri-iso-propylphosphito)tungsten, crystal and mol. struct. determ. by X-ray struct. anal. 1−42355
WC-TiC (5 or 7 at.%), mixed carbide, cubic, treatment effect on at. struct. *(German)* 1−48394
$W_{24}O_{70}$, member of {103} CS series of WO_{3-x}, prep., struct. and oxidation behaviour 1−34325
YB_4, crystal struct. determ. by X-ray diffr. *(French)* 1−38339
$YD_{1.96}$, cryst. struct. by neutron scatt. 1−20140
$YH_{1.98}$, cryst. struct. by neutron scatt. 1−20140
Y_2O_3, struct. refinement at 77K, neutron powder diffr. study 1−30161
YRu_3Si_2, new ternary silicide, cryst. struct. determ. by X-ray powder diffr. 1−20160
$Yb_{15}C_{19}$, cryst. struct., X-ray diffr. obs. *(French)* 1−2400
$Yb_2Ge_3O_9(OH,F)_6$, cryst. struct., X-ray studies 1−20166
$YbHP_3O_{10}$, symmetrical form of $P_3O_{10}^{5-}$ 1−34304
YbO(OH), struct., neutron diffr. obs. 1−42345
γ-$(Zn,Fe)_3(PO_4)_2$, cation ordering, Mossbauer spectra study 1−21090
Zn borates, crystallochem. characts. 1−30197
Zn-Li silicates, cryst. struct. and phase transforms. 1−42352
$ZnFe_{2(1-x)}Cr_{2x}O_4$, spinel solid solns., ordering obs. 1−30170
$ZnGeN_2$, struct. and chem. bonding 1−30168
$ZnMoO_4.2H_2O$, X-ray cryst. struct. determ. *(French)* 1−15852
$ZnNi(S_2C_2O_2)_2.2.08H_2O$, paramag. rel. to non-stoichiometry *(French)* 1−25207
ZnS single crystals, flux growth by gradient transport in molten $PbCl_2$, characterisation 1−3590
$ZrAlC_{2-x}$, synthesis and crystal struct. 1−30165
$ZrBr_4$, Raman and IR vibr. spectra, assignments and normal coord. anal. 1−52946
$ZrCl_4$, Raman and IR vibr. spectra, assignments and normal coord. anal. 1−52946
ZrV_2D_x, D site occupation, D conc. depend., neutron diffr. study 1−7135

crystal atomic structure of organic compounds
actin sheets, crystalline, struct. model 1−21980
n-alkane, cryst. state, chain conformation by neutron scatt. 1−42325
alkoxy radicals, γ H^+ hyperfine coupling 1−4106
ammonium Rochelle salt, cryst. struct. at 300K, X-ray study 1−7153
ammonium tetraphenylborate, IR spectra, cryst. struct. and H bonding 1−16558
anthracene, triclinic phase, electron diffr., struct., dynamics, IR and Raman active vibr., thermodynamic props. 1−47072
barium zirconyl oxalate, cryst. struct., X-ray diffr. study 1−15885
bis(p-toluene sulphonate) diacetylene, polymerisation, optical absorpt. energy, crystal lattices 1−43666
bis-piperidinium tetrachlorocuprate, struct., antiferromagnetism, X-ray, mag. susceptibility and EPR obs. 1−34341
ω-bromo-2-acetonaphthalene, cryst. struct., X-ray powder diffr. study 1−47068
5-(2-bromo-4-methylphenyl)-3,7-dimethyl-1-propyl-1,5-dihydrobenzo[f]pyrazolo[3,4-c][1,2,5]-triazepine, cryst. and mol. struct. 1−25251
bromoform cryst., Raman and IR vibr. spectra and phase transformation 1−43107
4-tert-butyl-4-hydroxy-2.2,6.6-tetramethylpiperidine derivatives, conformation, proton NMR and IR obs. 1−14889
butyric acid, crystalline state, mol. config., atom-atom pot., pot. energy curves calc. 1−25247
cadmium acetate-dithiourea, cryst. struct., X-ray investigation 1−20179
chlorotris(triphenylphosphine) silver, X-ray cryst. struct. determ. 1−30207
clathrates, ^{13}C NMR cryst. struct. investig. 1−7958
complexes, H-bonded, ^{13}C NMR cryst. struct. investig. 1−7958
copper formate tetrahydrate, topotactically dehydrated 1−34342
1-cyanoadamantane, symmetry-adapted-function anal., at room temp. 1−34191
di(p-aminobenzoato)tetraaquacobalt(II) cryst. and mol. struct. 1−25253
dibenzotetrathiofulvalene$^+$ $[PtBr_5S(CH_3)_2]^-$, cryst. and mol. struct. 1−2421
dibenzotetrathiofulvalene complexes, with inorganic anions $(SnCl_6)^{2-}$ and $(SnBr_6)^{2-}$, struct. 1−30221
cis-3,4-dibromopyrrolidine, synthesis, crystal and mol. struct. 1−25246
2,5-dichloroacetanilide, NQR, Zeeman effect 1−47968
4,4-diethylmorpholinium $(TCNQ)_2$, 1:2 complex, struct. at 294K 1−34337
1,8-dihydroxy-9-anthrone, struct., ^{13}C and ^1H NMR, IR spectra, X-ray crystallography, U.S.P. reference standard 1−20176
3,4-dimethoxy benzoic acid, methoxy group rotation, NMR 1−31041
2-p-dimethylaminobenzylidene-1,3-indandione, γ-modification, X-ray cryst. struct. determ. 1−7159
4,4′-dimethylchalcone, achiral olefin, absolute configuration determ. by anomalous scattering of light atoms 1−2418
4,4-dimethylmorpholinium $(TCNQ)_2$, 1:2 complex, struct. at 294K 1−34338
4-ethylmorpholinium $(TCNQ)_2$, struct. at 294K 1−34339
famycin S iminomethyl ether, cryst. struct determ. 1−34340
ferrileghaemoglobin with nicotinic acid, struct. at 2.8 Å resoln. 1−32094
flavone-3-monophosphate-magnesium complex, struct. 1−30209

crystal atomic structure of organic compounds continued
formamide cryst. mol., electrostatic moment, space partitioning and mol. proximity effect 1−7154
Goldschmidt complication series, morphological extinction rules and phase relations 1−20101
hexachlorobenzene, force free and other mdels for crystal struct. 1−52114
4-hydroxy-4-phenylhexanamide, anticonvulsant molecule, cryst. struct. determ. 1−30212
hydroxydimethylsulphurdimethyl sulphoxide (1/2) hexchlorotellurate, cryst. struct. *(French)* 1−47071
1-p-hydroxyphenyl-(1′-p-phenolate)-dithianium monoperchlorate, mol. and cryst. struct. 1−30217
1,1′di-p-hydroxyphenyl-(1″-p-phenolate)-trithiophanium biperchlorate, cryst. struct. determ. 1−30218
1-p-hydroxyphenylthianium perchlorate, X-ray cryst. struct. determ., IR spectra 1−2420
isobutyl 4-(4′-phenylbenzylidene-amino) cinnamate, cryst. and mol. struct. and smectic E transition 1−2411
L-isoleucine hydrochloride, X-ray powder patterns, unit cell extraction 1−25243
isosarmentosin, cryst. struct. *(Chinese)* 1−52124
lanthanum hexacyanoferrate (III) tetrahydrate, refined cryst. struct. 1−15880
lauric acid, crystalline state, mol. config., atom-atom pot., pot. energy curves calc. 1−25247
leghaemoglobin, rhombic modification, use of cylindrical model of protein for spatial struct. determ. 1−32095
metal, organic, radical cation salts 1−42371
DL-methionine hydrochloride, X-ray powder patterns, unit cell extraction 1−25243
methyl 3-keto-1,4-thiazinyl-2-acetate, cryst. and mol. struct. 1−25252
methyl ammonium aluminium sulphate, cryst. struct., X-ray and neutron diffr. studies 1−30203
methyl sulphide-mercury(II) chloride complex, Raman and IR spectra, struct., X-ray diffr., stretching vibr. 1−25245
methyl-bis-(8-hydroxy-2-quinolyl)-amine, cryst. and mol. struct. 1−30219
N-methylacetamide complexes of alkali and alkaline earth metals, structure and bonding, review 1−52126
methylvalylhydroxyisovaleryl didepsipeptide, cyclic, cryst. struct. refinement 1−2422
mitochondrial lipids-water system, containing two types of lipid monolayers, X-ray and neutron diffr. study 1−32091
molecular crystals, phonon spectrum, dynamical struct. factor, intermol. pot. changes effect 1−2576
monodimethylglyoximatobis(o-phenanthroline)Co(III) thiocyanate dihydrate, cryst. and mol. struct. 1−25249
nickel acetate tetrahydrate, electron density distrib. based on X-ray diffr. data 1−2423
nickel phthalocyanine-iodine complexes, chemical, spectral, struct. and charge transport props. 1−47621
nickelocene, cryst. and mol. struct. at room temp. and 101K 1−20173
nitromethane, struct. determ. by X-ray and neutron diffr. 1−7155
nylon 11, piezoelectric consts., cryst. struct. 1−12456
octylcholestane, polymorphism, cryst. and liq. cryst. phases, dilatometry and X-ray diffr. study *(French)* 1−20058
(perylene)$_2$ [Pt(S$_4$C$_4$(CN)$_4$)], synthesis, struct., electrical and mag. props. 1−11740
6-(2-phenethyl)purine, synthetic cytokinin, X-ray cryst. struct. determ. 1−32089
phenothiazine, mol. reorientation by PMR 1−11700
3-phenyl indanone-1, cryst. struct., X-ray powder diffr. study 1−47067
L-β-phenylalanine hydrochloride, unit cell and space group 1−25244
L-β-phenylalanine hydrochloride, X-ray powder patterns, unit cell extraction 1−25243
phenyltris(acetoximoxy)silane, cryst. and mol. struct. 1−25250
plastic crystals, incoherent quasielastic neutron scatt., multiple scatt. evaluation 1−11642
poly(vinylidene fluoride), cryst. struct. of phase IV 1−11739
poly(vinylidene fluoride) film, temp. depend. small angle X-ray scatt., thermal expansion 1−15882
polycrystals, aldehyde group rot., NMR line breadth 1−16487
polyethylene, lattice distortion at low temps. 1−47013
polymorphs, ^{13}C NMR cryst. struct. investig. 1−7958
polynuclear complexes with ethylenediamine and ethylenediaminetetraacetate, cryst. struct. 1−20180
polyphenylene: AsF$_5$, highly conducting cryst., oligomers solid state synthesis 1−11697
polythiazyl on alkali halide substrates, epitaxial polymerisation, topochemistry, struct. 1−12999
potassium caprate, C-phase, hydrocarbon chain disorder and assoc. diffuse scattering 1−42366
potassium sucrose octasulfate heptahydrate, cryst., struct. 1−30208
propionic acid, crystalline state, mol. config., atom-atom pot., pot. energy curves calc. 1−25247
2-(2-pyridylamino)-8-hydroxyquinoline, cryst. and mol. struct. 1−30220
quartz, crystal structure and elastic props at press. 1−42350
rhodium (III) tris(ethylenediamine), racemate and active racemate, crystallography *(French)* 1−7156
TCNQ salt, HMTTF-TCNQF$_4$, phys. props. rel. to those of HMTTF-TCNQ 1−25734
TCNQ salt, OMTTF-DMTCNQ, struct. and elec. cond. *(French)* 1−42367
TCNQ salt, TMA$^+$TCNQ$^{2/3-}$(I$_3^-$)$^{1/3}$ mixed valency complex, fully ordered phase 1−2410
TCNQ salts, IR absorpt. temp. depend. 1−31133
Tenaciss igenin, steroid, mol. and cryst. struct. *(Chinese)* 1−4245
1,4,9,12-tetra-azacyclohexadecane-3,10,13,16-tetraone, cryst. and mol. struct. 1−25255
tetraamminepyrophosphatocobalt (III) dihydrate, bidentate, structural model 1−17339
1,2,3,5-tetrachlorobenzene, X-ray cryst. struct. determ. 1−30211
tetramethylammonium salts, polycryst., Raman spectra and cryst. struct. 1−21191
tetramethylpyrazine trihydrate, cryst. struct. 1−30210
tetrapeptide, cyclic, cryst. struct., packing interactions calcs. 1−47073
tetrapropylammonium triidomercurate(II) cryst. at. struct., Raman and IR obs., 1−15883
triazoline-1,2,4-thiones-5, conformational study by NMR and X-ray spectra 1−30216
trichloroethylidene trichlorolactic ester crystal struct., phase transform., NQR and X-ray obs. 1−20175
crystal atomic structure of organic compounds continued
(triethylammonium)$^+$.(TCNQ)$_2^-$, neutron struct. determ. at 40K 1−15881
triethylenediamine, low temp. phase, cryst. struct. and mol. motion *(French)* 1−30333
2,4,6-triphenylheptane, syndiotactic, cryst. and mol. struct. determ. 1−41511
triphenyllead-4-thiopyridone, cryst. struct., X-ray diffr. investig. 1−25248
triphenylphosphine oxide complex, with perchloric acid, 2:1, hydrogen bond, struct. study 1−30222
tropylium bis(1,2-dicyanoethylene dithiolato)nickelate(III) exchange interactions, crystal struct. 1−47070
TTT$_2$I$_3$, crystal struct., space groups, temp.-effect 1−47069
valeric acid, crystalline state, mol. config., atom-atom pot., pot. energy curves calc. 1−25247
valinomycin-K$^+$ complex in soln., struct. obs. from EXAFS 1−38364
vanadocene, X-ray structural study 1−7157
yeast tRNA^{Asp}, cryst. struct., X-ray anal. 1−32092
C$_{23}$H$_{27}$O$_3$Br, heavy atom arrangement, four-fold ambiguity elimination *(Chinese)* 1−25242
Cu complex, square cluster tetrakis-[μ-metoxo-μ-acetato(0,0′) copper (II)], cryst. and mol. struct. 1−20177
KC$_{24}$(benzene)$_2$, struct. and props. 1−42368
Pb complex, nitrato-(p-aminobenzoato)lead (II), crystal and mol. struct. studied by X-ray diffr. 1−42357
Rh complex, rhodium (III) trithiosemicarbazide chloride, cryst. struct. 1−20178
W complex, tetrahydro-tetrakis(diphenylethylphosphino) tungsten, X-ray structural study 1−7158
Zn-Li silicates, cryst. structs. and phase transforms. 1−38337
ZnS$_{1-x}$Se$_x$ mixed crystals, polytypic structs. 1−38335

crystal binding
see also binding energy; lattice energy
acene series, electronic polarisation energy, quantum corrections, calc. 1−30134
actinides, bonding and struct. props. using inclined W systematics 1−47040
alkali halides, correlation between ionic radii, nuclear charges and ionization potentials 1−25192
alkali halides, interionic potential model for crystal props. 1−7125
alkali halides, lattice dynamics calcs., phonon dispersion, specific heat, Raman and IR spectra 1−47188
alkali hydrides, repulsive hardness parameter anal. 1−30131
alkali metal halides, improved van der Waals pots. 1−38325
alkaline earth chalcogenides, correlation between ionic radii, nuclear charges and ionization potentials 1−25192
alkaline earth halider, nature of superionicity 1−20363
alkaline earth oxides, bond energy, quantum chemical model 1−11718
alkaline-earth fluorides, repulsive hardness parameter anal. 1−30131
alloys, A_3B, cryst., elastic consts. rel. to interatomic force consts. 1−25357
bond energy, quantum chemical model 1−11718
correlation between frustrated plaquettes in the random bond square lattice 1−40718
covalent crystals, correlated electron pairs approach, effective bonds study 1−11717
equilib. and kinetic investigations, binding parameter, UV spectra 1−17095
FCC lattice, Ewald function expansion in cubic harmonic series, Coulomb pot. *(Russian)* 1−40727
force matrix calc. in bond theory *(Russian)* 1−42672
glass, alkali-borate and alkali-borosilicate, internal friction spectra as function of temperature *(French)* 1−7253
ionic crystal, stability of surface struct. *(German)* 1−52410
ionic solids, binding, electrostatic force meas. apparatus 1−49917
ionicity of III-V and II-VI compounds with zincblende and wurtzite struct. 1−15830
lattice stability of AX and AB_2O_4 cpds., data tables 1−52101
lattice sums, noncentrosymmetric cubic ionic crysts., calc. 1−30133
low dimensionality solids, chemical bond anisotropy *(French)* 1−38324
macroscopic polarisation induced by optic phonon 1−3319
metallic hydrides, clustering by H_3^+ ion form. 1−20652
methane crystals, intermol. pot. and cryst. field, two-centre expansion 1−12074
mixed stacked organic charge transfer cpds., neutral-to-ionic phase transition 1−42335
non-simple cubic metals, Cauchy discrepancy 1−47035
octet compounds, nodal, ionic and at. radii 1−51113
organic crystal cohesive energy and ionicity [organic crystals] 1−42712
rare earth arsenides, bismuthides, bonding model, heats of form., melting points, theory 1−20110
rare earth intermetallic hydride formers, atomic volume contraction 1−20125
rutile-type crystals, electronic polarisabilities and ion radii 1−30128
squaric acid, phase transition, pseudospin model for H bond system 1−34994
topologically disordered system lattice model, Anderson's transition 1−2594
transition metal oxides, bond energy, quantum chemical model 1−11718
transition metals, chemical hydrogen bond potential *(Russian)* 1−20114
zero-gap semiconductor, elastic props. and valence-force-field theory 1−16247
Ag halides, cohesion, interionic potential model 1−42337
Ag hydrides, repulsive hardness parameter anal. 1−30131
BeF$_2$ and BeCl$_2$, cryst. struct., stability and phase transition at high-press. 1−27155
BeSiN$_2$, struct. and chem. bonding 1−30168
C black films, graphitised, direct obs. of tetrahedral bonding, by high resoln. electron microscopy 1−2391
CaCl$_2$, cryst. struct., stability and phase transition at high-press. 1−27155
CdI$_2$(Br$_2$), interlayer and intralayer bonds, layer displacement modes 1−38326
Dy complex, Dy[S$_2$P(C$_6$H$_{11}$)$_2$]$_3$, cryst. and mol. struct., trigonal prismatic vs. octahedral coordination 1−25233
Eu$_x$NbO$_3$, EuMANb$_5$O$_{15}$ (M=Ba, Eu, Sr; A=Na, K), energy level scheme *(French)* 1−20624
Eu$_{0.5}$TaO$_3$, EuMATa$_5$O$_{15}$ (M=Ba, Sr; A=Na, K), energy level scheme *(French)* 1−20624
Fe$_{0.76}$Cr$_{0.24}$, disordered alloy, charge-density anisotropy, X-ray diffr. meas. 1−42338

crystal binding continued
$Fe_{0.70}Ni_{0.30}$, disordered alloy, charge-density anisotropy, X-ray diffr. meas. 1−42338
$(FeO_4)^{5-}$, s-electron density, molecular orbital calculation rel. to isomer shift 1−11719
GaAs, X-ray band charge model for reevaluation of quasiforbidden reflections 1−42336
Hg_2Cl_2 single crystals, magnetic anisotropy 1−52746
InSb, X-ray band charge model for reevaluation of quasiforbidden reflections 1−42336
I_xNbSe_4, low dimensionality, chem. bond anisotropy *(French)* 1−38324
$K_2NaAlF_6:Fe^{3+}(Cr^{3+})$, ENDOR determ. of covalency 1−47973
$LaNi_5H_x$, substituted, H coords., number, vol. and dissoc. press. 1−25205
Lu complex, $Lu[S_2P(C_6H_{11})_2]_3$, cryst. and mol. struct., trigonal prismatic vs. octahedral coordination 1−25233
MgF_2 and $MgCl_2$, cryst. struct., stability and phase transition at high-press. 1−27155
$MgGeN_2$, struct. and chem. bonding 1−30168
$MgSiN_2$, struct. and chem. bonding 1−30168
$NbSe_3$, low dimensionality, chem. bond anisotropy *(French)* 1−38324
PbI_2, interlayer and intralayer bonds, layer displacement modes 1−38326
Si, bond charge vibr. temp. depend. 1−30132
SiO_2, cryst. struct., stability and phase transition at high-press. 1−27155
TiO_2, cryst. struct., stability and phase transition at high-press. 1−27155
Ti_2O_3, electron density study 1−52484
V_2O_3, electron density study 1−52484
$VO(H_2O)_5^{2+}$ in solid solution, proton ENDOR spectra, binding site, electronic and geometric struct., hyperfine splitting 1−3293
$ZnGeN_2$, struct. and chem. bonding 1−30168
ZnSe, pressure induced phase transition 1−47229

crystal chemistry
see also crystallography
alkaline earth fluorides, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
antimonites, empirical relations of O coord. at *(German)* 1−34279
II-V semiconductors, physicochemical props. and appl., review 1−15872
nonstoichiometric crystals containing planar defects, book contrib. 1−47098
optical coatings, high band gap oxides, for 0.25 and 1.06 μm fusion lasers 1−19395
oxides, nonstoichiometric, shear-plane form. and ordering, book contrib. 1−47097
point defects, intrinsic, conc. reduction 1−11746
rare earth ternary noble metal borides, struct. chem. and mag. props. 1−25237
rare earth-transition metal alloys, cryst. chem. 1−25446
solid solutions, in multicomponent systems, ferroelec. props. rel. to crystal chem. parameters 1−34993
sputtering yield correlated with average substrate mass in SIMS 1−21320
stannides, superconducting/mag., cryst. chem., growth and reentrant behaviour 1−31327
tellurium, empirical relations of O coord. at Te(IV) *(German)* 1−34279
transition metal alloys, T^{10}-B^1 and T^{10}-B^2, relations between structural and thermodynamic props. *(German)* 1−20129
$(Ba_{0.98}Ca_{0.03}Zr_{0.02})(AL_{1.1}Ni_{0.48}Ti_{64})O_{16}$, hollandite type phase, struct. and chemistry 1−30149
CaF_2:Er, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
$CdCr_2S_4(Se_4)$ single cryst., mag. props. in phase transition region 1−38933
CdTe:In, diffusion of In, deviation from stoichiometry 1−16092
Cr-Er-S family, crystal chemistry *(French)* 1−30184
Cr(III) complex, tetranuclear rhodoso and Pfeiffer complexes, magnetochem. props. 1−38917
Eu pnictides, cryst. chem. 1−25234
GeTe, homogeneity region 1−20411
In_2O_3 film prep., elec. conductivity and optical transmission 1−52453
$LiNbO_3$, Czochralski growth method, stoichiometry and props. 1−8211
$LiNbO_3$-$LiTaO_3$-$NaNbO_3$-$NaTaO_3$, crystallochemical and dielectric study *(French)* 1−31441
Ni-Au, relation between structural and thermodynamic props. *(German)* 1−20129
Sc-M-Si (M=Mn, Fe, Co, Ni, Cu), crystallochem. analysis 1−52105
Si_3N_4 film, low press. CVD grown, stoichiometry and masking ability against As diffusion 1−20457
SmB_2 isostructural phases, powder X-ray anal. and mag. susceptibility 1−38342
$TlB_5O_8.4H_2O$, cryst. struct. and chem. *(French)* 1−2401
UCo_2, non-stoichiometric, mag. AC susceptibility 1−47847
$(V,Cr)_3C_{2-x}$, cryst. struct., neutron powder diffr. study 1−34312
V_3Si, dislocation struct. change by plastic deform., chem. comp. influence 1−20232
V_3Si, off-stoichiometric, dislocation climb mechanisms and supercond. crit. temp. 1−30865
W, ternary oxides, cryst. chem. and phase equilib. 1−52259

crystal classes *see crystal symmetry*

crystal cleavage *see brittle fracture*

crystal defects
see also Cottrell atmospheres; crowdions; crystal inclusions; crystal microstructure; defect electron energy states; disclinations; dislocations; grain boundaries; impurity-defect interactions; phonon-defect interactions; point defects; stacking faults; twinning
after p and α reaction, Mossbauer spectra 1−3302
alkaline earth fluorides, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
alkanes, long-chain normal, defect structs., and growth mechanisms, book contrib. 1−7160
catalytic active sites, ion bombardment and FEM study 1−25537
cubic crystals, slightly distorted, Coulomb type defects, X-ray exam. *(Russian)* 1−2425
dechannelling of particles for imaging 1−38421
diamond, ion-implanted, defect formation, cathodoluminesc. study 1−48173
diamond crystal growth in molten metals, cryst. imperfections 1−35169
dibromonaphthalene, structural defect influence on EPR spectra *(Russian)* 1−38981
diffusion-controlled defect reactions, rate const., sink distrib. depend. 1−15922
electron micrograph, high resolution, coherent optical process *(French)* 1−52028

crystal defects continued
electron microscope diffr. contrast in two beam case 1−52029
epitaxial growth, effects of deposition conditions, impurities and structural defects, review 1−38681
extended planar defects in ionic crystals, atomistic calc. 1−52154
ferroelastics, phase transitions, defect effects on thermodynamic and kinetic props. 1−7286
fluorite, synthetic, absorption spectra, radiation effects 1−25266
glycine, γ-irrad. crystals, paramag. radiation defects form. and stabilisation 1−47945
high resolution electron microscopy of crystal defects and surfaces, book contrib. 1−10051
high-resolution electron microscopy in materials science, conference, Cambridge, England (Mar. 1979) 1−9763
homotopy theory as topological theory of defects in ordered media 1−11742
imperfections description, by motor calculus strongly interacting defect ensembles, review *(Russian)* 1−20187
ion channelling, characterization of crystal lattice defects *(Japanese)* 1−47126
ion diffusion, imperfections, electrochem. technique 1−25502
ionic conductivity in solids, pressure dependence 1−34518
isotherm uncertainty from Hugoniots, shock wave generated defects 1−42464
lattice defects, role in prod. of colour centres, quantum mech. concepts. 1−36
liquid crystal, defects and textures 1−2329
melting crystal vacancy, theory 1−20197
molecular crystals, exciton absorption line-shape, low-energy tail, defect and phonon effects 1−47499
molecular crystals, radiation defect annealing model, diffusion kinetics *(Russian)* 1−20476
neutron topography limitations for crystal defect characterisation 1−38208
nonstoichiometric crystals containing planar defects, book contrib. 1−47098
n-octadecane, pure crystal, elec. cond. props., defects role 1−7675
plane defect, diffr. focusing of X-rays, comparison with moire method *(Russian)* 1−7043
polyacetylene, undoped, effect of disorder on electronic struct. 1−20610
polyethylene, melt crystallized, chain defect distrib. and microstruct., defect size and plastic deform. 1−2348
profile determination, electron backscatt. technique 1−30009
sapphire strips produced by Stepanov method, bubble and grain struct. 1−30112
semiconductor, defect characterisation by etching, optical microscopy and X-ray topography, review, book contrib. 1−47088
semiconductor, laser-annealed, defect identification and eval. techniques *(Japanese)* 1−20188
semiconductor, p-type cubic, acceptor ground state, US spectroscopy 1−16256
semiconductor, thermochemistry, book contrib. 1−47260
semiconductor bulk crystal growth, purification, doping and defects, review, book contrib. 1−48253
semiconductor films, MBE, origin and elimination of macroscopic defects 1−34592
semiconductors, laser annealing, of displacement damage 1−25307
silicates chain, periodicity faults, planar lattice faults, high resolution electron microscopy 1−20189
size and strain determined from integral breadth of powder diffr. lines 1−29963
solar cell degradation, theory of recombination-enhanced processes 1−13140
solids and their surfaces, chem. physics, book 1−44727
steel, stainless, sigma phase defects, high high resolution axial lattice imaging 1−30248
steel, W and W-Mo, high-speed, cold hydrostatic extrusion effect on transforms. and lattice defects 1−8304
structural phase transitions, defects and dynamics, light scatt. techniques, appl., review 1−2618
tetrachlorobenzene, structural defect influence on EPR spectra *(Russian)* 1−38981
TGS, γ-irrad. crystals, paramag. radiation defects form. and stabilisation 1−47945
TMTSF-DMTCNQ, pure and irradiated, transverse and longitudinal resistivities 1−25714
X-ray diffraction techniques for local fault and struct. disorder detection *(Italian)* 1−15756
X-ray powder diffr. patterns, anal. and topography of lattice defects 1−30242
X-ray topogram interpretation and crystal deformation modelling 1−42265
X-ray topographic image characteristics and applications 1−38205
X-ray topographic methods for crystal defects and strain tensors 1−38204
Ag-Ga (3.55%), Fourier X-ray line shape analysis of lattice defects from a single reflection 1−42372
Ag-In (15%), Fourier X-ray line shape analysis of lattice defects from a single reflection 1−42372
Ag_3Mg, LRO structure defect image analysis 1−15909
Al alloy, extruded sections of D16, charact. of laminations 1−3804
Al foils for TEM, defects after high-freq. fatigue deform. 1−39566
Al, linear magnetoresistance caused by sample thickness variations 1−42745
Al-Cu, study on the temp. of thermal spike 1−25256
Al-Mg_2Si, study on the temp. of thermal spike 1−25256
$Al_xGa_{1-x}As$ epitaxial layer, struct. defects rel. to Schottky diode reverse current excess component 1−20588
AmO_2 lattice expansion, 38 to 300K 1−47262
$AuAl_2$, colour changes induced by cryst. imperfections *(German)* 1−8099
$(Bi,Sb)_2(TeSe)_3$, thermoelectricity, phase diagrams and imperfection struct. 1−52589
CO, non-equilibrium defects created by HCP⇌FCC phase changes, positron trapping study 1−8156
CaF_2:Er, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
$CaF_2:Er^{3+}$, laser spectroscopy of defect chemistry 1−43142
CaO, defect surface, dissociative chemisorption of H_2, CNDO investigation *(German)* 1−53473
$CdCr_2S_4(Se_4)$ single cryst., mag. props. in phase transition region 1−38933

crystal defects continued
$CdCr_2Se_4$ single crysts. elec. and mag. props., nonstoichiometry effects 1−2967
CdS-Cu_xS films in solar cells, grain size, dislocation density and microscopic defect struct. 1−35660
CdSnAs, electron irradiation causing lattice defects, effect on cond. 1−25326
CdTe:P, localised vibrational modes due to P defects in substitutional or interstitital sites 1−47197
$Cd_{1-x}Zn_xS$/GaAs heterostructs., prepared by vapour phase, chem. transport, cryst. defects 1−35186
$Co_{3-x}O_4$, prepared by thermal decomp. of $Co(NO_3)_2$, stoichiometry effect on mag. behaviour 1−7814
Cu, ion implanted with H^+ at ambient temp., spongelike blister obs. 1−7216
Cu mirror surface defects, laser damage resistance 1−29311
Cu polycrystals, fine struct. anal., second approx. of approx. method appl. 1−29966
Cu-Ge (12.46%), Fourier X-ray line shape analysis of lattice defects from a single reflection 1−42372
Cu-Ge (5 at.%), neutron diffr. topographic obs. of layer substruct. 1−52127
$FeBO_3$, weak ferromag., mag. domain struct. effects on cryst. imperfection, X-ray diffr. study 1−25976
$FeCr_2S_4$ film, elec. and galvanometric props. 1−38795
α-Fe_2O_3, weak ferromag., mag. domain struct. effects on cryst. imperfection, X-ray diffr. study 1−25976
Fe_3O_4-Fe_2TiO_4 system, natural, oxidation reactions and defects 1−3942
$Fe_{1-y}S$, nonstoichiometric, defect struct. and diffusion 1−7382
GaAs electroluminescent structs., DH and variable gap, nonradiative current component increase due to defect form. 1−19343
GaAs epitaxial layer, phonon optics, carrier relaxation and recombination 1−16390
GaAs epitaxial layer, struct. defects rel. to Schottky diode reverse current excess component 1−20588
GaAs, structural evaluation by chem. etching, dopant effects 1−11754
GaAs:Cr, As antisite defect, submillimetre EPR evidence 1−7941
GaAs:P^+, ion implanted, defect and impurity distrib., He^+ backscatt. study 1−11777
GdGa garnet single crystals, defects *(Chinese)* 1−7162
$Gd_3Ga_5O_{12}$, lattice parameter changes of facets, X-ray double cryst. meas. 1−20152
Ge p-n junction, lifetime of minority charge carriers and X-ray effects, struct. defects form. 1−16357
Ge-Si, thermoelectricity, phase diagrams and imperfection struct. 1−52589
InP, structural defect detection by electrochem. etching 1−47074
KCl, annealed purified single cryst., ionic conductivity, defect kinetics 1−2686
KD_2PO_4 crystals for use in TITUS optical relay tube 1−19420
KI, defect induced, electron range variation 1−42437
$LiFe_5O_8$ flux grown single crystals, cryst. defects 1−7101
α-$LiIO_3$, scattered light bands due to DC elec. field action *(Chinese)* 1−3422
Li_3N, defect struct. and ionic cond. 1−47292
$LiNbO_3$ flux grown single crysts., real struct. obs. by etching, X-ray and optical methods 1−25186
MgO, defect surface, dissociative chemisorption of H_2, CNDO investigation *(German)* 1−53473
MoS_2 crystal struct., synthesis conditions effect 1−7141
$NH_3H_3PO_4$, single crysts., defects, X-ray topographic investig. 1−34343
Ni polycrystals, fine struct. anal., second approx. of approx. method appl. 1−29966
β'-NiAl quenched alloy, w-like diffraction effects 1−2291
PbTe, thermoelectricity, phase diagrams and imperfection struct. 1−52589
$PbTiO_3$, cryst. lattice defects obs. by TEM 1−20214
$PbZrO_3$, space charge polarisation and phase transitions 1−16535
Pt polycrystals, fine struct. anal., second approx. of approx. method appl. 1−29966
Sb_2Te_3, ^{119}Sn defect, after p and α reaction, Mossbauer spectra 1−3302
p-Si, anodic etching of defects 1−16918
Si crystals, O-striation and thermally induced microdefect 1−25298
Si, Czochralski crystal, intrinsic gettering using microdefects, double preannealing technique 1−15886
Si, defect contrast, characterisation by Schottky barrier charge collection using SEM-EBIC 1−20241
Si, impurity decay, laser IR flaw detection 1−52128
Si, macroscopic inhomogeneity imaging by SEM-EBIC at Schottky barriers 1−20850
Si on sapphire, epitaxial layer, recrystn. after CW laser irrad., implanted film rel. to CVD 1−38678
Si p-n junction, lifetime of minority charge carriers and X-ray effects, struct. defects form. 1−16357
Si polycrystalline solar cells, effect of intragrain defects on local photoresponse 1−43769
Si processed wafer, test parameter inhomogeneities resulting from microdefects 1−25795
p-Si, recomb. props. of O complexes after annealing and γ-ray irrad. 1−20765
Si ribbon growth, by inverted Stepanov process using BN die, characterisation 1−3601
Si single cryst., struct. under high press. and temp. conditions, X-ray and electron microscopy methods 1−30409
Si, swirl prevention, VLSI devices appl. *(Japanese)* 1−31371
Si wafer characterisation by visible light scatt. and interference *(Japanese)* 1−48627
Si:Na, neutron activation determ. of Na content 1−21809
α-SiC (6H), surface pot. change caused by annealing of defects due to bombardment of Ar ions *(Russian)* 1−2537
SiO_2, general model for defects formation in appl. elec. field 1−2970
SnSb, ^{119}Sb defect, after p and α reaction, Mossbauer spectra 1−3302
$SrTiO_3$ single cryst., interblock misalignment determ. by ESR 1−52836
$SrTiO_3$, single crystals, macroscopic growth defects study *(Russian)* 1−52129
TaC powders, comp. and struct., annealing effect 1−21476
Ti, Fourier X-ray line shape analysis of lattice defects from a single reflection 1−42372
TiC powders, comp. and struct., annealing effect 1−21476
UO_2, thermodynamic props., electronic contrib. to specific heat 1−2649
VO_x, defect struct., comparison between X-ray and electron diffr. 1−15754

crystal defects continued
W, vapour deposited coatings 1−38688
YFe_2O_{4-x}, magnetisations and Mossbauer spectra, effect of O deficiency 1−47982
YGaIG, float zone growth, cryst. defects and microwave charact 1−8222
ZnO overgrowths, electrodeposited, nucleation and growth charact. 1−11993
ZnSe, crystallization, volume defects 1−7161
Zr, superconductivity enhancement after H(D) implantation 1−20899
ZrO_2-Y_2O_3 cubic single cryst., inhomogeneities and γ distrib. 1−38400

crystal dislocations *see dislocations*

crystal electron states *see electron energy states (condensed matter)*

crystal energy *see lattice energy*

crystal etching *see etching*

crystal faces
corundum crystal growth, by Verneuil method, thermal process parameters influence on face development 1−31339
heterogeneous surface, thermodynamical value of adsorption of atoms *(German)* 1−53475
BN, cubic, cathodoluminesc. emission 1−12588
$CaCO_3$ calcite cleavage faces, microdisk pattern prod. by etching 1−20522
CaF_2 natural single crystals with etched cleavage faces, evidence of slip 1−25281
$NiMoO_4$ crystal growth in silica gel, optical and SEM obs. of cryst. faces 1−25185
$Rb_2ZnBr_4(Cl_4)$, satellite faces of incommensurate structs. 1−30187
Sb evaporated cleavage faces, study by surface decoration 1−34556
Sb_2Te_3, cleavage faces and evaporated cleavage faces study by surface decoration, TEM 1−34555
Sb_2Te_3 evaporated cleavage faces, surface decoration study 1−20227

crystal field interactions
see also crystal hyperfine field interactions
4f electron systems, low freq. dynamics, cryst. elec. fields 1−20941
actinide metallic cpds., intermediate valence model and mag. props. 1−47840
alkali halides:Eu^{2+}, optical absorpt., emission and excitation spectra 1−39125
alloys, crystal field, neutron diffr. studies 1−25673
antiferromag. crystals, trigonal, hexagonal anisotropy, weak ferromagnetism 1−3172
charged particle acceleration by cryst. atomic fields 1−38419
Chevrel phase $M_xMo_6S_8$ cpds., charge transfer and Mo atom 4d orbitals splitting, ligand field theory *(Chinese)* 1−52530
colour, causes in materials 1−31109
copper(II) acetate, forbidden ligand-field transitions, Raman intensity de-enhancement 1−43114
d^N symmetry crystal field, spin-orbit interactions in weak field approach 1−16262
d-complex compounds, electronic absorpt. spectra, deconvolution, least squares fit method 1−21197
d-electron interaction matrices, generalised derivation 1−42729
dichalcogenide anions, electric struct. 1−12075
dielectric crystal, doped, stimulated phonon emission by coupling to electronic states 1−15974
dilute f-electron systems, crystal-field and exchange splitting in cluster regime, neutron spectroscopy, calc. 1−47589
dilute system, crystalline elec. field excitations and linewidths, neutron studies 1−25878
dipnictide anions, electric struct. 1−12075
EPR transitions, $M=+^1/_2$ to $M=-^1/_2$, pseudocubic angular depend. due to small cryst. fields 1−16471
f-electron systems, crystalline electric field and struct. effects 1−17940
garnet, rare-earth-FE superexchange interaction 1−20973
Heisenberg exchange coupled system, critical behaviour, cubic cryst. field effects, high temp. series investigation 1−52792
Heisenberg ferromagnet, Curie temp. sensitivity to single-ion aniotropy, second-order Green's function approach 1−7840
n-hexatriacontane, polyethylene sublattice, polarised Raman spectra 1−16561
I-III-VI_2 chalcopyrites, valence band splitting due to tetragonal distortion, theory 1−47587
intermediate valence compounds, mag. susceptibility in simplified Anderson model, f levels split by cryst. field 1−34841
iodoform crystal, polarisability 1−7995
ionic lattices, lattice energy calc., order-disorder effects *(French)* 1−38323
lanthanide f-f transitions, hypersensitivity, J-mixing, localised point dipoler, cryst. field expansion 1−42727
ligand field theory, Lie algebra appl. 1−7566
magnetic ions, cryst. field effects, numerical method of determ. 1−25674
magnetic response function, neutron spectroscopy 1−25666
magnetism, symmetry and expt., historical perspective 1−20938
methane crystals, intermol. pot. and cryst. field, two-centre expansion 1−12074
paraffin crystal, polarisability tensor of the methylene group birefringence 1−35010
paramagnet, low-symmetry, susceptibility ellipsoid, temp. and field induced rot. *(Russian)* 1−30904
paramagnet, tetragonal, sound velocity, temp. and mag. field depend. 1−38962
n-pentatriacontane, polyethylene sublattice, polarised Raman spectra 1−16561
phlogopite mica, lattice sum calcs. and Mossbauer study of electric field gradient 1−47991
polyethylene-d_n mixed crystals grown from soln., IR spectra of chain organization 1−38297
rare earth alloys, amorphous, random crystal field effects 1−20940
rare earth alloys, crystal field origin and magnetoelasticity 1−20942
rare earth alloys and cpds., superconducting props., cryst. elec. field effects 1−25843
rare earth amorphous alloy, uniaxial cryst. elec. field, mag. props. 1−25855
rare earth compound, van-Vleck magnet, mag. excitation spectrum 1−20943
rare earth compounds, intermetallic, crystalline electric field effects studied by inelastic neutron scatt., review *(Russian)* 1−52532
rare earth compounds, RRh_4B_4, ferromag. ordering temp. rel. to superconductivity transition 1−34879
rare earth hydroxides, $R(OH)_3$:Gd^{3+} (R=La, Eu, Ho, Y), EPR spectra, host lattice effects 1−26034

crystal field interactions continued
rare earth intermetallic compounds with CsCl struct., magnetoelastic and elastic consts., point charge cryst. field calc. 1−26002
rare earth-Co Laves-phase, exchange and cryst. field excitations 1−20972
rare earth-Cu_4Al, magnetization meas. 1−25876
rare earth-Fe Laves-phase, exchange and cryst. field excitations 1−20972
rare earth-$Mo_6Se_8(S_8)$ magnetic superconductor, cryst. field effects 1−25845
rare earth-Rh_4B_4, magnetic superconductor, crystal field role 1−25856
rare earth-Rh_4B_4, superconductivity, long-range mag. order and cryst. field effects 1−25844
spin Hamiltonian parameters for $3d^n$ ions at arbitrary symm. 1−42935
split system, high temp. series expansion 1−25853
static and dynamic props. including correlation effects, theory 1−20681
tetraethylammonium ion radical salt, triplet excitons, EPR study, fine struct. and g-tensor determ. 1−12404
tetragonal compounds: Sm^{2+}, optical spectra, relativistic radial integral estimate 1−52975
transition metal complexes, $[M(nicotinic\ acid)_2\ (acac)_2]_n$, synthesis and characts., IR and photoacoustic spectra, chem. anal. and mag. susceptibility 1−48072
transition metal compounds, high-spin to low-spin transition, strain interaction effects 1−30690
transition metal dihalides, (Mn,Fe,Co,Ni), layered crysts., vibr. struct. of cryst. field spectra, IR absorpt. study 1−34668
transition metal interstitial alloys, phase relations rel. to binary and ternary oxides, cryst. field effects 1−38755
transition metal ion paramag. system, NMR chemical shifts, vibronic coupling effect 1−12418
transition metal perovskite fluorides, UPS study in valence band region 1−43240
two-centre electrostatic interactions between two electrons in cryst. field 1−47525
unification of crystal- and ligand-field theories 1−38756
V-coupling coefficients from SO(3) to the octahedral group 1−7567
van Vleck ions interacting with electron gas, mag. props., theory 1−30899
yttrium ethyl sulphate:Nd^{3+}, temp. depend. of g-shift 1−52534
zinc porphin, Jahn-Teller unstable S_1-state, vibronic props., cryst. field effects 1−38753
AgCl, diffusion of transition metal ions, atomic number depend, cryst. field of effects 1−2699
Al, cubic metal, vacancy point defect, electric field gradient theory 1−47588
$Al_2La_xTm_{1-x}$ (Y_xEr_{1-x}), crystal fields determ. from paramag. anisotropy and neutron scatt. 1−20683
Au-Yb thin films, ESR study, cryst. field effects and Kondon dilemma 1−21046
$BaF_2:Ce^{2+}$, photocond. due to autoionis. of ce^{2+}, threshold shift *(French)* 1−52600
$BaF_2:Sm^{2+}$, strain shifts of energy levels, second-order orbit lattice parameters 1−12077
Bi-Pr superconductor, tunnelling, cryst. elec. field manifestations 1−25842
$Bi_4Ge_3O_{12}:Nd^{3+}(Er^{3+})$, crystal field anal., optical spectra 1−38752
$CaCO_3:Mn^{2+}$, EPR lineshapes in axial and cubic cryst. field 1−16472
CaF_2, transition metal ions interactions, review 1−25669
$CaF_2:Ce^{2+}$, photocond. due to autoionis. of ce^{2+}, threshold shift *(French)* 1−52600
$CaF_2:Ce^{3+}$, tetragonal impurity centres, struct. and spectrum 1−20662
$CaF_2:Er^{3+}(Pr^{3+})(Sm^{2+})$, optical f-f transitions, strain modulation 1−12531
$CaF_2:Gd^{3+}$, $Li^+(Na^+)(K^+)(Rb^+)(Cs^+)$, zero-field splitting of $4f^7$ state 1−20676
$CaF_2:Gd^{3+}$, $Li^+(Na^+)(K^+)(Rb^+)(Cs^+)$, zero-field splitting of $4f^7$ state, electrostatic model 1−20677
$CaF_2:Nd^{3+}$, EPR 1−3255
$CaF_2:Pr^{3+}(Er^{3+})$, strain shifts of energy levels, second-order orbit lattice parameters 1−12077
$CaO:Ir^{4+}$, EPR spectra, cryst. field and mag. props. 1−3254
$CdCl_2:Mn^{2+}$, cryst. field energy levels, luminesc. spectra study 1−31190
CdF_2, transition metal ions interactions, review 1−25669
CdS:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
$CdTe:Fe^{2+}$, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
Ce intermetallics, cubic, mag. susceptibility, elec. resist., cryst. field excitations, neutron spectroscopy 1−47865
Ce monopnictides and chalcogenides, mag. anisotropy and extraordinary mag. ordering 1−25929
Ce monopnictides and monochalcogenides, mag. ordering, ⟨100⟩ or ⟨111⟩ alignment 1−47877
CeAg(Mg)(Zn), crystal field excitations, quasielastic and inelastic, linewidths 1−25676
$CeAl_3$, low temp. elastic consts., rel. to cryst. field splitting 1−35299
$Ce_{80}Al_{11}$, amorphous, mag. interactions, elec. transport props. and cryst. field effects 1−25903
CeB_6, anomalous mag. props., model calc. within mol. field approx. 1−52766
$Ce_{1-x}Ho_xRu_2$ magnetic superconductor, cryst. field effects 1−25845
$Ce_{0.9-x}La_xTh_{0.1}$, mixed valence cpd., energy parameters and cryst. field effects 1−20670
CeP excited state EPR, g-shift and linewidth, theory 1−26033
$Ce(Pd_xAg_{1-x})_3$, mixed valence, cryst. elec. fields and Kondo effect 1−20672
CeSb, Ce^{3+} ground state, polarised neutron diffr. determ. 1−47859
$CeSn_{3-x}In_x$, Kondo effect in presence of cryst. elec. fields, resistivity and thermal expansion 1−25722
$Cs_2CdCl_4:Ni^{2+}$ polarised electronic absorpt., emission and excitation spectra 1−26240
$CsNaLnCl_6$ elpasolites, Ln^{3+} crystal field, octahedral crystal field coefficients determ. 1−2925
$Cs_2NaLnCl_6$, Ln=lanthanide, crystal field anal., optical spectra 1−30688
$(CuCl_4)^{2-}$, static distortions induced by Jahn-Teller effect, ang. overlap model, absorpt. and EPR spectra 1−20675
DyD_2, cryst. elec. fields, neutron energy loss spectra study 1−34669
$DyFe_2$, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297
DySb, paramagnetic, classical mean-field model 1−12254
$ErBe_{13}$, crystal field parameters determ. by inelastic neutron scatt. 1−25675
ErC_x, (x=0.6), ferromagnetism, crystal field effect, crystallite orientation, neutron diffr. obs. 1−47852
ErD_2, cryst. elec. fields, neutron energy loss spectra study 1−34669
$ErFeO_3$, Faraday rotation spectra, cryst. field states 1−8045

crystal field interactions continued
Eu_3S_4, optical spectra, energy level scheme 1−12524
Fe complex, iodobis(N,N,diethyldithiocarbamato)iron(III), antiferromag., sp. ht. and phase transition 1−30951
Fe compounds, high spin-low spin transitions, Fe conc. effect, ligand field theory 1−25952
Fe group ions, optical spectra, covalency effect 1−25670
Fe(III) haem complexes, EPR g-factors, crystal field anal. 1−48947
$GaAs:Cr^{2+}$, level splitting, Jahn-Teller interactions, theory 1−42728
$GaAs:Cr^{2+}(Cr^{3+})$, d-electron interaction matrices, energy level calc. 1−42729
GaP:Fe, deep traps, photoluminesc. study 1−12569
$GaSe:Mn^{2+}$, ESR spectra, axial cryst. field 1−31022
Gd complex, Gd (hexamethylphosphoramide)$_6(ClO_4)_3$:Eu^{3+}, crystal field parameters, fluoresc. spectra 1−25677
Gd^{3+}, S-state splitting mechanism in low symmetry crystals 1−2926
GdCd, magnetically ordered, elec. resistivity and thermal props. 1−30721
$Gd_2O_3:Eu^{3+}$, fluoresc. spectrum, site-selective excitation, cryst. field anal., and energy transfer 1−39152
Ho^{3+} compounds, mag. props., crystal field splitting, calc. 1−3155
Ho_2C, ferromagnetism, crystal-field effect, struct., neutron-diffr. obs. 1−47851
HoD_2, cryst. elec. fields, neutron energy loss spectra study 1−34669
$Ho_{11}Ge_{8.75}Si_{1.25}$, magnetic struct. determ. by neutron difr. 1−25893
HoSb, temp. variation of mag. struct., neutron diffr. meas. 1−3140
$Ho_xTb_yDy_{1-x-y}Fe_2$, magnetic anisotropy and spin reorientations 1−20975
KCl:Au^-, evidence for crystal field splitting of $^3P_2$ state 1−25668
KCl:Pb, polarised A-luminesc. obs., 85K, kinetic investig. *(Russian)* 1−16603
KCl:Sn, polarised A-luminesc. obs., 15-300K, Jahn-Teller effect of activation centres *(Russian)* 1−16602
$(La,Pr)B_6$, dil., cryst. field ground-state splitting effect on resist. 1−25707
La complex, La (hexamethylphosphoramide)$_6(ClO_4)_3$:Eu^{3+}, crystal field parameters, fluoresc. spectra 1−25677
La-Pr superconductor, tunnelling, cryst. elec. field manifestations 1−25842
LaAg(Mg), crystal field excitations, quasielastic and inelastic, linewidths 1−25676
$LaAl_2$:Nd, crystalline elec. field, magnetisation meas. 1−47593
$LaBO_3$, B=Ti, V, Cr, Mn, Fe, Co, electronic struct., XPS meas., calc. 1−38714
$LaCl_3:Ho^{3+}$, crystal field energies of electronic ground state, absorption spectra 1−31172
$LaF_3:Gd^{3+}$, two-photon absorption as a new test of the Judd-Ofelt theory, fluoresc. detection 1−43170
$LaH_2:Er^{3+}$ susceptibility and ESR, cryst. field params. 1−43007
$La_{1-x}Pr_xSn_3$, transport props. at low temps., Kondo effect 1−42741
$LaSn_3$:Nd dilute alloy, mag. susceptibility, cryst. field effects 1−25910
$La_xTb_{1-x}Ag$, crystal fields determ. from paramag. anisotropy and neutron scatt. 1−20683
$LiMF_4$, M=rare earth ions, f^n electron system, cryst. field param., angular overlap model 1−30686
$LiYF_4:M^{3+}$, M=rare earth ions, f^n electron system, cryst. field param., angular overlap model 1−30686
$LuAl_2$:Dy(Er), crystalline elec. field, magnetisation meas. 1−47593
Mg single cryst. with heavy rare-earth impurities, thermal expansion and magnetostriction 1−20985
$MgF_2:Co^{2+}(Mn^{2+})$, d-electron interaction matrices, energy level calc. 1−42729
$MgO:Fe^{3+}(Mn^{2+})$, EPR lineshapes in axial and cubic cryst. field 1−16472
$MgO:Ir^{4+}$, EPR spectra, cryst. field and mag. props. 1−3254
$MgTiO_3:Co^{2+}(Ni^{2+})(Mn^{4+})(Cr^{3+})$, fine struct. parameters, ESR study 1−26021
Mn^{2+}, in mag. dense crysts., mag. anisotropy meas. 1−25865
$NaH_2PO_4.2H_2O:Mn^{2+}$, EPR study at 300K 1−26018
$Na_2Mo_2O_7$, luminesc. meas., decay time, level splitting 1−52987
Nd^{3+}, $^4F_{3/2}\rightarrow{}^4I_{15/2}$ energy transfer, energy matching and low quenching criteria 1−24424
$NdAlO_3$, optical absorpt. spectra and paramag. susceptibility interpretations, Stark levels, crystal field parameters 1−26226
$NdCl_3$ frozen dilute aq. soln., Nd^{3+} energy levels parametric anal. 1−52531
$Nd(4f^3)$ in solid state, correl. of opt. and paramag. props. 1−25869
NpO_2, ordered quadrupolar state with nearly zero mag. moment 1−20686
NpO_2, phase transition at 25.4K, mag. susceptibility and induced mag. moment obs. 1−47842
$PbMo_6S_8$, charge transfer and Mo atom 4d orbitals splitting, ligand field theory *(Chinese)* 1−52530
Pr chalcogenides and pnictides, cryst. field, press. effects 1−20682
Pr crystalline elec. field split system, press. effects and lattice parameter correlations 1−20939
$PrNi_5$, crystalline elec. field 1−20684
PrSb crystalline elec. field split system, press. effects and lattice parameter correlations 1−20939
Pr_3Se_4, singlet-state ferromag., cubic system with low local symmetry 1−25854
Pt-Gd, dil., fine structure EPR spectra meas. 1−12397
$Rb_2Cr_{1-x}Mn_xCl_4$, single crystal, Jahn-Teller effect, neutron diffraction study 1−20146
Sm monopnictides, paramagnetic susceptibilities 1−25871
$SmAl_2$, 4f and band contribution to Sm form factor 1−25678
Sm_3S_4, optical spectra, energy level scheme 1−12524
$Sn_3La_xNd_{1-x}$ (La_xTb_{1-x}), crystal fields determ. from paramag. anisotropy and neutron scatt. 1−20683
SrClF:Sm^{2+}, fluorescent spectrum, Stark components, cryst. field parameters 1−3491
SrClF:Sm^{2+}, fluorescence spectrum, Stark components 1−31192
SrF_2: $Er^{3+}(Pr^{3+})(Sm^{2+})$, optical f-f transitions, strain modulation 1−12531
$SrF_2:Ce^{2+}$, photocond. due to autoionis. of ce^{2+}, threshold shift *(French)* 1−52600
$SrF_2:Pr^{3+}(Sm^{2+})$, strain shifts of energy levels, second-order orbit lattice parameters 1−12077
$Sr_{0.5}La_{1.5}Fe_{0.5}O_4$, Fe IV stabilisation, high spin electronic configuration 1−34665
Tb ions in metallic matrices, magnetostriction 1−21031
Tb monopnictides, singlet ground state phase diagram and Tb^{3+} coupling parameters 1−20984
Tb-Fe, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297

crystal field interactions continued
$TbBe_{13}$, mag. props. 1−30934
TbD_2, cryst. elec. fields, neutron energy loss spectra study 1−34669
$Tb_xLa_{1-x}Be_{13}$, mag. props. meas., 1.6-300K 1−25939
TbZn(Gd), mag. ordered, elec. resistivity and thermal props. 1−30721
$ThBr_4:Pr^{3+}$, absorpt. and laser excited fluoresc. spectra, energy levels, crystal field parameters 1−48119
Tm chalcogenides and pnictides, cryst. field, press. effects 1−20682
$TmFeO_3$, Faraday rotation spectra, cryst. field states 1−8045
TmSe crystalline elec. field split system, press. effects and lattice parameter correlations 1−20939
U monopnictides and chalcogenides, mag. anisotropy and extraordinary mag. ordering 1−25929
U monopnictides and monochalcogenides, mag. ordering, ⟨100⟩ or ⟨111⟩ alignment 1−47877
UBr_3, cryst. field splittings, inelastic neutron scatt. study 1−47590
UBr_3, crystal field splitting, neutron scatt. studies 1−20685
UCl_4, crystal field splitting, neutron scatt. studies 1−20685
$U(OH)_2SO_4$, crystal field effects, perturbational model 1−20687
$U_6O_4(OH)_4(SO_4)_6$, crystal field effects, perturbational model 1−20687
UPb_3, crystal field splitting, neutron scatt. studies 1−20685
UPd_3, transport props., lattice consts., susceptibility and sp. ht. 1−25698
$U(SO_4)_2.4H_2O$, crystal field effects, perturbational model 1−20687
UTe_x ($1.33<x<1.5$), intermediate valence state, mag. susceptibility meas. 1−20669
Y complex, Y (hexamethylphosphoramide)$_6(ClO_4)_3:Eu^{3+}$, crystal field parameters, fluoresc. spectra 1−25677
YAl_2:Er, crystalline elec. field, magnetisation meas. 1−47593
$YFeO_3$, domain walls, low temp. NMR study 1−12410
Yb monochalcogenides, energies of 4f-5d excitations, one-electron band approx. and ligand field approach 1−16261
ZnO:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
ZnS:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
ZnS:Cu,Nd,Cl, thin film, direct current electrolum. and Nd luminescence centres 1−3495
$ZnS:Fe^{2+}$, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
crystal field splitting *see crystal field interactions*
crystal field theory *see crystal field interactions*
crystal fields *see crystal field interactions*
crystal filters
frequency control, symposium, Atlantic City, NJ, USA (May-June 1979) 1−13932
crystal growth
see also crystal growth from melt; crystal growth from solution; crystal growth from vapour; crystal purification; crystallisation; dendrites; epitaxial growth; nucleation
adamantine family, of compounds 1−39227
albite, morphology, growth from supercrit. phase 1−47032
alkanes, long-chain normal, defect structs., and growth mechanisms, book contrib. 1−7160
computing and drawing crystal shapes 1−2356
diamond, growth of plate- and needle-like crysts. 1−35173
diamond, polycryst., grown under ultrahigh press., Ni catalyst diffusion and distrib. *(Chinese)* 1−48287
cis-3,4-dibromopyrrolidine, synthesis, crystal and mol. struct. 1−25246
dislocations and crystal growth 1−2377
dislocations and disclinations, book 1−26
edge dislocations, as cryst. growth sources 1−34268
ferrite, spinel type, crystal orientation during solid-solid reaction 1−48653
fluid inclusions formed during growth, geologic press. determ. 1−13623
graded-composition semicond. solid solutions, radially symm. virtual lattice 1−34269
ice nucleation and condensation-freezing at low supersaturation levels *(French)* 1−13541
II_3V_2 compounds, cryst. growth and characterisation 1−53062
lanthanide oxides, structural anisotropy, physical and mechanical properties 1−7152
lattice-order simulation, cryst. growth approach, cluster variation method 1−20095
mica, polytypism, cryst. growth aspect, book contrib. 1−38321
monatomic layer growth kinetics, on cryst. surface 1−2376
monocrystals for research and industry *(Czech)* 1−31322
polymer crystal growth with chain folding, kinetic theory 1−30097
polyphenylene: AsF_5, highly conducting cryst., oligomers solid state synthesis 1−11697
quartz crystallisation in fused silicon, growth rate depend. on press. and impurity content 1−7105
rare earth magnetic semiconductors, review, book contrib. 1−47657
review 1−13960
roughening transition, statics and dynamics, self-consistent calc. 1−7444
roughening transition 1−11968
semiconductor, crystal growth and impurity incorporation by transient laser and electron beam heating 1−53087
shape of growing crystals, normal modes anal. 1−11706
soft-core model, solid-liquid interface, molecular dynamics study 1−38502
solidification, shape instabilities and pattern formation numerical soln. of moving boundary problem 1−51696
two-component system cryst. growth, nonequilibrium props. 1−7107
$[ClF_6][CuF_4]$, growth by detonation synthesis, cryst. struct. 1−25224
$AgBr:Cd^{2+}$ crystal growth, restraining effect of Adenin *(German)* 1−17078
$CdI_2(Br_2)$, interlayer and intralayer bonds, layer displacement modes 1−38326
Cr complexes, $(C_6H_5)_nPX_{3-n}Cr(CO)_5$ (where X=Cl, Br, J, H), synthesis and IR spectra, vibr., inductive effect 1−26195
$KIO_3.2LiIO_3$ salt, IR spectra, cryst. growth and morphology *(Chinese)* 1−3377
$Li_{0.5}Nd_{0.5}Nb_2O_6$, fersmite struct., crystal growth kinetics 1−7103
$NH_2H_2PO_4$, single crysts., defects, X-ray topographic investig. 1−34343
Nb single crystals, superconducting, preparation and analysis of Nb_2N precipitates 1−42928
PbI_2, interlayer and intralayer bonds, layer displacement modes 1−38326
β-Sb_2O_4, single cryst. prep., dielec. characts. and cond., ferroelec. and struct. transition absence 1−53063
$ScNH_4P_2O_7$, solid-phase reaction prep., characterisation 1−35172
ZnO.Zn phosphor, synthesis by oxidation of ZnS, reactions and luminosity obs. 1−48288
crystal growth from gel
Ag halide microcrystal growth in gelatin soln., kinetic modelling 1−35557
crystal growth from gel continued
$BaMoO_4$, spherulitic cryst. growth in silica gel media, SEM obs. 1−48246
$CaMoO_4$, cryst. growth in silica gel, growth kinetics and characts., pH influence 1−20084
$CaMoO_4$, spherulitic cryst. growth in silica gel media, SEM obs. 1−48246
Cu, dendrites and single crystals, electrolytic method for growth in gel 1−20596
$NiMoO_4$ crystal growth in silica gel, optical and SEM obs. of cryst. faces 1−25185
Pb dendrites, growth from gels 1−12007
SnI_2, SnI_4, single crystal growth in SiO_2 gels 1−3591
$SrMoO_4$, cryst. growth in silica gel, growth kinetics and characts., pH influence 1−20084
SuI_2 whiskers, growth from gel and morphology, UTS 1−53071
crystal growth from melt
see also liquid phase epitaxial growth; zone melting
alkali chlorides:V, isotropic EPR spectra, paramagnetic centres 1−43004
alkali halide Czochralski grown crystals, solidification front shape effect on cryst. perfection 1−7100
anthracene(-TNB), struct. perfection, low-angle boundaries and dislocation density 1−30116
binary alloy, stable cellular growth 1−11705
binary alloys, dilute, cell size of solidification front 1−11707
binary crysts., growing from melt, kinetic order-disorder phase transition 1−20094
cold crucible, developments in design and construction 1−8220
conference, Matrafured, Hungary (Mar. 1979) 1−5012
continuous pulling and cutting of ribbon crystals, growth apperatus technique 1−3600
corundum, thermolum. props., dopant and growth method influence, γ-ray detect. appl. 1−26288
corundum crystal growth, by Verneuil method, thermal process parameters influence on face development 1−31339
corundum profiled crystals, melt growth mechanisms depend. on thermodynamic parameters 1−30107
cyclohexanol, cryst. growth kinetics from melt in supercooling range 1−20092
cylindric pores in a growing crystal 1−30111
cylindrical cryst. growth stability, from 2-component melts, impurities effect 1−30117
Czochralski automatic crystal growth, levitation correction for weighing method 1−21340
Czochralski crystal growth, heterogeneous impurity incorporation, lateral microscopic growth model 1−38312
Czochralski grown ruby, quality and growth parameters *(Chinese)* 1−25189
Czochralski grown semi-transparent crystals, effect of thermal fields on dislocation distrib. and density 1−38313
Czochralski growth, heat flow and growth model 1−34263
Czochralski seed holder, water cooled, design 1−53082
Czochralski type system to produce bubble domain memory materials 1−8212
diamond crystal growth in molten metals, cryst. imperfections 1−35169
directional crystallisation from melt with capillary shaping, microscopic theory 1−30106
GaAs: Si(Ge)(Sn)(Se)(Te), liq. encapsulation Czochralski growth rel. to other techniques, elec. props. 1−3608
Hastelloy-X filament produced by glass-coated melt spinning, mech. props. 1−53084
ice crystals, grown from melt, concentric dislocation loops formation mechanism 1−11752
IR acousto-optic materials, appl., requirements, cryst. development 1−15237
luminesc. and stimulated emission 1−48155
magmatic melts, crystal growth kinetic model, isotopic fractionation 1−27102
metals, crystal growth, normal, fluctuation mechanisms during solidification 1−38311
metals, heat flow in controlled directional solidification 1−3715
metals, solidification, controlled directional, heat flow, mathematical model 1−3716
naphthalene, struct. perfection low-angle boundaries and dislocation density 1−30116
naphthalene, X-ray irrad. and doped, one carrier TSC, space charge limited currents 1−7633
nucleus formation, growth on perfect sharp singular interfaces 1−20085
one-component system, interface diffusion effects 1−11711
oriented crystallisation from melt, macroscopic theory, Czochralski and Stepanov techniques 1−7097
oriented crystallisation from melt, macroscopic theory, general formulation 1−7096
oriented crystallisation from melt, macroscopic theory, Verneuil technique 1−7098
oxide single crystals, dislocations, Czochralski method 1−42331
phase boundary instability in growth from supercooled liq. 1−30118
phenazine, struct. perfection, low-angle boundaries and dislocation density 1−30116
poly(ethylene oxide) single cryst., isothermal growth, thickening and melting 1−30102
polyethylene, melt crystn., kinetic and topological limits 1−30099
polyethylene, melt-crystallised, lamellar morphology 1−30101
polymer crystallisation from melt with chain folding 1−30098
polymers, crystallisation from melt, viscosity and entanglement effect 1−30100
polypropylene, isotactic, lightly crosslinked, struct. and props. 1−47012
profiled crystal and component prod. Stepanov method, conf., Leningrad, USSR (Mar. 1979) 1−27651
rare earth-Al Laves phases, pure and doped RAl_2, growth and characterisation 1−3605
rare-earth binary and complex halides, melt growth 1−39233
review of crystal growth at the Central Research Institute for Physics 1−8209
review of crystal growth at the Research Institute for Technical Physics 1−8206
review of single crystal growth, Research Laboratory for Crystal Physics programme 1−8208
ruby:Ti crystal growth in three-channel burner 1−7189
ruby, Verneuil method grown, single mode laser active element appl. 1−1588

crystal growth from melt continued
ruby crystals, laser grown, luminesc. fluctuations and colour striations *(German)* 1−31204
ruby growth, by Verneuil method, melt layer thickness estimation 1−31340
sapphire, profiled, Stepanov prod. method and appls. 1−31330
sapphire, profiled, struct. inhomogeneity 1−30109
sapphire large-diameter tube growth, grain boundary size 1−30110
Sapphire plate crysts., grown by EFG technique, growth orientation rel. to grain boundary generation 1−3609
sapphire profiled crystals, apparatus for Stepanov method growth 1−31331
sapphire ribbons grown by EFG, dislocation etch pit density meas. 1−2360
sapphire shaped crystal, defect struct. rel. to growth conditions 1−2361
sapphire shaped crystal growth by Stepanov method, morphology and struct. perfection 1−2362
sapphire single-crystal tube growth, thermal fields and thermoelastic stresses 1−30108
sapphire strips produced by Stepanov method, bubble and grain struct. 1−30112
sapphire tube batch production from melt by Stepanov method, appl. as Na lamp components 1−31332
semiconductor bulk crystal growth, purification, doping and defects, review, book contrib. 1−48253
semiconductor heterojunction formation by laser melting 1−31338
shaped crystal growth, selected bibliography 1−33
subgrain structure formation in pure crystals grown from melts 1−20083
succinonitrile, cryst. growth from melt, kinetics study *(Russian)* 1−21341
succinonitrile, cryst. growth kinetics from melt in supercooling range 1−20092
thermocapillary convection, in melt growth 1−2374
three-zone Bridgman-Stockbarger crystal growth furnace 1−26381
YAG, growth from melt, purity and doping possibilities 1−53083
Ag halide crystals, melt grown, etching 1−30229
$AgGaS_2$, crystal growth, props. 1−16677
$AgGaS_2$-$AgInS_2$, solid solutions, growth of single crystals, phase diagram 1−35163
$AgHgAsS_3$, laffittite, cryst. growth from melt 1−16678
Al solidification, growth condition changes in the vertical Bridgman-Stockbarger method 1−3714
α-AlB_{12} single crystal, growth conditions, oxidation, hardness and density *(Japanese)* 1−48252
Al_2O_3, corundum, dislocation structure in large crystals 1−20212
Al_2O_3, corundum bubble formation in growing crystals 1−15824
Al_2O_3, growth from melt, purity and doping possibilities 1−53083
BaF_2-LaOF(GdOF)(YOF) solid solns., phase diagrams and cryst. growth by Bridgman technique 1−35241
$Ba_{0.9}Sr_{0.1}TiO_3$, cryst. growth by pulling method, pyroelec. and dielec. meas. 1−26139
$BaZnGeO_4$ crysts., growth and props. 1−12650
Bi-Sb alloy monocrystal growth from cooled seed 1−53085
$Bi_{12}GeO_{20}$:Cr(Mn)(Cu)(Ni), Czochralski growth method, dopant distrib. 1−21339
$Bi_{0.5}Sb_{1.5}Te_3$, solid solution, growth in direction of principal crystallographic axis 1−16679
$Bi_{12}SiO_{20}$, single crysts., impurity distrib. over crystallisation front 1−25188
$Bi_{12}SiO_{20}$:Cr(Mn)(Cu)(ni), Czochralski growth method, dopant distrib. 1−21339
CaF_2-LaOF(GdOF)(YOF) solid solns., phase diagrams and cryst. growth by Bridgman technique 1−35241
$Ca_3Ga_2Ge_3O_{12}$, garnet substrate, for mag. films, prep. 1−21338
$Ca(NO_3)_2.4H_2O$ crystals, melt growth kinetics in supercooling region 1−20086
CdI_2, pure and activated, radioluminescence kinetics study *(Russian)* 1−3490
Co single crystal by Czochralski method 1−3614
CsBr crystalline fibre for visible and IR transmission 1−41855
$CsCdCl_3$, crystal growth by unidirectional solidification and Czochralski method 1−3610
$CsMn_4Cl_9$, growth from non-stoichiometric melts and by Bridgman method 1−53081
Cu crystallisation from melt by Stepanov method under zero-gravity conditions 1−31329
$CuGaS_2$, crystal growth, props. 1−16677
$CuInS_2$, crystal growth, props. 1−16677
Cu_2S-In_2S_3 system, phase relations rel. to melt growth 1−3702
GaAs ingots, with high free electron concs., horizontal gradient-freeze technique growth 1−3607
GaAs, modified Bridgman and synthesis solution diffusion methods 1−8210
GaAs:Si+Ge(Sn), IR absorpt., plasma resonance and Hall effect meas., impurity effect on props. 1−3381
GaAs:Si, LPE, VPE and gradient-freeze growth, doping effect on lattice parameters 1−2402
$(GaAs)_x(ZnSe)_{1-x}$ solid solns., electrophys. props., prep. method depend. 1−42769
GaP, liq. encapsulated Czochralski grown crysts., photoelastic meas. of residual stress 1−2371
GaP, modified Bridgman and synthesis solution diffusion methods 1−8210
n-GaP:S(Te), radiative recombination, photoconductivity 1−21272
GaSb pulled crystals, Czochralsi method, microscopic growth rates, mech. vibr. effects 1−47030
GaSb:Te pulled crysts., micron sized facets on growth interface and impurity striations 1−47390
$Gd_3Ga_5O_{12}$ thin film preparation, by Czochralski method, for magnetic bubble storage *(Polish)* 1−8214
$Gd_3Ga_5O_{12}$, two inch dia. crysts., growth economical, technical and scientific aspects 1−8213
Ge garnet, substrate, for mag. films, prep. 1−21338
Ge, Mg-O reactions for reduced O conc. 1−31336
Ge:Ag(Li), impurity effects in crystn., elec. and struct. props. 1−34365
Ge:Sb single crystal growth by Stepanov method, impurity distrib., resist. meas. 1−2359
^3He, single crystal, prep. method at ultralow temps. 1−31337
$HfAlC_{2-x}$, synthesis and crystal struct. 1−30165
InP, Czochralski grown single cryst., etch features 1−7173
InP, Czochralski-grown single cryst., dislocation clusters 1−53080
InP, LEC grown twinfree crystal annealing technique 1−12646
InP:Ge, dislocation free cryst. growth 1−35167
crystal growth from melt continued
KCl:Sr(Na) Czochralski grown crystals, solidification front shape effect on cryst. perfection 1−7100
$K_xMn_yCl_z$ (x=3,4, y=2,4, z=7,6), growth from non-stoichiometric melts and by Bridgman method 1−53081
$KNbO_3$, growth and electrophysical props. 1−34971
KY_3F_{10} crystal fabrication and props. for high-power laser applications 1−29357
$LiErP_4O_{12}$, growth and spectral props. 1−26380
$Li_xH_{1-x}RP_2O_7$ (R=Tm, Yb, Lu), prep., cryst. struct., IR spectra, and chem. anal. 1−34305
$LiInSe_2$, single cryst. growth and characterisation 1−12647
$LiNbO_3$ 45° crystals, growth and optical homogeneity for IR parametric oscillators 1−6617
$LiNbO_3$, Czochralski growth method, stoichiometry and props. 1−8211
$LiNbO_3$ single crystal growth, acousto-optic device appl. 1−16681
$LiR(PO_3)_4$ (R=rare earth), prep., cryst. struct., IR spectra, and chem. anal. 1−34305
$LiTaO_3$ crysts., growth conditions for large diameter X-axis 1−12649
$LiTaO_3$ single crysts., growth habit study 1−2382
$LiYF_4$ crystal fabrication and props. for high-power laser applications 1−29357
$Mg_xCd_{1-x}Se$ solid solns., synthesis and luminesc. props. 1−35168
Mn-Zn-Co ferrite, Fe-deficient, cryst. growth by Bridgman method, mag. props. 1−8216
NaBr, surface distortion on cleavages after dynamic impacts 1−34405
$NaGaHP_3O_{10}$, prep. and characterisation 1−35164
$NaNbO_3$, growth and electrophysical props. 1−34971
Ni-Al-Ta dendritic monocrysts., solidification, solute redistribution during and after 1−16767
NiZn ferrite, single cryst. growth by Bridgeman method, mag. characts. 1−8215
PbO, single crystal growth *(Japanese)* 1−3599
$Pb_{1-x}Sn_xTe$ crystal growth by vapour-liquid-cryst. mechanism 1−8217
$Pb_{1-x}Sn_xTe$ crystal growth rate, vapour-liquid-crystal mechanism 1−8218
$Pb_{1-x}Sn_xTe$, p-T-x diagram rel. to cryst. growth by vapour-liq.-cryst. mechanism 1−11842
$(Pb_{1-x}Sn_x)_{1-y}Te_y$, initial charge comp. effect on comp. and electrophys. props. 1−42513
PbTe, Bridgman grown single cryst., struct. perfection, thermal growth conditions influence 1−20089
PbTe(S)-Sb(NiSb), Bridgman method growth, eutectics morphology *(Russian)* 1−47027
$Pb_8V_2O_{13}(P_2O_{13})$, ferroelastic crystals, domain struct., permittivity 1−20302
Rb-Ga double phosphates, prep. and characterisation 1−35164
Sb_2Te_3, single crystal, growth in direction of principal crystallographic axis 1−16679
Si and GaAs materials technology advances, review 1−43257
Si, crystal growth from melt, swirling motion in rotationally symmetric flow, conservative differencing 1−52096
Si crystal multiple Czochralski growth from single crucible, solar cell appl. 1−3606
Si Czochralski crystal pulling process for controlling O_2 content 1−48248
Si, Czochralski grown, O precipitation and redistrib. 1−3742
Si, Czochralski grown cryst. struct., effect of growth rate, dia. and impurity conc. 1−3611
Si EFG ribbon crystal growth for terrestrial solar arrays 1−3613
Si, material performance for construction and contact 1−8219
Si, mechanical props. of heat treated Czochralski grown cryst. 1−35303
Si, nonrotational striations, invest. by etching and microscopic obs. 1−2373
Si, O_2 concentration control, by magnetically induced melt rotation 1−48249
Si processed wafer, test parameter inhomogeneities resulting from microdefects 1−25795
Si profiled crystal growth, die material effect on props. 1−31333
Si ribbon crystals, 4-in. wide, growth for solar cell appls. 1−3612
Si ribbon growth, by inverted Stepanov process using BN die, characterisation 1−3601
Si ribbon growth by dentritic web process 1−3602
Si ribbon growth by Stepanov method, thermal component 1−53079
Si ribbon production by Stepanov method, expt. growth equipment 1−31334
Si, ribbon production from melt by Stepanov method, use in photoconvertors 1−31335
Si ribbon structure, growth conditions effect 1−30114
Si ribbon-to-ribbon crystal growth, dendritic struct., photovoltaic efficiency 1−3603
Si ribbons grown by capillary action shaping, struct. and elec. characterisation of defects 1−2357
Si ribbons grown by EFG, imperfections and impurities 1−2358
Si, ribbons grown by Stepanov method, twinning 1−30115
Si, ribbons produced by Stepanov method, struct. and electrophysical props. 1−30113
Si, swirl prevention, VLSI devices appl. *(Japanese)* 1−31371
Si, Toricelli growth of elongated crystals, in tubular and sheet form 1−48250
Si wafer, grown by Czochralski, zone-floating methods, dislocation generation on polished surface 1−20217
Si:Au, Gd, Czochralski growth, optical nuclear polarisation and NMR study of Au cluster formation 1−2492
Si:O_2 uniform impurity distrib., Czochralski growth 1−16680
Si_3N_4 CVD coatings as contact materials for molten Si 1−3604
Si_3N_4, growth from reaction of molten Si with N_2 gas 1−8607
$Sr_{0.61}Ba_{0.39}Nb_2O_6$, Czochralski single cryst. growth for SAW appls. 1−26379
SrF_2-LaOF(GdOF)(YOF) solid solns., phase diagrams and cryst. growth by Bridgman technique 1−35241
Te single cryst. growth, by Czochralski method, thermal gradients effect 1−35166
TeO_2 single crystal growth, acousto-optic device appl. 1−16681
$TeSe_{20}$, supercooled liq., crystn. kinetics, DTA and DC cond. meas. 1−2331
$Te_2V_5O_9$, large single cryst. growth and piezoelec. props., characts. for SAW substrate appl. 1−8005
$ThBr_4$, synthesis and Bridgman cryst. growth 1−12648
$ThCl_4$, synthesis and Bridgman cryst. growth 1−12648
ThO_2, large single cryst. growth from melt using cold-crucible technique 1−35165
UBr_4, synthesis and Bridgman cryst. growth 1−12648

crystal growth from melt continued
UCl_4, synthesis and Bridgman cryst. growth 1−12648
UO_2, large single cryst. growth from melt using cold-crucible technique 1−35165
$(Y,R)_{1-x}Sr_xF_{3-x}$ [R=rare earth (not Pm)], cryst. growth, optical and X-ray parameters 1−39232
YAG:Nd, Czochralski cryst. growth, needle-like stress zones and dislocations due to constitutional supercooling *(Chinese)* 1−52095
ZnSe, crystallization, volume defects 1−7161
$ZrAlC_{2-x}$, synthesis and crystal struct. 1−30165

crystal growth from solution
see also crystal growth from gel; liquid phase epitaxial growth
aqueous solution, peculiarities connected with cryst. struct., book contrib. 1−38316
capillary force orientation effect, for crystals floating on liq. surface 1−7422
capillary forces symmetrical configs., floating Al plate equilib. positions 1−7423
cellulose IV_{II} single crysts., prep. and props. 1−15812
conference, Matrafured, Hungary (Mar. 1979) 1−5012
dicalcium lead (strontium) propionate, ferroelec., cryst. growth and dielec. props. 1−26377
dicalcium lead and strontium propionate, solution crystal growth 1−53072
dicalcium strontium propionate, soln. grown single crysts., defect form., dielec. props. 1−12462
9, 10-dichloroanthracene, one-dimens., single cryst. film growth from soln., optical props. 1−12645
diglycine sulphate, crystallisation from aqueous soln., pH depend. 1−3596
fluid mechanical conditions, on cryst. growth 1−34265
garnet growth mechanism in high temp. solns. revealed by induced striations 1−21336
growth rate meas., interference method 1−3598
III-V binary semiconductors, growth from metallic solns., review 1−16675
III-V semiconductors, book 1−13948
III-V semiconductors, temperature gradient soln. growth, review 1−21337
iron germanates, hydrothermal synthesis 1−8207
KDP crysts., growth kinetics of prism faces 1−7108
KDP family single crysts., growth and characterisation 1−39230
kinetic parameters, of cryst. growth rate, determ. with ref. to state of mixing of solid phase 1−42333
magnetic field influence on crystn., electroacoustic wave mechanism 1−20090
martensitic crystals, influence of nonstationary effect on nucleation rate 1−30403
materials science, current topics, book 1−36465
metals, electrocrystallisation, book contrib. 1−38695
microcrystals, liq. inclusions study 1−34264
naphthalene, X-ray irrad. and doped, one carrier TSC, space charge limited currents 1−7633
nezoite monocrystals, for miniature lasers, growth and props. 1−43255
polyethylene single crysts., selective chem. modification 1−52948
review of crystal growth at the Central Research Institute for Physics 1−8209
review of crystal growth at the Research Institute for Technical Physics 1−8206
Rochelle salt crystal growth in aq. soln., thermal anal. 1−2363
stannides, superconducting/mag., cryst. chem., growth and reentrant behaviour 1−31327
stearic acid crystals, soln. grown, inclusion growth spiral pair form. obs. 1−11710
TCNQ salt, methyltriphenylarsenium $(TCNQ)_2$, large crysts., growth and characterisation 1−3595
tetraoxane cryst. whiskers, growth from acetone solns. 1−3594
TGS, crystallisation from aqueous soln., pH depend. 1−3596
TGS crystal growth on NASA space shuttle, holographic recording 1−41626
TGS crystal preparation for pyroelectric thermal detector appls. 1−26378
TGS crystal solution growth on the NASA space shuttle SL-3 mission, holographic recording system 1−15121
TTF-TCNQ crystals, cryst. growth from oriented seeds 1−53073
urea, crystn., inorganic salt influence on habit and morphological props. 1−20088
whisker growth on fine-grained stone from NaCl solns., recrystallisation mechanisms, SEM examination 1−20597
zero gravity experiments on Salyut 5 1−44404
Ag single crystal faces, electrolytic growth potentiostatic transients 1−42332
$Ag_2SeO_4:Ni^{2+}(Cu^{2+})$ single crysts., gel growth, X-ray diffr. and IR spectra 1−12644
Al-K alum growth rate time behaviour 1−25187
$Al_xGa_{1-x}Sb$, lattice consts., composition depend., X-ray diffr. study 1−7149
$Al_xGa_{1-x}Sb$, solid solutions, crystallisation, appl. to synthesis of heterojucntions 1−47031
$AlPO_4$, berlinite, bulk wave and SAW propag. 1−16164
$AlPO_4$, berlinite, cryst. growth, piezoelec. and optical props. 1−16529
$AlPO_4$, crystal growth, solubility and perfection study 1−16676
$AlPO_4$, solubility, cryst. growth, perfection 1−2630
$AlPO_4$, solubility and growth in hydrothermal solvent HCl 1−35157
BaO, crystn. from metal chloride melts, solubility-temp. phase diagram anal. 1−21431
$BaSO_4$, growth kinetics in suspension, scale prevention 1−53078
$BaSiO_3$, $BaTiO_3$, crystn. from metal chloride melts, solubility temp. phase diagrams 1−21430
$BaWO_4$, crystn. degree from LiCl melt, evaluation by optical microscopy and chem. anal. 1−20087
$BaWO_4$, diffusion controlled growth from Na_2WO_4 melt, proximity between reacting partners 1−53077
γ-Bi_2MoO_6 single crystal synthesis and growth under hydrothermal conditions 1−3588
Bi_2O_3-MoO_3 system, flux growth 1−35160
$CaCO_3$ crystallisation inhibition by Mg^{2+} at pH 8.8 and 25°C 1−2364
$CaCO_3$, seeded crystallization kinetics, influence of solid/soln. rate on reaction rate const. 1−47028
$Ca(IO_3)_2$ crystal growth by gel method 1−53076
CaO, crystn. from metal chloride melts, solubility-temp. phase diagram anal. 1−21431
CaO-SiO_2-H_2O synthesis under hydrothermal conditions *(Czech)* 1−39231
Ca_4PtO_6, cryst. growth and morphology 1−12642

crystal growth from solution continued
$CaSO_4.2H_2O$ nucleation and growth on type 304 stainless steel surfaces, effect of surface roughness 1−2366
$CaSiO_3$, $CaTiO_3$, crystn. from metal chloride melts, solubility temp. phase diagrams 1−21430
$CaWO_4$, crystn. degree from LiCl melt, evaluation by optical microscopy and chem. anal. 1−20087
$CaWO_4$, diffusion controlled crystal growth, kinetic parameters and thermodynamic props. studied by DTA 1−25184
$CdGeP_2$ crystals and layers, soln. growth 1−3592
$CdSnP_2$ prismlike crysts., etching study 1−15893
CdTe single crysts., growth by multipass and sublimation travelling heater method 1−12643
Co_3O_4, cryst. growth, flux method, X-ray struct. determ. *(French)* 1−20143
$CsClO_4$, gel growth and dielec. studies 1−35161
$CuGaS_2$, crystn. from In solns., phase diagram 1−20091
$CuGaSe_2$, crystn. from $CdCl_2(I_2)$ solns., phase diagrams, cathodoluminesc. meas. 1−48247
Cu_2S-CdS, effects of basal plane of CdS single crystal on Cu_2S growth 1−8713
$CuSO_4.5H_2O$, crystallization as a mass transfer phenomenon 1−34262
GaAs, modified Bridgman and synthesis solution diffusion methods 1−8210
GaAs:Al, synthesis, photoconductivity and luminescence spectra 1−35162
GaP, modified Bridgman and synthesis solution diffusion methods 1−8210
InP, crystn. from nonstoichiometric soln., mol. struct. of P in In-P soln. 1−52041
$KClO_4$, gel growth and dielec. studies 1−35161
KD_2PO_4 crystals for use in TITUS optical relay tube 1−19420
KH_2PO_4, cryst. growth rate meas., interference method 1−3598
$K_2R_2^{2+}(MoO_4)_3$ (R=Mg, Ni, Co or Zn), thermal stability and cryst. synthesis 1−3597
$LiFe_5O_8$ flux grown single crystals, cryst. defects 1−7101
$LiNbO_3$ flux grown single crysts., real struct. obs. by etching, X-ray and optical methods 1−25186
$MgAl_2O_4$ ceramic prepared from freeze-dried liq. soln., transparency to the thermomech. treatment 1−16914
MgO, crystn. from metal chloride melts, solubility-temp. phase diagram anal. 1−21431
MgO-Al_2O_3-SiO_2-H_2O, hydrothermal treatment products, phase comp. 1−53070
MnP_4, prep., props., struct. refinement of stacking variant 1−31328
$NH_4H_2PO_4$, growing cryst. in aq. soln., conc. gradient meas., by moire fringes 1−11708
$NH_4H_2PO_4$, nucleation in quiet saturated soln. 1−52098
NaCl, single crystal growth in gels 1−53074
$NaNO_2:Mn^{2+}$, EPR study of vacancy dipole aggregation 1−42375
$Na_2O.3MoO_3.3H_2O$, fibrillar, soln. seeding influence on crystn. 1−20093
$NbOAsO_4.2H_3AsO_4.5H_2O$, cryst. synthesis and characts., thermal decomp. products 1−38341
$PbBr_2$ growth of crystal with different habits in SiO_2 gel by new technique 1−53075
$PbCO_3$, cerussite, grown in SiO_2 gel and on hydrothermal conditions, morphology 1−35158
$Pb(Mg_{1/3}Nb_{2/3})O_3$ single crystal flux growth, ferroelec. transition 1−3589
PbO, single crystal growth *(Japanese)* 1−3599
$Pb(Sc_{0.5}Ta_{0.5})O_3$ single crystal flux growth, ferroelec. transition 1−3589
$RbClO_4$, gel growth and dielec. studies 1−35161
SrO, crystn. from metal chloride melts, solubility-temp. phase diagram anal. 1−21431
$SrTiO_3$, crystn. from metal chloride melts, solubility temp. phase diagrams 1−21430
TiO_2, effects by F and dehydration on hydrothermal crystn. *(Japanese)* 1−43256
$Tl_2ZnPb(NO_2)_6$, idiomorphous single cryst. growth in gels *(German)* 1−35159
$Y_{3-x}Bi_xFe_5O_{12}$, single cryst. growth from Bi_2O_3-PbO-B_2O_3 flux systems *(Chinese)* 1−48245
YIG crysts., flux growth, using $PbSO_4$ instead of PbO 1−31326
$ZnGeF_6.6H_2O$, ferroelastic transition, permittivity US wave, elec. cond. and IR absorpt. meas. 1−30297
ZnS single crystals, flux growth by gradient transport in molten $PbCl_2$, characterisation 1−3590
ZnSe, cryst. growth from soln., using In-Zn solvents 1−3593
$ZnSiP_2$(:Ga) crystals grown from non-stoichiometric melt, elec. and optical props., orient. depend. 1−34705
ZrO_2 particles, hydrolysed, ultrafine crystallite aggregates, thermal changes in texture 1−2365

crystal growth from vapour
see also vapour phase epitaxial growth
automatization method for growing crystals by evaporation 1−31324
$CrB_{(2)}$ crystals, chemical vapour growth 1−53068
diffusive physical vapour transport in cylindrical ampoules, numerical modelling 1−53064
diffusive-convective physical vapour transport in cylindrical vertical ampoules, numerical modeling 1−53065
gas phase transport, natural convection in sealed tube 1−11704
growth rates determ., by relaxation 1−11709
naphthalene cryst. nuclei formation, on anthracene single crysts. 1−31325
nucleation, of crysts., from supersaturated vapour on microcrysts. 1−2375
CaF_4O_6, ferrite phase synthesis *(French)* 1−34324
CdS needle crystal growth direction polarity for growth in atms. of excess Cd or S vapour 1−3584
CdS:In growth by Piper-Polich method, In vapour effect 1−43253
$CdS_{1-x}Se_x$, comp. control. using molten S-Se mixture reservoir 1−26376
CdSe crystals, elec. field effect on polarity of growth direction 1−52097
CdSe(S), hollow crystal growth mechanism 1−53066
CdTe crystal growth from vapour phase 1−39229
CdTe single crystal growth by sublimation, vapour transport, effect of deviation from stoichiometry 1−53067
$CuInS_2(Se_2)$, crystal growth, chemical transport by I_2 1−31323
α-Fe_2O_3, cryst. growth by vapour phase reaction method 1−3586
GaN, lattice parameter variation with growth conditions 1−20161
GaP, gas-phase synthesis, representation by partial pressure diagrams 1−16673
$GaSxSe_{1-x}$, $0 \leq x \leq 1$, spiral growth from vapour *(Russian)* 1−47026
GeS, growth rates determ., by relaxation 1−11709
GeSe-GeI_4 system, diffusive and convective vapour transport 1−34266
GeTe, single crystal, growth from gas phase 1−35155

crystal growth from vapour continued
α-HgI_2, growth by temp. oscill. method 1−21331
HgI_2 platelets, for X-ray spectrosopy, produced by polymer controlled growth 1−3585
InSe, cryst. growth by vapour phase chem. transport, polytypism 1−35156
$Mn_xCd_{1-x}Se$ solid solutions, mass transport by chem. reaction 1−21334
Mn_xHg_{1-x} Se solid solutions, mass transport by chem. reaction 1−21334
MoO_2, chem. transport behaviour with $TeBr_4$ 1−21332
MoO_2, chem. transport with $TeCl_4$, TeI_4 1−21333
MoO_3 crystals grown from vapour, white and black strap contrast obs. in X-ray magnified Laue images 1−47029
$MoSe_2$ single crystals grown by sublimation method, surface topography obs. 1−25539
$(SN)_x$, cond. single crysts., growth and props. *(Japanese)* 1−21335
Si, single crystal deposition from $SiHCl_3$, thermodynamic, kinetic and structural considerations, solar cell use 1−16674
Si:P(As), capture impurities by crystal growth from gas phase 1−7104
β-SiC whiskers, vapour phase growth, state of products of various temps. *(Japanese)* 1−25600
V_xSe_2 single cryst. growth by chem. transport with I_2 1−53069
$W_{24}O_{70}$, member of {103} CS series of WO_{3-x}, prep., struct. and oxidation behaviour 1−34325
Zn chalcogenide single crysts., vapour phase growth, use for laser screens of projection colour television 1−43254
ZnO crystals, elec. field effect on polarity of growth direction 1−52097

crystal hyperfine field interactions
$^{57}FeBO_3$, Mossbauer line shift, hyperfine interaction changes *(Russian)* 1−21097
alkali halide F-centres, hyperfine const. and light absorption, MS Xalpha method 1−39128
alkali halides, hyperfine parameters from F-centre pair nonresonant luminescent effects and spin memory 1−3475
alkoxy radicals, γ H^+ hyperfine coupling 1−4106
basalt glass-glass ceramic, mag. props., Mossbauer, ESR spectra 1−3307
benzaldehyde cryst., $^3\pi\pi^*$ state, in benzoic acid host, EPR spectra 1−47928
benzonitriles, halogen containing, electronic struct. studied by EPR and ODMR techniques, hyperfine splitting, triplet states 1−38968
chlorides, low dimensional, magnetic single ion anisotropy, Mn^{2+} ion zero-field splitting 1−34667
chlorofluoroacetamide radical in irradiated dichlorofluoroacetamide, EPR study, hyperfine couplings 1−43011
citrine, natural, smoky quartz centres, EPR, IR spectra, thermoluminesc. meas. 1−26035
closed-shell ions, nucle. quadrupole Sternheimer antishielding factors, self-consistency and cryst. pot. effects in solid state 1−20690
contact hyperfine interaction, derivation 1−25852
p-dibromobenzene: p-dichlorobenzene, microwave-induced optical nuclear polarisation, spin-orbit interactions 1−16504
dichlorofluoromethyl radical in irradiated dichlorofluoroacetamide, EPR study, hyperfine couplings 1−43011
dichlorophenols, Cl NQR and H-bonding, Zeeman effect 1−21077
ENDOR with circularly polarised RF fields, theory appl. 1−44974
ferrihydride, Mossbauer spectrum, vel. to other iron oxides 1−39011
ferromagnetic host, hyperfine fields at impurity sites, self-consistent calc. 1−12282
fluorene: anthracene, photoreaction, EPR studies, fine- and hyperfine struct. anal. 1−8586
interaction of magnetic impurities with phonons, book contrib. 1−42958
invar, influence of surface anisotropy on RF collapse effect, Mossbauer study 1−39012
ionic crystal, impurity doped, lattice relax. and elec. field gradient 1−7571
low dimensional mag. cpds., Mossbauer study 1−3312
malonate-d, anion radical in single cryst., α-D quadrupole tensor, ENDOR 1−43037
metals and alloys, Mossbauer spectroscopy, review *(Japanese)* 1−21094
Mossbauer relaxation of lattice atoms in presence of diffusing interstitials 1−16511
phonazine in single crystal and polycrystalline matrices, ODMR spectroscopy, hyperfine splitting 1−12430
potassium hydrogen oxalate, gamma-irradiated, radicals studied by EPR, ^{13}C hyperfine tensor 1−38985
α-quartz, trapped-hole centre, $[AlO_4]^0$, ^{17}O hyperfine struct. in EPR spectrum 1−7947
rare-earth cobaltites, spin-state equilibria, ^{59}Co NMR 1−3270
rare-earth iron garnets, $R_3Fe_5O_{12}$, Mossbauer study, Fe^{3+} dynamic and hyperfine characts. above Neel temp. 1−52876
retarded multipole interactions, continuum model summation 1−12073
rhamnose, irrad., form. of alkoxy radical, ESR spectra, two proton hyperfine coupling obs. 1−12403
ruby, cryst. γ-irrad., EPR line widths 1−3244
sodalite, ESR of Mn^{2+} 1−16476
2-thiouracil, ESR and hyperfine coupling tensor 1−43012
transition metal complexes, nuclear spin and solvent induced electron spin relax., crystal field modulation 1−3236
trimeric clusters, Mossbauer spectra, Dzialoshinskii exchange interaction effect, quadrupole splitting 1−31078
triphenylbromogermane radical anion, ESR spectra and X-irrad. 1−52844
triplet state, hyperfine and nuclear quadrupole interactions, EPR spectra calcs. 1−26013
Tutton salt crystals, Jahn-Teller centre configurations, lattice struct. 1−3248
^{161} ion implanted in Cu single crystals, crystal field, Mossbauer spectroscopy 1−16266
Ag-Dy, cryst. field of ^{161}Dy, Mossbauer study 1−52878
Ag-Rh(Ir), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
Al:In, simple interstitial configurations at ^{111}In impurities 1−25261
$Al_2O_3:Fe^{3+}$, Mossbauer spectrum response to nuclear dipole fields 1−26097
$Al_2O_3:Mn^{3+}$, appl. of thermally detected EPR 1−47939
$Al_2O_3:Mn^{3+}(Cr^{2+})$, thermally detected EPR study of $3d^4$ ions 1−26023
$Al_2O_3:V^{3+}$, hyperfine spectrum at 166 GHz, phonon freq. crossing spectroscopy 1−30494
Au-Dy, ion implanted Dy cryst. field, Mossbauer study 1−47983
Au-Pd(Pt)(Rh), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
Au(I) compounds, $(AuX_2)^-$ (X=CN, Cl, F), electronic struct. and Mossbauer hyperfine interactions 1−19124

crystal hyperfine field interactions continued
^{197}Au hyperfine field in Fe at const. volume, temp. depend. 1−30689
Ba_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
$BaFe_{12}O_{19}$, M-type hexaferrite, hyperfine struct., Mossbauer meas. 1−34962
Ca_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
CaF_2:Eu crystals, X-band ESR studies of forbidden transitions 1−7945
$Ca(OH)_2$, electron irrad. prod. O_2^- centre, ESR, ENDOR, optical absorpt., and Raman study 1−11789
CaS:Pb^{2+}, non-phonon transition in impurity centre, hyperfine interaction *(Russian)* 1−43124
$CdCr_2Se_4(S_4)$, ^{111}In (^{111}Cd) hyperfine interactions, TDPAC meas. 1−26093
$CdIn_2S_4$:Cr photoluminescence spectra 1−21270
CdS, ESR of shallow donors 1−34925
CdS:Mn, ESR spectra, Mn^{2+} antiferromagnetic behaviour 1−3249
CdS:Ni^{2+}, Zeeman effect at $^3T_1(F)\rightarrow{}^3T_1(P)$ absorpt. transitions 1−2927
CdTe, extrinsic photoconductivity spectrum 1−30778
$CeAl_2$, NMR, hyperfine fields, fluctuations, spatial correlation 1−43024
CeB_6 single crystals, mag. props. 1−20954
Co complex, $CoCl_2$-bispyridine, electronic, structural and mag. props. of ^{57}Fe atoms created by ^{57}Co electron capture decay 1−26092
Co complex, N,N′-ethylenebis(acetylacetonatiminato)Co II, electronic struct., EPR and ENDOR study 1−38976
Co, NMR study, crit. region and ferromag. and paramag. phase 1−26067
Co-Cu(Si)(Ge), dil., ^{59}Co NMR, influence of short range order and screening *(Russian)* 1−31060
CoF_2, electronic, structural and mag. props. of ^{57}Fe atoms created by ^{57}Co electron capture decay 1−26092
$Co_{0.995}Fe_{0.005}S_2$, Mossbauer study in external mag. field, mag. struct., quadrupole splitting 1−26098
CrAl, antiferromagnetic alloys, NMR study 1−47970
$CsCaF_3:Gd^{3+}$, superhyperfine interaction and zero field splittings, EPR study 1−31025
$CsCdF_3:Mn^{2+}(Ni^{2+})(Cr^{3+})(Co^{2+})$, spin Hamiltonian, transferred hyperfine interaction ENDOR spectra 1−52867
$CsCoCl_3$, ground state props., Raman spectra 1−39083
Cu complex with L-citrulline amino acid, ESR linewidth, bonding, mag. susceptibility, hyperfine struct. 1−52834
Cu complexes, Cu^{2+} cryst. hyperfine field interaction parameters 1−7572
Cu^{2+} complexes, EPR spectra, strain broadening of lines in g-parallel region, microwave freq. depend. 1−7938
Cu-Rh(Pt), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
Cu_2MnAl, Heusler alloy, ^{65}Cu nuclei hyperfine interaction with external mag. field 1−26082
$DyFe_{0.9975}Co_{0.0025}O_3$, Morin type transitions 1−34880
$DyFe_2$, anisotropic hyperfine fields, mag. induced quadrupole interactions, Mossbauer studies 1−26083
DyH_3, Mossbauer study, quadrupole interaction, 1.5 to 350K 1−7980
ErCu, competition between multi-q antiferromagnetic struct. 1−25883
$EuAl_2$, $EuAl_4$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
$EuCu_2$, $EuCu_5$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
$EuPt_2$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
$EuSn_3$, $Eu_{0.5}Yb_{0.5}Sn_3$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
$EuZn_2$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
Fe complex, carboxilate, Mossbauer spectra, Dzialoshinskii exchange interaction effect, quadrupole splitting 1−31078
Fe complex, $FeCl_2$-bispyridine, electronic, structural and mag. props. of ^{57}Fe atoms created by ^{57}Co electron capture decay 1−26092
Fe foil, transient hyperfine field at recoiling Si, Pd and Pt ions 1−16267
Fe, NMR study, crit. region and ferromag. phase 1−26067
Fe, NMR-ON study of ^{182}Ta and ^{183}Ta 1−34952
Fe-Ni, phase diagram, Mossbauer anal. 1−31424
$Fe_{1-x}Co_xCl_2.2H_2O$, random mixture with competing anisotropies, ordering, Mossbauer study 1−38912
$FeCr_{2-x}Rh_xS_4$ spinels, room temp. Mossbauer obs. and interpret. 1−34966
$Fe_{3-x}Ni_xSi$, hyperfine interactions, local-environment model 1−52537
FeOCl intercalation compounds, hyperfine interactions, van der Waals lattice modes 1−38751
$Fe_xP_{1-x}B_x$, ($x<0.15$), ^{57}Fe Mossbauer and X-ray study 1−26087
$FePd_3$:Sn, Mossbauer study of ^{119}Sn mag. hyperfine interaction *(Russian)* 1−7989
$FePt_3$:Sn, Mossbauer study of ^{119}Sn mag. hyperfine interaction *(Russian)* 1−7989
Fe_3Pt:Sn, Mossbauer study of ^{119}Sn mag. hyperfine interaction *(Russian)* 1−7989
$FeSO_4.H_2O$, resonantly scatt. γ-ray angular distrib. *(Russian)* 1−12444
FeSn, antiferromag., anisotropic hyperfine fields, Mossbauer spectra study 1−31070
GaAlAs, hyperfine field and spontaneous oscill. of polarisation in optical orientation of electrons and nuclei 1−3300
GaAs:Cr, As antisite defect, submillimetre EPR evidence 1−7941
GaP:Mn, hyperfine interactions of Ga neighbours around Mn^{2+}, ENDOR study 1−12427
Gd, elec. field gradient for ^{144}Gd 1−34963
$GdCo_5H_x$, hyperfine field at ^{59}Co nuclei, NMR spin echo study, H conc. effect 1−3292
Ge, bound exciton level fine struct. in multiexciton complexes *(Russian)* 1−2878
Ge:$In^+(Sb^+)$, radiogenic Sn impurity defects 1−38365
$Ho_3Al_5O_{12}$ garnet, field induced mag. moment and anisotropy 1−34876
HoCu, competition between multi-q antiferromagnetic struct. 1−25883
$HoFe_2$, anisotropic hyperfine fields, mag. induced quadrupole interactions, Mossbauer studies 1−26083
In-Tl(Pb)(Cd) binary alloys, effect of temp. and conc. on elec. field gradient, PAC study 1−52536
KCl, EPR spectra of colour centres due to X-irrad. 1−3260
KCl:H, electronic struct. of H of anion sites 1−2908
KCl:$Sn^{2+}(Pb^{2+})$, EPR, cation vacancy effects on hyperfine interactions 1−3238
KCl:Sr^{2+}, ENDOR and ESR study of atomic H on cation sites 1−16503
$KFeF_3$, polarised Mossbauer study of hyperfine parameters 1−43044
KIO_3, ferroelectric, lattice dynamics, NQR study *(Russian)* 1−43032

crystal hyperfine field interactions continued
K_2IrCl_6, dense paramag. insulators, nucl. spin-spin and spin-lattice relax. 1−7964
$KMgF_3$, ENDOR and EPR study of cubic Fe^{3+} centres 1−43003
$K_2NaAlF_6:Fe^{3+}(Cr^{3+})$, ENDOR determ. of covalency 1−47973
K_2ReCl_6, dense paramag. insulators, nucl. spin-spin and spin-lattice relax. 1−7964
$KZnF_3:V^{2+}$, anal. of transfered spin derities in $3d^3|VF_6|^{4-}$ complex, LCAO MO calcs. 1−25667
$LaCl_3:Ho^{3+}$, crystal field energies of electronic ground state, absorption spectra 1−31172
LaD_x, D superlattice form., MNR study 1−3273
$LiYF_4:Pr^{3+}$, nucl. spin-spin struct. in zero and low static mag. fields, optically detected NWR study 1−43041
Lu-Os, dil., elec. field gradient meas. by nucl. orientation technique 1−12081
Lu-Re, dil., elec. field gradient meas. by nucl. orientation technique 1−12081
$Lu_{0.02}Dy_{0.98}$, dil., anal. of ^{175}Lu NMR data 1−34946
$Lu_{0.02}Tb_{0.98}$, dil., anal. of ^{175}Lu NMR data 1−34946
Mn_2FeO_4, cation distrib., Mossbauer spectra 1−12433
$NH_4Cl:Rh$, γ-irrad., stabilisation, EPR investig. of Rh^0 and Rh(II) centres 1−31024
NaCl, EPR spectra of colour centres due to X-irrad. 1−3260
$NaCl:Sn^{3+}(Pb^{3+})$, EPR, cation vacancy effects on hyperfine interactions 1−3238
$Na_2Cr_2O_7:Cr^{5+}$, X-irradiated, hyperfine struct. of EPR spectra 1−21039
$NaNO_2$, incommensurate ferroelec. phase, ^{14}N NQR line splitting, theory 1−7969
Ni ferromagnetic, hyperfine field and relaxation time of impurities 1−7556
Ni foil, transient hyperfine field at recoiling Si, Pd and Pt ions 1−16267
Ni, NMR study, crit. region and ferromag. and paramag. phase 1−26067
Ni, self-consistent semi-relativistic energy band struct. calcs. 1−34616
$Ni_{1-x}In_xH_y$, ion implanted, mag. props., TDPAC spectra study 1−21099
Np intermetallics, mag. props., high press. Mossbauer study 1−47992
$PbWO_4:Mn^{2+}$, paramagnetic resonance, long wavelength approx. breakdown corrections 1−3247
Pr, magnetic ordering at millikelvin temps., thermal neutron scatt. study 1−34859
$PrVO_4:Gd$, exchange and dipolar interactions, EPR study 1−12398
$RAlO_3$ (R=Eu, Gd, Tb, Dy, Ho, Er), Mossbauer effect, hyperfine parameters, mag. ordering, relaxation 1−12434
$RbCaF_3:Gd^{3+}$, superhyperfine interaction and zero field splittings, EPR study 1−31025
$RbCdF_3:Gd^{3+}$, superhyperfine interaction and zero field splittings, EPR study 1−31025
$RbLiSO_4$, ferroelec. crysts., ^7Li NQR, elec. field gradient determ., phase transitions *(Japanese)* 1−7971
Rb_2ZnCl_4, ^{87}Rb NMR study, phase transition, elec. field gradient in paratec. phase 1−12408
$Rb_2ZnCl_4:Mn^{2+}$, EPR study of commensurate-incommensurate transformation through forbidden hyperfine lines 1−16039
Si:P, charge carrier interactions in multiparticle exciton-impurity complexes *(Russian)* 1−52497
^{119}Sn site hyperfine fields in Fe-Cr alloys, influence of Cr, Mossbauer study 1−34964
Sr_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
$SrFe_{12}O_{19}$, M-type hexaferrite, hyperfine struct., Mossbauer meas. 1−34962
$SrFe_{12}O_{19}$ powder, Mossbauer obs. of phase transition and superparamag. during sintering *(Chinese)* 1−21087
$Tb_3Al_5O_{12}$ garnet, field induced mag. moment and anisotropy 1−34876
TbP, neutron scatt. study of singlet ground state magnetism 1−34863
Te, nuclear quadruple interaction, electronic props. 1−12082
Te-Fe, dil., quadrupole interactions at ^{57}Fe, Mossbauer meas., 78 to 578K 1−12441
TmCu, competition between multi-q antiferromagnetic struct. 1−25883
TmH_3, Mossbauer study, quadrupole interaction, 1.5 to 350K 1−7980
$TmPO_4$, hyperfine enhanced nucl. moment, spin-lattice relax. time, SQUID NMR study 1−34954
UO_2, lattice distortion and quadrupolar ordering 1−25220
V-O-H solid solns., quadrupole effects and Knight's shifts *(Russian)* 1−47967
$VO(H_2O)_5^{2+}$ in solid solution, proton ENDOR spectra, binding site, electronic and geometric struct., hyperfine splitting 1−3293
V_3Si, NMR props., neutron irrad. effects 1−31048
YCo_5H_x, hyperfine field at ^{59}Co nuclei, NMR spin echo study, H conc. effect 1−3292
$Y_2(Co_{1-x}M_x)_{17}$ (M=Cu,Al), mag. anisotropy and NMR, individual Co-site contrib. 1−52770
$YFeO_3$, NMR obs. of spin struct., field induced spin reorientation 1−26047
$Y_{1-c}H_{1.92}:Er_c$, EPR linebreadth 1−38969
$Zn(ClO_4)_2.6H_2O:Mn^{2+}$, EPR study, 77 to 300K, hyperfine forbidden transitions 1−26019
$Zr(Fe_{1-x}Co_x)_2$, hyperfine interactions and local mag. ordering, Mossbauer and NMR study 1−47984
$ZrSiO_4:Nb^{4+}$, ESR, g-values and hyperfine splittings 1−12396

crystal imperfections *see crystal defects*

crystal inclusions
alumina, grain growth, inclusion controlled 1−21456
amorphous materials, dangling bonds and crystalline inclusions 1−47002
composites, plastic zone in vicinity of tip of hard inclusion in antiplane strain 1−29576
diamond crystal growth in molten metals, cryst. imperfections 1−35169
diamonds, synthetic, small inclusions, struct. study according to static thermal distortion temp. depend. *(Russian)* 1−8314
dicalcium strontium propionate, soln. grown single crysts., defect form., dielec. props. 1−12462
dispersion hardened system, dislocation-inclusion interactions during creep 1−42415
elastic in unbounded solid, approx. stress conc. determ. 1−1894
elastoplastic heterogeneous materials, inclusion problem *(French)* 1−15418
fluid inclusions formed during growth, geologic press. determ. 1−13623
fracture, ductile, damage micromechanisms *(Czech)* 1−12855
inclusions, non-metallic, in ladle metallurgy, during casting and solidification *(German)* 1−8291

crystal inclusions continued
Permalloy film, ferromag., mag. state variation due to impurity diffusion forming antiferromag. inclusion *(Russian)* 1−30992
population charact., appl. of extreme value methods *(German, English)* 1−43632
quartz, natural, synthetic fluid inclusions, formation 1−47155
semiconductor, internal stresses induced by micro inclusions 1−52213
solution cryst. growth, liq. inclusions study in microcrysts. 1−34264
stearic acid crystals, soln. grown, inclusion growth spiral pair form. obs. 1−11710
steel, alloy, methane bubbles after H_2 exposure, direct obs. using TEM 1−43496
steel, blister cracking in sulphide environments, H_2 induced, role of inclusions 1−43582
steel, C 1−53266
steel, corrosion resistance and stationary potential, nonmetallic inclusions effect 1−3990
steel, Cr, powders, struct. and props. 1−53248
steel, low alloy, reactor pressure vessel, acoustic emission during elastic-plastic deform., uniaxial 1−3842
steel, low alloy, reactor pressure vessel, acoustic emission during elastic-plastic deform. around crack 1−3843
steel, low C, damage generation during sheet metal forming, inclusion effect *(French)* 1−3770
steel, low-alloy, structural, Se effect on struct. and props. 1−8430
steel, low-C, statistical rel. between non-metallic inclusions content and plasticity factors 1−21550
steel, mild, H entry during exposure, role of sulphide inclusions 1−53256
steel, Mn, brittleness, effect of chem. comp. and struct. 1−48492
steel, stainless, atmospheric pitting, role of non-metallic inclusions 1−39504
steel, type ShKh-15 microdoping effect with Ca and Ce on sulphide inclusion hardening *(Russian)* 1−16870
steel, V, commercial, sulphides types 1−3746
steels, precipitates formed at elevated temps., obs. and anal. using non-aq. electrolyte-potentiostatic etching method *(Japanese)* 1−43342
stress interaction, review 1−11917
subsurface damage in solid particle erosion, mechanics 1−11810
sulphides, study by method of gradual etching 1−48632
superalloys, heat resistant, hot workability *(Japanese)* 1−26509
Al-Mg-(Zn), fracture toughness, intermetallic inclusions influence 1−53289
$AlPO_4$, crystal growth, solubility and perfection study 1−16676
CaF_2, grain growth, inclusion controlled 1−21456
Cu_2O crystals, excitonic photocond. and structural defects 1−3013
Fe, cast, local deformation distribution in samples with different graphite forms 1−12823
Fe, cast, malleable, graphite inclusions compactness eval. 1−8498
Fe, cast, MgS as cause of higher corrodibility of nodular type rel. to grey type 1−43572
Fe ingots, directionally solidified, deoxidised with Al, inclusion morphology and comp. 1−39330
Fe reduced by Al, effect on crucible material on inclusions 1−12995
Fe surfaces, boundary lubricant film form., role of non-metallic inclusions 1−16905
Fe-graphite powder materials, causes of wustite inclusion form. 1−39281
Fe-Ni (50 wt.%), non-metallic inclusions formation by deoxidation with Mn, Si, and Al 1−12770
GaAS epitaxial films, galvanomag. props., low-resist. inclusion effects 1−25814
InP, impurity levels and electrical characteristics 1−20250
n-InP, inhomogeneous cryst., transverse magnetoresistance 1−20776
$LiNbO_3$, Czochralski growth method, stoichiometry and props. 1−8211
$MgO:Li^+$, thermochemically treated, dielec. polarisation and optical absorpt. study 1−3320
Ni-Mo-Mn soft magnetic alloy 79NM, purity effect on mag. props. 1−42982
$(Pb_{1-x}Sn_x)_{1-y}Te_y$, cryst. growth from melt, initial charge comp. effect on comp. and electrophys. props. 1−42513
PbTe crystal, X-ray and TEM investigations 1−52305
Pd-Al(Fe)(Ni), internal oxidation and H_2 permeability *(Russian)* 1−2695
Si, electromigration of liq. metal inclusions 1−42578
Si:Ga, electromigration of liq. inclusions 1−42577
ZrO_2-Y_2O_3 cubic single cryst., inhomogeneities and γ distrib. 1−38400

crystal internal fields *see crystal field interactions*

crystal interstitials *see interstitials*

crystal lattice structures *see crystal atomic structure*

crystal microphones *see microphones*

crystal microstructure
for microstructural changes, see also phase transformations, hardening, heat treatment, metalworking
see also crystal defects; crystal inclusions; crystallites; dendritic structure; domain boundaries; domains; electron microscope examination of materials; eutectic structure; grain boundaries; grain size; Guinier-Preston zones; mosaic structure (microstructure); noncrystalline state structure; precipitation; segregation; subboundary structure; superlattices; texture; X-ray diffraction examination of microstructure
alkali halide crystals, defective, X-ray study 1−2424
alloys, microstructural design, information system *(Japanese)* 1−39861
Astroloy, grain boundary void nucleation, produced by room temp. deform. and anneal. 1−8350
black chrome, solar absorbing, struct. refinement, optical degradation mechanisms 1−16157
cast Fe, high Cr/Mo, white, fracture toughness 1−53259
cast Fe stress-strain state microinhomogeneity, rel. to fatigue failure *(Russian)* 1−21573
ceramic coatings in diesel engines, microstruct. and thermal effects 1−30597
ceramics, microstructural analysis system, semiautomatic 1−39307
coating degradation microstruct., correlation with test and use conditions 1−30595
coating microstructure, characterisation methods 1−30593
crystal subgrain misorientations, obs. by X-ray topograpny in reflection 1−2465
Fe-(Si-Cr-S-C), low alloy, (110) [001] orientated, optimised comp. for high permeability, low core loss 1−7889
ferrite, soft-magnetic, effect of powder dispersity on formation of microstructures 1−21375
ferrospinels, microstruct. form. processes 1−53148
hydrated mica-montmorillonite, struct. form. during sintering 1−12694

crystal microstructure continued
kaolinite-hydrated mica (montmorillonite), struct. form. during sintering 1−12694
lamellar microstructures, applications of optical diffraction 1−31791
Mar M200 powder compacts, flow behaviour during isothermal forging 1−16847
martensitic plates, lineal anal. to determ. number 1−43349
metal, cubic, symmetry of textures and their orientations 1−8322
metal, elastic const. of axial grain orientations 1−8359
metallic single crystals, with desired microstruct. 1−48321
metals and ceramics, microstructure and normal grain growth, theory 1−38380
microstructural analysis system, semiautomatic 1−39307
MnZn ferrite, effect of doping with GeO_2 or SnO_2 on microstruct. and mag. props. 1−30980
Ni-Al-Hf, containing the γ' and β-phases, structural features 1−39308
optical coatings, high band gap oxides, for 0.25 and 1.06 μm fusion lasers 1−19395
Permalloy film, vapour deposited at various incidence angles, microstruct. 1−12001
photographic determination *(Russian)* 1−23355
polycrystals, topological model for grain coordination no. distribs. in plane sections 1−26423
polyethylene, melt crystallized, chain defect distrib. and microstruct., defect size and plastic deform. 1−2348
pyrographite-Li, synthesis, conductivity, struct. and chem. composition 1−47627
sapphire strips produced by Stepanov method, bubble and grain struct. 1−30112
sintered metal powders, analysis 1−53116
steatite microstructure stability increase, by Sb ions implantation *(German)* 1−53258
steel, 21Cr-14Mn, grain-boundary precipitation and fracture behaviour 1−48502
steel, 5 Ni and 9 Ni, heat treatment effect on microstruct. and cryogenic fracture props. 1−8348
steel, alloy, hardenite formation, conditions and mechanism 1−8301
steel, austenitic, metastable, struct. and strength *(German)* 1−31460
steel, austenitic stainless, welded pipe, plastic deform. and fracture, struct. characts. 1−48432
steel, austenitic type 110 Kh6, hot working and substructure diagrams 1−21493
steel, Bulat-Damascus, heat treatment effect on microstruct. and mech. props. 1−8353
steel, C, abrasive wear and microstructure relationship 1−48529
steel, C, constructional, strain hardening grinding, influence on wear resist. and struct. 1−53300
steel, C, hardenite formation, conditions and mechanism 1−8301
steel, C, synthesised from Fe powder and white cast Fe mixture, microstruct. form. 1−39277
steel, Cr, powders, struct. and props. 1−53248
steel, Cr-Mo (2.25, 1 wt.%), thermally aged fatigued, and creep deformed, TEM study 1−8386
steel, Cr-Mo-V (0.5, 0.25 wt.%), creep and microstruct., austenitising treatment effect 1−8357
steel, dual-phase microstruct., importance of epitaxial ferrite 1−26499
steel, high Mn, struct. and props., V addition effect 1−48389
steel, low alloy, fatigue, microstruct. effects at intermediate and high crack growth rates 1−3902
steel, low C, etchant to reveal substruct. 1−48623
steel, low C, microstructure uniformity of texture *(Russian)* 1−16799
steel, low-C, cast, electron fractographic anal. 1−43499
steel, maraging, guide 300 and 350, effect of microstruct. on fracture toughness 1−39414
steel, martensitic stainless, heat treatment influence on struct., mech. props. and corrosion in aq. media *(French)* 1−48393
steel, Mn, phase comp. and mech. props., preliminary heat treatment influence 1−35333
steel, Mn, sintered, Hametag Fe base powder, struct. 1−39270
steel, Mo-Co-Cr-V-W, case-hardened, cellular struct. study by SEM 1−8499
steel, pearlitic, wear and friction behaviour 1−12885
steel, polyethylene forming equipment, surface struct., effect of forming conditions 1−16889
steel, prismatic specimen, fracture surface microstruct., loading type effects 1−31628
steel, quenched, acoustic meas. of stress fields and microstruct. 1−48594
steel, spheroidised, wear and friction behaviour 1−12885
steel, stainless, phase composition and hardness of Kh28N10S4 1−3697
steel, stainless, structure and properties, N effect 1−48433
steel, stainless 316, aged, neutron irradiated, cold worked, irradiation induced microstruct. changes 1−2525
steel, stainless 316L, microstructural evolution, during monotonic and/or cyclic uniaxial loading at room temp. 1−26577
steel, steam turbine bolt material, embrittlement and relax., struct. and stress influence *(French)* 1−48495
steel, tool, abrasive wear, effect of internal notches 1−16909
steel, tool, heat resistant, development and selection for water-cooled dies 1−48386
steel, W-Mo, high-speed, carbides solubility and red hardness 1−8321
steel, W-Mo-Co-Cr-V, high-speed, sintered, microporosity and O content effect on props. 1−53141
steel 20Kh13, heat treatment, effect on microstruct. and hardness 1−43378
steel 25KhGSA, strength characteristics, struct. effect 1−48429
steel welds, transformation behaviour of HAZ during underwater wet welding 1−48400
steels, cavitation erosion, influence of microstruct., SEM study 1−16908
steels, dual-phase, work hardening 1−53203
steels, fatigue crack growth threshold level, influence of microstruct. 1−31647
steels, low-C 2.25 Cr-1 Mo, effects of trace elements on creep strength and ductility 1−43441
subgrain structure formation in pure crystals grown from melts 1−20083
superalloys, APK1, In 100, In 972, rapidily solidified structs., comparison with Nimonic 80A 1−21436
TEM analysis of materials, convergent beam diffr., setting-up procedures 1−15772
thin film characterization using analytical electron microscopy 1−11999
ticonal alloy, YuNDK35T5BA, transform. of γ phase, mag. and struct. props. *(Russian)* 1−31457
crystal microstructure continued
transition metal hydride thin films, synthesis, effect on phase composition and struct. 1−7486
Ag thin films, stripped from substrate, structural changes, TEM 1−38689
Al alloy, extruded sections of D16, charact. of laminations 1−3804
Al alloy, heat resistant type AAA 2618, pitting tendency, microstruct. effect 1−48563
Al single cryst., structural changes due to multiple deform. *(Russian)* 1−34351
Al-Ag-Cu ternary eutectic system, structs. expected during steady state directional growth 1−8296
Al-Al_4Ca eutectic alloy, microduplex struct., room temp. props., prep. and microstruct. 1−39354
Al-Cu (4.5 wt.%), epitaxy and surface melting by high powered directed energy 1−47410
Al-Cu-Si film, electromigration behaviour, surface struct. 1−2933
Al-Mg (10 wt.%), rheocast, special grain boundaries 1−31451
Al-Mg-Si, fracture mechanisms 1−3916
Al-Mg(-Cu), strain rate sensitivity and plasticity 1−21559
Al-Mn, partially solidified hyper-eutectic alloy, apparent viscosity and struct. under stirring *(Japanese)* 1−53167
Al-Mn alloy, strain rate sensitivity and plasticity 1−21559
Al-Pb, preparation in quasi-weightless conditions *(Russian)* 1−16712
Al-Si based alloys, SAS1-50, microstruct. and dimensional stability, electron microscopy study *(Russian)* 1−30228
Al-Si-Ni, alloy SAS1-400, microstruct. and dimensional stability, electron microscopy study *(Russian)* 1−30228
Al-Si(Cu), film, electromigration behaviour, surface struct. 1−2933
Al-Zn-Mg, aged, plastic strain amplitude change in total strain controlled low-cycle fatigue 1−16832
γ-Al_2O_3, lamellar porous microstructs., energetics of formation 1−35232
α-Al_2O_3, transparent ceramic, microstruct. 1−8444
Al_2O_3-SiO_2, containing chemically polymerized precursors heat treated to form monolithic materials, microstruct. 1−3788
Al_2O_3-SiO_2, fused mullite, variable comp., obtained by induction melting in cold crucible 1−12727
Al_2O_3-SiO_2, mullite-corundum ceramic, hot pressing study 1−12700
γ-AlOOH-Al_2O_3, kinetic time-temp. study 1−26735
Au films, discontinuous, anomalous light absorpt., struct. 1−3516
Au thin films, stripped from substrate, structural changes, TEM 1−38689
Au_4Mn ordering initial stages, high resolution electron microscope obs. 1−15768
Au_5Mn_2 ordering initial stages, high resolution electron microscope obs. 1−15768
Be, hydroextruded at high temps., cell struct. study *(Russian)* 1−53217
Bi-Ga, preparation in quasi-weightless conditions *(Russian)* 1−16712
C fibre field emitters, surface and crystallographic struct., field-ion and electron microscopy study *(Japanese)* 1−39226
C/C composites, struct. and strength, review 1−48421
cc $LaNi_5H$, porous metallic-matrix compacts, prep. and props. 1−21382
$Cd_{1-x}Zn_xS$ thin films for solar cells, dielectric response (0.4 to 250 μm) as a function of struct. and comp. 1−13133
Co, undercooling effect on grain structure *(Japanese)* 1−3712
Co-Sm-Cu alloys, directional solidification path and phase diagram 1−35246
Co-W coatings, produced from Co plating electrolyte and Na_2WO_4 electrolytes, struct. *(Russian)* 1−12929
$CsPbCl_3$, monoclinic phase, ferroelastic domain struct., theory 1−30294
$CsPbCl_3$, monoclinic phase, ferroelastic domain struct., expt. 1−30295
Cu armatures for compressed magnetic field generators, effects of metallurgical microstructure 1−33015
Cu based eutectic melt, rapid quenching, microstruct. and mech. props. obs. *(German, English)* 1−43382
Cu film, vapour deposited at various incidence angles, microstruct. 1−12001
Cu thin films, stripped from substrate, structural changes, TEM 1−38689
Cu/Ni thin laminates, vacuum deposited, microstruct., TEM study 1−12662
α-Cu-Al solid solns., rel. of mech. props. to fine struct. *(Russian)* 1−53208
Cu-Be (22.6 wt.%), secondary reaction associated with eutectoid transformation *(Japanese)* 1−26452
Cu-Nb, dil., supercond. props., microstruct. influence *(Russian)* 1−3086
Cu-Zn(10 wt.%), cold-rolled, microstruct. and texture 1−53204
Cu-Zr powders, laser amorphisation, alloy microstructure 1−3669
CuPt, quenched alloys, SRO comparison by dark-field electron microscopy 1−15767
Fe, cast, abrasive wear, effect of internal notches 1−16909
Fe, cast, grey, Al addition effect on microstruct. and hardness 1−53261
Fe, cast, nodular graphite, brittle and ductile fracture surface, SEM obs. rel. to microstruct. 1−43527
Fe, cast, tensile props. and hardness, influence of Cu additions *(Chinese)* 1−35349
Fe, cast, white, abrasive wear-microstruct. interactions 1−21599
Fe, ferritic, strain hardening, axisymmetric vs. plane strain elongation 1−21483
Fe-Al welding, influence of Ag layer on interdiffusion kinetics *(Russian)* 1−16091
Fe-C-Mn (3.2, 0.35 wt.%) plasma sprayed coating, microstruct. 1−11997
Fe-Cu alloys, liq. phase sintered, microstructural development and evolution 1−39341
Fe-Mn, mag. alloys, high-remanence square-loop, mag. props. 1−7894
Fe-Nb-Ni eutectic alloy, directionally solidified growth crystallography 1−35248
Fe-Ni, mag. alloys, high-remanence square-loop, mag. props. 1−7894
Fe-Ni grains, Si-rich, in chondritic meteorites 1−9441
Fe-Ni-C (5.5, 0.06 wt.%), scavenging effect of precipitated austenite 1−8349
Fe-Ni-Cr-Ti (42, 5.4, 2.4 wt.%) 1−12654
Fe-Si alloy (6 to 7 wt%), ribbon form, prep. grain struct., coercive force, annealing 1−8251
Fe-W, cast, etch method for revealing carbides *(Chinese)* 1−53367
$Fe_{100-x}B_x$, amorphous and annealed, Lorentz electron microscopy study 1−30065
Fe_2O_3:Li_2O, haematite, sintering, influence of nature of initial salts on chem. homogeneity, cryochemical method 1−35206
Gd-Fe(Co), amorphous sputtered thin films, TEM study *(Japanese)* 1−21018
$La_{2/3}\square_{1/3}TiO_3$ high freq. capacitor dielectrics, effect of other titanate additions 1−20413
LiF laser windows, press forging and optical props. 1−29353

crystal microstructure continued
Mg-Al-Zn-Cu, struct. and mech. props., Cu effect 1−8395
MgO, from natural microcrystalline magnesite, microstruct. charact. 1−3755
MgO, hot pressed, elec. conductivity, depend. on porosity 1−12111
MgO, microstructural features of grain growth, correlation to crystallographic orientation *(Japanese)* 1−43385
Mo-TiC, alloy 4605, effect of heat treatment of struct. and mech. props. 1−43384
$NaAlH_2Si_2O_7$, analcite cryst., n-faces micro-topographical study 1−11961
Nb, etch angle control, by internal stress variation 1−21623
Nb-(W)-(Mo)-Zr-C, struct. transforms. after long-term tests 1−53176
Nb-Al, A15 phase prep. by direct precipitation, microstruct. and supercond. props. 1−47832
Nb-Cu-Al(Ga)(Ge)(Si)(Sn), metallographic struct. and supercond. transition temp. *(German)* 1−34821
$Nb-Nb_3Sn$, single core and multifilamentary, HVEM obs. of microstruct. *(Chinese)* 1−20410
Nb-Ti (46.5 wt.%) filamentary composite, microstruct./superconducting prop. rel. 1−47828
Nb-Zr-C in contact with molten Li, effect on props. and struct. 1−53246
Nb_2O_5-WO_3 system, microstruct. study by high resolution microscopy *(German)* 1−34482
Ni alloy, heat and corrosion resistance depend. on thermal treatment of type EP958VD alloy *(Russian)* 1−16963
Ni alloy castings, undercooling effect on grain structure and segregation *(Japanese)* 1−3712
Ni, effects of temp. and pulse duration on shock-loading response 1−11814
Ni, influence of undercooling on grain struct. and segregation *(Japanese)* 1−3712
Ni, thin films, stripped from substrate, structural changes, TEM 1−38689
Ni-Al-Mo (12.7, 21.6 wt.%), directionally solidified eutectic composite, microstructural studies 1−3724
Ni-Al-Ta, containing the γ' and β-phases, structural features 1−39308
Ni-base superalloys, Co-free, development and props. 1−48503
Ni-Cr, type KhN73MBTYu, temp.-time depend. of hardness *(Russian)* 1−48377
Ni-Cr-Fe-Ti-Al (14.7, 8.9, 2.25, 1.1 wt.%), γ' determ. by non-aq. electrolyte-potentiostatic method *(Japanese)* 1−31417
Ni-Nb powders, laser amorphisation, alloy microstructure 1−3669
Ni-P-TiB_2 cermet, Ni-P binder, prep., props. 1−3688
Ni-Zn ferrites, microstructure and grain growth, expt. 1−38381
Ni_4Mo ordering initial stages, high resolution electron microscope obs. 1−15768
Ni_4Mo, quenched alloys, SRO comparison by dark-field electron microscopy 1−15767
NiO single crysts., early stages of reduction, TEM study 1−12994
$Pb_3(PO_4)_2$, ferroelastic phase, electron microscopy study of domain struct. 1−20238
Pd-Ru (6 wt.%), recrystn. 1−48368
Pd-W alloys, Pd rich, Pd_8W form. under proton irrad. 1−2535
Pt_2Si_3, ion beam induced metastable phase, elec. cond., order-disorder transform. 1−16275
Si:H, P film, nucleation of microcrystallites 1−47401
Si_3N_4, hot pressed, processing effect on microstruct. and mech. props. 1−16738
Si_3N_4 polyphase systems, fabrication, microstruct., props., review 1−8261
Si_3N_4, reaction bonded, microstruct. development, Si nitridation 1−16734
Si_3N_4, reaction bonded, microstruct. and mech. props. 1−16740
$Sm(Co,Cu,Fe,M)_z$ magnets, M=Ti, Zr, Z=6.8, 7.25, microprobe and TEM study 1−52304
Sn-Zn eutectic alloys, mech. props. and microstruct. 1−8378
Tb thin foils, microstruct. and mag. domain struct., TEM study 1−47921
$TbFe_2$ films, microstresses and coercive force meas. *(Russian)* 1−25994
Ti alloy, 679, thermal stability invest. *(Chinese)* 1−53254
Ti ultra-fine-grained VT-6 alloy, texture effect on mechanical props. 1−31484
Ti-Al-Mo-SiC fibrous composite material, interaction zone, struct. and phase composition 1−8318
Ti-Al-V (6,4), with Widmanstatten $\alpha+\beta$ colonies, continuum anal. of fracture 1−31601
TiNi cold worked, psuedoelastic behaviour, cryst. struct. and microstruct. 1−2395
UO_2-PuO_2 (28 wt.%), irradiated, subject to multiple, mild thermal transients, microstruct. study 1−774
V, combustion in N_2, struct. form. of products 1−21727
V-Cu-Al(Ga)(Ge)(Si)(Sn), metallographic struct. and supercond. transition temp. *(German)* 1−34821
V-Ga, A15 phase prep. by direct precipitation, microstruct. and supercond. props. 1−47832
W, doped, volumetric defect formation, rel. to reduction with H_2 of WO_3 *(Polish)* 1−47075
W rods produced by various methods, struct. 1−53143
W, shock loaded, shear strength, deform. slipping, twinning 1−7257
W-Fe-Ni (5, 5 wt.%), prod. using mech. alloying technique 1−3663
Zn-Pb, preparation in quasi-weightless conditions *(Russian)* 1−16712
ZnO film, reactively sputtered, microstruct. and crystallography, RF power effect 1−42648
ZnO-Bi_2O_3 ceramic, sintering and varistor charact. 1−3675
$Zn_3(PO_4)_2$ films obtained from solns. containing Zn^{2+}, Fe^{2+}, Fe^{3+}, and Co^{2+}, physicochem. obs. 1−53316
ZnS epitaxial layer on Ge substrate, cryst. struct. 1−42649
Zr-ZrV_2, supercond. eutectic, influence of crystallisation conditions and Nb or Fe additions on microstruct. *(Russian)* 1−39328
Zr-ZrV_2 supercond. eutectic, supercond. transition, microhardness and elec. resist. *(Russian)* 1−38877
$Zr+Zr_3Al \rightarrow Zr_3Al$ peritectoid transformation, further obs. 1−26445
$(ZrSn)TiO_4$ dielec. ceramics, rels. between microwave dielec. losses and microstruct. *(Japanese)* 1−48533

crystal morphology
albite, morphology, growth from supercrit. phase 1−47032
$CrB_{(2)}$ crystals, chemical vapour growth 1−53068
diamond, growth of plate- and needle-like crysts. 1−35173
dicalcium strontium propionate, soln. grown single crysts., defect form., dielec. props. 1−12462
dislocations and crystal growth 1−2377
Goldschmidt complication series, morphological extinction rules and phase relations 1−20101

crystal morphology continued
ice VI-ice VII-water coexisting state, high press., supercooling, phase transitions obs. 1−11847
organic crystal, Patterson method for structural information from morphological data 1−52024
poly(ethylene oxide) single cryst., isothermal growth, thickening and melting 1−30102
polyoxymethylene, epitaxial morphologies on (001) mica substrate 1−38682
polythiazyl on alkali halide substrates, epitaxial polymerisation, topochemistry, struct. 1−12999
reverse martensitic transform. habit planes *(Russian)* 1−12735
sapphire shaped crystal growth by Stepanov method, morphology and struct. perfection 1−2362
shape of growing crystals, normal modes anal. 1−11706
β'-Sialon, hot pressed, microscopic study of morphology 1−16730
steel, lath martensite, crystallography and morphology 1−48352
steel, stainless, β-ZZ *(Japanese)* 1−53377
tetraoxane cryst. whiskers, growth from acetone solns. 1−3594
thin film characterization using analytical electron microscopy 1−11999
TTF-TCNQ oriented vapour deposited film, elec. cond. meas., electron microscopy morphology obs. 1−20711
urea, crystn., inorganic salt influence on habit and morphological props. 1−20088
Al_2Cu, morphology *(French)* 1−52106
Al_2O_3 scale morphology on doped Co-Cr-Al coating 1−31756
BN, cubic, cathodoluminesc. emission 1−12588
$(Ca,Na)[(Al,Si)AlSi_2O_8]$, calcic plagioclase, antiphase boundaries, struct., form. and decomp. 1−42398
CaO-MgO-Al_2O_3-SiO_2 glass, crystn. of chromite-magnesiochromite spinels, nucleation, cryst. growth and sizes 1−42311
Ca_4PtO_6, cryst. growth and morphology 1−12642
Co_3O_4, cryst. growth, flux method, X-ray struct. determ. *(French)* 1−20143
Cu, dendrites and single crystals, electrolytic method for growth in gel 1−20596
Cu-Al-Ni, β_1 to β_1' transform. under uniaxial tensile stress, morphology study *(Russian)* 1−12736
$CuGaSe_2$, crystn. from $CdCl_2(I_2)$ solns., phase diagrams, cathodoluminesc. meas. 1−48247
Cu_2S film growth on CdS faceted substrate, growth rate, morphology, grain boundaries 1−34590
Fe-Ni, cooling rate effect on lath martensite morphology *(Japanese)* 1−48378
Fe-Ni-C, alloy N31, reverse martensitic transform., habit planes *(Russian)* 1−12735
$GaSxSe_{1-x}$, $0 \leq x \leq 1$, spiral growth from vapour *(Russian)* 1−47026
$KIO_3.2LiIO_3$ salt, IR spectra, cryst. growth and morphology *(Chinese)* 1−3377
$LiTaO_3$ single crysts., growth habit study 1−2382
$NaAlH_2Si_2O_7$, analcite cryst., n-faces micro-topographical study 1−11961
NaCl:Cd^{2+}(Sr^{2+}), morphology and precipitate phases, TEM study 1−2640
$PbCO_3$, cerussite, grown in SiO_2 gel and on hydrothermal conditions, morphology 1−35158
PbO_2:Sb, effects of doping on props. 1−16207
PbTe(S)-Sb(NiSb), Bridgman method growth, eutectics morphology *(Russian)* 1−47027
$Rb_2ZnBr_4(Cl_4)$, satellite faces of incommensurate structs. 1−30187
$SrMoO_4$, cryst. growth in silica gel, growth kinetics and charact., pH influence 1−20084
ZnS single crystals, flux growth by gradient transport in molten $PbCl_2$, characterisation 1−3590

crystal orientation
apatite crystals, orientation rel. to muscle attachment in the mandible, bone stresses 1−17337
conoscope with point source, grain optical axis angle imaging and meas. 1−23285
conoscopic apparatus on the base of a PKS-250 polariscope-polarimeter 1−23290
epitaxial growth, effects of deposition conditions, impurities and structural defects, review 1−38681
ferrite, spinel type, crystal orientation during solid-solid reaction 1−48653
graphite, polygranular, thermal bulk and lattice expansion behaviour 1−2663
graphoepitaxy of oriented crystalline overlayers on amorphous substrates 1−20584
metal, FCC single crystal, dislocation mechanisms responsible for irrad. induced creep, orientation depend. 1−42418
metal crystals, orientation determ., appl. of TV image system for light figures *(Japanese)* 1−42268
polyisoprene networks, labelled, fluorescence polarisation meas. of orientation 1−38307
pressure-induced phase transition in A4, B1 and B3 type cryst., uniaxial stress and orientation effects 1−30127
Sapphire plate crysts., grown by EFG technique, growth orientation rel. to grain boundary generation 1−3609
TEM orientational matrices appl. 1−25128
texture, distribution function, on space of orthogonal transformations *(French)* 1−52099
texture sample orientation distrib. function, reproducibility from pole figures 1−25191
texture sample orientation distribution function rel. to pole figures 1−20100
texture sample orientation distribution function reproducibility from pole figures, ghost phenomena 1−20102
vacuum deposited film surface form and orientation, crystal habit effects 1−7494
Ag nucleation on PET substrate 1−12002
Ag-Mo bimetal epitaxial films, orientation relations at interface *(Russian)* 1−2831
Ag-Zn alloys, twinned massive α precipitates, orientation relationships 1−8308
AgX emulsion microcrystal orientation during form. of photographic layer *(Russian)* 1−23344
Al bicrystals, plane-strain compression 1−21557
Al single crysts., effect of orientation on work softening 1−8332
Al-Mg (0.3 wt.%), single crysts., discontinuous deform. depend. on orientation 1−8382

crystal orientation continued
Au-Ni bimetal epitaxial films, orientation relations at interface *(Russian)* 1−2831
CdS thin layer vapour deposition by pyrolysis of dimethyldithiophosphinatocadmium complex 1−3629
Cu, adsorbed O_2 and clean surfaces, crystallographic incident beam effects, AES 1−26317
Cu crystal faces, electroreflectance, polarisation and cryst. struct. effects 1−3370
Cu, fatigue crack propagation, influence of crystalline orientation on environment 1−31650
Cu, sputtering behaviour, effect of ion bombardment induced orientation 1−8184
Cu-Cd alloys, struct. obtained electrolytically on single cryst., Cu cathodes 1−30598
Cu-Zn (43 wt.%), precip. of α-rods from parent β-phase, crystallographic orientation relationships 1−8307
Cu-Zn alloys, twinned massive α precipitates, orientation relationships 1−8308
Fe:H, yield and flow stress, orientation depend. 1−21563
Fe-C alloys, cementite to ϵ-nitride conversion during nitriding 1−26674
Fe_3O_4, magnetite, epitaxial growth on NaCl substrate by reactive evaporation 1−2836
GaAs plates, optical orientation *(Czech)* 1−11714
NH_4Cl-H_2O, unidirectionally solidified, direct obs. as function of gravity level 1−7497
Nb single crysts., cyclic deform. props., orientation dependence 1−31570
Pt, catalytic active sites, ion bombardment and FEM study 1−25537
Si graphoepitaxy using strip-heater oven 1−7485
ZnO film, reactively sputtered, microstruct. and crystallography, RF power effect 1−42648
ZnO films, highly oriented, grown by oxidation of diethyl zinc 1−8234
$ZnSiP_2$(:Ga) crystals grown from non-stoichiometric melt, elec. and optical props., orient. depend. 1−34705

crystal oscillators *see crystal resonators*

crystal properties
see also crystal chemistry
No entries

crystal purification
see also zone refining
rare earth metals, purification from mixed rare earths 1−26408
Au spherical crystals, topography and surface melt after purification by pre-melt in air 1−2781
$GdCl_3$, prep. from Gd_2O_3 and purification 1−26399
InP atomically clean surface prep. by pulsed laser irrad. 1−8456
KY_3F_{10} crystal fabrication and props. for high-power laser applications 1−29357
$LiYF_4$ crystal fabrication and props. for high-power laser applications 1−29357
Nb, refining processes in ultra-high vacuum *(Japanese)* 1−3670
Si atomically clean surface prep. by pulsed laser irrad. 1−8456
Ta, refining processes in ultra-high vacuum *(Japanese)* 1−3670

crystal resonant gamma-ray interactions *see Mossbauer effect*

crystal resonators
see also piezoelectric oscillations
anisotropic solid, nonlinear acoustic wave propag. *(French)* 1−7265
frequency control, symposium, Atlantic City, NJ, USA (May-June 1979) 1−13932
microroughness determination, optical interference method *(Polish)* 1−44997
piezoelectricity, IEEE standard review 1−16530
precision frequency control and selection, bibliography 1−22964
proton accelerators, measurement of fast risetime megampere currents by quartz gauge 1−33358
quartz, effect of strained surface layers on performance 1−31695
α-quartz, point defects and radiation damage processes 1−15934
quartz, rectangular rotated X-cut bars, extension flexure and shear modes 1−21133
quartz, SEM of surface of vibrating crystals 1−24637
quartz, swept Premium-Q, radiation effects in resonators and oscillators 1−15927
quartz, synthetic, resonator, Na acoustic loss depend. on electron irrad. and electrodiffusion 1−2565
quartz, use in thin film growth monitoring 1−36627
quartz plates, rectangular AT-cut, freq. temp. characts. 1−21132
quartz plates, singly and doubly rotated, etching phenomena 1−16936
quartz resonator parameters meas. using laser interferometer 1−32960
quartz rods nonlinear vibrations 1−21134
resonant two-terminal network meas. by FM signal transmission 1−28033
synthetic quartz in NH_4FHF, anisotropy of etching rate 1−16937
thin film thickness meas. rel. condensation rate, quartz resonator appls. *(Polish)* 1−36625
Al electrde quartz crystals, microprocessor control anodisation 1−16938
$AlPO_4$, berlinite, bulk wave and SAW propag. 1−16164
$AlPO_4$, berlinite, cryst. growth, piezoelec. and optical props. 1−16529
$(Pb,Nd)(Ti,Mn,In)O_3$ ceramics, tuning fork resonator freq. temp. coeff. 1−37751
$PbT_{1-x}Zr_xO_3$, piezoelectric ceramics, resonant freq. temp. depend. 1−39039
TiO_2 microwave dielectric resonators, He film effect 1−26152
ZnO-on-Si SAW resonators 1−24635

crystal structure
see also crystal atomic structure; crystal microstructure; crystal morphology; crystal orientation; crystal symmetry; crystallography; granular structure; polymorphism
colloidal crystals, Kossel line geometry, light diffr. expts. 1−35579
O-H...O bond geometry, neutron diffr. determ. 1−30129

crystal surface and interface vibrations
adsorbate vibrations, inelastic electron scatt., many-body theory 1−12610
alloy surfaces, surface phonon softening, segregation theory 1−47352
atomic scattering, surface phonon dispersion relations 1−47358
Brillouin scattering near rigid interface 1−35066
dielectric surfaces, long range vibr. energy transfer 1−42621
Einstein model, self-consistent, effect of external force on surface stability 1−52413
excitonic luminescence spectra, surface polaritons 1−12559
film-substrate interface, vibr. props., Green functions method *(French)* 1−11970
Kapitza heat flow via non-localized interface modes 1−20545

crystal surface and interface vibrations continued
laser-stimulated processes, adlayer-surface system, selective and nonselective excitations, dynamical model 1−21297
low energy electron spectroscopy studies of surface vibrations *(French)* 1−2796
metal, FCC, mean-square atomic displacements 1−20346
metal rough surfaces, inelastic Mie scatt. 1−21203
metal surface, adsorbed molecule, damping of vibrs. 1−7448
methane monolayers physisorbed on graphite, phonon spectra 1−47351
monolayer, finite incommensurate, static struct. factor 1−38640
organic molecules, adsorbed on Al_2O_3, covered by rough Ag film, surface-enhanced Raman scatt., Ag molecule separation depend. 1−35035
pyridine, adsorbed on $Ag_{1-x}Pd_x$, surface-enhanced Raman spectra 1−16566
quartz cryst., tangential vibr., electron microsc. obs. 1−20543
quartz crystal vibrations, examination of surface of crystal using SEM methods 1−20544
rare gas monolayers on graphite (0001), lattice dynamical study, anharmonic effects 1−47355
review of appls. in solid state physics *(Japanese)* 1−47353
sapphire, phonon reflection, specular and diffuse, at cryst. interface 1−20548
sapphire-^{4}He (vacuum) interface, diffuse phonon refl. and anomalous Kapitza resist. 1−7447
sapphire-superfluid ^{4}He interface, ballistic phonon pulses 1−2797
thermal boundary resistance in nonharmonic system 1−20549
transition metal surface, adsorbed H atoms, adsorbate vibr. spectra, theory 1−16186
Wigner crystal, two-dimensional electrons, cyclotron reson. 1−7950
Ag island film, adsorbed molecules, giant Raman scatt. 1−3399
Ag, monolayer and bilayer Xe or Kr solid films, coexistence, statistical mechanics 1−25570
Al-Al_2O_3-Al tunnel junction, adsorption of benzoic acid, IETS intensity, surface coverage depend. 1−47359
As (111), sorption of O_2 and N_2, thermal accommodation coeffs., high speed vibr. method 1−8617
CO, adsorbed on Cu (100), collective vibr. mode, inelastic electron scatt. study 1−16637
CO, chemisorbed on Cu(111) surface, IR spectra, dipole coupling effects 1−8054
Cr (001) surface reconstruction, electronic origin, d-band effects 1−47343
Cu (100), adsorbed CO, C-O stretching vibr. mode lifetime 1−7448
Cu, low energy ion scatt., correlated atomic vibrs. effect 1−8180
GaAs (110), cond. band surface plasmons in EELS 1−48202
He, adsorbed system on inhomogeneous surface, surface phonon absorpt. 1−20502
He, solid, surface oscillation and equilibrium shape, crystn. and melting 1−2773
LiF (001), inelastic scatt. of He, time-of-flight spectra anal. 1−53037
LiF (100), rotationally inelastic molecule-surface scattering 1−31263
LiF in contact with He, Kapitza resistance studies using phonon pulse reflection 1−16166
LiF(001), Rayleigh surface phonon dispersion relation, He atom scatt. meas. 1−47354
MgO (001) surface, dynamics and thermodynamic props., charge deform. and geometric relax. effects 1−25548
MgO (001) surface, dynamics and thermodynamic props., shell model 1−47356
MgO, microcryst., IR spectrum, surface relax. effects 1−52929
Mo (001) surface reconstruction, electronic origin, d-band effects 1−47343
NaF (001), scattering of He, surface phonon dispersion relations 1−47358
NaF in contact with He, Kapitza resistance studies using phonon pulse reflection 1−16166
NaF-liquid ^{4}He interface, phonon transmission meas. using supercond. tunnel junctions 1−47360
Ni (111), dynamical motion of atoms, continued fraction method 1−25549
Ni evaporated film, IR spectra of CO, low temp. thermal detection technique 1−26209
Ni, Raney catalyst, chemisorption of ethylene, neutron inelastic scatt. study 1−2799
NiO microcrystals, IR absorpt. spectra, bulk and surface modes 1−8071
Pd (100) surface, chemisorbed O, vibr. hybridisation, LEED Debye-Waller anal. 1−16165
Pt (110), adsorption of NO, EELS, LEED, AES, and thermal desorption study 1−38661
Pt (111), adsorbed CO, EELS intensity ang. distrib. 1−48205
Pt (111), chemisorbed states of NH_3, EELS and thermal desorption spectra study 1−8175
Pt (111), chemisorption of NH_3, EELS study, electron scatt. mechanism 1−12615
Sb (111), sorption of O_2 and N_2, thermal accommodation coeffs., high speed vibr. method 1−8617
Si (111) 2×1 reconstructed surface, electronic states and electron-phonon coupling 1−52636
Si, amorphous, film, surface phonon attenuation, Brillouin scatt. meas. 1−30346
Si surface, electron-phonon interaction 1−42623
Si-^{3}He interface, phonon reflection coeff., effect of cryopumping at Si surface 1−20499
SiO_2 thin glass films, HF phonon transmission 1−47357
TiO_2 (100), surface optical phonons, EELS obs. 1−42622
W (001) surface, reconstruction, electronic origin, d-band effects 1−47343
W (100), dynamical motion of atoms, in surfaces 1−2798
YIG thick epitaxial film, FMR study of damped surface modes 1−16484
ZnO clean surfaces, quantised accumulation layers, EELS obs., coupled phonon-plasmon modes 1−12613

crystal symmetry
see also crystallography; group theory
acoustic gyrotropy characts., of crysts. in planar classes C_{6v} and C_{3v} 1−7267
actinide system valence instabilities as source of inconsistencies 1−20671
atomic coordinates and interatomic vector determ., algebraic calcs. 1−25190
bulge test: a comparison of theory and experiment for isotropic and anisotropic films 1−35302

crystal symmetry continued
crystal definition and crystal symmetry revised 1−7115
crystals, non-compact group O(2,1) and the Jahn-Teller effect 1−38754
cubic crystals, slightly distorted, Coulomb type defects, X-ray exam. *(Russian)* 1−2425
electron diffraction patterns, charact. loss energy selected, site symm. determ. 1−7049
FCC crystallite, different shapes, band structure *(German)* 1−52466
FCC lattice, ab initio HF calcs. using full-symmetry anal. of basis-set expansions 1−7500
ferroics, tertiary, symmetry constraints and free energy terms 1−7122
graded-composition semicond. solid solutions, radially symm. virtual lattice 1−34269
ideal crystal, n-dimensional crystallography, basic symm. element 1−30122
lattices and symmetry 1−13963
marcasite structure, Clebsch-Gordan coeffs. 1−42334
NMR, low-symmetry effects, transitions involving change in nucl. spin projection 1−26051
order-disorder groupoid families, short symbols 1−20097
orientation distribution function on orthogonal transform. space, texture description 1−11713
planar classes C_{6v} and C_{3v}, acoustic gyrotropy charcts. 1−7267
point group O_h, cubic harmonics calc. *(Russian)* 1−2381
point groups, classification of directions according to symmetry principle 1−7111
polycrystalline samples, role of inversion centre in texture anal. 1−30120
polydomain crystals, symmetry props. and mutual reversal of domains in phase transitions 1−7240
pseudo-symmetries of crystallographic coordination polyhedra, appl. to forsterite 1−15826
quantum solids, ground state, lattice symm. and pair correl. function anisotropy effects 1−11955
R$\bar{3}$c symmetry crysts., struct. phase transitions, Landau group theory, classification 1−52287
real crystal symmetry, abstract groups 1−20098
Shubnikov point groups, periodic system of tabulation 1−7109
surface symmetry changes during phase transitions of the second kind *(Russian)* 1−30121
tert-butanol, solid, phase transformations, IR study 1−16035
texture, distribution function, on space of orthogonal transformations *(French)* 1−52099
texture sample orientation distribution function rel. to pole figures 1−20100
thymine anion, tautomerism in solid state, IR and Raman spectral study 1−21195
vector systems corresponding to partial Patterson function 1−20025
Z-module crystallography for incommensurate crystal phases 1−7113
BN, cubic, cathodoluminesc. emission 1−12588
Cs_2GeF_6:ReF_6^{-2}, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
Cs_2ReF_6:ReF_6^{-2}, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
$CsSbS_2$, cryst. struct. determ. 1−25226
GaAs:Cr^{3+}, EPR, Jahn-Teller centre with stress dependent reorientation field 1−7940
K_2NiF_4 antiferromagnet, Ni^{2+} ion symm. anal. 1−2379
NiF_2, canted spin antiferromagnet, Ni^{2+} ion symm. anal. 1−2379
$Pb_5Ge_3O_{11}$, fundamental vibrs. symmetry anal. 1−30335

crystal whiskers *see whiskers (crystal)*

crystalline-amorphous transformations *see amorphisation*

crystallisation
see also crystal growth; dendrites; heat of crystallisation; nucleation
a statistical theory of polymorphic phase transitions and crystallization 1−38535
alkali halide Czochralski grown crystals, solidification front shape effect on cryst. perfection 1−7100
ammonium oxalate, crystalline modifications, Raman and IR spectra *(Russian)* 1−43129
amorphous layers, ion-stimulated crystn. mechanism 1−2536
antiferromagnetic Ising model, spin-1, interface struct. and kinetic phase transition 1−42962
binary alloy, bulk phase diagram, spin-1 antiferromag. Ising model 1−42961
cellulose IV_{II} single crysts., prep. and props. 1−15812
chalcogenide glass melts, quenched, cooling rate to onset of crystn. 1−43331
corundum profiled crystals, melt growth mechanisms depend. on thermodynamic parameters 1−30107
cylindric pores in a growing crystal 1−30111
cylindrical cryst. growth stability, from 2-component melts, impurities effect 1−30117
p-n-decyclobenzoic acid-p-n-hexyloxyphenyl ester, smectic liq. cryst., glassy and cryst. phases, Raman and neutron study 1−52064
dendrite two-phase zone, stationary kinetic model 1−42664
diamond, crystn. theory, colloidal aspects 1−7102
diffusional impurity distribution during directed crystallisation *(Russian)* 1−15917
diglycine sulphate, crystallisation from aqueous soln., pH depend. 1−3596
directional crystallisation from melt with capillary shaping, microscopic theory 1−30106
fluoride glass, $RF_3(YF_3)$-BaF_2-ZnF_2, isolation of new IR transmitters 1−19397
garnet growth mechanism in high temp. solns. revealed by induced striations 1−21336
glass, formation, kinetic treatment, crystn. on glass reheating 1−30082
glass preparation by roller quenching, elec. and mag. props. 1−31409
high temperature materials, fusion-casting and crystn. 1−8292
kinetic parameters, of cryst. growth rate, determ. with ref. to state of mixing of solid phase 1−42333
macromolecules, nucleation and segregation 1−30388
magnetic field influence on crystn., electroacoustic wave mechanism 1−20090
metal, amorphous and glassy state form. and characterisation, review 1−26418
metal compounds, impurity distrib., effect of interatomic interactions *(Russian)* 1−7204
metallic glasses, formation and decomp., thermodynamic investigations, review 1−43319
metallic glasses, preparation and structure, book contrib. 1−39279

crystallisation continued
metallopolymer coatings, cathodic deposition 1−17063
metals, amorphous, crystallisation *(Japanese)* 1−42316
Metglas 2826, isothermal viscous flow near glass temp., effects of struct. relax and crystn. 1−2337
methyl methylsilyl sulphide, rotational isomerism, vibr. spectra 1−10731
miscible polymer blends, crystn. review 1−11699
oriented crystallisation from melt, macroscopic theory, Czochralski and Stepanov techniques 1−7097
oriented crystallisation from melt, macroscopic theory, floating zone technique 1−7099
oriented crystallisation from melt, macroscopic theory, general formulation 1−7096
oriented crystallisation from melt, macroscopic theory, Verneuil technique 1−7098
oxide and polymer glasses, struct., crystn. and viscous flow 1−30070
PET, annealing effect on morphology and melting behaviour 1−16811
PET melt, flow induced crystallization in convergent flow regime and imposed temp. gradient, fibre prod. 1−39304
phthalocyanine films, amorphous, metal-free, conductivity, temp. depend., X-ray diffr., thermal anal. 1−52569
poly(ethylene terephthalate), isothermally crystallised, morphology and melting behaviour 1−16024
poly(ethylene terephthalate), melting and crystn. under pressure 1−52086
α-poly(vinyidene fluoride), field induced transition dynamics 1−11696
α-poly(vinylidene fluoride) film, surface nucleation effect on crystallisation 1−11694
polycarbonate, semicrystn., glass transition 1−16026
polydiacetylene single crystals, struct. and morphology 1−38304
polyethylene, bulky extended chain single crystal growth 1−47015
polyethylene, fractionated, quenched from liq. state 1−20079
polyethylene, high density, microhardness of extruded fibres 1−48497
polyethylene, low-density, model of partial crystn. and melting derived from SAXS and electron microscopy 1−15815
polyethylene, mechanism of formation of a-texture *(German)* 1−52088
polyethylene, melt crystn., kinetic and topological limits 1−30099
polyethylene, melt-crystallised, lamellar morphology 1−30101
polyethylene, short glass-fibre reinforced, flow, orientation effects 1−35276
polyethylene cryst. suspensions, heat of fusion, variation with crystn. temp. 1−7300
polyethylene in soln., oriented crystallisation of swollen networks 1−38303
polyethylene low density, melt crystallized, long periods, X-ray obs. 1−35249
polyethylene struct., rapidly cryst. from melt 1−38302
polyethylene-d_n mixed crystals grown from soln., IR spectra of chain organization 1−38297
cis-polyisoprene, synthetic, crystn. studies, high pressure phases 1−34244
polymer, single crystal, solid-state polymerization techniques 1−21417
polymer crystal growth with chain folding, kinetic theory 1−30097
polymer crystallisation 1−30096
polymer crystallisation from melt with chain folding 1−30098
polymerisation, solid-state, review 1−43667
polymers, bundle model 1−38294
polymers, crystalline and mesomorphic phases 1−38292
polymers, crystallisation, topomorphic states and phase transitions 1−34255
polymers, crystallisation from melt, viscosity and entanglement effect 1−30100
polymers, polydispersed, quenched from liq. state 1−20078
polymers, use of synchrotron radiation for structural changes study during phase transition and deform. 1−52085
polyolefins, conformation by small angle neutron scatt., rel. to crystallisation 1−42326
polyoxymethylene, epitaxial morphologies on (001) mica substrate 1−38682
polypropylene, short glass-fibre reinforced, flow, orientation effects 1−35276
polythiazyl on alkali halide substrates, epitaxial polymerisation, topochemistry, struct. 1−12999
polyvinylidene fluoride-polyethylmethacrylate blends, lower crit. soln. temp. behaviour 1−25416
poly[N-(10-n-alkyloxycarbonyl-n-decyl)maleimides], side-chain crystallinity, heat of melting and thermal transitions 1−52087
profiled crystal and component prod. Stepanov method, conf., Leningrad, USSR (Mar. 1979) 1−27651
quartz crystal growth into fused SiO_2, mechanism 1−42309
quartz crystallisation in fused silicon, growth rate depend. on press. and impurity content 1−7105
rare earth metaphosphates, vitreous, physicochemical props., lanthanide-compression and tetrad effects 1−38290
rare earth-3d transition metal alloys, amorphous, crystn. behaviour, DSC, X-ray diffr., and TEM study 1−30066
review 1−15823
sapphire shaped crystal growth by Stepanov method, morphology and struct. perfection 1−2362
sapphire strips produced by Stepanov method, bubble and grain struct. 1−30112
sol-gel processes in glass science and technology 1−31410
spherical particle, growth from liq. phase, heat and mass transfer 1−7106
supercooled melt, epitaxial crystn., surface mol. dynamics study 1−30586
tetraoxane cryst. whiskers, growth from acetone solns. 1−3594
TGS, crystallisation from aqueous soln., pH depend. 1−3596
urea, crystn., inorganic salt influence on habit and morphological props. 1−20088
water in plant specimens 1−35743
water-butyl alcohol-benzylpenicillin, binary solvent evaporation, heat exchange kinetics *(Russian)* 1−7301
X-ray powder diffr. identification, of cryst. phases with superimposed lines by selective crystn. 1−29994
Ag-As-Se glasses, low Ag conc. elec. cond. 1−38780
$AgHgAsS_3$, laffittite, cryst. growth from melt 1−16678
Al-As-Te semiconducting glasses, thermal props. and crystn. processes 1−25180
Al-Co, peritectic transformations during crystallisation 1−47213
Al-Cr, peritectic transformations during crystallisation 1−47212
Al-Cu(Zn), twin dendrite growth during directional crystn. *(Russian)* 1−25599
Al-Ni, peritectic transformations during crystallisation 1−47213
Al-Si (3 wt.%), healing phenomena of a hole in soldi-liq. coexisting zone *(Japanese)* 1−31450

crystallisation continued
$Al_xGa_{1-x}As$, thick epitaxial layers, influence of growth conditions on perfection 1−30580
$Al_xGa_{1-x}Sb$, solid solutions, crystallisation, appl. to synthesis of heterojucntions 1−47031
β-Al_2TiO_5, decomposition temp., X-ray diffr. study 1−4073
As, amorphous, kinetic theory of crystallisation 1−16025
As-Se-Sb system, glass form. region and elec. props., devitrification characts. 1−30080
As_2Se_3, rate consts. of crystn., temp. depend., additives effect 1−47004
As_2Te_3, amorphous and metastable cryst. struct. correlations, Mossbauer study 1−30076
Au-Si metastable alloy formation induced by ion-beam interface mixing 1−52160
BaO, crystn. from metal chloride melts, solubility-temp. phase diagram anal. 1−21431
BaO-Fe_2O_3, amorphous films, crystallisation, RF sputtering prep. 1−30059
$BaSiO_3$, $BaTiO_3$, crystn. from metal chloride melts, solubility temp. phase diagrams 1−21430
$BaWO_4$, crystn. degree from LiCl melt, evaluation by optical microscopy and chem. anal. 1−20087
Bi films, amorphous, vacuum-deposited, superconducting transition, crystn. 1−47776
Bi, noncrystalline solid, struct. factors 1−30034
γ-Bi_2MoO_6 single crystal synthesis and growth under hydrothermal conditions 1−3588
$Bi_{12}SiO_{20}$, single crysts., impurity distrib. over crystallisation front 1−25188
$Bi_4Te_3O_{12}$ single cryst., prep., struct. and dielec. props. 1−39021
$CaCO_3$ crystallisation inhibition by Mg^{2+} at pH 8.8 and 25°C 1−2364
$CaCO_3$, seeded crystallization kinetics, influence of solid/soln. rate on reaction rate const. 1−47028
$CaMoO_4$, cryst. growth in silica gel, growth kinetics and characts., pH influence 1−20084
CaO, crystn. from metal chloride melts, solubility-temp. phase diagram anal. 1−21431
CaO-MgO-Al_2O_3-SiO_2 glass, crystn. of chromite-magnesiochromite spinels, nucleation, cryst. growth and sizes 1−42311
$CaSO_4.2H_2O$ nucleation and growth on type 304 stainless steel surfaces, effect of surface roughness 1−2366
$CaSiO_3$, $CaTiO_3$, crystn. from metal chloride melts, solubility temp. phase diagrams 1−21430
$CaWO_4$, crystn. degree from LiCl melt, evaluation by optical microscopy and chem. anal. 1−20087
CdGeAs$_2$ films, amorphous, electrical and optical properties 1−20747
CdSb crystal, elastic deform. investigation *(Russian)* 1−38434
$Co_{94-x}M_xB_6$ (M=Hf, Zr, Ta, Ti, Nb), glass form. comp. ranges and mech. props. 1−35353
$Co_{78-y}M_ySi_{10}B_{12}$, (M=transition metal), form. and thermal stabilities, alloying substituents influence 1−26420
Co_xSn_{1-x}, amorphous, elec. transport and stability 1−30698
$Cs_xIn(SeO_3H_{1-x}SeO_3).nH_2O$, preparation under hydrothermal conditions 1−39258
Cs_2O-Nd_2O_3-P_2O_5-H_2O, phase form. and crystallisation 1−53163
Cu crystallisation from melt by Stepanov method under zero-gravity conditions 1−31329
Cu-Ho(Y)(Zr) metallic glasses, rapid quenched and sputtered, in-situ meas. by small-angle X-ray scatt. 1−25173
Cu-Sn alloys, peritectic for phase growth *(Japanese)* 1−8293
Cu-Zr alloy, amorphous, prepared by twin-roll quenching and melt spinning, reproducibility and homogeneity 1−26419
$CuGaS_2$, crystn. from In solns., phase diagram 1−20091
$Cu_x^{II}Mn_{1-x}^{II}Fe_2^{III}(OH)_6$, phase transform., ferromag. props., ferrite form. *(German)* 1−25423
$CuSO_4.5H_2O$, crystallization as a mass transfer phenomenon 1−34262
$Cu_{60}Zr_{40}$, cold-rolling and subsequent annealing, X-ray diffr., DTA and EM study 1−3783
$Cu_{60}Zr_{40}$, glass, Young's modulus meas. during relax. and crystn. 1−15943
Cu_xZr_{100-x}, metallic glasses, defect struct., positron studies 1−43205
Dy-Co, amorphous, thermal stability, crystn. study by DSC and X-ray diffr. 1−30091
$Er_3Al_{5-x}Ga_xO_{12}$, garnet film, crystallisation from soln. in melt 1−34588
Fe based metallic glasses, influence of transition metal substitutes on formation, stability and hardness 1−11687
Fe whiskers, single cryst., electrocrystn. 1−35215
Fe-B amorphous alloy, initial stages of crystallization 1−20068
Fe-B amorphous alloys, crystn. *(Russian)* 1−47008
Fe-B metallic glasses, amorphous-crystalline transition photoemission 1−48242
Fe-B sputtered amorphous film, crystn. and atomic-scale struct. 1−11681
Fe-C:S(Mg), liq. struct. determ. using X-ray anal. *(Russian)* 1−2312
Fe-Ni-B glass, diffusion rates 1−25491
Fe-Si-B metallic glass, comp. effects on thermal stability, magnetostriction and Young's modulus 1−25174
$(Fe-Ni)_{86}B_{14}$ glassy alloys, mag. and struct. props. meas. 1−30982
$Fe_{1-x}B_x$ sputter films, prep. and struct., coercive field obs. 1−26386
$Fe_{100-x}B_x$ glassy alloys, crystallisation kinetics, Mossbauer and X-ray study 1−2334
$Fe_{100-x}B_x$, amorphous and annealed, Lorentz electron microscopy study 1−30065
$Fe_{80}B_{20}$, amorphous, Mossbauer recoilless resonant absorpt. intensities 1−26090
$Fe_{80}B_{20}$ metallic glass ageing and crystallisation, TEM obs. 1−11685
$Fe_{83}B_{17}$ amorphous alloy, crystallisation high press. effect 1−20065
$Fe_{84}B_{16}$, glassy, annealing effects 1−8343
$Fe_{84}B_{16}$, metallic glasses, electrical resistivity and crystallisation 1−7576
$Fe_{85}B_{15}$, crystn. study of amorphous alloy prepared by melt quenching from different temps. 1−11690
$Fe_{80}(B_{1-x}P_x)_{20}$ amorphous alloys, comp. depend. of crystn. 1−20070
$Fe_{100-x-y}B_xP_y(C_y)(Si_y)(Ge_y)$ glasses, microhardness, embrittlement and crystn. temps., comp. depend. 1−35354
$Fe_{82}B_{12}Si_6$, amorphous, Mossbauer study 2 to 796K 1−21098
$Fe_{82}B_{12}Si_6$, amorphous to cryst. transform., Mossbauer, X-ray diffr. and density obs. 1−11688
$Fe_{84}B_{13}Si_3$, metallic glasses, electrical resistivity and crystallisation 1−7576
$Fe_{74}Co_{10}B_{16}$, Metglas 2605CO, Mossbauer study, crystn. and Curie temps. 1−39015
crystallisation continued
FeCoNi-SiB amorphous alloys, zero magnetostriction, heat treatment 1−3230
$Fe_{70}Cr_{10}P_{13}C_7$, amorphous, corrosion behaviour, crystn. effect 1−35425
$Fe_{80-x}H_xP_{13}C_7$ (H=Zr, Nb, Mo, Ru, Rh, Pd, B, C, Si, P, As, Sn, Sb), thermal stability and related props. 1−20066
$Fe_{94-x}M_xB_6$ (M=Hf, Zr, Nb), glass form. comp. ranges and mech. props. 1−35353
$(Fe_{1-x}Ni_x)_{80}B_{20}$ amorphous alloys, chemical ordering derived from crystn. temp. 1−20069
$Fe_{32}Ni_{36}Cr_{14}P_{12}$, amorphous, Mossbauer recoilless fraction and atomic rearrangements 1−39014
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, corrosion behaviour, crystn. effect 1−35425
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglass 2826 A, thermoelectric study 1−47619
$Fe_{44-x}Ni_{37}Cr_xP_{15}B_4$ metallic glass, comp. effect on thermal stability 1−25175
$Fe_{40}Ni_{38}Mo_4B_{18}$ metallic glass, mag., elec. props. 1−3147
$Fe_{40}Ni_{38}Mo_4B_{18}$, Metglass 2826, amorphous ferromag., Mossbauer obs. 1−47990
$Fe_{84.5-x}Ni_xMo_{3.5}B_{12}$ metallic glass, comp. effect on thermal stability 1−25175
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, Mossbauer recoilless resonant absorpt. intensities 1−26090
Fe_2O_3 $[Na_2O.2SiO_2]_{1-x}[Fe_2O_3]_x$ glass, IR study of crystallisation 1−2336
$Fe_{100-x-y}P_xC_y(Si_y)(Ge_y)$ glasses, microhardness, embrittlement and crystn. temps., comp. depend. 1−35354
Fe_xSn_{1-x}, amorphous, elec. transport and stability 1−30698
$Fe_{95-x}W_xB_x$, metallic glass, mag. props. and thermal stability meas. 1−20071
$Fe_{90.5}Zr_{9.5}$, amorphous, Mossbauer recoilless resonant absorpt. intensities 1−26090
Ga, noncrystalline, structure factors, X-ray diffraction study 1−30034
GaAs:Al, synthesis, photoconductivity and luminescence spectra 1−35162
$Ga_xIn_{1-x}As_yP_{1-y}$, crystallisation path to phase diagram, rel. to LPE 1−48333
GaSb film, amorphous-cryst. transform., elec. props. 1−34704
Gd-Co, amorphous, thermal stability, crystn. study by DSC and X-ray diffr. 1−30091
Ge:Ag(Li), impurity effects in crystn., elec. and struct. props. 1−34365
Ge-S-Se(Te) and Ge-Se-Te systems, vitrification regions, IR spectra, microhardness, glass and crystn. temps. 1−42307
He, solid, surface oscillation and equilibrium shape, crystn. and melting 1−2773
^{4}He, crystallisation wave spectrum *(Russian)* 1−52388
$Hg_{3-x}AsF_6$, one-dimensional liq., fluctuations and freezing 1−7304
InAs films, amorphous and crystalline, electrical props. 1−20729
$In_{0.5}Ga_{0.5}Sb$ film, amorphous-cryst. transform., elec. props. 1−34704
InP, crystn. from nonstoichiometric soln., mol. struct. of P in In-P soln. 1−52041
InSb films, amorphous and crystalline, electrical props. 1−20729
InSb(As)(Te)(Se) film, amorphous-cryst. transform., elec. props. 1−34704
$In_{2-x}Sn_xO_{3-y}$ film, effect of ambient atmos. in annealing 1−2850
KCl:Sr(Na) Czochralski grown crystals, solidification front shape effect on cryst. perfection 1−7100
$K_xR_2^{2+}(MoO_4)_3$ (R=Mg, Ni, Co or Zn), thermal stability and cryst. synthesis 1−3597
$Li_xH_{1-x}RP_2O_7$ (R=Tm, Yb, Lu), prep., cryst. struct., IR spectra, and chem. anal. 1−34305
Li_2O-Al_2O_3-SiO_2 glass crystn. products, struct. state of Cr^{III} and V^{IV} ions, ESR, obs. 1−52838
Li_2O-Al_2O_3-SiO_2-TiO_2-SnO_2 system glasses, γ-irrad., ESR obs. of Sn^{3+} additions effect on crystn. 1−52829
Li_2O-SiO_2-(K_2O-P_2O_5-ZnO) glass-ceramic fibres, development and props. 1−8356
Li_2O-WO_3 (MoO_3), rapidly quenched, glass-form. and ionic cond. meas. 1−34505
$Li_2O.2SiO_2$ glass, ion implanted, phase separation and crystn. 1−30081
$LiR(PO_3)_4$ (R=rare earth), prep., cryst. struct., IR spectra, and chem. anal. 1−34305
Mg-Cu(Ni) metallic glasses, thermodynamic props. 1−30424
MgO, crystn. from metal chloride melts, solubility-temp. phase diagram anal. 1−21431
MgO-Al_2O_3-SiO_2-H_2O, hydrothermal treatment products, phase comp. 1−53070
MgO-Al_2O_3-SiO_2-NiO high strength glass ceramic, crystn. mechanism, NiO addition effect 1−34240
$Mg_{70}Zr_{30}$ metallic glass, atomic dynamics, short-wavelength transverse collective modes 1−34237
Mo-Ga, crystallisation under high press. and temp. 1−34463
Mo-Ge, crystallisation under high press. and temp. 1−34463
$NaGaHP_3O_{10}$, prep. and characterisation 1−35164
$NaNO_3$ crystn., direct substruct. obs. during solidification *(Russian)* 1−21439
Na_2O-GeO_2 glasses, crystn. characts. 1−42322
Na_2O-Nb_2O_5-P_2O_5 glasses, crystn. tendency, optical props., and density 1−42319
Na_2O-SiO_2 glasses, heat treated in contact with metallic Na, coloration and crystn. 1−20479
$Na_2O.2CaO.3SiO_2$ glass early internal and Pt-initiated crystallisation, TEM obs. 1−15805
$Na_2O.3MoO_3.3H_2O$, fibrillar, soln. seeding influence on crystn. 1−20093
Na_2SO_4-$10H_2O$ crystn. processes for thermal energy storage 1−17310
Ni based metallic glasses, influence of transition metal substitutes on formation, stability and hardness 1−11687
Ni-B amorphous alloys, initial stages of crystallization 1−20068
Ni-B amorphous-like alloy film, electroless plating deposition using DMAB reducing agent, crystallization and magnetic props. *(Japanese)* 1−47006
Ni-Ge system, solid phases obtained by extremely rapid cooling *(German)* 1−35247
Ni-P alloys, amorphous, chemically deposited and electrodeposited, struct. and electronic props. 1−2340
Ni-P amorphous alloys, chem. deposited and electrodeposited, struct. and crystn. obs. 1−25166
Ni-P electrodeposited films, amorphous, crystallised phosphide phases, electron diffr. and TEM study 1−52068
Ni-Si-B metallic glasses, comp. influence on formation and stability 1−20365
Ni-Y metallic glass, prepared by sputtering, in-situ meas. by small-angle X-ray scatt. 1−25173

crystallisation continued
Ni_7B_2, metastable, amorphous-cryst. phase transition *(French)* 1−52073
$Ni_{75}B_{17}Si_8$, amorphous alloy S, thermal stability, electron irradiation effects, HVEM study 1−25170
$Ni_{75}B_{15}Si_8C_2$, amorphous alloy S, thermal stability, electron irradiation effects, HVEM study 1−25170
$Ni_{94-x}M_xB_6$ (M=Hf, Zr, Ta), glass form. comp. ranges and mech. props. 1−35353
$Ni_{78-x}M_xSi_{10}B_{12}$, (M=transition metal), metallic glass, form. and thermal stabilities, alloying substituents influence 1−26420
$Ni_{100-(x+y)}Si_xB_y$, (M=transition metal), form. and thermal stabilities, alloying substituents influence 1−26420
Ni_xSn_{1-x}, amorphous, elec. transport and stability 1−30698
$Ni_{24}Zr_{76}$, metallic glasses, defect struct., positron studies 1−43205
Pb island films, melting and crystn. 1−25594
PbO_2:Sb, effects of doping on props. 1−16207
PbTe(S)-Sb(NiSb), Bridgman method growth, eutectics morphology *(Russian)* 1−47027
$PbTiO_2$, amorphous, rapidly quenched, crystallisation, DTA and Raman spectra study *(Japanese)* 1−42305
$PbTiO_3$, amorphous, dielec. const., temp. depend., crystn. behaviour 1−26137
$PbTiO_3$, amorphous, grain-size development during crystn. 1−42310
Pd-Ge system, solid phases obtained by extremely rapid cooling *(German)* 1−35247
$Pd_{100-x}Si_x$ (x=16, 18, 20, 22 wt.%), plastic deform. effect on thermal props. 1−35316
Pt-Ge system, solid phases obtained by extremely rapid cooling *(German)* 1−35247
Pt_2Si_3, ion beam induced metastable phase, elec. cond., order-disorder transform. 1−16275
$R_{67}Co_{33}$ (R=Nd, Sm, Gd, Dy, Er), metallic glasses, defect struct., positron studies 1−43205
Rb-Ga double phosphates, prep. and characterisation 1−35164
$Rb_xIn(SeO_3H_{1-x}SeO_3).nH_2O$, preparation under hydrothermal conditions 1−39258
Sb amorphous film, vacuum deposited on GeO_x, crystn. thickness 1−20582
Sb-Zn, peritectic transformations during crystallisation 1−47213
$Sb_{1-x}Bi_x$ ($x \leq 0.2$) amorphous films, crystn. 1−42301
Sb_2O_3, vitreous, form., physicochem. props. and IR spectra 1−16573
Sc-Ga, crystallisation under high press. and temp. 1−34463
Se, amorphous film, thermal crystn. 1−47000
Se amorphous films, stress enhanced crystallisation 1−42300
Se film, amorphous, crystn. in electrostatic field, morphology 1−47398
Se layer, struct. and props. depend. on charge current density in molecular flow *(Russian)* 1−39235
Si, amorphous, epitaxial growth on (100) Si, channelling, TEM, SIMS studies 1−38677
Si amorphous layers, laser annealed ordinary Raman spectroscopy 1−43132
Si graphoepitaxy using strip-heater oven 1−7485
Si ribbon structure, growth conditions effect 1−30114
Si, ribbons grown by Stepanov method, twinning 1−30115
Si semiconductor laser annealing *(Hungarian)* 1−31243
Si:H, P, amorphous films, plasma deposited, crystn., doping efficiency, elec. cond. 1−47393
Si:H film, B doping technique using glow discharge 1−42406
Si_3N_4-CeO_2-Al_2O_3, ceramic, phase effects, high temp. strength 1−3753
Si_3N_4-Y_2O_3-$Al2O_3$, ceramic, phase effects, high temp. strength 1−3753
SiO_2 based enamel for alloy steel, phase comp. and props. control 1−35415
SiO_2, fused, crystn. kinetics, effect of press. and OH content 1−34270
SiO_2 glass, fused, ion implanted, phase separation and crystn. 1−30081
$SmCo_5$, amorphous sputtered films, crystn., mag. and struct. changes 1−16459
$Sm_{0.5}M_{0.5}Co$, (M=Ce 50%, La 20%, Nd 10%, Pr 10% etc.), amorphous sputtered films, crystn., mag. and struct. changes 1−16459
$SrMoO_4$, cryst. growth in silica gel, growth kinetics and characts., pH influence 1−20084
SrO, crystn. from metal chloride melts, solubility-temp. phase diagram anal. 1−21431
$SrTiO_3$, crystn. from metal chloride melts, solubility temp. phase diagrams 1−21430
Ta-Ga, crystallisation under high press. and temp. 1−34463
$TaSi_2$ films, DC sputtering prep., struct. and elec. props., oxidation behaviour 1−47406
$Tb_{0.25}Cu_{0.75}$ amorphous alloy, small-angle neutron and X-ray scatt., thermal stability, density and mag. props. 1−25165
$TeSe_{20}$, amorphous solid and kinetics, DTA and DC cond. obs. 1−2331
Ti-Nb-Si-M (M=Mo, Ru, Rh, Pd, Ir, B, C, Ge), ductile amorphous alloys, supercond., mech. props. 1−30894
Ti-V-Si, amorphous, crystallisation effect on superconducting props. 1−52687
$Ti_{50}Be_{40}Zr_{10}$, amorphous, crystn. behaviour during continuous heating mode 1−30083
$Ti_{50}Be_{40}Zr_{10}$ glassy alloy, crystallisation, neutron irrad., resistivity meas. 1−2335
TiO_2, effects by F and dehydration on hydrothermal crystn. *(Japanese)* 1−43256
TiO_2, spherical particles prep. 1−35222
W-Ga, crystn. at high press., cryst. struct. of intermediate phases 1−38330
W-Ge, crystallisation under high press. and temp. 1−34463
WO_3 amorphous film, fundamental absorpt. edge, annealing and electrolytic coloration effects 1−35105
ZnO-Al_2O_3-SiO_2 glasses, crystallisation, heat treatment effect on ZrO_2 precipitation and transparency 1−16824
ZnO-Al_2O_3-SiO_2 glasses, crystn. studies *(Japanese)* 1−25181
ZnO-B_2O_3-SiO_2, nuclear waste disposal glass, crystn. 1−25171
ZnSe, crystallization, volume defects 1−7161
Zr-Rh(Fe), amorphous, thermal stability, crystn. study by DSC and X-ray diffr. 1−30091
Zr-ZrV_2, supercond. eutectic, influence of crystallisation conditions and Nb or Fe additions on microstruct. *(Russian)* 1−39328
ZrF_4-BaF_2-YF_3-AlF_3 system, fluoride glass form. 1−34238
ZrO_2, crystn., H_2O effects *(German)* 1−38314
ZrO_2 metastable, in Al_2O_3-ZrO_2-SiO_2-Na_2O system, lattice constants 1−20029

crystallite texture *see texture*

crystallites
see also crystal microstructure
copper hectorite, partially oriented, computer simulated EPR spectra 1−16475
FCC, different shapes, band structure *(German)* 1−52466
glass crystallite, glass comps. 1−12713
graphite, degradation by low temp. neutron irradiation 1−34373
graphite intercalation compounds, stage sequence regularity 1−34261
paracrystals, natural, limiting size 1−34186
poly p-phenylene terephthalamide fibres, tensile deform. investig. 1−25356
polyethylene, lattice distortion at low temps. 1−47013
polystyrene spheres, ordering of aqueous suspensions 1−13045
size and strain determined from integral breadth of powder diffr. lines 1−29963
size determ. and strain values from X-ray diffr. line profiles using Fourier series, accuracy 1−29962
steel, P, deep drawing, cold-rolled and annealed sheets, spatial orientation distrib. of crystallites *(Chinese)* 1−39345
texture function, inversion formula in terms of ang. distrib. functions 1−53196
texture sample orientation distrib. function, reproducibility from pole figures 1−25191
X-ray powder diffr. patterns, anal. and topography of lattice defects 1−30242
Ag microcrystallites, prepared by matrix and gas aggregation techniques, optical and vibr. studies, Raman spectra 1−45981
Al sheet, crystallite orientation distrib. function, texture sharpness function *(French)* 1−35271
Al-Si alloys, rapidly quenched from mat. characterisation 1−21438
α-Al_2O_3, from dehydration reaction, twinning effect on particle size broadening 1−30246
Au (111) crystallites, surface reconstruction, Moire fringes, diffr. spots 1−25541
Au crystallites on graphite, equilib. shape study 1−2367
Au crystallites on graphite cleavage surface, equilib. shape, surface and interfacial energies 1−20550
Au dendrite on graphite, crystallite self-diffusion, thermal treatment *(French)* 1−30605
B-Fe(Ni) amorphous alloys, initial stages of crystallization 1−20068
Cu_2O, crystallites, form. by thermal oxidation in CO_2 *(German)* 1−31854
α-Fe_2O_3, from dehydration reaction, twinning effect on particle size broadening 1−30246
Ni electrodeposit structure, plating variables effect 1−16210
Ni-B, rapidly quenched, struct. obs. by X-ray diffr. and electron microscopy 1−47005
Ni-B amorphous alloys, initial stages of crystallization 1−20068
Pd, evaporated crystallites, adsorption and catalytic oxidation of CO 1−39681
Si crystallites, growth mechanism on metal-coated graphite substrate, obs. 1−47399
Si, ribbons grown by Stepanov method, twinning 1−30115
SnO_2 film, impurities influence on struct. and opt. props. 1−39167
ZnO thin films on non-orienting substrates, X-ray topography study 1−42659
Zn_3P_2, vapour phase transport, thermodynamical model *(German)* 1−3587
ZrO_2 metastable, in Al_2O_3-ZrO_2-SiO_2-Na_2O system, lattice constants 1−20029
ZrO_2 particles, hydrolysed, ultrafine crystallite aggregates, thermal changes in texture 1−2365

crystallographic shear
BCC solid solutions, dimens. Hume-Rothery factor, shear stability 1−47147
oxides, nonstoichiometric, shear-plane form. and ordering, b ok contrib. 1−47097
slip-band parameters, temp. depend. 1−2458
Al-Cu (2.8 wt.%), crysts., shear localisation 1−25294
Cd-Zn single cryst., critical resolved shear stress, conc. depend. and very low temp. 1−53241
Ni-Ti shape memory alloy, crystallography of martensitic transformation 1−26454
Ti_nO_{2n-1}, formation energy of crystallographic shear planes 1−38387
WO_3, reduced, crystallographic shear plane form. energy 1−25297

crystallography
see also crystal atomic structure; electron diffraction crystallography; gamma-ray diffraction; isomorphism; lattice constants; neutron diffraction crystallography; space groups; X-ray crystallography
amorphous structural model using regular tessellation of curved spaces 1−25168
anomalous scatt. and direct method combination in determ. of cryst. struct. *(Chinese)* 1−52093
bond deformations, calc. of total offset between two ideal configurations 1−24281
bond distances for triclinic system, computations, using pocket calculator 1−25118
centrosymmetric structures, containing heavy atoms, appl. of direct methods 1−2279
close packing, arrangement of atoms in octahedral gaps, one-fifth occupied 1−2380
conoscope with point source, grain optical axis angle imaging and meas. 1−23285
CRISTEP desk plotter system, for molecular and crystallographic drawings 1−29945
d_{hkl}-spacing computations, using pocket calculator 1−25118
defect dechannelling of particles for imaging 1−38421
EDINP, Edinburgh powder profile refinement program 1−29973
enantiomorph-sensitive 3-phase semivariants and variants in $P2_1$, identity ond use in phase determ. 1−11632
H-phase struct., dimensional anal. 1−2351
hexagonal crysts., near-coincident cells determ., related DSC lattices 1−47091
hierarchic order of the solid state 1−30223
ideal crystal, n-dimensional crystallography, basic symm. element 1−30122
lattice plane geometry *(Chinese)* 1−2352
lattice vibration representations, subgroups of pseudo reflection groups *(French)* 1−42478
lattice-order simulation, cryst. growth approach, cluster variation method 1−20095

crystallography continued
least-squares refinement, rigid-body, constrained, systematic convergence test 1−34189
marcasite structure, Clebsch-Gordan coeffs. 1−42334
molecular structures pattern recognition, from general linear transformations 1−15028
MX_2-type compounds, simplified structure factor calc. 1−15747
NBS cryst. data products and services, user eval., questionnaire anal. 1−9794
paracrystals, novel aspects, 3D convolution polynomial description 1−34242
paracrystals and growth-disorder models 1−7036
phase refinement on the crystal structures containing heavy atoms *(Chinese)* 1−47022
point groups, classification of directions according to symmetry principle 1−7111
representation quadrics, for cryst. structs., metallic elements with no variable coordinates 1−42254
representations theory, concept of generalised representations for struct. semiinvariants 1−2280
semicrystalline polymers, electron density correlation function, direct eval. 1−15814
Shubnikov point groups, periodic system of tabulation 1−7109
significance testing, jackknife and Hamilton's R-factor ratio test, applied to false minimum 1−42256
simultaneous eqn. soln. for obtaining lattice consts. of low-symm. cryst. systems *(Chinese)* 1−52092
sphere-packing model, for prediction of order in σ phases 1−46948
steel, low C, etchant to reveal substruct. 1−48623
teaching, lap-dissolve slide technique appls. 1−13964
torsion angle computations, using pocket calculator 1−25118
trigonometric struct. factor, even moments calc. appl. to all space groups 1−34183
two-phase variants, and semivariants, theory of representations for probabilistic estimates 1−15746
XTAL, new concepts in program system design 1−15744
Cd aerosol precipitates, crystallography 1−31448
$NH_4IO_3.2HIO_3$, cryst. struct. determ. by non-Fourier series method 1−30191
Zn, aerosol precipitates, crystallography 1−31448

crystals
see also bicrystals; crystal structure; crystallography; dendrites; epitaxial layers; liquid crystals; plastic crystals; whiskers (crystal)
No entries

Curie point *see Curie temperature*

Curie point writing *see thermomagnetic recording*

Curie temperature
see also ferroelectric Curie temperature
alloys, amorphous, mag. props. *(Japanese)* 1−42952
amorphous alloy, ferromag., annealing and fabrication conditions, effect on mag. props. 1−12765
amorphous ferromagnets, solvable model, mag. props. 1−38918
diluted anisotropic magnet, crit. props. near percolation threshold 1−52790
Elinvar, Fe-Ni-Co, precip.-hardening, physicomech. props., Co effect 1−43397
ferrimagnets, Curie temp. determ. 1−34878
ferromagnetic metals, elec., thermal, and thermoelec. props. near Curie temp. *(Russian)* 1−30724
ferromagnetic metals, invar phenomena, magnetovolume effect 1−3234
ferromagnets, magnetic correlations, quenched random fields 1−34899
Heisenberg ferromagnet, Curie temp. sensitivity to single-ion aniotropy, second-order Green's function approach 1−7840
Heisenberg ferromagnet, general spin, dilution 1−38939
Heisenberg ferromagnet, self-consistent renormalised spin-wave theory in critical region 1−34871
Heisenberg ferromagnet, sensitivity of the Curie temperature to the number of nearest neighbours 1−38940
magnetic order-disorder transition *(Russian)* 1−7843
metallic glasses, magnetic properties, influence of structural relax. 1−3179
oxide materials, use of differential thermal gravimetric anal. for Curie temp. meas. *(Russian)* 1−7829
phase transitions of 'extended' Ising models on a square lattice 1−34901
tris(2-picolylamine) iron (II) chloride solvates, high-spin⇌low-spin transition, D isotope effect 1−3301
rare earth alloys, $R_{1-x}Fe_x$ (R=Sm, Gd, Tb, Dy, Ho, Er, Tm, Lu), amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
rare earth alloys, R_3Pd_2, mag. susceptibility, Curie temp. meas., 4.2 to 300K *(French)* 1−30922
rare earth alloys, $R_{65}Al_{35}$, R=Ce, Pr, Dy, amorphous, mag. props. meas. 1−12266
rare earth alloys, R_7Pt_3, (R=La, Ce, Pr, Gd), mag. props. meas., 4.2 to 300K 1−30923
rare earth alloys, RCo_2 (R=Tb, Dy, Ho, Er, Y), transport props. rel. to mag. ordering transition 1−42747
rare earth-Cu_4Al, magnetization meas. 1−25876
steel, tool, vacancy form. energy, thermodynamic anal. of physical parameters near Curie point 1−47255
transition metal alloys, ferromagnetism onset as cooperative phase transition 1−12287
weak itinerant ferromagnets, isotope effect on Curie temp. 1−3205
weak itinerant ferromagnets, isotope effect on Curie temp. 1−7856
$(Ba,Sr)_2M_2Fe_{12}O_{22}$ (M=Zn, Cu, Cd), mag. props. and cation distrib. 1−47908
Ba_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
$BaNpO_3$, magnetic susceptibility and transitions 1−47869
$Ba_2Zn_2Fe_{12}O_{22}$, relax. processes near mag. phase transitions, ferromag. reson. study 1−26044
Ca_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
$CdCr_2S_4$, rapid quality control by EPR method 1−12387
$CdCr_2Se_4$, crit. relax. processes, mag. reson. linewidth meas. 1−26043
$CdCr_2Se_4$ single crysts. elec. and mag. props., nonstoichiometry effects 1−2967
$Cd_{1-x}Mn_xSe$, EPR and mag. props. 1−34930
Ce-Fe, amorphous, mag. props. and Kerr rot. 1−25970
CeAg, evidence for Anderson lattice behaviour under press., Curie temp. and resist. meas. 1−38935

Curie temperature continued
Co-Mn-B amorphous alloy, mag. props. 1−12284
Cr-Fe decomposed solid solns., singularities of mag. props. *(Russian)* 1−38930
$(Cr_{1-x}Ni_x)_2As$ single crysts., mag. props., conc. depend. meas. 1−12267
$(Cr_{1-x}Ni_x)_2P$, ferromag. and paramag. props. 1−52756
$Cr_3Se_{4-x}Te_x$, longitudinal and transverse magnetoresist., 5 to 300K, Curie pt. peak, thermal spin disorder decrease *(French)* 1−38797
Cu-Li-Fe-O system, prep. and props. of spinel solid solns. 1−12708
$CuCrS_2$-MS_2 (M=Ti,Sn), pseudo-binary system, cubic phases *(French)* 1−47248
CuMn, spin-glass, susceptibility, freq. and field depend. 1−42976
Dy, magnetisation, AC susceptibility, and microwave absorpt. 1−47867
DyAg, amorphous and cryst., Mossbauer study of relaxation effects 1−26088
$Dy_6Mn_{23}(-H_{23})$, mag. ordering, absorbed H effect 1−20970
Er-H solid solutions, mag. transitions, elec. resist. meas., 4.2 to 100K 1−7833
$(Er_{1-x}Ho_x)Rh_4B_4$, reentrant ferromag. supercond., magnetisation meas. 1−20914
$ErRh_{1.1}Sn_{3.6}$, reentrant supercond., low field magnetisation studies 1−42898
$ErTiO_3$, magnetic struct. 1−25892
$Eu^{3+}Rh_4B_4$, itinerant electron ferromag., X-ray, magnetisation and Mossbauer studies 1−30985
EuS, ferromag., spin waves and exchange interactions, neutron scatt. study 1−25918
(Fe, Co, Ni)-(Zr, Hf) amorphous alloys, mag. props. 1−25905
$(Fe,Ni)_{100-x}B_x$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
Fe binary alloys, dil., intergranular segregation, effects of ferromagnetism 1−39337
Fe, itinerant electron systems, single-site spin fluctuation theory 1−7846
Fe, specific heat and temp. coeff. of elec. resist. near Curie point *(Russian)* 1−25945
Fe-Ni(Si), specific heat and temp. coeff. of elec. resist. near Curie point *(Russian)* 1−25945
Fe-Se-Te solid solution, mag. props. in ferrimagnetic and paramagnetic ranges 1−52776
Fe-W solid solutions, self diffusion of ^{59}Fe near Curie temp. *(Czech)* 1−47281
$Fe_{82}B_{12}Si_6$, amorphous, Mossbauer study 2 to 796K 1−21098
$Fe_{74}Co_{10}B_{16}$, Metglas 2605CO, Mossbauer study, crystn. and Curie temps. 1−39015
$(Fe_xCo_{1-x})_{89}Cr_{11}$, Invar properties, role of crystal and electronic structure 1−20981
$Fe_2Cr_2S_4$, metal-semicond. transition, high temp. ferromagnetism *(Russian)* 1−34630
$Fe_{80-x}M_xP_{13}C_7$ (M=Ni, Mn, Cr), amorphous, crit. phenomena, sp. ht. meas. 1−7845
$Fe_{80-x}Mo_xB_{20}$ metallic glass, elastic const. anomaly 1−2551
$Fe_{47}Ni_{25}B_{18}Si_{10}$ ribbons, amorphous, relationship between magnetic properties and struct. changes during annealing 1−47901
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, Curie temp., anomalous props. in crit. region 1−7854
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, crit. behaviour, static magnetisation and AC susceptibility meas. 1−34893
$Fe_{40}Ni_{38}Mo_4B_{18}$ metallic glass, mag., elec. props. 1−3147
$Fe_{20}Ni_{60}P_{14}B_6$, amorphous, crit. phenomena and giant superparamag. moments above Curie temp. 1−42974
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
Fe_2P, pressure induced mag. transition 1−30941
$Fe_2P_{1-x}B_x$, (x<0.15), ^{57}Fe Mossbauer and X-ray study 1−26087
FeTi(-H), magnetic props. 1−20957
$Fe_{95-x}W_5B_x$, metallic glass, mag. props. and thermal stability meas. 1−20071
Gd, magnetoelastic effects, mag. phase diagram, 170 to 300K 1−26003
$Gd(Al_{1-x}Cu_x)_2$, magnetoresistance and band struct. near Curie temp. 1−7589
$GdCl_3$, ferromagnetic, renormalisation calcs., susceptibility 1−42951
$(Gd_{0.26}Fe_{0.74})_{1-y}Sn_y$ amorphous films, mag., magneto-optical and switching props. 1−12346
$Gd_{70}Y_{30}$, double ferromagnetism, susceptibility, elec. resist., and sp. ht. meas. 1−3153
$Hg_{1-x}Mn_xTe$, paramagnetic, mag. susceptibility 1−38905
$K_2Cu_xZn_{(1-x)}F_4$, critical temperature of randomly diluted two-dimensional Heisenberg ferromag. 1−7832
$LaRh_6B_4$, itinerant electron ferromag., X-ray, magnetisation and Mossbauer studies 1−30985
$Li_{0.5}Fe_{2.5}O_4$, Curie temp. rel. to stoichiometry 1−38932
$LiTbF_4$, ferromagnetic, renormalisation calcs., susceptibility 1−42951
LiZnTiMn ferrite, mag. props. rel. to prep. technology 1−8257
Mg_2Ni, magnetic props. 1−20957
Mn-Zn ferrite, mag. microstructure, influence of small amounts of additives 1−20958
$Mn_{1+x}Cr_{2-x}O_4$, spinel system, magnetic properties 1−47878
$MnFe_2O_4$, non-exponential spin relaxation near critical point 1−38942
$Mn_xMg_{1-x}Gd_2S_4$ and $Mn_xMg_{1-x}Yb_2S_4$, solid soln., magnetic behaviour and substitution effect 1−34855
$Mn_xMg_{1-x}Tb_2S_4$ solid soln., mag. behaviour and substitution effect 1−34854
$Mn_5Pd_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
$Mn_5Rh_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
MnSb under high temp. and press., mag. props. *(Russian)* 1−20978
$Mn_{0.9}Zn_{0.5}Fe_{1.6}O_4$, liq. phase epitaxial growth under reduced O partial pressures 1−3642
Ni (110) surface ion scatt. near Curie point 1−31267
Ni, dynamic susceptibility, temp. depend., coherent mag. inelastic neutron scatt. study 1−34873
Ni, itinerant electron systems, single-site spin fluctuation theory 1−7846
Ni, surface electronic struct. changes at Curie temp. 1−52774
Ni-Mn, disordered, forced volume magnetostriction 1−7929
Ni-Si, electrical resistivity meas., near mag. phase transition, Curie temp., concs. depend. 1−7830
Ni-Zn ferrites, sensitive method for Curie temp. determ. 1−34878
$Ni_{1-x}Cr_x$, forced volume magnetostriction temp. depend. 1−47922

Curie temperature continued
$NiFe_2O_4$, ferrospinel form. mechanism and kinetics from inequimolar Fe_2O_3-NiO mixture 1−53401
NiMn, NMR freq. temp. depend., Curie temp. and effective exchange interaction 1−47971
$Ni_{3.34}Si$ elastic characts. and thermal props., Curie pt. effects 1−38428
Pd-Fe, inhomogeneous ferromag. ordering, small-angle neutron scatt. study 1−25885
Pd-Mn, inhomogeneous ferromag. ordering, small-angle neutron scatt. study 1−25885
PdMn, dil., ferromag. phase, AC susceptibility and elec. resist. 1−47866
Pr-Fe 1−25970
$Pr_{0.27}Co_{0.73}$, amorphous, crystn., magnetisation, coercivity, laser annealing effects 1−38948
RAl_2, exchange coupling depend. on interatomic distance 1−7825
$RbNiF_3$, ferrimagnet, high-temp. susceptibility of Heisenberg Model 1−12268
Sc_3In, heat capacity peak disappearance around Curie temp. in high mag. field 1−47894
Sr_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
$SrNpO_3$, magnetic susceptibility and transitions 1−47869
Tb-Er, mag. props., susceptibility and magnetisation meas. 1−25896
Tb-Sm single crystals, magnetisation, susceptibility, anisotropy, rel. to temp., composition 1−34866
Tb-Y, magnetisation, AC susceptibility, and microwave absorpt. 1−47867
TbF_3, mag. props., powder neutron diffr. study 1−3143
$TbFe_2$, magnetic excitations, inelastic neutron scatt. studies 1−25888
$Tb_6Mn_{23}(-H_{23})$ mag. ordering, absorbed H effect 1−20970
Th_7Fe_3Hx, magnetic props. 1−20956
Ti-Mn-H, magnetic susceptibility and magnetization meas. 1−20964
α-TmH(D), electrical resistivity, ordered mag. struct. 1−20700
$U(Co_xNi_{1-x})_2$, ferromagnetism onset 1−47887
$UPt(Pt_2)$, binding energies, work function changes, and saturation moments 1−53052
Y_4Co_3, magnetic and transport props. 1−12271
$Y_3Fe_{5-x}Ga_xO_{12}$, Curie temp. meas. by differential thermal gravimetric anal. in mag. field *(Russian)* 1−7829
$Y_3Fe_{5-1-y}Ga_xSc_yO_{12}$, Curie temp. meas. by differential thermal gravimetric anal. in mag. field *(Russian)* 1−7829
YIG, critical thermal expansion near Curie point *(Russian)* 1−11889
Y_6Mn_{23}, thermal expansion, 290-610K, mag. props. 1−16068
Zr-Fe(Co)(Ni) amorphous alloy, mag. props. 1−12283

curium
see also nuclei with .....
^{243}Cm, ^{244}Cm, meas. in Columbia River sediments 1−8777
^{242}Cm-Be, (α, n) source, neutron fluence-to-dose conversion factors 1−6066
^{244}Cm-Be, (α, n) source, neutron fluence-to-dose conversion factors 1−6066
^{248}Cm, magnetic susceptibility 1−52758
Cu^{3+} in solution, detection of oxidation state and chemical behaviour, nuclear waste transport 1−31942
Pa+Cm, heavy ion scattering, electron translation effects 1−46100

curium compounds
No entries

current (electric) *see electric current*

current algebra
see also elementary particle theory; hadron current; light cones; quantum field theory
$\tau \rightarrow \pi K \nu$, current algebra square root threshold singularity, chiral symmetry breaking 1−50416
axial anomalies by dimensional reduction 1−40947
backbending region, current distrib. based on particle-rotor model *(Chinese)* 1−45411
baryons, weak and EM form factors at large momentum transfer 1−50435
chiral flavour theory of weak interactions, parify violation by neutrino pairing, massless neutral lepton 1−14307
conference on high energy physics, Geneva, Switzerland, (June-July 1979) 1−5026
decay of particles, consequence of commutators of second class axial currents with normal weak currents 1−40948
Dirac theory, invariant Lagrangian, expressions for current 1−45112
equilibrium parity-violating current in a magnetic field 1−23454
equilibrium parity-violating currents cancellation, quantum field theory examination 1−28242
flavour changing semileptonic transitions, weak quark couplings from gluon corrections 1−33164
flavourdynamics, SU(3)×SU(2)×U(1) gauge theory phenomenological aspects review 1−14258
forward and inverse beta decay, second class current effects 1−28415
heavy lepton, spin 3/2, effects of alignment in production and decay *(Russian)* 1−23497
heavy neutrino-electron coupling, constraints imposed by cosmic-ray positrons 1−45172
local current algebra representations 1−36828
massless particles limit, Lorentz covariant, energy momentum tensor and conserved current 1−14231
mesons as spin waves, chiral symmetry breaking in QCD 1−10146
MIT bag model, pion polarisability calc., hadronic interactions, PCAC calc. 1−14359
neutrino mass, SU(2)×U(1) theories, current interactions 1−14310
neutrino mixing and the m_W/m_Z mass ratio 1−40961
neutrino oscillations, complete phenomenological description *(Russian)* 1−36838
nonlinear σ-models on symmetric spaces, local conserved currents 1−18388
nuclear β-decay, upper limit on induced scalar interaction, CVC theory and G-parity transformations 1−45471
nuclear four-current, giant multipole resonance states, macroscopic structure 1−41028
pion EM mass difference, current algebra and QCD calcs. 1−45280
QCD, chiral invariant regularisation of axial vector current 1−36794
QCD, dynamical symmetry breaking of chiral invariance and collective coordinates in Fermi systems 1−50373
QCD, factorisation, chiral symm., current algebra, quantisation, transformation, renormalisation 1−14259
QCD, U(1) problem, current algebra, θ vacuum 1−45228
qCD and spectroscopy 1−14354

current algebra continued
QCD and spectroscopy 1−36840
QED axial vector interaction 1−36833
$q\bar{q}$, heavy quark bound states, hadronic transitions in QCD 1−10155
quantum flavourdynamics, experimental verification, spontaneous symm. breaking, currents, γ-ω^0 mixing, proton decay 1−14361
quark mass parameters from Goldberger Treiman relations, chiral symmetry breaking 1−45186
quark mixing matrix for weak charged currents, algebra of subquark charges 1−45209
sine-Gordon equation, Steudel's conserved currents, Noethers theorem, Backlund transformation 1−18402
SO(10) family unification, neutrino mass, V+A charged weak current 1−18416
spin 3/2 leptons, prod. and decay props., V±A currents 1−601
SU(3)×SU(3) quark model, axial vector current divergences, pseudoscalar meson spectrum 1−18443
superconvergence and the structure of current vertices 1−18401
two-dimensional chiral model, Noether currents, field transform., group interability, symmetry group 1−10083
U(4) theory, eight quarks, CP violation in Weinberg-Salam model 1−10119
vacuum polarisation, QCD contrib., pseudoscalar unequal mass case 1−18445
vacuum to 3 pion matrix element of axial vector current, final state interactions 1−50349
Ward identities, canonical, preserved in dimensional regularisation with non-anticommuting γ_5 1−40930
weak charged currents in high energy inclusive neutrino physics, review 1−10107
Weinberg-Salam model, parity violating potentials, short-distance vector particle exchange 1−473
Yang-Mills hidden symmetry currents, path depend. gauge transformation 1−23446
$ed \rightarrow ed$, parity violation 1−28322
$e^+e^- \rightarrow 4\pi^\pm$, $\rho'(1600)$ parameters from current algebra calc., A_1 resonance 1−576
(K^-,K^-), sigma-terms and scattering lengths from current algebra and PCAC 1−45536
K decay, nonleptonic, relativistic quark model, $\Delta I = 1/2$ enhancment 1−33178
$K \rightarrow \gamma l \nu$, electroweak anomaly, current algebra 1−33176
K_{l3}, K_{l4} decays, current algebra square root threshold singularity, chiral symmetry breaking 1−50416
$K_s \rightarrow \pi\pi$, $\Delta I = 1/2$ rule, quark tadpole origin 1−549
$\bar{K}N \rightarrow \Lambda\pi$, Adler constraints in soft pion limit, $\pi\Lambda\Sigma$ and $\pi\Sigma\Sigma$ coupling constants 1−23514
$\mu\nu(\bar{\nu})$, neutral and charged current processes, cross section 1−45258
N-N potential, parity-violating, with Schwinger and seagull terms, current algebra calc. *(Russian)* 1−45250
$\nu(\bar{\nu})N$, charged current events, hadronic final states, review 1−10189
νd, charged current events, current and target quark jets gluon emission 1−18467
$\bar{\nu}_e d \rightarrow nne^+(n p \bar{\nu}_e)$, charged and neutral current branches, neutrino instability 1−5616
$\bar{\nu}_e d \rightarrow nne^+(n p \bar{\nu}e)$, neutral-to-charged current breakup ratio, isospin breaking, scatt. lengths 1−45260
$\nu_\mu d \rightarrow \mu^- X$, >10 GeV, ν_n and ν_p charged current cross sections 1−18464
νN, >260 GeV, flux normalised charged current cross sections 1−10192
νN, charged current heavy quark prod., QCD corrections to structure functions 1−45259
$\bar{\nu}p$, deep inelastic scattering by polarised proton in quark-parton model 1−40982
νp, neutral to charged current cross section ratio, quark-current coupling 1−10191
$P \rightarrow \gamma\gamma$, regularisation in vector meson dominance model, PCAC anomaly 1−18486
(π^-,π^-), sigma-terms and scattering lengths from current algebra and PCAC 1−45535
$\pi\Lambda \rightarrow \pi\Sigma$, Adler constraints in soft pion limit, $\pi\Lambda\Sigma$ and $\pi\Sigma\Sigma$ coupling constants 1−23514
$\tau \rightarrow K\pi\pi\nu_\tau$, weak decay structure functions from current algebra, form factors 1−33182
$\tau \rightarrow \nu\rho\pi$, A_1 resonance model, hard pion current algebra *(Russian)* 1−50429
$\tau \rightarrow \pi\omega\nu_\tau$, equal-time commutators between first and second class currents 1−36893

current control, electric *see electric current control*

current density
see also critical current density (superconductivity); electron density
air, streamer influence zone at cathode of positive point to plane corona discharge 1−11610
corrosion pit, potential variation 1−16949
current circulating in torus, mag. field distrib. anal. *(Polish)* 1−29166
gas blast circuit breaker arcs, scaling laws 1−11621
glow corona, positive, point-to-plane, current density on plane electrode obs. 1−15706
graded-gap crystals, current density during electron warming 1−42783
H-polarised EM wave on open cylindrical surface, diffraction problem solving, numerical methods 1−15056
injection currents theory, in dielectrics with maximum filling of traps 1−16300
ISABELLE dipole and quadrupole coil configurations 1−45751
magnetic fields, displacement currents and nonstationary current distrib. *(Portuguese)* 1−33598
PMMA arc, ablation dominated, high current density, plasma meas. and arc model 1−11608
Schottky-barrier solar cells, barrier height determ. under illumination and fill-factor calc. 1−21881
steady-state skin effect numerical soln., integrodifferential approach 1−52590
stress corrosion crack, pot. distrib., effect of crack width variation 1−12920
superconducting wire, high current density, transient stability 1−52739
Ar free burning welding arc column model, 100 to 500 A 1−7020
Ar, low press., Z pinch behaviour *(Japanese)* 1−19932
Cu anodic dissolution, anode potential oscillation obs. 1−7336
Cu, compressed powder, elec. cond., influence of ageing and elec. field strength 1−43545

current density continued
GaInAsP-InP 1.3 μm CW laser grown by LPE, threshold current density 1−46344
H_2 free burning welding arc column model, 100 to 500 A 1−7020
N_2 free burning welding arc column model, 100 to 500 A 1−7020
NbN film, superconducting current and field props., dimensional effects 1−52725
PbO_2 on Ti composite anodes, corrosion rates during electrolysis 1−39478
Si p^+-n-n^+ structure, current-voltage charcts. at high current density, e-h scatt. 1−52650
SnO_2, corrosion, by fused borax, effect of electric field 1−8463
$TlInTe_2$-$TlRTe_2$ (R=Nd, Ce, Eu), current-voltage characteristics, switching effect 1−7673
W, anodic oxide films, morphology and dissolution, SEM study 1−48559
XeCl, electron beam pumping, variable current density, fluoresc., laser performance 1−37467
ZnO-Sn composite, power-law currents and role of traps 1−30753

current distribution
see also current density
arc furnace crack damaged graphite electrodes, current distrib. and its effects *(German)* 1−3883
infinite wire, current induced by vertical and horizontal elec. dipoles above dissipative earth 1−29170
ISABELLE dipole and quadrupole coil configurations 1−45751
plasma equilibrium, toroidal, maintaining field current calc. *(Chinese)* 1−19928
spectrophotometer photometric current analysis *(Polish)* 1−5411
MnO_2 porous electrodes during discharge, nonlinear simulation of current distribution and potential profile 1−53432

current fluctuations
see also noise
chaotic motion in Coulomb force driven instability, large aspect ratio expts. 1−11370
electric current conducting media, 1/f noise and dielectric response unified theory 1−3030
semiconductors, finite compensated, generation-recombination noise 1−20838
semiconductors, finite compensated, Johnson and contact noise 1−20839
thermal switching systems with current filaments, LF fluctuations 1−16323
CdS, current noise spectra, acoustoelectric displacement and current fluctuations 1−52612
GaAs, conductance oscillations in two-dimens. transport in impurity band 1−7631
n-GaAs, epitaxial, current instability and microwave transmission oscillations, transverse mag. field 1−20891
Si, current instability at high temp. thermal breakdown 1−20755

current measurement, electric *see electric current measurement*

current-mode logic *see emitter-coupled logic*

current transformers
see also electric current control; electric current measurement
AF current transformer capacitive error elimination 1−28032
ammeter frequency range extension up to 100 MHz using current transformers 1−23263
compensated current comparator with automatically zeroing flux 1−28031
composite current transformer with self-calibration uncertainty of 1×10^{-9} 1−36619
national current ratio standard 1−36618
sound propagation anal. *(Czech)* 1−41915

current transients *see transients*

currents algebra *see current algebra*

curvature measurement
aspheric surface testing using modified zone-plate interferometer 1−10011
computer generated holograms for aspheric testing 1−19299
concave optical surfaces, long radius, differential technique for accurate radius of curvature meas. 1−29414
contact aspherometer, instrum. description 1−11193
interferometer, Inters lateral shearing, large optical component surface shape inspection 1−10013
linearity measurement control, taut wire system, highly accurate true curve or straightness standard 1−23173
optical surface testing, automated methods 1−11192

curvature of field *see aberrations*

curve fitting
anisole, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
chlorobenzene, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
deconvolution, spline-based method for scatt., spectroscopy 1−32964
Fabry-Perot interferometry, temp. evaluation from spectral line breadth, computer appl. 1−332
function fitting to measured points, appl. to spectra 1−49934
guaiacol, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
linear least-squares data fitting, Householder reflection program package 1−30491
particle backscattering spectra, shape anal. by convolution 1−28831
phenol, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
plasma diagnostics, Abel's inversion modification 1−15657
two-component decay curve fitting, noniterative linearisation technique 1−28419

cutting
see also machine tools; machining
mechanised plasma cutting, accuracy 1−42218
metal, computer-aided programming of machining parameters 1−39342
optical fibre 1−11211
plasma, heat transfer and pressure dependency 1−15660
self-induced vibration workpiece material parameters 1−14026
sintered carbide cutting tools, new developments *(French)* 1−39468
steel, cutting effect on surface deform. 1−53344
steel bars and strips, profile deviation of cut surfaces produced by high-speed cutting *(German)* 1−35498
TIG arcs stability obs., operating on Cu anodes at up to 14.8 atmospheres 1−15720
tools, automatic wear compensation *(French)* 1−39470
$AlPO_4$, crystal growth, solubility and perfection study 1−16676
BN cutting tools, struct. changes caused by shock compression and sintered compact 1−35226

cutting continued
Cu, polycrystalline and single crystal, cutting effect on surface deform. 1−53344
Na_2O-CaO-SiO_2 float glass, deform. associated with scoring with disc cutter 1−39370
Ni-Al_2O_3 cermet development, optimisation of cutting tool parameters 1−39469
Ti, polycrystalline, cutting effect on surface deform. 1−53344
TiN coating, reactively sputtered, tribological appls. 1−31683
W, single crystal, cutting effect on surface deform. 1−53344

CVD *see chemical vapour deposition*

CVD coatings
corrosion and wear resistant, exploitation 1−53365
glass, coating by CVD 1−53101
hard coatings produced by CVD on steel, ESCA investig. *(German)* 1−21831
low-Z refractory coatings, for fusion reactor limiters 1−23849
metal oxide thin layer deposited on glass by Pyrosol process 1−53103
optical fibre refractive index profile plotter 1−41868
phosphosilicate glass CVD film on Si substrate, stress temp. depend. 1−2660
solar absorber appls. 1−13175
AlN CVD film on sapphire, SAW, high freq. and low dispersion charcts. 1−47350
AlN/Si MIS struct., elec. charcts., interface states 1−47747
B coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
B thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
B_2O_3-SiO_2 glass films, modified CVD and RF plasma deposited, comp. profile, SIMS meas. 1−30602
n-dS/p-InP heterojunction solar cells, CVD growth, multilayer growth apparatus 1−31358
$(GaAs)_x(ZnSe)_{1-x}$ solid solns., electrophys. props., prep. method depend. 1−42769
$Mg_{0.9}Mn_{0.3}Fe_{1.8}O_4$ epitaxial films, rotatable mag. anisotropy and mag. domain struct. 1−7911
Mo, black CVD coatings for solar collectors, deposition by pyrolytic H_2 reduction of MoO_2Cl_2 1−13173
Mo, CVD on graphite, struct., annealing effects 1−12668
Mo CVD thin films for high-power laser mirrors 1−37588
Mo thin film, highly reflecting, high solar absorptance 1−12594
Mo-Re CVD layer, with and without W CVD coating, H_2 permeability 1−11916
Nb_3Ge film, highest possible T_c and surface flux entrant field obs. *(Korean)* 1−12246
Nb_3Ge film, superconducting transition, homogeneity investig. 1−52681
Nb_3Ge tape superconductors with high current density at high temp. and field 1−52678
Ni, black, solar collector selective coatings, photothermal perform. 1−21912
Re CVD layer, with and without W CVD coating, H_2 permeability 1−11916
Si, amorphous, elec. and optical props. and localised state density *(Japanese)* 1−20608
Si, amorphous film, CVD prep., rel. to electronic props. *(Japanese)* 1−43271
A-Si, CVD coatings, H^+ implantation, effect on photoconductive response and doping efficiency 1−4192
Si CVD film, polycryst., on SiO_2, lateral epitaxial growth by scanning CW Ar laser annealing 1−52451
Si, CVD polycryst. films on (100) Si, epitaxial alignment 1−16197
Si film, amorphous, electroabsorption spectra 1−21171
Si films, low-press. CVD, optical props. meas., 3.0 to 6.0 eV 1−48178
Si on sapphire, epitaxial layer, recrystn. after CW laser irrad., implanted film rel. to CVD 1−38678
Si, polycryst. gate, low press. CVD on thin oxide, stability, elec. props. 1−34798
Si, polycryst. layers for solar cell appls., depsotion and props. 1−4179
Si, polycrystalline, photocond. and absorption coeff. after plasma hydrogen annealing 1−38809
Si, semi-insulating polycrystalline CO_2 CVD films charcts. 1−12214
Si:As polycryst. film, sheet resist. reduction by laser irrad., implantation dose and laser wavelength effects 1−52670
Si:B, polycrystalline, CVD-prepared, resistivity changes caused by thermal annealing 1−30854
Si:B(P), amorphous CVD films, ESR study, doping effects on localised states 1−47931
Si:B(P) CVD amorphous films, heavily doped, ESR study 1−52828
Si:P CVD films, amorphous, doping effects, light-induced ESR study 1−52827
Si:P(B)(As), dopant segregation, Hall and resist. meas. 1−38401
Si-SiO_2 interfaces, oxide uniformity determ. by XPS spectra intensity anal. 1−13061
SiC coatings, review of CVD conditions 1−31361
SiC, controlled nucleation thermochemically deposited, friction and erosive wear 1−16903
Si_3N_4, CVD, amorphous and crystalline, oxidation 1550 to 1650 degrees C 1−3952
Si_3N_4 CVD coatings as contact materials for molten Si 1−3604
Si_3N_4, CVD deposited, friction and erosive wear 1−16903
Si_3N_4 film, low press. CVD grown, stoichiometry and masking ability against As diffusion 1−20457
Si_3N_4 film, pyrolytic, prep. on graphite substrate, thermal props. 1−43266
Si_3N_4 films, elec. and mech. props. meas. 1−12217
Si_3N_4 plasma CVD film as preferential diffusion mask for InP avalanche photodiode 1−25589
Si_3N_4, Si-rich CVD films, TEM and XPS study 1−30581
Si_3N_4/SiO_2 composite CVD films, pattern etching in HF/glycerol mixtures 1−31694
Si_3N_4-SiO_2-Si_3N_4 stacked insulators, dual-injector MIM and MIS structures 1−25808
SiO_2 encapsulation film for InP:S ion implantation and annealing 1−38396
SiO_2, Si-rich CVD films, TEM and XPS study 1−30581
SiO_2:P film, P conc., AES study, electron and ion beam effects 1−34366
SnO_2/n^+-pSi heteroface solar cell fabrication using paint-on diffusant methods 1−4187
n-SnO_2-n-Ge, heterojunction diodes, minority-carrier injection 1−42850
Ti-B-Cl-H CVD system, phase diagram calc., 800-1200K 1−35244

CVD coatings continued
TiB_2, CVD films, surface composition and erosion yields subjected to D^+ bombardment 1−26334
TiB_2 coated limiters in tokamak fusion devices 1−18891
TiB_2 coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
TiB_2 coatings, sputtering under D^+ and $^4He^+$ ion bombard. 1−21321
TiB_2, limiter coating for ISX-B Tokamak, testing 1−23848
TiB_2 on graphite, outgassing characts. 1−30557
TiB_2 thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
TiC coated limiters in tokamak fusion devices 1−18891
TiC coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
TiC, coatings on stainless steel, Inconel 600 and Mo, prod. and testing 1−26662
TiC limiter coating for ISX-B Tokamak, testing 1−23848
TiC on graphite, outgassing characts. 1−30557
TiC thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
VO_2, polycrystalline films, electron diffr. to control phase composition 1−34601
V_2O_3, polycrystalline films, electron diffr. to control phase composition 1−34601
V_3O_5, polycrystalline films, electron diffr. to control phase composition 1−34601
W coating texture and morphology control during deposition by transport reaction method *(Russian)* 1−16699
W, on Mo, struct., defects and mech. props. 1−38688
W-C alloy, controlled nucleation thermochemically deposited, friction and erosive wear 1−16903
ZnS_xSe_{1-x} epitaxial layers on GaAs(Ge), organometallic CVD growth, photoluminesc. and heterojunction props. 1−48151
ZrC, CVD within spouted bed by bromide process 1−53098
ZrC-C system, CVD prepared, elec. resist., and temp. depend. 1−47759
ZrO_2/Y_2O_3 thin film solid electrolyte prep. on porous support struct., for high temp. electrolysis 1−43678

CVD epitaxial growth *see vapour phase epitaxial growth*

CVD thin films *see CVD coatings*

cyanogen, C_2N_2 *see carbon compounds*

cyclopentadienylides *see organometallic compounds*

cyclotron resonance
for ion cyclotron resonance spectroscopy see mass spectroscopy; for ion cyclotron resonance heating see plasma heating
see also diamagnetism; dopplerons
compound semiconductors, electron transport, book 1−32813
EM oscillations propagating across inhomogeneous mag. field. electron cyclotron reson. *(Russian)* 1−38107
geomagnetospheric coherent cyclotron resonance, noise effects 1−9330
JIPP T-II torus, electron cyclotron preionisation and heating 1−46902
linewidth mag. field depend. for acoustic phonons 1−52846
metal plate, radiowave propagation in perpendicular mag. field *(Russian)* 1−43016
plasma injection and capture at electron cyclotron resonance in a mirror system with additional RF fields 1−25049
relativistic maser theory at cyclotron self-resonance with counter wave 1−15134
semiconductor, cyclotron reson. in intense microwave fields 1−47954
semiconductor, cyclotron resonance linewidth at low temp., acoustic phonon scatt. contrib., calc. 1−31031
semiconductors, narrow band gap, cyclotron and combined resonance line profiles in strong mag. field 1−43015
toroidal current generation by lower hybrid waves in a WT-1 device 1−38089
toroidal plasma heating, Japanese research 1−46901
Wigner crystal, two-dimensional electrons, cyclotron reson. 1−7950
Be, Fermi surface cross-sections, doppler-shifted acoustic cyclotron reson. 1−25615
Bi film, cyclotron resonance at optical freq. in superstrong mag. field *(Russian)* 1−26041
Bi, phonon-subband exciton interaction, magneto-far IR studies 1−30641
$Bi_{1-x}Sb_x$, cyclotron mass of cond. band near semimetal-semicond. transition, expt. 1−16218
$Bi_{1-x}Sb_x$ cyclotron reson., helicon wave contrib., Fermi surface anisotropy effects 1−34612
CdTe, optical detection of cyclotron reson. via band-gap luminesc. 1−31030
Cu_2O, nonparabolicity of the Γ_7^+ valence band 1−16231
n-GaAs, cyclotron-resonance-induced cond., carrier mobility and relax. time 1−3263
GaAs, optical detection of cyclotron reson. via band-gap luminesc. 1−31030
GaAs-AlGaAs heterostructure superlattices, far IR emission of 2D electron gas 1−52941
Ge, electron-hole drops, free excitons, free carriers, magnetoplasma resonance study 1−20638
He, liq., cyclotron reson. linewidth of electrons localised above surface *(Russian)* 1−30518
He, liq., surface states, cyclotron reson. of electrons and two-dimens. character 1−7418
^4He, liq., surface, cyclotron reson. lineshapes under hot electron conditions 1−7419
InAs-GaSb semimetallic superlattices, far IR magnetoabsorpt. and cyclotron reson. 1−31131
InAs-GaSb superlattice, IR magnetoabsorption and luminescence study 1−52920
InSb, cyclotron-phonon resonance, line width investigation 1−3265
n-InSb, phonon-assisted cyclotron reson. linewidth 1−47953
InSe, Shubnikov-de Haas oscill., cyclotron resonance 1−47684
Pd, Fermi surface and many-body enhancement 1−42676
Si (001) MOSFET, cyclotron reson. of electron inversion layers 1−3264
Si (100) inversion layers, cyclotron reson. lineshape under uniaxial stress 1−12207
Si, IR spectroscopy of quasi-two-dimensional space charge layers 1−48065
Si, intersubband-cyclotron combined resonance in a surface space-charge layer 1−52845
Si inversion layers, intervalley electron-electron coupling effect on cyclotron reson. lineshape 1−12206

cyclotron resonance continued
Si MOSFET inversion layers, high mag. field expts., valley degeneracy 1−7756
Si MOSFET inversion layers, high-index surfaces, far IR study 1−12208
$Si-SiO_2$ interface, collective ground state in inversion layers in extreme quantum limit 1−12195
$Si-SiO_2$ MOS capacitor, (100) inversion layers, uniaxial stress effect on cyclotron reson. 1−12203
$Si-SiO_2$ MOSFET, submm. laser cyclotron reson. of inversion layers at low electron densities 1−12194
W, ballistic and wave-type EM excitations, Doppler shifted cyclotron resonance *(Russian)* 1−43014

cyclotrons
see also microtrons; synchrocyclotrons
baby, selfradiation shielding *(Japanese)* 1−6064
Chicago Cyclotron supercond. magnet, energy efficient, design and optimisation 1−45760
cryopump, 20K, with high conductance baffle design 1−40808
electron cyclotron pulse gyroklystron power supply 1−6065
heavy-ion cyclotron magnet, coupled supercond. coils, independ. current control 1−45757
kaon-neutron generation by ring cyclotron 1−28765
Kyoto University, field stability improvement 1−14709
Kyoto University, with supercond. coil, mag. field trimming effect of saturated ferromag. rods 1−14710
Kyoto University, with supercond. coil, model expts. for RF struct. 1−14708
metal ion sources, multiply charged, for cyclotrons 1−23902
Princeton, microprogramming appl. to nuclear physics data acquisition 1−1049
recirculating electron accelerator, regenerative beam breakup optimal control 1−10572
superconducting coil, resistive displacement transducer for cryogenic environment 1−14711
superconducting cyclotron, fields calc. assuming uniform magnetisation of pole tips 1−10559
superconducting cyclotron magnet cryostat, leak detection using liq. He 1−23897
TRIUMF, low energy π-μ channel 1−37041
$^3H^{3+}$, acceleration using compact cyclotron 1−28757

Czochralski method *see crystal growth from melt*

D-layer *see D-region*

D mesons
decay, hadronic, of D^+ and D^0, lifetimes 1−10200
decay, hadronic, weak, evolution equations for heavy flavour mesons 1−40988
decay, nonleptonic weak decay rate of explicitly flavoured heavy mesons 1−40989
decay modes, branching ratios 1−50450
decays, $\Gamma(D^0 \to K^+K^-)/\Gamma(D^0 \to \pi^+\pi^-)$ *(Chinese)* 1−45272
f_V and f_{PS} QCD based pot. model estimates, D and F lifetimes 1−14376
lifetime, D^0 Cabibbo-suppressed decay, massive quark model 1−14373
mass differences, potential model with vacuum polarisation corrections 1−10180
mass in terms of quark mass ratios and weak-decay constants 1−10139
neutrino induced dimuons, D-mesons, results from CERN Gargamelle expt. 1−10193
nonleptonic decay, theoretical results 1−45203
nonleptonic decays, soft gluon effects 1−50420
produced in $\pi^-p \to K^0K^\pm\pi^\mp\bar{X}$, $K^0K^+K^-\bar{X}$ 1−10266
production in $\bar{\nu}_\mu N$ interactions charged current events 1−40980
QCD predictions, experimental verification and PETRA 1−14363
spin and parity, studied in 6-body channel $\bar{p}p \to KK\pi\omega$ 1−23512
$D \to K^-K^+(\pi^-\pi^+)$, Cabibbo suppressed decay, SPEAR Mark II results 1−10208
$D \to K^0$, decay, partial width, CP violation effect *(Russian)* 1−45273
$D \to K\pi$, decay amplitudes, 20-dominance model for charm decays 1−551
D^0 meson decay lifetime 1−45269
D^0 production, associated charm particle photoproduction in nuclear emulsion 1−50583
D^+, D^0, exclusive and inclusive nonleptonic decays, quark decay model 1−14375
D^+, D^0 nonleptonic weak decays, quark number selection rule 1−10204
D^+, D^0 semileptonic branching ratio energy depend. 1−542
D^+ meson decay lifetime 1−45269
$D^\pm$ multiprong decay lifetime from neutrino and antineutrino interactions 1−546
$D^0 \rightleftarrows \bar{D}^0$, transition amplitude in MIT bag model 1−33162
D^+D^0 hadronic decays, 20-plet dominance 1−10206
e^+e^-, $D\bar{D}$, $D^*\bar{D}$, $\bar{D}^*D$ and $D^*\bar{D}^*$, prod. and ang. distribs. at 4.028 GeV resonance 1−33195
$e^+e^- \to$charmed mesons, decay, branching ratios 1−45322
$\gamma N \to \Lambda_c^+\bar{D}^0$, charmed pair prod. in nuclear emulsion 1−45317
γp, D*(2010) prod., QCD and statistical model study 1−45319
$\gamma p \to DX$, prod. cross-sections 1−45316
$hh \to DX$, charm prod. cross-section 1−45363
$N \to DX$, prod. cross-sections 1−45316
NN, D meson prod., charm search anals., differential cross sections 1−10282
νN, Λ_c^+, D^+ and D^0 charm particle lifetimes 1−10199
pN, 400 GeV, prompt neutrino flux, D meson prod. cross section 1−14431
pN, 400 GeV/c, prompt ν prod. from D mesons 1−14432
pp, D*(2010) prod., QCD and statistical model study 1−45319
$pp \to D\bar{D}X$, 63 GeV, charm particle prod. cross sections 1−50475
$pp \to \bar{D}\Lambda_cX$, 63 GeV, charm particle prod. cross sections 1−50475
$\pi^-p \to K^0K^+K^-X$, 50 and 100 GeV, multikaon final state enhancements, D and E meson obs. 1−45364
$\pi^-p \to K^0K^\pm\pi^\mp X$, 50 and 100 GeV, multikaon final state enhancements, D and E meson obs. 1−45364
$Q\bar{q}$ atomlike mesons, Dirac eqn. with confining, pot., D, F, ψ, Υ appl. 1−18442
D^{*+}, D^{*0} radiative widths from effective quark mass 1−14386

D-region
configuration of lower mesosphere and D-region 1−40263
electron densities during auroral absorpt. spike events, incoherent scatter radar obs. 1−27333
electron density, model profile for noontime equatorial lower ionosphere 1−13628
electron loss coeffs. at 80 km, positive ion model 1−13638

D-region continued
ELF propagation in Earth-ionosphere transmission line, worldwide model 1−32576
incoherent EM wave scattering, theory 1−54182
negative ion chemistry, signal flow graph theory 1−9315
nighttime electron density, ionisation by corpuscular streams 1−27329
partial reflection expt., full polarization meas. 1−40264
partial reflection results in auroral D-region, explanation in terms of acoustic waves 1−27334
refractive index to HF waves, Sen-Wyller formula 1−4698
removal of meteor derived Si^+, rate consts. 1−44388
solar eclipse caused ionis. depletion, VLF propag. study 1−32573
VLF waves propagation at low latits., lower ionosphere effects 1−13629
O allotrope concs. and electron density in nighttime D-region 1−40260
D/A conversion *see digital-analogue conversion*
damage, radiation *see radiation effects*
damming *see dams*
damping
see also dislocation damping; internal friction
acoustic wave damping in lightweight partitions for improvement of sound insulation *(German)* 1−1773
circular plate vibrating in axisymmetric mode, constrained viscoelastic layer damping for partial coverage *(Japanese)* 1−6824
concrete, effect of stress, frequency, curing mix, and age 1−48406
coupled van der Pol oscillators, quenching 1−23003
dynamic vibration absorber, transient behaviour for linear freq. rise 1−46693
expansion formulas in nonequilibrium statistical mechanics 1−156
ferromagnetic metal, microwave transmission, ferromag. antiresonance 1−7952
gravity waves in solar atmosphere, radiative damping 1−40459
headphones DT 48, damping and acoustic sealing effects *(German)* 1−46646
highway noise barriers, steel, cost using vibration damping material 1−1767
Homalite 100, energy loss during crack propag. and arrest 1−38440
Landau damping of interstellar plasma waves, rel. to interstellar medium small-scale irregularities *(Russian)* 1−4966
materials for noise and vibration control 1−15324
measurement during vibration with non-zero mean strain 1−33938
poly(acrylic acid)-Al_2O_3 composites, dynamic mech. props. 1−35293
precipitation, numerical calc. rel. to particle geometry *(German)* 1−53178
primary system, effect on optimum design of untuned viscous dynamic vibration absorber 1−37837
rectangular cylinders in torsional mode, aeroelastic instability due to transverse wind 1−24730
rods, homogeneous and composite, damping-coated, two frequency resonance oscillations, analytic soln. *(Russian)* 1−15433
satellites, magnetic stabilization, analysis and design 1−27356
Saturn inner satellites, tidal dissipation rel. to orbital evolution and icy or rocky nature 1−4818
specific damping capacity of beams in flexure 1−37860
steel, low C, internal damping and defect of elasticity modulus, effect of cyclic straining *(Slovak)* 1−48487
steel, Ni-Cr, cyclic tension-compression tests, temp. effect on damping 1−31625
stochastic systems, effect of nonlinear damping on probability characts. 1−44841
structure borne sound, damping by viscosity of fluid layer between plates *(German)* 1−11213
Timoshenko curved beam with internal damping, steady state out-of-plane response 1−1868
tube vibration, damping by vibration absorbing coatings 1−37685
tubes, damping by constrained coating 1−37686
vector plots of lightly damped systems, distortion effects of Coulomb damping 1−11342
velocity-squared fluid damping, determination by resonant structural testing 1−19612
vibrating frames, optimum distrib. of additive damping 1−19624
vibrating systems, modelling of Coulomb damping and wear 1−48526
vibration absorber, auxiliary mass throw 1−6817
Ag-Hg-Sn dental alloy, Young's modulus and mech. damping 1−31515
Cu-Mn-Al (42, 2 wt.%), cold-rolled sheet, anisotropy of damping capacity *(Japanese)* 1−42446
Fe, cast, with different shapes of graphite inclusions, damping capacity 1−42461
^{3}He-^{4}He mixtures, acoustic and thermal transport props. near superfluid transition 1−47316
^{4}He, acoustic and thermal transport props. near superfluid transition 1−47316
MgO crystal, acoustic damping surface construction from meas. along one direction 1−42456
Ni, microwave transmission, ferromag. antiresonance 1−7952
dams
see also civil engineering; hydroelectric power stations
Charvak Reservoir, Tashkent, USSR, geomag. vars. due to filling 1−22364
Clark Hill Reservoir Area, Southeastern USA, microearthquake spectra and source mechanism 1−32352
Jocassee Reservoir Area, Southeastern USA, microearthquake spectra and source mechanism 1−32352
pumped-storage plant, Wivenhoe, Australia, mid-construction report 1−43737
rivers of Siberia, thermal flow regimes and dam construction influences *(Russian)* 1−4549
seismicity due to reservoir filling, stress anal. theory 1−4455
dark space *see discharges (electric)*
data acquisition
see also CAMAC; data handling; indicators; recorders
6800 microprocessor controlled system with 8 BIOMATION 8100 transient recorders 1−23197
AES, microcomputer applic., data acquisition system *(Japanese)* 1−53513
air-sea interaction, Satellite Data Acquisition System (SATDAS) using satellite telemetry 1−54249
analogue data collection system, eight inputs, use of A/D convertor, multiplexer and binary counter *(German)* 1−44891
Candu nuclear plants, computers for reactor instrumentation and control, development trends 1−876
coherent spectroscopy, apparatus for bulk or surface polariton studies 1−40871
data acquisition continued
construction and operation of data collection systems *(German)* 1−18205
cosmic ray data acquisition and processing by Nairi-2 computer 1−4778
data acquisition for signal analysis, book 1−9776
data reception-organising electronics for small angle proton scatt. expts. 1−37076
digital data acquisition principles 1−32966
discrete particle laser Doppler anemometry data processing 1−29815
Doublet III, real-time diagnostic data acquisition processing and archiving 1−6006
fluorescence spectra, laser-induced, enhancement using Rockwell AIM-65 microcomputer data acquisition and control system 1−14106
gait examination in clinical routine, microcomputer implementation 1−32280
geophysical acoustic logging data, device for recording, reproduction and entry in computer *(Russian)* 1−27280
homogeneous data acquisition systems *(French)* 1−32965
interfacing to PDP 11 for on-line analysis 1−27940
interval timer, high-resolution, and buffered storage system for neurophysiological expts. 1−13368
ion microscopy, direct digitisation for quantification 1−53488
ionisation chamber, multidimensional correlation amplitude analysis using IZOT-0310 minicomputer *(Ukrainian)* 1−24008
irradiated/fuel pin data acquisition and control for gamma scanning nuclear 1−23840
laboratory instrumentation, computerisation 1−44890
mass spectral data, computer controlled peak top search procedure 1−28120
materials testing, constant stress compression creep apparatus, computer controlled data acquisition system 1−12948
microprocessor based data acquisition and reduction system for mass spectrometric densitometry 1−50187
microprocessor system for automated sensory irritation studies 1−32295
microprocessor-based multi-mode multi-channel averager 1−27939
Mirror Fusion Test Facility, supervisory control and diagnostics system, distributed operating system 1−10531
Mirror Fusion Test Facility, supervisory control and diagnostic system 1−10532
nuclear research reactors, data acquisition system, distributed terminal support 1−50919
nuclear scattering radiography using 1 GeV proton beams 1−43997
PET minicomputer appl. to data recording and analysis 1−40764
photo-electronic radiology, digital acquisition system 1−43972
physical experiments, instruments for automatic measurement, data acquisition and reduction 1−18204
physiological data recording/decoding system 1−4378
PROPICE, application independent NIM front-end processor 1−24006
quadrupole SIMS instrument, computer based instrument control and data acquisition 1−28121
radio data collection system applied to landslide areas 1−36078
REDNET, a distributed data acquisition system for nuclear research reactors 1−50896
seismic signal processor for use with NOAA/GOES satellite data collection system 1−54250
strain gauge automatic data acquisition system using DC potentials for meas. of forces in transportation 1−5305
thermocouple temperature signal acquisition and digitisation package, Burr-Brown MP32 1−5291
TV Thomson scattering plasma diagnostic, user-oriented data acquisition and control system 1−2249
two-channel digitising recorder for microsecond signals 1−40775
ZT-40 reversed field pinch, control and data acquisition system 1−6007
data communication equipment
see also computer peripheral equipment; telemetering equipment
links in automated control system for Ratan-600 radiotelescope *(Russian)* 1−49508
optical data transmission technology *(German)* 1−33826
optical fibre data highway multimode directional couplers 1−41878
two-wire line data transmission unit for CAMAC branches 1−40762
data communication systems
see also computer peripheral equipment
fibre optic components designs comparison, for digital, analogue and local data systems 1−11169
fibre-optic data transmission system characteristics and codes *(German)* 1−24528
geophysical data acquisition system on marine buoy 1−49398
National Weather Service, Advanced Data Control Procedures network implementation 1−40182
optical T-couplers for data transmission *(German)* 1−19473
remote sensing data handling and processing by microprocessor and computer methods *(French)* 1−49395
seismic signal processor for use with NOAA/GOES satellite data collection system 1−54250
data compression
see also information theory
semiconductor spectrometer data digital-window selection and compression device 1−996
data dictionaries *see database management systems*
data handling
see also data reduction and analysis
electron microprobe analysis, quantitative, data handling and correcting program *(Chinese)* 1−39697
EXOSAT spacecraft, onboard Data Handling Subsystem 1−49473
geophysical acoustic logging data, device for recording, reproduction and entry in computer *(Russian)* 1−27280
geophysics data base, system considerations 1−22497
multichannel analyser data output to tape puncher 1−1037
particle physics, experimental, on-line data handling *(Japanese)* 1−24007
plasma physics, 3-D EM particle simulation, SPLASH code and data management 1−7000
Mg atomic absorption analysis, automatic sample preparation and data handling 1−27941
data loggers
Candu nuclear plants, computers for reactor instrumentation and control, development trends 1−876
impulsive noise measurement 1−29450

data processing (administrative) *see administrative data processing*

data reduction and analysis
see also data acquisition
array data in the plane, spectral anal. and autoregressive modeling 1−36071
atmosphere, surface pressure time sequence in 4-D data assimilation 1−9225
autoregressive moving average spectral model of stationary time series 1−40220
cold worked holes, strain field meas. high res. grating photography, data processing and reduction 1−26711
deconvolution, spline-based method for scatt., spectroscopy 1−32964
dilatometric measurements 1−27917
earthquake seismic moment determ. technique using seismological bulletins 1−54288
eclipsing binary light curves, photometric anal. for VV Orionis 1−13765
eclipsing binary stars light curves analysis, Fourier techniques 1−13802
eclipsing binary stars light curves analysis, Fourier techniques 1−17866
Fabry-Perot interferometry, temp. evaluation from spectral line breadth, computer appl. 1−332
four-dimensional data assimilation problem in weather analysis 1−9226
geomagnetic anomalies analysis, content and significance of mathematical models *(Rumanian)* 1−44338
geomagnetic data, determ. of harmonic coeffs. of solar and lunar daily vars. 1−17559
geomagnetic data anal., effect of changes in interplanetary mag. field on reduction of data from polar cap 1−17558
geophysical data, multichannel, statistical charact., polarisation and coherence 1−36062
geophysical data interpretation, by correlation self-adjustment 1−54283
geophysical data interpretation by linear eqns. with rectangular matrices soln. 1−4634
geophysical gamma-ray logging of borehole, application of discrete Fourier transform 1−9268
geophysical Pb isotope data, diagrammatic representation methods 1−4626
geophysical sciences, appl. of exploratory data anal. techniques 1−36063
geophysical well logs obtained in elastic rocks, mathematical models for computer processing *(Rumanian)* 1−44306
gravity anomalies analysis, content and significance of mathematical models *(Rumanian)* 1−44338
high pressure documentation and data evaluation 1−27693
Hyperion, photographic obs. reduction rel. to orbital elements improvement 1−44489
ionosphere drifts data analysis, efficient method using full correl. anal. 1−27300
Landsat imagery, spatial postprocessing of spectrally classified data 1−40201
magnetotelluric data, interpretation for horizontally homogeneous media using impedance normalisation 1−44109
magnetotelluric sounding, interpretation procedure for transitional processes with sharp field var. 1−44108
meteorological mast data, appl. to atmospheric boundary layer charact. calc. 1−22469
microprocessor based data acquisition and reduction system for mass spectrometric densitometry 1−50187
microprocessor system for automated sensory irritation studies 1−32295
Mirror Fusion Test Facility, supervisory control and diagnostics system, distributed operating system 1−10531
Mirror Fusion Test Facility, supervisory control and diagnostic system 1−10532
Mirror Fusion Test Facility, supervisory control and diagnostic system hardware 1−10534
ocean wave radar method (synthetic aperture), data processing 1−49397
one-norm misfit measure statistical anal. 1−13598
palaeomagnetism, demagnetisation data, graphical methods for vector anal. 1−53978
photographic data management, photogrammetry of cine film 1−45062
physical experiments, instruments for automatic measurement, data acquisition and reduction 1−18204
rainfall daily records, interpolation of data from weather stations *(German)* 1−27304
remote sensing data, discriminant anal. rel to optimum spectral bands for rock types discrimination 1−44335
response curves anal. using singular-value decomposition *(Japanese)* 1−5093
road traffic noise, analysis of quantised level data 1−21958
rock fracture orientation mapping in deep mines photogrammetric data processing 1−22522
seismic data analysis, adaptive deconvolution appl. to nature of deep basement refls. on Wind River Line 1, Wyoming 1−22277
seismic data processing and interpretation, analytical signal appl. *(Rumanian)* 1−44340
seismic reflection sounding, data inversion methods 1−54008
seismic sections, migration using scalar wave eqn. *(Rumanian)* 1−44339
seismograms inversion, expression of deHoop-Knopoff representation theorem as linear inverse problem 1−17565
self setting filtration method, for computerised anal. 1−49407
signal processing by use of two-dimens. filters, incompletely specified signal case 1−5292
spark-source mass spectrometry, photoplate data reduction, in BASIC 1−14208
spectral analysis, resolving power of Burgs max. entropy method 1−246
statistical reduction method, appl. to large scale distribution of extragalactic objects 1−9693
stellar kinematic data, velocity variance anal. for stellar age and mass determ. 1−36264
stellar spectral classification, contrib. of data processing techniques to future developments 1−54398
stellar spectroscopy, automatic MK spectral classification for early type stars 1−54397
stellar spectroscopy, two dimensional spectral classification using computer 1−49533
TDPAC experiments, data reduction methodology 1−34960
troposphere temperature by ground-based IR radiometry, data inversion method 1−54279
TV Thomson scattering plasma diagnostic, user-oriented data acquisition and control system 1−2249
Wollaston prism schlieren interferometry for axisymmetric flow fields 1−51884

data reduction and analysis continued
X-ray diffr., quantitative powder phase anal., optimal degrees of automation 1−29996
ZT-40 reversed field pinch, control and data acquisition system 1−6007

data structures
manipulation and display of molecular structures 1−19205

data tables *see collections of physical data*

data transmission equipment *see data communication equipment*

data transmission systems *see data communication systems*

database management systems
energy resources, development of computerized data bases and matrix generators for energy models 1−39720
geophysics data base, system considerations 1−22497

dating, Earth *see geochronology*

dating, radioactive *see radioactive dating*

Davydov splitting
anthracene single cryst., triplet states, phosphoresc. and delayed fluoresc. mag. reson. 1−31063
vibrational levels in crystals, intermol. pot. contribs. 1−15966
GaTe, Raman scatt. press. effects 1−8073

Davydov states *see Davydov splitting*

dawn *see twilight*

dawn chorus *see atmospherics*

dayglow *see airglow*

d.c. generators
Van de Graaff generator 30 MV using 150 tonne SF_6, design and construction 1−10557

d.c. motors
induction-type, unipolar, armature toothed zone geometry effect on operating efficiency *(Russian)* 1−33595
PM stepping motor for the autoscanning densitometer 1−5428
position drive regulators optimised setting for arcing under brushes minimisation *(Russian)* 1−34137

d.c. sputtering
Langmuir probe appl. in sputtering techniques 1−39238
metal coating of optical fibres by magnetron sputtering 1−15296
negative ion beam extraction from inverted sputter source, improvement 1−23917
planar magnetron and HT sputtering systems, substrate floating potential characteristic obs. 1−6938
radioactive ion implantation by d.c. sputtering technique, design, construction and performance of device 1−21348
technique for applying metal coatings on substrate *(Italian)* 1−35175
Al magnetron sputtering target, surface oxidation kinetics in Ar/O_2 mixture 1−16687
$^{19}F^-$ from solid sputter source cones without spraying gases 1−23919
In-Sn magnetron sputtering target, surface oxidation kinetics in Ar/O_2 mixture 1−16687
$^{16}O^-$ from solid sputter source cones without spraying gases 1−23919
$Si-SiO_2$ structure, defects introduced by sputter metallisation 1−30838
SnO_2:Sb thin film, DC sputtering process characterization and problems 1−31344
$TaSi_2$ films, DC sputtering prep., struct. and elec. props., oxidation behaviour 1−47406
TiC, solar slective absorber, reactively sputtered, struct. 1−11992
Ti_5Si_3, solar slective absorber, reactively sputtered, struct. 1−11992
ZnO, thick piezoelec. films, high rate deposition by reactive magnetron sputtering 1−16683

DDC *see direct digital control*

de Haas-van Alphen effect
see also diamagnetic properties of substances; diamagnetism
graphite intercalation compound with AsF_5, magneto-oscillations 1−38763
graphite intercalation compounds with AsF_5, HNO_3 and Rb, de Haas-van Alphen effect 1−42677
graphite intercalation compounds with HNO_3, $HFSO_3$, Br, Li, KHg, quantum oscillatory effects 1−42678
metal, Fermi surface local geometry 1−12020
metal, isotropic, low-temperature de Haas-van Alphen effect, electron liquid theory 1−34611
$C_{16}(NO_3H)$, Fermi surface and band struct. 1−47437
$CeSn_3$, mixed-valence, Fermi surface meas. 1−42674
Cr, antiferromagnetic, Fermi surface and spin density wave Q-vector, vol. depend. 1−25614
Hg, de Haas-van Alphen effect, influence of electron-phonon interaction 1−25612
NiSi, de Haas-van Alphen effect and LMTO band struct. 1−7512
Pd, Fermi surface and many-body enhancement 1−42676
PdH, band struct., APW calc. 1−38717
TiB_2, de Haas-Van Alphen effect 1−34610
$TiBe_2$, de Haas-van Alphen oscills. 1−16225

Debye-Huckel theory
2.4 MHz US effect on cond. of metal nitrate and sulphate aq. electrolytes 1−38569
concentrated electrolytes, thermodynamics, long-range forces effects 1−53435
electric double layer, stat. theory, series expansion in powers of density 1−21731
electrolyte solution, spherical double layer interaction 1−35539
exchange and correlation potentials for finite temperature quantum calculations at intermediate degeneracies 1−42708
ionic crystal, melting theory, correl. with defect energies and fast ion cond. 1−25410
ionic liquid, equil. with mol. vapour and boiling 1−30371
polyampholytes, phase change from extended random flight config. to condensed microphase 1−38227
rigid particles, arbitrary elect. struct., Debye-Huckel theory 1−12445

Debye-Scherrer cameras *see cameras; X-ray crystallography apparatus*

Debye temperature
see also specific heat
alkali halides, lattice dynamics calcs., phonon dispersion, specific heat, Raman and IR spectra 1−47188
alkali halides of NaCl-types, phonon distrib. function and Debye temp. 1−52247
cryogenic liquids, Debye temp. and psuedo-Gruneisen parameter, viscous flow mechanism 1−42497
degenerate centre-phonon interactions *(Russian)* 1−30340
Einstein and Debye models of lattice vibr., correlation for Mossbauer fraction 1−52253

Debye temperature continued
equation of state calc. from zero temp. isotherms, quantum corrections 1−34454
Lennard-Jones fluids, thermodynamic props., quantum mech. effects 1−52036
metals, Debye-Waller factor in molecular beam scatt. expts. 1−7283
metals, hot electrons at low temp. 1−30845
nichrome, sheet, sp. ht. 2-30K 1−42546
orthorhombic crystals, bulk and shear moduli and Debye temperatures, calc. 1−20296
semiconductors, tetrahedrally bonded, Debye temperature from elastic consts., HBT method weighting coeffs. 1−34449
solar cells, effect of Debye temp. on saturation current 1−17201
specific heat and entropy 1−7347
transitional metallic glasses, elastic consts., semiquantitative theory 1−34394
AgCl-AgBr solid soln., Debye temp. 1−20345
Am, thermodynamic functions, specific heat, 15 to 300K 1−30415
β-B, thermal and elastic props. meas. 1−20426
$Ba^{2+}Fe_2^{2+}Fe_{16}^{3+}O_{27}^{2-}$ W-hexaferrites, preferred Fe^{2+} sites, Mossbauer effect obs., Debye and Neel temps. determ. 1−31065
BeO thin film, preparation, optical and thermal props. 1−16206
$Bi_4(GeO_4)_3$, cryst., thermal props., Debye temp. and Gruneisen coeffs. 1−38558
$Bi_4(SiO_4)_3$, cryst., thermal props., Debye temp. and Gruneisen coeffs. 1−38558
β-$Ca_{0.17}V_2O_5$, specific heat and entropy 1−7347
$Cd_{1-x}Hg_xTe$, Debye temp. and thermal expansion temp. depend. *(Russian)* 1−2583
CdS(Se), anisotropy of charact. temps., mean squared displacements and thermal expansion coeffs. 1−11834
CdTe and ZnTe-CdTe solid solns., RHS displacements of Te atoms, effective Debye temps. 1−21101
CsCl, ionic lattice dynamical behaviour study 1−25386
Cu, low energy ion scatt., correlated atomic vibrs. effect 1−8180
Cu polycrystal US velocity and elastic constant averaging 1−7264
$Cu_{57}Zr_{43}$, amorphous, vibr. states calc. and elastic consts. determ. 1−20343
Dy_2Sb_3, thermal expansion coeff. determ. 1−16070
EuSe, Debye-Waller factors and Debye temp. determ. at room temp. 1−47203
Fe-Ni(Pd)(Pt) Invar alloys, mag. and thermal anomalies 1−42949
FeCo, high-temp. phase transition, kinetic props. 1−30382
Gd_2Sb_3, thermal expansion coeff. determ. 1−16070
H_2, liquid, equation of state, Debye temp., isotope effects, quantum corrections 1−34457
Hg double layers, frequency and conc. depend. of capacitance 1−48003
HgTe, RHS displacements of Te atoms, effective Debye temps. 1−21101
Ho_2Sb_3, thermal expansion coeff. determ. 1−16070
InP, radioactive ^{119}In and ^{119}Sb implantation, radiogenic Sn defects, Mossbauer study 1−47102
KBr (Cl), LEED, temp. depend., Debye temp. determ. 1−25397
KCl-KBr mixed system, Debye temp., temp. depend. 1−47200
KCl-KBr solid soln., Debye temp. 1−20345
$KHgC_4(C_8)$ intercalation cpd., synthesis and low temp. sp. ht. 1−38554
$K_{0.27}V_2O_5$ bronze, sp. ht., entropy and Debye temp., 25-300K 1−38548
$LaNi_{5-x}Cu_x$ Haucke cpd., low temp. heat capacity and H_2 absorpt. 1−30417
La_2S_4-La_2S_3 system, supercond. and normal state props., lattice instability effects 1−38882
$LaSn_3$, lattice dynamics, inelastic neutron scatt. study 1−52244
LiC_{12} lamellar cpd., sp. ht. and mag. susceptibility 1−42550
LiF, containing dislocations, thermal cond., thermal diffusivity and sp. ht. meas. 1−7401
LiF, dislocation containing crysts., low temp. thermal props. 1−20488
LiF, lattice dynamics, 7-parameter bond-bending force model 1−34436
$Li_{0.27}V_2O_5$ bronze, sp. ht., entropy and Debye temp., 25-300K 1−38548
$Li_{0.2}WO_3$, low temp. heat capacity, Einstein mode and charact. temp. 1−38550
$LuCo_2$, Pauli paramagnet, electronic specific heat in high mag. fields 1−7349
Mg_2Ni, Debye temp., nucl. reson. scatt. of gamma rays study 1−52252
$Mg_2NiH_4(D_4)$, Debye temp., nucl. reson. scatt. of gamma rays study 1−52252
MgO-FeO solid soln., Debye temp. 1−20345
$Mg_{70}Zn_{30}$ amorphous alloy, atomic and electronic struct., resist. and thermal props. 1−30085
N_2, solid, with O impurities, heat capacity anomalies *(Russian)* 1−2648
$[(NH_4)_2BeF_4]$, elastic constants determ. by X-ray thermal diffuse scattering 1−7224
NaBr, lattice dynamics, 7-parameter bond-bending force model 1−34437
NaCl, lattice dynamics, 7-parameter bond-bending force model 1−34436
NaCl single cryst., elastic props. up to 9 GPa and 293K 1−34397
NaCl structure, Debye temp. 1−20345
$NaClO_3$, X-ray Debye temp. 1−25395
NaI, lattice dynamics, 7-parameter bond-bending force model 1−34437
Na_2S, lattice dynamics, inelastic neutron scatt. study 1−11823
$Na_{0.27}V_2O_5$ bronze, sp. ht., entropy and Debye temp., 25-300K 1−38548
$Na_{0.33}WO_3$, low temp. heat capacity, Einstein mode and charact. temp. 1−38550
Nb, metallic, heat capacities, 80-1000K Debye temps. *(Japanese)* 1−38547
Nb-Rh(Ir), amorphous, supercond. props. 1−30869
Nb_3Sn, fast neutron irrad., specific heat near supercond. transition temp. 1−20915
Nd_2Sb_3, thermal expansion coeff. determ. 1−16070
$NiFe_2O_4$, precip. from silicate glass, Mossbauer spectra temp. depend. 1−43043
NiTi, high-temp. phase transition, kinetic props. 1−30382
Pb spheres, thermal props. at low temps. 1−30877
$PbWO_4$:Mn^{2+}, paramagnetic resonance, long wavelength approx. breakdown corrections 1−3247
Rb high temperature crystals: limitations on the phonon description 1−16060
RbBr, lattice dynamics, 7-parameter bond-bending force model 1−34437
RbCl, lattice dynamics, 7-parameter bond-bending force model 1−34437
RbI, lattice dynamics, 7-parameter bond-bending force model 1−34437
Si:Cr^+, spin-lattice relaxation, Debye temp. 1−26026
Si:Sn, ion implanted, annealed, β-Sn precip., Mossbauer study 1−7341
β-$Sr_{0.17}V_2O_5$, specific heat and entropy 1−7347
Ta metallic, heat capacities, 80-1000K Debye temps. *(Japanese)* 1−38547
Debye temperature continued
Ta-Rh(Ir), amorphous, supercond. props. 1−30869
Tb_2Sb_3, thermal expansion coeff. determ. 1−16070
$ThNi_{5-x}Al_x$ Haucke cpd., low temp. heat capacity and H_2 absorpt. 1−30417
Ti, elasticity moduli, coeff. of thermal expansion and Debye temp. 1−16826
Ti-Al-Mo-V alloys, elasticity moduli, coeff. of thermal expansion and Debye temp. 1−16826
TiO_2, rutile, single crysts., high temp. heat capacity, laser-flash calorimetry meas. and anal. *(Japanese)* 1−25453
TlBr, ionic lattice dynamical behaviour study 1−25386
TlCl, lattice dynamics, extended three-body force shell model 1−34435
UAsS, low temp. sp. ht., 1-300K 1−16447
UAsSe, low temp. sp. ht., 1-300K 1−16447
UAsTe, low temp. sp. ht., 1-300K 1−16447
V, metallic, heat capacities, 80-1000K Debye temps. *(Japanese)* 1−38547
VO_2, optical prop. and elec. struct. temp. depend. 1−12527
Xe island film blocks, RMS atomic displacement *(Russian)* 1−42479
$YNi_{5-x}Al_x$ Haucke cpd., low temp. heat capacity and H_2 absorpt. 1−30417
ZnTe and ZnTe-CdTe solid solns., RHS displacements of Te atoms, effective Debye temps. 1−21101

Debye-Waller factors
see also lattice dynamics
diamond, dynamic deform. and Debye-Waller factors, 1-1000K 1−16004
F 1−21101
graphite basal plane, He inelastic scatt., reson. lineshapes, physisorption features 1−39204
metals, Debye-Waller factor in molecular beam scatt. expts. 1−7283
metals, phonon limited resist., anal. of Debye-Waller factor and multiphonon series contribs. 1−34682
powder diffr., thermal motion study using constrained profile anal. 1−29961
TCNQ salt, TMTSF-DMTCNQ, X-ray diffuse scatt. study 1−42370
thermal diffuse scattering, correction from inelastic neutron time-of-flight diffr. 1−2292
Ag, anisotropic anharmonic Debye-Waller factor, X-ray scatt. meas. 1−25396
Al film, thermomodulated EXAFS, thermal expansion 1−31237
$BaTiO_3$, Debye-Waller factor critical behaviour at ferroelectric transition 1−16533
CuBr, Debye-Waller effect on forbidden gap 1−20626
CuCl, Debye-Waller effect on forbidden gap 1−20626
EuSe, Debye-Waller factors and Debye temp. determ. at room temp. 1−47203
Fe_3O_4, phonon softening in low temp. phase, Mossbauer study 1−12439
GaP, Debye-Waller factor determ. by X-ray diffr. 1−42499
Ge, dynamic deform. and Debye-Waller factors, 1-1000K 1−16004
Ge:In^+(Sb^+), radiogenic Sn impurity defects 1−38365
$HgAl_2S_4$, energy band struct., pseudopotential calcs. 1−20632
HgTe, RHS displacements of Te atoms, effective Debye temps. 1−21101
K, electrical resistivity, phonon limited, Debye-Waller factor and multiphonon contribs. 1−34683
KCN, mol. cryst., Mossbauer gamma-ray diffr., Debye-Waller factor, phase transition 1−39016
Mo, Debye-Waller factors, temp. depend., Cheveau model calcs. 1−42498
Mo, Debye-Waller factors, temp. var. calcs. *(German)* 1−47204
Na, electrical resistivity, phonon limited, Debye-Waller factor and multiphonon contribs. 1−34683
Nb, Debye-Waller factors, temp. depend., Cheveau model calcs. 1−42498
Ni film, thermomodulated EXAFS, thermal expansion 1−31237
Ni powder, thermal diffuse correction, in neutron time-of-flight diffr. 1−2292
Ni powder exam. using reverse neutron time-of-flight diffractometer 1−25125
Pd (100) surface, chemisorbed O, vibr. hybridisation, LEED Debye-Waller anal. 1−16165
Si, Bragg refl., temp. depend., dislocation density effect 1−7182
Si, dynamic deform. and Debye-Waller factors, 1-1000K 1−16004
α-Sn, dynamic deform. and Debye-Waller factors, 1 to 280K 1−16004
β-Sn, Mossbauer isomer shift, OPW calc. 1−31079
$ThC_{(0.77)}$, powder neutron diffr. study of Debye-Waller factors *(French)* 1−7279
V_2D, X-ray crystallographic study 1−30173
W (001) single valence band X-ray photoemission study, direct transitions, phonon effects 1−20617
W, Debye-Waller factors, temp. var. calcs. *(German)* 1−47204
ZnTe and ZnTe-CdTe solid solns., RHS displacements of Te atoms, effective Debye temps. 1−21101

decay periods (radioactive) *see radioactive decay periods*

decay schemes (radioactive) *see radioactive decay schemes*

decay theory (nuclear) *see nuclear decay theory*

decision theory *see decision theory and analysis*

decision theory and analysis
see also Bayes methods; dynamic programming
probabilistic decision theory, appl. to reactor fuel management 1−45604
Turkish energy sector dynamic linear programming model for decision analysis 1−43746

decoding
see also demodulation
optical numerical computer based on residue number system, design concept 1−51599

decomposition
microstructure features and processes only; for other aspects see dissociation and pyrolysis
see also spinodal decomposition
alloy, symmetric, one-dimensional decomp. and aggregation of precipitates *(Japanese)* 1−43313
alloys, impurity distrib., effect of interatomic interactions *(Russian)* 1−7204
metal hydride form. and surface effects 1−2805
metallic glasses, formation and decomp., thermodynamic investigations, review 1−43319
response curves automatic interpolation method and application to radiation spectral data processing 1−23400
small-scale prep. by thermal decomp. 1−8262
steel, alloy, plastic deform. and heating, redistrib. of C and alloying elements *(Russian)* 1−12789

decomposition continued
steel, austenitic, mechanical properties, effect of decomp. mechanism during ageing 1—43380
steel, C, decomposition, pearlite struct. characts. 1—16752
steel, Cr, isothermal decomp. of austenite, study of initial carbide form. *(Chinese)* 1—53179
steel, cylindrical parts, math. model of cooling process, taking account of austenite decomp. 1—3800
steel, dual-phase microstruct., importance of epitaxial ferrite 1—26499
steel, fine structure, effect of retained Al in 12Kh1MF 1—16784
steel, high Ni quenched, singularities of martensite decomposition *(Russian)* 1—31416
steel, isothermal decomposition of austenite in steel 60N5 1—3694
steel, low C, austenite grain growth, mechanisms and kinetics 1—16816
steel, maraging, decomposition invest. by positron annihilation method 1—16882
Al-Cu (1-12 at.%), splat-cooled, X-ray diffr. line anal. 1—7131
Al-Mg, quenching conditions effect on struct. and mech. props. *(Russian)* 1—26507
Al-Zn, growth kinetics of GP zones and α'_R-precipitates, XSAS and resist. meas. 1—26472
Al-Zn-Mg, quenching conditions effect on struct. and mech. props. *(Russian)* 1—26507
$CaCO_3$, charact. of porous CaO particles formed by decomp. in vacuum 1—3678
$CaCO_3$, rate and activation enthalpy of decomposition 1—12992
$Ca(OH)_2$, charact. of porous CaO particles formed by decomp. in vacuum 1—3678
$Ca_3(VO_4)_2$-$Sr_3(VO_4)_2$ ($Ba_3VO_4)_2$, thermal and luminesc. props. 1—35083
Cs-graphite intercalation cpd., struct. variations, temp. and press. variations, X-ray diffr. 1—34460
Cu-Sn-Be, vol. changes, warping and residual stresses during heat treatment 1—3805
Fe-Cu-(Ni), supersaturated ferrite form. during decomposition of austenite 1—31418
Fe-Pd (33 at.%), eutectoid decomp. of solid soln. *(Russian)* 1—26465
Fe-W (20 wt.%), prepared by liq. quenching, modulated struct. 1—3806
Fe-W (8.5 at.%), discontinuous decomp. and hardening after quenching and ageing *(Russian)* 1—3743
GaP, homogeneous stress at high press., metallic phase transition 1—34421
KCl:Pb, solid solution, decomposition, optical investigation 1—20385
$LaNi_5$ and $LaNi_{4.9}Cu_{0.1}$ $(Ti_{0.1})(Al_{0.1})$, hydride kinetics during formation-decomposition cycling 1—3744
$LaNi_5$, mag. props. variation with H_2 absorpt. and desorption 1—7808
$MgAl_2O_4 \rightleftarrows Al_2O_3 + MgO$, spinel$\rightleftarrows$corundum+periclase, equilib. boundary, calibration curve for press. above 100 kbar 1—21427
Mg_2Cu, surface anal. using XPS and AES 1—2784
Mg_2Ni(-Mg), surface anal. using XPS and AES 1—2784
Mn-Cu alloys, decomp. processes, small angle neutron scatt. and positron annihilation study 1—53184
NaCl-KCl mixed crysts., unmixing mechanism, water-catalysed decomp. at room temp. 1—20396
Ni-Cr-Al (57, 40, 3 wt.%), stepped decomp. 1—43356
Pb-Ge system, metastable solid solution form. and decomp. 1—21418
Th-Cd system, phase relations determ. 1—53157
Ti alloy, VT16, phase transforms. during ageing, plastic deform. effect *(Russian)* 1—26450
Ti alloys, microalloying, effect of Y, Gd, Dy, Zr, Hf and Re on mech. props. 1—16844
Ti-Al-Mo-Zr, alloy VT9, props. and struct., effect heat treatment 1—16794
TiC-VC composites, creep parameters, effect of changes in struct. 1—21530
TiC-ZrC composites, creep parameters, effect of changes in struct. 1—21530
V guide bronzes, $M_xV_{12}O_{30-y}$, M=Na, Ag, K, Li, Ca and Sr, decomp. of single crysts., semicond.-metal transition 1—53180

decomposition, spinodal *see spinodal decomposition*

decomposition, thermal *see pyrolysis*

decorative coatings
bright finishes for plastic materials, vacuum sputtering plant 1—12897
glass, metallurgical and protective coatings, conf., Geneva, Switzerland, Sept. 1980 1—49879
plastic materials, surface treatment importance 1—3950
thermoplastic foam parts, for business-machine housing, coating specs. 1—39491
Al, anodised, colouring by means of optical interference effects 1—21641
TiN_x coating, prep. by pulsed DC magnetron reactive deposition, using moving mode 1—16690

deep level transient spectra *see deep level transient spectroscopy*

deep level transient spectroscopy
see also deep levels
apparatus and method using capacitance meter 1—34647
degradation and luminesc., effect of intrinsic defects 1—21252
interface for X-Y plotter and capacitance meter 1—36701
large signal anal. by capacitance squaring 1—42716
MOS capacitor, determ. of interface state parameters by DLTS 1—12193
MOS diode, surface state distrib. meas. with lock-in DLTS system 1—20877
nth order filtering and transient distortion in D^nLTS 1—30664
p-n junctions, DLTS to measure current transients 1—25796
semiconductor, characterisation and props., review, book contrib. 1—47712
semiconductor, deep level spectroscopy, by optical excitation 1—30669
semiconductor, laser-annealed, defect identification and eval. techniques *(Japanese)* 1—20188
semiconductors, dipole defect contrib., theory 1—47544
signal analyser, sensitive, for use in semiconductor junction defect studies 1—50168
GaAs, deep centres studied by capacitance spectros., review 1—25661
n-GaAs MOS system, interface states density and dynamic props., photocapacitance and deep level transient spectra 1—12209
n-GaAs, Schottky barrier, proton bombarded, anal. of defect states by transient capacitance methods 1—30671
GaAs:Cr, phonon-assisted electron tunnel emission from Cr level 1—47548
GaAs:Fe, high-resistivity LPE layers, photocapacitance 1—39253
$GaAs_{0.62}P_{0.38}$, extended defect, DLTS, capacitance transient meas. 1—30672
Ge, ultra-pure, physics, review 1—52518

deep level transient spectroscopy continued
$Hg_{1-x}Cd_xTe$, trap levels and minority carrier lifetime, DLTS study 1—34658
InP LEC crystals, deep impurity levels, DLTS and photoluminesc. study 1—47557
InP:Fe, deep level spectroscopy 1—34649
Si, impurity and defect energy levels, book contrib. 1—38748
Si rectifiers, recombination centres in base regions, energy levels, capture coeffs. meas. *(German)* 1—52649
Si:Au p^+-n junctions, DLTS meas. and computer simulation 1—47554
Si:B, electronic defect levels, DLTS meas. 1—30656
Si:H, amorphous n-type, obs. of electron and hole traps by deep level transient spectroscopy 1—30668
Si:Mo, solar cells and crysts., impact of Mo, DLTS meas. 1—13130
Si-on-sapphire epitaxial layers, bulk traps by conductance DLTS 1—52519
ZnO varistor, deep levels, effect on current-response characts. 1—47555
ZnSe-GaAs heterojunctions, DLTS study, majority carrier trap assignment 1—38745

deep levels
see also deep level transient spectroscopy
amorphous semiconductor, metal-insulator transition, review 1—47480
cyclic cluster model, CNDO approx., in covalent solids 1—30675
II-Vi semiconductors, deep acceptor levels associated with vacancies 1—31064
III-V compounds, nonradiative recomb. and self-trapping, lattice phonon effects, review 1—47537
multiphonon ionisation probability by uniform elec. field 1—20663
multiphoton capture of free electrons, adiabatic and nonadiabatic limits, theory 1—47539
ODMR, in semiconductors 1—31064
photoionisation and capture cross sections, model 1—52521
polyacetylene p-$(CH)_x$:n-CdS heterojunctions, semicond. props. 1—2981
semiconductor, Auger recombination cross section associated with deep traps 1—20761
semiconductor, capture, emission and recomb. at deep level via excited state 1—20760
semiconductor, cascade capture accompanied by optical phonon emission 1—20764
semiconductor, characterisation and props., review, book contrib. 1—47712
semiconductor, counter-doped, transient photocond. 1—3009
semiconductor, deep level spectroscopy, by optical excitation 1—30669
semiconductor, defect-lattice relaxation phenomena 1—30673
semiconductor, nuclear polarisation, optical, in presence of deep impurity levels 1—21084
semiconductor, photoionisation of deep impurities interacting with phonons 1—2907
semiconductor junction, deep levels, anal. of thermal and optical transients 1—12059
semiconductors, deep impurities and defects, Green's function methods, review 1—47541
semiconductors, deep impurity levels, optical cross section, theory 1—47553
semiconductors, deep levels, optical cross sections, calc. 1—47542
semiconductors, deep levels due to substitutional impurity cluster, MTO theory 1—25656
semiconductors, multiphonon-emission carrier capture cross section at deep centres 1—2985
$Al_xGa_{1-x}As$:Sn, deep radiative transitions, photoluminesc. study 1—43173
Al_2O_3, thermoluminescence, very deep traps at temps. greater than 500°C 1—3507
$Bi_{12}Si(Ge)O_{20}$-dielectric struct., image characts. during electron beam irrad. deep level carrier traps 1—42869
$CaSO_4$:Dy, thermoluminescence, very deep traps at temps. greater than 500°C 1—3507
CdF_2:In, impurity-lattice relaxation, temp.-depend. decay of metastable state 1—30674
$Cd_{1-x}Mn_xTe$, photoluminescence and Mn^{2+} d-levels 1—48130
Cd_3P_2:Cu, and undoped, influence of press. on elec. props. 1—38772
CdS:Cu, deep level characts., steady-state const. capacitance method 1—38744
CdS:Ni, field-emission cathode, deep capture centre effects on emissivity 1—3583
CdS-GaAs heterojunctions, deep level defects study using transient capacitance spectroscopy 1—2921
CdTe:Cl elec. cond., thermal activation energy and deep level obs. 1—7624
Cu_2S-CdS heterojunction, tunneling currents 1—13120
$GaAs_{1-x}Al_xAs$, conduction band struct., deep levels, high-press. Hall effect meas. 1—2987
GaAs, deep defects, optical and ESR spectroscopy, review 1—30676
GaAs, deep level optical spectroscopy 1—47543
GaAs, deep levels, EL2 and EL3, uniaxial stress dependence 1—2918
GaAs, deep levels, optical cross sections, calc. 1—47542
GaAs, deep luminescence centres, recomb. props. and vibr. spectra, plastic deform. effect 1—21271
GaAs, deep-level transients, electric field effect 1—7550
GaAs, electron capture at B centre, multiphonon process, calc. 1—16298
GaAs, ideal-neutral-vacancy levels, hydrostatic press. depend. 1—12065
GaAs MOS interface states and bulk energy levels, transient capacitance spectra 1—16377
GaAs optical cross sections associated with deep levels 1—21257
GaAs semi-insulating substrates, characterization, key parameters, deep acceptor/donor level, accurate values 1—38742
GaAs substrate, semi-insulated, highly compensated, characteris. and effects on device performance 1—34646
GaAs, TSC spectra, differential anal., recomb. mechanism 1—12122
GaAs:Cr, photoluminescence, 0.839 eV and 0.574 eV lines 1—35085
GaAs:O, ion implantation, deep level prod., LCAO-MO calcs. 1—7552
GaAs-AlAs (110) interface deep substitutional sp^3-bonded impurity levels and Frenkel core excitons 1—16344
$GaAs_{1-x}P_x$, deep energy levels associated with substitutional defect pairs 1—16252
$GaAs_{1-x}P_x$:N trap states, zero-phonon excitonic struct., luminesc. and reson. excitation study 1—47538
GaP, deep defects, optical and ESR spectroscopy, review 1—30676
GaP, deep-level transients, electric field effect 1—7550
GaP, optical cross sections associated with deep levels 1—21257
GaP:Fe, deep traps, photoluminesc. study 1—12569

deep levels continued
GaP:Ge, donor state, role of high band minima in impurity theory 1−47534
GaP:N donor centres, compensation 1−38743
Ge radiation detector operating stability improvement 1−1014
$Hg_{1-x}Cd_xTe$, admittance spectroscopy of deep levels 1−42713
InP, deep defects, optical and ESR spectroscopy, review 1−30676
InP:Fe, p-i-n structs., photocapacitance 1−38844
n-InSb, phonon-assisted cyclotron reson. linewidth 1−47953
Mo (100), photon-stimulated desorption of O following deep core-level excitation 1−52421
PbSe, dee levels in band gap created by intrinsic point defects 1−47551
PbSe epitaxial layers, deep levels, Hall effect and photocond. obs. 1−12063
Se:Li,Cl, amorphous, gap states, carrier traps, time-of-flight study 1−52472
Si, amorphous, ODMR, deep centres 1−31064
Si, impurity and defect energy levels, book contrib. 1−38748
Si:Au, amorphous, metal-insulator transition, review 1−47480
Si:Au,P, nuclear polarisation, optical, in presence of deep impurity levels 1−21084
Si:Au double-injection diodes, deep centre occupancy, impurity photocond. anal. 1−20864
Si:Au p^+n diodes, nature of Au-related defects 1−20656
Si:Au p-i-n diode with deep level, neg. resist. occurrence, criterion and expts. *(Japanese)* 1−20860
Si:B, electron irrad., interstitial B, negative-U system, DLTS obs. 1−2913
Si:Fe, deep states, photoluminesc. study, Zeeman splitting 1−48137
Si:H, amorphous, gap states, review 1−16221
Si:H, amorphous, photogeneration, optical absorpt. and transport 1−7665
Si:S(Se), deep donor levels, excited states meas. 1−47567
Si:S(Se), excited donor states determ. by junction space charge techniques 1−47545
Si:Se, deep energy level chemical identification 1−42714
Si-on-sapphire epitaxial layers, bulk traps by conductance DLTS 1−52519
SiC, 4H, 6H, and 15R polytypes, site effect on impurity levels, photolum. meas. 1−16255
Te:Cl, excited by α-particles, photons, elec. props. meas. 1−30765
ZnSe, broad band emission, cathodolum., thermolum., transitions involving deep level centres *(French)* 1−53000
ZnSe, deep dislocation level, photostimulated cond. study 1−25659
ZnSe:Cu, deep level characts., steady-state const. capacitance method 1−38744
ZnSe-Si(-GaAs) p-n heterojunction solar cells, photoelect. props. 1−8717
ZnTe, edge emission and deep centre luminesc., effects of Zn-vapour heat-treatments 1−12589
ZnTe semiconductor crystal, carrier traps, admittance spectroscopy technique 1−12067

defect electron energy states
see also colour centres; deep levels
alkaline earth oxides, anion vacancy centres, review 1−38366
amorphous semiconductors, struct. and electronic props., review, book contrib. 1−47441
bimetallic interface, vacancy electronic struct., tight-binding model 1−25785
chalcogenide glasses, AC conductivity and optical absorpt. 1−16286
chalcogenide glasses, semiconducting, charged intrinsic defect states 1−47568
deep levels, cyclic cluster model, CNDO approx., in covalent solids 1−30675
degradation and luminesc., effect of intrinsic defects 1−21252
diamond, GR defect, high-resolution luminesc.-excitation spectra 1−39140
electronic eigenstates and optical lineshapes of impurities and vacancies 1−47552
FCC metal, grain boundary model, electronic struct. calc. 1−2919
III-V semiconductor surface and interface interactions, unified defect model 1−16331
III-V semiconductors, clean (110) surfaces, defect gap states 1−7696
Jahn-Teller system, reduction factors and emission spectra 1−47586
Jahn-Teller system, vibronic eigenstates and absorpt. spectra 1−47585
jellium with point defects, electron density distrib., quadratic response theory 1−30661
Lennard-Jones solid, nonlinear excitations assoc. with vacancies 1−30662
localisation of defects, theory 1−7553
metal, FCC, (130) symmetrical tilt grain boundary, electronic struct. 1−34654
metals, spectra of electron states located near dislocations *(Russian)* 1−34661
narrow gap semiconductors, nonequilibrium carriers, changes in slow relax. and defects 1−34723
noble metals and alloys, α-band hole excitation energies, hole-phonon interaction 1−7557
normal point defects in near-surface layer, semi-phenomenological model 1−34758
oxide materials, small polaron aspects of defects 1−2909
point imperfections, isolated extended, local density of states 1−7165
Poole-Frenkel effect, trap potential well determ., theory 1−12118
positron annihilation spectroscopy, appl. to metals and alloys, book contrib. 1−39179
semiconductor, deep level spectroscopy, by optical excitation 1−30669
semiconductor, defect centre, simple model, multiphonon processes 1−2578
semiconductor, defect-lattice relaxation phenomena 1−30673
semiconductor, depleted layer spectroscopy 1−30670
semiconductor, large lattice relax. processes 1−34662
semiconductor, negative-U centres, electronic props. 1−30660
semiconductor, scattering theoretical method appl., review 1−30802
semiconductor junctions, photocapacitance technique for obs. defect and impurity centres 1−50167
semiconductors, acceptor vacancy ionization, thermodynamic props., theory 1−12061
semiconductors, deep impurities and defects, Green's function methods, review 1−47541
semiconductors, defect states dominated by localised pots., calc. 1−52520
semiconductors, differential photoconductivity from impurity and defect states 1−7666
semiconductors, dislocation states spectrum *(Russian)* 1−7561
semiconductors, strong lattice relax. at localised defects, review 1−47193

defect electron energy states continued
transition metals, BCC, edge dislocations, core struct. and core energy, tight-binding calc. 1−42384
transition metals, BCC, screw dislocation motion under shear stress, tight binding calc. 1−42383
trap distribution in solid, finite defect chain of uniform curvature, model 1−16254
wide band gap semiconductor, deep level capture cross section determ. by electron beam 1−3052
zero-gap semiconductors, reson. acceptor states prod. by short-range defect pot., high mag. field behaviour 1−47561
$Al_xGa_{1-x}As$ epitaxial layers, deep electron traps 1−30761
As_2Se_3, glassy, struct. defect states 1−52525
CdF_2:In, impurity-lattice relaxation, temp.-depend. decay of metastable state 1−30674
$CdIn_2S_4$, photoluminescence bands, recombination centres 1−39143
CdS, nonradiative states and defects, photoacoustic meas. with ZnO transducer 1−3459
CdS, optically detected mag. reson. of shallow acceptor centres 1−52869
CdS:Cu, C-centre electron capture cross-section 1−7559
CdSe, intrinsic defects, nature, charge, energy position and role in cond. 1−11745
CdSe, time resolved luminescence, exciton collisions 1−48157
CdTe, irrad. induced defects, photoluminesc. study 1−8112
CuCl, diamagnetic anomaly model, energy bands, defect and impurity levels 1−20633
α-Fe, electronic states near dislocations, SCF-Xα-SW calcs. 1−7551
$Ga_{1-x}Al_xAs$ (110) surface anion vacancies, bound-state energy level calc. 1−16332
GaAs (100), surface vacancy electronic struct., scatt. theoretic method 1−7697
GaAs (110) surface anion vacancies, bound-state energy level calc. 1−16332
GaAs, deep defects, optical and ESR spectroscopy, review 1−30676
GaAs, electron capture at B-centre, radiative mechanism contribution 1−16299
GaAs, electron irradiation induced defects, annealing study 1−2426
GaAs, electronic states associated with 3d transition metal impurities 1−25657
GaAs grain boundaries, band bending and passivation studies 1−34650
GaAs MESFET, determ. of shallow defect levels using TSC in implant-layer/substrate junctions 1−30818
GaAs polycrystal Schottky barriers, grain boundary effects 1−16365
GaAs, radiation defects, effect on properties, review 1−25319
n-GaAs, Schottky barrier, proton bombarded, anal. of defect states by transient capacitance methods 1−30671
$GaAs_{0.62}P_{0.38}$, extended defect, DLTS, capacitance transient meas. 1−30672
GaAs(Sb), (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
GaInAs, GaInP, GaAlAs, Schottky barrier formation, anion vacancy electron states 1−52644
GaP, deep defects, optical and ESR spectroscopy, review 1−30676
GaP:N,S, nonradiative recomb., emitted phonon detection by calorimetric absorpt. spectroscopy 1−47181
GaP-Cr, photoluminesc., mag. field and uniaxial stress depend. 1−48139
GaSb (110) surface, electronic states induced by surface defects, calc. 1−16337
Ge, dangling bonds during laser irrad. 1−12060
Ge, deformed, shallow dislocation states, thermal treatment effects 1−52522
Ge, energy parameter estimates of defect complexes 1−42720
InP (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
InP (110) surface anion vacancies, bound-state energy level calc. 1−16332
InP, deep defects, optical and ESR spectroscopy, review 1−30676
InSb (110) surface, defect struct., chem., struct. and elec. props. 1−52627
KCl, excited F-centre picosecond deactivation process 1−8102
KCl:H, electronic struct. of H of anion sites 1−2908
$KCl:SnCl_2$, light and thermally stimulated recombination luminesc. 1−3465
LiF, F-centre energy levels, variational convergence, SCFMO calcs. 1−47559
MgO, heavy ion implanted, annealing by proton bombardment, defect absorption bands, expt. 1−11794
Na_xWO_3, electronic struct. near metal-semicond. transition, XPS study 1−47458
Ne crystalline, exciton bands *(Russian)* 1−2889
Ni, liq. and solid, electron momentum distrib., positron annihilation meas. 1−31225
Ni, stacking faults, electronic struct. 1−2915
$Pb_{1-x}Sn_xTe$ ion implanted films, implantation induced damage 1−7191
$Pb_{1-x}Sn_xTe$, local states of Te vacancies, Hall effect *(Russian)* 1−2922
PbTe (111) surface, angle-resolved UV photoemission meas. 1−48222
ReO_3 (001) surface and surface O vacancy, theory of electronic struct. 1−7685
Se, glassy, theory of defect states 1−12066
Si, (111) unreconstructed surface, vacancy electron states 1−7560
Si, dangling bonds during laser irrad. 1−12060
Si, deep impurities and defects, Green's function methods, review 1−47541
Si diffused solar cells, bias-dependent electron radiation damage 1−13143
Si, electronic states at line defects 1−20655
Si, energy band associated with dangling bonds, HF capacitance meas. 1−2916
Si, glide 60° partial, struct. and energy levels 1−11747
n-Si, γ-irrad., electrically active interstitial defects 1−2510
Si, impurity and defect energy levels, book contrib. 1−38748
Si, nonradiative states and defects, photoacoustic meas. with ZnO transducer 1−3459
n-Si, photocapacitance study in γ-irrad. Schottky diodes 1−42819
Si, photoluminescence after laser annealing, dislocation effects 1−48128
Si, resistivity changes at grain boundaries 1−47647
Si single neutral vacancy and vacancy-interstitial pair form. energies 1−47079
Si, vacancy states, theory. Anderson negative U model 1−47540
Si:B(P) CVD amorphous films, heavily doped, ESR study 1−52828
Si:He(Ne)(Ar)(Kr), noble gas-divacancy complexes, electron states, EHT calc. 1−30663

defect electron energy states continued
Si:P CVD films, amorphous, doping effects, light-induced ESR study 1−52827
Si:S, deep centres, thermal electron emission 1−7554
$Si-SiO_2$ interface, defect states, chem. bonding approach 1−52659
$Si-SiO_2$ interface, localised states, review 1−30801
$Si-SiO_2$ layer structs., interface defect-impurity charcts., surface study by UV illumination 1−20873
SiO_x glass layers ($x \leq 2$), ion irrad., B_2-centre form., UV spectra 1−38413
SmS, isomorphic semicond.-metal phase transition, defect energy levels role 1−47473
α-Sn, n-type, acceptor resonances and electrically active point defects, galvanomagnetic and thermoelec. meas. 1−34657
SrO cryst., ESR spectra of O_2^- centres 1−34939
TiO(C), energetic-vacancy stabilisation mechanisms 1−2914
ZnO surface electronic struct., intrinsic defect effects 1−34761
β-ZnS, rotation twin stacking fault, electronic struct. 1−52523
ZnSe, free exciton luminesc. and refl. spectra, native defect conc. effect 1−12570

defects, crystal *see crystal defects*

defibrillators
see also patient treatment
No entries

deformation
see also bending; cold working; creep; drawing (mechanical); elastic deformation; elongation; ferroelasticity; plastic deformation; shape memory effects; thermomechanical treatment
beam, elastoplastic, finite deformation anal. 1−24708
beams, curved, thick-shell or membrane-stiffening isoparametric elements 1−41944
bond deformations, calc. of total offset between two ideal configurations 1−24281
chondrites, H-group, fine struct. and deform., high voltage transmission electron microscopy obs. 1−36229
chrondritic diopside, mildly shocked, deform. mechanisms, TEM obs. 1−40438
circular solid cylinder, thermal stress relaxation from creep deformation 1−19589
cold isostatically pressed/hot isostatically pressed, deform. under shock compression 1−35340
composite materials, deformation and strength properties prediction, review 1−12811
composites, deformations under swelling conditions 1−48440
concrete, reinforced, holographic interferometrical anal. 1−15103
constitutive eqn., use of mixed corotational and codeformational props. 1−1904
critical loads for shells, pressure linearly changing along generatrices *(Ukrainian)* 1−29565
deformable objects, speckle interferogram prod. and interpretation 1−51421
deformable solid, mechanics, general theorem 1−24672
dentures, complete upper set, holographic method for meas. of deforms. 1−8967
Earth, tidal strain record from water level fluctuations in deep borehole *(Chinese)* 1−9181
Earth crust, stress, deform. and tilt fields of earthquake sources *(Chinese)* 1−9087
fabrics, coated plain-weave, finite-element method appl. to deform. anal. *(Japanese)* 1−35319
fast reactor cladding during transients, deform. and failure modeling 1−41183
FCC metal, deformation mechanism diagrams with the strain rate as a coordinate 1−21517
ferrites, magnetodynamic characteristics, influence of internal stresses *(German)* 1−52821
finite element anal. of bending vibrations of straight-axed beam 1−19633
garnet lherzolite nodules, deformation, modal composition 1−9147
glass, surface layer, deformation props., changes after ion exchange 1−16163
holographic interference fringe patterns, prod. by thermal deform. 1−27753
holographic interferometric investig. 1−41991
HVEM, high temp. in-situ expts., deform., irradiation and recrystn., instrumentation and appls. to materials science 1−392
HVEM in-situ studies, optimum conditions 1−391
laminar shells of revolution, stressed state, nonlinear axisymmetric deform. and transversal shift *(Ukrainian)* 1−29534
loaded metallic cantilever, deform. determ. using compact holographic interferometric device 1−19293
Ludwik equation, influence of temp. and strain rate on constants *(German)* 1−31525
measurement, holographic interferometry appls. *(Hungarian)* 1−29231
measurement using electronic distance measuring instruments 1−9969
mechanical stress derivation from deform. rates, deviations minimisation by numerical technique *(German)* 1−6763
mechanoluminescence, and acoustic emission meas. 1−46642
metallic mirror deformations and wavefront aberrations caused by CW high power laser beams 1−1608
microwave resonant cavities used for deformation meas. 1−21692
molecular field of deformational nature 1−16009
nematic liquid crystals, planar deformation induced by simultaneously applied magnetic and electric fields 1−30050
nonlinear mechanics, computational method, conf. Austin, TX, USA (Mar. 1979) 1−22950
poly p-phenylene terephthalamide fibres, tensile deform. investig. 1−25356
polydiacetylene lamellar crysts., deform., TEM and electron diffr. study 1−20301
polyethylene, deformation, ab initio MO calcs. 1−7549
polyethylene, lattice distortion at low temps. 1−47013
polyethylene film, high density, dynamic birefringence, struct., rheo-optical obs. 1−31124
polymer networks, statistical-mechanical theory of deform. depend. of topological constraints 1−47151
polymer-filled-film., deform. and stresses eval., interphase layer separation 1−8372
polymers, deformations under swelling conditions 1−48440
Portevin-Lechatelier deformation negative-strain rate sensitivity 1−26533
pyrophyllite, wave vel. changes assoc. with generalised triaxial deform. 1−22337
porous rock, effect of confining press. deform. assoc. with fracture 1−22332
rocks, locked in stress, creep and dilatancy, constitutive eqns. 1−22338
shearing deformation, finite element method anal. 1−33905
sheet, unbounded, on linearly strained base, deformation by rigid circular stringer *(Russian)* 1−11298
shell, laminated spherical, deformation under action of weak shock wave 1−24738
slow processes, obs. by laser interferometry 1−16991
specklegram halo interference fringes, heterodyne readout 1−331
steel, austenitic, impact properties at low temp. *(Japanese)* 1−26624
steel, austenitic stainless, 30Kh12G23, deformation induced γ-α transform., phase and structural changes *(Russian)* 1−31455
steel, influence of H_2 on stress and strain fields *(Russian)* 1−12794
steel, stainless, type 304 and 316, explosively deformed, prior deform. effect on microstruct 1−8384
strain amplitudes of US waves at He temperatures 1−19524
straining stage, He-cooled, for AEI EM7 HVEM 1−394
straining stages, design principles 1−5441
straining stages, for HVEM, design principles 1−5441
stress anal. of beam on nonlinearly deformed base 1−29536
stressed cylinder of incompressible material, liquid effect on longitudinal wave propagation *(Ukrainian)* 1−29590
thermoplastic recording layers, electric field form. and deformation, model investigation *(German)* 1−10036
viscoelastic plates and shells, deform. stability at elevated temps. 1−11324
-αZircaloy-4-oxygen alloys, high temp. (600-800°C) thermally activated deform. 1−3821
Zircaloy-clad UO_2 test fuel rods, pellet-cladding mechanical interaction 1−10439
Al cube three-dimensional displacement meas. by four small holograms 1−14102
Be, deformation zones influence on imbedded zones formation *(Russian)* 1−43422
Cr-Co-Cu-Fe permanent magnet alloys, deform.-aged, mag. props. 1−12342
D-T filled inertial confinement fusion targets, deformation meas. using microsphere thermal deformeter 1−14140
Fe-Si(3 wt.%), struct. formation during hot rolling *(Russian)* 1−39349
Ge, electron-hole droplets dragged by laser-induced deform. pulse 1−47492
Na_2O-CaO-SiO_2 float glass, deform. associated with scoring with disc cutter 1−39370
Si, twisted, dislocation networks, TEM study 1−20225
Si, twisted, dislocation network form. mechanism, weak-beam TEM anal. 1−20226
Sn-Pb alloy, semi-solid, rheological behaviour under deform. 1−43439
UO_2 test fuel rods, Zircaloy-clad, in-pile diameter meas., pellet-cladding mechanical interaction 1−10439
Zn, single crystals, deform. and forest dislocations density effects on activation volume 1−30226

deformation lines *see Luder's bands*

degenerate semiconductor materials *see degenerate semiconductors*

degenerate semiconductors
see also heavily doped semiconductors; superconducting semiconductors
diffusion coefficients, proportionality to impurity density 1−16095
ferromagnetic, free-carrier absorption of radiation due to spin-disorder scatt. 1−3350
ferromagnetic influence of direct transitions between spin branches on free-carrier absorption 1−31111
heavily doped, Einstein relation, diffusivity-mobility ratio, temp. depend. 1−20759
heavily doped, self-consistent, screening length, calc. for Si with donor impurities 1−2983
hot-electron transport in quantising mag. fields 1−16302
n-InSb, heavily doped and compensated, electron transport, 4.2-300K 1−34707
magnetoplasma surface waves in Faraday geometry 1−34732
NMR in impurity bands, metal-nonmetal transition region 1−47959
nonparabolic, generalised Einstein relation under mag. quantisation 1−20771
phonon scattering at acceptors with Γ_8 ground states 1−15998
piezoelectric, transverse magnetoresistance depend. on nonparabolicity 1−7641
piezoelectric semiconductor, quantum effect on transverse magnetoresistance in strong mag. field 1−16304
piezoelectric-semiconductor film layered structure with size quantisation, acoustoelectronic and acoustoelec. effects 1−12151
quais-local levels, role in quantum oscills., electrical cond. and Hall meas. 1−38794
n-BiTeBr single crysts., IR spectra, Hall coeff. 1−20772
Cd_3As_2 amorphous degenerate thin film semiconductor, elec. props. 1−20720
n-GaAs, degenerate, quantum efficiency and radiative lifetime 1−43158
GaAs, emission near absorpt. edge 1−21259
p-GaAs:Zn, heavily doped, optically pumped electron spin relax. through virtual photon 1−35090
n-InSb, cold electron photoinjection at 1.8K 1−47702
n-InSb, degenerate, magnetoplasma surface waves in Faraday geometry 1−34732
$MnSi_x$, band magnetism peculiarities, neutron diffr., magnetisation, and mag. susceptibility meas. 1−12262
PbO_2 electrodeposition on Pt, photocurrent spectroscopy, reduction 1−34814
n-PbTe, degenerate, modulation, of fundamental absorption by free carrier heating 1−48092
Si:P, metal-nonmetal transition related data review 1−47474
$Sn_{1-x}Cr_xTe$, structural phase transition, spin reson. study 1−52831

dekatrons
No entries

delay circuits
see also delay lines
camera flash trigger, using 555 timer IC 1−23328
coincidence counters, Cox-Isham formula modification for Gandy effect, electronic compensation 1−10610
flash photolysis apparatus, analysing flash delay time measuring method 1−17081
logic signal delay unit with cable section and key cascade 1−1030

delay elements (circuits) *see delay circuits*
delay lines
see also acoustic delay lines
magnetic waves, quasi-optics of group delay 1−1442
magnetoclastic materials and their appl. survey *(German)* 1−31008
microwave, for electron spin echo envelope spectroscopy 1−50184
Na vapour delay line for recompression of optical pulses broadened by passage through optical fibres 1−37621
delayed neutrons
EBR-II flow blockage simulation test, delayed neutron anal. 1−50827
fraction, in pulsed spallation neutron source 1−10567
LMFBR, fuel element failure, delayed neutron signal anal. of breached elements 1−5903
spectra, distinctive features 1−28514
β^+-delayed proton pair emission, twice β^+-delayed protons and α-particles *(Russian)* 1−18602
^{A}Am(n,f), A=241,242, delayed neutron yields, time-depend. 1−45554
^{249}Cf(n,f), delayed neutron yields, time-depend. 1−45554
^{245}Cm(n,f), delayed neutron yields, time-depend. 1−45554
^{137}I delayed neutron precursor decay, ^{137}Xe level structure and γ-transitions 1−638
^{11}Li, beta-delayed two neutron emission 1−10357
^{11}Li, β-delayed three neutron emission 1−14498
^{237}Np(n,f), delayed neutron yields, time-depend. 1−45554
^{A}Pu(n,f), A=238,239,241,242, delayed neutron yields, time-depend. 1−45554
^{240}Pu(n,f), delayed neutron spectra, near-eqn. meas. 1−725
^{232}Th(n,f), delayed neutron yields, time-depend. 1−45554
^{A}U(n,f), A=232,233,235,238, delayed neutron yields, time-depend. 1−45554
^{235}U fission, thermal neutron induced, fission and delayed neutron yields in U_3O_8 and UO_2 1−775
delayed protons
β^+-delayed proton pair emission, twice β^+-delayed protons and α-particles *(Russian)* 1−18602
^{20}Mg decay, delayed p, ^{20}Mg lowest T=2 state mass excess 1−45414
^{95}Pd long lived high spin isomer, β-delayed proton emission 1−23541
^{24}Si β-delayed proton decay, isobaric multiplet mass eqn. test, half life 1−5742
^{24}Si decay, delayed p, ^{24}Al lowest T=2 state mass excess 1−45414
delays
see also delay circuits; distributed parameter systems
ionospheric time delay variability in Mediterranean region 1−22570
demagnetisation
see also magnetisation
critical-exponent renormalization, first-order transitions and demagnetizing effects for Schofield's linear model 1−52257
ferromagnetic bodies, polycryst., distrib. of magnetisation 1−30987
hard magnetic material, demagnetisation curves approximation *(Bulgarian)* 1−47904
spin systems, scalar coupled, J order and cross polarisation 1−43022
superconductor, demagnetisation of Ce impurities, zero-bandwidth limit 1−42893
Co-Fe-Si-B amorphous alloys, mag. relax., permeability, domain walls 1−30983
Cr-Co-Cu-Fe permanent magnet alloys, deform.-aged, mag. props. 1−12342
$ErCrO_3$, adiabatic spin reorientation obs. 1−25953
β'-NiAl, magnetisation behaviour under const. field, magnetometer response effects 1−7895
Sn, US absorpt. in intermediate state, 10-30 MHz 1−52705
Sn-In, dil., US absorpt. in intermediate state, 10-30 MHz 1−52705
$TbFe_2$, influence of demagnetising factor on longitudinal magnetostriction *(Russian)* 1−31001
demagnetisation, adiabatic *see magnetic cooling*
Dember effect
SiO_2-Na_2O-CaO (22 to 25, 0 to 3 wt.%) glass, photoelec. props. in fundamental absorpt. region 1−42824
demodulation
see also demodulators; modulation
optical communication technique *(German)* 1−41875
Ar discharge, heterodyne detection of phase-conjugate emission using low-power CW laser 1−37549
CO_2 laser range-finder using heterodyne detect. and chirp pulse compression 1−33738
GaAlAs DH laser as heterodyne receiver, coherent radiation detection 1−1615
demodulators
see also demodulation; discriminators
optical heterodyne detector with integrated diffr. grating 1−24537
demography
nuclear waste repositories, implications of large-scale project social and demographic impacts 1−5080
demonstrations
includes student experiments
see also student laboratory apparatus
accelerometer, centripetal, demonstration apparatus 1−49916
air table, evaluation 1−44742
bandwidth and spectrum analysis 1−9800
binocular vision 1−27748
dielectric loss measurement on new materials 1−14134
double-slit diffraction expt. with single-photoelectron detect. 1−5055
electron microscopy, high resolution, solid-state chem. appls. 1−13967
electrostatic force meas. apparatus 1−49917
falling bubbles, accel. of gravity demonstration 1−9814
geometric optics, diffraction grating use in demonstrations 1−40613
gravitational lens, construction for demonstrations 1−9812
holographic interference fringe patterns, prod. by thermal deform. 1−27753
holography, ripple tank explanation 1−49913
horseshoe magnet, mag. force meas. 1−27750
interference ring form. by multiple internal reflections 1−13980
laser communication, student project 1−13975
light velocity meas., Romer method, fact and illusions 1−27725
Magdeburg spheres, demonstration for general public 1−22982
magnetic hysteresis, using Helmholtz coil, with overhead projector 1−27756
Malus' law, demonstration using Polaroid polarisers 1−27755
demonstrations continued
mechanical resonance of a plastic strip, amplitude, driving freq. meas. 1−49896
Moon orbit meas. 1−17974
nuclear track detectors, solid state; demonstration experiments 1−5054
null detector, electronic 1−44743
optical, using scanning photodiode array 1−13978
organ pipe resonances, using Kundt's tube and air track blower 1−17980
pendulum, electrical, using mag. induction 1−27733
Poisson distrib., statistics investig. 1−40
ray models of concave mirrors and convex lenses 1−27754
refraction, conical, external and internal, in ammonium oxalate and lithium formate crystals 1−5060
refractive index of beer in glass 1−5048
reverse Cartesian diver 1−40614
rotational motion, coffee cans rolling down inclined plane 1−27751
SEM anaglyph stereo displays, production for teaching and research 1−23376
sound-level meter, features and appls. 1−46644
spatial filters, high quality pinhole prod. 1−32819
special relativity, energy-momentum relationship using gamma ray Compton scatt. 1−27720
special relativity, Faraday magnet and coil induction expt. 1−5047
spring, nonlinear behaviour 1−27752
stiff solid bar, first overtone transverse vibr. mode demonstration 1−5050
structured and unstructured laboratory teaching, conventional course *(Portuguese)* 1−32822
structured and unstructured laboratory teaching, individualised course *(Portuguese)* 1−32821
superconductivity demonstration 1−22971
telescope, 17th century type, construction for teaching purposes 1−49930
tilted plane gravitational field model 1−13976
topological physics, laboratory illustrations 1−40619
vector addition demonstration apparatus 1−9813
water drop experiment for introductory laboratory course 1−9808
water drop experiment for introductory laboratory course 1−9809
He, electronic energy levels, Russell-Saunders coupling, ionisation pcts., spectra, electron impact method 1−49901
He-Ne laser, resonator and self-locking demonstration 1−9806
Ne, electronic energy levels, Russell-Saunders coupling, ionisation pcts., spectra, electron impact method 1−49901
dendrites
see also crystal growth
alloy dendrite growth, at limit of stability, tip radius and spacing 1−25598
diffusion field ahead of growing columnar front, columnar-equiaxed transition 1−38566
IN-100, Ni-base superalloy, directionally solidified, dendrite arm spacing 1−53169
particle dendrite, simulation of growing process, single fibre collection efficiency with dust load 1−20595
two-phase zone, stationary kinetic model 1−42664
Al-Cu(Zn), twin dendrite growth during directional crystn. *(Russian)* 1−25599
Al-Si (3 wt.%), healing phenomena of a hole in soldi-liq. coexisting zone *(Japanese)* 1−31450
Au dendrite on graphite, crystallite self-diffusion, thermal treatment *(French)* 1−30605
Cu, dendrites and single crystals, electrolytic method for growth in gel 1−20596
Cu-Sn (8wt.%), solidification, solute distrib. and diffusion behaviour *(Japanese)* 1−3717
Cu-Sn alloy, columnar dendrite study *(Korean)* 1−12006
K_2TiO_3 fur fibres, synthesis by disc process *(Japanese)* 1−16725
NH_4Cl-H_2O, unidirectionally solidified, direct obs. as function of gravity level 1−7497
Ni-Al-Ta dendritic monocrysts., solidification, solute redistribution during and after 1−16767
Pb dendrites, growth from gels 1−12007
Si ribbon growth by dentritic web process 1−3602
Si ribbon-to-ribbon crystal growth, dendritic struct., photovoltaic efficiency 1−3603
Si, sheet, supported growth from melt on ceramic substrate 1−3639
SiC coatings, review of CVD conditions 1−31361
$ZnCl_2$ battery, H_2 evolution and Zn nodular growth 1−31866
dendritic crystals *see dendrites*
dendritic structure
diamond, synthetic, surface struct. 1−20520
IN-100, Ni-base superalloy, directionally solidified, dendrite arm spacing 1−53169
prismatic dislocation loops, loops, dendritic climb, circular form stability 1−20204
steel, tool M2, electron beam and laser melting, comparative study 1−3976
Al-Si (3 wt.%), healing phenomena of a hole in soldi-liq. coexisting zone *(Japanese)* 1−31450
Co-Cr-Mo alloys, adhesive wear resist., influence of microstruct. 1−12889
Cu-Sn alloy, columnar dendrite study *(Korean)* 1−12006
Fe ingots, directionally solidified, deoxidised with Al, inclusion morphology and comp. 1−39330
Fe-C-Si facing alloys, wear resist. and fatigue strength, effect of Si 1−16901
MnBi-Bi eutectic alloys, directionally solidified, depend. of fibre spacing on growth parameters 1−8290
(Ni,Cr)-Cr_7C_3, two-phase alloys, dendritic, tensile elongation, microstruct. aspects 1−21549
Ni-Al-Ta dendritic monocrysts., solidification, solute redistribution during and after 1−16767
Ni-Al(-Ti)(-Cr), ageing accompanied by γ'-phase precipitation, struct. form. during slow cooling *(Russian)* 1−12763
Ni-Si, ageing accompanied by γ'-phase precipitation, struct. form. during slow cooling *(Russian)* 1−12763
Pb-Sn(Au) alloys, primary dendrite spacing 1−26444
Si ribbons grown by capillary action shaping, struct. and elec. characterisation of defects 1−2357
Sn-Pb alloy, semi-solid, rheological behaviour under deform. 1−43439
dense fluids, theory *see liquid theory*
densification
see also density; powders; sintering
ceramic, powder compaction, mathematical description 1−16728

densification continued
dynamic compaction by a high speed punch to produce interparticle melting 1−35212
fibre and composite materials, isentropic densification 1−12689
glass-mica composite materials, fabrication, effects of temp., pressure and water 1−12715
glassy alloy ribbons, warm consolidation and cladding 1−31382
metal powders, coefficient of external friction in pressing 1−12684
nonoxide ceramics, residual strain effect on high press. densification, TEM. Obs. 1−53145
polystyrene powders, packed, rheology 1−35497
polyurethane, Solithane 113 elastomer, press. depend. of glass transition 1−11692
porous cylinders, densification in absence of passive deform. limit 1−3655
porous cylinders, densification under conditions of restricted passive deform. 1−11325
porous materials, cold pressing, high-speed, theory of dimens. for calc. density 1−21377
powder compacts, densification during nonisothermal sintering, pore vol. reduction during initial heating before isothermal holding 1−53124
powder densification, hollow spheres model 1−31379
rheological coefficients, of densification of powder materials 1−12683
β′-Sialon, hot pressed, microscopic study of morphology 1−16730
Sialon, processing effect on props. 1−16733
sintering, cold, under high press. 1−35210
steel, C, synthesised from Fe powder and white cast Fe mixture, microstruct. form. 1−39277
steel, Cr, powders, struct. and props. 1−53248
steel, stainless, powders, high-pressure compaction and cold-sintering 1−53135
steel, tool, melting and solidification during dynamic powder compaction 1−53117
steels and alloys, manufactured by hot isostatic compacting, Ar content determ. *(German)* 1−31918
Ag-Sb powder, internally oxidised, sintering behaviour 1−8250
AgCdO, worked sintered, working and heat treatment effect on strength props. 1−3781
Al alloy containing Al_2O_3 and SiC particles, prep. and mech. props. *(Korean)* 1−16720
Al_2O_3, hot pressing kinetics, MgO addition effect 1−31391
Al_2O_3, sintering, rare earth oxide effects *(Japanese)* 1−12706
Al_2O_3, slip cast, MgO and NiO effect on sintering 1−48310
β-Al_2O_3-Na_2O powder, solution spray dried and freeze dried, prep. and hot pressing 1−16744
Al_2O_3-SiO_2, mullite-corundum ceramic, hot pressing study 1−12700
BN materials, texture form. during densification 1−39347
BaC_6, prep. and phys. props. 1−35205
C/C composites, with pitch as matrix precursor, process parameters influence on mech. props. 1−35306
cc $LaNi_5H_x$ porous metallic-matrix compacts, prep. and props. 1−21382
CdS, sintering 1−16749
Cu powders, coeff. of external friction in pressing 1−12684
Eu_2O_3, hot pressing, effect on phase transform 1−16742
Fe powders, coeff. of external friction in pressing 1−12684
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, dynamic compaction processing prep., mech. props. 1−35355
p-GaAs fine grained powder, compacted, piezoelec. effect 1−21129
$HUO_2PO_4.4H_2O$, pressure induced planar glide, soln. phase sintering 1−26400
MgO, Cr_2O_3 dopant effect on densification and grain growth *(Japanese)* 1−16723
MgO:F^-, sintered compact, charact. 1−39291
MgO:$Mg_2P_2O_7$+ZrP_2O_7, effect of additions on sintering *(Japanese)* 1−26403
MoS_2-Mo porous material, densification kinetics in hot pressing 1−53123
Ni powder compacts, densification during isothermal sintering, pore volume reduction during nonlinear and linear temp. rises 1−39278
PLZT, compaction during hot pressing 1−21394
Si-Al-O-N, densification mechanisms during hot pressing 1−39292
Si-Al-O-N fabrication, by hot-pressing of compacts prep. by nitriding of SiO_2/Al/Si *(Japanese)* 1−48315
Si-Zr-N(C)-O, phase relations 1−16763
SiC, gas phase impregnation 1−21363
α-SiC, initial-stage sintering with concurrent B and C additives 1−21406
SiC, submicron, prep. from siliconization of C black in presence of Al, sinterability *(Japanese)* 1−31404
Si_3N_4, hot pressed with low amounts of additives, mech. props. 1−16736
Si_3N_4 polyphase systems, fabrication, microstruct., props., review 1−8261
Si_3N_4, processing effect on props. 1−16733
Si_3N_4, reaction bonded, post sintering, mech. props. 1−16737
Si_3N_4-CeO_2 (Ho 20 wt.%) hot pressing 1−48307
Si_3N_4-CeO_2-Al_2O_3, ceramic, phase effects, high temp. strength 1−3753
Si_3N_4-Y_2O_3-$Al2O_3$, ceramic, phase effects, high temp. strength 1−3753
SiO_2-B_2O_3 glass synthesis by hot-pressing of gel 1−31411
SiO_2-P_2O_5 glass synthesis by hot-pressing of gel 1−31411
SiO_2-TiO_2 glass synthesis by hot-pressing of gel 1−31411
SrC_6, prep. and phys. props. 1−35205
TiN_x coating, deposition by thermionically assisted triode reactive ion plating 1−16704
W-Fe-Ni (5, 5 wt.%), prod. using mech. alloying technique 1−3663
Y_2O_3:LiF, compaction kinetics 1−8259
ZnO-Bi_2O_3 ceramic, sintering and varistor characts. 1−3675
ZrB_2-ZrC(C), densification and hot pressing 1−31402

densimeters *see densitometry*

densitometers *see densitometry*

densitometry
see also photometry
air/water mixtures, steady-state flow meas. using pitot tube and gamma densitometer 1−11480
automatic microdensitometer, use of for analysis of X-ray powder diffraction photographs 1−18350
autoscanning densitometer with PM DC stepping motor drive 1−5428
computerised tomography scanners, theory and application 1−43998
energy-dispersive absorption edge densitometry for nondestructive assay of special nuclear materials 1−14634
gas-phase electron diffraction patterns, device for oscillating or rotating photographic plates 1−362
high voltage pulse discharges, diagnostics using equidensitometry 1−19956
laser image recorder, high-resolution, with integral wet film processor 1−45054

densitometry continued
microdensitometry techniques, automated, appl. to solar system occultations prediction 1−44411
microprocessor based data acquisition and reduction system for mass spectrometric densitometry 1−50187
optical densitometer with low drift rate 1−325
photographic transparency digitiser using oscilloscope as scanning light source 1−28085
Wiener spectra and black-and-white film granularity measurement using linear microdensitometer 1−33076

density
see also atmospheric pressure and density; density measurement; density of gases; density of liquids; density of solids
density functional theory, approx. kinetic energy relations 1−51082
gravitational instability, nonlinear, in flat gaseous systems, conditions for density perturbations growth 1−44430
Gulf Stream, density distribs. in two cyclonic rings 1−17597
interstellar medium density, effects on supernova remnants evolution and supernova statistics 1−44609
interstellar molecular clouds, temp. and density models rel. to H_2CO and HCO^+ abundances 1−9618
ocean, density fronts dynamics and appl. to Gulf Stream 1−17595
Pluto-Charon system, total mass and density from speckle interferometric resolution with CFH telescope *(French)* 1−32655
polystyrene/tetramethyl bisphenol-A carbonate 1−35352
sorption of H_2 on solid CO_2, density, refractive index and sorption capacity meas. 1−25552
steel-casting taps, SP-12, sonic NDT 1−12950
Universe density perturbations, growth rel. to galaxy clusters peculiar vels. and Universe average mass density *(Russian)* 1−32789
interstellar H II/mol. cloud complexes in southern hemisphere, 1.0 mm maps and radial density distribs. 1−13823

density, atmospheric *see atmospheric pressure and density*

density, vapour *see density of gases*

density measurement
see also hydrometers
axisymmetric plane, temp. and density meas. by crossed beam correlation technique 1−5286
bone density determination by coherent-Compton scatt. 1−26991
computerised tomography numbers rel. to specific gravity 1−43964
dielectric dipole moment determ. based on density and dielec. charact meas., automated complex 1−23272
dielectric permittivity meas. as aid in press. and density determ., high press. studies 1−28019
direct and indirect methods for meas. liquid density *(French)* 1−44888
ethylene density meas. vibrating element method accuracy 1−27932
gas jet density meas. by laser Rayleigh scatt. 1−23184
industrial continuous density meas. by vibrating system 1−27933
inhomogeneous material is conduit, high temp., nonintrusive density meas. using penetrating radiation 1−14105
liquid petroleum gas, vibrating method *(Japanese)* 1−238
macromolecule buoyant density small differences determ., analytical density gradient equilib. centrifugation 1−13361
metal vapour in heat pipe, number density meas., interferometric technique 1−44995
methane-air flame, laminar premixed, temp. and mol. conc. meas. 1−4093
molten salts single and multi-component systems, elec. cond., density, viscosity and surface tension data 1−50104
resonant element transducers, digital measurement systems 1−18216
water, absolute density redetermination, buoyancy method, laser interferometer and hydrostatic balance appl. 1−23188
He bubble density in Al films, optical far VUV spectroscopy 1−23314
KNO_3, molten salts, density, surface tension, viscosity and elec. conduct., reference standards 1−50103
NaCl, molten salts, density, surface tension, viscosity and elec. conduct., reference standards 1−50103

density of gases
equilibrium gas, hydrodynamic fields fluctuations distrib., Fokker-Planck eqn. *(Russian)* 1−2132
ethylene density meas. vibrating element method accuracy 1−27932
heat transfer agents, organic and silicon, density and viscosity determ. in temp. range of their practical appl. 1−52208
inert gas, dense, triplet interactions with multiparameter pot. 1−37295
inert gas, equil. and transport props., room temp. up to 1 GPa, dil. gas to solid range 1−38042
isotropic molecules, depolarising dipole induced dipole effect in Rayleigh and Raman scatt., density depend. 1−37216
neopentane, fluid, depend. of cond. band energy and electron mobility on density 1−51905
organic, compressibility factor, antisymmetry of logarithm 1−29834
rare gases, extrapolated equation of state at high temps. and densities 1−42119
tetramethylsilane, fluid, depend. of cond. band energy and electron mobility on density 1−51905
Cu vapour laser, vapour produced by electrical explosion of conductors, vap. density meas. 1−24407
H, spin polarised, magnetisation and density 1−1083
^4He, dense gas, second mobility edge for excess electrons, density and temp. determ. 1−24921
N_2, compressibility factor, antisymmetry of logarithm 1−29834
O_2, compressibility factor, antisymmetry of logarithm 1−29834
Xe, compressibility factor, antisymmetry of logarithm 1−29834
Xe, depolarisation factor of light scattered in crit. region 1−38048

density of liquids
see also hydrometers
DL-alanine in acetonitrile-H_2O mixture, viscosity and density determ. between 25 and 40°C 1−22023
aliphatic alcohols, densities meas. in temp. range 200-570K 1−52207
amines, dilute aq. solns., isentropic compressibility determ. 1−20294
aqueous electrolyte solns., density, viscosity and electrolytic cond. *(Japanese)* 1−52212
BBCA-p-anisal-p-toluidene nematic mixtures, US vel., specific vol., and related props. 1−15952
cyanohexyloxybiphenyl-cyanooctyloxybiphenyl mixtures, density meas. near reentrant nematic phase 1−30291
4,4'-dialkylazoxybenzenes, unsymmetrical, synthesis and phys. props. 1−2316
drag reducing polymers, aq. soln., adiabatic compressibility and solvation 1−51822

density of liquids continued
ethanol-H_2O, struct. factor, density fluctuations, enhancement Lorentzian function approx., X-ray scatt. 1−53014
ethylene, low-temperature PVT data by NMR method 1−25350
glycine in acetonitrile-H_2O mixture, viscosity and density determ. between 25 and 40°C 1−22023
heat transfer agents, organic and silicon, density and viscosity determ. in temp. range of their practical appl. 1−52208
industrial continuous density meas. by vibrating system 1−27933
interface, planar, spherical and cylindrical, variation of density in vicinity 1−15940
isotropic molecules, depolarising dipole induced dipole effect in Rayleigh and Raman scatt., density depend. 1−37216
Lennard-Jones fluids, free surface, monotonic and oscillatory density profiles 1−2301
liquefied petroleum gas components and mixtures in cryogenic storage, densities and permittivities 1−47141
liquid metal, diffusion expts., convection effects 1−25479
metals, liquid, microparacrystals, struct. and packing density 1−7062
molten salts, dynamical coupling, density fluctuations 1−42274
molten salts single and multi-component systems, elec. cond., density, viscosity and surface tension data 1−50104
neopentane, fluid, depend. of cond. band energy and electron mobility on density 1−51905
organic liquids, US velocity and density meas., rel. between internal press. and fusion temp. 1−47172
n-paraffins, isoviscous solns. equilib. props. *(Russian)* 1−7223
pentachloroethane-N,N-dimethylcyclohexylamine H bond chem. shift 1−6287
solvation forces, chemical potential effects, Monte Carlo methods 1−47137
tetramethylsilane, fluid, depend. of cond. band energy and electron mobility on density 1−51905
water, absolute density redetermination, buoyancy method, laser interferometer and hydrostatic balance appl. 1−23188
water, linear least-squares data fitting, Householder reflection program package 1−30491
water, liq., struct. at high temp. and density, mol. dynamics calcs. 1−42285
water, liquid-vapour interface, Monte Carlo simulation of surface props. 1−34545
Ar, computer simulated, equilib. props., periodic bound conditions effects 1−46978
Ar, orthobaric liq., molar vel. and isothermal compressibility, pVT data 1−38422
Au melt, struct. and density, neutron diffr. obs. 1−25151
Au-Cs melt, struct. and density, neutron diffr. obs. 1−25152
Au-Cs melt, struct. and density, neutron diffr. in small q region 1−25153
Au-Cs melt, struct. and density, γ-absorpt. method obs. of density 1−25351
$Ca(NO_3)_2$ in aqueous and non-aqueous solns. 1−25375
$Ca(NO_3)_2.4.05H_2O$-$Ni(NO_3)_2.5.75H_2O$, molten, soln. props., cond., viscosity, density, refr. index, and surface tension meas. 1−20438
$Cd(NO_3)_2.4.12H_2O$-$Ni(NO_3)_2.5.71H_2O$, molten, soln. props., cond., viscosity, density, refr. index, and surface tension meas. 1−20438
Cs, liquid, heat capacity meas. to 2000K, with density down to ρ_{crit} 1−25450
Cs melt, struct. and density, neutron diffr. obs. 1−25151
D_2O, struct. factor, density fluctuations, enhancement Lorentzian function approx., X-ray scatt. 1−53014
Fe-C(P)(P-C) eutectic liq. alloys, viscosities by capillary method 1−25483
H_2-D_2 liquid solutions, dielectric const. and molar volume *(Russian)* 1−3318
H_2-D_2 soln., molar and excess molar vol. determ. by dielectric const. meas. 1−52209
H_2O, P-V-T data, 20 to 600°C and up to 4 kbar 1−42507
H_2O, struct. factor, density fluctuations, enhancement Lorentzian function approx., X-ray scatt. 1−53014
^{3}He, liquid, spin polarised, ground state fluctuations 1−2749
^{3}He, superfluid, A- and B-phases, dissipation in flow through narrow rectangular channel 1−16132
^{3}He, superfluid, spinless collective excitation gaps in presence of dipole forces 1−16130
^{3}He, superfluid B-phase, autocorrelation functions of density and transversal current in collisional regime 1−11946
^{4}He liquid, density excitation spectrum at OK with ^{3}He atom moving in it 1−11938
^{4}He, liquid, thermal conductivity in critical region 1−52374
Hg and dilute amalgams, elec. and thermodynamic props. behaviour at high press. and temp., metal-nonmetal transition 1−25773
Hg, reflectivity obs., density depend. and metal-nonmetal transition region behaviour 1−26198
Hg, thermal conductivity and density meas. 1−42740
In-Te system, liq. phase equil., existence limits of two-phase region, crit. demixing temp. 1−42528
K-KCl molten mixture, viscosity anal. rel. to struct. 1−25485
KNO_3, molten salts, density, surface tension, viscosity and elec. conduct., reference standards 1−50103
Li-Mg liquid alloys, density, compressibility, specific heat and neutron diffr. 1−25449
N_2, saturated and compressed fluid, (p,V,T) meas. 1−30351
N_2-methane mixture, compressed and liquefied, (p,V,T) meas. 1−30352
NH_3, dilute aq. solns., isentropic compressibility determ. 1−20294
NaCl, molten salts, density, surface tension, viscosity and elec. conduct., reference standards 1−50103
NaCl solution, P-V-T data, 20 to 600°C and up to 4 kbar 1−42507
Na_2O-GeO_2 melts, physical props. *(Japanese)* 1−25353
PbS(Se)(Te), liq., elec., thermal, mag. and physio-chem. props. 1−20722
^{222}Rn, liquid, thermophysical props., Lennard-Jones parameters 1−47275
Xe, depolarisation factor of light scattered in crit. region 1−38048
$Zn(NO_3)_2.xH_2O$, molten, soln. props., temp. depend. 1−20510

density of solids
alkali halide, radiolysis processes, high temp. irradiation *(Russian)* 1−48706
alloy, compressibility determ. from density 1−25359
borate glasses containing Bi_2O_3 or PbO, glass-forming regions and optical props. 1−42320
ceramics, preparation as function of load and speed of rotation 1−48633
chamotte refractory, dense, with high thermal shock resist., prod. 1−12702

density of solids continued
crosslinked epoxy/amine polymers, thermodynamic props. 1−11884
difluorides, MF_2 (M=divalent cation), rutile struct., elasticity and phase transform. 1−39360
germanate glasses containing Bi_2O_3 or PbO, glass-forming regions and optical props. 1−42320
glass reinforced Al-Mg-Si powders, strength of cold-pressed compacts 1−43299
graphite, POCO, thermophysical properties meas., room temp. to 2400K 1−20481
kaolin refractories of specified density, prod. parameters 1−12701
lanthanum borate glasses, Faraday rotation and other props. 1−3373
lunar regolith microfragments, physical prop. determ. 1−32636
metal, internal damage calc., caused by drawing, cylindrical specimen, several passes *(French)* 1−3774
orientationally disordered solid, eqn. of state and internal phonon radiation press. 1−38493
plastic, cold forming, recovery due to viscoelastic props. *(German)* 1−26497
plastics, powder and pellet form, bulk density vs. hydrostatic pressure characts., feed material 1−34392
PMMA, density and mech. props., effects of thermal history 1−35327
polycaproamide, modified with polyethylene glycol, struct. of fibres and granules *(Bulgarian)* 1−7089
polycarbonate, bisphenol A, fatigue and crazing, X-ray obs. 1−35361
polyethylene, injection moulded, crystn. and amorphous orientations 1−43366
polyurethane elastomers/PVC blends, compatibility of mixtures 1−48439
porous materials, cold pressing, high-speed, theory of dimens. for calc. density 1−21377
powder densification, hollow spheres model 1−31379
rare earth metaphosphates, vitreous, physicochemical props., lanthanide-compression and tetrad effects 1−38290
shock poles of bodies with compact isotropic struct., calc. using Morse pot. *(French)* 1−38456
Sialon, additives effect on sintering 1−48312
silicate glasses, Brillouin scatt. and Pockels coeffs. 1−8083
sintering, cold, under high press. 1−35210
sintering mechanism diagrams 1−39261
specific volume determ. on basis of interatomic interaction pot., press. and temp. depend. 1−47142
steel, alloy, commercial, sintering effect on fracture toughness and yield strength 1−53134
steel, Cr, powders, struct. and props. 1−53248
steel, low C, damage generation during sheet metal forming, inclusion effect *(French)* 1−3770
transition metal alloys, T^{10}-B^1 and T^{10}-B^2, relations between structural and thermodynamic props. *(German)* 1−20129
Ag coatings, mech. props. meas. 1−12784
Ag powder charact., SEM obs. *(German)* 1−48299
$AgGaS_2$, crystal growth, props. 1−16677
Al, coatings, mech. props. meas. 1−12784
α-AlB_{12} single crystal, growth conditions, oxidation, hardness and density *(Japanese)* 1−48252
AlN, based high-density ceramic, prep., mech., thermal and dielec. props. 1−31390
Al_2O_3 anodic coatings, porous, density determ. and surface anal. using MeV ion beams 1−35419
β''-Al_2O_3 ceramics, dense conductive, by spray-freeze/freeze-drying, props. 1−31541
Al_2O_3, corundum ceramics, light transmittance, effect of technological parameters 1−53307
Al_2O_3, refractory concrete, creep 1−31523
Al_2O_3, sintered, influence of ZnO, NiO, Cr_2O_3, Sb_2O_5, V_2O_5, $AgNO_3$ and furfuryl alcohol on props. 1−31397
Au coatings, mech. props. meas. 1−12784
Au, sputtered, Kr bubble form. and growth 1−12004
B_2O_3 glass, density and refr. index rel. to struct., high and low press. 1−30078
$BaTiO_3$:Fe, dopant valence state, charge compensation, Mossbauer and gravimetric meas. 1−7185
Be containing amorphous alloys, investigation of ternary alloys with high specific strength 1−12814
C/C composites, with pitch as matrix precursor, process parameters influence on mech. props. 1−35306
C-C laminate composites, thermal and mech. props. 1−7227
$CaAl_2O_4$-SiO_2 glasses, physicochem. anal., comp. depend. and vol. additive props. 1−42318
$CaGa_2O_4$-SiO_2 glasses, physicochem. anal., comp. depend. and vol. additive props. 1−42318
Co-Ag-MoS_2 powder metallurgical composite, mech. props. 1−39464
Co-Ag-$NbSe_2$ powder metallurgical composite, mech. props. 1−39464
$Co_{100-x}Ga_x$, thermal and constitutional vacancies 1−25258
$Co_2Ga_{2-x}Fe_x$, vacancies and site occupation, Mossbauer, X-ray diffr., and density meas. 1−7984
Cr vacuum deposited film, mass thickness and true density determ. 1−25597
$Cs_3NpO_2Cl_4$, crystal struct. 1−47061
Cu-Sn-WSe_2-(graphite)-Pb powder metallurgical composite, mech. props. 1−39464
$CuGaS_2$, crystal growth, props. 1−16677
$CuInS_2$, crystal growth, props. 1−16677
$CuInSe_2$-$CuInS_2$ system, interaction of components, physicochemical characteristics 1−31432
Fe powder compact, pure and Cu-infiltrated, sintering behaviour on A_3-cyclic heating *(Korean)* 1−16714
Fe, sintered, Fe_3P addition effect on mag. props. and struct. 1−52805
Fe sinters, magnetically soft, influence of P on props. 1−39476
Fe-B amorphous alloy, density, anomalous behaviour 1−11682
Fe-C (0.2 wt.%), powder forged, yield and fracture prediction by NDT 1−53385
$(Fe\text{-}Ni)_{86}B_{14}$ glassy alloys, mag. and struct. props. meas. 1−30982
$Fe_{82}B_{13}Si_5$, amorphous ribbons, Metglas 2605S, perpendicular mag. anisotropy, Mossbauer, X-ray diffr., and density meas. 1−52771
$Fe_{82}B_{13}Si_5$, amorphous to cryst. transform., Mossbauer, X-ray diffr. and density obs. 1−11688
GaAs:Te(Sn)(Cr), fast neutron irrad. effects on props. 1−25331
Ge, coatings, mech. props. meas. 1−12784
H_2, solid, molecular, induced near IR absorpt. spectrum, density effect, 4.2K 1−39103
Hg-Ge-Se-Te system, glass form., struct. and elec. cond. 1−30079

density of solids continued
KCl:Ba^{2+}, metastable phase form. during precipitation, density meas. 1−25443
K_2O-Al_2O_3-P_2O_5-TiO_2 system, glass form., props. depend. on chem. comp., struct. interpret. 1−52077
Li_2O-$(LiCl)_2$-B_2O_3 glasses, fast Li^+ ion conduction 1−30454
MgO, sintered, combined effect of ZrO_2, TiO_2, Al_2O_3, ZnO, LiF, MgF_2 and Al on props. 1−31396
Mo alloys, crystal structure and density data 1−23
Mo chalcogenides, crystal structures and density data 1−24
Mohalides, crystal structures and density data 1−24
N_2O, solid, thermal expansion and thermodynamic props. X-ray studies *(Russian)* 1−2659
NaCl single cryst., elastic props. up to 9 GPa and 293K 1−34397
$Na_5GdSi_4O_{12}$, dense, highly conductive nasicon, prep. and charact. 1−31394
Na_2O-Nb_2O_5-P_2O_5 glasses, crystn. tendency, optical props., and density 1−42319
$NaPO_3$-$ZnCl_2$ glass system, IR absorption and struct. 1−3386
Ni-Au, relation between structural and thermodynamic props. *(German)* 1−20129
Ni-base superalloys by powder metallurgy techniques, vacuum sintering and heat treatment 1−39269
Ni-Mo-MoS_2 powder metallurgical composite, mech. props. 1−39464
Ni-P-TiB_2 cermet, Ni-P binder, prep., props. 1−3688
Ni-Zn ferrites, hot-pressed, composition and static and dynamic magnetic properties *(Russian)* 1−30979
$PbBi_4Ti_4O_{15}$, mixed oxide ferroelec. with layer type struct., X-ray powder diffr. obs. *(Chinese)* 1−47051
$Pb_{1-x}Sn_xTe_{1-y}Se_y$ solid solutions, IR spectra, band gap *(Russian)* 1−21214
Pb(Zr,Ti)O_3-polymer extruded composite, electromech. transducer appl. 1−21408
Pd-Si glasses, Young's modulus, density, glass temp. 1−20067
Sb_2O_3, vitreous, form., physicochem. props. and IR spectra 1−16573
SiC, heat treatment effect on density and struct. 1−8346
SiO_2, vitreous, refinement of random network model 1−7085
SiO_2 vitreous solubility of TiO_2, structural basis of thermophysical props. 1−20072
SiO_2-Na_2O-SrO (11.9, 19.3 wt.%), liquid phase-separated, density 1−43326
$SrBi_4Ti_4O_{15}$, mixed oxide ferroelec. with layer type struct., X-ray powder diffr. obs. *(Chinese)* 1−47051
$Tb_{0.25}Cu_{0.75}$ amorphous alloy, small-angle neutron and X-ray scatt., thermal stability, density and mag. props. 1−25165
ThF_4-BaF_2-MF_2 (M=Mn, Zn) glasses, IR transmitters *(French)* 1−3354
TiN powder, hot pressing and vacuum sintering 1−21399
TiO, non-stoichiometric ceramics, physical props. *(Japanese)* 1−20415
TiO_2-SiO_2 glasses, prepared from metal alkoxides 1−31407
V_2O_5-P_2O_5 glasses, struct. rel. to phys. props. 1−30073
ZrF_4-BaF_2-YF_3-AlF_3 system, fluoride glass form. 1−34238
ZrN powders, sintering, effect of particle size 1−26415

density of states, electron *see electronic density of states*

deoxyribonucleic acids *see DNA*

deperming *see demagnetisation*

desalination
double exposure solar still 1−17292
electrodialyser U-turn, mass transfer analysis 1−6892
Salton Sea solar poind project, economic and technical feasibility for electric power generation and salt depository application 1−53649
seawater, large scale desalination using solar power 1−8673
seawater desalination by reverse osmosis 1−43700
solar assisted desalination scheme, critical review 1−8669
solar assisted HTE desalination scheme, critical review 1−8668
solar desalination units for water treatment and NaCl, $MgCl_2$ prod. 1−17294
solar energy for desalination 1−17175
solar stills for direct solar distillation of seawater 1−17293
waste water desalination by ion-exchange 1−8544

desalting *see desalination*

describing functions
see also control system analysis
nonlinear devices, perform. anal. using describing-function method 1−8664

design aids
see also design engineering; nomograms
No entries

design engineering
see also project engineering; systems engineering
automotive components, design methodology using fibre reinforced composite materials 1−39585
cryogenic wind tunnels, design 1−15562
solar cell blanket design for Space Telescope's roll-out solar array 1−39780
space vehicle, large flexible solar cell arrays, design verification 1−39801

desk calculators *see calculating apparatus; electronic calculators*

desk-top computers *see minicomputers*

desorption
adsorbed layers, electron-stimulated desorption imaging using cylindrical mirror analyser 1−30556
Ag/KCl pyridine electrode, Raman spectra, depend. on Ag pot. and pyridine concen., adsorpt., desorpt. 1−17059
annual review of physical chemistry (book) 1−9789
atomic desorption from crystalline solid, generalised Slater theory 1−47368
Auger initiated desorption, reneutralisation bottleneck 1−38658
dissociating molecules, adsorption-desorption kinetics, with allowance for interaction between adatoms 1−25575
DNA, differential scanning calorimetry studies on dehydration 1−48963
electron stimulated, ion angular distribution meas. 1−50285
electron stimulated, optical radiation from excited atoms and molecules 1−33420
field desorption, charge hopping and charge draining mechanisms 1−38657
field desorption emitter temperature regulator for constant temperature control 1−50260
fluoromethane-NaCl, evaporation and desorption by IR laser reson. excitation of mol. vibr. 1−20574
gas desorption from electrodes and elec. breakdown in vacuum 1−43702

desorption continued
gas-solid system with many physisorbed bound states, desorption by phonon cascades 1−38651
glass, of gases *(German)* 1−52436
glass surface coating, effect of SnO_2 film on wear resistance of long-chain aliphatic lubricants 1−53326
graphite, intercalation and desorption kinetics 1−34584
graphite-Br compounds, thermal gravimetric anal. of desorption 1−8614
halide salts dissociation by electron beams 1−4055
heavy ion-induced desorption mass spectroscopy for biochemistry 1−27042
interstellar molecules desorption on grains, Langevin eqn. and iterative extended Huckel appl. 1−49489
ion energy and mass determ. by time-of-flight in cylindrical mirror analyser 1−5433
kinetics, rate expressions, precursor states and lateral interactions 1−38662
liquid He refrigeration system multilayer thermal desorption calc. 1−2828
metal, thermodesorption of CO, kinetic modelling *(German)* 1−52437
metal hydride form. and surface effects 1−2805
metal single crystal surfaces, adsorpt., desorption and surface reaction, struct. and comp. effect, book contrib. 1−13039
metal surfaces, emission due to electron bombardment up to 500 eV *(Polish)* 1−3548
metals, surface recombination rate constant for H isotopes 1−7461
multicomponent mixtures on solid surfaces, kinetics and equilib. state, review 1−7474
nanosecond electric field reversal system for surface ionisation study 1−50172
nuclear fusion vessels, first wall materials, low-Z, trapping and re-emission study of energetic ions *(Japanese)* 1−28698
polyadenylic acid, differential scanning calorimetry studies on dehydration 1−48963
polymer films, conc. depend., boundary-layer resist. and time-lag diffusion coeff. 1−52355
polymer-solvent mixtures, solvent diffusion, math. model 1−20551
polystyrene-polybutadiene block copolymers, gas and vapour transport and soln. 1−34571
porcelain bodies, unified desorption isotherms 1−7451
rare earth alloy, RFe_2H_x (R=Gd, Tb, Ho, Er, Tm, $2.7 \leq x \leq 3.3$), H_2 desorpt. kinetics 1−25579
solid surface, of gas, quantum statistical theory 1−16187
stainless steel, type 304, CO adsorbed layer, ion-induced desorption cleaning 1−25559
steel, 0Kh16N15M3B, H, methane, CO release on heating 1−5851
steel, austenitic stainless, D_3^+ implantation, depth profiling and thermal desorption 1−25314
steel, stainless, monodispersed haematite particle interactions, depend. on pH, flow rate, temp. and additives 1−35580
steel 20 KhN3A, contact endurance, preliminary H absorpt. influence 1−35441
steel plates, adsorpt. and hysteresis behaviour of crack-detecting liq. penetrants 1−47374
thermodesorption gas hygrometer with power-differential transformation 1−27993
ultra high vacuum residual gases, qualitative and quantitative analysis *(French)* 1−9990
Ag (100), adsorption of Cl_2, AgCl, overlayer to bulk halide transition 1−20571
Ag(110), of O_2, lateral interactions effect 1−25567
Al, polycryst., chemisorption of methanol, UPS, XPS 1−21778
Al_2O_3 surface, H_2O doped, photon-stimulated desorption by core level excitation, density of states and extended fine structs. 1−38664
Au (100) reconstructed surface, adsorption of Br_2, LEED, thermal desorption, and work function meas. 1−7468
BeO surface, H_2O doped, photon-stimulated desorption by core level excitation, density of states and extended fine structs. 1−38664
C, surface struct. and chem. comp., functional groups synthesis 1−53466
CO, adsorption and desorption rate on Pt(110), coverage determ. 1−8610
CO, chemisorption on clean and carbonized Os, desorption and photoemission obs. 1−14958
CO, coverage determ. by VUV reson. fluoresc. of laser-desorbed particles 1−30554
CO desorption from W and Cu, laser stimulated photodesorption, mol. vibr. coupling 1−43698
CdSe surface, O_2 thermal and photostimulated desorption *(Russian)* 1−2814
Ce-La-Ni, hydride development for hydrogen storage 1−20556
$CeMg_{11}Ni$(Cu)(Zn), struct., hydrogen sorption-desorption cycles *(French)* 1−20560
Cu, annealed and prebombarded surface, ion-induced desorpt. of adsorption layers 1−25557
Cu, desorption of Cu, laser stimulated photodesorption, mol. vibr. coupling 1−43698
Cu, submonolayer coverage of S, positronium thermal desorption thermodynamics 1−52632
Cu-Ni, constantan, of He, quantum statistical theory 1−16187
$DyCo_5H_x$ (x=0 to 4.25), H_2 desorpt. isotherms 1−2803
Fe, absorption of N_2, isotopic exchange 1−25571
Fe, adsorption of H_2 on (110), (111), stepped (111) surfaces, LEED and thermal desorpt. study 1−11975
FeTi, surface segregation by hydrogenation, ^{57}Fe Mossbauer conversion electron study 1−3303
$Fe_{0.5}Ti_{0.5}$, solubility and diffusivity of $H_2(D_2)$ at low conc. 1−20390
$Fe_{0.5}Ti_{0.5}H_x$, in equilib. with H_2 gas, phase diagram and thermodynamic parameters 1−8276
GaSb, MBE on GaAs, surface reaction phenomena *(Japanese)* 1−31356
Ge surface interaction with S vapour, mol. processes, etching, sulphide film form. 1−38669
H_2, coverage determ. by VUV reson. fluoresc. of laser-desorbed particles 1−30554
HF desorption effects, chemical reactivity, electron scattering, electron energy-loss obs. 1−19182
Ir (110), coadsorption of H_2 and CO 1−7466
Ir(110)(1×2) reconstructed surface, adsorption of water, LEED, XPS, contact pot., and thermal desorption meas. 1−38663
$La_{1-x}Mg_xNi_2$, hydride form., lattice parameter meas. and desorption expts. 1−7134
$LaNi_4$, H_2 absorption and desorption charact. 1−4122
$LaNi_5H_x$ fuel cell, appl. in vehicular propulsion 1−21874
$LaNi_5H_x$-type hydrides, use in Ni-H_2 batteries 1−21875
$LaNi_{5-x}Mn_x$ and hydrides, thermodynamic and struct. props. 1−25204

desorption continued
$LaNi_{5-x}Mn_x$, of H_2, absorption-desorption isotherms, struct., thermodynamic props. 1−20126
Li_2O, neutron irrad., tritium release, const. heating rate 1−20270
Mg powder as hydrogen storage material, H_2 sorption and desorpt. reactors 1−21766
Mg-La-Ce alloys for hydrogen storage 1−21938
MgH_2, hydriding-dehydriding kinetics, surface Ni effect 1−20559
Mo (100), clean and oxidised surface, adsorption and decomp. of trimethylamine 1−52429
Mo (100), O covered, surface EXAFS by photon stimulated ion desorption 1−20562
Mo (100), photon-stimulated desorption of O following deep core-level excitation 1−52421
Mo, adsorbed CO, chemical evidence for dissociation, flash desorption study 1−26771
Mo, of H_2, by pulsed laser stimulation 1−47369
Mo surface, entrapment of inert gas ions, thermal desorption spectra 1−30543
Mo(100)-C, carbide adlayer effects on N_2, H_2, ethylene, CO adsorption-desorption kinetics 1−20568
NaCl, of H, quantum statistical theory 1−16187
Na_2O-SiO_2 glass film, Na migration, AES study 1−21302
Nb, electron-stimulated desorption of H^+, expt. 1−16184
Ni (100), clean and S-covered, adsorption and reactions of methanol 1−53471
Ni (100), decomp. of methanol(-d_4), IR spectra, thermal desorption, and LEED meas. 1−17108
Ni (100), of CO, adsorbate-adsorbate interactions, desorpt. kinetic meas. 1−38643
Ni, diffusion of He at high temp. *(German)* 1−42584
Ni-Cr-Fe (75, 16, 9 wt.%), intercryst. diffusion and Cr descript. in presence of water vapour, ^{51}Cr tracers appl. *(French)* 1−47283
$Ni_{64}Zr_{36}$, metallic glass and cryst. eutectic alloy, H_2 sorption 1−16178
Os, adsorption of CO on clean and carbonized surfaces desorption and photoemission obs. 1−14958
Pb, laser-induced desorption of H 1−35126
Pd (100) surface, adsorpt. of H_2, thermal desorpt., work function and LEED study 1−16183
Pd and Pd alloys, absorption and separation of H isotopes 1−21767
Pd, of CO, adsorption and desorption meas., photoelectron and electron energy loss spectra obs. 1−7457
Pt (110), adsorption of NO, EELS, LEED, AES, and thermal desorption study 1−38661
Pt (111), chemisorbed states of NH_3, EELS and thermal desorption spectra study 1−8175
Pt (111), interaction with methanol, decomp. reaction 1−39684
Pt (111), rotationally inelastic NO scatt., laser induced fluorescence 1−33497
Pt, adsorption of CO, electron stimulated desorption study 1−38653
Pt, adsorption of H_2, thermally induced state conversion, electron stimulated desorption study 1−20567
Pt, adsorption of O_2, electron stimulated desorption study 1−47378
Pt, adsorption-desorption characteristics of CO, O_2, H_2, flash desorption spectroscopy study 1−38654
Re, chemisorption of NO, NH_3, UPS, XPS, thermal desorpt. and work function study 1−17105
Rh (110), chemisorption of CO and NO, UPS, XPS, LEED, and desorption meas. 1−2822
Rh (111) surface, oxidation, LEED, AES and thermal desorpt. study 1−21621
Rh, dissociation of chemisorbed CO 1−53470
Ru (001), adsorption of NO, work function, thermal desorption, and LEED study 1−11982
Si (111), adsorption and initial film growth of Bi, first adlayer struct. effect on sticking coeff. 1−47386
Si, laser-induced desorption of O 1−35126
Si:H, reactively sputtered, amorphous, kinetic anal. of H evolution 1−34574
SiO_2 surface, H_2O doped, photon-stimulated desorption by core level excitation, density of states and extended fine structs. 1−38664
Si(111), adsorption and desorpion of CO and O_2, ion scatt. spectroscopy study 1−8181
$SmCo_5$ hydriding kinetics for H_2 storage appls. 1−2804
SnO_2 films, pure and Sb doped, elec. props., annealing and O adsorption effects 1−7763
SnO_2, hydrated, prep. by sol-gel method, pore struct., adsorption-desorption obs. 1−39675
$SrTiO_3$, H species characterization by electron-excited Auger stimulated desorpt. 1−34577
Ti film, CO and H_2 impurity adsorpt. and desorpt., ISS obs. 1−25560
Ti, H_2 absorption and desorption 1−42629
Ti-Co, hydride development for hydrogen storage 1−20556
TiB_2 coating on graphite, outgassing characts. 1−30557
TiC coating on graphite, outgassing characts. 1−30557
$TiFE_{0.9}Al_{0.1}$, absorption capacity for H_2 storage, equilibrium pressures 25-120°C 1−43814
TiO_2, H species characterization by electron-excited Auger stimulated desorpt. 1−34577
TiO_2 surface layer, bandgap radiation induced photodesorption 1−47383
V_2O_5(010) surface, ang. depend. photon stimulated desorption of O^+ ions 1−16179
W (100), entrance probability and range of He^+ ions, thermal desorption spectrometry study 1−52201
W (100) adsorption of H, LEED and angle-resolved electron stimulated desorption, temp. depend. 1−25572
W (110), electron-stimulated desorption of O, excitation mechanism and binding sites of O^+-yielding species 1−47377
W (110) and (111), adsorption of Cl, surface ionisation mechanism, thermal desorption, work function, and LEED meas. 1−2826
W (112), desorption and adsorption kinetics of Cs ions using spherical thermionic electron projector 1−30546
W, bubble nucleation study using thermal desorption spectrometry, clusters of 2 to 100 He atoms 1−2809
W, coadsorption of N_2O, N_2, and O_2, flash desorption mass spectra study *(Japanese)* 1−38650
W, desorpton of CO, laser stimulated photodesorption, mol. vibr. coupling 1−43698
W, electron-stimulated field desorption of multiply charged He and Ne ions 1−16671
desorption continued
W, of Eu, adsorbed atom lifetime, conc. depend., flux modulation method 1−25577
W:C surface interaction with O_2, electron stimulated desorpt. study 1−21763
ZnO (10$\bar{1}$0), physical adsorption and thermal desorption of CO_2, CO, O_2, Xe, and H_2 1−7467
ZnO, of Zn, binding states, surface cond., LEED, and AES meas. 1−7470
Zr_x foil, H_2 absorpt. and desorption 1−52296
detection (demodulation) *see demodulation*
detectors
see also electric sensing devices; hydrophones; infrared detectors; microwave detectors; nonelectric sensing devices; particle detectors; photodetectors; ultraviolet detectors
acoustic sensor, using diode laser 1−24617
coal/shale interface detector, combines penetrometer and reflectometer meas. 1−36724
direct and indirect sensors, trends *(Japanese)* 1−32980
error structure and systematics of transmission behaviour *(German)* 1−23205
filamentary semicond. detectors for simultaneous mag. field and temp. meas. 1−50178
flueric laminar jet angular rate sensor design 1−36626
high performance liquid chromatography, a review 1−13048
hydrodynamic acoustics meas., optimised sensors design *(Croatian)* 1−29801
laser gyro, optical fibre, rotation detection appl. 1−24499
reactor coolant oil ingress monitoring, photoionisation detector appl. 1−798
sensor of sinusoidal displacement, using diode laser 1−24617
sensors for control and measurement, review *(Italian)* 1−32971
smoke detectors, light scatt. and ionisation, response to monodisperse aerosols 1−17334
solid-state, for X-ray intensity meas. of powdered samples in gasketed amid cell 1−29998
superregenerative acoustic locator using receive/transmit transducer 1−6738
CaF_2:Eu^{2+}, tunable optical phonon detector and generator 1−15979
NO, concn. measurement using resonance absorption techniques *(German)* 1−26792
SrF_2:Eu^{2+}, tunable optical phonon detector and generator 1−15979
determinants
see also matrix algebra
molecules, two-component Kramers degenerate spinors, two and four-index transformation 1−33382
CeP excited state EPR, g-shift and linewidth, theory 1−26033
detonation
see also explosions; shock waves
detonation-generated shock wave 1−51813
flash X-rays reveal exploding movements of critical devices 1−40912
heterogeneous explosives, phenomenological model of shock initiation 1−31860
liquefied natural and petroleum gas carrier spillage and leakage, explosion hazards 1−48787
luminous detonation transition from luminous combustion 1−11563
luminous detonation wave, transition from luminous combustion wave 1−11562
magnetogasdynamic converging spherical detonation waves 1−6871
methane+$2O_2$+7Ar, overcompressed detonation wave, lifetime of multifront structure 1−13009
steel, austenitic, explosive strengthening 1−26479
steel, low-C, technique for obtaining shock-wave parameters using wave superposition 1−20315
supercompressed detonation waves, production using narrowing inserts 1−24832
waves in heterogeneous systems with nonpremixed phases 1−24833
$2H_2$+O_2+7Ar, overcompressed detonation wave, lifetime of multifront structure 1−13009
detonation spraying *see powder spraying*
deuterium
atom, spin-polarised, adsorption on ^4He surface, stabilisation and density limitation 1−2735
atom ejection from plasma walls by pulsed electron and furnace heating 1−25325
atomic spectrum, shape of D_γ line *(Rumanian)* 1−14840
atoms, relaxation times in aq. LiI solutions, Brownian motions, electrostatic model, NMR obs. 1−19116
backscatt. from Cs, Ni and Cs/Ni surfaces, D^- prod. model 1−26332
Balmer series in high-β screw pinch Tokamak, spectrosc. and Thomson scatt. meas. 1−15653
collagen,native, specifically labelled, deuterium NMR obs. of mol. dynamics 1−8818
cosmological abundance, effect of primordial black holes 1−13893
D^+ channelling dynamics in W cryst., trajectory study at low energy 1−2538
diffusion and solubility in U-Ti(Nb)(Mo), alloy and H isotope effects 1−20463
diffusion in Fe, 222 to 322K *(Japanese)* 1−47298
diffusion in Ta, Mossbauer spectroscopy meas. 1−20461
diffusion in Ta, nucl. acoustic reson. study 1−30477
Fermi system, spin polarised, Cooper pairing 1−2743
gas, explosion-induced compression in conical system, numerical calc. 1−37018
high pressure melting curves, isotopic effect 1−20504
implantation in Zr, enhanced superconductivity 1−20899
impurity in stainless steel surface, recomb. rates and D_2 emission 1−25504
interaction with radiation defects in metals 1−25316
interstellar D/H ratio, variation mechanisms, radiation press. and HD photodissociation 1−54574
ion, metal surface sputtering, Monte Carlo calcs. 1−26337
ion implantation, trapping and mutual release of D and ^3He in Mo 1−25304
isotope-separation, quantum and photoproduct yield evaluation in multi photon dissociation 1−4116
isotopic abundance in solar system, origin of D-enriched mols. 1−36263
liquefier design using boiling off of He vapour 1−5321
liquid, equation of state, Debye temp., isotope effects, quantum corrections 1−34457

deuterium continued
liquid, shock compression data 1−38495
low energy backscatt. from polycryst. C energy and ang. distrib. 1−26331
molecule, electron impact, slow and fast excited H atom prod., isotope effect 1−6393
molecule, electron scatt., vibr. effect 1−15009
molecule, emission spectra, high resolution, near 80 nm 1−24165
molecule, magnetisability calcs., rot. vibr. and isotopic substitution effect 1−24056
molecule, polarisability calcs., rot. vibr. and isotopic substitution effects 1−24055
molecule, sub-Doppler Raman saturation spectroscopy study 1−11045
molecule, vibr. eigenenergies 1−24108
muonic atom, de-excitation and Stark mixing processes *(Russian)* 1−41524
neutral beam parameter meas. using Doppler shift spectroscopy 1−23315
NMR, double-pulse responses, influence of second order quadrupole effects 1−21078
parity mixing meas. in $2s_{1/2}$ and $2p_{1/2}$ states 1−37352
pellet dropper for laser-generated plasma expts. 1−2213
plasma, fast magnetosonic wave propag. and absorpt. in DIVA Tokamak 1−6996
plasma as laser neutron source, efficiency at various output wavelengths 1−28777
primordial nucleosynthesis, effects of anomalous neutrino interactions on D prod. 1−54672
production in big bang, test in strong field approx. for gravitational bimetric theory 1−54670
rotational Raman scatt. for calibrating Thomson scatt. of plasmas 1−45975
separation by catalytic isotope exchange 1−936
solid, ion-induced emission of charged particles 1−26341
solid, quadrupole glass phase, PMR study 1−16139
solid, thermal resistivity, high p-D_2 conc. 1−25529
solidus curves of H_2 and D_2 *(Russian)* 1−20359
solubility and diffusivity at low conc. in $Fe_{0.5}Ti_{0.5}$ 1−20390
solutions, vibr. and rot. Raman spectra, 40-313K 1−41386
spin polarised, ground-state props., method of correlated basis functions 1−2748
trapping and release on Ti-based coatings for TFTR 1−25556
water, D identification under natural conditions using nuclear-physical methods *(Russian)* 1−27278
Al alloys, 2219 and 7075, ion-implanted, SIMS study of D_2 trapping 1−26787
$C^+ + D_2$, chemiluminesc. reaction, CD^+ triplet emission 1−4060
$C^+ + D_2 \rightarrow CD^+ + D$, electronic degeneracy factors, pot. surface constraints, statistical phase space calcs. 1−53405
D and H atoms during radiolysis of 1-hexene adsorbed on SiO_2 gel 1−4110
D ion+Pd(Ni)(Ag)(Au), inner-shell ionisation, Coulomb deflection effect 1−15000
D^-, prod. by D backscatt. from metal surface, model 1−26332
D^+, bombardment of C surface, isotope exchange 1−26333
D^+ bombardment of CVD TiB_2 films, plasma-wall interaction appl. 1−26334
D^+ bombardment of Si, vol. expansion and O incorporation 1−25302
D^+, small angle scatt. from surfaces 1−26330
D-O_3-CO_2 mixture for gasdynamic chemical laser, expt. results 1−33673
D-O_3-CO_2 mixture for gasdynamic chemical laser, calc. model 1−33674
D-T burning plasma thermal stability, impurities, edge effects and refuelling effects 1−24989
D-T filled inertial confinement fusion targets, deformation meas. using microsphere thermal deformeter 1−14140
D-T mixtures, ignition and combustion, integral time function calcs. *(Russian)* 1−24975
D-T reaction, α-particle anisotropic distrib. rel. to asymmetric elec. field round laser imploded target 1−15630
D-T recycling, vol. distrib. and permeation in Tokamak wall materials 1−25045
$D + H_2 \rightarrow HD + H$, reactive scatt., cross-sections and rate consts., 3-dimens. calcs. 1−35522
$D + H^-$, electron detachment and charge exchange, differential cross-sections meas. 1−10834
$D + NO_2$, production of OD, mol. beam reaction 1−37243
$D^+ + H_2(He)(Ne)(Ar)(Kr)$, charge exchange and electron loss cross-sections for various energies 1−29095
D_2, depolarised Rayleigh line, broadening 1−28986
D_2, electron impact dissoc., time of flight spectra 1−15023
D_2, high resolution spectroscopy in extreme UV region, predissoc. states and widths anal. 1−24164
n-D_2, rotational Raman lines, broadening and shift 1−28985
n-D_2 supercritical phases and cryst. solids under high press., Raman spectra 1−39108
D_2-T_2 dense plasma focus of Filippov geometry, neutron yield 1−46919
$D_2 + Ar^+(Kr^+)$, charge transfer, atom abstraction, rate consts., isotope effects, mass spectra 1−39630
$D_2 + C^+$, association reaction studied using drift tube mass spectrometer techniques, rate coeffs. determ. 1−8561
$D_2 + C^{++}$, chemiluminescent reaction, rot. and vibr. state distrib., surprisal anal. 1−48692
$D_2 + Cl^-$, energy losses meas. using time-of-flight technique, mol. dissoc. 1−6345
$D_2 + H_2$, vibr.-vibr. and vibr.-translation transition investigated using Schrodinger eqn., energy exchange processes 1−6358
D_2+HD, state-resolved rot. excitation, 0-1 transitions, ang. depend. 1−37314
$D_2 + N_2O^+$, reaction dynamics, isotope effects 1−12979
$D_2 + N^{q+}$ collisions, charge exchange cross sections *(French)* 1−51284
D_2+Ne, Lorentzian diffusion, temperature depend. 1−51897
D_2+Ne, rot. excitation, anisotropic interaction pot., state-to-state differential cross section 1−33551
$D_2 + O^{q+}$ collisions, charge exchange cross sections *(French)* 1−51284
D_2+Xe, Lorentzian diffusion, temperature depend. 1−51897
D_3, emission spectra, perpendicular bands near 7100 A, Jahn Teller interaction 1−1249
DT neutron-induced activity in glass-microshell laser fusion targets 1−14692
D_2T^+, vibr. freq. and zero point energy, ab initio calc. 1−45925
Ge:D^-, isolated D^- states and D^- complexes long-wavelength photocond. study 1−47535
H_2-D_2, liquid target, design, closed gas circulation system 1−28764
deuterium continued
H_2-D_2 liquid solutions, dielectric const. and molar volume *(Russian)* 1−3318
H_2-D_2 soln., molar and excess molar vol. determ. by dielectric const. meas. 1−52209
^2H, pionic, energy shift and K_α transition, three body perturbative estimates 1−19216
Ne-n-D_2, mixture, intermol. free length and interactions 1−15783
Si:D^-, isolated D^- states and D^- complexes long-wavelength photocond. study 1−47535
Ti:D, electromigration, concentration and phase change effect 1−42579
W:D, ion implanted, D ion trapping at grain boundaries, atom probe FIM study 1−15913

deuterium compounds
see also heavy water
$DC^{15}N$, deuterium quadrupole coupling const. determ. by Lamb dip microwave spectroscopy, hyperfine struct., rot. const. 1−14871
positron annihilation lifetime, deuterium isotope effect or normal compounds 1−30280
DBr, electronic transition, rotational anal., UV obs. 1−45929
DBr+HCN, HCN vibr. energy transfer 1−6362
DCN+HCl(HBr)(HCN), vibr. energy transfer 1−6362
D_2CO, CW opt. pumped far-IR emissions and assignments 1−24401
DCl, electron impact dissociative attachment to vibr. and rot. excited mol. 1−46139
DCl+HCN, HCN vibr. energy transfer 1−6362
DCl+LiH_2, vibr. excitation, relax, rates determ. 1−24207
$D^{35}Cl + D^{37}Cl$, near-reson. vibr.-vibr. energy exchange, temp. depend. 1−1334
DF CW chem. lasers, principles, performance and operating charact. 1−37487
DF CW combustion-driven chemical laser, centre line small-signal gain meas. 1−46322
DF CW overtone lasing demonstration using combustion driven chem. laser 1−46330
DF chemical laser, Teflon surface spark UV flash initiation 1−41726
DF chemical laser initiated with Teflon surface spark UV flash 1−19352
DF chemical laser using combustion driven atomic F generators 1−37489
DF, combustion driven chem. laser performances of several reactant systems 1−37491
DF laser, electron-beam-initiated, energy parameters 1−33672
DF laser IR wavelengths, SO_2 absorption 1−13564
DF lidar, N_2O conc. in atmosphere, remote meas. 1−13500
DF pulsed chemical laser, press. wave suppression 1−1554
DF, vibr. relax. from upper vibr. levels, temp. depend. 1−1335
DF-CO_2 chemical laser behavior, energy charact., numerical analysis 1−33675
DF-CO_2 laser, electron-beam-initiated, energy parameters 1−33672
DF-CO_2(N_2O, HBr, DF) CW optical reson. transfer lasers 1−46325
DF+DF, V-V energy transfer, cross-correl. trajectory study 1−14989
DI^{2+}, ion lifetime, mass spectra and photoionis. obs. 1−6325
D_2I_2, van der Waals complexes, intermol. pot. and photodissoc. study 1−10800
DNC, theoretical microwave hyperfine consts. 1−27364
DO_2, EPR and laser mag. reson. spectra, ground state parameters determ., mol. geometry 1−37230
D_2O, chemisorption on Ce, X-ray photoelectron study, comparison with oxidation by O_2 1−8613
D_2O, rotation, surface effect, deuteron and proton spin-lattice relax. time meas. 1−14919
D_2O telescopic resonator mode struct. 1−19364
D_2O, VUV photodissoc. 1−1295
DSO, vibronic transitions obs. using Doppler-limited dye laser excitation spectroscopy, rot., centrifugal and spin rot. const. 1−37172
D_2TaS_2, NMR studies 1−31059
HDO in D_2O, overtone OH stretching spectrum, depend. on H-bonds 1−1234
HF-DF optical reson. transfer laser, DF CW laser oscill. obs. 3.8 to 4.0 μm 1−1548

deuteron effects
steel, stainless, high purity, void form., influence of tensile stress in early stages 1−11792

deuteron interactions *see deuteron-nucleus reactions; hadron-deuteron interactions; lepton-deuteron interactions; meson-deuteron interactions; photon-deuteron interactions; proton-deuteron interactions*

deuteron-nucleus reactions
for inelastic deuteron-nucleus scattering, see 'deuteron-nucleus scattering'
see also nuclear fusion
deuteron structure effects in few-body models of deuteron induced reactions on heavy nuclei 1−28425
orthogonality requirements in antisymmetrised deuteron-nucleus reactions 1−28428
transfer reactions, polarisation and vector anal. power, direct D-state effects 1−28458
(d,n̄) threshold effect in (d,p) stripping reactions *(Hungarian)* 1−23653
(d,p), 56 MeV, A=12-209, d break-up in nuclear field, total cross section 1−707
(d,p), reactions with nucleon redistribution, semiphenomenological model 1−706
(d,p) stripping reactions, charge interchange (d,n̄) threshold effect *(Hungarian)* 1−23653
(d,pn), 10-30 MeV, deuteron disintegration, distorted wave method appl. 1−50604
(d, X), relativistc stripping reactions, alignment effects, absorption and total cross sections 1−14504
π^- multiplicity and interaction cross section, nucleus-nucleus collision, 4.2 GeV/c per nucleon 1−722
^{A}Ar(d,α), A=36, 38, 16 MeV, vector and tensor anal. powers, J-depend. effects 1−28457
^{10}B(d,n)^{11}C, ion temp. plasma diagnosis 1−11595
^{9}Be(d,p), 698 MeV, stripping reaction 1−41117
^{12}C(d,X), total cross section, adiabatic treatment, effective nuclear radius 1−18657
^{12}C(d,X), total cross section energy depend., Glauber model calcs. 1−28477
^{12}C(d,p), 2.51 MeV, ^{13}C γ-transition energies and branching ratios, level energies 1−18595
^{40}Ca(d,X), total cross section, adiabatic treatment, effective nuclear radius 1−18657

deuteron-nucleus reactions continued
^{63}Cu(d, ^{3}He), 9, 12 MeV, pol. d, D_2 parameter, cross sections and anal. powers 1−23632
Dy(d,p), 12.1 MeV, ^{161,163}Dy rot. bands, J^{π}, levels, cross sections 1−14442
Dy(d,t), 12.1 MeV, ^{161,163}Dy rot. bands, J^{π}, levels, cross sections 1−14442
^{19}F(d,^{8}Be), 13.6 MeV, differential cross sections, ^{11}B quasicluster direct transfer *(Russian)* 1−5763
^{54}Fe(d,t), 18 MeV, neutron config., ^{53}Fe levels and transitions, DWBA anal. 1−18564
^{56}Fe(d,t), DWBA anal. 1−50605
^{1}H(d, pp)n, 26.5 MeV, breakup data anal., Faddeev calc. 1−708
^{1}H(d,p)pn, pol. d, 16 MeV, three-nucleon breakup, Fadeev calcs., analysing powers 1−45513
^{2}H(d,X), X=p,n, 1.1-2.5 GeV/c, differential and total cross sections, nucleon exchange process 1−5784
^{2}H(d,n)^{2}He assoc. particle high-flux neutron source 1−51014
^{2}H(d,p), 13 MeV, pol.d, tensor pol., S- to D-state ratio of ^{2}H and ^{3}H wave functions 1−28455
H(d,pn), p-p correlation spectra, two- and three-body forces *(French)* 1−33263
H(d, pp)n, polarised deuterons, polarisation analysing power, geom. aspects 1−28456
^{3}He(d,n)^{4}He, neutron fluence from assoc. α-particles and proton recoil meas. 1−28484
^{3}He(d,n)^{4}He, neutron yield from assoc. α-particles, corrections 1−24001
^{3}He(d,p), pol.d, <40 MeV, $T_{20}(0°)$ anal. power calibration 1−14512
^{4}He(d,pX), quark effects search 1−28485
^{4}He(d,pα), pol.d, 18 MeV, differential cross sections and vector anal. powers 1−36944
^{6}Li(d,p), 698 MeV, stripping reaction 1−41117
^{26}Mg(d,p), pol. d, 1.8-3.0 MeV, vector anal. power energy depend. 1−33254
^{55}Mn(d, nn), differential and integrated cross sections in diffraction model *(Russian)* 1−41121
^{14}N(d,p), pol.d, low energy, vector anal. power energy and ang. distribs. 1−23629
^{150}Nd(d,tγ), 10 MeV, ^{149}Nd $1/2^{+}$ levels and decay scheme 1−5681
^{16}O(d,X), total cross section, adiabatic treatment, effective nuclear radius 1−18657
^{16}O(d,p), 698 MeV, stripping reaction 1−41117
^{17}O(d,t)^{16}O, isospin mixing 1−50500
^{18}O(d,^{7}Li)^{13}C, reaction product ang. distrib., direct quasi ^{5}He cluster transfer *(Russian)* 1−690
^{208}Pd(d,p)^{209}Pb, sub-Coulomb stripping reactions, tensor analyzing powers 1−28487
Pd(d,t), 50 MeV, neutron pickup reactions and deeply bound hole state excitation 1−14505
^{102}Ru(d,p)^{103}Ru expts., two-dimensional position sensitive charged particle detector use 1−10590
^{32}S(d,α), 16 MeV, vector and tensor anal. powers, J-depend. effects 1−28457
^{32}S(d,p), 1.8-3.0 MeV, vector anal. power energy depends. *(Russian)* 1−5770
S(d,α), 7 MeV, ^{30,32}P states, excitation energies, Hauser-Feshbach anal., direct processes *(Russian)* 1−18626
^{144}Sm(d_{pol}, ^{3}He)^{143}Pm, spin determ. of deeply-bound hole states 1−18658
^{154}Sm(d, 2n)^{154}Eu, spectra of γ-transitions *(Russian)* 1−45453
^{154}Sm(d, 3n)^{153}Eu, spectra of γ-transitions *(Russian)* 1−45453
^{116}Sn(d, p), 22 MeV, vector anal. power and pol. meas., deuteron D-state effects 1−18635
^{116}Sn(d,p) 8.22, 18 MeV, polarisation and anal. power, d D-state effects, DWBA calcs. 1−18633
^{116}Sn(d,t), pol. d, 40 MeV, ^{115}Sn valence and inner neutron hole states anal. powers, J^{π} 1−50577
Ta(d,X), 2-10 GeV/N, π^{-} and p multiplicities, correlation observations *(Russian)* 1−36953
^{232}Th(d,^{6}Li), 54.8 MeV, ^{228}Ra rotational band selective excitation via α-cluster pickup, DWBA anal. 1−36924
^{233}U(d,f), fission products yield, mass distribs., charge division mechanism 1−50665
^{235}U(d,2n), 10-14 MeV, ^{235}Np fission lifetime, statistical anal. *(Russian)* 1−5814
^{238}U(d,^{6}Li), 54.8 MeV, ^{234}Th rotational band selective excitation via α-cluster pickup, DWBA anal. 1−36924
^{89}Y(d,xnypzα), 9-26 MeV, preequilibrium decay, entrance and exit channel phenomena 1−5766
$^{}$Zn(d,xnypzα), 9-26 MeV, A=64, 66, preequilibrium decay, entrance and exit channel phenomena 1−5766
^{68}Zn(d,^{6}Li)^{64}Ni, 27.2 MeV reaction, zero-range DWBA calcs. 1−45512
^{90}Zr(d,p), 12 MeV, polarisation and anal. power, d D-state effects, DWBA calcs. 1−18633
^{90}Zr(d_{pol}, ^{3}He)^{89}Y, spin determ. of deeply-bound hole states 1−18658

deuteron-nucleus scattering
antisymmetrization effects in modified folding model calcs. 1−28427
deuteron structure effects in few-body models of deuteron induced reactions on heavy nuclei 1−28425
(d,d), breakup effects, hyperspherical harmonics formulation 1−41119
(d,d), deuteron breakup adiabatic approx., three body system 1−41118
(d,d), pol. d, vector anal. power, imaginary pots. effects 1−18632
^{4}He(d,d)^{4}He, 17 and 42.8 MeV, resonances, polarisation anal. 1−28486
^{24}Mg(d,d′), pol. d, 56 MeV, vector anal. power, shape effects, coupled channel anal. 1−33255
^{25}Mg(d,d′), 15 MeV, bands and spect. amplitudes, DWBA and CCBA anals. 1−28364
^{26}Mg(d,d), pol. d, 1.8-3.0 MeV, vector anal. power energy depend. 1−33254
^{150}Nd (d,d), 10 MeV, excited states, bands and decay scheme 1−5681
^{58}Ni(d,d), 11.8, 21.6 MeV, optical and Hulthen pots. description, Coulomb pol. influence 1−23631
Ni(d,d), 21.6 MeV, breakup coupling optical pot. in hyperspherical harmonics 1−41120
^{208}Pb(d,d), giant dipole resonance excitation in collective model 1−5754
^{208}Pb(p,p′), 108 MeV, giant monopole and dipole resonance excitation, DWBA anal. 1−18623
^{28}Si(d,d′), pol. d, 56 MeV, vector anal. power, shape effects, coupled channel anal. 1−33255

deuteron photodisintegration
cosmology, effects of primordial black holes photon emission on D abundance 1−13893
deuteron photodisintegration continued
γd→np, 80-600 MeV, cross section asymmetry *(Russian)* 1−572
^{2}H(γ, p)n, impulse approx. and gauge invariance 1−695
^{2}H(γ,n)p, NN interaction constraints 1−23569
^{2}H(γ,pn), form factors from vector current hypothesis 1−23647

deuteron polarisation
pp→π^{+}d, threshold to 578 MeV, partial wave anal., diproton resonances 1−50457
^{1}H(d,p)pn, pol. d, 16 MeV, three-nucleon breakup, Fadeev calcs., analysing powers 1−45513
H(d, pp)n, polarised deuterons, polarisation analysing power, geom. aspects 1−28456

deuteron scattering *see deuteron-nucleus scattering; hadron-deuteron scattering; lepton-deuteron scattering; meson-deuteron scattering; photon-deuteron scattering; proton-deuteron scattering*

deuterons
see also cosmic ray deuterons
baryon resonances $\Delta(1232)$ in nuclear struct. *(Czech)* 1−45436
bound states within triton bound state *(Russian)* 1−41066
energy and struct. by the uncertainty principle 1−40630
magnetic moment and elastic EM form factors in relativistic quark model 1−33187
neutral injector based on negative deuterons 1−10552
optical potential, imaginary part volume integrals for N,d,t, ^{3}He 1−5750
P-odd nuclear forces, parity violation source in atoms *(Russian)* 1−23571
quadrupole form factors from ed, tensor polarisation calcs. 1−28324
quark model, isobaric component of deuteron wavefunction 1−23474
review of role in high-energy physics 1−28389
wave function, asymptotic D to S state normalisation 1−28307
wave function and N-N interactions, meson theoretical potential 1−41044
C(C,X), 800 MeV/A, relativistic collision, firestreak model, nuclear diffuseness, d,t spectra 1−14542
^{2}H(α,pα)n, singlet deuteron production, isospin breaking 1−23666

developers (photographic) *see photographic materials*

development, photographic *see photographic process*

development management *see research and development management*

diagnosis, patient *see patient diagnosis*

diagnostics, particle beam *see particle beam diagnostics*

diagnostics, plasma *see plasma diagnostics*

diagrams
see also Feynman diagrams; nomograms; phase diagrams
He exergy-enthalpy diagram construction and use 1−50091

dialogue systems *see interactive systems*

diamagnetic properties of substances
see also de Haas-van Alphen effect; diamagnetism
azoxybenzenes, nematic, mean polarisabilities and diamag. susceptibilities 1−34227
carbonyl-phenols liqs., H-bond interactions, paramag. polarisation 1−15774
graphite-Br_2 intercalation cpd., oxidation catalyst 1−48682
polaron theory in weak magnetic fields, zero-point energy and diagmagnetic susceptibility calcs. 1−2891
$(TMTSF)_2PF_6$, organic cond., mag. props., phase transition obs. 1−30909
Bi, mag. susceptibility, 90 to 540K, temp. depend. 1−25866
CdS, excitonic solid, press. quenching, anomalous mag. and elec. behaviour 1−30327
Cs, expanded liquid and dense vapour, electronic correl. and metal-nonmetal transition 1−25633
CuCl, diamagnetic anomaly model, energy bands, defect and impurity levels 1−20633
$FeSO_4.1H_2O$, PMR of isomorphous paramag. and diamag. monohydrates 1−52849
Hg_3Cl_2 single crystals, magnetic anisotropy 1−52746
Li-Bi(Pb)(Sb) alloys, liq., DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
Li-methylamine solution, strange mag. behaviour in metal-nonmetal transition range, 1.8 to 200K obs. 1−25867
$MgSO_4.1H_2O$, PMR of isomorphous paramag. and diamag. monohydrates 1−52849
$MnSO_4.1H_2O$, PMR of isomorphous paramag. and diamag. monohydrates 1−52849
Na-Bi(Sb), alloys, liq., DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
$NiSO_4.1H_2O$, PMR of isomorphous paramag. and diamag. monohydrates 1−52849
PbS(Se)(Te), liq., elec., thermal, mag. and physio-chem. props. 1−20722
Rb, expanded liquid and dense vapour, electronic correl. and metal-nonmetal transition 1−25633
Si, diamagnetic susceptibility, temp. depend. *(Rumanian)* 1−16424

diamagnetic resonance *see cyclotron resonance*

diamagnetism
see also cyclotron resonance; de Haas-van Alphen effect; diamagnetic properties of substances
amorphous semiconductor, Anderson negative-U model of excitations and metastability 1−47575
aromatic compounds, condensed, molecular diamag. anisotropies *(French)* 1−46152
cyano diamagnetic complexes, ^{15}N-^{13}C coupling consts., ^{15}N/^{14}N isotope effects on ^{13}C chemical shielding 1−41329
free electron gas, Landau diamag., teaching 1−27717
inhomogeneous crystals, band electron diamagnetism *(Russian)* 1−52744
intermediate valence compounds, magnetic order absence, diamagnetism, Anderson model 1−35124
isoelectronic system, diamagnetic susceptibility determ. 1−15026
nuclear mag. ordering, neutron diffr. study *(Japanese)* 1−3145
superdiamagnets, transitions and phase diagram *(Russian)* 1−30905
susceptibility measurement methods for weak mag. materials, review 1−18259
two-dimensional electron fluid, many body props. 1−7417
$NbSe_3$, superconductivity, mag. susceptibility crit. fields 1−38899

diameter measurement
arterial inner diameter meas. transducer, lab. animals, in vivo meas. 1−44057
cell membrane particle diameters, computer meas. from electron micrographs 1−32327
coded cephalometer for interactive multiple measurements of biparietal diameter 1−8939

diameter measurement continued
coronary artery diameter and contrast medium conc., determ. from angiograms 1−53874
foetal biparietal diameter meas., linear-array hand-held scanner compared to compound scanner 1−53848
laterally moving object, diameter meas. by laser scanning technique *(Japanese)* 1−18192
monomode opt. fibres, determination of core diameters *(German)* 1−24504
optical fibre high-speed core dia. meas. 1−19434
optical fibres and non-coated fibres *(Czech)* 1−19394
optical unclad fibre, intrinsic dia. determ. from laser forward scatt. pattern *(French)* 1−11091
pore diameter, determ. by permeability meas. 1−40757
stack particulate monitor, optical based, microprocessor controlled 1−48937

diamond
(111) 1×1 surface valence band structure, band bending and band gap states 1−16334
(111) Schottky barrier and electronic surface props. 1−16333
anvil cell, selection of diamonds for Raman scatt. 1−31161
band gap, average, microscopic theory 1−7516
band struct. calc. using LCAO SCF method, valence bond props. 1−47434
bond integrity evaluation using transmission scanning acoustic microscopy 1−21652
bulk energy bands, using hv depend. photoemission 1−8189
channelled electrons, γ-spectra, energy depend. 1−2547
channelling effect on γ-radiation spectra of 870 MeV electrons 1−48191
channelling of 900 MeV electrons, elastic wave excitation, orientational effect 1−30286
channelling radiation from relativistic positrons 1−7222
contact with transition metal, adhesion and friction 1−31671
crystal growth in molten metals, cryst. imperfections 1−35169
crystallisation theory, colloidal aspects 1−7102
cubic crystal, partial-DSC dislocations 1−2443
Debye-Waller factor calcs., 1-1000K 1−16004
deposit formation from rounding rocks and minerals in hydrothermal soln. flows *(Russian)* 1−13498
diamond: N mol. form. of impurities from IR absorpt. spectra 1−48123
diamond:Fe, in-beam implantation, Mossbauer effect study 1−16507
diamond, ground state properties, LCAO SCF ab initio HF method 1−34609
doped with B during synthesis, S-type current voltage characteristics 1−20766
dosimetry with a diamond operating as a resistor 1−45741
electron radiation spectra, orientation depend. struct. *(Russian)* 1−2542
film, optical props. 1−3524
formation and deposition in RF discharge plasma 1−26395
frictional anisotropy due to surface and sub-surface damage 1−31673
GR defect, high-resolution luminesc.-excitation spectra 1−39140
GR transitions, mag. field meas. 1−21176
growth of plate- and needle-like crysts. 1−35173
high pressure diamond-window apparatus for cryogenic expts., design 1−28002
hot electron phenomena, microscopic models 1−47662
hot-hole transport theory and expt. 1−16296
Inconel 600-diamond, bonded composites, cold sintering 1−21409
indentor-anvil techniqu, megabar press. in submicron vols. 1−28003
ion-implanted, cathodoluminesc. study 1−48172
ion-implanted, defect formation, cathodoluminesc. study 1−48173
IR luminescence centre characts., electron-phonon interaction 1−43166
laser modulated absorpt., photoconductivity 1−26238
lattice, generalised Ewald potential problem 1−47432
LCAO calcs. in solid state, parameteristation 1−12014
melting, eqn. of state model 1−34462
milling machine for accurate metallic mirrors *(German)* 1−29411
optical component glass polishing with synthetic diamond and cubonite tools 1−15293
peridotite affinity diamonds, origin conditions 1−44181
phase diagrams involving press. and temp., review 1−43322
phonon scattering by N aggregates, aggregate size determ. 1−20337
photoemission from (111) surface 1−3572
polycrystal grown under ultrahigh press., Ni catalyst diffusion and distrib. *(Chinese)* 1−48287
powdered, surface centre ESR charact. 1−31026
Schottky barriers with Al, Au, photoelectron spectra meas. 1−30808
self-consistent electronic struct. LMTO-ASA calcs. 1−20621
self-energy corrections, first principles calc. 1−47448
semiconducting, electron irradiated, photoenhancement of photocond. 1−42816
silicate inclusions, trace element composition from microprobe anal. 1−44143
sintered superhard materials, review 1−12682
sintering mechanism at 5.5 GPa and 1300 to 1500°C 1−35214
steel-diamond, bonded composites, cold sintering 1−21409
surface (100) reconstruction, dimer bond form., cluster calc. 1−52408
surface (111), clean and Ga-chemisorbed, electronic struct. 1−12166
surface (111) reconstruction modelled by small clusters, MINDO/3 calc. 1−52405
synthetic, small inclusions, struct. study according to static thermal distortion temp. depend. *(Russian)* 1−8314
synthetic, surface struct. 1−20520
synthetic, tools, suitability for optical ceramics 1−6690
synthetic films, H occurrence, IR spectroscopy 1−8080
thermal conductivities of diamonds with absorptions near 8.4 μm 1−20483
tool for glass polishing, influence of binder components on props. 1−1739
type IIa, electron irrad., vacancy and optical meas. 1−2511
X-ray diamond anvil cell and pseudo-Kossel line pattern 1−29997
aggregation of N impurities including platelet formation 1−43345
C, diamond-like, quasi-amorphous film prep. by ion beam deposition, struct. and props. 1−12671
Cu-Su-Ni-diamond composite sheet materials, prod. and props. 1−21392
Ta-diamond, bonded composites, cold sintering 1−21409

diaphragms
see also valves
dismountable X-ray tubes for circular Laue diffr. patterns 1−45091
piezoelectric plastic film transducers, for earphones, reaction effects 1−24642

diaphragms continued
steel, stainless, porous diaphragms, wetting and impregnation 1−20516
Ni porous diaphragms, wetting and impregnation 1−20516
Si, pressure measuring, bending behaviour interferometric measurement *(German)* 1−5371
Ti diaphragm boronising process and loudspeaker performance *(Japanese)* 1−24643
Ti porous diaphragms, wetting and impregnation 1−20516

dichroism
see also magnetic circular dichroism; pleochroism
acoustooptic circular dichrometer 1−28074
adenosine derivatives constrained in the syn form, circular dichroism calcs. 1−17349
alkali metal fluoride piezobirefringence meas., piezodichroism effect analysis 1−3364
alkaline earth fluoride piezobirefringence meas., piezodichroism effect analysis 1−3364
amyloxycyanobiphenyl, pure dye-doped, orientational-statistical props. 1−2323
anisotropic spectral holes, laser pulse shaping device based on Fourier synthesis using optical anisotropies produced by spectral hole burning 1−46407
birefringent crysts., optical activity and absorption for various azimuths of incident light polarisation 1−31122
1,3-butadiene, electronic struct., optical activity, circular dichroism spectra, ab initio SCF-CI calcs. 1−24054
circular dichroism spectroscopy and the vacuum ultraviolet region, review 1−10871
dihydro[5]helicene, vibr. optical activity and IR circular dichroism, dynamic polarisation model 1−10766
dimethylsulphide, Rydberg absorpt. bands, electric dichroism spectroscopy, dipole moment and mean polarisability changes 1−29009
dye chromophores bound to biopolymers, circular dichroism intensity, dynamic perturbation effects 1−24295
dyes rotational diffusion in solvents of low viscosity, transient dichroism expt. 1−48027
erythrocyte membranes, oligosaccharide motion, ps fluoresc. polarisation and ms dichroism of optical probe 1−53764
intracavity polarisation spectroscopy, Doppler-free, competition effects 1−14187
Jones matrix formalism extension to refl. problems and mag. materials 1−29208
measurement using dual-variable detection method with photomultiplier 1−23310
oriented molecules in liquid crystal matrix, cuvette and meas. technique for circular dichroism 1−29145
phellandrene, electronic struct., optical activity, circular dichroism spectra, ab initio SCF-CI calcs. 1−24054
phenylamine, and derivatives, circ. dichroism and MCD spectra, solvent and pH effects 1−8086
phenylethanes, substituted, vibr. circular dichroism of methyl deformation modes 1−37184
photodichroic silicate glass surface laser recording material, recording effects 1−6626
photosynthetic bacteria, linear dichroism theory of partially ordered systems 1−13220
polarising Michelson interferometer for FT IR, circular dichroism and reflectance ellipsometric IR spectrosc. 1−50194
polycaprolactam-polyurethane elastomeric short segment block copolymers, morphology and props. 1−34248
polypeptides, circular dichroism, Green operator technique, matrix theory 1−29154
polypeptides, helical polymer circular dichroism, transition matrix theory 1−46004
polytetramethylene oxide-polytetramethylene terepthalate, short segment block copolymers, morphology and props. 1−34248
proflavine molecules bound to double stranded polynucleotides, circular dichroism intensity, dynamic perturbation effects 1−24295
purple membrane of Halobacterium halobium, elec. dichroism obs. 1−39959
ribonuclease S, near UV circular dichroism 1−48959
tetrahydroquinoline, correlation energy contribs. to optical activity in random phase approx. 1−35008
thiirane, Rydberg absorpt. bands, electric dichroism spectroscopy, dipole moment and mean polarisability changes 1−29009
Weigert effect application to optical processing in partially coherent light 1−28091
AgI-Ag thin film, Weigert effect nature, photoinduced dichroism 1−35107
CdP_2, nonlinear absorpt. spectra, light polarisation effect 1−19381
$CdSiP_2$, absorbing uniaxial crystal, gyrotropic effects in isotropic pt. neighbourhood 1−21164
CoIII complexes, circ. dichroism, depend. on outer sphere config. 1−1266
Cu(II) complexes with chirial acids and amines, visible circular dichroism 1−52913
InSb, two-photon absorption, double-beam linear dichroism study 1−26165
KCl:Au^-, evidence for crystal field splitting of $^3P_2$ state 1−25668
KCl-Ag crystals with colloidal Ag centres, dichroism during polarised laser radiation *(Russian)* 1−26166
KH_2PO_4, X-irrad., opt. absorpt. and thermolum., 13K to room temp. 1−31208
$K_3(ReO_2(CN)_4)$ IR and Raman spectra, dichroic bheaviour, internal and lattice vibr. 1−26194
LiCl, neutron irrad., V_N-centre, optical absorpt. and dichroic spectra 1−26243
Na, polarisation spectroscopy, Zeeman effect 1−6203
Na, polarisation spectroscopy, optical pumping theory 1−51170
NaF, polarisation spectroscopy meas. of homogeneous linewidth of inhomogeneously broadened N_1-centre band 1−26245

dictionaries *see glossaries*

dielectric breakdown *see electric breakdown*

dielectric constant *see permittivity*

dielectric depolarisation
cellophane thermoelectrets, polarisation and thermally stimulated discharge current studies 1−7997
Perspex electrets, thermally activated depolarisation and polarisation induced cond., dielec. losses, Schottky process 1−39027
styrene-butadiene block copolymer, field-induced TSC 1−21116

dielectric depolarisation continued
CsH_2PO_4, quasi-one-dimensional ferroelectric, ultrasonic velocity and absorpt. *(Russian)* 1−42474
InSb spheres array, depolarisation effects, microwave magnetoplasma reson. meas. 1−12135
Kl(Br)(Cl):NCS^-, thermally stimulated depolarisation, electric dipole moments 1−3322
$(NH_4)_3FeF_6$, phase transition study 1−21147
RbI(Br)(Cl):NCS^-, thermally stimulated depolarisation, electric dipole moments 1−3322
SiO dielectric characts. meas. by thermally-stimulated depolarisation currents, dipolar relaxation times 1−34976

dielectric devices
see also capacitors; ferroelectric devices; insulators; piezoelectric devices; pyroelectric devices; space-charge limited devices
TiO_2 microwave dielectric resonators, He film effect 1−26152

dielectric function
alkali metal halide colour centre quantised dielectric function, Kramers-Kronig relations 1−3359
alkali metals, lattice static and dynamic props., pseudopot. study 1−7282
ammonium Rochelle salt-Rochelle salt system, optical, dielec., piezo-optical, piezoelec. props. 1−8006
biaxial crystal, approximate soln. of ellipsometric eqns. 1−15071
covalent insulator, self-energy corrections, first principles calc. 1−47448
covalent semiconductor, HF dielec. props., within nearly-free-electron approx., one plasmon band model 1−38735
cubic semiconductor, local field effects and excitonic polaritons 1−7534
cyanine dye cryst., polariton reson. 1−20642
dielectric response of a one-dimensional electron gas 1−34640
EELS determ. of electron energy band shapes, theory 1−47426
electron gas, exchange energy and specific heat, appl. of dielectric function 1−16242
electron gas, exchange-correlation effects, self-consistent calcs. *(Russian)* 1−52515
electron gas, self-consistent screening theory in presence of strong mag. field 1−16245
electron gas, uniform, dielec. function, Hartree-Fock ladder series approx. 1−7543
electron gas, uniform, time-dependent Hartree-Fock dielec. function 1−7546
electron liquid, strongly coupled, longitudinal dielec. response function 1−7545
electron liquids, strongly coupled, dielectric function, exchange effects and static props. 1−25654
excitonic molecules, two-photon generation and optical bistability 1−42694
free carriers, dielectric function, nonparabolic dispersion relation 1−12053
hexamethylphosphoric triamide, liq., optical, dielec. and energy loss functions between 2 and 25 eV 1−43088
III-V mixed semiconductors, energy band struct. and lattice const. chart 1−24420
ionic solutions, statistical mech. theory based on interaction site model, dielec. props. and pair correl. functions 1−52033
liquid metals, free energy, analytic model 1−42289
metal surface, adsorbed molecule, enhanced Raman scatt., surface plasmon mechanism 1−39093
metal surface, electromag. effects, nonlocal props. 1−34762
metal-insulator transition approach from insulating side, dielec. anomaly 1−47479
metals, dispersion of high freq. extraordinary waves in Voigt config. 1−48042
negative sign for static dielectric function of matter, review 1−38737
one-dimensional many-fermion system, backscattering, dielectric function 1−52512
perovskite type oxides, XPS, semi-empirical calcs. 1−38718
polar liquids, dielectric props. caused by super-Debye interaction with microwave field 1−16539
polar semiconductor, coupled LO phonon-plasmon system, linear dispersion relation and stationary energy-transport velocity 1−25653
polyacetylene film, optical prop., electronic gap 1−48180
polymers, pendant-group and molecularly doped, electron transfer, molecular-ion model 1−52892
semiconducting solids, density functional formalism and correlation 1−20649
semiconductor, dense exciton-biexciton systems, optical props. 1−25646
semiconductor, electron mobilities from linearised Poisson eqn. for impurity-ion pot. 1−2964
semiconductor model, wave vector-depend. dielectric function 1−42711
semiconductors, non-parabolic zero-gap, dielectric function, reflectivity spectra 1−42709
semiconductors, optical spectra, many-body effects 1−48106
squaric acid, layered antiferroelec., dielec. const. determ. in microwave region 1−8008
static screening and non-linear response 1−16244
TCNQ salt, triethylammonium $(TCNQ)_2$, electronic props. and instability 1−42762
thin films, optical props., quantum size effect 1−39170
wedge, plasmon modes using non-local dielectric function 1−7547
zero-gap semiconductor, elastic props. and valence-force-field theory 1−16247
Ag electroreflectance in dissoln. region 1−35016
Al, lattice mechanical and electronic props., unified calc. 1−42488
AlFe(Co)(Ni), APW band struct., densities of states, complex dielec. function 1−7501
Au, electroreflectance at interface with electrolyte, anisotropy 1−35017
Au-Ge, amorphous evaporated films, stability, optical props., electronic struct. 1−31213
Au-ZnSe Schottky barrier, interfacial layer effect 1−25801
$BaTiO_3$, hypersonic dispersion meas. by double-axis Brillouin scatt., dielec. function determ. 1−48104
$BaTiO_3$, optical props., phase transition effects, tight-binding energy band calcs. 1−39059
Be, phonon dispersion relations, dielec. function effect 1−25384
Bi, dielectric function based on two-band model 1−52510
$CdBr_2(Cl_2)(I_2)$, dielec. function and energy bands, EELS determ. 1−47464
CdS, high density phase of excitons, refl. spectra meas. 1−26229
CdS:Ga, highly doped, optical props. and high excitation phenomena 1−52591

dielectric function continued
CdTe, far IR dielec. spectrum, multiphonon struct., crit. point anal. 1−31156
Fe_3O_4, magnetite, optical props. in range 0.03 to 12 eV 1−12498
GaAs, dielectric function theory, gain spectra 1−16246
GaAs, free carrier dispersive dielectric function 1−47517
GaAs, integral dielec. functions, resolution into component parts 1−31115
GaP, integral dielec. functions, resolution into component parts 1−31114
Ge, dielectric function expansion into elementary parts, intrinsic absorpt. spectra 1−16578
Ge, piezoreflectance study of E_1 and E_2 transitions, deform. potentials 1−3365
$GeSe_2$, crystalline and glassy films, optical spectra and electronic struct. 1−48115
He, liq., surface states, two-dimens. electron liq., correl. props. 1−7415
InAs, integral dielec. functions, resolution into component parts 1−31115
InP, integral dielec. functions, resolution into component parts 1−31114
InSb and electrochemically grown anodic oxide, optical props. meas. 1−48024
InSb dielectric function and surface microroughness, spectroscopic ellipsometry 1−16241
In_4Se_3, refl. spectra and optical functions 1−52965
KCl:Li^+, press. induced off- to on-centre transition 1−20657
$LiTaO_3$, dielec. props., temp. depend., Raman spectroscopy study 1−16569
PbI_2, dielectric and optical constants, spectroellipsometric study 1−26230
$PbTiO_3$, amorphous, dielec. const., temp. depend., crystn. behaviour 1−26137
Sb_2Te_3, free carrier dispersive dielectric function 1−47517
$Se_{1-x}Te_x$ amorphous films, dispersive optical consts. 1−43087
semiconductors, dispersion of high freq. extraordinary waves in Voigt config. 1−48042
Si, dielectric function expansion into elementary parts, intrinsic absorpt. spectra 1−16578
Si films, low-press. CVD, optical props. meas., 3.0 to 6.0 eV 1−48178
$SrTiO_3$, ferroelec., IR refl. spectra at high temp., dispersion, soft modes 1−21204
Th, optical props. in range 0.5-25 eV 1−3518
TiCx, optical absorptance and reflectance, 0.1 to 30 eV 1−26232
TiFe, optical props. *(Russian)* 1−31113
TlCl, self consistent ground state and optical props. 1−47454
TmSe(S), mixed valent, optical refl., dielec. response function determ. 1−48116
U film, optical props. in range 0.6 to 25 eV, rel. to band struct. 1−12592

dielectric heaters *see dielectric heating*

dielectric heating
coal and pyrite mixtures, dielectric props. and anal. for pyrite removal from coal 1−43080
EM waves in industrial HF ovens, model simulation of periodic structure *(French)* 1−24322
imperfect dielectrics, heating charact. in travelling EM wave field 1−11296

dielectric hysteresis
cytosine thin film, elec. ordering, permittivity, admittance, hysteresis meas. 1−21107
ferroelectric hysteresis loop, ultra low freq. meas. *(Chinese)* 1−26151
lithium acetylacetonate, dielec., ferroelec., and piezoelec. props. 1−48017
poly(vinylidene fluoride) film, ferroelectric hysteresis effects 1−12467
polyvinylidene fluoride, piezoelectric and ferroelectric properties 1−52906
polyvinylidene fluoride film, dielectric hysteresis, dipole rotation 1−34996
tris-sarcosine calcium chloride, antiferroelectric high press. phase dielectric observation 1−8018
trissarcosine calcium chloride, polarisation rel. to elec. field, press.-induced phase obs. 1−8011
$(Na_{0.5}Bi_{0.5})TiO_3$-$CdTiO_3$ system solid solns., synthesis, struct. and dielec. props. 1−39042
Nb point contact, AC Josephson effect, shunt capacitance effect 1−3106
$Pb_5Ge_3O_{11}$ film on Si substrate, preparation and props. 1−16204
$Pb(Sc_{0.5}Ta_{0.5})O_3$, B-site cation disorder role in diffuse phase transition, props. 1−3340
$Pb_3(VO_4)_2$ crystals, ferroelec., dielec. and pyroelec. meas. 1−8024
$Pb(Zr,Ti)O_3$, PZT 65/35, 1-D polar mechanical and dielectric responses due to domain switching 1−26149
$Pb(Zr,Ti)O_3$, props. under high electric field 1−16538
Pb(Zr, Ti)O_3-based antiferroelec.-ferroelec. multilayer composites, electromech. behaviour 1−26128
RbD_2PO_4, transition to ferroelectric state, dielectric props. 1−39048
Rb_2ZnCl_4, ferroelec. transitions, dielec. props., thermal anal. 1−8013

dielectric-loaded antennas
compact T-shaped antenna for lower hybrid wave heating of toroidal plasma 1−42184

dielectric-loaded waveguides
electrical characts. for microwave thermography and local hyperthermia 1−43939
electron cyclotron maser instability, effect of finite wall impedance 1−29244
structures with dielec. discontinuities, excitation by charged particle beam, electromag. field calc. 1−23923

dielectric loss angle *see dielectric losses*

dielectric loss-angle measurement *see dielectric loss measurement*

dielectric loss measurement
see also dielectric losses
digital measurement system, utilizing phase comparator 1−36683
helical resonator 1−50155
low values, in near MM wavelength region using new untuned cavity resonator method 1−9995
new materials, dielectric loss meas. 1−14134
photographic emulsions, meas. for determination of ionic conduction and space charge characts. 1−290
rod loss-angle meas. at resonator oscillation types $H_{0^0 12}$ and $H_{0^0 21}$, ultrahigh freq., pyroceramics and synthetic sapphire 1−298
standard capacitors at low temps., using calorimetric methods 1−36681

dielectric losses
see also loss angle
acetonitrile, dipolar interactions 1−34967
alcohols, liq., dielectric loss, relax. and permittivity 1−7999
aniline derivatives in cyclohexanes (1:4 dioxane) soln., relax. time, permittivity and dielec. loss 1−43064

dielectric losses continued
anisole, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
chlorobenzene, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
crypto-phenols, dielec. relax. by internal rot. 1−16520
cyclotriphosphazene crystal, elect. resistivity dielec. const. and loss 1−20724
dielectric heating of coal and pyrite mixtures, dielectric props. and anal. for pyrite removal from coal 1−43080
ferroelectric ceramic complex elastic, dielec. and piezoelec. constants by domain wall damping 1−21149
gelatin, aq. soln., dielec. props. *(Russian)* 1−39034
glass cloth/epoxy laminates, elec. props. 1−34969
guaiacol, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
p-halophenols in non-polar solvents, H bond intermol. assoc., dielectric relax. 1−12451
lithium acetylacetonate, dielec., ferroelec., and piezoelec. props. 1−48017
oxide ceramics with tetragonal potassium-tungsten bronze struct., X-ray struct. investig. and dielec. props. 1−30169
Perspex electrets, thermally activated depolarisation and polarisation induced cond., dielec. losses, Schottky process 1−39027
phenol, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
phenolic Mannich bases, dil. benzene solns., relaxation processes, dielectric permittivity meas. 1−34979
poly-p-toluidine films, electrodeless glow discharge prod., dielec. props. meas., IR spectrum 1−48008
polystyrene foam, dielectric behaviour at microwave freq. 1−47997
polystyrene-chloranil films, doped and undoped, dielec. permittivity and loss meas. 1−3317
polystyrene-poly-2-chlorostyrene blend, dielectric study of polymer compatibility 1−34980
polyurethane, Solithane 113 elastomer, press. depend. of glass transition 1−11692
polyvinylidene fluoride films, glow discharge polymerisation prep., dielec. and piezoelec. props. 1−31367
quartz, smoky, γ-irrad., dielec. relax. meas. down to 4 mK 1−31085
Rochelle salt, dielec. relax., contrib. of impurity-vacancy pairs *(Rumanian)* 1−12453
sapphire, dielectric, high-Q ring resonators 1−31087
silicone rubber tubular electrets, magnetically polarised, dielec. loss factor, TSDC obs. 1−26116
water-cellulose system, dielec. props. at microwave freq. 1−31082
Ag electrode, dielectric surface excess, solid-electrolyte interface anisotropy 1−34771
AgI, dielec. props. and elec. cond. 1−47994
α-$AgSbS_2$, field-induced anomalies in electrophys. props. 1−42836
AlN, based high-density ceramic, prep., mech., thermal and dielec. props. 1−31390
Al_2O_3 dielectric film for distributed RC filters and amorphous semiconductors, anodisation growth 1−39036
Au electrode, dielectric surface excess, solid-electrolyte interface anisotropy 1−34771
Au-SiO_2-Si capacitor, dipole layers at metal-SiO_2 interface 1−3067
$Ba_4Li_2Nb_{10}O_{30}$ crystals, dielec. props., ferroelec. transition, cryst. struct., meas. 1−52894
$Bi_{12}GeO_{20}$, dielectric prop. temp. variation 1−3313
$Bi_4(GeO_4)_3$, dielectric prop. temp. variation 1−3313
Co complex, fade-out of NQR lines and motion of $H_5O_2^+$ ion, NMR, E PR and dielectric meas. 1−3289
$CoSiF_6.6H_2O$, dielec. props. near struct. phase transition temp., temp. and freq. depend. 1−31080
CrO_3, dielectric constant, dielectric loss, electrical cond. 1−21109
Cr_2O_3, dielectric constant, dielectric loss, electrical cond. 1−21109
He, supercritical, loss tangent, up to 20 MV m^{-1} rms at 50 Hz 1−31084
$KNbO_3$, growth and electrophysical props. 1−34971
$KTaO_3$ nonlinear cryst., low dielec. loss 1−34982
$La_4Ti_3O_{12}$, 12-layered cpd., prep., elec. and dielec. props. 1−34972
$LiNbO_3$ sputtered thin film, permitt., loss angle, temp. depend. 1−43057
MgO, doped, RF and microwave dielec. props. meas. 1−21110
MgO:(Fe)(Cr), single crysts., dielectric behaviour 1−39023
MgO:Li^+, thermochemically treated, dielec. polarisation and optical absorpt. study 1−3320
NH_4NO_3, pyroelectric and dielec. behaviour at II-I phase transition 1−52899
$(Na_{0.5}Bi_{0.5})TiO_3$-$CdTiO_3$ system solid solns., synthesis, struct. and dielec. props. 1−39042
$NaNbO_3$, growth and electrophysical props. 1−34971
Nb-Ta(−N), oxide layer formed by anodisation, AES, electrical props. 1−31764
(Pb, Ba, Sr) (Zr, Ti)O_3, ferroelectric ceramics, lapped surface layer effect on dielectric props. 1−39022
PbI_2:K^+(Bi^{3+}), vacancy transport, impurity-vacancy dipole props., ionic cond., dielec. loss and ionic thermocurrent meas. 1−2681
$Pb(Sc_{0.5}Ta_{0.5})O_3$, B-site cation disorder role in diffuse phase transition, props. 1−3340
$PbZr_xTi_{1-x}O_3$, solid solns., complex phase composition, dielec. props. 1−34978
SbSI, complex dielec. const. and loss tangent at microwave freqs., central mode 1−12463
Si-SiO_2-polySi thin-film MOS structs., dielec. props., temp. effects, relaxation, loss factor in inversion region *(Czech)* 1−52893
Si_3N_4 powders, dielec. characts. determ. at superhigh freqs. 1−39025
SmF_3 thin films, thermal evaporation prep., AC elec. props. 1−31090
$SrTiO_3$, dielec. losses meas. in MIM struct. in RF freq. range 1−26119
Ta-Al-N reactively sputtered thin film capacitors, oxide dielec. props. 1−16540
TbF_3 thin film capacitors, dielec. props., 0.5 to 30 kHz 1−39037
$(ZrSn)TiO_4$ dielec. ceramics, rels. between microwave dielec. losses and microstruct. *(Japanese)* 1−48533

dielectric materials
see also antiferroelectric materials; dielectric thin films; electrets; ferroelectric materials; glass; insulating materials; insulation; piezoelectric materials
book on dielectric physics 1−49888
c-C_4F_8-SF_6-N_2 gas mixture, impulse breakdown study 1−7035
gas mixture, dielectric strength calc., test for $\bar{\eta}$-synergism 1−6921

dielectric materials continued
gaseous dielectrics, electron swarm data relevant to HV insulation 1−6920
gaseous dielectrics, unitary and multicomponent 1−7030
gases and gas mixtures elec. strength 1−7031
liquid dielectrics, use in obtaining spatial thermal distribs. in microwave hyperthermia 1−8954
multicomponent gas mixtures in concentric cylinder geometries, DC breakdown strengths 1−7032
octafluorocyclobutane-SF_6 gas mixture, impulse breakdown study 1−7035
ribbons, with high dielec. const., amorphous, prep., review *(Japanese)* 1−43291
thick film dielectric composite, AC conduction 1−52557
SF_6, compressed, corrugated coaxial electrodes impulse breakdown 1−7034
SF_6, compressed, electrical breakdown between highly polished electrodes 1−7029
SF_6, impulse breakdown and prebreakdown corona processes 1−7027
SF_6, relation between luminous phenomena and discharge mechanism 1−7028
SF_6-CO_2-fluorocarbon mixtures, electric breakdown studies 1−7033
SF_6-N_2 mixtures, impulse breakdown and prebreakdown corona processes 1−7027

dielectric measurement
see also dielectric loss measurement; permittivity measurement
automatic spectrometer measurements in range 77 to 380K and 500 to 1000 Hz *(French)* 1−301
brain, mouse, use of time domain spectroscopy for meas. of dielec. props. 1−27041
dipole moment determ. based on density and dielec. characts meas., automated complex 1−23272
electric moments of plane-parallel dielectric, using dynamic capacitor method 1−50164
liquids, extra high frequency 1−36679
low-loss dielectric meas. at high press., automated system based on PET 2001 microcomputer 1−14142
moisture gauges, use on dissipative materials 1−44908
parameter meas. of absorbing substances at submillimetre wavelength, optimisation 1−9998
polluted water 1−36680
polyethylene terephthalate, thin-sample holder for measuring dielectric properties at low temp. *(French)* 1−40820

dielectric phenomena
see also dielectric hysteresis; dielectric losses; dielectric properties of substances; dielectric relaxation; dielectric resonance; electric strength; ferroelectricity; photodielectric effect; piezoelectricity; solvated electrons
nearfield scatt. by dielectric slabs and hollow wedges 1−1439
supercritical-state material, dielectric strength 1−29832

dielectric polarisation
see also Barkhausen effect
acetic acid, in nonpolar solvents, dipolar thermodynamic excess functions, dielec. props. obs. 1−21115
ammonium Rochelle salt-Rochelle salt system, optical, dielec., piezo-optical, piezoelec. props. 1−8006
anisometric molecules in dense fluids, Kerr const. calc. 1−35015
butyric acid, in nonpolar solvents, dipolar thermodynamic excess functions, dielec. props. obs. 1−21115
cavity, spheroidal, in dielectric solid, charge distrib. on surface 1−34975
cellophane thermoelectrets, polarisation and thermally stimulated discharge current studies 1−7997
crystals, dynamic polarisation echo 1−41904
di-(4-n-hexylhydroxy) benzoate-2 cyano and nitrohydroquinones, dipole polarisation mechanisms 1−2326
dicalcium lead (strontium) propionate, ferroelec., cryst. growth and dielec. props. 1−26377
dipolar molecular liquids, dielec. saturation, single-mol. distrib., function 1−39029
doped semiconductor, polarisability near metal-insulator transition 1−12450
ferroelectric ceramic complex elastic, dielec. and piezoelec. constants by domain wall damping 1−21149
ferroelectric materials, polarisation wave excitation by moving domain walls 1−21151
ferroelectric models, order-disorder, six- and four-site, with tunnelling, thermodynamics 1−43076
ferroelectric models, polarisation fluctuations 1−34991
ferroelectric pseudo-spin Hamiltonian, anal. by second order cumulant expansion 1−21138
improper ferroelectricity theory, transitions, CDW 1−12465
integral dispersion relations for real part of polarisability, refractive index, magneto-optical characts. 1−3323
isotropic thermoelastic dielectrics, deformation and polarisation energy function 1−29545
liquid crystal, ferroelec. smectic, dynamics of elec. field induced distortion, soft mode props. near T_c 1−52889
liquid crystal smectic C, F and I phases, dielec. reorientation 1−21119
macroscopic polarisation induced by optic phonon 1−3319
many-body dielectric relaxation in solids 1−26118
methane, second dielectric virial coeff. calcs. 1−10676
microelectronic convertor using mag. film dielectric polarisation 1−27958
nematic liq. cryst., spontaneous polarisation influence on mech. stability 1−2324
non-metallic solids submitted to intense electric field, internal heat dissipation and thermal breakdown *(French)* 1−48005
nonpolar molecule cryocondensates, binary mixtures, surface elec. charge generation 1−2608
polar liquids, dielectric props. caused by super-Debye interaction with microwave field 1−16539
polarised crystal, cooperative behaviour of paraelectric defects *(Russian)* 1−8019
poly(vinylidene fluoride) film, ferroelectric hysteresis effects 1−12467
polycarbonate thin film, effect of humidity on high temp. dielec. relax. 1−3328
polymer, shock-loaded, elec. conduction and polarization 1−39040
polymeric insulators, dielectric absorpt. currents, surface charge 1−7702
polystyrene foam, dielectric behaviour at microwave freq. 1−47997
polyvinylidene fluoride, charging and discharging currents, mechanisms for current transients 1−7996
polyvinylidene fluoride, ferroelec., transition temp. 1−31103
polyvinylidene fluoride, ferroelec. polarisation 1−39041

dielectric polarisation continued
polyvinylidene fluoride film, corona-poled and elevated temp., piezo- and pyro-electricity 1−39032
polyvinylidene fluoride film, dielectric hysteresis, dipole rotation 1−34996
propionic acid, in nonpolar solvents, dipolar thermodynamic excess functions, dielec. props. obs. 1−21115
Rochelle salt, ferroelec., statistics of quasi-one-dimensional model 1−21135
Rochelle salt, relaxation dynamics, asymmetric double-well single particle potential calcs. *(Russian)* 1−31088
semiconductors local field effects, review 1−48000
smectic liquid crysts., chiral, spontaneous polarisation variation in homologous series 1−3324
sodium ammonium tartrate, spontaneous macroscopic quadrupole moment in noncommensurable polar phase 1−3344
styrene-butadiene block copolymer, field-induced TSC 1−21116
surface, spherical, surface tension, surface polarisation, thermodynamics 1−16143
suspensions, dielectric, weakly conducting, internal rotation in hydrodynamics 1−51875
tetrafluoromethane, second dielectric virial coeff. calcs. 1−10676
TGFB, deuterated, spontaneous polarisation rel. to permittivity and pyroelec. coeff. 1−26114
TGS, domain dynamics study using nematic liq. crystals 1−21150
TGS, ferroelec., crit. behaviour of spontaneous polarisation 1−39030
TGS, spontaneous polarisation rel. to permittivity and pyroelec. coeff. 1−26114
TGSe, press.-induced tricritical nature, dielec. const. and spontaneous polarisation meas. 1−26141
TGSe-DTGSe system, tricritical points, spontaneous polarisation 1−39047
trissarcosine calcium chloride, polarisation rel. to elec. field, press.-induced phase obs. 1−8011
$[(NH_4)_{1-x}Rb_x]_2SO_4$, ferroelectric crystals, dielectric and nonlinear optical props. 1−1643
AgCl cryst., lattice mech. props., dielec. props., theory 1−47192
$Ba_{0.5}Sr_{0.5}Nb_2O_6$ thin film, dielec. nonlinearity, dielec. const. and electrooptical props. meas. 1−26127
$BaTiO_3$ ceramic, piezoelec. effect 1−31096
$BaTiO_3$, ferroelec., struct. phase transitions, thermodynamic anal. 1−31099
$BaTiO_3$, ferroelectric, electrolum. emission during polarisation reversal 1−26276
$BaTiO_3$, optical props., phase transition effects, tight-binding energy band calcs. 1−39059
$BaTiO_3$, very narrow quasielastic scatt. close to ferroelec. phase transition 1−26220
p-CdTe metal-semiinsulator-metal struct., bulk polarisation change form. on light illum. 1−20806
CsH_2AsO_4, electrooptical props. near Curie point 1−12476
$Gd_2(MoO_4)_3$, ferroelastic and ferroelectric, pol. reversal and field induced phase transform., electron microscopy 1−39049
Ge, photodielectric effect obs., acceptor excited states *(Russian)* 1−20804
KCl:OH^-, adiabatic electrocaloric effect *(Russian)* 1−26135
KD_2PO_4, light scatt. spectra, anisotropic polarisation relaxation time 1−39031
KD_2PO_4, polarisation fluctuation relaxation time 1−48098
KH_2PO_4, piezoelec., nonequilibrium thermodynamics and quasielastic light scatt. 1−39115
KH_2PO_4, polarisation fluctuation relaxation time 1−48098
KH_2PO_4 type ferroelectric, polarisation fluctuation spectra studied by light scattering *(Japanese)* 1−48101
$KNbO_3$, electronic struct. rel. to ferroelec. phase transitions 1−34626
$KTaO_3$:Li, birefringence meas. 1−35009
$La_4Ti_3O_{12}$, 12-layered cpd., prep., elec. and dielec. props. 1−34972
$LiNbO_3$ crystals, polarisation effect 1−21111
$LiNbO_3$, ferroelectric, temp. depend. of spontaneous polarisation *(Russian)* 1−47999
$LiNbO_3$:Cr, ferroelec., Cr^{3+}-Cr^{3+} excited state dipole moment interactions 1−21112
$LiNbO_3$:Fe, photorefractive effect, photoconductivity 1−21167
$LiTaO_3$, ferroelectric, temp. depend. of spontaneous polarisation *(Russian)* 1−47999
MgO:Li^+, thermochemically treated, dielec. polarisation and optical absorpt. study 1−3320
N_2, liq., dielectric breakdown, polarity effect rel. to pulse width 1−31089
$(Na_{0.5}Bi_{0.5})TiO_3$-$CdTiO_3$ system solid solns., synthesis, struct. and dielec. props. 1−39042
PLZT, pyroelec. current meas. from polling currents under possible injection of free charge 1−26131
$Pb_5Ge_3O_{11}$ film on Si substrate, preparation and props. 1−16204
$Pb_5(Ge_{1-x}Si_x)_3O_{11}$, pulsed polarisation switching 1−31106
$PbHfO_3$, temp.-elec. field phase diagram of antiferroelec. and ferroelec. phases 1−21143
$Pb_{0.99}Nb_{0.02}[(Zr_{0.73}Sn_{0.27})_{0.93}Ti_{0.07}]_{0.98}O_3$, polarocaloric effect of 2°C 1−16531
$Pb(Sc_{0.5}M_{0.5})O_3$ (M=Nb,Ta), ordering process kinetics 1−7326
$Pb(Sc_{1/2}Nb_{1/2})O_3$, $Pb(Sc_{1/2}Ta_{1/2})O_3$, order-disorder reactions rel. to ferroelec. props. 1−21146
$Pb(Sc_{0.5}Ta_{0.5})O_3$, B-site cation disorder role in diffuse phase transition, props. 1−3340
$PbTiO_3$ ferroelec. thin film, fabrication by RF sputtering, optical and dielec. props. *(Japanese)* 1−35176
$PbZrO_3$, space charge polarisation and phase transitions 1−16535
RbCl:OH^-, adiabatic electrocaloric effect *(Russian)* 1−26135
RbD_2PO_4, transition to ferroelectric state, dielectric props. 1−39048
$RbHSO_4$, Brillouin scatt. study of polarisation relaxation time 1−39112
$RbH_3(SeO_3)_2$, ferroelec., phase transition, dielec. and elastic props. 1−39044
Rb_2ZnCl_4, low temp. phase transitions 1−48013
n-Si, shallow donor polarisability, stress-induced shifts 1−47536
Si:P, polarisation catastrophe, elec. cond. study 1−25769
SiO dielectric characts. meas. by thermally-stimulated depolarisation currents, dipolar relaxation times 1−34976
SiO_2 thin films, evaporated, TSC rel. to AC cond. 1−7998
$SrTeO_3$ single crysts., ferroelec., phase transitions, SHG study 1−39050
Zn_2SiO_4:Mn phosphor, composite films on Si, growth and elec. props. 1−3082

dielectric properties of gases
dilute gases, dielec. props., interaction site model 1−52033
inert gas, equil. and transport props., room temp. up to 1 GPa, dil. gas to solid range 1−38042
SF_6 insulated coaxial conductor system under HVDC, motion of small metallic particles, anal. *(Italian)* 1−6919
SF_6 model circuit breaker, dielectric recovery study 1−11619

dielectric properties of liquids and solutions
acetone, dielec. props. of UHF radio wave freq. 1−47995
alcohols, liq., dielectric loss, relax. and permittivity 1−7999
alcohols and their deutero-and thio-analogues, dielectric relax. by internal rotation 1−21122
alkane liquids, dielectric const. depend. on free space 1−43060
alkanes, normal liq., dielec. const. depend. on free space 1−21105
p-alkoxybenzylidene-p′-amino-2chloro-propyl-cinnamate ferroelectric liquid crystal, dielec. props. *(Japanese)* 1−46998
4-n-alkyloxyphenyl-4-n-alklyoxybenzoates, dielec. relax. in nematic, smectic A and C phases 1−21123
allyl bromide in benzene dil. soln., microwave dielectric relaxation at 30°, 45° and 60°C 1−8000
allyl ethers in benzene dil. soln., microwave dielectric relaxation at 30°, 45° and 60°C 1−8000
aniline derivatives in cyclohexanes (1:4 dioxane) soln., relax. time, permittivity and dielec. loss 1−43064
anisole, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
anisometric molecules in dense fluids, Kerr const. calc. 1−35015
chloral, pure and in benzene, dielectric relax. studies 1−26117
chlorobenzene, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
conducting liquids, dielectric const. meas. 1−40817
current transient interpretaion 1−52576
di-(4-n-hexylhydroxy) benzoate-2 cyano and nitrohydroquinones, dipole polarisation mechanisms 1−2326
dicyanoalkanes, benzene solns., microwave absorpt. and internal rot. 1−48001
diethyltetone, dielec. props. of UHF radio wave freq. 1−47995
dipropylacetamide aqueous solns., dielec. const. 1−7993
discotic mesophase, electro-optical effects, dielec. and EHD instabilities 1−46990
EHF measurement methods 1−36679
electrolytic solutions, cationic mobilities, dielect. const. effect, Eigen mechanism 1−35536
emulsions, weakly dispersed, dielectric, particle dynamics in nonuniform electric field 1−6902
fluid dielectrics, force density 1−3345
gelatin, aq. soln., dielec. props. *(Russian)* 1−39034
guaiacol, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
hard-sphere fluids, dipolar, second dielectric virial coefficient determ. 1−3315
index-matching liquids, electronic, nuclear and total nonlinear indices 1−29352
instability of dielectric liquid in cylindrical annulus subject to unipolar charge injection 1−42102
ion exchange resin, suspension in water, relative permittivity, elec. cond., high freq. dielec. relax. 1−43712
ionic solutions, statistical mech. theory based on interaction site model, dielec. props. and pair correl. functions 1−52033
liquefied petroleum gas components and mixtures in cryogenic storage, densities and permittivities 1−47141
liquid crystal smectic C, F and I phases, dielec. reorientation 1−21119
liquid crystals, optical, mech. and elec. props. rel. to mol. ordering, book contrib. 1−38271
liquid crystals characts., expt. techniques *(Rumanian)* 1−34219
measurement, capacitive meas. cell 1−18251
methanol-tetrahydrofuran mixture, dielec. consts., temp. depend., interpret. w.r.t. Eyring theory 1−26111
methylethylketone, dielec. props. of UHF radio wave freq. 1−47995
nematic liquid crysts., dipole-dipole correl., dielec. props. 1−15793
m-nitrotoluene in saturated hydrocarbons, nonlinear dielectric effect 1−43059
non-metallic solids and liquids, interface effects in elec. response 1−52907
organic liquids, positron lifetime depend. on dielectric const. 1−43206
p-pentyl-p′-cyanonobiphenyl-p-pentyl-p′-cyanoterphenyl, nematic mixtures, dielectric relaxation 1−52891
permeability meas. by node-displacement method *(Russian)* 1−43079
phenol, dil. soln., dielectric parameter evaluation, numerical curve fitting technique 1−52888
phenolic Mannich bases, dil. benzene solns., relaxation processes, dielectric permittivity meas. 1−34979
polar liquids, super-Debye, interaction with microwave field 1−16539
smectic A liquid crystal, dielec. heating and relax. 1−42296
smectic liquid crysts., chiral, spontaneous polarisation variation in homologous series 1−3324
2,2,4,4-tetramethylpentane-3-ol in soln., dimerisation equilib. by IR absorpt. spectra and dielec. methods 1−39591
tri(-t-butyl)phosphide, electric dipole moments 1−6408
trichloroacetamide, benzene soln., dielec. relax. obs. 1−48002
water, static dielectric constant 1−52885
water-cellulose system, dielec. props. at microwave freq. 1−31082
Ag, liq., dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
Au, liq., dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
Cu, liq., dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
p-H_2, liquid, dielectric constant obs., 15 to 32.2K 1−47998
He, supercritical, dielectric loss, loss tangent, up to 20 MV m^{-1} rms at 50 Hz 1−31084
^{3}He-A, dielec. const. anisotropy meas. 1−25521
$P(Si(CH_3)_3)_3$, electric dipole moments 1−6408
$P(Sn(CH_3)_3)_3$, electric dipole moments 1−6408

dielectric properties of solids
ammonium Rochelle salt-Rochelle salt system, optical, dielec., piezooptical, piezoelec. props. 1−8006
bis(dimethyltetrathiofulvalene)tetrafluoroborate, one-dimens. cond., dielec. props., meas. 1−52886
bis(tetramethyltetrathiofulvalene)tetrafluoroborate, one-dimens. cond., dielec. props., meas. 1−52886
bone, wet, role of fluid in dielec. props. 1−13231

dielectric properties of solids continued
bone electromechanical effect, influence of dielec. props. 1−13230
caesium acetate relative permittivity, freq. and temp. effects 1−34970
cellophane thermoelectrets, polarisation and thermally stimulated discharge current studies 1−7997
chalcogenide glasses, struct. and transport props. impurity and defect effects *(Slovak)* 1−15804
characterisation parameters, for dielec. materials 1−39019
composite media, dielectric constant, pair-cluster theory 1−34973
composites, resist., dielec. gaps effect on conductance 1−38824
covalent semiconductor, HF dielec. props., within nearly-free-electron approx., one plasmon band model 1−38735
covalent semiconductor, HF dielec. props. within nearly-free-electron approx., two plasmon band model 1−38736
current transient interpretaion 1−52576
cyclotriphosphazene crystal, elect. resistivity dielec. const. and loss 1−20724
cytosine thin film, elec. ordering, permittivity, admittance, hysteresis meas. 1−21107
dicalcium lead (strontium) propionate, ferroelec., cryst. growth and dielec. props. 1−26377
dicalcium strontium propionate, soln. grown single crysts., defect form., dielec. props. 1−12462
dielectric heating of coal and pyrite mixtures, dielectric props. and anal. for pyrite removal from coal 1−43080
epoxy insulation, long-term dielec. strength, elec. field and defects effects 1−43069
epoxy resin, high temp. dielectric study 1−43056
ferroelastic phase transitions, rhombic paraphase to monoclinic ferrophase, dielec. and elastic anomalies 1−7289
ferroelastics and antiferroelastics, Jahn-Teller, microscopic theory, dielec. and elastic props. 1−7239
ferroelectric ceramic complex elastic, dielec. and piezoelec. constants by domain wall damping 1−21149
graphite-$FeCl_3$ intercalation cpd., stage I and stage II, low freq. plasmon spectra 1−47522
injection currents theory, in dielectrics with maximum filling of traps 1−16300
intercalation compound, stage 1 acceptor intercalate, idealized, with inequivalent cond. layers, collective excitations 1−47521
iodoform crystal, polarisability 1−7995
lithium acetylacetonate, dielec., ferroelec., and piezoelec. props. 1−48017
many-body dielectric relaxation in solids 1−26118
multicomponent, prototypes prediction using entropy of electron density 1−42665
non-metallic solids and liquids, interface effects in elec. response 1−52907
oxide ceramics with tetragonal potassium-tungsten bronze struct., X-ray struct. investig. and dielec. props. 1−30169
permittivity meas. by ponderomotive force in capacitor field 1−28025
plastic crystal, dielec. const. and PVT meas. at low temps. up to 3000 bar 1−39026
PMMA, initial tree growth 1−3330
polycarbonate thin film, effect of humidity on high temp. dielec. relax. 1−3328
polyethylene, low-density, thermally stimulated depolarisation, γ relax., 5 to 190K 1−26113
polyethylene, treeing, electric field and space charge effects *(Portuguese)* 1−43066
polyethylene terephthalate, thin-sample holder for measuring dielectric properties at low temp. *(French)* 1−40820
polyimide thin films, elec. breakdown strength, cond., adhesion determ. 1−20892
polymer tubes, thermally stimulated discharge currents and isothermal charge decay, use as vascular prosthesis 1−39028
polymer-plasticised piezoelectric, γ-radiation effects on dielec. and piezoelec. props. 1−31093
polymeric insulators, dielectric absorpt. currents, surface charge 1−7702
polymeric systems, field induced TSC simulation 1−21116
polymers, pendant-group and molecularly doped, electron transfer, molecular-ion model 1−52892
polypropylene, magnetoelectret state, dielec. investig. 1−21114
polystyrene foam, dielectric behaviour at microwave freq. 1−47997
polyvinylidene fluoride, charging and discharging currents, mechanisms for current transients 1−7996
polyvinylidene fluoride, ferroelec. polarisation 1−39041
potassium acetate, relative permittivity, freq. and temp. effects 1−34970
quartz, smoky, γ-irrad., dielec. relax. meas. down to 4 mK 1−31085
reinforced plastics, composite, oriented, internal electrostatic field 1−21131
rubidium acetate, relative permittivity, freq. and temp. effects 1−34970
sea ice, low-salinity dielectric props. and passive remote sensing at UHF freq. 1−54089
semiconductors local field effects, review 1−48000
sodium acetate, relative permittivity, freq. and temp. effects 1−34970
squaric acid, layered antiferroelec., dielec. const. determ. in microwave region 1−8008
surfaces, crystal, optical properties, local-field and excitonic effects, theory 1−52908
surfaces, long range vibr. energy transfer 1−42621
tetrafluoroethylene-hexafluoropropylene copolymer, phase transition detection by TSC 1−52265
TGFB, deuterated, spontaneous polarisation rel. to permittivity and pyroelec. coeff. 1−26114
TGS, ferroelec., crit. behaviour of spontaneous polarisation 1−39030
TGS, spontaneous polarisation rel. to permittivity and pyroelec. coeff. 1−26114
TGSe, press.-induced tricritical nature, dielec. const. and spontaneous polarisation meas. 1−26141
thermoplastic elastomers, complex relative permittivity spectra using dielec. spectroscopy at sub-audio freqs. 1−9996
$(TMTSF)_2PF_6$, nonlinear elec. field effects 1−20712
transient single-injection currents at fast trapping, numerical anal. 1−52573
zeolites, dehydrated, cationic motion 1−2680
$[(NH_4)_3H(SO_4)_2]_{1-x}[(ND_4)_3D(SO_4)_2]_x$, effect of hydrostatic press. on phase transitions, dielec. study 1−8010
$[(NH_4)_{1-x}Rb_x]_2SO_4$, ferroelectric crystals, dielectric and nonlinear optical props. 1−1643
Ag-KCl composite, crit. behaviour of dielec. const. near percolation threshold 1−39024
AgCl cryst., lattice mech. props., dielec. props., theory 1−47192

dielectric properties of solids continued
AgI, dielec. props. and elec. cond. 1−47994
AlN, based high-density ceramic, prep., mech., thermal and dielec. props. 1−31390
BaF_2:Li(Na)(K)(Rb)(Cs), audiofrequency dielec. studies, 5.5. to 400K 1−31086
$Ba_4Li_2Nb_{10}O_{30}$ crystals, dielec. props., ferroelec. transition, cryst. struct., meas. 1−52894
$BaZrO_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
$Bi_4Te_3O_{12}$ single cryst., prep., struct. and dielec. props. 1−39021
$BiVO_4$ single cryst., ferroelastic phase transition 1−7320
CaF_2, rare-earth doped, audio freq. dielec. relaxation meas. and activation vol. 1−3326
$CdO.SiO_2.Na_2O$ photochromic glass, in faded state, dark current and dielec. relax. 1−26120
Co complex, fade-out of NQR lines and motion of $H_5O_2^+$ ion, NMR, E PR and dielectric meas. 1−3289
$CoSiF_6.6H_2O$, dielec. props. near struct. phase transition temp., temp. and freq. depend. 1−31080
$DyVO_4$, ferroelastic antiferroelec., microscopic theory, dielec. and elastic props. 1−7239
Fe_3O_4, mag. and dielec. props. meas., Verwey transition 1−12355
GaS(Se), elec. strength, lifetime-under-load 1−26124
K, $Zn_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464
$(K_{3/4}Bi_{1/4})(Zn_{1/6}Nb_{5/6})O_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
KCl, anion vacancy migration, energy parameters 1−2685
K_2CoF_4, antiferromag., dielec. const. near Neel temp. 1−7992
$K_2Mn_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464
$KNbO_3$ crysts., elec. cond. and dielec. props., impurity effects 1−52904
K_2SeO_4, dielec. props., hydrostatic press. effect 1−52903
$La_4Ti_3O_{12}$, 12-layered cpd., prep., elec. and dielec. props. 1−34972
$La_{2/3}\square_{1/3}TiO_3$ high freq. capacitor dielectrics, effect of other titanate additions 1−20413
Li_3N, cryst., glassy props. at temps. 20 mK to 100K, acoustic and dielec. behaviour 1−2570
$LiNbO_3$ crystals, polarisation effect 1−21111
$LiNbO_3$ sputtered thin film, permitt., loss angle, temp. depend. 1−43057
$LiTaO_3$, dielec. props., temp. depend., Raman spectroscopy study 1−16569
MgO, doped, RF and microwave dielec. props. meas. 1−21110
MgO film, dielectric props. obs., for three vacuum deposition systems 1−16525
MgO:Li^+, thermochemically treated, dielec. polarisation and optical absorpt. study 1−3320
$Mg_2Si_3O_4$-SiO_2 (1 mol.%) forsterite, ionic conductor, dielec. relaxation and dielec. function 1−3327
$(NH_4)_2Mn_2(SO_4)_3$, lack of phase transitions under hydrostatic press. 1−12464
NaCl, anion vacancy migration, energy parameters 1−2685
NaF, anion vacancy migration, energy parameters 1−2685
Nb oxide, anodic, electrostriction, conflict with macroscopic theory 1−34989
(Pb, Ba, Sr) (Zr, Ti)O_3, ferroelectric ceramics, lapped surface layer effect on dielectric props. 1−39022
PbI_2:K^+(Bi^{3+}), vacancy transport, impurity-vacancy dipole props., ionic cond., dielec. loss and ionic thermocurrent meas. 1−2681
PbO-B_2O_3-SiO_2 glass-ceramics, grain size influence on baking and elec. props. *(Polish)* 1−48317
$Pb(Sc_{1/2}Nb_{1/2})O_3$, $Pb(Sc_{1/2}Ta_{1/2})O_3$, order-disorder reactions rel. to ferroelec. props. 1−21146
$Pb(Sc_{1/2}Ta_{1/2})O_3$, relaxor and normal ferroelec., dielec. props., press. depend. 1−8009
$PbTiO_3$ ferroelec. thin film, fabrication by RF sputtering, optical and dielec. props. *(Japanese)* 1−35176
$Pb_3(VO_4)_2$ crystals, ferroelec., dielec. and pyroelec. meas. 1−8024
$Pb(Zr,Ti)O_3$, PZT 65/35, 1-D polar mechanical and dielectric responses due to domain switching 1−26149
$Pb(Zr,Ti)O_3$, phase transitions, dielec., pyroelec., and piezoelec. props. and DTA 1−16536
$PbZr_xTi_{1-x}O_3$, solid solns., complex phase composition, dielec. props. 1−34978
$PrCl_3$, antiferroelastic antiferroelec., microscopic theory, dielec. and elastic props. 1−7239
$PtSb_2$, permittivity meas. at microwave freq. 1−21108
$Rb_2Cd_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464
$RbH_3(SeO_3)_2$, ferroelec., phase transition, dielec. and elastic props. 1−39044
Rb_2ZnCl_4, ferroelec. transitions, dielec. props., thermal anal. 1−8013
Rb_2ZnCl_4, low temp. phase transitions 1−48013
S, dielectric permittivity, after-effect of heat and mag. field 1−31081
β-Sb_2O_4, single cryst. prep., dielec. characts. and cond., ferroelec. and struct. transition absence 1−53063
SbSI, complex dielec. const. and loss tangent at microwave freqs., central mode 1−12463
Si_3N_4 powders, dielec. characts. determ. at superhigh freqs. 1−39025
SiO_2-Na_2O-B_2O_3-K_2O-Al_2O_3 glass, phonon scatt. states, elec. polarizability 1−30344
$Sr_{3-x}Ba_xWO_6$, nonlinear props., dielec X-ray and DTA meas. *(French)* 1−43073
SrF_2:Li(Na)(K)(Rb), audiofrequency dielec. studies, 5.5. to 400K 1−31086
$SrTiO_3$, dielec. losses meas. in MIM struct. in RF freq. range 1−26119
$SrTiO_3$-$Bi_{2/3}TiO_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
Ta oxide, anodic, electrostriction, conflict with macroscopic theory 1−34989
Ta-Al-N reactively sputtered thin film capacitors, oxide dielec. props. 1−16540
$Tl_2Cd_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464
$Tl_2Mn_2(SO_4)_3$, lack of phase transitions under hydrostatic press. 1−12464
W oxide, anodic, electrostriction, conflict with macroscopic theory 1−34989
ZrO_2-Y_2O_3 (15 mol.%) ionic conductor, dielec. relaxation and dielec. function 1−3327

dielectric properties of substances
see also antiferroelectricity; dielectric depolarisation; dielectric function; dielectric materials; dielectric measurement; dielectric phenomena; dielectric polarisation; dielectric properties of gases; dielectric properties

dielectric properties of substances continued
of liquids and solutions; dielectric properties of solids; electric strength; optical susceptibility; permittivity; piezoelectricity; pyroelectricity
animal tissues, dielec. behaviour in vitro at freqs. from 2 to 4 GHz 1−53777
effective field, macroscopic description *(Russian)* 1−39020
electric current conducting media, 1/f noise and dielectric response unified theory 1−3030
paraelectric systems, sign of effective tunnelling parameters, calc. 1−43081
permeability at superhigh frequencies, temp. depend. reflection coeff. 1−16519
tissues, normal and tumour, UHF and microwave props. 1−26939

dielectric relaxation
see also dielectric resonance
alcohols, liq., dielectric loss, relax. and permittivity 1−7999
alcohols and their deutero-and thio-analogues, dielectric relax. by internal rotation 1−21122
di-π-alkoxyazoxybenzenes, nematic liq. crysts., dielec. relax. and twist viscosity correl. *(Portuguese)* 1−25159
4-n-alkyloxyphenyl-4-n-alklyoxybenzoates, dielec. relax. in nematic, smectic A and C phases 1−21123
allyl bromide in benzene dil. soln., microwave dielectric relaxation at 30°, 45° and 60°C 1−8000
allyl ethers in benzene dil. soln., microwave dielectric relaxation at 30°, 45° and 60°C 1−8000
aniline, semicond., relaxation processes *(Russian)* 1−43065
aniline derivatives in cyclohexanes (1:4 dioxane) soln., relax. time, permittivity and dielec. loss 1−43064
benzotrifluorides, substituted, in benzene solns., microwave absorpt. and relax. 1−52890
book on dielectric physics 1−49888
chloral, pure and in benzene, dielectric relax. studies 1−26117
Collie, Hasted and Ritson equation, dielec. behaviour 1−26110
crypto-phenols, dielec. relax. by internal rot. 1−16520
dicyanoalkanes, benzene solns., microwave absorpt. and internal rot. 1−48001
diffusional mechanism of relax. process 1−21124
discotic mesophase, electro-optical effects, dielec. and EHD instabilities 1−46990
p-halophenols in non-polar solvents, H bond intermol. assoc., dielectric relax. 1−12451
hopping ionic conduction, associated dielectric relaxation 1−34981
ion exchange resin, suspension in water, relative permittivity, elec. cond., high freq. dielec. relax. 1−43712
liquid crystal, ferroelec. smectic, dynamics of elec. field induced distortion, soft mode props. near T_c 1−52889
liquid crystal smectic C, F and I phases, dielec. reorientation 1−21119
liquid relaxation, Williams-Watts and Cole-Davidson functions comparison 1−7056
many-body dielectric relaxation in solids 1−26118
methyl ethyl ketone, semicond., relaxation processes *(Russian)* 1−43065
molecular rotation and orientation, Brownian motion, inertial effects and dipole coupling 1−12452
new materials, dielectric loss meas. 1−14134
nitrate ion glass, anhydrous, charged pair recomb., dispersive hopping temp. depend. 1−42564
4-nitrophenyl 4′-octyloxybenzoate, isotropic, nematic and smectic phases, dielectric study 1−15789
organic rigid rotor molecules in polystyrene matrix, dielec. relax. 1−39033
PAN, glass transition, dielectric data anal. 1−7305
p-pentyl-p′-cyanonobiphenyl-p-pentyl-p′-cyanoterphenyl, nematic mixtures, dielectric relaxation 1−52891
phenolic Mannich bases, dil. benzene solns., relaxation processes, dielectric permittivity meas. 1−34979
phenols, diluted, dielec. relax. by internal rot. 1−21121
poly(2-hydroxyethyl methacrylate), stereoregular, thermal, dielec. and dynamic mech. relax. 1−16522
poly(γ-methyl-L-glutamate) films, piezoelec. relax. at high temp. 1−34990
polycarbonate thin film, effect of humidity on high temp. dielec. relax. 1−3328
polyethylene, amorphous solitons, defect diffusion and dielect. relax. 1−16521
polyethylene, low-density, thermally stimulated depolarisation, γ relax., 5 to 190K 1−26113
polyethylene terephthalate, thin-sample holder for measuring dielectric properties at low temp. *(French)* 1−40820
polymer networks, elasticity and relaxation props., conf., Karlovy Vary, CSSR, (Sept. 1980) 1−44703
polymeric materials, relaxation processes, time integral charcts. of four-parameter description 1−15424
polymers, pendant-group and molecularly doped, electron transfer, molecular-ion model 1−52892
polymers and polymeric composites, heredity functions calc. using inverse Laplace transforms 1−46682
polystyrene-poly-2-chlorostyrene blend, dielectric study of polymer compatibility 1−34980
polyurethane model networks, relaxation and equilibrium behaviour 1−53228
polyvinylidene fluoride, charging and discharging currents, mechanisms for current transients 1−7996
quartz, smoky, γ-irrad., dielec. relax. meas. down to 4 mK 1−31085
reentrant nematic and smectic A phases, dielec. const. and relax. study 1−47214
Rochelle salt, dielec. relax., contrib. of impurity-vacancy pairs *(Rumanian)* 1−12453
Rochelle salt, dielectric spectra, submillimeter monochromatic spectroscopic study *(Russian)* 1−12447
Rochelle salt, relaxation dynamics, asymmetric double-well single particle potential calcs. *(Russian)* 1−31088
semiconductor, screening length rel. to lifetime and relax. 1−20762
smectic A liquid crystal, dielec. heating and relax. 1−42296
squaric acid, layered antiferroelec., dielec. const. determ. in microwave region 1−8008
styrene-butadiene block copolymer, field-induced TSC 1−21116
thick film dielectric composite, AC conduction 1−52557
trichloroacetamide, benzene soln., dielec. relax. obs. 1−48002
zeolites, dehydrated, cationic motion 1−2680

dielectric relaxation continued
BaF_2:Li(Na)(K)(Rb)(Cs), audiofrequency dielec. studies, 5.5. to 400K 1−31086
BaF_2:R^{3+} (R=La, Ce, Pr, Nd, Sm, Gd, Ho, Tm, Y), polarizable complexes, dielec. meas. 1−3321
$Ba_4Li_3Nb_{10}O_{30}$ crystals, dielec. props., ferroelec. transition, cryst. struct., meas. 1−52894
$Bi_{12}GeO_{20}$, dielectric prop. temp. variation 1−3313
$Bi_4(GeO_4)_3$, dielectric prop. temp. variation 1−3313
CaF_2, rare-earth doped, audio freq. dielec. relaxation meas. and activation vol. 1−3326
$CdO.SiO_2.Na_2O$ photochromic glass, in faded state, dark current and dielec. relax. 1−26120
Fe_3O_4, mag. and dielec. props. meas., Verwey transition 1−12355
Hg double layers, frequency and conc. depend. of capacitance 1−48003
KD_2PO_4, light scatt. spectra, anisotropic polarisation relaxation time 1−39031
KD_2PO_4-like ferroelectrics, relaxation processes *(Russian)* 1−34983
KI(Br)(Cl):NCS^-, thermally stimulated depolarisation, electric dipole moments 1−3322
$Mg_2Si_2O_4$-SiO_2 (1 mol.%) forsterite, ionic conductor, dielec. relaxation and dielec. function 1−3327
NaCl:NaF,Pb^{2+} single cryst., point defects, ionic thermocurrents 1−3325
$RbHSO_4$, Brillouin scatt. study of polarisation relaxation time 1−39112
RbI(Br)(Cl):NCS^-, thermally stimulated depolarisation, electric dipole moments 1−3322
Si-SiO_2-polySi thin-film MOS structs., dielec. props., temp. effects, relaxation, loss factor in inversion region *(Czech)* 1−52893
SiO dielectric characts. meas. by thermally-stimulated depolarisation currents, dipolar relaxation times 1−34976
SmF_3 thin films, thermal evaporation prep., AC elec. props. 1−31090
SrF_2:Li(Na)(K)(Rb), audiofrequency dielec. studies, 5.5. to 400K 1−31086
TbF_3 thin film capacitors, dielec. props., 0.5 to 30 kHz 1−39037
ZrO_2-Y_2O_3 (15 mol.%) ionic conductor, dielec. relaxation and dielec. function 1−3327

dielectric resonance
see also dielectric relaxation; paraelectric resonance
moving dielectric sheet, refractive interaction and resonance patterns 1−24335
multilayer dielectric, toothed array, resonant absorpt. of electrically polarised wave 1−34997
piezoceramic cylinder with disconnected electrodes, bound oscillations *(Russian)* 1−39038
$KTaO_3$ nonlinear cryst., low dielec. loss 1−34982
$(Pb_{0.91}(La_{1-x}Nd_x)_{0.08})(Ti_{0.92}Mn_{0.02}In_{0.06})O_3$ piezoelectric ceramics with zero temperature coefficients in radial mode resonance frequencies 1−3334
TiO_2 microwave dielectric resonators, He film effect 1−26152

dielectric strength *see electric strength*

dielectric susceptibility *see optical susceptibility*

dielectric thin films
see also ferroelectric thin films; insulating thin films; optical films; piezoelectric thin films
cytosine thin film, elec. ordering, permittivity, admittance, hysteresis meas. 1−21107
dielectric constant meas., using resonance method 1−44953
diffusion barrier for high E dielectric process 1−16684
edge slope of thin film, accurate control method, appl. to Josephson technology 1−53314
inhomogeneous, exponentially varying refr. index, Chebyshev polynomials appl. 1−21287
light resonance mechanisms and optical consts. meas. 1−43199
on metal surface, IR spectroscopic exam., optimum measuring conditions *(German)* 1−26296
MIM structure, charge profiles in dielectric thin films 1−34805
plasma etching, or deposition, compensation method using optical interference control monitor 1−341
polaron, strong-coupling continual, self-energy *(Russian)* 1−52504
poly-p-toluidine films, electrodeless glow discharge prod., dielec. props. meas., IR spectrum 1−48008
polyethylene, low-density, oxidised, TSC, localised states, hopping centres 1−21118
polyethylene thin films, self-healing breakdown at spherulite boundaries 1−43067
polyimide thin films, elec. breakdown strength, cond., adhesion determ. 1−20892
polystyrene-chloranil films, doped and undoped, dielec. permittivity and loss meas. 1−3317
Al_2O_3 dielectric film for distributed RC filters and amorphous semiconductors, anodisation growth 1−39036
LiF thin films, optical parameters and packing density determined by immersion reflectometry 1−31218
MgO, dielectric props. obs., for three vacuum deposition systems 1−16525
MgO film, field enhanced secondary electron emission 1−21303
MoO_3 films, vacuum deposited, dielec. and elec. props. 1−48007
NaCl film, field enhanced secondary electron emission 1−21303
Nb-Ta(−N), oxide layer formed by anodisation, AES, electrical props. 1−31764
SiO_2 evaporated film, dielec. susceptibility, low freq. dispersion, TSC 1−8002
SiO_2 film, dielec. breakdown retarded by annealing in NH_3 gas 1−26121
SiO_2 thin films, evaporated, TSC rel. to AC cond. 1−7998
SiO_2 ultrathin film in chemically sensitive MOS element 1−36651
SmF_3 thin films, thermal evaporation prep., AC elec. props. 1−31090
Ta_2O_5, reactive sputtering stoichiometric oxide deposition of improved dielectric films 1−48257
TbF_3 thin film capacitors, dielec. props., 0.5 to 30 kHz 1−39037
TiO_2-Ti solar selective absorbers, antireflection coatings on metals *(Japanese)* 1−21900
Yb_2O_3 films, electron beam evaporated, dielec. props. 1−3332
Zn_2SiO_4:Mn phosphor, composite films on Si, growth and elec. props. 1−3082

dielectric triodes *see space-charge limited devices*

dielectric waveguides
see also optical waveguides
heterojunction semiconducting laser with diffr. output coupling, max. output power 1−33691
mode conversions at dielec. waveguide steps, interference patterns 1−29406

dielectric waveguides continued
refractive index measurement of dielec. sheet at MM wave freqs., quasioptical method using waveguide 1−29407
thin-film, scattering losses calc. 1−6653
uniaxially anisotropic dielectric slab, quasi-optics of wave guide by slab 1−37608
dielectrics *see dielectric materials*
diesel-electric power stations
mobile diesel-engine-driven generator set noise control 1−19512
noise control system for Midlands Electricity Board Hereford site 1−37706
diesel engines *see internal combustion engines*
diesel power stations *see diesel-electric power stations*
difference equations
annuli, concentric spherical, natural convection, finite difference anal. 1−6864
channel, flat plate MHD, quasi-three-dimensional modelling, numerical method 1−2083
chaos in nonlinear difference equations 1−212
convection, three-dimensional, in tilted rectangular boxes, Galerkin and explicit finite difference calc., laser interferometer expts. 1−1979
corners, symm. external axial, flow, numerical calc. 1−2020
diamond difference approximation, resolution of singularities 1−36978
elasticity theory, boundary value problem with mixed boundary conditions, numerical soln. *(German)* 1−33900
EM pulse response, numeric Huygen's source scheme in finite difference program to illum. scattering bodies 1−33601
enclosures, tilted rectangular, small aspect ratio, free convection, finite difference calc. 1−1982
flow in boundary-fitted coord. systems, solns. of Navier-Stokes eqns., semi-implicit calc. 1−1907
heat conductivity, two dimensional problem, numerical soln. by difference method *(German)* 1−37765
Ising model, correlation function, props. of non-linear partial difference eqn. 1−20945
jets, circular supersonic-turbulent layer interaction, separation flow integral and difference eqns. calc. 1−2055
laminar heated boundary layers at stagnation point, implicit finite difference calc. 1−24763
lepton spectrum, inhomogeneous difference equation 1−14379
liquid, laminar flow caused by rot. disk, finite difference scheme anal. 1−1992
mechanical systems, coupled, staggered transient analysis 1−9824
missile impact damage, 3-D numerical prediction using central finite difference formulation 1−53
multipole potential calcs., localised charge distribution 1−47421
partial derivatives evaluation by difference scheme, appl. to weather forecasting 1−27242
plate arrays, discrete in-line, staggered, continuous, convection, numerical finite difference calc., comparison 1−1803
plates, rectangular, clamped, deflection problems, finite difference solns. 1−24706
random finite-difference operators, spectrum, Schrodinger eqn. appl. *(French)* 1−27807
reactor eqn. model soln., incomplete factorisation, comparison with variable directions method 1−10421
Schrodinger equation, discrete-time, connection with Block equations 1−9870
semiconductor, electron mobilities from linearised Poisson eqn. for impurity-ion pot. 1−2964
shell, cylindrical thin, instability dynamics 1−29587
shell, theoretical problems, total approximation method appl. 1−6769
shells, clamped circular cylindrical, under torsion, buckling and postbuckling behaviour, perturbation anal. 1−6806
shells, theory, variational-difference method appl. 1−6780
slot, vertical, natural convection, wall conduction, radiation effects, finite difference anal. 1−6863
spheres, concentric spherical, natural convection heat transfer in porous media, numerical anal. 1−1988
stationary inhomogeneous supersonic flow, with obstacle, pulsatile flow, numerical, difference scheme calc. 1−19770
time-domain singularity expansion for soln. of EM interaction, matrix difference eqn. anal. 1−1466
topological solution of ordinary and partial fine difference equations 1−5086
transient ignition on flat-plate boundary layer, finite difference anal. 1−29797
transonic flow, one-sided difference schemes, shock resolution 1−2016
Tsunami response of archipelago, finite-difference numerical model 1−32460
tubular solar collector, transient thermal behaviour, finite difference anal. 1−17258
two-layer system, convection, finite difference calc. 1−19779
CO_2 nonequilibrium hypersonic flow over blunt bodies convection, friction stress calc. 1−19747
differential calculus *see differentiation*
differential equations
see also boundary-value problems; difference equations; Green's function methods; integro-differential equations; linear differential equations; Navier-Stokes equations; nonlinear differential equations; partial differential equations
AC machines, combustion chambers with variable cross section, acoustic oscillations *(Russian)* 1−29453
asymptotic anal. in mathematical physics and control theory, common features 1−49953
atoms and ions, Thomas-Fermi limit expectation values 1−45847
colloidal capillary-porous bodies, internal heat and mass transfer accompanying convective drying *(Russian)* 1−6751
computing methods in applied sciences and engineering, conf., Versailles, France (Dec. 1979) 1−18
convergence in algebraic methods of solution, composition products in tensor product of vector spaces *(French)* 1−44760
crystal plate eqns. sesquicentennial 1−14016
cylindrical rod with internal heat sources, inhomogeneous boundaries, temp. field calc. 1−1798
diagonally connected MHD generators, electrical nonuniformities 1−2253
diatomic molecules, centrifugal distortion consts. calc. method 1−45930
diffusing species conservation of momentum, differential eqn. of balance 1−34499
diffusion, general process, most probable transition path 1−18178
differential equations continued
DITE Tokamak, impurity evolution and recycling calcs. 1−25032
double layer grid anal., equivalent sandwich plate *(Chinese)* 1−29526
ECG inverse problem, regularisation methods appl. 1−9052
Einstein-Maxwell field equations, solns. for eqns. of motion of charged particles 1−32875
elastic body, couple-stressed, generalisations of plane theory, shell theory appl. 1−6775
elliptic boundary value problems, generalisation of Hadamard's problem *(German)* 1−27763
explicit forward-time central-space convective diffusion eqn., von Neumann stability 1−29668
fluid dynamics of the heart and the ear 1−8895
group theoretical analysis for symmetry groups more general than Lie-Backlund groups 1−447
Hamilton-Jacobi type differential eqn., appl. to inverse kinematic seismic problems numerical soln. 1−35948
Hill's differential equation for lunar node and perihelia, soln. method 1−22691
impermeable adiabatic wall, turbulent boundary layer, heat and mass transfer *(Russian)* 1−1976
inert gas atoms, Thomas-Fermi differential equation, improved var. soln. 1−45848
Lame equation spectrum, transcendence theory 1−27764
linear systems and normality 1−40715
Lipschitz constants and robust ODE codes 1−22998
medium with double porosity, fluid displacement theory, method of characts. soln. *(Chinese)* 1−2072
molecular rotational diffusion in dense gases, liq. and solids, Langevin model 1−25183
Newtonian dynamical systems, symmetries and differential eqns., universe problem 1−5178
non-Newtonian blood flow models, numerical simulation by finite element method 1−8894
nonlinear mechanics, numerical computations 1−6795
plane wall with periodic suction, elastico-viscous liquid, heat transfer by laminar flow 1−15478
plasmas rel. to boundary layers, unified system of differential eqns. 1−2146
plates, rectangular, elastically supported, elastically restrained, flexure, adjoint diffential eqn. formulation 1−6762
queueing theory, marked point processes and stochastic differential eqns. associated with priority queue *(French)* 1−50047
refractive optical systems for collimated radiation irrad. redistrib., design and analysis 1−11056
resistive MHD instabilities in plasmas, linear and nonlinear calculations 1−2193
Reynolds differential equation derivation using virtual work principle *(German)* 1−42005
rigid rotator, differential eqn. geometrical derivation, teaching 1−27729
rotating discs, flow calculation between discs 1−60
second order equations, hybrid numerical methods, periodic initial value problems 1−54351
seismology, ray tracing, two-point, in heterogeneous media, and travel time data inversion 1−9295
shell roof, continuous circular cylindrical, Fourier series soln., finite element method comparison 1−6785
shells, surface rigidity, as differential geometry problem 1−6768
shells, thin walled circular cylindrical, buckling under transient axial loading, model tests, differential eqn. anal. 1−1849
solution using Chebyshev series 1−13996
special relativity, nonlinear dynamical systems, inverse problem 1−5095
stiff differential equations, solution for simulation 1−51444
stochastic differential equation, appl. to kinetic Ising model with external noise 1−32913
stochastic mechanics, thermal mixtures 1−36518
strange attractors, dimens. and Lyapunov numbers relationships 1−19905
three charged particles problem, differential eqns. for relativistic problem 1−40324
three-body problem, adiabatic representation, Coulomb interaction, asymptotics of solns. 1−44780
Tokamak fusion research, fluid model numerical code system 1−6939
tridiagonal vector recurrence relations, solns. and appls. 1−9877
unconstrained variational statements, boundary and initial value problems 1−24729
underwater wave propagation, generalised Adams methods 1−33847
universal families of one-dimensional commuting hamiltonians 1−22993
variational eqns. assoc. with arbitrary Lagrangian 1−4749
void nucleation and growth by radiation, differential equations 1−20182
volume preserving flows, symmetries and invariants 1−74
water moderated reactors, bare, homogeneous, neutron noise components, three-dimensional theory 1−731
weak discontinuity propag. through thermally conducting and dissociating gases 1−2028
zeros for orthogonal polynomials satisfying differential eqn. 1−49933
Si, doping profiles simulation *(French)* 1−20469
differential scanning calorimetry *see thermal analysis*
differential thermal analysis *see thermal analysis*
differentiation
see also differential equations
spectrum unfolding, differentiation, improvement by numerical method 1−28830
diffraction
see also acoustic wave diffraction; diffraction gratings; diffractometers; electromagnetic wave diffraction; electron diffraction; neutron diffraction
elastic wave scattered by surface-breaking crack 1−27796
elastic waves, parabolic approx. 1−27793
Love waves, propagation across vertical discontinuity 1−29616
nonlinear standing waves bounded by cylinders 1−42061
shear wave diffraction on series of hollow circular inclusions *(Ukrainian)* 1−19602
stress wave rad. from growing cracks 1−46710
water waves, linear, surface, refraction-diffraction model 1−37956
X-ray powder diffr. data, XRDPLT program in FORTRAN IV 1−46955
diffraction gratings
see also holographic gratings
aberration correction in grating rhomb beam sampler 1−11081
achromatic interferometer for diffr.-limitded imaging through a phase-distorting medium 1−37427
aperture synthesis in spatial light-beam control devices 1−1683

diffraction gratings continued
book, EM theory of gratings 1−44728
bounded strip grating, approximate soln. of problem of diffraction 1−46201
circular gratings, interferometric construction 1−11082
coarse and fine alignment using an out-of-phase pair of optical gratings 1−46543
coma free spectrometer with interferometer attachment for difr. grating testing 1−45030
concave diffraction gratings, blaze var. 1−37599
concave grating slab waveguide demultiplexer, multimode optical transmission 1.0 to 1.4 μm region 1−11166
concave gratings, mechanically ruled aberration-corrected 1−29381
concentric-arc grating as thin-film spectrograph for guided waves 1−11083
couplers uniform and linearly tapered grating, outgoing beam intensity profile 1−46590
demultiplexer, two-dimens. grating unit cell, for thin-film waveguides 1−15284
depth information pseudocolour encoding using Talbot effect 1−41601
dielectric-lamellar diffraction grating 1−51606
diffraction interferometer appls. 1−41822
dispersive element, single-mode scanning geometry for tunable lasers 1−51505
dye pulsed laser with grating and etalon in symm. arrangement 1−11011
echelette grating, electrically deformable, appl. to tunable laser resonators 1−24484
echelettes, c-black-filled, as long IR filters 1−11075
echelle efficiencies, theory and expt. 1−46540
echelle efficiencies, theory and expt. 1−46541
echelle vacuum spectrometer, 5m, diffraction-limited resolving power, optical props. 1−18308
garnet films, laser beam deflection, stripe domain control 1−11077
geometric optics, diffraction grating use in demonstrations 1−40613
grism off-axis distortion and stellar radial vel. determ. with slitless field spectrographs 1−49519
image deblurring method using diffr. gratings 1−41613
imperfectly periodic layered media, EM wave refl., theory 1−10894
InGaAsP-InP heterojunction laser with corrugated waveguide laser 1−51484
inverse scattering method in EM optics, appl. to diffr. gratings 1−41571
laser beam spatial coherence determ. by laser-induced grating method 1−19374
laser driven diffraction-grating LINAC, theory 1−50998
magneto-optic light deflector, stripe domains in garnet film, three mirror cavity 1−11078
monochromators, double, employing concave diffr. gratings 1−11076
nonplanar dispersive resonator with reflective diffr. grating *(Russian)* 1−1600
optical heterodyne detector with integrated diffr. grating 1−24537
optical waveguide, thin-film, grating device for focusing and coupling 1−37600
phase gratings, thick, one-dimens., higher order modes 1−1684
photoresist grating mask prep. method 1−51646
photoresist grating mask preparation method 1−1728
planar waveguide, Bragg diffr. by limited-aperture gratings, theory 1−46595
planar waveguide optics, appl. of optical gratings *(Czech)* 1−11181
plane grating monochromators for synchrotron radiation 1−23388
reflection gratings, coupled-wave anal. 1−37598
resolution evaluation, limitations of currently used methods 1−46544
ring dye laser, narrowband, unidirectional pulsed 1−24435
semiconductor, optically induced diffraction grating props. and appls. 1−11041
sinusoidal, Rayleigh's theory 1−29382
sinusoidal grating coupler in asymmetric slab waveguide, power loss coeff. 1−19419
tapered grating optical coupler, coupling efficiency, theoretical anal. 1−24498
TE_0-TE_1 optical waveguide mode convertor using chirped gratings 1−33830
thin film grating, coupled wave anal. of obliquely incident waves 1−41884
ultra-thin transmission gratings for optical const. determ. in soft X-ray region 1−15255
UV spectrograph on Salyut-4 orbiting solar telescope, astigmatism 1−27385
vacuum UV radiation physics, conf., Charlottesville, VA, USA (June 1980) 1−16
wave diffraction by travelling spatial phase modulation on stationary phase gratings 1−46218
waveguide Bragg grating lenses, plane and cylindrical wave coupled-mode theory 1−37632
waveguide Bragg grating lenses, two cylindrical guided waves coupling 1−37633
waveguide coupler, thin film *(Chinese)* 1−19422
wavelength-selective deflectors using diffr. gratings written directly into birefringent photochromic optical waveguides 1−11079
white light optical processing with diffr. grating method 1−51397
X-ray monochromator designs based on extreme off-plane grating mountings, high efficiency 1−40910
Young's experiment grating, photographic prep. technique 1−13982
Au lamellar gratings, power losses, 2-11 μm wavelengths 1−19418
CdSe, optically induced diffraction grating props. and appls. 1−11041
GaAs thin film optical waveguide, fabrication of chirped gratings 1−15256
$Pb_{1-x}Sn_xTe$ DFB DH laser, TE and TM coupling coeffs. 1−46348
Si_xSe_y, optically induced diffraction grating props. and appls. 1−11041

diffraction instruments *see diffractometers*

diffraction model
diffractive nucleon systems, mass enhancements, 5-quark exotic levels 1−18434
diffractive photoproduction of strangeness and charm-overlap of QCD and Regge models 1−14401
eigenstate formalism for single and double diffractive excitation 1−33169
flavour, colour, duality and the Pomeron, p+f model 1−10166
hadron geometrical struct., diffraction eigenstates 1−18459
heavy vector meson diffractive photoprod., quark model 1−33189
multihadron production in coherent and semi-coherent reactions on nuclei 1−10281
semi-inclusive momentum distributions in two-component model 1−527

diffraction model continued
three-Reggeon vertices in the quark-gluon model 1−10163
K_S regeneration, inelastic screening corrections, diffraction parton model 1−10205
KN total cross section, inelastic screening corrections, diffraction parton model 1−10205
Kp→Xp, 50 GeV, Kπ and Λ̄p resonant final states 1−45360
K^-p, 32 GeV/c, exclusive reaction, many particle diffractive dissociation, event struct. *(Russian)* 1−5652
$K^+p \rightarrow K^+(p)X^+$, 32 GeV, inclusive single and double diffractive dissociations 1−5666
$K^+p \rightarrow K^+\pi^+\pi^-p$, 32 GeV/c, diffractive events, s- and t-channel helicity conservation *(Russian)* 1−23523
μN, 209 GeV, diffractive charm structure function and scale noninvariance 1−10212
μN, inelastic scatt. in diffractional region, structure functions from VDM *(Russian)* 1−36866
NN, ISR energies, double diffraction dissociation, dual resonant Deck model, πN, ππN final states 1−14418
NN diffraction scattering, spectrum of absorption strengths 1−14366
Nπ and 3π beam re-scattering during coherent formation on a nucleus *(Russian)* 1−40977
pN, 67, 400 GeV, maximum rapidity gap distrib., diffractive dissociation, Pomeron exchange 1−33205
pp, Δk channel, three-component-dual-deck-model 1−41013
pp, pN, soft hadron reactions, QFT appl., diffraction cones, scaling, Regge expansions 1−10247
pp→pX, diffractive dissociation processes in a field-theoretic quark model 1−10267
$pp \rightarrow pn\pi^+$, angular dependence of diffraction dissociation 1−5654
$\bar{p}p \rightarrow \bar{p}p\pi^+\pi^-$ ($\bar{p}p\pi^+\pi^+\pi^-\pi^-$), 49 GeV/c, exclusive cross sections, diffraction and meson exchange 1−33201
π^-N, 50 GeV, maximum rapidity gap distrib., diffractive dissociation, Pomeron exchange 1−33205
πp→KKp, 50 GeV, resonant final states 1−45360
πp→pX, quark jets in pion diffractive dissociation 1−10268
$\pi^-p_{pol} \rightarrow \pi^-\pi^+\pi^-p$, 17 GeV/c, diffractive 3π prod., A_1 resonance, partial wave anal. 1−50468
$\pi^+p \rightarrow \pi^+(\pi^0p)$, $(\pi^+(\pi^+n))$, 16 GeV/c πN, ππN mass enhancements, diffraction dissociation 1−5655
$\pi^+p \rightarrow \pi^+p$, surface waves in phenomenological anal. 1−14420

diffractometers
see also X-ray diffractometers
LEED diffractometer resolving power, surface defect anal. 1−7053
neutron, single-crystal, temp. controlled furnace 1−50135
neutron powder diffractometers, criteria for reducing background scatt. 1−30000
on-line coherent optical diffractometer for high resolution work, design parameters 1−28130
optical diffractograms, device for recording 1−24511
reverse neutron time-of-flight diffractometer with Fourier chopper (ASTACUS) 1−25125
TEM, deconvolution holography, image converter, electrostatic phase diaphragm *(French)* 1−50280

diffusion
see also biodiffusion; diffusion in gases; diffusion in liquids; diffusion in solids; electromigration; membranes; osmosis; permeability; self-diffusion; surface diffusion; thermal diffusion; turbulent diffusion
Ag-Bp stars, radiative forces rel. to Ca and Sr abundances 1−54501
Alfven waves, nonlinear, in plasma with finite conductivity, diffusion eqn. 1−54358
Atlantic Ocean, vertical advection-diffusion model rel. to ^{228}Ra and ^{228}Th concs. in GEOSECS surface water 1−27171
atmosphere, aerosol particles size distrib. for Brownian diffusive process of coagulation *(Russian)* 1−9208
atmosphere, vertical dynamic transport and effects on comp. of upper mesosphere and lower thermosphere *(Chinese)* 1−54171
Boltzmann equation, distribution function, time-dependent distortion 1−202
Brownian particle, translational motion, Stokes-Einstein behaviour, friction coeff. 1−50049
charged particles, electric and magnetic fields, transport theory 1−5254
chemical diffusion controlled reactions, mean passage time determ. 1−26724
chemically reacting gases and mixed gases, fluctuating hydrodynamic equations 1−38019
conical diffusers, flow characteristics 1−24880
convection, diffusion, problems in 1-D, optimal finite element solns. 1−9951
convective diffusion eqns. with dominating convection term, oscillation limits for weighted residual method 1−14078
convective diffusion problems, finite element approx., upwinding and anisotropic balancing dissipation 1−14079
convective diffusion to drop arbitrary absorption conditions, diffusion boundary layer approx. 1−24778
convective-conductive heat transfer, finite element soln. 1−24781
convective-diffusion, nonstationary, differential difference method *(Russian)* 1−15540
cosmic rays, anisotropic diffusion in interplanetary space 1−36125
cosmic rays, anisotropy in interplanetary space from diffusion propagation 1−36124
cosmic rays, diffusion coeff. vars. rel. to relation between cosmic ray intensity and solar activity 1−36147
cosmic rays, influence of interplanetary mag. field global struct. on solar modulation 1−22648
cosmic rays anisotropic diffusion, expected anomalies in 11-year intensity vars. upon general solar mag. field reversal 1−36146
cosmic rays interplanetary propagation, nonstationary diffusion-convection model rel. to behaviour during solar cycles 19 and (20) 1−36144
coupled nonlinear differential eqns., self-similar solution 1−14080
covariant Lagrangian of Onsager and Machlup without discretization 1−203
critical dynamics, expansion of master eqn. containing critical point 1−5262
crystal growth, diffusive physical vapour transport in cylindrical ampoules, numerical modelling 1−53064
crystal growth, diffusive-convective physical vapour transport in cylindrical vertical ampoules, numerical modeling 1−53065
curved spaces, Lagrangian from path integral 1−14081
dielectric relaxation processes based on diffusional mechanism 1−21124

diffusion continued
diffusion induced difference between world line parameters and mixture element intrinsic time *(Russian)* 1−27778
diffusion tensor symm. props., new phase formation theory 1−42522
dioctylphthalate diffusion from plasticized PVC into liquid n-heptane *(French)* 1−30501
discrete random walk and the boundary condition for transport 1−50069
disordered systems, diffusion and trapping of excitations, master eqn. approach 1−199
dwarf novae, CNO nuclei downward diffusion rel. to thermonuclear runaways 1−49688
elastic collisions, 1-D system of particles, joint distrib. of trajectories in diffusion limit 1−9931
electrons, relativistic, in moving Newtonian fluid, transport equations 1−19873
entrained liq. drops, conc. distrib. and diffusivity, horizontal liq. film-mist 2-phase flow 1−24865
entropy increase example 1−40729
explicit forward-time central-space convective diffusion eqn., von Neumann stability 1−29668
fast diffusion, nonlinear concentration dependent eqn., stability of separable soln. 1−50070
finite system diffusive processes, effective time const. assignment 1−11284
fluid, effects on convective instability with temp. gradient and rot. vector oblique to gravity 1−4760
galactic cosmic rays, interplanetary diffusion coeff. from numerical soln. of propag. eqn. 1−36126
gels, concentrated, diffusion cell of shear type, Rayleigh scatt. 1−36727
homogenisation and approximation of transport process 1−50078
deep Indan Ocean, nutrient elements isopycnal diffusion from Bay of Bengal 1−4539
jet diffusion from circular nozzle above solid plane 1−19776
lattice gas of non-interacting particles, chemical diffusion 1−36582
liquid, with gas bubbles, small perturbation propag., heat and mass transfer effect 1−2062
localized nonuniform patterns in a diffusion-reaction model with autocatalysis and the Langmuir-Hinshelwood saturation law 1−8532
macromolecules, polarised light scatt., diffusion coeff., dynamic struct. factor 1−46180
mixtures, ideal multiphase, with chemical reactions and diffusion, continuum theory 1−2060
most probable transition path of general diffusion process 1−18178
nonlinear nonstationary convective heat- and mass-transfer eqn. integration 1−24783
ocean, diffusive/descending water model for absorpt. of fossil fuel CO_2 1−26864
Pacific Ocean, horizontal diffusivity and exchange times in Equatorial Current system 1−4507
polymer dynamics, conformational transition, viscous drag forces effect 1−24300
polymer dynamics, Smoluchowski diffusion eqn. eigenfunctions in double well pot. 1−15045
polymerisation, system of diffusion-reaction equations 1−39637
Prigogine diffusion theorem appl. to atmospheric transfer processes, governing theoretical concept 1−4558
reaction diffusion problems, stability results for semilinear evolution eqns. 1−49954
reaction diffusion system, rotating spiral wave solutions 1−50077
reactions, diffusion controlled, escape and recomb. probabilities, reaction rate, Smoluchowski eqn. soln. 1−48661
relative diffusion analysis, review 1−27199
Saturn magnetosphere, energetic protons sources and radial diffusion coeff. 1−40387
Saturn radiation belts, charged particle diffusion and accel. 1−40393
sea pack ice field, neighbour diffusivity calc. rel. to ice floes interaction *(Japanese)* 1−4516
deep-sea sediments of N.Equatorial Pacific, mol. diffusion rel. to Ra, Th, U and ^{210}Pb in sediments and pore water 1−44163
similarity solutions for diffusion eqn. 1−40737
solute diffusion with reversible reaction 1−35532
sorption method for separation, kinetic and dynamic relationships, diffusion mechanism of interfacial transfer 1−21834
spectral methods for multi-dimensional diffusion problems 1−197
stochastic acceleration, limit theorem 1−27871
stratosphere, turbulent diffusion rel. to ^{14}C transport model 1−36019
thermodynamic Gibbs measures, stochastic inequalities 1−5258
thermosphere NO downward diffusion, source strength for odd N prod. in stratosphere and mesosphere 1−44253
water pollution, vertical turbulent diffusion coeff. for contaminant dispersion in near-shore zone of deep basin *(Russian)* 1−17324
$CuSO_4.5H_2O$, crystallization as a mass transfer phenomenon 1−34262
^{181}Ta Mossbauer line motional narrowing due to H diffusion, correlation time calcs. 1−7987

diffusion coefficient *see diffusion*

diffusion creep
alloys, superplastic flow mechanism 1−43417
elevated temperature deform., description in terms of threshold stresses and back stresses 1−12804
metal wire, bamboo-struct., diffusional creep rate, grain boundary grooving effect, correl. determ. of surface tension *(French)* 1−43445
metals, superplastic flow mechanism 1−43417
particle size depend. of threshold stress in diffusive creep 1−31545
solid soln. alloys, appropriate diffusion coeffs. for describing creep processes 1−47154
surface mass tranport process kinetics *(Japanese)* 1−20526
Al_2O_3:(MgO), deform. mechanism maps, high temp. appl. 1−21507
Cu wire, bamboo-struct. creep in and out of diffusion-controlled deform. stress range *(French)* 1−43446
Y_2O_3:LiF, compaction kinetics 1−8259

diffusion in gases
see also self-diffusion in gases; thermal diffusion in gases
diffusion eqn. boundary conditions from kinetic eqns. 1−51894
dilute gas mixtures, diffusion and friction coeffs., Einstein relation 1−49903
liquid-vapour diffuse interface dynamics 1−16152
Lorentz model, 1-D, velocity autocorrelations 1−15568
mass diffusion mechanism in gas discharge with travelling mag. field 1−23854
metal atoms in inert gases, diffusion coeffs. calcs. 1−29819
methanol-N_2 system, drop evaporation and diffusion calc. 1−1805

diffusion in gases continued
multibubble systems, gas diffusion, bubble growth and shrinkage 1−29755
multicomponent gas, molecule drift motion in resonant IR radiation field *(Russian)* 1−11487
nonideal binary gas soln., interdiffusion coeff. 1−15567
porous effective diffusivity betwen Knudsen and continuum limits 1−33984
rarefied gas mixtures, diffusion in circular tube under pressure gradients 1−2034
source function of diffusion of an ideal gas 1−19852
thin film deposition in rarefied atmospheres, thickness distrib. *(French)* 1−2846
vapour-liquid nonideal system, diffusion coeff., conc. depend. 1−16074
As_4-Ar binary diffusivity, eval. at 760 to 834K 1−11488
GeSe-GeI_4 system, diffusive and convective vapour transport 1−34266
H-^{4}He, magnetic resonance studies at 1K 1−1151
H+^{4}He, scattering processes at low temp. 1−1318
NH_3-N_2 system, drop evaporation and diffusion calc. 1−1805
$N^*(^2D)$, diffusion coeff. in N_2, afterglow meas. 1−2133
$N^*(^2P)$, diffusion coeff. in N_2, afterglow meas. 1−2133
Na-Ar system, drop evaporation and diffusion calc. 1−1805
O, transport in DC discharge, chem. reactions effects 1−15601
Zn_3P_2, vapour phase transport, thermodynamical model *(German)* 1−3587

diffusion in liquids
see also electromigration; self-diffusion in liquids; thermal diffusion in liquids
alkali earth borate glasses, molten, free volume theory appl. to transport phenomena *(Japanese)* 1−25481
alkaline earth borate glasses, molten, free volume theory appl. to transport phenomena *(Japanese)* 1−25481
Brownian particle, mutual diffusion coeff., friction factor, nonhydrodynamic interactions contrib. 1−52323
bubbles, chain in fluid stream, diffusion effects 1−46800
classical fluid, critical diffusion, viscosity, frequency depend. 1−47269
colloid system, effective diffusion coeff., dynamic light scatt. 1−48740
convection layer, Benard, rate of magnetic field penetration 1−19711
diffusion cell of shear type, Rayleigh scatt. 1−36727
diffusion field ahead of growing columnar front, columnar-equiaxed transition 1−38566
diffusion-boundary layer, spread along electrode, under turbulent flow conditions 1−51763
diffusiophoresis of suspended particles, direct microscopic obs. 1−53481
drops, chain in fluid stream, diffusion effects 1−46800
entangled polymer melt, motions of one stiff molecule 1−52043
glass melt, bubble size control by diffusion 1−2666
holographic interferometric measurement of diffusion in liqs. 1−46259
liquid crystal, cholesteric, shear flow induced transverse drift of small suspended particles 1−38262
liquid metal, diffusion expts., convection effects 1−25479
liquid phase sintering, grain growth anal., numerical method 1−16710
liquid-liquid mass transfer, interfacial instabilities and hydrodynamic interaction 1−19687
liquid-vapour diffuse interface dynamics 1−16152
luminescent molecules, mean diffusion length, donor and acceptor molecules conc. 1−43181
lysozyme aqueous solution, diffusion coeff. meas. using optical beating spectroscopy 1−17441
many-body systems, Brownian dynamics 1−21793
metal, liquid, and simple liquids, diffusion coefficient, prediction 1−25476
molecules, asymmetric top, rot. correl. functions, extended diffusion model 1−15782
Onsager reciprocal relations, validity 1−47271
pair friction coeff., static correl. effect 1−38218
photon correlation technique meas. of entropy and conc. fluctuation 1−43134
poly(methyl methacrylate), diffusive desorption of small solute molecules 1−46976
poly(n-alkyl 2-cyanoacrylates), diffusive desorption of small solute molecules 1−46976
poly(oxethylene) in conc. aq. soln., thermodynamic and transport props. 1−38225
poly(vinyl acetate), diffusive desorption of small solute molecules 1−46976
polyelectrolyte, salt free soln., small ion tracer diffusion 1−21730
polymer diffusion, at intermediate concs. 1−16075
polymer dilute solns., porous-sphere hydrodynamic model appl. 1−34496
polymer interface properties, compressibility effect 1−38251
polymer-solvent mixtures, solvent diffusion, math. model 1−20551
polyvinylpyrrolidone, mol. wt. distrib. from diaphragm-cell diffusion meas. 1−37375
protein domain coalescence, diffusion controlled kinetics, orientation, interdomain forces and hydration effects 1−39868
salt-gradient solar ponds, salt flow and the Soret effect 1−35705
solute, chemically active, convective diffusion in rectilinear flow, math. anal. 1−2100
spherical liquid drops, in binary viscous media, diffusiophoresis 1−11892
steady-state convective diffusion in thin spherical layers 1−51779
steel, low alloy, liquid phase form. during sintering 1−39272
vapour-liquid nonideal system, diffusion coeff., conc. depend. 1−16074
water flooding problem, finite element method 1−6887
water-oil microemulsion diffusion, light scatt. study 1−13044
Al, melts, static, degassing by insoluble purge gases 1−12993
Au, liquid, impurity diffusion 1−25477
CaO-Al_2O_3-SiO_2 melt, dissoln. of Al_2O_3 and SiO_2 1−11867
Co grains dispersed in liq. Cu matrix, coarsening study 1−53182
Cu, corrosion in $[Cu(NH_3)]SO_4$, influence of NH_3 conc., temp. and substitution of sulphates by carbonates 1−48556
Cu, liquid, impurity diffusion 1−25477
Cu, liquid, impurity diffusion 1−25478
Cu solid dissolution, into molten Sn, under static conditions 1−16078
Cu-Sn alloys, peritectic for phase growth *(Japanese)* 1−8293
$CuSO_4$ aqueous soln., diffusive interface, heat and mass transfer 1−1960
Fe, liq., O_2 transfer rate from slag *(Japanese)* 1−25438
Fe_2Al_5 intermetallic compound, form. and annihilation, kinetic study *(Korean)* 1−34522
Ga, liquid, quadrupolar relaxation rate, temp. depend. 1−25133
HCl aqueous soln., diffusive interface, heat and mass transfer 1−1960
^{3}He, liquid, spin polarised, surface nuclear spin-lattice relaxation times 1−2753
K_2O-SiO_2 glass melt, O tracer diffusion above transform. temp. 1−7363

diffusion in liquids continued
NH_4Cl-H_2O, unidirectionally solidified, direct obs. as function of gravity level 1−7497
N_2O_4 vapour barbotage through liquid layer, heat transfer *(Russian)* 1−19791
NaCl aqueous soln., diffusive interface, heat and mass transfer 1−1960
$NaCl^-$ solution diffusion meas. using holographic interferometry 1−46259
Na_2O-B_2O_3, molten, diffusion of Cd^{2+}, Ni^{2+} and Cr^{6+} ions *(Japanese)* 1−30435
Na_2O-CaO-SiO_2 glassmelt, dissolution of stationary bubble containing diffusing and nondiffusing gas 1−2635
Na_2O-Rb_2O-SiO_2, ion exchange between glass melts 1−20436
$NiCl_2$ aqueous solution, diffusional and vibr. anal. 1−30433
Si_3N_4, growth from reaction of molten Si with N_2 gas 1−8607
Sn, liquid, impurity diffusion 1−25478
TiC, coatings on pyrolytic C, by electron beam induced C/Ti interdiffusion, characterisation 1−25584
U transport through coupled liquid membrane, mechanism 1−21775
U transport through coupled liq. membrane, rate-limiting step 1−21776
$ZnCl_2$ aqueous solution, diffusional and vibr. anal. 1−30433

diffusion in plasma *see plasma transport processes*

diffusion in solids
see also electromigration; ionic conduction in solids; self-diffusion in solids; surface diffusion
acrylic fibres, carrier dyeing 1−52358
acrylic fibres, residual solvent and its diffusion 1−52359
activation energy determ., diffusion coeff. meas. at one temp. *(Russian)* 1−34519
alkali boroaluminosilicate glass+fused alkali nitrates, ion exchange, equilib. and kinetics 1−43660
alloy, binary, interstitial diffusion, substitutional impurity atom effect 1−20440
alloy, random, phys. and tracer correl., site percolation problem 1−42563
alloy, symmetric, one-dimensional decomp. and aggregation of precipitates *(Japanese)* 1−43313
alloy phase segregation, role of density gradient energy *(Japanese)* 1−8312
alloys, diffusion pore growth, effect of impurity atoms *(Russian)* 1−7390
alumino-silicate coatings on vitroceramic fuel elements, permeability 1−18748
amorphous systems, diffusion-limited recomb. and relax., master eqn. approach 1−198
atom jump frequencies, and diffusion fluxes in a driving force, effect of correlated jumps and vacancy wind interactions 1−47277
austenitic stainless steels, 0Kh16N15M3B and 1Kh18N10T, ^{60}Co diffusion 1−28600
BCC lattice, hopping correlation functions, NMR relaxation times and diffusion coeffs. 1−20441
binary alloy diffusion couple, displacement of layer of intermetallics precipitated during diffusion *(Russian)* 1−38601
bonding with ultrasonic oscillations applied 1−35499
carburised high temp. alloys, C conc. profiles, model 1−25315
cavity growth, transient, controlled by grain boundary diffusion 1−52149
cellophane membranes, anionic, sorption and diffusion of ionic dyes 1−52356
coating, optimum conditions determ., residual stresses calc. 1−35411
coating, tribological, friction and wear reduction 1−31680
coating in isothermal holding, diffusion coeff. determ. from distrib. of components 1−53354
coefficients and theory, Fick's first law 1−30476
composites, moisture absorpt. expts., effect of failure to dry specimens prior to exposure 1−7386
concentration profiles in semi-infinite solids, evaluation of diffusion coeffs. 1−11895
conference, Madras, India (Dec. 1979) 1−27665
consolidation process, contrib. for electronic theory 1−53126
control of grain boundary effects using neutron transmutation doping and laser annealing techniques 1−2469
creep, micromechanical modelling using distributed parameters 1−38438
cubic crystals, with impurities,, atomic diffusion, correlated-walks theory 1−7391
cutting tools, TiC coated, high-speed machining wear mechanism study 1−12890
Darken expt., approx. anal. demonstration 1−25510
defect reactions, rate const., sink distrib. depend. 1−15922
deformable lattice, transport theory of one-dimens. diffusion 1−36588
diamond, polycryst., grown under ultrahigh press., Ni catalyst diffusion and distrib. *(Chinese)* 1−48287
diffusing species conservation of momentum, differential eqn. of balance 1−34499
diffusion into W fibres in Ni-Al(Cu)(Cr) matrix *(Russian)* 1−47294
diffusional impurity distribution during directed crystallisation *(Russian)* 1−15917
double diffusion theory, integral equation 1−52331
driving forces, for mass transport in solids 1−47278
epoxy resin, based on TGMDA and DICY, water vapour transport 1−52360
FCC lattice, interstitial atom diffusion *(Russian)* 1−2704
FCC solid solution alloys, creep behaviour *(Czech)* 1−3838
fuel rods, gas release, time-depend. diffusion model 1−5845
glass, flat, ion-exchange strengthening, calc. methods 1−53249
glass fibre, refractive index gradient, focusing distrib., use of diffusion coeff. conc. depend. 1−41863
glass surface, reactions with aq. solns., SIMS study 1−31701
glasses, gas transport study, struct. anal. 1−30071
glassy polymer membranes, gas and vapour transport, conc. depend. 1−21774
grain boundaries with nonequilib. struct., migration 1−52153
grain boundary cavity growth, plastic creep flow effects 1−2705
grain boundary half-loop, migrating, interaction with adsorbed impurity cloud, detachment effect 1−25317
grain boundary solute diffusion coeff. determ. without grain boundary thickness assumptions 1−42399
graphite, diffusion of activated fission products *(German)* 1−11911
Hastelloy, C-276, H-assisted ductile fracture 1−3921
Hastelloy alloy C-276, Ni-base superalloy, hydride form. 1−53271
heliostat mirror degradation inhibition during wet process manufacture 1−12914

diffusion in solids continued
high vacancy content crystal, theory for nonrandom vacancy motion 1−47303
impure materials, effective diffusion coeff. of point defects 1−38598
impurity distribution determ. for case of conc. depend. diffusion coeff. *(Russian)* 1−11781
intergranular crack growth, at high temps. 1−12877
interstitial diffusion coeff. of impurity, conc. depend. 1−2703
ion collection in presence of sputtering, range shortening, knock-on and diffusion, Monte Carlo calc. 1−52197
ion diffusion, imperfections, electrochem. technique 1−25502
ion implantation and heat treatment studies *(Hungarian)* 1−16809
ion nitriding process, effect of C in gas atmos. 1−12935
ionic conductivity in solids, pressure dependence 1−34518
ionic crystals, mass transfer and transport, quantum theoretical calc. of activation parameters 1−20447
laminated composite body, diffusion of heat and moisture, Soret and Dufour effects 1−2670
layered compounds, intercalation chem. and diffusion 1−13968
Lennard-Jones solid, nonlinear excitations assoc. with vacancies 1−30662
liquid phase sintering, grain growth anal., numerical method 1−16710
media with moving boundaries, radioactive atom diffusion, integral transform method soln. 1−18722
metal, diffusion interrelationship with phase transform. charact. 1−12740
metal, oxide growth in an RF plasma 1−43598
metal cluster, absorption and adsorption of different atoms, quantum chem. treatment *(German)* 1−51334
metal-semiconductor contacts, metallurgical and elec. characterisation 1−12190
metal-semiconductor couples, interfacial intermixing reaction at room temp., triggering mechanism 1−38602
metal/solid electrolyte interface impedance 1−42571
metallic glasses 1−42580
metallisation system for electromigration improvement 1−16102
metals, alloys and semiconductors, oxidation, conf., Poitiers, France (June 1980) 1−44694
metals, BCC, quantum states and diffusion mobility of H impurity atom *(Russian)* 1−52362
metals, impurity electromigration, phonon drag effect *(German)* 1−42582
metals, kinetic study in sorption of H *(Japanese)* 1−31909
metals, oxidation rates and kinetics, heat flux effects 1−53331
metals, welded, collecting media for determ. of diffusible H_2 1−7344
metals and alloys, dry corrosion kinetics, matter transfer *(French)* 1−48575
metals ultrasonic welding, formation of compounds *(German)* 1−30490
microplastic strain, diffusion-dislocation mechanism 1−30299
moisture diffusion coeff. determ., statistical model for error determ. 1−52350
molecular crystals, radiation defect annealing model, diffusion kinetics *(Russian)* 1−20476
molecular diffusion in solids, neutron incoherent scatt. law in spherical symm. pot. 1−11894
monel film, H diffusion coeff. meas. *(French)* 1−52349
multimode fibres, planar optical coupling element prod. by the two-step ion-migration 1−33804
Nernst-Einstein relationcomputer orientated calc. method 1−42562
noise-induced phase transition and the percolation problem for fluctuating media with diffusion *(Russian)* 1−27882
nonstoichiometric crystals, diffusion and correlation effects 1−7366
nylon-6 films, sorption and diffusion of weak acids 1−52357
O anomalies, composition depend. 1−38288
p-n junction, impurity and defect diffusion and flicker fluctuations 1−25780
phase decomp. process, role of non-linear terms in diffusion eqn. 1−52335
phonon-assisted tunnelling jumps, one-phonon processes at low temps. 1−47276
photochemical and thermal reaction kinetics in solid films *(German)* 1−13025
pipe diffusion importance, in creep data correlation 1−12843
poly(acrylonitrile), glassy, sorption and transport of waste vapour 1−52425
poly(ethylene terephthalate), CO_2 sorption and transport, above and below glass transition 1−30562
poly(vinylpyrrolidone) films, glucose effect on permeation to O_2 1−47299
polycarbonate, fracture toughness, effect of stress cracking 1−48496
polycarbonate film X-ray induced relaxation at 455K 1−8566
polycrystalline material, field-dependent grain-boundary diffusion, anal. 1−42576
polyester fibres, carrier dyeing 1−52358
polyester resin bottles, O_2 permeation 1−30481
polyethylene, amorphous solitons, defect diffusion and dielect. relax. 1−16521
polyethylene, crystalline, trans-gauche conc., CD_2 rocking mode vibr. meas. 1−11683
polyethylene, H_2O and ion absorption in relation to H_2O treeing 1−11973
polyethylene, low density, drawn and annealed, transport props. meas. 1−43362
polyethylene, penetrant diffusion jump lengths 1−11912
polyimide films, dimethylformamide sorption, crosslinking study 1−52353
polymer films, conc. depend., boundary-layer resist. and time-lag diffusion coeff. 1−52355
polymer subjected to torsion in liquid medium, relaxation model 1−31520
polymer-solvent mixtures, solvent diffusion, math. model 1−20551
polymers, gas permeability, prediction based on vol. diffusion theory 1−30443
polymers, glassy, Fickian diffusion of alkanes, effect of temp., diffusant size and struct. 1−30479
polymers, glassy, hydrocarbon vapours sorption and diffusion 1−30563
polymers, glassy, pressure depend. of CO_2 diffusion coeff. 1−30478
polymers, glassy, sorption and transport, review 1−30561
polymers, glassy, sorption and transport conf., Miami Beach, FL, USA (Sept. 1978) 1−27663
polymers, highly crosslinked, O_2 transmission 1−30480
polymers, interpenetration at interface, qualitative model *(French)* 1−52363
polymers, statistical mech. model of sorption and diffusion of penetrants 1−30564
polymers, type II diffusion 1−52354
polystyrene glassy microspheres, effect of swelling on n-hexane sorption 1−30568

diffusion in solids continued
pore closure kinetics and plane crack displacement in diffusional flux *(Russian)* 1−2694
PTFE, adsorpt. of hexane, heptane and kerosene, influence of stresses 1−38666
quartz, deformation, H_2O role 1−42454
quartz, powder, elec. cond. 1−30474
quartz, synthetic, radiation-induced interstitial ion mobility 1−16098
radiation-induced athermal diffusion, cross-recomb. mechanism 1−42417
refractory metals, diffusion boronising and siliconising, Cu additon effect 1−53357
semi-infinite medium with moving boundary, diffusion during temp. gradient 1−34500
semi-infinite two-particle model, diffusion under heat liberation *(Russian)* 1−38575
semiconductor, diffusion process modelling using Fick's law 1−7365
semiconductor, thermoconcentration nonequilibrium system, stratification instability 1−2646
semiconductor-metal interface, atomic redistrib., photoemission studies 1−52440
semiconductors, degenerate, diffusion coefficients, proportionality to impurity density 1−16095
semiinfinite system with moving interphase, solvent density change considerations 1−35423
silicate glasses, hydrated, depth profile of interdiffusing species 1−30488
sintering diagrams, mechanisms, review of earlier work 1−53127
soda-lime glass envelope of discharge tube, darkening by the low press. Hg discharge 1−29932
solid solution hardening, effect of diffusion 1−26486
stainless steel surface, D impurity, surface recomb. rates and D_2 emission 1−25504
steel, alloy, creep cavitation and rupture under uniaxial and multiaxial stresses 1−35342
steel, austenitic stainless, twin boundary sliding during high-temp. creep 1−43447
steel, C, calorised coatings of Al, stability, temp. and annealing time effects 1−3988
steel, C, carbochromized and chromosiliconised, electrochem. and anticorrosion props. 1−26678
steel, C, gas-phase H permeation and diffusion, function of C content, 500-900K 1−42583
steel, chemical-thermal treatment, use of polymers 1−53219
steel, Cr-Mo-Ni-V, welded joints, cold cracking susceptibility *(Czech)* 1−12853
steel, diffusivity of C at high temp. 1−7387
steel, ferritic, C and N transfer during exposure to Na environment 1−42561
steel, fracture resistance of VNS-2USh with different amounts of diffusionally mobile H_2 1−16887
steel, low alloy, liquid phase form. during sintering 1−39272
steel, martensitic, light-temperature gas carbonitriding, diffusion layer form. 1−8480
steel, Mn austenitic, rapid work hardening mechanism 1−21480
steel, SCM, H_2 absorbability, effect on cracking behaviour *(Japanese)* 1−43480
steel, stainless, 410, effect of H_2 on mech. props. 1−3903
steel, stainless, calorised coatings of Al, stability, temp. and annealing time effects 1−3988
steel, stainless, laser beam etching in vacuum, AES and quadrupole mass spectroscopy studies 1−35132
steel, stainless type 316, diffusion of Mo^{99}, Zr^{95}, and Co^{60} 1−16094
steel, stainless type 316, H diffusion, under 10-100 keV ion bombardment *(Japanese)* 1−18744
steel, thermal diffusion chromising, pore closure kinetics *(Russian)* 1−2694
steel, tool, chemical-thermal treatment, use of polymers 1−53219
steel 4Kh13, stress corrosion cracking, influence of galvanodiffusion calorising, molybdenising and siliconising 1−3991
steels, structural, fatigue softening, influence of freq. and temp. 1−30316
stressed solid, chemical potential for diffusion 1−52333
synthesis kinetics 1−35512
ternary, single-phase systems, theoretical diffusion profiles 1−16107
ternary lamellar eutectic growth, solute conc. profiles 1−2496
thermodynamic evolution, during diffusion 1−25489
thin film conductor, grain boundary and vacancy diffusion model for electromigration induced damage 1−16100
thin films, diffusion processes 1−30486
thoriated W filaments in alloy matrix, interaction at 1200-1600°C 1−16106
tiemannite, S-Se interdiffusion obs., 500-700°C 1−16101
transition metal, lattice dynamics of H 1−20340
transition metal silicide form. by ion implantation of transition metal-Si struct. 1−38398
transition metal silicides, form. by interdiffusion, growth and oxidation, radioactive ^{31}Si marker expts. 1−47304
two-component system, interstitial diffusion thermodynamics and kinetics 1−7392
vibrating edge dislocations as sinks for point defects 1−38403
volatile impurities, thermotransport in resistance heated cylindrical rods 1−38597
Wagners internal oxidation eqn., applicability to general diffusion systems 1−47279
wide band gap semiconductor, deep level capture cross section determ. by electron beam 1−3052
Zircaloy-4, oxidation kinetics, finite specimen geometry effects 1−21631
Ag film with $Bi_{1-x}Sb_x$, Sb overlayers, annealing behaviour, material exchange by diffusion 1−34809
Ag/polymer interface reactions of polymer coated solar mirrors 1−12931
Ag/Tl(Br,I) vacuum condensate/crystal system, diffusional mass transfer, Auger spectra and ion etching obs. *(Russian)* 1−16105
Ag-Cd-Sn alloys, internal oxidation kinetics *(Japanese)* 1−25509
Ag-glass interfaces of solar mirrors, Auger anal. of diffusion 1−12910
Ag-Sb alloys, solvent diffusion 1−20456
AgCl, diffusion of transition metal ions, atomic number depend, cryst. field of effects 1−2699
Al bicrystals, Cu grain boundary diffusion at nonequilib. struct. state *(Polish)* 1−16089
Al, diffusion of H in high purity specimens 1−52361
Al film, interactions with thermally grown SiO_2, electron microprobe Auger spectra obs. *(Japanese)* 1−31936
Al, individual twist boundary Zn diffusion *(Russian)* 1−16093

diffusion in solids continued
α-Al, monocryst., diffusion of Cr and Fe *(French)* 1−16096
Al, solubility and diffusivity of H_2, effect of voids *(Japanese)* 1−2637
Al-Fe, dil., interstitial sites for localised diffusion of Fe, Mossbauer γ radiation interference study 1−21096
Al-Fe metastable alloys, ion implantation prod., thermal migration of Fe 1−7393
Al-Mg (5.5 at.%), FCC solid solution alloys, creep behaviour *(Czech)* 1−3838
$Al_xGa_{1-x}As$:Cr(Te), MBE, study of dopant distrib. SIMS 1−42647
Al_2O_3, polycrystalline, chemical diffusion during oxidation 1−38595
AlZn heterogeneous alloys, Al-rich, Zn^{65} diffusion 1−47306
AlZnMg, grain boundary diffusion of H during stress corrosion cracking *(German)* 1−8490
Au and Mo/Au ion-plated layers on stainless steel, friction props. in vacuum at elevated temps. 1−12878
Au/Ag butt-jointed films, interdiffusion, overlap width role *(Russian)* 1−11918
Au/Cr bifilm, heat treated, elec. resist. increase rel. to interdiffusion 1−7394
Au/GaAs, out-diffusion of GaAs, ambient effects, AES study 1−30487
Au-Al intermetallic compound formation 1−2707
Au-Sn, dil., self-diffusion and impurity diffusion, solvent enhancement factor 1−7371
Au-Sn-Al metallizations on GaAlAs LED, interfacial void struct. 1−16195
B diffusion source prep. room temp. CVD process 1−35181
B, oxidation-enhanced diffusion reduction IGFET fabrication appl. 1−30472
B-implanted doping layer substrates, diffusion *(German)* 1−7197
$BaO-B_2O_3$ glasses, Ni^{2+} ions diffusion behaviour *(Japanese)* 1−20475
C, diffusivity in austenite, phenomenological model, anal. of data 1−30471
CO, thermodesorption from disperse metal, kinetic modelling *(German)* 1−52437
CaO powders with Cr_2O_3 additions, solid state sintering 1−21401
$CaO-B_2O_3$ glasses, Ni^{2+} ions diffusion behaviour *(Japanese)* 1−20475
$16CaO.84(Zr_{1-x}HF_x)O_2$ system, cation interdiffusion 1−34521
Cd, of Pb, tracer-sectioning method meas. 1−47300
$Cd_xHg_{1-x}Te$, photoelectric props. obtained by chem. diffusion 1−16311
CdO:S, defect struct., elec. and diffusion props. 1−30748
CdS, of Ga, conc. and orientation depend. 1−20465
CdSb single cryst., diffusion and solubility of Ag 1−11907
CdTe:In, diffusion of In, deviation from stoichiometry 1−16092
Co grains dispersed in liq. Cu matrix, coarsening study 1−53182
Co-Pt alloys, interdiffusion 1−16108
Co_3O_4 coating, solar selective, for high temp. solar collector 1−13177
$CoSi_2$, oxidation, ^{31}Si tracer studies 1−3958
Cr-Au thin film deposited on Al_2O_3, Auger depth profiling 1−11995
Cr-Si thin film interactions, silicide phase form., Rutherford backscatt. obs. 1−38679
Cr_2O_3-Cr black chrome solar selective absorber, metallurgical anal. and high temp. degradation 1−13176
CsCl, B2 struct., diffusion kinetics and isotope effects for atomic migration via divacancies and triple defects 1−52343
Cu spherical particles, Zn impurity redistribution due to ascending diffusion *(Russian)* 1−11906
Cu substitutional solid solutions, impurity grain-boundary relax. *(Russian)* 1−47095
Cu/Ni bilayers, high angle grain boundaries, nucleation and migration, TEM study 1−38385
$Cu-Al_2O_3$, oxide dispersion strengthened, diffusion of Ni 1−42586
Cu-Sn (16.9-17.9 at.%), binary alloy interdiffusion of β and γ phases *(Japanese)* 1−2708
Cu-Sn (8wt.%), solidification, solute distrib. and diffusion behaviour *(Japanese)* 1−3717
Cu-Sn alloys, peritectic for phase growth *(Japanese)* 1−8293
Cu-Zn alloys, interdiffusion and Kirkendall effect 1−11921
Cu_2O, physico-chemical props. at high temps. 1−42777
$Dy_2Ti_2O_7$, synthesis kinetics 1−35512
Er-Si interfacial reaction, silicide form., ion implantation effect 1−38672
Fe, diffusion of high purity H and D 222 to 322K *(Japanese)* 1−47298
Fe, diffusivity of C at high temp. 1−7387
Fe, FCC, diffusion of C, appl. of theory for vacancy motion 1−47303
Fe, FCC, of C, interstitial diffusion thermodynamics and kinetics 1−7392
Fe, sintered and diffusion siliconised, effect on porous struct. 1−39537
Fe spherical particles, S impurity redistribution due to ascending diffusion *(Russian)* 1−11906
Fe-Al, solubility, diffusional phase growth kinetics *(Russian)* 1−16043
Fe-Al welding, influence of Ag layer on interdiffusion kinetics *(Russian)* 1−16091
Fe-Cr, electron beam effects in AES and SEM 1−20266
Fe-Cr-Y alloys, oxide adherence, role of Y 1−43603
Fe-Cu compacts, sintering, anal. of dimens. changes 1−3662
Fe-Ni-Cr, heat resistant, compatibility with sintered Li_2O in static He 1−3969
Fe-Si-C alloy, C diffusion, thermodynamic evolution 1−25489
Fe-Si-C diffusion couple, anal. demonstration of Darken expt. 1−25510
Fe-Ti alloys, N-migration at low temps. 1−2692
Fe-Ti-C, ion implantation of Sb, diffusion and trapping 1−7195
Fe-TiC-Sb system, trapping of Sb by TiC precipitates 1−7389
Fe_2Al_5 intermetallic compound, form. and annihilation, kinetic study *(Korean)* 1−34522
Fe_2O_3, kinetics of reduction by H_2 and Co *(Korean)* 1−17025
$Fe_{1-x}S$, high vacancy content crystal, diffusion 1−47303
$Fe_{0.5}Ti_{0.5}$, solubility and diffusivity of $H_2(D_2)$ at low conc. 1−20390
GaAlAsSb-GaSb system, Zn diffusion, Sb overpressure effects 1−52347
GaAs, diffusion of Se, electron-pulsed, form. of n^+ regions 1−7187
GaAs, electron transport props. at high elec. field 1−7629
GaAs oxide layer chemical reactions 1−16373
GaAs:B,Cr, low temp. Cr redistrib. and gettering in absence of encapsulant stress 1−15916
GaAs:Cr, B, Si_3N_4-capped, annealing of damage and redistrib. of Cr 1−20248
GaAs:Cr, role and thermal redistrib. of Cr, review 1−30265
GaAs:Mn, thermal conversion, photoluminescence spectra 1−8114
GaAs:Se ion implanted, impurity profiles, diffusion, luminescence spectra 1−2479
GaAs:Te(Cr), MBE, SIMS study of dopant distrib. 1−42647
GaAs-Pb system, diffusion coeffs., appl. in Ge cryst. growth on GaAs 1−11864

diffusion in solids continued
$GaAs_{1-x}P_x$, ion implanted, annealing by swept line electron beam, luminescence study 1−3453
GaP, solubility limit of N during zone melting, entropy effects role 1−52294
Ge, axial dechannelling, diffusion calc. 1−52199
Ge diffusion of Cu stimulated by H atom recombination at low temp. 1−38603
Ge:Ag(Li), impurity effects in crystn., elec. and struct. props. 1−34365
Ge:Cu, internal friction in dislocation cores 1−25371
Ge:P, light ion beam enhanced P-diffusion 1−11915
Ge-GaAs interface, Al interlayer-controlled diffusion, XPS study 1−38600
Ge-Pb system, diffusion coeffs., appl. in Ge cryst. growth on GaAs 1−11864
GeTe-$(Bi, Sb)_2Te_3$ boundary, reactive diffusion processes 1−11919
H trapping in metals, improved model 1−52334
H^+ ions, energetic, diffusion models of dechannelling in single crystals 1−25341
InAs, diffusion of Zn and Cd simultaneously 1−47297
InP:Zn, shallow and selective diffusion of Zn 1−30482
InP:Zn p-n junction, control of Zn doping for growth by LPE 1−25300
InP-Zn, open ampoule diffusion, abrupt junction form. 1−2476
InSb:H films, Hall coeff., carrier mobility rel. to impurity in-diffusion 1−38870
InSb:Zn p-n junctions fabricated by ion implantation with subsequent drive-in diffusion 1−3054
InSb/GaSb multilayer struct., diffusion enhancement due to ion bombardment during deposition 1−3621
Ir-W:Th, outward diffusion and external oxidation 1−39336
KCl:Tl, diffusion coeff. determ. by 5 keV electron irrad. 1−11909
K_2O-SrO-SiO_2 glass , O diffusion 1−42569
Li-Zn bimetallic film; diffusion and solubility of Zn, CESR obs. 1−12402
LiIn, thermodynamic and mass transport props. 1−21425
$LiNbO_3$:Ti in-diffused optical waveguide fabrication 1−1692
Li_2O, lattice diffusion coeff. of O_2 1−25505
Li_2O-SiO_2 glass, ion exchange isotherms rel. to bulk struct. expt. 1−31907
Li_2O-SiO_2 glasses and glass ceramics, leaching by HCl 1−20393
$Li_2O.2SiO_2$ glass, ion implanted, phase separation and crystn. 1−30081
Mg, grain boundaries with nonequilib. struct., migration 1−52153
Mg-Al(Ga)(In), hydrogenation reaction rate 1−21714
MgH_2, proton motion and localisation, NMR study *(French)* 1−38996
Mg_2NiH_4, proton motion and localisation, NMR study *(French)* 1−38996
Mg_2NiH_x, H diffusion, spin lattice relaxation time, phase determination NMR obs. 1−38994
MgO:Cr, diffusion of ^{51}Cr 1−30475
$14MgO.86(Zr_{1-x}Hf_x)O_2$ system, cation interdiffusion 1−34521
MnO_2, electrolytic, reduction in γ-butyrolactone 1−35528
Mo, alloys and compounds, diffusion data 1−25
Mo, diffusion boronising and siliconising, Cu additon effect 1−53357
Mo, diffusion couples with nitrides, TEM and X-ray obs. *(Japanese)* 1−47305
Mo, diffusion mobility of H and He, intrinsic interstitial effects 1−30483
Mo, Fe mass transfer under impulse loading *(Russian)* 1−20468
Mo, of Cs, temp. depend. *(Russian)* 1−2696
NaCl:Ca^{2+}, impurity-vacancy pair clustering, activation energy 1−52171
NaCl:Mn, Suzuki phase precipitates, gold decoration study 1−20409
$NaNO_3$:Mn^{2+}, expulsion of Mn^{2+} to surface, EPR study 1−11914
Na_2O-$3SiO_2$, hydration, interdiffusion of Na and H 1−20477
Na_2O-B_2O_3-Al_2O_3-SiO_2 system glasses, photochromic gradient layer prod. 1−41803
Na_2O-CaO glasses, role of molecular water in proton diffusive transport 1−20471
Na_2O-CaO-SiO_2 glass, O diffusion 1−42569
Na_2O-CaO-SiO_2 glass, darkening in low press. Hg discharge, mechanism 1−53425
Na_2O-CaO-SiO_2 glasses, Sn diffusion between transformation and softening points 1−20466
Na_2O-SiO_2 glasses, heat treated in contact with metallic Na, coloration and crystn. 1−20479
Nb alloys, oxidising environment, heat resist. improvement by diffusion coating 1−3987
Nb, deformed, H and D effect on internal friction 1−12785
Nb, diffusion boronising and siliconising, Cu additon effect 1−53357
Nb, dissolution of O_2 at 74 torr, 300 to 400°C, X-ray diffr. study *(French)* 1−39525
Nb, dissolution of O_2 at 75 torr, 300 to 400°C, X-ray diffr. profile anal. *(French)* 1−39526
Nb fibre reinforced Cu-Sn, supercond. props. *(Japanese)* 1−25821
Nb, field ion microscopy at low residual gas pressures, H diffusion 1−47302
Nb, H mobility around O and N interstitial trapping sites, phonon assisted tunnelling 1−7384
Nb, nitridation kinetics, 873-1273K 1−12930
Nb, of Cs, temp. depend. *(Russian)* 1−2696
Nb-Hf/Cu-Sn-Ga composite-processed high-field superconductors, stress and diffusion effects 1−52724
Nb-Mo-Z, diffusional saturation with O_2, nonmetallic phase form., struct. state effect *(Russian)* 1−11905
Nb-O system, deviation from Arrhenius behaviour, interstitial atom diffusion 1−20467
Nb-Si interface, ion bombardment induced silicide form., backscatt. study 1−11986
Nb-Zr-C, diffusional saturation with O_2, nonmetallic phase form., struct. state effect *(Russian)* 1−11905
Nb_3Sn diffusion-layer superconductor, characterization techniques 1−47774
Nb_3Sn, multifilamentary, formed by solid state diffusion, growth, and struct., supercond. props. 1−48301
Nb_3Sn multifilamentary superconducting composite, Kirkendall porosity suppression 1−47835
Nb_3Sn superconducting composite produced by modified external diffusion method, props. 1−47834
Ni (110), S segregation to surface during heating, dislocation density influence, LEED and AES obs. 1−20524
Ni, F solubility and diffusivity, electrochem. meas. 1−2698
Ni film, H diffusion coeff. meas. *(French)* 1−52349
Ni, hydrogen diffusion under 10-100 keV ion bombardment *(Japanese)* 1−18744
Ni, of H, permeability and electrochemical study 1−16090
diffusion in solids continued
Ni, of He, at high temp. *(German)* 1−42584
Ni spherical particles, Cr impurity redistribution due to ascending diffusion *(Russian)* 1−11906
Ni, surface diffusion on Mo, spreading kinetics *(Russian)* 1−2832
Ni-Al (12 wt.%), ζ-solid soln., interdiffusion 1−7398
Ni-Al alloy, ion implanted, anneling behaviour, time evolution of conc. profiles, solubility and diffusion coeffs. 1−30254
Ni-Co-Cr-Al-Y plasma-sprayed coating, coating-substrate interdiffusion 1−30489
Ni-Cr (5.6 wt.%), internal fluoridation 1−11869
Ni-In FCC alloy, interdiffusion coeffs. determ. 900 to 1100°C 1−20478
Ni-Mn-Cu ternary alloy system, interdiffusion at 1173K 1−7397
Ni-Si boundary, Ni_2Si to NiSi transform., Xe marker study 1−52442
Ni-V (1.5-13.4 wt.%) solid solns., H diffusivity 1−2693
NiAl, intermetallic cpd., oxidation study using SEM and TEM 1−31744
NiO, Co^{60} and Cr^{51} grain-boundary diffusion 1−25506
NiO, subboundary migration, climb process obs., diffusion coeff. for mass transport *(French)* 1−16099
$NiSi_2$, diffusion barrier effect of V layer 1−34520
O_2 diffusion in Si/Mo system 1−16202
Pb, diffusion of Au, press. effects 1−30485
Pb foil, grain-boundary diffusion of ^{119m}Sn, nuclear absorption study 1−20473
Pb-Bi thin film struct., low temp. reactions 1−34523
$Pb_{1-x}Sn_xTe$ solid soln., self-diffusion and diffusion coeffs. and mechanisms 1−30449
$Pb_{1-x}Sn_xTe$/PbTe, Sn diffusion investigations 1−42585
PbTe:I, Soret effect, I redistrib. during gradient annealing 1−2702
PbTe-$Pb_{1-x}Sn_xTe$ superlattice, hot wall preparation technique 1−38842
Pd, cold-worked, diffusion of ^3H 1−20460
Pd, deformed, diffusivity and activity of H 1−2701
Pd film, VPE on Ag, Au, pseudomorphic growth and interdiffusion 1−38694
Pd, permeability of and interaction with H_2 in glow discharge, gas impurities effect 1−31903
Pd, pure and alloyed, diffusivity of H, electrochem. method 1−30473
Pd-Ag (77 at.%) film, H diffusion coeff. meas. *(French)* 1−52349
Pd-Al(Fe)(Ni), internal oxidation and H_2 permeability *(Russian)* 1−2695
Pd-Ce (5.75 at.%), H_2 diffusion, influence of order 1−20459
Pd-Cu (0-10 at.%), diffusivity of H 1−7385
Pd-Nb (0-10 at.%), diffusivity of H 1−7385
Pd-Si, amorphous and cryst., silicide form. at interface, Raman scatt., and Rutherford backscatt. study 1−52441
Pd-Si interdiffusion, photoemission and AES obs. 1−16104
Pd-Y (8 at.%), H_2 diffusion, influence of order 1−20459
Pr single cryst., diffusion of ^{198}Au 1−52351
Pt (100) surface, silicide precipitate form., He diffr. and LEED study 1−16050
Pt paste electrodes on $(CeO_2)_{0.9}(Gd_2O_3)_{0.1}$, diffusion-limited charge transport 1−48827
Pt-Si (111) interface, electronic struct. of cpds. formed 1−43250
Pt-Si interdiffusion, photoemission and AES obs. 1−16104
PtSi, oxidation, ^{31}Si tracer studies 1−3958
Sb_2S_3, stibnite, oxidation kinetics, 320-420°C *(Chinese)* 1−35408
Sb_2S_3, stibnite, oxidation kinetics, 340-440°C *(Chinese)* 1−35409
Se diffusion in Fe *(French)* 1−38592
Si (111)-Pd interface, chem. processes at liq. N_2 temp., angle-integrated photoelectron spectra obs. 1−31304
Si, acceptor diffusion from surface oxide sources, limiting solubility and reaction schemes 1−47238
Si, axial dechannelling, diffusion calc. 1−52199
Si based ceramics, transport mechanisms through oxidic surface layers 1−16097
Si, Cu decoarated dislocations, IR and X-ray obs. of Cu extraction 1−25275
Si, diffusion distribution of ionised impurities, microscopic obs. *(Chinese)* 1−52346
Si, diffusion of B and P, oxidation enhanced 1−20458
Si, doping profiles simulation *(French)* 1−20469
Si doping using phosphosilicate glass diffusion source 1−34362
Si, E-centre type defect reorientation and migration 1−2706
Si, electron beam effects in AES and SEM 1−20266
Si, impurity diffusion, role of self-interstitials 1−38593
Si, of Au, kick-out mechanism 1−20472
Si, of Au, mechanism and kinetics 1−25501
Si, of B, Al_2O_3 masking props. *(Russian)* 1−11913
Si, of Na, surface impurity layer form. 1−20474
Si, of Sb, dislocation and vacancy generation 1−47295
Si, oxidation, ^{31}Si tracer studies 1−3958
Si, oxidation kinetics, role of water 1−16921
Si photovoltaic cell, antirefl. coating and p-n junction form. by dopant diffusion 1−34360
Si, polycrystalline, solar cells, crystallographic structure effects on elec. props. 1−43779
Si semicrystalline solar cells, characterisation of thermally-diffused and ion-implanted cells 1−17200
Si:As, ion implanted, CO_2 laser induced annealing and diffusion 1−52159
Si:As,Ar, ion implanted, interf. in diffusion, backscatt., elec. meas., and TEM obs. 1−2484
Si:As (B), implant diffusion enhancement by low-temp. heat treatment 1−11908
Si:As(P), diffusion mechanism, vacancy generation 1−47296
Si:As(P) laser induced diffusion, doping profiles 1−42575
Si:B, B diffusion from doped oxide source into Si 1−39245
Si:B, deposition of B from BN diffusion source, vacancy statistics model 1−34361
Si:B, ion-implanted, radiation annealing using halogen lamp 1−11773
Si:B doping profiles, diffused from BN sources, comparison of Thai's theory 1−11783
Si:B(P), polycrystalline thin film, effect of doping impurites on phys. properties 1−42409
Si:Ga, diffusion, solid solubility, neutron activation anal. and SIMS meas. 1−38594
Si:Te(Ag), ion implanted, solute trapping by moving interface 1−30470
Si/Ni (Au) interface formation, interdiffusion, metallisation 1−52364
Si-Au interface temp. effect, photoemission obs. 1−16655
Si-Cr thin film struct., amorphous Si, interdiffusion, compound form. 1−42640
Si-Pt interfaces, spectroscopic evidence of chemical interaction 1−12637
Si-TiN(TaN)-Al intermetallic, high temp. stable contact structs. 1−11984

diffusion in solids continued
Si_3N_4 plasma CVD film as preferential diffusion mask for InP avalanche photodiode 1−25589
SiO_2 films, of Co, surface region in profile 1−25508
SiO_2 glass, fused, ion implanted, phase separation and crystn. 1−30081
SiO_2:B-SiO_2-Si, two-step diffusion of B into Si by spin-on source *(Korean)* 1−25507
SiO_2:P_2O_5, diffusion, neutron activation anal. of P atoms *(German)* 1−25488
Sn, CVD on Fe or carburized Fe 1−21358
α-Sn-Co, state of soln. of Co, Mossbauer study 1−42587
Sn-Pb eutectic alloy, superplasticity, lattice-diffusion controlled 1−53243
Sn-Pb eutectic alloy, thermally activated deform. *(German)* 1−8400
SrO-B_2O_3 glasses, Ni^{2+} ions diffusion behaviour *(Japanese)* 1−20475
Ta, diffusion boronising and siliconising, Cu additon effect 1−53357
Ta, diffusion of H and D, nucl. acoustic reson. study 1−30477
Ta, diffusion of $H_2(D_2)$ Mossbauer spectroscopy meas. 1−20461
Ta, field ion microscopy at low residual gas pressures, H diffusion 1−47302
Ta, of Cs, temp. depend. *(Russian)* 1−2696
Ta_2N-Ni films, RF sputtering prep. of Ni films, props. and interdiffusion anal. 1−35174
TaS_2, electrointercalation and diffusion of Ag 1−7396
Tb-Si interfacial reaction, silicide form., ion implantation effect 1−38672
Th, diffusion of H_2, neutron scatt. study 1−20462
Th-Fe(Ni) systems, chemical diffusion 1−52365
ThO_2:$^{235}UO_2$, migration and trapping of fission ^{133}Xe, function of irradiation dose 1−34375
Ti alloys, commercial, stress induced H redistribution 1−15919
Ti/Pt/Au beam lead metallisation system, Pt penetration in Si 1−31351
Ti-Al-H, model of sustained load cracking by hydride growth 1−8428
Ti-Al-Mn, alloy OT4, joint zone alloying in diffusion bonding, to improve strength 1−26480
TiC, coatings on pyrolytic C, by electron beam induced C/Ti interdiffusion, characterisation 1−25584
TiC, sintering and grain growth 1−53149
U-Pu oxide fuel/UO_2 blanket interface, Cs thermomigration and reaction 1−33293
U-Ti(Nb)(Mo), diffusion and solubility of $H_2(D_2)$, alloy and H isotope effects 1−20463
UO_2, Kr^{85m} gas release, predictions, comparison with expt. 1−7388
UO_2, tracer surface diffusion expts., role of gas and solid transport processes 1−42560
V, diffusion and relaxation of μ^+-mesons *(Russian)* 1−43054
V, of Cs, temp. depend. *(Russian)* 1−2696
W, diffusion boronising and siliconising, Cu additon effect 1−53357
W field emitter, S adsorption 1−8603
W, of Cs, temp. depend. *(Russian)* 1−2696
W, oxidation kinetics and determ. of O diffusion in WO_3 1−53333
W-Re-Pd powder, sintering, Pd effect on diffusional alloy form. and microstruct. 1−35217
W-Th electrode, diffusion depletion time, in arc burning, temp. depend. 1−42581
WC-β-TiN-Co alloy, sintered, β-free layer formed near surface *(Japanese)* 1−43343
Zn-Al (1.1 wt.%), superplasticity 1−12850
ZnSe:Cu (Ag)(Al), impurity diffusion, luminesc. modification 1−38596
ZnTe, diffusion and lattice location of Li 1−20464
n-ZnTe, of Al, cond. and lum. charcts. of junction, impurity levels *(Japanese)* 1−20470
Zr, oxidation, AES study 1−48572
α-Zr, oxidation at high temp., diffusion in semi-infinite system 1−12925
α-Zr, proton motion, activation and configurational energy, calc. 1−52348
α-Zr, vacancy properties 1−42377
Zr/Pt anti-emission double layers on Mo grids of high-power transmitting tubes, diffusion and phys. props. *(Czech)* 1−11920
ZrO_2:Y_2O_3, Raman and quasi-elastic light scatt. due to O_2 diffusion 1−35041
ZrV_2H_x, NMR, quadrupole interactions, absorbed H effects 1−39003

diffusion pumps
design considerations for vapour pumping group selection 1−40806
heater design for high performance diffusion pumps 1−23250
jet regimes, ejecting action of high-press. low-density free jet 1−40805

diffusivity *see diffusion*

diffusivity, thermal *see thermal diffusivity*

digital-analogue conversion
see also analogue-digital conversion
DAG, digital-analogue generator of coincident pulse pairs for nuclear detector telescope 1−37078
homogeneous data acquisition systems *(French)* 1−32965

digital arithmetic
parallel truth-table look-up digital holographic processing 1−51418

digital communication systems
digital fibre optic communication system, optimum linear equalisation 1−46578
optical communications through dispersive medium, photocounting performance bound, error probability 1−46231
optical fibre system for data transmission and metering systems *(German)* 1−19473
optical fibre systems, optimum equalisation evaluation 1−6675
optical transmission system, PMC-IM, semicond. laser amplifier noise and error rate performance 1−15283

digital control
see also direct digital control
binary inductive dividers for AC meas. automation 1−28029
CAMAC precise nanosecond pulse generator 1−40763
IR remote control using large area illumination 1−33627
NO_x removal plant, automatic control system *(Japanese)* 1−17333

digital discs *see video and audio discs*

digital filters
see also signal processing
astronomical digital filtering of observational data 1−22689
ECG, foetal, enhancement using digital filters 1−53917
exoatmospheric moving object detection by hybrid optical/digital image processor 1−24364
hybrid optical/digital image processor 1−24365
models for media having linear with freq. loss charcts. 1−37643
radioisotope image processing using digital filters based the fast Handamard transform *(Japanese)* 1−53883

digital filters continued
speech synthesis, linear prediction coding parameters quantification *(Italian)* 1−1779
target recognition optical matched filter design, digital methods 1−24367
three array processor (TAP III) frequency domain beamforming system 1−37736

digital instrumentation
see also digital readout; digital voltmeters
AC bridge with two programmable sources 1−28035
acoustic logging device, for data recording, reproduction and entry in computer *(Russian)* 1−27280
acoustic recorder, for automatic meas. of acoustic pulses emission from rocks *(Russian)* 1−27281
air-brearing units for linear and angular transducer quality control *(German)* 1−27948
automatic digital ellipsometer 1−44988
automatic recording systems for photographic, spectrum profiles meas. *(Polish)* 1−32627
biomedical osmometer, automatic, model OMKA1Ts-01 1−49134
capacitance transient anal. using fast digital apparatus 1−302
complex impedance meas., wide-range fast digital meters 1−27963
digital correlator, three level, for radio astronomy, true correl. anal. 1−9376
frequency meter dynamic properties 1−27960
homodyne microinterferometer band-counting digital phase meas. system 1−44993
interferometric output analyser and display system 1−28060
medical digital thermometer 1−22143
multicomponent force/torque meter for meas. during operation of intelligent robots *(Hungarian)* 1−28015
noncontact coordinate measurements with digital theodolites in HP 3820A station 1−225
panel meter, digital and analogue moving coil meters 1−5299
power-factor meter design based on binary rate multiplication techniques 1−36700
real time spectral analysis of radioastronomy signals, digital correlator arithmetic section 1−9385
resistance thermometer, using single-chip microcomputer, digital display 1−9983
resonant element transducers, digital measurement systems 1−18216
sound signal meter, LED display, sound mixers appl. 1−33862
stellar spectrophotometric devices, review of instruments and results 1−49629
TAU-VP digital automatic apparatus, for meas. of Earth induced polarisation transients time consts. *(Russian)* 1−27274
temperature controller PTC, precision instruments for use in range −100 to +300°C, utilisation in automatic test systems 1−300
thermometer PTM, precision instruments for use in range −100 to +300°C, utilisation in automatic test systems 1−300
thermometer with platinum thermocouples *(German)* 1−23231
thin film deposition on quartz crystal, thickness meas., digital monitor instrumentation 1−28017
timing walk correction and fast neutron energy spectrum meas. appl. 1−23989
US thermometer using sing-around technique 1−258
VLF measurement, by microprocessor *(Spanish)* 1−22159
void velocimeter, accuracy improvement using microcomputer signal control *(Japanese)* 1−19843
X-ray image noise power spectrum meas. and recording *(German)* 1−408
Si diode digital thermometer with electronic temp. regulation 1−50127

digital instruments *see digital instrumentation*

digital readout
see also digital instrumentation
angle-code convertor, two-channel instrument contactless selsyn, digital readout 1−18247
automatic digital readout device for measuring rate of temperature change 1−1816
cryoelectric equipment, temp. and power dissipation meas., instrumentation using AC bridges and digital display respectively 1−23273
displacement meas. by holographic interferometry, automatic readout system 1−234
magnetic instruments, ferromagnetic magnetization steps anal. by mag. moment meas., automatic instrumentation, digital readout 1−18249
panel meter, digital and analogue moving coil meters 1−5299
raster micrometer, MRTs 01-0.1, high resolution and vibration resistance 1−5295

digital signals
ocean wave radar method (synthetic aperture), data processing 1−49397

digital simulation
^{13}C Fourier transform NMR spectra, unresolved multiline reson., two-pulse sequence anal. 1−21062
acetylcholinesterase-active-site-bound spin labels, motional freedom 1−41408
acoustic source localisation 1−22021
amino acids, ^{13}C NMR, chemical shifts, protonation shifts and microscopic protonation behaviour 1−19111
amorphous monatomic and binary systems, computer simulation of struct. 1−30062
amorphous target, ion multiple scatt., interatomic pot. from elastic energy loss meas. 1−26348
antiferromagnet, amorphous, Ising model 1−30900
biological systems, metal ligand complexing 1−12966
closed-cycle thermally activated regenerative cryogenerator 1−50140
complex or disordered crystals, electron-microscopic structure image simulation 1−15769
copper hectorite, partially oriented, computer simulated EPR spectra 1−16475
corona, Trichel pulse, in low-pressure CO_2 1−20011
corona simulation model, negative impulse 1−20012
corona space charge and V/I charcts. computation using equipotential charge shells 1−20016
crystal structure rel. to pair pot., mol. dynamics study 1−20112
diamond difference approximation, resolution of singularities 1−36978
dilute aqueous solns., H bonding, theory 1−42284
discrete model, nonequilib. thermodynamics of heat conduction 1−9805
dislocation glide through point obstacles, comparison of computer simulation results with experimental data 1−25269
dislocation motion kinetics, computer simulation *(Russian)* 1−52146
disordered solids, dynamical props., digital computer simulation, book contrib. 1−38488

digital simulation continued
disordered solids, electron migration 1−16258
earthquake model 1−54017
electric vehicle battery electric vehicle feasibility testing, computer-generated driving profile appl. 1−53606
electron blowoff dielec. surface discharges, theory 1−34140
electron micrographs using dynamical electron scattering, computer simulation 1−50276
electron microscope images on 35 mm film 1−28132
EM penetration into small apertures, modelling considerations 1−33600
energetics, appl. of very high level languages *(Italian)* 1−13179
EPMA, X-ray depth distrib., electron trajectory simulation by Monte Carlo calcs., film substrate system case *(French)* 1−21814
factory noise, computer model for prediction 1−32067
fatigue life-time of materials, predictions using computer simulation 1−53298
flow pattern prediction program by finite elements method, development *(Japanese)* 1−6867
fluid, square-well, molecular dynamical calcs. of viscosity above critical density 1−25135
fluid local densities at interfaces, Born-Green-Yvon approach 1−20515
fluid with m-6-8 potential under shear, computer simulation 1−7060
foetal eye lens and cornea growth control algorithm 1−8853
free electron laser amplifier, variable period, computer simulation 1−10974
free electron laser variable wiggler amplifier design, one-dimens. computer simulation 1−10969
galaxy evolution in dense clusters, computer simulations of ram-pressure stripping 1−44627
geosynchronous satellites, modelling of environmentally induced discharges 1−34141
glycyl zwitterion, gas-phase solvation with H_2O, Monte Carlo simulation 1−53404
heat pumps, metal hydride conversion and storage system, thermodynamic anal. 1−48893
Heisenberg chain, propagating energy modes, magnons 1−16436
ice, phase transition, computer simulation using Lennard-Jones pot. 1−52285
III-V heterojunctions, misfit-dislocation images, comparison of expts. and computer simulation 1−11756
imploding hollow plasma liner, numerical model for injected mag. field 1−34109
impurity high-freq. hopping cond. 1−38779
instrumental parameters, estimation by super-modified simplex optimisation procedure 1−44869
interfluid energy transfer regenerator voidage 1−50138
ion backscattering, computer simulation of plasma-wall system 1−26327
ion backscattering enhancement near 180° scatt. angle, role of reversibility 1−21314
ionization effects in laser-produced plasmas 1−11592
IR imaging system simulation model 1−24521
IR signal processing under zodiacal light background 1−40356
isoenthalpic-isobaric ensemble, equilib. props. and mol. dynamics 1−2299
Josephson junction, ideal shunted, intrinsic current noise characteristics, computer simulation 1−42913
laboratory for struct. anal., performance, effect of dispatching rules, digital simulation 1−48759
laser energy coupling to gaseous medium through resonance saturation 1−42190
laser isotope separation, fast ion extraction 1−10855
lattice-order simulation, cryst. growth approach, cluster variation method 1−20095
Lennard-Jones liquid mixtures, mutual and self diffusion calcs., mol. dynamics simulation 1−11657
lipid bilayer, water interfaces, surface tension, Monte Carlo simulations 1−38620
liquid structure, correlation functions in coexistence region, molecular dynamics 1−2303
liquids, ternary Lennard-Jones mixtures, preferential solvation, mol. dynamics 1−15777
magnetocardiogram, human, computer simulation 1−8887
many-body systems, Brownian dynamics 1−21793
mass transfer processes in geothermal power cycles with direct contact heat exchange, computer simulation 1−53552
Medusa laser compression simulation, eqn. of state 1−28703
metallic spin glasses, computer model, RKKY interaction 1−21001
molecular dynamics system with thermal wall, canonical ensemble and nonequilibrium states 1−46836
molecular fluids, angular pair correl. function, spherical harmonic expansions 1−30020
molecular laser system simulation, solving stiff differential equations 1−51444
monatomic amorphous surface, melting transition, mol. dynamics study 1−52406
MOS devices, bulk trap density spatial depend. evaluation 1−16370
MOSFET, ion implantation undermask edge, tilt angle and mask edge angle depend. 1−38402
multiperiodic wave solutions 1−37878
Nernst-Einstein relationcomputer orientated calc. method 1−42562
non-Newtonian blood flow models, numerical simulation by finite element method 1−8894
nonlinear Fabry-Perot optical logic device operating characteristics 1−24448
nuclear power system, interactive simulation using minicomputer-graphics facility 1−28838.
n-octane-like fluids, condensation induced in mol. dynamics simulations 1−38522
optical experiments, computer model for full simulation *(Russian)* 1−46477
particle dendrite, simulation of growing process, single fibre collection efficiency with dust load 1−20595
particle simulation, elementary concepts 1−6926
phosphor, photoexcited, computer simulation of effects accompanying elec. field applic. 1−16609
photographic process *(Bulgarian)* 1−5419
photovoltaic devices, distributed series resist., intensity and loading effects 1−4197
physics, simulations using programmable pocket calculations 1−40620
plasma physics, 3-D EM particle simulation, SPLASH code and data management 1−7000
α-poly(vinyidene fluoride), field induced transition dynamics 1−11696
digital simulation continued
polycrystals, ion scatt., computer simulation 1−53036
polyethylene-d_n mixed crystals grown from soln., IR spectra of chain organization 1−38297
polymer chains, statistical thermodynamics by Monte Carlo method 1−15044
pressure pulsations in breathing cct. of deep-sea diving system, simulation using 4-pole method 1−1789
quench echoes in molecular dynamics, phonon spectroscopy 1−38478
radiated EM field produced by collimated gamma rays and electron beams in air 1−33609
reactive liquid mixtures, chem. equilib., computer simulation 1−53403
rocks, effect of strain rate on strength in uniaxial compression test, computer model *(Japanese)* 1−35320
rough disc fluid, two-dimens. gas, collision time distrib. with non-overlapping fixed scatterers 1−15775
satellite HV solar array voltage pa effect on plasma power losses 1−35651
satellite solar panel voltage regulation, computer simulation 1−48852
shock wave front struct. in liquid, molecular dynamics calcs. 1−2030
simple fluids, shear induced phase transitions 1−2592
sintering by surface diffusion, numerical methods anal. 1−3650
sintering kinetics, computer simulation 1−3651
sintering kinetics, problems with computer simulation 1−26401
smectic mesophases, intermolecular interaction model for molecular dynamics study 1−25163
soda-lime glass:Fe, thermally detected EPR 1−26024
soft-core model, solid-liquid interface, molecular dynamics study 1−38502
solar once-through subcritical steam generator, nonlinear dynamic model 1−43742
solvent signal, ^1H correl. NMR, data processing 1−14149
spacecraft discharge processes and associated electron blowoff, physical modelling 1−34139
spatial tracking in bubble chambers, simulation 1−51036
speckle image reconstruction techniques, computer simulation comparison 1−51387
spin glasses, model, mag. props. and linear response theory failure 1−30955
stellar dynamics, computer simulations of close encounters between single stars and hard binaries 1−9582
styrene, radical polymerisation kinetics, termination, computer calcs. 1−48689
styrene-butadiene block copolymer, field-induced TSC 1−21116
Super-Phenix steam generator, 45 MW scale model, digital simulation of transient conditions 1−28558
supercooled melt, epitaxial crystn., surface mol. dynamics study 1−30586
target recognition optical matched filter design, digital methods 1−24367
thermally activated dislocation movement at plastic deformation, review 1−42381
traffic noise prediction, computer model for urban situations under free flow and traffic light conditions 1−26865
two-dimensional Lennard Jones systems, stochastic transition 1−2306
uniaxial ferromagnet, solitary spin wave interaction 1−25915
vacancies structure, in high angle grain boundaries, simulation 1−2434
water, liq., H bonding, theory 1−42284
water, molecular dynamics simulation of random network model 1−38224
wind energy capacity of a single airfoil with vertical axis on a circular track 1−53541
AgI-type solid electrolyte, triplet correls., two-dimens. mol. dynamics model 1−34515
Al-Zn, irradiated, interstitial-solute interactions, mixed dumbbells, mol. dynamics study 1−7207
Ar, liquid, light scatt. intensities boundary problems, computer simulation 1−48095
Au atom clusters, on W and C amorphous films, image contrast computer simulation for high resoln. EM 1−30017
$AuCu_3$ superstructure, concentration of vacancies, interaction with edge dislocations 1−42416
$Ba_xTi_{8-2x}Ga_{10+2x}O_{31}$, cryst. struct., electron microscopy 1−30147
Br_2 liquid, liq. vapour coexistence line, Widom's computer simulation 1−25404
Br_2-Cl_2-BrCl mixtures, chem. equilib., computer simulation 1−53403
Cl_2 liquid, liq. vapour coexistence line, Widom's computer simulation 1−25404
$Cu_{57}Zr_{43}$ model amorphous alloy, computer simulation of deform. 1−26531
Fe, crystalline, amorphous and liquid, struct., freq. distrib. function 1−15832
n-GaAs, Gunn effect threshold field decrease in strong mag. field *(Russian)* 1−42782
GaAs/AlGaAs heterostructure, negative cond., real space electron transfer 1−16342
H_2/halogen fuel cell model systems heat rejection and thermal efficiency 1−48828
Lang section topographs, Takagi-Taupin equation, varying-step algorithm for numerical integration 1−34352
Mg, vacancy clusters and interstitials, computer simulation of lattice, static properties 1−7166
Mn^{2+} in glasses, EPR spectra simulation 1−16473
$MnSiO_3$, rhodonite, ultrastruct., variation of chain configuration 1−15766
Nb_2O_5-Al equilibrium interaction simulation, condensed solution formation 1−31445
NiAl alloys, precipitation hardening by large vol. fractions of ordered particles 1−21461
Rb, liquid, struct., mol. dynamics simulation along saturated vapour press. curve 1−25141
Rb, quench echoes, molecular dynamics simulation, anharmonic behaviour 1−30043
SF_6-N_2 mixtures, breakdown process between parallel plates 1−15717
Si, doping profiles simulation *(French)* 1−20469
Si radiation damage, cascade 1−34383
$SrCl_2$, quasi-elastic neutron scatt. in fast ion cond. state, mol. dynamics simulation 1−11900
Ti, polycrystn., eval. of contribution of skin, pinch and heating effects to electroplastic effect 1−12802
TlBr, molten, Monte Carlo calcs. 1−52046
TlCl, molten, Monte Carlo calcs. 1−52046
TlI, molten, Monte Carlo calcs. 1−52046

digital storage
see also cryotrons; magnetic storage; optical storage; random-access storage; read-only storage; semiconductor storage
EMG derived data storage device and output unit *(German)* 1−35894
ESR spectra recording device for storage and isolation of periodic signals 1−18266
oscilloscope types and facilities *(Dutch)* 1−27953
piezoelectric powder, storage echo, model 1−16528
production of stable, planar, micron-size magnetic domains 1−52818
specific heat measurement using temperature pulse memory device 1−18230
spectral analyser commutator with triggered buffer storage device 1−41281

digital systems
see also computer networks; multiprocessing systems; real-time systems
astronomical applications of digital image processing, conference, Pasadena, California (1980 August 20 to 22) 1−44708

digital voltmeters
Keithley 181 model digital voltmeters, 10 nV sensitivity through front-end design 1−9973
panel meter, microprocessor interfacing 1−9974
post-deflection acceleration CROs, technology, DVM, frequency meter facilities 1−44900
scale length expansion methods 1−32999

digitisers *see analogue-digital conversion*

dilatometers *see extensometers*

dilute alloys
see also impurity electron states; Kondo effect; magnetic properties of dilute systems
(110) [001] orientated, optimised comp. for high permeability, low core loss 1−7889
crystalline elec. field excitations and linewidths, neutron studies 1−25878
diffusion, electron conc. and ionic size effect 1−2672
disordered magnetic binary alloys, anomalous Kondo effect 1−34858
EPR and magnetic relaxation *(Dutch)* 1−47930
impurity scattering, cluster model anisotropic electron lifetimes 1−34697
Kondo impurity effects on Korringa relaxation time, theory 1−26068
positron annihilation study of quenched-in defects in diluted Al-Mg alloys 1−52177
rare earth amorphous alloy, uniaxial cryst. elec. field, mag. props. 1−25855
Seebeck coeff. at low temp., empty-core pseudopot. calc. 1−7596
Seebeck coefficient, electron-phonon enhancement 1−30725
Seebeck coefficient, low-temp., impurity and phonon scatt., theory 1−2947
solid solution hardening, basal slip, critical resolved shear stress 1−3760
thermal diffuse X-ray scatt. 1−43214
thermoelectric effect theory, Debye phonons, impurity scatt. 1−20709
XPS core level binding energy shifts 1−43249
Ag-Pd-In, dil., In-Pd impurity interaction effects, gamma ray ang. correlation study 1−34359
Ag-Rh(Ir), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
α-Ag-Sb, thermodynamic factor and rel. chem. potential of impurity component 1−20421
α-Ag-Sn, thermodynamic factor and rel. chem. potential of impurity component 1−20421
Al alloys, elec. resist. calc. using electron-phonon mean free paths 1−20707
Al-[(Au)-(Cu)-(Co-Ni-Sb)] (<1 wt.%), for low temp., high cond. appls., mech. behaviour 1−21465
Al-Ag (Cu), dil., thermal diffuse X-ray scatt. 1−43214
Al-Cr(Mn)(Fe), dil., low-field Hall coeff. at 4.2K 1−7592
Al-Cu dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Fe, dil., interstitial sites for localised diffusion of Fe, Mossbauer γ radiation interference study 1−21096
Al-Mg, type 5052, sea water CO_2 system effect on corrosion 1−39510
Al-Mg (0.03 at.%), dislocation internal friction peaks with anomalous amplitude effect *(Chinese)* 1−21500
Al-Mg dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Mg dilute alloys electric field gradient calcs. 1−20689
Al-Si-(Cu) single crysts., large local rotations at 2nd phase particles 1−21546
Al-Sn, 0.03 at.%, irrad.-induced defects, trapping by Sn atoms, channelling-backscatt. study 1−11793
AlCa, dilute, size effect, temp. depend., thermal expansion meas. 1−47263
AlMg, dilute, size effect, temp. depend., thermal expansion meas. 1−47263
Au-Er dil. alloy, EPR studies of near-surface layer 1−34938
Au-Pd(Pt)(Rh), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
Au-Si(Sn) dental materials, oxidation props. and RHEED obs. *(Japanese)* 1−48579
Au-Sn, dil., self-diffusion and impurity diffusion, solvent enhancement factor 1−7371
Au-Sn(Sb)(Ge)(Fe) dilute alloy, dopant-vacancy interactions *(French)* 1−2500
Cd-Pd dilute alloy Cd activity, EMF and vapour pressure obs. 1−7314
Cr-Ge alloys, dil., antiferromagnetism and elec. resist. 1−25697
Cu dilute solid solns., impurity potential model for residual resist. calc. *(Russian)* 1−47631
Cu-Ag(In)(Ni), very dil., electron irrad., interstitial trapping by impurities 1−52179
Cu-Au(Ag), dil., thermal diffuse X-ray scatt. 1−43214
Cu-Co alloys, discontinuous precipitation 1−26461
Cu-Fe (2 wt.%), generation of migrating boundaries by vacancies, precipitation kinetics 1−20237
α-Cu-Ge, thermodynamic factor and rel. chem. potential of impurity component 1−20421
Cu-Nb, dil., supercond. props., microstruct. influence *(Russian)* 1−3086
Cu-Rh(Pt), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
Cu-Ti, ordering phenomena in β-Cu_4Ti phase 1−16781
Cu-Ti (0.7-0.9 wt.%), age hardening 1−21498
Cu-Ti dilute alloy single cryst. strengthening during ageing 1−43353
Cu-Ti dilute alloys, precipitation hardening 1−43354
CuFe dilute alloy, NMR spin-lattice relaxation 1−26063

dilute alloys continued
Cu(Sn) dilute alloys, enhancement effects of diffusion and impurity correlation coeff. 1−30446
Fe binary alloys, dil., intergranular segregation, effects of ferromagnetism 1−39337
α-Fe-Al(Si)(P)(B), dil., substitutional sp impurities, electronic struct. calc. 1−16253
Fe-Cr (5 wt.%), salt-induced corrosion behaviour 1−16942
Fe-Cr(Mn)(V), dil. alloys, mag. moment distrib. and environmental effects, neutron scatt. study 1−25933
Fe-Pd(Pt) alloys, mag. environment model, moment disturbances 1−25932
Fe-Sb-Ni(Co)(Cr), short range order, zero field NMR investigation 1−52850
In-rare earth liquid alloys, dil., residual resist. of rare earth solutes and mag. susceptibility meas. 1−30707
K-Na(Rb), Bloch election scatt. by impurities in relaxed lattices 1−42768
K-Na(Rb), dil., cluster model electron lifetimes 1−7597
$(La,Pr)B_6$, cryst. field ground-state splitting effect on resist. 1−25707
$(La,U)Al_2$ dilute alloy, localized mag. moments, low temp. 1−47849
LaCe, Konds effect under press. 1−30898
$LaSn_3$:Nd dilute alloy, mag. susceptibility, cryst. field effects 1−25910
Li alloys, dil., elec. resist. and thermoelectricity 1−38759
Lu-Os, dil., elec. field gradient meas. by nucl. orientation technique 1−12081
Lu-Re, dil., elec. field gradient meas. by nucl. orientation technique 1−12081
$Lu_{0.02}Dy_{0.98}$, dil., anal. of ^{175}Lu NMR data 1−34946
$Lu_{0.02}Tb_{0.98}$, dil., anal. of ^{175}Lu NMR data 1−34946
Mg binary alloys, elec. cond., deviations from Matthiessen's rule, heat treatment effects 1−47604
Mg-rare earth, thermal expansion and magnetostriction 1−20985
Ni-H, dil., electronic struct. and ordering of H 1−38746
Ni-Mn, dil., thermal and elec. cond. in ferro-paramagnetic transition region 1−16442
Ni-Pd(Pt) alloys, mag. environment model, moment disturbances 1−25932
NiAu dilute alloys, core level binding energy shifts 1−52104
NiMn, NMR freq. temp. depend., Curie temp. and effective exchange interaction 1−47971
$Ni_{1-c}Ru_c$, c=0.027, 0.033, 0.046, ferromagnetic, magnetic moment distribs. and form factors 1−7812
Pb-Cu dil., liquid alloy, O_2 activity 1−26425
Pb-Mn, dil., supercond., localised excited states, electron tunnelling obs. 1−20925
Pd-H, dil., electronic struct. and ordering of H 1−38746
Pt-Gd, dil., fine structure EPR spectra meas. 1−12397
Rh-Fe, dil., thermopower at low temp. 1−25709
Sn-rare earth liq. alloys, dil., residual resist. of rare earth solutes and mag. susceptibility meas. 1−30707
Te alloys, dil. liq., electronic behaviour, elec. cond. and mag. susceptibility meas. 1−20695
α-Ti dilute alloys, nature of temper brittleness *(Russian)* 1−39416
U-Mo, dil. solid solns., low temp. Hall coeff. 1−2945
V-Zr dil. alloy, ^{48}V self-diffusion 1−52338
W alloys, dilute, effect of struct. parameters on mech. props *(Russian)* 1−39378
Zn-Al dil. alloys, longitudinal magnetoresist., contrib. from lens Fermi sheet 1−25704
Zr-Mo(Si), (0.5-1.5 (0.25-0.5) wt.%), martensites, precipitation hardening 1−21466

dimensions
cosmology, dimensional analysis appl. 1−13898
nominal circles, dimensioning, calculation of centre of least squares circle 1−23158
similarity criteria, determ. by method of conjugation of dimensional values 1−32949

dimers *see molecules*

dineutrons *see neutrons*

Dingle temperature
α-$Cu_{1-c}Zn_c$, Fermi surface props. 1−52469

diode lasers *see semiconductor junction lasers*

diode sputtering
narrow-band filters, optical characts., diode cathode sputtering method prod. 1−1681
Si-SiO_2 structure, defects introduced by sputter metallisation 1−30838

diode tubes *see diodes*

diodes
see also plasma diodes; rectifier tubes; semiconductor diodes
electron beam, pinched, finite temperature relativistic fluid theory 1−41547
gas-filled diode with a pulsed discharge 1−25095
ionised diode, conditions for discharge ignition anal. 1−25092
low-current-density microsecond electron beam diodes 1−6061
MOM point contact diode, detection mechanism and properties *(Japanese)* 1−25810

dipole antennas
EM field probe based on dipole antenna for monitoring of complex fields, 10 MHz-1 GHz 1−50170

dipole moment, electric *see electric moments*

dipole moments, magnetic *see magnetic moments*

Dirac electron theory *see Dirac equation; electron theory*

Dirac equation
see also electron theory
arbitrary mass and spin particle, simple and natural construction, Belinfante conjecture 1−14277
axisymmetric field, exact solution 1−40941
Born-Infeld effects in the electromagnetic mass of an extended Dirac particle 1−23425
bound-state Dirac eigenvalues for scalar potentials, WKB method 1−33093
Coulomb plus spin-orbit interaction scatt., Glauber approx. calcs. 1−49983
covariant objects and invariant equations on fiber bundles 1−5189
Dirac particle+Klein-Gordon particle, massless critical Coulombic bound state of a supersymmetric pair 1−10059
Dirac theory and its Melosh quantum-mechanical representation 1−45167
dual symmetry and the Dirac field theory 1−40924
electron in time-dependent EM field, gauge-invariant non-relativistic limit 1−467

Dirac equation continued
electron size in classical and quantum theory *(Hungarian)* 1−23456
electrons scattered by Coulomb centre 1−40949
Fermi contact interactions for Dirac electron 1−18077
field quantisation in new canonical formulation 1−40951
Hawking evaporation of Dirac particles *(Chinese)* 1−49709
inverse spectral transform, kinks and boomerons 1−5476
Kaluza-Klein bundle, pseudo-Riemannian manifold, SU(2) case 1−10117
Kerr metric, perturbations, Maxwell and Dirac eqns. soln., black holes 1−18108
Klein paradox in Dirac's eqn. for electron 1−28157
Klein paradox in the modified Dirac equation, one-body limit of two-body Salpeter equation 1−10060
Lorentz-Dirac equation for one particle, nonrelativistic case 1−40937
massive fields, twistor description 1−27842
massless Dirac field quantisation in new canonical formulation 1−40950
neutrino trapping by strong gravitational field in compact object 1−23082
nonrelativistic approximation problems *(Russian)* 1−472
nonrelativistic limit, convergence of solns. 1−50303
one-electron atom as a probe of spacetime curvature 1−9913
particles, in central field, perturbation theory 1−14248
quantum theory as relativistic statistics, relativistic particle in two-dimensional space-time 1−40665
repulsive potentials, p-e^+ bound states 1−45475
solvable potentials 1−45109
spin-$^1/_2$ particle with anomalous moments, modified Dirac eqn. 1−5477
spinor field equations for spacial fields 1−5475
$Q\bar{q}$ atomlike mesons, Dirac eqn. with confining, pot., D, F, ψ, T appl. 1−18442
H, Dirac equation derivation *(German)* 1−442
H-like atoms, approximate solution of the Dirac equation using the Foldy-Wouthuysen hamiltonian 1−18998
Hg, electron scatt., relativistic effects, Schrodinger nonrelativistic and Dirac relativistic eqn. 1−41493

direct current generators *see d.c. generators*

direct current motors *see d.c. motors*

direct digital control
see also control systems
BWR plant, distributed DDC condensate clean up control system 1−50753
Candu nuclear plants, computers for reactor instrumentation and control, development trends 1−876
quick response thyristor power supply for vertical magnetising coil of Tokamak nuclear fusion reactor 1−6988
WWR-SM research reactor, computerised control system 1−28672

direct energy conversion
see also bioenergy conversion; cells (electric); chemical energy conversion; magnetohydrodynamic conversion; photothermal conversion; plasma diodes; solar energy conversion; thermionic conversion; thermoelectric conversion
amorphous semiconductors, chemistry and relevance to energy conversion 1−30060
conference, energy conversion, Seattle, Washington, USA (1980) 1−48810
conference, UMR-DNR, Rolla, MO, USA October 1979 1−32805
engine for direct conversion of concentration difference energy into mechanical work 1−21927
fuel production by light—chem. conversion, photochem. methods 1−35667
fusion reactors direct energy conversion and waste heat reduction 1−50943
hydrogen-actuated pump 1−21928
second law analysis: an alternative indicator of system efficiency 1−17299
second law analysis of energy devices and processes, conf. Washington, DC, USA, August 1979 1−13911
second law analysis of the thermodynamic efficiency of energy processes 1−17184
semiconductor-liquid junction, Fermi level pinning, energy conversion efficiency 1−7727
zeolite/H_2O high temp. absorption heat pump using force-heat-conversion *(German)* 1−35672
n-TiO_2 electrodes, photoreduction, rel. to energy conversion 1−39653

direct nuclear reactions and scattering
see also pick-up reactions; stripping reactions
antisymmetrization effects, coupled channel resonating group formulation 1−10372
asymptotic channel versus composite state descriptions of direct interactions 1−28450
asymptotic shape of nuclear wave functions and overlaps 1−28394
breakup-fusion description of massive transfer reactions with emission of fast light particles 1−5791
conference on heavy ion interactions at high energies, Erice, Italy (Mar.-Apr. 1979) 1−13917
fission, conference, Julich, Germany (May 1979) 1−44711
heavy ion collisions, fragment distributions, momentum fluctuations, Pauli suppression 1−41129
heavy ion collisions, high-energy, direct versus thermal particle emission 1−18674
heavy ion collisions, peripheral fragmentation processes in continuous particle spectra 1−50652
heavy ion reactions, fragmentation theory, asymm. two-centre shell model, cranking model, book contrib. 1−50631
heavy ion reactions and spontaneous fission, quantum fluctuations within the fragmentation theory 1−14548
heavy ion-induced reactions leading to discrete states, direct reaction anal. 1−23624
heavy-ion collisions, book 1−49887
limiting target fragmentation by p, α, C, Ar 1−28449
low lying state excitation by synchrotron radiation, cross sections *(Russian)* 1−10347
multi-fragment final states in nuclear collisions, statistical model, nuclear matter disassembly 1−50537
neutron-nucleus scattering, quantum dynamical semigroup model incorporating irreversible effects 1−28473
nuclear wave functions and overlaps, transfer amplitudes 1−689
peripheral heavy ion reactions, multibody fragmentation, longitudinal momentum distribs. 1−41091
preequilibrium reactions, continuum ang. distribs., Griffin exciton model 1−36941
preequilibrium reactions, continuum ang. distribs., multistep direct and compound reactions 1−36940

direct nuclear reactions and scattering continued
reaction mechanism review 1−23621
relativistic heavy ion fragmentation, peripheral collisions, Weiszacker Williams method 1−14554
resonant heavy ion collisions, simple classification, direct channel effective barriers 1−23617
Schrodinger-Stormer eqn. in direct and inverse scatt. problems 1−23622
(e,α), direct emission models 1−50572
(e,e'N), nuclear continuum, coincidence expts., direct and resonance reaction unified theory 1−10370
(γ,N), N=p,n, pol.γ, direct nucleon emission, cross section behaviour 1−28453
(γ,p), direct emission models 1−50572
(N,X), precompound reactions, d prod., multistep direct processes, surface pickup 1−18625
(p,α), direct emission models 1−50572
(p,p'), direct emission models, charged particle multiplicities 1−50572
(p,p'N), nuclear continuum, coincidence expts., direct and resonance reaction unified theory 1−10370
(p,pα), 101.5 MeV, A=16-66, quasifree knockout, alpha clustering systematics, cross section 1−36938
(p,X), 1-400 GeV, nuclear recoil systematics for nonfission reactions 1−14525
(p,X), 7.5 GeV/c, A=12-197, ^{3}He/^{4}He yield ratio, inclusive prod. and fragmentation cross sections *(Russian)* 1−18627
(p,X), nuclear recoil systematics, parameters 1−14524
(π,X), precompound reactions, d prod., multistep direct processes, surface pickup 1−18625
Ag(p,X), 210, 300, 480 MeV, fragment energy spectra and ang. distribs. 1−5760
(^{40}Ar,f), symmetric fragmentation reactions, mass distrib. effects on fission barrier 1−10397
^{197}Au(^{10}Ne,X), 7.6 GeV, cross sections, recoil props., factorisation and limiting fragmentations 1−14508
^{197}Au(^{12}C,X), 4.8, 25 GeV, cross sections, recoil props., factorisation and limiting fragmentations 1−14508
^{197}Au(^{20}Ne,X), 7.5 to 20 MeV/nucleon, reaction mechanism evolution 1−50649
(α,2α), 140 MeV quasi-free knockout reaction, DWIA anal. on ^{9}Be, ^{12}C, ^{16}O and ^{20}Ne 1−5759
^{209}Bi isobaric analogue state excitation, direct-semidirect model of ^{208}Pb(p,γ) 1−10363
^{209}Bi(^{12}C,X), 61-73 MeV, product and fission cross sections, ^{8}Be direct transfer 1−18664
(^{12}C,^{12}C'X), 4.5 GeV/N, on photoemulsion noninteracting fragment average multiplicities *(Russian)* 1−18628
(^{12}C,x), 3.6 GeV/N, in emulsion, inelastic reaction, hammer like fragment formation *(Russian)* 1−5762
^{12}C(p, 3p), 640 MeV, proton pair quasi-free knock out, cluster excitation *(Russian)* 1−36939
^{166}Er(^{86}Kr,X), 12.1 MeV/u, projectile-like fragments splitting 1−50638
^{19}F(d,^{8}Be), 13.6 MeV, differential cross sections, ^{11}B quasicluster direct transfer *(Russian)* 1−5763
^{3}He(α,γ), low energies, direct capture anal., total cross section 1−36937
^{4}He(^{12}C,pX), relativistic reactions, direct fragmentation and hard scattering processes 1−23623
^{4}He(π^+,π^+p)^{3}H, 135 MeV, knockout reaction expts. 1−28504
^{6}Li direct Coulomb break-up, α+d correlations from ^{118}Sn(^{6}Li,X) 1−14507
^{58}Ni(^{16}O,X), 100 MeV, light fragment spin polarisation, high spin spectra 1−45489
^{58}Ni(α,X), 100 and 172.5 MeV, fragment spectra, local excitations 1−50610
^{16}O(π^+,π^+p), knockout reactions with fully exclusive dynamics, DWIA calcs. 1−50571
^{18}O(d,^{7}Li)^{13}C, reaction product ang. distrib., direct quasi ^{5}He cluster transfer *(Russian)* 1−690
^{18}O(p,γ), 80-2200 keV, ^{19}F resonances, levels, J$^\pi$, γ-transitions, astrophysical aspects 1−18617
^{208}Pb(^{13}C,^{13}C), sub-Coulomb heavy ion scatt., nuclear absorption, optical pots, direct channels 1−23671
^{208}Pb(^{16}O,X), 315 MeV, projectile fragmentation, direct and non-direct contribs. 1−28452
^{208}Pb(^{17,18}O, ^{17,18}O), sub-Coulomb heavy ion scatt., nuclear absorption, optical pots, direct channels 1−23671
^{208}Pb(^{7}Li,αt), 70 MeV, direct and sequential breakup 1−33251
^{208}Pb(n,γ), fast neutrons, γ-ray angular distrib., pure resonance and direct-semidirect models 1−18650
^{154}Sm(^{16}O,X), incomplete fusion, successive crit. ang. momenta 1−50651
^{116}Sn(^{16}O,X), 125 MeV, fast α emission, γ-multiplicities, direct emission critical energy 1−45519
^{176}Yb(p, γ), 6-24 MeV, GDR excitation, direct-semidirect and compound model anals. 1−685
^{92}Zr(^{40}Ar,X), 193 MeV, fast α emission, γ-multiplicities, direct emission critical energy 1−45519

directional antennas *see directive antennas*

directional couplers
fibre optic gyroscope with [3×3] directional coupler, phase-bias elimination 1−41842
integrated directional coupler switch, remote controlled 1−46593
integrated optics, halved directional couplers for 180° turns 1−51641
light guides and optical transmission cables, meas. techniques *(German)* 1−19425
microwave complex impedance meas. with desk-top computer 1−28023
optical fibre data highway multimode directional couplers 1−41878
optical fibre directional couplers, low-loss, fabrication by elec. arc welding 1−33822
optical two-core fibre coupler, coupling efficiency meas. between curved waveguides 1−41883
photoelastic optical directional couplers in epitaxial GaAs layers 1−51639
CdTe optical directional coupler fabrication by electron beam lithography and ion etching 1−29408
GaAs electro-optic directional coupler integrated with detector, bistable operation 1−37630

directional couplers continued
GaAs monolithic optical bistable devices, integration of directional coupler switch with output channel detector on single chip 1−11185
$LiNbO_3$ directional coupler, complementary optical bistable switching and triode operation 1−46591
directional patterns *see antenna radiation patterns*
directive antennas
see also loop antennas
rectangular parametric antenna, directivity diagram. *(French)* 1−24573
VHF, ferrite-loaded, for geophysical diagnostics 1−27255
Voyager spacecraft antenna, calibration of pointing mechanism 1−44408
dirty superconductors
CPA, off-diagonal, energy gap and transition temp. determ. 1−12231
nonregular superconductors, low-temperature electron specific heat, theory 1−3097
normal-superconducting boundaries, nonlinear current-voltage characts. 1−30886
tunnelling between two dirty superconductors, effect of microwave radiation 1−25838
Al dirty film, tunnel injection, nonequilib. quasiparticle energy distrib. meas. 1−3113
Al, dirty supercond. film, phase-slip shot noise at transition, vortices 1−7793
Al dirty superconducting films, charge-imbalance relax. in presence of pair-breaking supercurrent 1−38892
Al, films, low normal state resist., Kosterlitz-Thouless transition 1−42899
Al-Ge granular superconductors, upper crit. field 1−20932
AlEr dirty supercond. films, charge imbalance relax. in presence of pair-breaking interaction 1−38891
In dirty film, scaling law for pinning forces 1−16417
Sn, dirty supercond. film, phase-slip shot noise at transition, vortices 1−7793
discharge lamps
see also arc lamps; flash lamps; fluorescent lamps; metal vapour lamps
characts., dye laser pumping appls. 1−6565
super high pressure Xe lamps, evaporation rate of Th from cathodes *(Russian)* 1−7023
Ba, high-freq. discharge lamp, at. absorpt. spectrometry obs. *(Japanese)* 1−10022
Hg, emission profile, hyperfine struct. and intensity anomaly 1−33416
Na, high pressure, sapphire tube batch prod. from melt by Stepanov method 1−31332
^{87}Rb lamp profiles, temp. depend. anal. 1−41346
Xe lamp light source for cold-light biomedical fibre-optic endoscopes 1−4352
discharge lasers *see gas lasers*
discharge tubes *see gas discharge tubes*
discharges (electric)
see also arcs (electric); electric breakdown; exploding wires and foils; flashover; glow discharges; high-frequency discharges; lightning; partial discharges; positive column; sparks; surface discharges; Townsend discharge
air, gaseous products generation, analysis and stability *(Japanese)* 1−19992
air, streamer influence zone at cathode of positive point to plane corona discharge 1−11610
air gaps, breakdown at sign-changing surges 1−15727
air plasma, optical props., shock wave fronts, electric discharge, impurity detect. *(Russian)* 1−25082
aircraft discharger, negative corona discharges upon electrodes of carbon fibre materials 1−11623
ASDEX Tokamak, discharges optimisation and conditioning 1−25040
atomic spectroscopy, conference, Varna-Druzhba, Bulgaria (Sept. 1978) 1−27681
beam-plasma discharge in strongly collisional nonequilibrium plasma, electron kinetics 1−24943
capillary discharge, emission and circuit parameters 1−28073
chemical effects on electrolytes 1−17110
cleaning discharges in CT-6 Tokamak, short-term correl. 1−29937
contracted cross-field discharge with a cold hollow cathode 1−25101
DC motors position drive regulators optimised setting for arcing under brushes minimisation *(Russian)* 1−34137
dielectric charging and electron caused EM pulse spacecraft discharge coupling model 1−34138
diffuse gas discharges in turbulent flows, kinetic aspects 1−42236
discharge gap breakdown by high overvoltage, explosive processes at cathode, role of impurities 1−29942
dye ring laser, CW, freq.-locking and single-mode operation near at. lines of a Ne discharge 1−46397
electrical discharge lasers, electron ionisation rates 1−37480
electrode discharge development, metal inclusion with non-uniform field 1−15726
electrokinetic parameters, in N_2 plasma, electron scatt., bremsstrahlung continuum investig. *(Russian)* 1−38067
electron adhesion to halogen molecules, transport coeff. *(Russian)* 1−38083
electron field emission, explosive, current instability mechanism 1−53060
electron gas in DC discharge plasma, Boltzmann eqn. numerical soln. 1−15598
electronegative gases, electron detachment study 1−15580
electronegative molecular gas discharge, combination mechanisms, energy exchange effect 1−15663
externally ionised plasmas, I-V characts. in pure gases 1−38065
field strength in channel and streamer zone of positive leader in air 1−15730
focused ion beam, propagation in z-discharge plasma, EM instabilities 1−38121
gas, corona discharge current, active synchronous component relative importance 1−11611
gas discharge, LF oscill. 1−52014
gas discharge structure in rod-plane gap, possible interpretation 1−7026
gas discharges, external electrode, wall charge determ. method 1−2262
gas discharges, uses and problems in electricity supply industry 1−46934
gas-filled diode with a pulsed discharge 1−25095
gaseous electronics conference, Oklahoma, USA (1980) 1−36457
geosynchronous satellites, modelling of environmentally induced discharges 1−34141
heavy current discharges, in fluids, electrodynamic processes characts. anal. *(Russian)* 1−2278
high current discharge, anode mechanism, self mag. force effect 1−34167
discharges (electric) continued
high pressure gas discharges, pulse forming networks, coupling energy transfer efficiency 1−38187
high voltage pulse discharges, diagnostics using equidensitometry 1−19956
high-energy electron beam generation with large cross-section, review 1−36769
high-voltage, in water, optimum inter-electrode gap determ. *(Russian)* 1−42224
hollow cathode discharge, magnetised and current-driven plasma, ion energy balance 1−38172
hyperboloid-to-plane model electric field distribution calc. method *(Portuguese)* 1−16523
inert gas DC-discharges at low pressure, ion-acoustic wave instabilities *(German)* 1−6942
inert gas ion laser, discharge plasma investigation using the KFPI Fabry-Perot interferometer 1−33660
inert gas monohalide formation in transverse AC discharge 1−42242
insulating structures, discharges, relationship between electric strength and electric fields 1−15729
insulators for 220 kV power lines, hydrophobic pastes application, effects on discharge voltages *(Russian)* 1−53322
ionisation wave randomisation and self-modulation, nonlinear oscill. as source 1−38171
ionised diode, conditions for discharge ignition anal. 1−25092
JFT-2 Tokamak, ECR discharge cleaning 1−29922
laser and electrical discharges, simultaneous use in atomic absorpt. anal. 1−53515
leader conductivity in long air electrical discharges 1−15586
lightning in Venus' cloud layer, Groza expt. on Venera landers 1−9402
liquid, light flash from focusing of converging shock wave in spherically symmetric collapsing vapour cavity 1−3493
long diffuse discharges prod. by focusing of TEA-CO_2 laser using axicon lenses 1−7014
low pressure discharge, He temp., vel. distrib. and population densities 1−34166
low-voltage pulsed discharge in vacuum, energy and spectrosc. characts. 1−7022
magnetized whirls and neutron emission in plasma focus discharges 1−19987
mass diffusion mechanism in gas discharge with travelling mag. field 1−23854
megagauss fields and current pattern in focused discharges 1−34060
microsecond discharge, fast electron detection at atmos. press. 1−25100
molecular gas non-self-sustained discharge stability, vibrationally excited particle effects 1−2138
needle-and-plane electrode config., air breakdown, ns discharge 1−42239
negative discharge development in symmetrical air gaps 1−15587
neural discharge discrete input models, Markov renewal eqn. 1−26892
optogalvanic spectroscopy, gas discharge physics, appl. to resolution and Doppler-free spectroscopy 1−50226
organic polymers, in strong elec. fields, current and luminesc. oscills. 1−25742
ozonizer characts. supplied by fast mixing voltages 1−15702
Penning discharge with thermal cathode, HF fluctuations and electron energy spectrum 1−52013
Penning discharge with thermionic cathode, discharge dynamics, ion emission 1−25098
pinched high current discharge stabilisation by plasma jet 1−52015
plasma, magnetoactive, parametric instabilities produced by discharge of EM waves 1−51932
plasma column, radial electron density distribution meas. by two microwave cavities 1−51983
plasma focus discharges relax. to helical force free config. 1−19917
plasma parameters meas. in positive column in narrow discharge tube 1−2276
plasma sheath expansion in positive column, effect on current multiplication 1−15622
polymer textile treatment, by RF and silent discharge plasma 1−3949
positive column, low press. discharge, two-electron group model, Boltzmann calcs. 1−11606
pulsed discharges, Langmuir probe meas. of double layers 1−19990
radiation characteristics 200-250 nm, emitted by plasma-dynamic discharge in quartz tube 1−34054
radiation transport, temp. profile calcs. 1−38193
radioisotope preionisation of volume gas discharge 1−29944
reflex discharge, increase in plasma electron density using modified cathodes 1−19865
small gaps, breakdown electric field depend., quantum theory anal. 1−42240
space charge effects in negative rod-plane discharges 1−15588
spacecraft discharge processes and associated electron blowoff, physical modelling 1−34139
spatial discharge at high press., cathodic sputter emission 1−42234
statistical time-lag distribution of elec. discharge, detachment lifetime meas. of negative ions in atm. air 1−15731
steady laser discharge, plasma stabilization and oscillations, mechanisms 1−38102
streaming non-uniform electron plasma, nonlinear wave coupling 1−7018
strong-current compressed radiating discharge in dense opaque plasma, equilibrium 1−38174
strong-current compressor discharge, plasma prod., light emission 1−42238
switching impulse breakdown voltage, effect of interaction between temp. and humidity 1−15585
TFR, runaway electron beam impact, activation effects 1−24932
Tokamak, JFT-2, ECR discharge cleaning *(Japanese)* 1−29941
Tokamak CT-6, cleaning discharges, short term correlation 1−29929
trigger wire discharge for UV-preionisation, output characteristics of CO_2 TEA laser *(Korean)* 1−46383
underwater spark discharge, transient process calc. *(Russian)* 1−42225
volumetric discharge, electron beam controlled, in mag. field, uniformity 1−15672
Al, dielec. exploded foil, laminar pulsed discharge initial stage 1−52012
Ar, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
Ar discharge with superimposed fields, voltage time depend. *(German)* 1−25104
Ar, electrons average energy loss factor, transport equations 1−11523
Ar, heterodyne detection of phase-conjugate emission using low-power CW laser 1−37549
Ar, influence on microhardness of LiF *(Russian)* 1−48488

discharges (electric) continued
Ar plasma, ionisation waves form., phase velocity *(Russian)* 1−38082
Ar plasma, optical props., shock wave fronts, electric discharge, impurity detect. *(Russian)* 1−25082
Ar positive column, Langmuir probe meas. of double layers 1−19990
Ar-Hg mixtures, RF H discharges charact. obs. 1−15740
Ar-O_2 RF sputtering discharge, O_2 dissoc. mechanism 1−38184
Au extraction from chambered electrode in Cl stream, spectrochem. anal. 1−4134
CO_2 fast-flow closed-cycle processing laser, AC discharge pumping prospects 1−1590
CO_2 laser excited by preionised transverse discharge through a dielectric 1−33650
CO_2 laser gas discharge, recombination coeff. meas. 1−46281
CO_2 transversal laser, wire-triggered, electron conc. and temp. *(Rumanian)* 1−15148
CO_2-N_2-He mixture, self-sustained gas discharge with preliminary electron beam ionisation, pumping CO_2 laser appl. 1−25096
CO_2-N_2-He mixture, transversal discharge, laser radiation amplification coeff., meas. method *(Rumanian)* 1−15149
CO_2-N_2-He-CO electric discharge convection lasers, thermal and ionic instabilities 1−46288
CU, inhomogeneous wire explosion in water *(Korean)* 1−46942
H discharge cleaning of Inconel surface with C(O)(S) impurities 1−26342
H-Li plasma, press. and main parameters meas. 1−46939
H^2-existence, H^- prod. from H^{2-} charge transfer 1−24241
H_2, electron impact electronic-vibr.-rot.-level excitation *(Russian)* 1−29129
H_2, positive ion contrib., photon flux obs. of secondary mechanisms 1−29938
H_2-He mixtures, low-current moderate-press. elec. discharges, expt. and calc. 1−42228
He and Ne isotope separation in rotating H plasma 1−34128
He, cold, breakdown mechanism in sharply non-uniform field 1−15589
He, discharge at intermediate press., level population density and line intensity 1−42232
He, electrons average energy loss factor, transport equations 1−11523
He, pulsed discharge, temporal and spatial variations of population of excited state atoms 1−29939
He^+ dielectronic recomb. in DC hollow cathode discharge, He excited state population 1−51290
He-Cu gaseous plasmas, energy transfer processes 1−25091
He-Ne annular laser, pulsation freq. stability, active medium parameter effect 1−15154
He-Se^+ lasers, noise props. and their relationship to moving striations 1−15162
He_2^+ recomb. at high electron temp. in afterglow plasma 1−42243
Hg, arc instabilities, acoustic resonances, sound spectrum 1−42249
Hg discharge, low press., darkening of soda-lime glass, mechanism 1−53425
Hg-Ar low press. discharge, two-electron group model, electron energy balance 1−15671
HgBr laser oscill., 502 nm, in electron-beam-controlled discharge-excited Xe-$HgBr_2$ 1−46298
$HgCl_2$-Ne pulsed discharge, $HgCl(D^2\pi_{3/2})$ 1−37250
KH(KD), $X^1\Sigma^+$ ground state vibr. levels, laser excited fluoresc. in HF discharge 1−24181
Kr, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
Kr_2^+ formation from $Kr^+ + 2Kr \rightarrow Kr_2^+ + Kr$ reaction in decaying plasma 1−53410
KrF laser, UV preionised homogeneous discharge, spatially resolved gain meas. 1−46299
N_2, $C^3\Pi_u$ state, electron swarm excitation, self-quenching rate coeffs. meas. 1−15025
N_2, DC discharge, electron thermal diffusion instability and standing striations 1−15661
N_2 discharge, low current column, noise temp., microwave diagnostics *(German)* 1−7002
N_2, electric breakdown mechanism in an externally sustained gas discharge 1−52017
N_2, electron-beam ionization discharge, negative differential conductivity 1−34178
N_2 fixing in nonequilibrium plasma 1−42132
N_2 in electrical discharges, non-equilib. dissoc. rate calc. using vibr. master eqn. 1−26719
N_2, liquid, space and time dependent parameters of electrical discharge development *(Polish)* 1−3329
N_2 non-self-sustained discharge stability, vibrationally excited particle effects 1−2138
N_2 photoionisation plasma, breakdown mechanism 1−42246
N_2, positive ion contrib., photon flux obs. of secondary mechanisms 1−29938
N_2, pulsed, net space charge density evolution 1−15737
NaH(NaD), $X^1\Sigma^+$ ground state vibr. levels, laser excited fluoresc. in HF discharge 1−24181
Ne discharges, positive columns in curved discharge tubes 1−15670
Ne, electrons average energy loss factor, transport equations 1−11523
Ne excited level population density meas. in ring discharge plasma 1−15641
Ne, optogalvanic effects, laser-induced, prebreakdown phase, $^3P_2$ and $^3P_0$ metastable states 1−42231
Ne positive column, electron density determ. from neutral gas temperature *(Russian)* 1−52004
Ne-He laser tube, discharge development 1−41662
O, transport in DC discharge, chem. reactions effects 1−15601
O_2, electron beam controlled, kinetics of charged species, metastable species and ozone *(French)* 1−29934
O_2, electron-beam controlled discharge, at atmos. press., kinetics of species 1−2271
O_2, nonequilibrium, selfconsistent electron energy distrib. function, dissoc. rate effect 1−2261
O_2-I potential laser, electrically pumped, theoretical anal. 1−41675
$O_2(^1\Delta)$, prod., elec. discharge, press. studies, appl. to nuclear-pumped lasers 1−38190
Pd extraction from chambered electrode in Cl stream, spectrochem. anal. 1−4134
Pt extraction from chambered electrode in Cl stream, spectrochem. anal. 1−4134
discharges (electric) continued
SF_6 and SF_6-N_2 mixtures, negative point breakdown and prebreakdown corona process 1−11624
SF_6, compressed, negative corona thresholds in space charge fields, mathematical model 1−11626
SF_6 compressed gas insulation, effect of regular electrode surface roughness on breakdown strength 1−11501
SF_6 corona inception conditions, influence of electrode charact. 1−11628
SF_6, discharge formation for impulse voltage stress 1−11505
SF_6 gas, charact. of elec. breakdown in short gaps 1−11496
SF_6 insulated system, dependency of V-T curves on front steepness of testing voltage 1−11495
SF_6, mobility of ions, gaseous discharges charact. 1−11625
SF_6, negative breakdown voltage charact. 1−11504
SF_6, pressurised gas, influence of electrode surface state on breakdown 1−11502
SiF_4 discharge, Si etching, chemiluminescence study 1−16615
SiH_4 low pressure multipole DC discharge, mol. dissoc., Si deposition 1−16703
Sr, excitation in hollow-cathode discharges 1−28894
Sr-He mixture, Sr I and II line shapes during pulsed discharge 1−33427
W thin-film deposition with a Penning discharge 1−26387
Xe, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
Xe, flash lamp, short discharge time, heat losses 1−15674
Xe plasma, optical props., shock wave fronts, electric discharge, impurity detect. *(Russian)* 1−25082
XeCl electric-discharge laser 1−51509
XeCl laser, UV preionised homogeneous discharge, spatially resolved gain meas. 1−46299
discharges (partial) *see partial discharges*
disclinations
cholesteric liquid crystal, Blue Phase, Grandjean-Cano steps in wedge-shaped sample 1−2317
dislocations and disclinations, book 1−26
energy of interaction of disclination loops with dislocations 1−25271
general theory 1−2328
hexagonal discotic mesophase, defects and texture 1−20052
hexagonal mesophases, non-smectic, geometry, translation defects 1−25156
liquid crystal films, smectic, cholesteric, and Rayleigh-Benard order 1−34231
magnetism, dislocations and disclinations 1−2446
melting dynamics in two dimensions, dislocation and disclination unbinding transitions 1−11848
nematic liquid crystal, Euler's problem of density of free energy *(Rumanian)* 1−7075
nematic liquid crystal, Peach-Koehler force on disclination 1−11673
nonoriented mesophase nematics, increased transparency to ordinary waves *(Russian)* 1−42297
smectic C film, ferroelec., electrostatically stabilised disclination walls, macroscopic orientation patterns 1−20060
smectic liquid cryst., dislocations and disclinations 1−11675
straight disclinations near free surface, stress fields calc. 1−52135
discontinuous metallic thin films
amorphous metal clusters on various substrates, struct., computer simulation 1−30606
coalescence grown, struct., model and expt. 1−38686
electrical conductivity and current noise theory over wide temp. range 1−30842
electrical resistivity, macroscopic surface roughness effects, calc. 1−47762
homogeneous struct., elec. cond. and electron emission 1−52668
two-dimensional clusters, weakly adsorbed on substrate, equilib. geometries 1−2824
Ag films, aggregated, relationship between surface-enhanced Raman scatt. and dielec. props. 1−39169
Ag island film, adsorbed molecules, giant Raman scatt. 1−3399
Ag, pyridine monolayer, surface enhanced Raman scatt. in ultra high vacuum 1−38644
Ag submonolayer film, optical absorpt. spectra, size effect in small island particles 1−48188
Ag-Ni(Au) island condensate, influence on substrate cond. *(Russian)* 1−34811
Au, coalescence grown, struct., model and expt. 1−38686
Au discontinuous film on GaAs, effect on GaAs-electrolyte contact props 1−38848
Au films, discontinuous, anomalous light absorpt., struct. 1−3516
Au granular film, absorpt. band obs. rel. to photon excitation of surface plasmons 1−43200
Cu aggregated film, interband transitions, optical props. meas. 200 to 1000 nm 1−43197
Ni-Au island condensate, influence on substrate cond. *(Russian)* 1−34811
Pb island films, melting and crystn. 1−25594
Sn fine particles, Josephson-coupled two-dimens. random array, resist. meas. 1−20922
discrete symmetries
see also C invariance; CP invariance; CPT invariance; P invariance; parity; T invariance
No entries
discriminators
see also demodulators
100-channel IC integro-differential discriminator 1−1033
PLL, whistlers occurrence rate automatic obs., using microcomputer 1−4658
strobed integral pulse height discriminator 1−1034
disinclinations *see disclinations*
disintegration (radioactive) *see radioactivity*
disintegration energies *see radioactivity*
dislocation anchoring *see dislocation pinning*
dislocation arrays
anisotropic two-phase media, interfacial extrinsic and intrinsic dislocation arrays, stress fields 1−38369
anisotropic two-phase media, periodic elastic fields, appl. to interfacial dislocations 1−38368
brass, interfacial extrinsic and intrinsic dislocation arrays, stress fields, α-β boundaries 1−38369
creep, basic processes, investigation in EM 1−2457
dislocation structs., associated with fracture surface topographies in stage II fatigue crack growth 1−16890

dislocation arrays continued
screw-like dislocations near interface, lattice frictional force effects 1−20201
steel, fine structure, effect of retained Al in 12Kh1MF 1−16784
Ti alloys, high strength, changes in struct. after high temp. thermomech. treatment 1−16819
Co-Cr-(Ni-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652
Cr/Cu/Cr layered composite, near-boundary relax. of thermal stresses *(Russian)* 1−35298
Cu, dislocation structs., associated with fracture surface topographies in stage II fatigue crack growth 1−16890
Cu, forest dislocation intersection in stage I deform. of single crystal 1−12827
Cu/Ni bilayers, high angle grain boundaries, nucleation and migration, TEM study 1−38385
Cu/Ni bilayers, nucleation of high-angle grain boundaries, TEM obs. 1−38384
Cu-Al (5.8 at.%), deformed, stages of hardening in surface region 1−35280
Fe, plastic deformation, energy of dislocation ensembles *(Russian)* 1−21520
Fe-Mo alloys, steady state creep anal. from viewpoint of recovery 1−16853
Mo, single crysts., high-temp. creep and dislocation struct. 1−12848
NaCl, influence of impurity and indentation time on dislocation rosettes 1−52142
Ni, plastically deformed, energy of dislocation ensembles *(Russian)* 1−21520
Ni-base heat-resist. alloys, dislocation arrays formed during creep 1−15896
Ni-Cr-(Al-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652
Ti, plastically deformed, energy of dislocation ensembles *(Russian)* 1−21520
W, single crysts., high-temp. creep and dislocation struct. 1−12848
YAG:Nd, Czochralski cryst. growth, needle-like stress zones and dislocations due to constitutional supercooling *(Chinese)* 1−52095
Zn, cleavage cracks interaction with forest dislocations 1−42389

dislocation breakaway, pinned *see dislocation damping*

dislocation climb
book contribution, dislocations, vacancies and interstitials 1−2460
creep and strain hardening, dislocation link length models 1−12841
dispersion hardened system, dislocation-inclusion interactions during creep 1−42415
edge dislocations, extended, hard sphere model of climb 1−38367
fatigue dislocation behaviour, loop patches breakdown, persistent slip bands and dislocation cells formation 1−30240
FCC solid solution alloys, creep behaviour *(Czech)* 1−3838
HVEM, in-situ expts., role of radiation-induced processes 1−2514
metal, FCC single crystal, dislocation mechanisms responsible for irrad. induced creep, orientation depend. 1−42418
metal, radiation-induced creep, dislocation climb contrib. *(Russian)* 1−12792
prismatic dislocation loops, loops, dendritic climb, circular form stability 1−20204
recovery, static and dynamic, mechanism 1−12846
solid soln. alloys, appropriate diffusion coeffs. for describing creep processes 1−47154
star sapphire, chemical effects accompanying precipitation 1−11873
star sapphire, precipitation, elastic accommodation 1−11872
Al, commercially pure, grain boundary sliding as origin of superplasticity 1−53235
Al, creep behaviour following stress change, substruct. influence 1−12840
Al, dynamical recovery at high temp. 1−26566
Al, point defect absorption mechanisms by grain and twin boundaries 1−20240
Al-Mg (0.7 wt.%) single crysts., fatigue softening 1−31602
Al-Mg (5.5 at.%), FCC solid solution alloys, creep behaviour *(Czech)* 1−3838
Al-Zn (5 wt.%), creep behaviour following stress change, substruct. influence 1−12840
Cu, point defect absorption mechanisms by grain and twin boundaries 1−20240
Cu-Al (13.43 wt.%) alloy, electron irradiated, climb mechanism of dissociated dislocations 1−11764
Cu-Al-Co, hetero-phase, mech. twinning *(Russian)* 1−2464
$Ga_{1-x}Al_xAs/GaAs$ DH LED, abrupt high temp. degradation 1−21256
GaAs, degradation and luminesc., effect of intrinsic defects 1−21252
$GaAs_{1-x}P_x$ VPE layers, dislocation density and lattice const. mismatch, cathodolum. 1−7487
Mn-Zn ferrite, dislocation climb controlled creep *(Japanese)* 1−43460
Ni-base alloys, transient creep 1−16865
Ni-Ti (12 at.%) age-hardened system with modulated struct., electron irrad., void form., dislocation climb interpret. 1−42425
NiO, subboundary migration, climb process obs., diffusion coeff. for mass transport *(French)* 1−16099
Sn-Pb eutectic alloy, thermally activated deform. *(German)* 1−8400
Ti, enhanced plasticity in commercially pure specimens subjected to creep testing 1−16861
Ti_3Al-(Nb), steady-state creep 1−31532
TiB_2-CrB_2, hot pressing, densification through particle crrep 1−53142
V_3Si, dislocation etching in as-grown and plastically deformed single crysts. 1−20218
V_3Si, off-stoichiometric, dislocation climb mechanisms and supercond. crit. temp. 1−30865
V_3Si, supercond. intermetallic cpd., electroplastic effect 1−16912
Zn-Al (1.1 wt.%) superplastic alloy deformation behaviour, temp. effect 1−43418
Zn-Al (22 wt.%) eutectoid alloy, creep behaviour, tested in torsion 1−8365

dislocation damping
see also Bordoni effect
book contribution, dislocations, vacancies and interstitials 1−2460
Al-Mg (0.03 at.%) alloy, dil., dislocation internal friction peaks with anomalous amplitude effect *(Chinese)* 1−21500
Cu, dislocation reson. damping study by US study of sandwich single crystals 1−52148
Cu-Al-Co, noncoherent particle containing, work hardening, plastic deform., slip lines, and inelasticity *(Russian)* 1−3764

dislocation damping continued
Cu_3Au alloy, dislocation damping and pinning, room temp. to 423K, long-range order degree role 1−42393
Ge, US absorption, amplitude and orientation depend. 1−25381
In-Bi dil., supercond., ultrasonic attenuation rel. to annealing time, mag. field 1−34828
NaF_2:Ca^{2+}, internal friction, charged dislocations, plastic props. 1−11812
Pb, doped, HF internal friction and dislocation-impurity interaction *(Russian)* 1−30271
Pb, doped, hysteresis of low-temp. dislocation internal friction *(Russian)* 1−30322

dislocation density
acceptors induced by plastic deform. 1−12062
anthracene(-TNB), cryst. grown from melt, struct. perfection 1−30116
BCC metals, plastic deform. activation anal. using stress and temp. jumps 1−21539
bending, uniform, Burgers circuit, torsion, dislocation density determ., differential geometry anal. 1−66
bronzes, wear resist., effect of diffusional redistrib. of alloying elements 1−16899
corundum profiled crystals, melt growth mechanisms depend. on thermodynamic parameters 1−30107
crack formation, dislocation theory, book contrib. 1−2461
creep, dislocation acceleration 1−20230
cyclic plasticity modelling using unified constitutive eqns., improvement in simulating Bauschinger effects 1−11804
Czochralski grown semi-transparent crystals, effect of thermal fields on dislocation distrib. and density 1−38313
die forging, at high speeds *(German)* 1−35291
dislocation generation model, shock-wave deform. 1−20208
dislocation trapping of positrons 1−15890
dynamic recovery during hot working model *(German)* 1−8355
fatigue damage prediction and dislocation distrib. in single crysts. 1−52137
fatigue dislocation behaviour, loop patches breakdown, persistent slip bands and dislocation cells formation 1−30240
graded-composition semicond. solid solutions, radially symm. virtual lattice 1−34269
Inconel alloy MA 754, oxide dispersion strengthened, creep and stress ruptufe behaviour 1−12808
Inconel MA 754, oxide strengthened, predeform. effect on creep and stress rupture 1−26559
IV-VI optoelectronic devices, MBE techniques 1−3627
metal, creep, connection between structural changes and mech. behaviour, eqn. 1−39387
metals, creep, struct. model, physical mechanism 1−39381
metals and alloys, irradiated, vacancy dislocation loop growth 1−38410
model deformation, constitutive model, physically-based 1−8363
naphthalene, cryst. grown from melt, struct. perfection 1−30116
phenazine, cryst. grown from melt, struct. perfection 1−30116
plastic deform. effect 1−30227
plastic deformation and work hardening, dislocation theory, book contrib. 1−3786
plasticity dynamic continuum eqns. and dislocation constitutive eqn. *(Russian)* 1−52147
polycrystalline materials, dislocation plasticity, strain rate eqns., theory 1−52219
recrystallisation nuclei, growth and form. around particles 1−8340
sapphire shaped crystal growth by Stepanov method, morphology and struct. perfection 1−2362
solid solution strengthening, high temp., studied through internal friction 1−21470
solid-solution hardening, rel. to dislocation velocity 1−31478
steel, γ'-$Ni_3(Al,Ti)$ hardened, free dislocation density during creep, second phase particle effect 1−3853
steel, austenitic, creep behaviour following multiple mech. thermal treatment 1−16864
steel, austenitic stainless, electron irrad., void swelling behaviour 1−15929
steel, austenitic stainless, fine-grained, tensile behaviour at high temps., effect of spreading of grain boundary dislocations 1−3841
steel, austenitic type 304, fatigued, and stress corroded, prefracture damage determ. by X-ray double cryst. diffractometry 1−31639
steel, Cr, powders, struct. and props. 1−53248
steel, Cr-Mo-V, elementary hardening, combination of mechanisms 1−35269
steel, Cr-Mo-V, yield strength, temp. depend., effect of microstruct. 1−35337
steel, martensitic, inheritance by martensite of deform. structure of original austenite 1−16840
steel, Nb, low C, yield strength and microstruct., influence of cooling rate 1−35270
steel, stainless, FV448 martensitic, void swelling resistance after fast reactor irradiation 1−784
steel, stainless, two-phase, deformation-induced changes in microduplex struct. 1−21556
steel and Fe, plastic deform. instability, influence of thermal activation 1−21537
subgrain structure formation in pure crystals grown from melts 1−20083
surface misfit dislocations, significance in stress corrosion cracking and related phenomena 1−4005
void nucleation and growth under electron irradiation 1−15888
work hardening, depend. on type of dislocation interaction 1−31482
Al, electrical resistivity, effect of annealing on temp. depend. 1−34674
Al, extended defects induced by Ni ion implantation, depth profile anal. by ion channelling 1−2533
Al, HVEM radiation damage, effects of environmental gas 1−2517
Al hydrostatically compressed single crystals, work hardening *(Russian)* 1−31486
Al, mobile dislocation density and velocity, during in situ creep in HVEM 1−53242
Al, pure, elec. resist., effect of high deform. 1−16913
Al, recrystn. of single crysts. under high press. *(Russian)* 1−8334
Al, strain rate change, anal. of behaviour 1−21538
Al, stress/strain behaviour, effect of stress reversal and thermal recovery 1−16851
Al-Cu, type 2024, fatigued, and stress corroded, prefracture damage determ. by X-ray double cryst. diffractometry 1−31639
Al-Cu (2.8 wt.%) alloy, containing Θ' precipitates, cyclically strained, dislocation structs. 1−52140

dislocation density continued
Al-Zn (11 wt.%), polycrystn., dislocation struct. during transient and steady state creep 1−12839
Al-Zn-Mg (5, 2 wt.%), plastic instability in stretch forming *(French)* 1−3772
$Al_xGa_{1-x}As$, thick epitaxial layers, influence of growth conditions on perfection 1−30580
Al_2O_3, corundum, dislocation structure in large crystals 1−20212
Au electrodeposits, thick, soft and hard, microstructural characterisation 1−43529
$AuAl_2$, colour changes induced by cryst. imperfections *(German)* 1−8099
$CaCO_3$, calcite single cryst., nucleation and growth of aragonite 1−16041
CaF_2, impurity centre resonance line inhomogeneous broadening 1−26248
$CdCr_2Se_4$, nature and direction of dislocations 1−25280
CdS films, defect distrib. during mechanical treatment *(Russian)* 1−15895
CdS-Cu_2S films in solar cells, grain size, dislocation density and microscopic defect struct. 1−35660
CdSe, containing dislocations, exponential absorpt. edge 1−12534
CdTe crystal growth from vapour phase 1−39229
Co-Ni (33 wt.%), deform. twinning under cyclic conditions and strain reversibility in high-strain fatigue 1−30247
Co-Ni base multiphase alloys, strain induced transform. 1−12756
Cu, ⟨110⟩ {110} slip in slightly deformed single crysts. 1−25285
Cu, dispersion strengthened crystals, dislocation density effect on creep 1−26553
Cu powders, mechanically activated, sintering behaviour *(German)* 1−39268
Cu, sintering, one component model system, nucleation and dislocation movement in necks 1−53133
Cu, tensile flow stress at room temp., effect of grain size and strain 1−21555
Cu-Al (0.6 at.%), multiplication of dislocations in single crysts. 1−11757
Cu-Al (1 at.%), dislocation vels., revised meas. in single crysts. 1−11758
Cu-Fe (0.1-2.0 at.%), internal friction, effect of preliminary US deform. *(Russian)* 1−8361
βCu-Zn-Al alloy, dislocations before and after thermoelastic martensitic transform., X-ray topography 1−21446
Cu-Zn(-Ni) alloys, Portevin-Le Chatelier effect, grain size depend. of mobile dislocation density 1−21552
β-CuZn single crystal, deformation at room temp., TEM obs. of dislocations 1−12825
α-Fe, friction stressed single crystal, X-ray obs. 1−53299
Fe-Si (6 wt.%), single cryst., stress relax. 1−43411
GaAs, deep luminescence centres, recomb. props. and vibr. spectra, plastic deform. effect 1−21271
$GaAs_{1-x}P_x$, VPE layers, dislocation density and lattice const. mismatch, cathodolum. 1−7487
$GaAs_{1-x}Sb_x$ photodiodes on GaAs (100) substrate, effect of mismatch on performance 1−16343
GaP single crystal electrodes, anodic photodissolution in aqueous media, dislocation effects 1−13144
Ge, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
Ge, US absorpt., γ-irrad. effect 1−25382
GeTe, thermoelectric props. during zone melting, US vibr. effect 1−7645
In-Bi dil., supercond., ultrasonic attenuation rel. to annealing time, mag. field 1−34828
InAs MBE film on GaAs substrate, cross-sectional TEM study, dislocation props. 1−11987
InAs polycrysts., lattice dislocations generation by migrating boundaries 1−20210
InP bicryst., lattice dislocations generation by migrating boundaries 1−20210
InP, Czochralski grown single cryst., etch features 1−7173
InP:Ge_7 dislocation free cryst. growth 1−35167
KCl single crysts., dislocation distrib. change during thermal cycle annealing 1−42387
KCl:Ca^{2+}(Ba^{2+})(Pb^{2+})(Sr^{2+}), impurity ion effect on lattice parameter 1−52122
KCl:Sr(Na) Czochralski grown crystals, solidification front shape effect on cryst. perfection 1−7100
KCl-KBr, mixed crystals, microhardness and dislocation density rel. to comp. 1−31594
LiF, double cross slip enhancement under hydrostatic press. 1−25286
LiF hydrostatically compressed single crystals, work hardening *(Russian)* 1−31486
LiF single crysts., fatigue hardening in push-pull cyclic deform. 1−39409
$LiNbO_3$ flux grown single crysts., real struct. obs. by etching, X-ray and optical methods 1−25186
Mg, work-hardening, low temp., TEM invest. 1−16803
MgO single crystal, dislocation stability at high temp. 1−25277
NaBr, surface distortion on cleavages after dynamic impacts 1−34405
NaCl, deformations during oriented surface scratching *(Russian)* 1−47335
NaCl, double cross slip enhancement under hydrostatic press. 1−25286
NaCl hydrostatically compressed single crystals, work hardening *(Russian)* 1−31486
NaCl, single crysts., compression along [001] direction 1−30293
NaCl:Ca^{2+}, dislocation densities, macroscopic flow parameters 1−20221
Ni (110), S segregation to surface during heating, dislocation density influence, LEED and AES obs. 1−20524
Ni, neutron bombarded, development kinetics of radiation damage *(Russian)* 1−42426
Ni-base alloys, transient creep 1−16865
non-linear internal friction, dislocation interactions 1−2462
$Pb_{1-x}Sn_xTe$ cut crystals, disordered layer depth rel. to surface treatment 1−42391
Sb, purity criterion, electrical resistance, temp. depend. 1−16274
Si, Bragg refl., temp. depend., dislocation density effect 1−7182
Si, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
Si, twisted, dislocation networks, TEM study 1−20225
Si, US absorpt., γ-irrad. effect 1−25382
Si:P, extended defects induced by ion implantation, depth profile anal. by ion channelling 1−2533
α-Ti, Bergstrom model appl. to anal. of athermal stress component variation *(French)* 1−31542
Ti, neutron-irradiated, supersonication effects on annealing spectrum, calorimetric study *(Russian)* 1−20273

dislocation density continued
Ti-Al (10 wt.%), fatigued, and stress corroded, prefracture damage determ. by X-ray double cryst. diffractometry 1−31639
Ti-Al solid soln. strengthening by Al at low temps. 1−31475
V(-C), yield stress and microstruct., effect of irrad. and post-irrad. annealing 1−43429
V_3Si, dislocation etching in as-grown and plastically deformed single crysts. 1−20218
V_3Si, dislocation struct. change by plastic deform., chem. comp. influence 1−20232
W, dislocation density in high temp. creep, determ. by rocking cryst. method *(Russian)* 1−25274
YAG:Nd, Czochralski cryst. growth, needle-like stress zones and dislocations due to constitutional supercooling *(Chinese)* 1−52095
Zn, cleavage cracks interaction with forest dislocations 1−42389
Zn, creep, pyramidal forest dislocations effect *(Russian)* 1−2455
Zn, deforming stress, depend. on basal dislocation density, 1.5 to 300K 1−16852
Zn, electron scattering by edge and screw dislocations 1−2952
Zn hydrostatically compressed single crystals, work hardening *(Russian)* 1−31486
Zn single cryst., microcontact spectra, effect of dislocations in basal and pyramidal slip systems *(Russian)* 1−30715
Zn, single crystals, deform. and forest dislocations density effects on activation volume 1−30226
Zn, thermally activated motion of pyramidal dislocations through Peierls barriers *(Russian)* 1−30231
Zn, twin boundary mobility, effect of forest dislocation density *(Russian)* 1−2470
ZnS:Co, impurity centre resonance line inhomogeneous broadening 1−26248

dislocation dipoles
ion-damaged, extended, interstitial chains and dislocation dipoles, electron microscopy study 1−47076
metals, spectra of electron states located near dislocations *(Russian)* 1−34661
semiconductor, dislocations, elec. props. 1−2445
Cu, neutron irrad. single crysts. in situ straining in HVEM, dislocation interactions 1−42432
$Ga_{1-x}Al_xAs$/GaAs DH LED, abrupt high temp. degradation 1−21256
Ge, constricted segments on faulted dipoles 1−2452
LiF, annealing kinetics, dislocation dipole distribution 1−2453
$Pd_{80}Si_{20}$ amorphous alloy, creep recovery kinetics 1−16850
V_3Si, A15 type, HV electron microscopy and computer simulation of lattice defects *(French)* 1−52136

dislocation drag
electronic-dislocation drag in mag. field, theory of quantum effects *(Russian)* 1−2441
metals, cubic crystals, US propag. parameters study 1−38472
metals, normal FCC, effect of mag. field on low temp. plastic deform. and creep *(Russian)* 1−21508
solid solution, edge dislocation, in equilib. and gliding, vacancy and substitutional solute distrib. 1−20203
Cu, dislocation drag mechanisms, electron drag on mobile dislocations 1−15902
Pb-In mixed state superconductor, plastic deform. investigations 1−16866

dislocation energy
alkali halides, dislocation mobility, high hydrostatic press. effect 1−34424
transition metals, BCC, screw dislocations, core struct. and core energy calc. 1−47084
Zn, thermally activated motion of pyramidal dislocations through Peierls barriers *(Russian)* 1−30231

dislocation etching
corundum profiled crystals, melt growth mechanisms depend. on thermodynamic parameters 1−30107
garnet LPE film, defect generation during annealing 1−20590
microcline perthite, SEM examination 1−49267
natrolite, cryst., dislocation etching at (110) cleavage 1−47086
sapphire ribbons grown by EFG, dislocation etch pit density meas. 1−2360
semiconductor, defect characterisation by etching, optical microscopy and X-ray topography, review, book contrib. 1−47088
Ag halide crystals, melt grown, etching 1−30229
$CaCO_3$, calcite single cryst., nucleation and growth of aragonite 1−16041
CaF_2 natural single crystals with etched cleavage faces, evidence of slip 1−25281
CaF_2 single crystal, dislocation etching in silica gel 1−20216
CdTe, plastic deformation, dislocation behaviour, microscopic study 1−26547
Cu, yielding in highly perfect crystals, etch pit obs. 1−12835
Cu-Al (0.6 at.%), multiplication of dislocations in single crysts. 1−11757
Cu-Al (1 at.%), dislocation vels., revised meas. in single crysts. 1−11758
Cu-Al single crysts., dislocations mobility 1−47087
GaAs, structural evaluation by chem. etching, dopant effects 1−11754
Ge crysts. evolution of dislocation path distrib. *(Russian)* 1−34350
InAs polycrysts., lattice dislocations generation by migrating boundaries 1−20210
InGaAsP-InP LPE layers, etching characts. of defects 1−20213
InP bicryst., lattice dislocations generation by migrating boundaries 1−20210
InP, Czochralski grown single cryst., etch features 1−7173
InP:Ge_7 dislocation free cryst. growth 1−35167
KCl single crysts., dislocation distrib. change during thermal cycle annealing 1−42387
LiF, annealing kinetics, dislocation dipole distribution 1−2453
$LiNbO_3$ flux grown single crysts., real struct. obs. by etching, X-ray and optical methods 1−25186
$LiNbO_3$:Fe, composition inhomogeneities, defect types 1−38545
Mo single crystals, selective etching of dislocations 1−7172
$NaAlH_2Si_2O_7$, analcite cryst., n-faces micro-topographical study 1−11961
NaCl:Ca^{2+}, dislocation densities, macroscopic flow parameters 1−20221
Na_2O-Al_2O_3-$4SiO_2$-$2H_2O$, natural analcite crysts., microtopographical studies of a-faces 1−42386
$Pb_{1-x}Sn_xTe$ cut crystals, disordered layer depth rel. to surface treatment 1−42391
$Pb_{1-x}Sn_xTe$ layers, LPE growth, struct., and elec. props. 1−47404
Si, diffusion of Sb, dislocation and vacancy generation 1−47295
Si, float zone grown single cryst., impurity striations and dislocation loop series *(Chinese)* 1−20211
Si p-n junction, abrasion gettering effect on swirl defects 1−15892

dislocation etching continued
Sn, white, dislocation motion in pre-yield region in single crysts. 1−11762
β-Ti-Mn (10.2 wt.%), slip, grain boundary nucleation 1−52145
V_3Si, dislocation etching in as-grown and plastically deformed single crysts. 1−20218
V_3Si, dislocation struct. change by plastic deform., chem. comp. influence 1−20232
WS_2, tungstenite single crysts., dislocation etching in acids 1−20215
YAG:Nd, Czochralski cryst. growth, needle-like stress zones and dislocations due to constitutional supercooling *(Chinese)* 1−52095
Zn, dislocation config. in single crysts. deformed under pyramidal slip of second kind *(French)* 1−11765

dislocation glide *see slip*

dislocation interactions
see also impurity-dislocation interactions; vacancy-dislocation interactions
alloy hardening, strain hardening and dynamic recovery, superposition 1−31493
BCC metals, position of screw dislocations 1−11748
book contribution, dislocations, vacancies and interstitials 1−2460
diffusion, vibrating edge dislocations as sinks for point defects 1−38403
dipole loop annihilation, glide induced mechanism 1−2502
dispersion hardened alloys, strength, review of expt. and theoretical research 1−21459
dispersion hardened system, dislocation-inclusion interactions during creep 1−42415
edge dislocation interaction with wedge crack in hydrostatically compressed crystal *(Russian)* 1−42382
friction stress, determ. in creep, incubation period models 1−52223
HVEM in-situ studies, of deform., optimum conditions 1−391
hydrogen embrittlement and hydrogen-dislocation interactions 1−31585
metal, BCC, interaction of screw dislocations with interstitial atom clusters *(Russian)* 1−30270
metal, FCC single crystal, oriented for multiple slip, plasticity 1−12828
metal, positron annihilation in dislocations 1−8154
nucleation and precipitation on dislocations, book contrib. 1−3750
precipitation and dispersion hardening, review 1−31477
precipitation and solid soln. hardening, physical aspects 1−43350
precipitation hardened alloys, strength, review of expt. and theoretical research 1−21459
precipitation hardening, dislocation-particle interactions, book contrib. 1−3763
precipitation hardening, superposition of coherency and ordering mechanisms 1−21460
solid solution hardening, effect of diffusion 1−26486
steel, 0.1%C Al-killed, age hardening effect by interstitial solute atoms on hysteresis loop under cyclic load *(Japanese)* 1−43434
thermal conductivity, lattice type correction due to three phonon normal processes in presence of dislocations 1−2710
transition metals, BCC, edge dislocations, core struct. and core energy, tight-binding calc. 1−42384
work hardening, depend. on type of dislocation interaction 1−31482
Zircaloy-2, electron irrad. damage study using HVEM 1−42423
Al, EM study of substruct. during creep 1−30237
Al, extended screw dislocation−⟨111⟩ defect elastic interactions 1−2497
Al-Ag, precipitation hardened, strength, review of expt. and theoretical research 1−21459
Al-Cu (4 wt.%), strain rate dependent behaviour as function of precip. state 1−21536
Al-Cu dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Mg (0.3 wt.%), single crysts., discontinuous deform. depend. on orientation 1−8382
Al-Mg (2 wt.%), β-phase precipitates dissolution, internal strain effect, fracture charact. study 1−26473
Al-Mg dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Mg-Zn, precipitation hardened, strength, review of expt. and theoretical research 1−21459
Al-Mg(-Cu), strain rate sensitivity and plasticity 1−21559
Al-Mn alloy, strain rate sensitivity and plasticity 1−21559
$Cd_{1-x}Zn_xS/GaAs$ heterostructs., prepared by vapour phase, chem. transport, cryst. defects 1−35186
Cu, extended screw dislocation−⟨111⟩ defect elastic interactions 1−2497
Cu, neutron irrad. single crysts. in situ straining in HVEM, dislocation interactions 1−42432
Cu/Ni bilayers, nucleation of high-angle grain boundaries, TEM obs. 1−38384
Cu-Al, lattice thermal cond., phonon scatt. by dislocations 1−52249
Cu-Al alloys, solid solution hardening, conc. depend. of stress equivalence 1−16796
Cu-Ge alloys, solid solution hardening, conc. depend. of stress equivalence 1−16796
Cu-Mn alloys, solid solution hardening, conc. depend. of stress equivalence 1−16796
Cu-Zn alloys, solid solution hardening, conc. depend. of stress equivalence 1−16796
Fe, irradiated or deformed, internal friction peaks α and β_1 1−20313
Fe-C, solid solution softening 1−26487
Fe-Ni-C martensitic alloys, unstable flow mechanism, effect of C content and deform. rate 1−21543
Ge bicrystal, partial secondary dislocations in grain boundaries, reactions between external dislocations and boundary 1−42397
Ge, electron-hole droplet interaction with dislocations, luminesc. obs. 1−12579
^3He in ^4He, small low density weak solid soln., thermal cond. *(Russian)* 1−2763
InAs MBE film on GaAs substrate, cross-sectional TEM study, dislocation props. 1−11987
LiF, containing dislocations, thermal cond., thermal diffusivity and sp. ht. meas. 1−7401
MgO single crysts., geometrical statistical parameters determ. of dislocation-point obstacle interaction from in-situ deform. in HVEM 1−30234
Mo, single crysts., dynamic aspects of dislocation behaviour near low-angle boundary 1−2449
$NaCl:Cd^{2+}(Sr^{2+})$, morphology and precipitate phases, TEM study 1−2640
NaF, lattice thermal cond., correction due to three phonon normal processes in presence of dislocations 1−2710

dislocation interactions continued
Nb-Ta solid solution, ultra-high vacuum annealed, deform. props. 1−26575
Ni-base superalloys, wrought, precipitation hardening mechanisms 1−39344
NiAl alloys, precipitation hardening by large vol. fractions of ordered particles 1−21461
$Ni_{1+x}Al_{1-x}$ (0<x0.08), Ni atom clustering, flow stress, and dislocation-cluster interaction 1−30236
Pb-In mixed state superconductor, plastic deform. investigations 1−16866
Pd-H system, elastic energy dissipation effects in α+β and β phase comp. ranges 1−42460
Si deformed crystal dislocation recovery during annealing *(Russian)* 1−48376
Ti, and alloys, plastic deformation, low temp. peculiarities 1−43421
V_3Si, supercond. intermetallic cpd., electroplastic effect 1−16912
WC, plastic deform. mechanisms 1−34353
YIG film, interaction between domain wall and dislocation, magnetostriction *(Russian)* 1−42986
Zn, cleavage cracks interaction with forest dislocations 1−42389
Zn, deforming stress, depend. on basal dislocation density, 1.5 to 300K 1−16852
Zr, electron irrad. damage study using HVEM 1−42423
Zr, non-linear internal friction, dislocation interactions 1−2462

dislocation jog motion *see dislocation jogs*

dislocation jogs
edge dislocations, extended, hard sphere model of climb 1−38367
FCC materials, double ribbons, extended jogs 1−52138
FCC materials, double ribbons, geometry and props. 1−20242
metal, positron annihilation in dislocations 1−8154
ordered alloys, work hardening rel. to dislocations 1−12760
steel, austenitic, creep behaviour following multiple mech. thermal treatment 1−16864
CdTe, plastic deformation, dislocation behaviour, microscopic study 1−26547
Cu, neutron irrad. single crysts. in situ straining in HVEM, dislocation interactions 1−42432
Cu, yielding in highly perfect crystals, etch pit obs. 1−12835
Cu-Al, double ribbons, geometry and props. 1−20242
Cu-Al (16 at.%) double ribbons, extended jogs 1−52138
Fe alloys, solid solution hardening and softening in single crysts., 4.2-300K 1−26488
KCl(Br)(I), vacancy accumulation kinetics during plastic deform. 1−2433
LiF single crysts., fatigue hardening in push-pull cyclic deform. 1−39409
LiF, vacancy accumulation kinetics during plastic deform. 1−2433
NaCl, screw dislocation mobility, effect of applied elec. field pulses, meas. 1−25287
NaCl, vacancy accumulation kinetics during plastic deform. 1−2433
Zn, single crystals, deform. and forest dislocations density effects on activation volume 1−30226

dislocation locking
see also Cottrell atmospheres
solid-solution hardening, rel. to dislocation velocity 1−31478

dislocation loops
see also vacancy condensation loops
book contribution, dislocations, vacancies and interstitials 1−2460
cyclic plasticity modelling using unified constitutive eqns., improvement in simulating Bauschinger effects 1−11804
dipole loop annihilation, glide induced mechanism 1−2502
dispersion hardened system, dislocation-inclusion interactions during creep 1−42415
elastically anisotropic crystal, TEM images of small dislocation loops, black-white contrast calc. 1−42390
electron microscopic images, halo contrast *(Russian)* 1−7176
fatigue dislocation behaviour, loop patches breakdown, persistent slip bands and dislocation cells formation 1−30240
garnet LPE film, defect generation during annealing 1−20590
graphite, pyrolytic, neutron bombard., dislocation loop conc. determ. by X-ray diffr. *(Russian)* 1−2519
graphite synthetic, twin formation and deform. due to ion irrad. *(Russian)* 1−15903
ice crystals, grown from melt, concentric dislocation loops formation mechanism 1−11752
irradiation creep due to stress induced preferred adsorption effect induced growth 1−20309
metal, FCC single crystal, dislocation mechanisms responsible for irrad. induced creep, orientation depend. 1−42418
metals, spectra of electron states located near dislocations *(Russian)* 1−34661
metals and alloys, irradiated, vacancy dislocation loop growth 1−38410
microplastic strain, diffusion-dislocation mechanism 1−30299
oxide single crystals, dislocations, Czochralski method 1−42331
plane polygonal, stress, uniqueness of representation 1−25270
precipitate formation, linear arrays, role of shear transform. strains 1−52303
prismatic dislocation loops, electron microscopic contrast, free surface effects 1−7179
prismatic loops, dendritic climb, circular form stability 1−20204
star sapphire, chemical effects accompanying precipitation 1−11873
steel, Ni, EI847, neutron bombard., dislocation loop conc. determ. by X-ray diffr. *(Russian)* 1−2519
steel, Ni-Cr, Kh20N60, neutron bombard., dislocation loop conc. determ. by X-ray diffr. *(Russian)* 1−2519
steel, stainless, FV448 martensitic, void swelling resistance after fast reactor irradiation 1−784
Zircaloy-2, electron irrad. damage study using HVEM 1−42423
Al, extended defects induced by Ni ion implantation, depth profile anal. by ion channelling 1−2533
Al, HVEM radiation damage, effects of environmental gas 1−2517
Al, Huang scattering and extinction length of cond. electrons 1−38770
Al, point defect absorption mechanisms by grain and twin boundaries 1−20240
Al-Mg foils, role of environmental conditions on irradiation damage in HVEM 1−2515
Al-Si, irradiation-induced precipitation in high voltage electron microscope 1−52178
Al-Si alloys, quenched 1−38370
Cd, basal dislocation generation, glide and locking during microplastic deform., X-ray topography 1−12832

dislocation loops continued
$Cd_{1-x}Zn_xS/GaAs$ heterostructs., prepared by vapour phase, chem. transport, cryst. defects 1−35186
Cu, fatigued, evolution of dislocation struct. in polycryst. specimens 1−53284
Cu, point defect absorption mechanisms by grain and twin boundaries 1−20240
Cu-Al (13.43 wt.%) alloy, electron irradiated, climb mechanism of dissociated dislocations 1−11764
Cu_3Au (001), slip identification by TEM 1−25282
Cu_3Au, displacement cascade damage produced by fast particle irrad. 1−42428
β-CuZn single crystal, deformation at room temp., TEM obs. of dislocations 1−12825
Fe, void swelling examination using C ion bombardment 1−47121
$Ga_{1-x}Al_xAs/GaAs$ DH LED, abrupt high temp. degradation 1−21256
GaAs:B,Cr, low temp. Cr redistrib. and gettering in absence of encapsulant stress 1−15916
InAs polycrysts., lattice dislocations generation by migrating boundaries 1−20210
InP bicryst., lattice dislocations generation by migrating boundaries 1−20210
InP, Czochralski-grown single cryst., dislocation clusters 1−53080
$InP:SiH_2^+$, annealed, shear dislocation and interstitial loop obs. 1−11751
Li, dislocation shapes, TEM study 1−11761
$NaCl:Cd^{2+}(Sr^{2+})$, morphology and precipitate phases, TEM study 1−2640
$NaCl:NiCl_2$, plastic deformation and precipitation morphology 1−25441
NaCl:Sr crystal, dislocation path increase by elec. pulses 1−52144
Ni, annealed, neutron bombard., dislocation loop conc. determ. by X-ray diffr. *(Russian)* 1−2519
Ni-Al (Ti, Mo, Si), Ni^+ ion bombardment, effect on void nucleation and growth 1−52183
Ni-base superalloy, evaluation of γ′ particle spacing along dislocation 1−42392
NiAl, intermetallic cpd., oxidation study using SEM and TEM 1−31744
Ni_3Fe, disordered, glide dislocation loops on (001) planes 1−38373
γ′-Ni_3Si, ion-bombardment-induced disordering 1−30284
Pb, doped, hysteresis of low-temp. dislocation internal friction *(Russian)* 1−30322
n-Si, annealing influence on dislocation source density 1−20228
Si crysts., dislocation loops motion, TV X-ray topography, high-temp. tensile stage 1−29972
Si, defect formation mechanism during heat treatment *(Chinese)* 1−25272
Si, dislocation-free, anomalous X-ray transmission after electron irrad. 1−47114
Si, float zone grown single cryst., impurity striations and dislocation loop series *(Chinese)* 1−20211
Si, thin single crysts., elastically deformed, containing dislocation loops, X-ray scattering *(Russian)* 1−20219
Si:As, implanted, interaction of mech. stress with residual defects 1−11774
Si:P, extended defects induced by ion implantation, depth profile anal. by ion channelling 1−2533
Si:P ion implanted, laser annealed, furnace annealing behaviour 1−2480
Zn, basal dislocation generation, glide and locking during microplastic deform., X-ray topography 1−12832
Zr, electron irrad. damage study using HVEM 1−42423

dislocation motion
for dislocation relaxation see dislocation damping
see also dislocation climb; slip
alkali halides, dislocation mobility, high hydrostatic press. effect 1−34424
alloys, BCC, solid solution hardening, dislocation theory, book contrib. 1−3762
anelastic deform. in creep, stochastic model *(Czech)* 1−47153
anthracene, annealing influence on fluorescence, dislocation generation *(Russian)* 1−31196
anthracene crystals, generation and annealing of dislocations, fluorescence spectra *(Russian)* 1−20207
crack formation, dislocation theory, book contrib. 1−2461
creep, dislocation acceleration 1−20230
crystal deform., in-situ obs. of basic deform. and other dynamic processes 1−2447
deformable solids, brittle fracture, relation between ideal work to fracture and plastic work 1−7248
deformation dynamical effects 1−30306
dilute alloys, solid solution hardening, basal slip, critical resolved shear stress 1−3760
dislocations in alloys, amplitude-dependent internal friction calcs. 1−38375
ductile fracture process, damage micromechanisms *(Czech)* 1−47164
Duralumin, plasticity in low cycle fatigue 1−31643
elastic solid, 3-D, displacement discontinuity effects on wave propagation 1−29593
ice, dislocation dynamics, quantum mech. approach 1−25268
Incoloy 800 type, high temp. creep, effect of precip. strengthening 1−31547
kinetics, computer simulation *(Russian)* 1−52146
local-mode approximations in the Frenkel-Kontorova or sine-Gordon chain 1−5249
low C, cold rolled microstruct. and recrystallisation *(French)* 1−21478
melting, dislocation mediated, in 2-D, coupled vector sine Gordon field theory 1−20360
metal crystals, low temp. creep 1−43407
metals, BCC, dislocation processes, study using in-situ HVEM expts. 1−2448
metals, FCC, solution hardening, dislocation theory, book contrib. 1−3761
metals, Misra effect, dislocation mechanism 1−30241
plasticity, and cryst. struct., review 1−30305
polycrystalline materials, dislocation plasticity, strain rate eqns., theory 1−52219
precipitation and solid soln. hardening, physical aspects 1−43350
residual twin boundary motion, dislocation description 1−11771
solid solution hardening, effect of diffusion 1−26486
solid solution strengthening, high temp., studied through internal friction 1−21470
solid-solution hardening, rel. to dislocation velocity 1−31478
stacking fault, stratification, thermofluctuational and quantum nucleation of new phase 1−30250
steel, alloy, stabilized, creep and struct. *(Czech)* 1−48425

dislocation motion continued
steel, austenitic stainless, types SS316 and EP838, softening due to electron irrad. *(Russian)* 1−16800
steel, ferritic, yield strength, influence of temp. and strain rate 1−21540
steel, low alloy, neutron irrad., plastic flow at high strain rates 1−48438
steel and Fe, plastic deform. instability, influence of thermal activation 1−21537
stress relaxation, use of Li's equation 1−24699
subgrain boundaries, numerical study of long-range internal stresses 1−25289
superconductor, dislocation mobility 1−3122
thermally activated dislocation movement at plastic deformation, review 1−42381
thermally activated plasticity, dislocation inertia effect 1−20202
transition metals, BCC, screw dislocation motion under shear stress, tight binding calc. 1−42383
unified theory incl. thermal activation and inertial effects 1−15891
vibrating dislocations, thermal props. 1−38489
warm prestressing, theory, expt. validation and implications for elastic-plastic failure criterion 1−47160
Al, Al_2O_3 particle strengthened, creep 1−43414
Al, mobile dislocation density and velocity, during in situ creep in HVEM 1−53242
Al, strain rate change, anal. of behaviour 1−21538
Al-Cu (0.5 wt.%) anomalous internal friction phenomenon *(Chinese)* 1−52228
Al-Cu-Mn, D16 type, compressive strength in shock 1−53231
Al-Mg (0.03 at.%) alloy, dil., dislocation internal friction peaks with anomalous amplitude effect *(Chinese)* 1−21500
Al-Mg (5 wt.%), creep mechanism and stress exponent 1−12816
Al-Mg alloy, dislocation motion, deform. temp. depend., HVEM obs. 1−25276
Cd-Zn single crysts., solid soln. hardening 1−26489
CdS(Te), direct obs. of partial dislocation motion 1−52139
CdTe, dislocation motion, thermal activation anal., illumination effects 1−52143
CdTe, plastic deformation, dislocation behaviour, microscopic study 1−26547
Cu, dislocation drag mechanisms, electron drag on mobile dislocations 1−15902
Cu foils, obs. of dislocation motion at 20K during microdeform., TEM 1−30232
Cu, isothermal internal friction, high temp., 370-680°C 1−53225
Cu, sintering, one component model system, nucleation and dislocation movement in necks 1−53133
Cu-Al, α phase solid soln., low temp. work hardening 1−43360
Cu-Al, isothermal internal friction, high temp., 370-680°C 1−53225
Cu-Al single crysts., dislocations mobility 1−47087
α-Cu-Al solid solns., thermally activated plastic deform., 20 to 300K *(Russian)* 1−12790
Cu-Ti (1.2 wt.%) single crysts., strengthening and plastic props. 1−21463
Cu-Ti dilute alloys, precipitation hardening 1−43354
Cu-Zn(-Ni) alloys, Portevin-Le Chatelier effect, grain size depend. of mobile dislocation density 1−21552
Fe-C alloys, softening of Fe by C and jerky motion of screw dislocations during in-situ expts. 1−30235
Fe-Ni Invar single crysts., plastic deform. 1−26530
^4He, HCP cryst., dislocation motion 1−47327
^4He:^3He, HCP cryst., dislocation motion 1−47327
KCl, strained crystals, moving dislocations *(Russian)* 1−2459
KCl-KBr solid solns., highly conc., plastic deform., 1.6-923K 1−25358
Li, dislocation behaviour, temp. depend. 90 to 300K 1−11760
LiF, hydrostatically compressed, edge dislocation mobility 1−25283
LiF, internal stress evolution, mobile dislocations *(Russian)* 1−30304
LiF:Mg, internal stress evolution, mobile dislocations *(Russian)* 1−30304
Mo, single crysts., dynamic aspects of dislocation behaviour near low-angle boundary 1−2449
Mo, single crysts., free surface effect on dislocation mobility 1−2450
Mo-Ru (0.2 wt.%), alloying effect on mech. props. *(Russian)* 1−26543
Na, dislocation behaviour, temp. depend. 90 to 300K 1−11760
NaCl, screw dislocation mobility, effect of applied elec. field pulses, meas. 1−25287
$NaCl:Ca^{2+}$, dislocation densities, macroscopic flow parameters 1−20221
NaCl:Sr crystal, dislocation path increase by elec. pulses 1−52144
Nb, internal friction, low temp., effect of H_2 1−15897
Ni-Cr alloy, FCC, friction forces estimation, in-situ electron microscopy 1−30233
Ni_2Cr, ordered, dislocation struct. and strength characts. *(Russian)* 1−25273
Ni_3Mn, temp. depend. of crit. shear stress *(Russian)* 1−43424
Pb-(In), temp. depend. of critical resolved shear stress *(Russian)* 1−48428
PbS, internal stresses and obstacles to dislocation motion, thermal activation analysis 1−20300
Pd-H system, elastic energy dissipation effects 1−20312
n-Si, annealing influence on dislocation source density 1−20228
Si crysts., dislocation loops motion, TV X-ray topography, high-temp. tensile stage 1−29972
Si, mechanical props. of heat treated Czochralski grown cryst. 1−35303
Si, structure of kinks on 90° partial, strained-bond model for dislocation motion 1−7171
Sn, white, dislocation motion in pre-yield region in single crysts. 1−11762
Ti and its alloys, plastic deformation, low temp. peculiarities 1−43421
V, strain-ageing under constant stress 1−21496
Zn, thermally activated motion of pyramidal dislocations through Peierls barriers *(Russian)* 1−30231
ZnSe, elec. cond. under plastic deform., dislocation motion effects 1−52567

dislocation motion, nonconservative *see dislocation climb*

dislocation motion hindrance *see dislocation drag*

dislocation multiplication
α-brass, serrated yielding investigation using acoustic emission technique 1−21541
crystal deform., in-situ obs. of basic deform. and other dynamic processes 1−2447
dynamics and uniaxial strain at low multiplication rates 1−30303
ice crystals, grown from melt, concentric dislocation loops formation mechanism 1−11752
melting, dislocation theory 1−7302
metals, BCC, dislocation processes, study using in-situ HVEM expts. 1−2448

dislocation multiplication continued
solid-solution hardening, rel. to dislocation velocity 1−31478
steel, eutectoid, yield and flow stress of lamellar pearlite 1−21553
Ag, dislocations glissile on (001) planes 1−11767
Al, dislocation struct. evolution during high press. creep 1−7180
Al, dislocations glissile on (001) planes 1−11767
Al, EM study of substruct. during creep 1−30237
CdTe, plastic deformation, dislocation behaviour, microscopic study 1−26547
Cu, dislocations glissile on (001) planes 1−11767
Cu, yielding in highly perfect crystals, etch pit obs. 1−12835
LiF single cryst., slip generation and cubical cavity distortion, press. induced 1−34423
NaCl, influence of impurity and indentation time on dislocation rosettes 1−52142
NaCl single cryst., hydrostatically compressed, deform. hardening and dislocation multiplication 1−34354
NaCl, single crysts., compression along [001] direction 1−30293
Nb, polycrystalline, pressurization, yielding and induction of dislocations 1−34422

dislocation nucleation
ice crystals, grown from melt, concentric dislocation loops formation mechanism 1−11752
nematic film, homeotropic, homogeneous nucleation of pair of edge dislocations *(French)* 1−30048
recrystallisation nucleation model, associated with dislocation annihilation *(Russian)* 1−35274
smectic A liq. cryst., static helical instabilities of dislocations, plasticity consequences 1−52053
Al, point defect absorption mechanisms by grain and twin boundaries 1−20240
Al-Al_4Ca eutectic alloy, with microduplex struct., tensile props., depend. on grain size 1−48449
Cu, point defect absorption mechanisms by grain and twin boundaries 1−20240
Cu-Al (13.43 wt.%) alloy, electron irradiated, climb mechanism of dissociated dislocations 1−11764
NaCl:$NiCl_2$, plastic deformation and precipitation morphology 1−25441
Ni_3Fe, polycrystalline ordered, slip propag., dislocation nucleation, super dislocations, HVEM obs. 1−38372

dislocation pile-ups
HCP metals, dislocation model for twinning and fracture 1−20209
polycrystals, ultrafine grain size, Hall-Petch relation, effect of microcracking and intrinsic obstacle strength 1−21551
polycrystals, yield strength and statistical grain size distrib. relationship 1−20307
steel, austenitic stainless, intercrystalline corrosion, dislocation distrib. effect., in 08Kh18N10T *(Russian)* 1−3963
steel, eutectoid, yield and flow stress of lamellar pearlite 1−21553
steel, high strength, low alloy, ductile failure, effect of temper-embrittling heat treatment 1−35356
$CaCO_3$, spatial distrib. of acoustic emission *(Russian)* 1−42457
Mo, in situ TEM fracture obs., plastic zone struct. 1−39440
Ni-Cr alloy, FCC, friction forces estimation, in-situ electron microscopy 1−30233
β-Sn, single crysts., pencil slip 1−21511
Sn-Pb superplastic alloys, anelasticity 1−15951
Ti_3Al, deform. and fracture at elevated temps. 1−8388
W, in situ TEM fracture obs., plastic zone struct. 1−39440

dislocation pinning
see also dislocation damping
book contribution, dislocations, vacancies and interstitials 1−2460
α-brass, serrated yielding investigation using acoustic emission technique 1−21541
dislocation motion, unified theory incl. thermal activation and inertial effects 1−15891
hardening by random substitutional solutes 1−21562
metals, normal FCC, effect of mag. field on low temp. plastic deform. and creep *(Russian)* 1−21508
steel, Mn austenitic, rapid work hardening mechanism 1−21480
steel, N ion implantation, modification of mech. props. 1−21587
steels, structural, fatigue softening, influence of freq. and temp. 1−30316
Al-Mg-Ag alloys, tensile and fatigue props., effect of Ag 1−31655
Cu, neutron irrad. single crysts. in situ straining in HVEM, dislocation interactions 1−42432
Cu-Al, FCC alloy, Shockley partial dislocations, anisotropic elasticity and solute interaction effects 1−7178
Cu_3Au alloy, dislocation damping and pinning, room temp. to 423K, long-range order degree role 1−42393
Fe-C, pure, mech. props. under thermal and deformed ageing conditions 1−26503
Ge, US absorption, amplitude and orientation depend. 1−25381
^4He HCP crystals, sound vel. and attenuation, ^3He impurities effect 1−25526
Mo single crystal, localised pinning point interaction with dislocations 1−38377
NaCl, screw dislocation mobility, effect of applied elec. field pulses, meas. 1−25287
Ni-base superalloy, oxide dispersion and precip. strengthened, creep and stress rupture behaviour 1−12809
Pb, doped, HF internal friction and dislocation-impurity interaction *(Russian)* 1−30271
Pb, doped, hysteresis of low-temp. dislocation internal friction *(Russian)* 1−30322
Re, twinning strained, internal friction freq. and orientation depend. *(Russian)* 1−47169
Si, thermally activated dislocation sources 1−11753
Ti, and alloys, plastic deformation, low temp. peculiarities 1−43421
Zr, non-linear internal friction, dislocation interactions 1−2462

dislocation relaxation *see dislocation damping*

dislocation scattering
used for carrier scattering by dislocations
Al, Huang scattering and extinction length of cond. electrons 1−38770
GaAs film, electron diffusion length, dislocation and ionised impurity effects 1−30855
Zn, electron scattering by edge and screw dislocations 1−2952

dislocation sources
see also Frank-Read sources
crystal growth sources, edge dislocations 1−34268
deformation dynamical effects 1−30306

dislocation sources continued
single crystals, work hardening source model 1−43359
solid-solution hardening, rel. to dislocation velocity 1−31478
Al, EM study of substruct. during creep 1−30237
GaAs, LPE, anal. of dislocations creating monomolecular growth steps 1−34267
Ge crysts. evolution of dislocation path distrib. *(Russian)* 1−34350
Ge, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
n-Si, annealing influence on dislocation source density 1−20228
Si, float zone grown single cryst., impurity striations and dislocation loop series *(Chinese)* 1−20211
Si, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
Si, thermally activated dislocation sources 1−11753
Si wafer, grown by Czochralski, zone-floating methods, dislocation generation on polished surface 1−20217

dislocation structure
bicrystal, interfacial torque and boundary structure 1−2466
brass, dislocation structures adjacent to fatigue cracks propagating at high rates 1−42388
α-brass, Hall-Petch rel. 1−3820
Burgers vector determ. by weak beam imaging in HVEM 1−20224
constitutionally unstable materials, deformation characts. 1−20303
crack propag., TEM in-situ obs. 1−7174
creep, basic processes, investigation in EM 1−2457
creep steady-state flow, at large strains 1−12842
crystal subgrain misorientations, obs. by X-ray topograpny in reflection 1−2465
deformation dynamical effects 1−30306
dislocation structs., associated with fracture surface topographies in stage II fatigue crack growth 1−16890
ductile fracture, in metals and alloys, dislocation patterns 1−30238
energy of interaction of disclination loops with dislocations 1−25271
evolution under influence of compression anisotropy 1−34349
fatigue damage prediction and dislocation distrib. in single crysts. 1−52137
friction and wear, microstructural models 1−31688
garnet LPE film, defect generation during annealing 1−20590
interfacial torque and boundary structure 1−2466
metals, spectra of electron states located near dislocations *(Russian)* 1−34661
metals, statistical theory of hysteresis loop *(Czech)* 1−3837
metals and alloys, shocked-loaded, residual strength, effect of grain size and deformation-induced grain refinement 1−21591
olivine, high-temp. creep, dynamic recrystallization of single crystals 1−22329
plasma arc sprayed coating, internal friction, amplitude depend. 1−35301
plasticity, and cryst. struct., review 1−30305
semiconductors, dislocation interaction with electron-hole drops *(Russian)* 1−52500
steel, alloy, stabilized, creep and struct. *(Czech)* 1−48425
steel, austenitic, creep behaviour following multiple mech. thermal treatment 1−16864
steel, austenitic stainless, deformation hardening at elevated temp. 1−35282
steel, austenitic stainless, dislocation struct., improved technique for obs., after small deforms. *(Czech)* 1−2451
steel, austenitic stainless, hot rolling, behaviour of austenite, TEM and optical metallography study 1−21497
steel, austenitic stainless, intercrystalline corrosion, dislocation distrib. effect., in 08Kh18N10T *(Russian)* 1−3963
steel, austenitic stainless 304, substructural development in hot tensile testing 1−12805
steel, austenitic type 110 Kh6, hot working and substructure diagrams 1−21493
steel, Cr-Mo-V, dislocation stability during high temp. exposure *(Czech)* 1−7175
steel, cylindrical rod, impact loaded, plastic deform. and dislocation struct. along axis *(Czech)* 1−3836
steel, grade-45, structural state during friction, lubricant action 1−21595
steel, heat-resistant, creep, prefracture microstruct. changes 1−16895
steel, N ion implantation, modification of mech. props. 1−21587
steel, stainless, high purity, void form., influence of tensile stress in early stages 1−11792
Al, deformation at low stress in early stage of fatigue and creep 1−53232
Al, dislocation struct. evolution during high press. creep 1−7180
Al, dynamic recovery at large plastic strains, struct. aspects 1−16804
Al single cryst., structural changes due to multiple deform. *(Russian)* 1−34351
Al, work-hardening and softening rates during high temp. deform. *(Japanese)* 1−26551
Al-Cu (2.8 wt.%) alloy, containing Θ′ precipitates, cyclically strained, dislocation structs. 1−52140
Al-Li (2.8 wt.%), dislocation struct. after ageing in US field *(Russian)* 1−7177
Al-Mg (0.7 at.%), fatigue deform. and microstruct. stability in single crysts. 1−31649
Al-Mg (0.7 wt.%) single crysts., fatigue softening 1−31602
Al-Mg (2.2 wt.%), neutron irrad., microstruct. and tensile props. 1−52181
Al-Mg-Si, fracture mechanisms 1−3916
Al-Si alloys, quenched 1−38370
Al-Zn (11 wt.%), polycrystn., dislocation struct. during transient and steady state creep 1−12839
Al-Zn-Mg single crysts., age-hardened, dislocation struct. and persistent slip band form. during cycling 1−30243
Al-Zn(-Mg), grain boundary precip., effect of boundary struct. 1−53183
Al_2O_3, corundum, dislocation structure in large crystals 1−20212
$Bi_{12}GeO_{20}$, optically active cryst., dislocation and subboundary obs. using refl. birefringence topography *(Chinese)* 1−48026
CdS, gliding dissociated dislocation obs. 1−38374
CdS, plastically deformed, photovoltaic effect associated with dislocation slip bands 1−20815
γ/γ′-Cr_3C_2 eutectic, directionally solified, TEM study 1−3713
Cu, dislocation structs., associated with fracture surface topographies in stage II fatigue crack growth 1−16890
Cu, dislocation structures adjacent to fatigue cracks propagating at high rates 1−42388
Cu, dynamically recrystallised, deformation substruct. 1−21534
Cu, fatigue at low strain amplitudes, TEM study 1−8403

dislocation structure continued
Cu, fatigued, evolution of dislocation struct. in polycryst. specimens 1−53284
Cu, polycryst., tribomechanically loaded, strength of subsurface region, dislocation cell struct. 1−21592
Cu, shock loaded, lattice defect study by positron annihilation 1−26298
Cu single crysts. fatigue deform. and microstruct. stability 1−31649
Cu-Al (5.8 at.%), deformed, stages of hardening in surface region 1−35280
Cu-Ni (0-10%), solid soln. and strain hardening 1−35267
Cu-Ni-Zn single crysts., annealing effects on mech. props. 1−26520
βCu-Zn-Al alloy, dislocations before and after thermoelastic martensitic transform., X-ray topography 1−21446
CuAu alloys, TEM obs. of surface misfit dislocations, rel. to stress corrosion cracking 1−4004
Cu_3Au (001), slip identification by TEM 1−25282
β-Cu_4Ti precipitates, dislocation structure and intrinsic disorder obs. 1−16781
β-CuZn single crystal, deformation at room temp., TEM obs. of dislocations 1−12825
Fe, fatigue process in single crysts. temp. dependence 1−31648
Fe, monocryst., tribomechanically loaded, strength of subsurface region, dislocation cell struct. 1−21592
Fe, Ni-plated single crysts., surface film softening 1−16982
Fe polycrysts., Barkhausen effect, influence of cyclic stressing 1−30988
Fe-Al (5 wt.%), BCC, surface topography changes during cyclic deform. early stage 1−21527
Fe-Ge (5 wt.%), BCC, surface topography changes during cyclic deform. early stage 1−21527
Fe-Ni-Cr-Mn, deformed, discontinuous precipitation of γ′ phase of 36NKhTYu *(Russian)* 1−26466
Fe-Si (3 wt.%), plastically deformed, dislocation struct. rel. to mag. anisotropy *(Russian)* 1−11750
Fe-Si(Al), dislocations struct. and temp. depend. of mech. props. 1−8367
Ge bicrystal, partial secondary dislocations in grain boundaries, periodic network case 1−42396
Ge bicrystal, partial secondary dislocations in grain boundaries, reactions between external dislocations and boundary 1−42397
Ge crysts. evolution of dislocation path distrib. *(Russian)* 1−34350
In-Pb (0.2, 2 wt.%), twin layer widening dynamics rel. to dislocation struct. deterioration 1−20239
InP, Czochralski grown single cryst., etch features 1−7173
KH_2PO_4, KD_2PO_4, plastic strain and dislocation and struct. obs. 1−20231
LiF, double cross slip enhancement under hydrostatic press. 1−25286
$LiFe_5O_8$ flux grown single crystals, cryst. defects 1−7101
Mg, work-hardening, low temp., TEM invest. 1−16803
MgO single crystal, dislocation stability at high temp. 1−25277
Mo, single crysts., high-temp. creep and dislocation struct. 1−12848
$NH_4H_2PO_4$, plastic strain and dislocation and struct. obs. 1−20231
NaCl, double cross slip enhancement under hydrostatic press. 1−25286
Ni, cyclically deformed, persistent slip bands, internal displacements 1−7181
Ni-Al (Ti, Mo, Si), Ni^+ ion bombardment, effect on void nucleation and growth 1−52183
Ni-Cr, deformed, discontinuous precipitation of γ′ phase of KhN78TYu *(Russian)* 1−26466
Ni-Cu (30 wt.%), recrystn. grain sizes, effect of working temp. before annealing *(Japanese)* 1−3765
Ni-Mo-Fe, constitution, mech. props. and dislocation struct. *(Russian)* 1−31528
Ni_2Cr, ordered, dislocation struct. and strength charact. *(Russian)* 1−25273
Ni_3Fe, disordered, plastically deformed, dislocation struct. 1−11763
$Pb_{1-x}Sn_xTe$, single crysts., dislocation structs. features 1−30230
$PbTiO_3$, cryst. lattice defects obs. by TEM 1−20214
RbH_2PO_4, plastic strain and dislocation and struct. obs. 1−20231
Si, defect contrast, characterisation by Schottky barrier charge collection using SEM-EBIC 1−20241
Si, float zone grown single cryst., impurity striations and dislocation loop series *(Chinese)* 1−20211
Si ribbon structure, growth conditions effect 1−30114
Si ribbons grown by capillary action shaping, struct. and elec. characterisation of defects 1−2357
Si ribbons grown by EFG, imperfections and impurities 1−2358
Si, structure of kinks on 90° partial, strained-bond model for dislocation motion 1−7171
Si, twisted, dislocation networks, TEM study 1−20225
Si, twisted, dislocation network form. mechanism, weak-beam TEM anal. 1−20226
Ti-Al solid soln. strengthening by Al at low temps. 1−31475
Ti_3Al, deform. and fracture at elevated temps. 1−8388
V_3Si, A15 type, HV electron microscopy and computer simulation of lattice defects *(French)* 1−52136
V_3Si, dislocation struct. change by plastic deform., chem. comp. influence 1−20232
W alloys, dilute, effect of struct. parameters on mech. props *(Russian)* 1−39378
W, dislocation density in high temp. creep, determ. by rocking cryst. method *(Russian)* 1−25274
W monocrystals, creep behaviour at moderate temp. *(Russian)* 1−48419
W, single crysts., high-temp. creep and dislocation struct. 1−12848
W-Mo bimetal epitaxial films, interphase boundary struct. *(Russian)* 1−11985
WC-Co, struct. defect anal., TEM study 1−20222

dislocation translation *see slip*

dislocations
For pipe diffusion, see diffusion in solids. See also dislocation ..... see also Bordoni effect; Cottrell atmospheres; disclinations; edge dislocations; grain boundaries; prismatic dislocations; screw dislocations
adsorbed layer, commensurate-incommensurate transition caused by instability to dislocation form. 1−42634
alkali chlorides:V, isotropic EPR spectra, paramagnetic centres 1−43004
alkali metal halides, electroluminescence mechanism of α emission 1−21278
alloys, with complex microstruct., yield stress 1−31572
anisotropic layers, dislocation-mediated melting 1−34458
aureole dislocation contrast, single-ray electron microscopy 1−30016
austenite, dislocation splitting, structural sensitivity *(Russian)* 1−34348
book, dislocations in metallurgy 1−27
cholesteric blue phase, quasicrystalline behaviour and phase transition 1−34222
core spreading in high angle boundaries 1−25279
creep and strain hardening, dislocation link length models 1−12841
crystal growth and dislocations 1−2377
diamond cubic crystal, partial-DSC dislocations 1−2443
disclinations and dislocations, book 1−26
disperse systems, particle coarsening mechanisms and coalescence kinetics, bimodal distrib. 1−26483
faceted rod, semicoherent or coherent, anisotropic elastic fields, anal. 1−20299
FCC materials, double ribbons, geometry and props. 1−20242
FCC materials, multiple ribbon formation 1−25296
ferroelastics, domain shape problems 1−3218
ferromagnets, magnetoelastic dislocation internal friction, magnon damping *(Russian)* 1−31004
flux pinning by voids and precipitates, proximity effect 1−7782
hierarchic order of the solid state 1−30223
homotopy theory as topological theory of defects in ordered media 1−11742
HVEM, in-situ, appl. to plasticity and materials research, conf., Halle, Germany (Apr. 79) 1−9
III-V heterojunctions, misfit-dislocation images, comparison of expts. and computer simulation 1−11756
III-V semiconductor heterojunction, misfit dislocation imaging, appl. of synchrotron-radiation plane-wave topography 1−20223
III-V semiconductor optoelectronic devices, degradation modes 1−46351
imaging techniques 1−2454
incommensurate crystal, multicritical point near commensurate point *(Russian)* 1−30356
Ising model, commensurate-incommensurate transitions, competing interactions 1−25860
lattice with core dislocations, heat transfer at low temps. 1−30492
liquid crystal films, smectic, cholesteric, and Rayleigh-Benard order 1−34231
magnetism, dislocations and disclinations 1−2446
melting dynamics in two dimensions, dislocation and disclination unbinding transitions 1−11848
metal contact surface, healing of micropores at uniform compression *(Russian)* 1−47338
metals, impurities distribution on dislocations, control by secondary ion emission method 1−21310
metals ultrasonic welding, formation of compounds *(German)* 1−30490
mismatch dislocations distrib., and transformation along phase boundaries 1−2444
O-lattice theory, optimum interphase boundary, role of invariant boundary 1−53172
piezomagnetic antiferromagnets, associated with dislocations, magnetisation intensity and longitudinal susceptibility *(Russian)* 1−30921
plastic crack growth under repeated loading, discrete dislocation anal. 1−52226
polyethylene, crystalline, trans-gauche conc., CD_2 rocking mode vibr. meas. 1−11683
powders, RF echo formation mechanism *(Russian)* 1−3346
quartz, X-ray diffr. patterns, piezodeform. direction determ. *(Russian)* 1−3333
quasi-local phonon modes around dislocations 1−20342
recrystallisation, induced by dislocation annihilation *(Russian)* 1−35274
ruby, fluorescence, R_1 line, macroscopic inhomogeneous broadening, obs. 1−12537
semiconductor bulk crystal growth, purification, doping and defects, review, book contrib. 1−48253
semiconductors, dislocation states spectrum *(Russian)* 1−7561
single crystal, dislocation theories of work hardening and yield surfaces 1−34399
smectic liquid cryst., dislocations and disclinations 1−11675
start stress, determ. by scratch method 1−48609
steel, plain-C, relation between H_2 discharge and dissolved (C+N), review *(Japanese)* 1−26519
steel, stainless, austenitic, Ti-stabilised, precipitation reactions 1−16786
strain energy, and self force, eval. method 1−20200
superplastic materials, origin of high ductility, free energy for superplasticity and dislocation creep 1−52220
thin films, diffusion processes 1−30486
two-dimensional crystal, dislocation mediated melting, correl. with crystn. of electrons on liq. He surface 1−7411
two-dimensional electron cryst. in mag. field, topological phase transitions, stability region 1−34459
two-dimensional phase, dislocation mediated melting theory 1−7412
van der Merwe misfit dislocation theory: reconsideration of the Peierls-Nabarro model 1−11749
Wigner crystal, dislocation formalism, long range interactions 1−20205
Wigner crystal, dislocation states and phase transition 1−20206
X-ray and neutron topography obs. 1−47089
Ag, thin film bicrystals, twist grain boundaries, dislocation networks, TEM study 1−25278
Al contacts, room temp. sintering in vac. and in O_2 1−16339
Al, thermoactivation parameters and dislocation behaviour at creep under high hydrostatic pressure 1−34404
Al-SiO_2-Si p-n junction struct., defect detect. using SEM in EBIC mode 1−20229
Au (111) crystallites, surface reconstruction, Moire fringes, diffr. spots 1−25541
Au, vacancy formation volume, elec. resistance, press. effects 1−20196
$Ba_2Bi_4Ti_5O_{18}$, ferroelec. perovskite, high resoln. imaging 1−34209
$BaF_2:R^{3+}$ (R=La, Ce, Pr, Nd, Sm, Gd, Ho, Tm, Y), polarizable complexes, dielec. meas. 1−3321
Cd halides, photoluminesc., X-ray luminesc., and cathodolum. 1−12539
Cd hexagonal metals, plastic deformation 1−43410
CdS, absorption bands due to plastic deform., dislocation obs. 1−12535
CdS, photoconductivity, luminescence, low-temp. plastic deform. 1−38815
Cu, deformation studies, in situ X-ray topography 1−21528
Cu, pure and defect-containing, low field Hall coeff., 4.2 to 77K 1−7590
Cu substitutional solid solutions, impurity grain-boundary relax. *(Russian)* 1−47095
Cu-Al, double ribbons, geometry and props. 1−20242
Cu-Be, precipitation, effect of Be content and prior plastic strain, TEM study 1−3759
βCu-Zn-Al alloy, dislocations before and after thermoelastic martensitic transform., X-ray topography 1−21446

dislocations continued
CuAu alloys, TEM obs. of surface misfit dislocations, rel. to stress corrosion cracking 1−4004
Fe-N system, precipitate nucleation on dislocations 1−3739
Fe-Ni-Ti, austenitic, cellular segregation entailing low-angle boundary migration *(Russian)* 1−12746
$Fe_{80}B_{20}$ amorphous alloy, cold neutron scatt. obs. of local and extended defects 1−25177
α-$FeTiH_x$, lattice expansion as meas. of surface segregation, and H_2 solubility 1−2634
GaAs, LPE, X-ray topography of growth step sources 1−2456
Ge, dangling bonds during laser irrad. 1−12060
Ge, deformed, shallow dislocation states, thermal treatment effects 1−52522
Ge:Cu, internal friction in dislocation cores 1−25371
He, liq., surface, melting temp. of two-dimens. Wigner solid, quantum effects 1−7413
He, solid, quasiperiodic ionic current bursts, charged low-angle grain boundary motion 1−42606
$Hg_{1-x}Cd_xTe$, fault struct., TEM and X-ray topography study 1−11755
KCl, irradiated with X-rays and γ-rays, ionic cond. 1−11899
KCl:Ca^{2+}(Sr^{2+})(Eu^{2+}), gamma irrad. effects on lattice parameter and colour centre conc. 1−52176
LiF crystals, scratch method for dislocations start stress determ. 1−48609
LiF, dislocation containing crysts., low temp. thermal props. 1−20488
Mg, grain boundary struct. recover, TEM obs. 1−21524
Mg-Mn-Cu, (1.5, 0.3 wt.%), grain boundary struct. recover, TEM obs. 1−21524
Mn hexagonal metals, plastic deformation 1−43410
$NaAlH_2Si_2O_7$, analcite cryst., n-faces micro-topographical study 1−11961
NaCl crystals, scratch method for dislocations start stress determ. 1−48609
NaCl struct., partial-DSC dislocations 1−2443
NaCl, thermally stimulated exoemission, role of dislocations 1−26373
NaCl:Cd^{2+} (Mg^{2+}), Suzuki precipitates, TEM obs. and ionic cond. meas. 1−2639
NaCl:Mn, Suzuki phase precipitates, gold decoration study 1−20409
Nb-Zr-C in contact with molten Li, effect on props. and struct. 1−53246
Ni_3Fe, domain struct. after tensile deform. 1−7876
PbTe crystal, X-ray and TEM investigations 1−52305
Si, crystal defects, EBIC contrast anal. 1−20220
Si, dangling bonds during laser irrad. 1−12060
Si device production, crystalline slip dislocations *(Chinese)* 1−25288
Si, diffusion of Sb, dislocation and vacancy generation 1−47295
Si, electronic states at line defects 1−20655
Si, oxidation induced stacking faults, SEM obs. 1−25295
Si, photoluminescence after laser annealing, dislocation effects 1−48128
Si, slip dislocation formation during CW laser annealing 1−47085
Si wafers, electrically active defect study with SEM 1−25802
Ta, planar proton channelling, evidence for dechanneling by dislocations 1−52200
TaS_2 single crysts., electron microscopy using weak beam technique 1−20138
Zn, hexagonal metals, plastic deformation 1−43410
Zn, thermoactivation parameters and dislocation behaviour at creep under high hydrostatic pressure 1−34404
ZnSe, deep dislocation level, photostimulated cond. study 1−25659

disordered systems, vibrational states *see vibrational states in disordered systems*

disperse systems
see also aerosols; Brownian motion; colloids; dust; emulsions; foams; fog; gels; powders; smoke; sols; suspensions
adsorption from solution at deformable liq. interface, adsorption kinetics 1−47329
agglomeration granulating system utilising centrifugal-fluidising drive 1−43293
cell model, variant, precip. rate calc. 1−2061
coalescence kernels, kinetic equation, convection and turbulent interdiffusion 1−51848
coarsening kinetics, alternative viewpoint 1−16793
coating microstructure, characterisation methods 1−30593
dense moving layer with dispersed material, heat exchange models 1−29693
1,2-dichlorobenze dispersion, high press. phase transitions, DTA study *(French)* 1−38507
diffusive creep, particle size depend. of threshold stress 1−31545
dispersed media two phase flow in elec. field 1−24891
dispersed systems, internal relax. in phase interaction, heat and mass transfer 1−13041
droplet combustion, gas phase particulate formation in gas turbine combustors 1−26746
droplet size, lower bound estimate for two-phase dispersed flow 1−38002
droplets, coagulating, Markovian system, backward Kolmogorov eqn. 1−8623
drops, coalescence in close-packed dispersions, effect of interdrop forces 1−16145
electrodynamics in isotropic disperse medium *(Russian)* 1−51345
electrooptical phenomena, light attenuation by arbitrarily oriented spheroid 1−33619
fixed bed of heated spheres, heat transfer to slowly moving fluid 1−29686
freezing, problems *(French)* 1−52262
globular particle/semi-infinite medium system, van der Waals attraction energy attenuation due to surface roughness 1−31914
holographic study of the dispersoids in technical chemistry 1−15104
homogeneous nucleation and dispersion, fluctuation effects *(Russian)* 1−17113
hydrodynamic wall effect for a disperse system 1−51856
IR dispersion filters, microstruct. param. effect 1−41584
kinetic theory from Fokker-Planck-Kolmogorov diffusion eqn. 1−37992
liquid with gas bubbles, perturbation (sound) propag., two-wave model 1−46614
macroscopic equations of motion 1−51849
magnetic separation of paramagnetic material dispersed in viscous liquid 1−20397
microheterogeneous dispersed systems, nonsteady state sorption processes 1−48748
mixing of passive scalar stripes by a three-dimensional multi-mode vector field 1−29691
mixtures, material constants 1−35496
monodisperse suspensions, equations of mechanical energy 1−13042

disperse systems continued
monodisperse system of spherical particles, wt. and size determ. by light scatt. methods 1−4127
non-spherical shape particles, microwave scatt. meas. 1−6432
oceans, aspects of particulate transport of trace elements and radionuclides 1−4508
optical particle counters, forward and wide scatt. angle, laboratory comparison 1−33031
particle coagulation in steady turbulent flow, appl. to smoke aging 1−31915
particle number density and polarisation near plane interface, correl. functions, Van der Waals contrib. 1−53480
polarisable disperse and multicomponent media in EM field, model construction 1−24888
polydisperse particles in gas, heating problem 1−46747
polymer solutions, polydisperse, truncation theorems for spinodals and critical points of mean-field models 1−46982
polystyrene latex monodispersed particles, radiative scatt. cross sections, particle distrib. function 1−41578
powder dispersion by intense electrostatic fields 1−12681
powder dispersion by intense electrostatic fields 1−16708
rigid backbone polymers, polydisperse, soln. viscosity 1−47274
silver halide dispersion, dissolution kinetics, computer modelling 1−16045
simple cell model, flow problems for dispersed particle systems *(Japanese)* 1−2065
small bubble formation by using strong nonuniform electric field 1−24867
sphere packings, multicomponent random, porosity and contact points, calc. 1−14067
sphere sedimenting in viscous fluid outside circular cylinder 1−6881
spheres in slow flows, effective thermal cond. *(Japanese)* 1−2064
spherical particles, radiative scatt. cross sections, particle distrib. function 1−41578
stress tensor relationships for cases of planar, spherical and cylindrical interfaces 1−8620
systems with thixotropic agent, growth and relaxation behaviour *(German)* 1−33989
turbidity spectrum method, stability assessment, particulate substance and medium dispersion effect 1−4126
turbulent boundary layer, dispersal of passive scalar contaminant 1−33950
turbulent dispersion in open channel flow, random flight model 1−19785
two phase systems of gas and solid particles, static electricity, neutralisation mechanism 1−48747
two-phase disperse structured systems, oscillation propagation, mathematical model 1−11448
ultradisperse particles, physical characts. inhomogeneity 1−26775
water-cellulose system, dielec. props. at microwave freq. 1−31082
X-ray absorption, heterogeneous media with continuous grain size distribution 1−21292
o-xylene dispersion, high press. phase transitions, DTA study *(French)* 1−38507
Ag, optical characteristics in finely dispersed systems *(Russian)* 1−28110
Ag/Pd metal mixture, disperse system, for conductive coating of ceramics *(Bulgarian)* 1−48534
Ag-Sb powder, internally oxidised, sintering behaviour 1−8250
Al/Al_2O_3 dispersion strengthened, recrystn. 1−26490
Al-Cu-Mg (4, 1.5 wt.%), mica particle dispersed, casting fluidity 1−20295
CO fine particles, low temp. magnetisation 1−12358
$CaCl_2.8NH_3$ dispersion in inert solvent for chemical heat pump appls. 1−53640
Ni-SiO_2 film composite, dispersion hardened, struct., autoion microscopy *(Russian)* 1−38211

dispersion (wave)
see also acoustic dispersion; optical dispersion
fluid-filled elastic tubes, dispersive wave motions, Love's approx. 1−15502
nonlinear dispersive medium, wave modulation 1−18043
nonlinear dispersive waves, Petrov-Galerkin methods 1−49945
nonlinear dispersive waves, statistical theory, multi-point velocity correlation functions 1−18040
nonlinear dispersive waves in relaxing medium 1−27795
ocean waves, effects of interaction with soft bottom on dispersion eqn. 1−17603
thermoelastic plates, development of dynamic theories for structural elements 1−15395
travelling ionospheric disturbances (TIDs), transmission in ionosphere F_2-layer rel. to horizontal vel. dispersion 1−27337

dispersion hardening
see also precipitation hardening
alloy, creep 1−26481
ceramic composites, brittle, micromechanisms controlling fracture toughness 1−31607
ceramics based on ZrO_2 inclusions, strengthening and toughening models 1−16797
coarsening kinetics, alternative viewpoint 1−16793
dislocation-inclusion interactions during creep of dispersion hardened systems 1−42415
Inconel alloy MA 754, oxide dispersion strengthened, creep and stress rupture behaviour 1−12808
metals and alloys, strength, conf., Aachen, Germany (Aug. 1979) 1−5030
particle coarsening mechanisms and coalescence kinetics, bimodal distrib. 1−26483
review, precipitation and dispersion hardening 1−31477
steel, γ'-Ni_3(Al,Ti) hardened, free dislocation density during creep, second phase particle effect 1−3853
steel, hot work tool type AISI H13, rapid heat treatment effect on mech. props. 1−53214
steel, welded joints in 1Kh2M and 1Kh2FMB dispersion hardening during reheating 1−26484
steel whiskers, polycrystn., of very high strength, dispersion mechanism 1−21464
Al, Al_2O_3 particle strengthened, creep 1−43414
Al alloy containing Al_2O_3 and SiC particles, prep. and mech. props. *(Korean)* 1−16720
Al dispersion strengthened, dispersoid phases identification during mech. alloying 1−26482
Al-Al_2O_3, fractographic study for deform. processes determ. 1−26573
Al-C dispersion hardened alloys, deform. behaviour 1−31580
Al_2O_3-SiO_2 based mullite refractory, creep in neutral and reducing media 1−31553

dispersion hardening continued
Cu alloys, strength, review of expt. and theoretical research 1−21459
Cu, dispersion strengthened crystals, dislocation density effect on creep 1−26553
Cu-Al_2O_3, oxide dispersion strengthened, diffusion of Ni 1−42586
Cu-Al_2O_3 polycrysts., additive strength contribs. 1−31476
Cu-Al-Co, dispersion hardening alloys, temp. depend. of flow and critical shear stresses 1−53194
Cu-Cr-SiO_2, flow stress and work hardening behaviour 1−35281
Cu-Ti alloys, hardening by modulated structs. 1−21462
Cu-TiO_2 monocryst., plasticity 1−21547
Fe, cast, WC reinforced, interaction of reinforcing particles with high Cr matrix 1−16898
Fe-B-Nb(W)(Mo), strengthening effects of alloying additions 1−31470
Fe-Ni-Cr-Mn, deformed, discontinuous precipitation of γ' phase of 36NKhTYu *(Russian)* 1−26466
Fe-Si (3 wt.%), deformed single crystal, secondary disperse phase effect on texture form. 1−8329
Fe-TiC-TiB_2 composite abrasive powder, strength 1−35265
Mo-ZrO_2-La_2O_3, structural charact. 1−35266
Nb-(W)-(Mo)-Zr-C, struct. transforms. after long-term tests 1−53176
Nb-(Zr)-c, dispersion strengthened, temp. relationship of strength 1−35264
Nb-W-Mo-Zr-C, dispersion and solid solution strengthened, temp. relationship of strength 1−35264
Nb-W-(Mo), dispersion strengthened, long-term strength prediction 1−35331
Nb-Zr, dispersion strengthened, long-term strength prediction 1−35331
Ni alloy, oxide dispersion hardened, creep 1−26481
Ni-Cr (20 wt.%), high temp. oxidation behaviour with dispersions of various reactive metal oxides 1−53363
Ni-Cr-Al (57, 40, 3 wt.%), stepped decomp. 1−43356
Ni-Cr-Y_2O_3, dispersion strengthened gas turbine materials, thermal fatigue testing 1−35388
Ni-SiO_2 film composite, dispersion hardened, struct., autoion microscopy *(Russian)* 1−38211
α-SiC, initial-stage sintering with concurrent B and C additives 1−21406
Ta-C, dispersion strengthened, temp. relationship of strength 1−35264
V-(Zr)-c, dispersion strengthened, temp. relationship of strength 1−35264
W-ZrO_2-La_2O_3, structural charact. 1−35266
Zn-Al, finely-granular, low temp. mech. props., purity effect *(Russian)* 1−26544
Zr based alloy, dispersion strengthened, nuclear reactor appl., mech. props. 1−43357

dispersion power, rotatory *see optical rotation*

dispersion relations
see also dispersion (wave); Kramers-Kronig relations; Mandelstam representation; N/D method; phonon dispersion relations; phonons; plasma instability; plasma waves; S-matrix theory
antiferromagnets, easy-axis, nuclear magnetoacoustic resonance 1−26049
atoms, positron scatt., ionisation pot., binding energy, dispersion relation 1−46117
axially symmetrical plasma waveguide immersed in strong mag. field, dispersion characts. 1−34087
cubic semiconductors, dispersion laws of holes in Γ valleys 1−42773
cyanine dye cryst., polariton reson. 1−20642
diatomic Toda lattice, nonlinear waves 1−44859
excitons, light absorption, role of spatial dispersion *(Russian)* 1−12041
Fermi superfluid, microscopic modes, dispersion relations 1−11940
free carriers, dielectric function, nonparabolic dispersion relation 1−12053
free-electron laser theory in combined helical pump and axial guide fields 1−51440
ion acoustic turbulent resistivity of a two-ion plasma 1−46857
ion acoustic wave, wireless excitation in plasma 1−42162
Love waves amplification in piezoelectric-magnetic-semiconductor layered composite 1−21028
magnetic excitations in sinusoidally modulated spin structures 1−34887
magnetised plasmas, nonlinear dispersion rel., parametric instabilities 1−42155
magnetogyrotropic media effective parameters, EM wave propag. 1−37393
metallic ferromagnets, RPA degenerate d-band complex magnons, spin polarity fluctuations 1−34849
narrow band gap semiconductors, EM wave mutual amplification *(Russian)* 1−34736
nuclear matter, collective excitations with density depend. effective interactions *(Russian)* 1−657
parametric instabilities, derivation of dispersion relations 1−38097
piezoelectric semiconductor, electron plasma wave parametric conversion to EM wave 1−16307
plasma, collisionless current-carrying, cathode double-layer influence on stability 1−15613
plasma, electron-ion, warm, relativistic nonlinear cyclotron waves 1−24971
plasma, magnetised, electron Bernstein waves, relativistic electrostatic dispersion relation 1−19895
plasma magnetised and collisional , paramagnetic instabilities 1−42149
polar liquids, dielectric props. caused by super-Debye interaction with microwave field 1−16539
cis-polyacetylene, extended Huckel band struct. calcs. 1−7518
quantum mechanics, physical applications, Pauli-Jordan propagator, energy propagation into future only 1−97
quartz, rectangular rotated X-cut bars, extension flexure and shear modes 1−21133
random media, elastic, multiple scattering theory 1−9864
n-p-nsemiconductor structure, plasma wave drift instability spatial dispersion *(Russian)* 1−7653
semiconductors, surface magnetoplasmons in Faraday configuraiton, dispersion eqn. anal. 1−38738
styrene-isoprene-styrene block copolymers, void formation and healing 1−11741
surface magnetostatic waves, propag. in ferromag. plate 1−25923
trimethylammonium cobalt trichloride, one-dimensional ferromagnet, critical fluctuation dynamics 1−38915
two-dimensional lattice sums and the dispersion relation of Frenkel excitons 1−7530
uniaxially anisotropic dielectric slab, quasi-optics of wave guide by slab 1−37608
unsteady dispersion flow in porous media 1−29769

dispersion relations continued
waveguide-plasma coupling, lower hybrid frequencies, density gradient effect 1−46874
$\alpha N \rightarrow \pi N$, dispersion relation soln. using Pade approxs. *(Russian)* 1−18494
$\gamma N \rightarrow \pi N$, dispersion relations, Pade approximant method 1−45314
Kp amplitude and evaluation of KN σ-terms inclusion of $\Sigma(1385)$ 1−36878
NN scatt., form factors $\pi\pi$ dynamics, twice-subtracted dispersion relation 1−14384
NΣK coupling constant from dispersion anal. of regeneration amplitude 1−584
(π^-,π^-), sigma-terms and scattering lengths from current algebra and PCAC 1−45535
πN scattering, form factors, $\pi\pi$ dynamics, twice-subtracted dispersion relation 1−14384
Ag single cryst. electrode surface studied by surface plasmon excitation 1−34642
Au single cryst. electrode surface studied by surface plasmon excitation 1−34642
$Ba_2NaNb_5O_{15}$, low frequency polaritons 1−12044
Bi, dielectric function based on two-band model 1−52510
CdS, hyper-Raman scatt. in strong mag. fields 1−52938
CsNCS, internal vibrs., mode freq., dispersion calcs. 1−34431
CuBr, exciton polariton, resonant Brillouin scatt. 1−52959
CuCl, hyper-Raman scatt. via biexcitons 1−52939
Cu_2O, nonparabolicity of the Γ_7^+ valence band 1−16231
^3He, superfluid B-phase, autocorrelation functions of density and transversal current in collisional regime 1−11946
n-InSb, electron plasma wave parametric conversion to EM wave 1−16307
KNCS, internal vibrs., mode freq., dispersion calcs. 1−34431
Ne crystalline, exciton bands *(Russian)* 1−2889
$Pb(Sc_{0.5}Ta_{0.5})O_3$, B-site cation disorder role in diffuse phase transition, props. 1−3340
Si (111) with Al, Ag, Ni overlayers, electronic struct. PES study 1−52619
SiO_2, vitreous, dispersion and thermal conductivity 1−16003
TbP, neutron scatt. study of singlet ground state magnetism 1−34863
UPd_3 single cryst., dispersion of collective mag. excitons 1−20641
YIG film, magnetostatic bulk wave propagation, ray optic approach 1−3161
ZnO, hyper-Raman scatt. in strong mag. fields 1−52938

dispersions *see disperse systems*

dispersoids *see disperse systems*

displacement measurement
AC dilatometer, piezoelectricity and electrostriction direct meas. 1−14104
acoustical-speckle interferometry 1−1786
circular plate, moments determ. by speckle-shearing interferometry 1−46716
crack tip opening displacement, minicomputer-controlled laser-interferometer technique 1−23299
crosscorrelation speed meas., using ITV camera 1−242
development in Yugoslavia *(Slovenian)* 1−231
digital microdisplacements transducers with intermediate phase-shift conversion 1−18214
digital speckle-pattern shearing interferometry 1−33043
electro-optical phase measurement appl. to surface profiling and displacement sensing 1−40751
fibre optics displacement sensor development 1−19435
fibre-optic Michelson interferometer using optical power divider, vibr. object displacement meas. appl. 1−5370
holographic interferometry, automatic readout system 1−234
holographic interferometry, hybrid, for three-dimens. deform. meas. *(Japanese)* 1−19286
holographic interferometry of elec. device displacement and deform. *(Hungarian)* 1−6506
homodyne microinterferometer band-counting digital phase meas. system 1−44993
laser beam displacement meas. in media with variable optical thickness 1−46414
laser speckle photography for supersensitive dial gauges 1−5280
linear, moire fringe appl. *(Slovenian)* 1−342
loudspeaker cone motion meas. at low freqs. using light accelerometer, steady-state performance 1−15344
Michelson interferometer development 1−40846
microprocessor-based displacement transducer 1−36629
motion monitoring in air or aquarium, US activity monitor 1−44053
non contact displacement transducer *(French)* 1−46651
non-contact probes for electronic gauging 1−14100
non-contacting measuring devices, dynamic behaviour investigation by transient displacement method 1−9964
optical fibre displacement sensor 1−37611
primary transducer for linear displacement measurement of objects *(Russian)* 1−27914
real-time displacement and tilt anal. by speckle technique using $Bi_{12}SiO_{20}$ crysts. 1−6511
speckle metrology range for in-plane displacement analysis 1−14096
superconducting cyclotron coils, resistive displacement transducer for cryogenic environment 1−14711
three-dimensional displacement meas. by four small holograms 1−14102
time-average holography of separable fine motions, unified approach 1−15095
transducer with mag. probe, operation, analytical studies *(German)* 1−40770
tympanic membrane displacement obs. in guinea pig by laser interferometry *(French)* 1−13252
variable-inductance contactless instrument transducer 1−27949
vectorial displacement meas. by tripole holographic interferometer system 1−233
Al cube three-dimensional displacement meas. by four small holograms 1−14102

displacive transformations
see also martensitic transformations; polymorphic transformations; reverse martensitic transformations; soft modes
crystal surface, displacive reconstruction phase transitions 1−11969
FCC-BCC orientation relationship, surface relief and displacive phase transformations 1−2388
FCC-BCC transformations, diffusional, orientational rels., surface reliefs, and growth mechanisms 1−2389

displacive transformations continued
ferroelectric, one- and two-dimens., soft mode polarisation operator *(Russian)* 1−16008
ferroelectric transitions, order-disorder and displacive, model description 1−43078
ferroelectrics, displacive-type, lattice viscosity in paraelec. phase, temp. depend. 1−42501
polydomain crystals, symmetry props. and mutual reversal of domains in phase transitions 1−7240
shear transformations, in cubic face centred and cubic centred crysts. *(French)* 1−48341
steels, FCC-BCC orientation relationship, surface relief and displacive phase transformations 1−2388
p-terphenyl, cryst., displacive phase transition, UV absorpt. spectra obs. 1−12520
trisarcosine calcium chloride, ferroelec.-ferroelastic phase transition, Raman and Brillouin scatt. study 1−8050
As, shear deformations, displacive phase transitions 1−2595
$CaCO_3$, calcite-$CaCO_3$(II) phase transition, Landau description 1−34452
$HgBr_2(Cl_2)$, ferroelastic, lattice dynamics, displacive transform., effective Hamiltonian 1−7284
$Hg_3Br_2(Cl_2)(I_2)$, pure improper ferroelastics, phase transitions, thermodynamic props., review 1−7318
K ditungstenates and dimolybdates, ferroelastic phase transitions 1−7319
$KD_3(SeO_3)_2$, ferroelastic-antiferroelec. transition, ionic displacement role, EPR study 1−43009
$K_2Hg(Cn)_4$, pressure-induced config. distortion and phase transition, Raman scatt. study 1−35038
$K_{1-x}Rb_xSc(MoO_4)_2$, soft modes, Raman spectra study 1−26202
La_3S_4, acoustic phonon mode softening near struct. transition, elastic consts. meas. 1−2584
$LiTaO_3$, dielec. props., temp. depend., Raman spectroscopy study 1−16569
$Pb_{1-x}Ge_xTe$, structural instability, Ge ion local displacement effects 1−39051
$Pb_3(PO_4)_2$, improper ferroelastic, phase transitions, Raman scatt. by low freq. oscills. 1−8051
$Pb(Sc_{1/2}Nb_{1/2})O_3$, $Pb(Sc_{1/2}Ta_{1/2})O_3$, order-disorder reactions rel. to ferroelec. props. 1−21146
Rb ditungstenates and dimolybdates, ferroelastic phase transitions 1−7319
$RbAg_4I_5$, shear deformations, displacive phase transitions 1−2595
Sb, shear deformations, displacive phase transitions 1−2595
$SrTiO_3$, stressed, Pott's model transition near bicrit. point, XY to Gaussian crossover 1−26143
W (001), surface phase transition, electronic state coupling, angle-resolved photoemission 1−16335

display devices
see also gas-discharge displays; liquid crystal displays
dye tagged macromols. and particles, electro-fluorescent light valve mechanism 1−41530
electrochemical memory, application to short-circuit memory in electrochromic displays 1−21736
gas panel backfill process, pump efficiency improvement 1−272
hologram displays, 360-degree 1−6521
on-line display used with cathode ray tube film measuring device 1−50113
semiconductor electrode-metallic ion soln., photoelectrochemical imaging system, photoelectrochromic characts. 1−4099
US diagnostic equipment, real-time slow motion display 1−13298
IrO_x electrochromism, temp. depend. 1−39065
VO_x multiphase FTIROS film, SIMS rel. to thickness, colour, contrast etc. 1−42654
WO_3 electrochromic display devices, book contrib. 1−26172

display equipment *see display instrumentation*

display instrumentation
see also cathode-ray tube displays; display devices; screens (display)
angle-code convertor, two-channel instrument contactless selsyn, digital readout 1−18247
camera add-on module for exposure time recording 1−36751
capacitor nominal value meas., approx. indication, LED display 1−33007
digital interferometric output analyser and display system 1−28060
electro-optics/laser international conference, Brighton, England (March 1980) 1−40601
EMI early scanners, improved image display 1−13318
holographic displays 1975-1980, review 1−6519
liquid crystal for multiplexed twisted nematic displays−its philosophy and practice 1−38279
magnetic field inhomogeneity measurement using electron flux in detector-convertor instrument, direct display 1−18250
magnetic instruments, ferromagnetic magnetization steps anal. by mag. moment meas., automatic instrumentation, digital readout 1−18249
organic carbon content, automatic instrumentation for reduced analysis time and instrument self-diagnosis 1−26781
review of display methods, medical appl. 1−9046
selective level meter, microcomputer control facility, meas. accuracy of 0.1 dB, automatic calibration 1−44958
three dimensional display, appl. of virtual Fourier transform of divergent lens 1−41597
three dimensional displays, recent developments, holographic and stereoscopic techniques 1−41622
US blood velocity signals, directional, system for real-time spectrum anal. and display 1−26969
wind speed and direction meter, display circuitry and testing 1−44348

display instruments *see display instrumentation*

display systems *see display instrumentation*

display tubes, television *see television picture tubes*

disruptive voltage *see electric breakdown*

dissipation (heat) *see cooling*

dissociation
see also electrolytic dissociation; heat of dissociation; ionisation; molecular dissociation; molecular dissociation energies; photodissociation
decane, homogeneous formation of metastable C phases by dissoc. *(Russian)* 1−43662
DNA, dry and hydrated states, DSC study 1−21977
gas, dissociating, growth and decay of sonic discontinuities of order one 1−15571
gas, dissociating flows, accel. wave breakdown 1−2029
gases, thermally conducting and dissociating, weak discontinuity propag. 1−2028

dissociation continued
glass, bioresistance, chem. stability 1−17051
glass fibre reinforced plastic, SiC formation conditions on unidirectional heating 1−39493
intercalation compound, diffr. obs. of reaction kinetics, review 1−31827
iso-octane, homogeneous formation of metastable C phases by dissoc. *(Russian)* 1−43662
lead formate, thermal behaviour, IR spectrosc. investig. 1−52288
octane, homogeneous formation of metastable C phases by dissoc. *(Russian)* 1−43662
polycarbonate film X-ray induced relaxation at 455K 1−8566
silver halide dispersion, dissolution kinetics, computer modelling 1−16045
γ-AlOOH-Al_2O_3, kinetic time-temp. study 1−26735
β-Al_2TiO_5, decomposition temp., X-ray diffr. study 1−4073
$CdSiAs_2$, $CdGeAs_2$, $CdSnAs_2$, thermal dissociation, mass spectra 1−17040
CsBr, dissociation due to electron bombardment *(Russian)* 1−4086
$CuFeS_2$, chalcopyrite, high temp. thermodynamic props. 1−26763
GaAs, highly excited, exciton electron-hole plasma system, optical studies 1−52592
HgTe crystal, surface evaporation of Hg obs. using O^{5+} backscattering 1−8176
Ir, oxidation kinetics at various O_2 press. *(Russian)* 1−48729
KCl, dissociation due to electron bombardment *(Russian)* 1−4086
$LaNi_5H_x$, substituted, H coords., number, vol. and dissoc. press. 1−25205
$LaNi_{4.6}M_{0.4}H_x$ (M=Si, Ge, B, Ga, In), H_2 dissoc. press., effect of element M 1−31855
Li aluminates, vaporisation and thermochem. stability 1−52267
$Li_xFe_{3-x}O_4$, volatilisation of Li during sintering 1−35207
$Li_{0.464}Na_{0.036}Fe_{2.5}O_4$, volatilisation of Li during sintering 1−35207
$Mg(OH)_2$, dehydration, X-ray scatt. study 1−8567
$Mn_xCd_{1-x}Se$ solid solutions, mass transport by chem. reaction 1−21334
Mn_xHg_{1-x} Se solid solutions, mass transport by chem. reaction 1−21334
NaCl, dissociation due to electron bombardment *(Russian)* 1−4086
Ne-He glow discharge, elec. characts. and degree of dissoc. of positive column 1−15678
Ni-U-O system, equilib. phase relationships *(German)* 1−35238
O_2 distribution in Krogh cylinder, perturbation calc. for linear oxyhaemoglobin dissociation 1−26871
$PbIn_2S_4$, vaporisation dissoc., computer automated Knudsen and torsion effusion method 1−38523
Pd, C-dissolution and segregation, effect on catalytic, optical and electric props. 1−31911
$RbAg_{4+y}I_{5-y}Sy(Se_y)(Te_y)$, solid electrolyte, thermodynamic stabilisation by substitution 1−30451
Si, CVD from SiH_2Cl_2-H_2-N_2-HCl system, rate-determining reactions and surface species 1−3632
Si:H amorphous films, decomp. mechanism, IR spectra study 1−21720
Si_3N_4 films, N-H bond decomp. mechanism 1−39623
TaS_2 (2H) diffr. obs. reaction kinetics, review 1−31827
Ti combustion in H_2, formation of hydrogenated products 1−13007
TiO_2-Pb-O system in air 1−26434
Zn_3P_2, vapour phase transport, thermodynamical model *(German)* 1−3587
$ZnSiAs_2$, $ZnGeAs_2$, $ZnSnAs_2$, thermal dissociation, mass spectra 1−17040
$Zr(V_{1-x}Fe_x)_2$ getter for H_2 1−18238

dissolution *see dissolving*

dissolving
see also solubility; solutions; solvation
alkali feldspar dissolution, ion exchange rate, nuclear waste transport in groundwater 1−28637
alkali halide, radiolysis processes, high temp. irradiation *(Russian)* 1−48706
alloys, electrochem. machining, anodic soln. mechanism *(Russian)* 1−43585
borosilicate waste glass, surface comp. changes due to aq. leaching, SIMS study 1−16931
α-brass, stress corrosion cracking in ammonical $CuSO_4$ soln., use of scratching electrode technique 1−31719
bubbles, chain in fluid stream, diffusion effects 1−46800
carbonate dissolution in North Atlantic Deep Water, C and O isotopic fractionations 1−4537
chalcopyrite concentrate, attritor-ground, leaching by in-situ generated $Fe_2(SO_4)_3$ soln. 1−2645
concentration rules, linear, at const. partial molar quantity *(Chinese)* 1−38537
drops, chain in fluid stream, diffusion effects 1−46800
E glass fibres, production and charact. of materials having high sp. surface areas, by leaching 1−39298
gas bubbles, multicomponent, in glass melt, dissoln. 1−25435
glass, leaching and corrision by water, model, radwaste appl. 1−31700
glass, molten, bubbles, math. modelling *(Czech)* 1−38543
glass, phase separable, gradient index antireflection layer prod. by chem. leaching 1−31211
glass, silicate, natural, stability in geologic environment, radioactive waste disposal 1−32062
glass, silicate, XPS study of bonding and leaching properties 1−31313
glass dissolution processes, nuclear waste management 1−28638
glass leaching, radioactive waste containment 1−28633
ionic oxides, dissolution kinetics 1−30400
laterites, treated with reduction-roast/NH_4 leach system, electron-optical characterisation 1−13055
non-aqueous solvents, coordination model 1−8601
PMMA, dissolution dynamics, solvent-polymer boundary 1−30402
polydiacetylenes, abrupt dissoln. 1−52297
polymer solution in nematic, thermodynamics in limit of strong perturbations *(French)* 1−15784
polymethyl styrene, dissolution dynamics, solvent-polymer boundary 1−30402
polystyrene, dissolution dynamics, solvent-polymer boundary 1−30402
polystyrene-polybutadiene block copolymers, gas and vapour transport and soln. 1−34571
quartz, elastic and struct. changes at high press. and temp. 1−38455
radioactive waste, buried glass waste forms, prediction of initial leach rates using mass transport theory 1−45657
silicate glass network, pH depend. and electrochemical interpretation of dissolution rate 1−21609
silicate glasses, destructive soln. by alkali, agitation effect 1−43561
silicates, liq. dissolution of water vapour 1−42542
silver halide dispersion, dissolution kinetics, computer modelling 1−16045
solute diffusion with reversible reaction 1−35532

dissolving continued
steel, anodic solution at high current densities, oxide surface films influence *(Russian)* 1−43587
steel, anodic solution in electrolyte containing an oxidant, Mn content influence *(Russian)* 1−43588
steel, anodic solution mechanism under surge voltage *(Russian)* 1−43589
steel, austenitic stainless, sensitised, prediction of stress corrosion cracking in 0.01 M Na_2SO_4 at 97°C 1−53339
steel, Cr-Ni, mechanism of high-temp. anodic soln. in NaCl solns. *(Russian)* 1−43586
steel, plain-C, containing ε-Cu precipitates, H_2 discharge and dissolved (C+N) *(Japanese)* 1−26518
steel, plain-C, relation between H_2 discharge and dissolved (C+N), review *(Japanese)* 1−26519
steel, stainless, sensitised, stress corrosion cracking in high temp. high press. water *(Chinese)* 1−39499
steel, TiC hardened surface by laser melt injection 1−21588
SYNROC-B, sintered Modified, chemical stability evaluation, leaching resistance for radwaste fixation 1−41217
Ag electroreflectance in dissoln. region 1−35016
Ag salts, sparingly soluble, solute-solvent interactions and dissoln. in various solvent systems 1−38539
Ag-Au alloys, dissolution in HNO_3 soln., micromorphological study 1−11870
Al, anodic solution at high current densities, oxide surface films influence *(Russian)* 1−43587
Al, corrosion, chem. nature, dissolution mechanism of Al_2O_3 and Al powder in various electrolytes 1−35420
Al-Mg (2 wt.%), β-phase precipitates dissolution, internal strain effect, fracture charact. study 1−26473
$AlBr_3$-KBr melt, specific and molar elec. cond., Br dissolution effects 1−52325
Au, anodic dissolution in aq. alkaline cyanide solns. at low overpotentials 1−17066
BaF_2 crystals, kinetics of dissolution in HNO_3, HCl acid aq. solns. 1−20394
$BaSO_4$ (barite) particles in oceans, dissolution at depth rel. to Ba cycle in open oceans 1−4509
$CaO-Al_2O_3-SiO_2$ melt, dissoln. of Al_2O_3 and SiO_2 1−11867
$CaO-SiO_2-Al_2O_3$ molten slag in graphite crucible, evolution rate of SiO and dissolution rate of C *(Japanese)* 1−25436
Co, electrochemical behaviour in bicarbonate and borate electrolytes 1−48553
Co extraction, from CoAsS ore, using $Fe_2(SO_4)_3$ solns., leaching kinetics 1−2644
Cr-Ni, mechanism of high-temp. anodic soln. in NaCl solns. *(Russian)* 1−43586
Cu anodic dissolution, anode potential oscillation obs. 1−7336
Cu solid dissolution, into molten Sn, under static conditions 1−16078
Cu-Ir-O, liq., O soln. thermodynamics, Ir solubility, meas. 1−20391
Fe, cast, reductive dissoln. of γ-FeOOH in corrosion scales in near-neutral waters 1−43568
Fe, H absorption affected by He, Fe and Pt implantation 1−7458
Fe, liq., O_2 transfer rate from slag *(Japanese)* 1−25438
Fe, passive, pit formation in cathodic polarisation, dissoln. of passive film and pit initiation 1−39514
Fe polycrystalline electrode impedance at 298K, obs. 1−8576
Fe-oxide-borate-glass melt, anodic processes 1−17071
Fe-Ti alloys, nitrogenated, thermochem. and nature of N absorp. 1−25433
n-GaAs photoanode, protection with photoelectrochem. generated polypyrrole film 1−21735
GaAs semiconductor-oxide-electrolyte interface 1−34801
GaP single crystal electrodes, anodic photodissolution in aqueous media, dislocation effects 1−13144
KCl(Br), additively and gamma coloured, lyoluminesc. in fluoresc. and chemiluminesc. solns. 1−26274
Li, anodic dissolution efficiency, effect of anions 1−53571
Li_2O-SiO_2 glasses and glass ceramics, leaching by HCl 1−20393
MgO crysts., dissoln. mechanism in acids 1−12905
Mo, corrosion resistance mechanism 1−53347
NaCl(Br), additively and gamma coloured, lyoluminesc. in fluoresc. and chemiluminesc. solns. 1−26274
$Na_2O-CaO-SiO_2$ glassmelt, dissolution of stationary bubble containing diffusing and nondiffusing gas 1−2635
$Na_2O.2B_2O$ molten glass, interaction with Pt(Ni)(Fe) electrodes under elec. field *(Japanese)* 1−3973
Nb, dissolution of O_2 at 74 torr, 300 to 400°C, X-ray diffr. study *(French)* 1−39525
Nb, dissolution of O_2 at 75 torr, 300 to 400°C, X-ray diffr. profile anal. *(French)* 1−39526
Nb in aq. electrolytes under open-circuit conditions, electrochem. behaviour of thin oxide films formed on surface 1−26650
Nb, oxidation kinetics, microgravimetric study *(French)* 1−39524
Nb-W (10 at.%), oxidation kinetics, high temp. 1−53334
Ni alloy EI893, anodic solution mechanism under surge voltage *(Russian)* 1−43589
Ni, corrosion resistance mechanism 1−53347
Ni, dissolution in aq. ammonical soln., kinetics study *(Chinese)* 1−47237
Ni/0.5 N H_2SO_4 interface, potentiodynamic potential/current profiles, electrode process mechanism 1−17061
Ni-Mo, corrosion resistance mechanism 1−53347
$Ni_xFe_{3-x}O_4$, solubility in in aqueous boric acid soln., PWR coolant system during operation and cooldown 1−52299
PbS, galena, kinetic study of nonoxidative dissoln. in aq. acid soln. 1−11868
Pd, C-dissolution and segregation, effect on catalytic, optical and electric props. 1−31911
SiO_2 film growth from water-alcohol solns. of tetraethoxysilane, spectral charact., chem. stability 1−3391
Sn-Pb molten alloys, dissoln. of solid Cu under static conditions 1−34481
TiC fibre interaction with Ni alloy matrix compatibility, dissolving *(Russian)* 1−3793
W, anodic oxide film, comp., influence of anodising parameters and charging curves 1−48558
W, anodic oxide films, morphology and dissolution, SEM study 1−48559
W oxide film, formation and dissoln. on W in H_2SO_4 solns. 1−43570
WO_3 films, electrochromic, microstruct. and degradation 1−47239
Zn solution in river estuaries, results of double radio-tracer tagging of mud in Gironde estuary *(French)* 1−27207
Zr_x foil, H_2 absorpt. and desorption 1−52296

distance measurement
absolute distance meas. by two-colour synthetic Michelson interferometry 1−44998
ADS 102, ADS 281, visual double stars, dynamical parallaxes and total masses from provisional orbits *(French)* 1−49727
ADS 10345 (μ Draconis), visual binary, dynamical parallax and total mass *(French)* 1−9572
ADS 161, ADS 2236, ADS 8739, visual double stars, dynamical parallaxes from provisional orbits *(French)* 1−49728
Am stars, statistical parallax meas. and mean absolute magnitude 1−36298
cosmological distance measurement using giant H II regions, results from obs. of galactic H II region (NGC 3603) 1−44605
V1500 Cygni (Nova 1975), nebular expansion parallax from obs. of remnant on direct photograph 1−44574
electro-optical techniques applications in metrology 1−23295
electronic distance measuring instruments, calibration and use for deformation measurements 1−9969
galactic distance scale determ., from globular clusters distance data 1−36349
globular cluster in NGC 5128 (Centaurus A), UBV photometric props. and distance 1−4945
AM Herculis, distance and mag. field from spectrophotometry and spectropolarimetry 1−54553
HP 3820A, electronic total station for angle and distance measurement 1−223
HP 3820A, geometrical constraints distance and angle measurement system 1−224
HP 3820A station, non contact coordinate measurements with digital theodolites 1−225
Hyades, distance and chemical comp. from astrometry, photometry, spectroscopy and internal struct. computation 1−36350
Hyades cluster, distance modulus from astrometric obs. 1−36348
IC line width meas., BMG 160 pattern width meas. instrum. based on model-E projection microscope 1−23304
laser ranging, distance corrections for single and dual-colour lasers 1−27298
laser variable wavelength interferometer, for absolute distance meas. 1−40840
lunar laser ranging, scientific achievements from ten years' work 1−36198
lunar laser ranging data, appl. to determ. of cosmological deceleration parameter (q_0) 1−49863
M33, distance from radio obs. of supernova remnants 1−27593
microprocessor-based distance meas. system charcts. 1−236
non-contact probes for electronic gauging 1−14100
optical rangefinders, error sources in transmitting and receiving systems 1−11070
optical system, HP 3820A distance and angle measurement station 1−1665
optics in metrology and quality assurance, seminar, Los Angeles, CA, USA (Feb. 1980). 1−27662
position-sensitive photodetector for contactless dimension and surface meas. 1−40758
quasars distances, meas. by use of C IV 1549 Å flux as standard cosmic candle 1−13879
SS 433, distance from radio source struct., strength and polarisation vars. obs. 1−54520
stars, nearby, photometric parallaxes from uvbyβ and Geneva system photometry 1−49613
stars, spectroscopic parallaxes determ. via. two dimensional spectral classification using computer 1−49533
Stein 2051, visual binary, parallax, proper motion and mass ratio astrometric meas. *(Italian)* 1−9579
stellar clusters and association, distance scale rel. to galactic struct. 1−36346
old stellar parallaxes, compilation and probable error recalibration 1−40461
Taurus interstellar dark clouds, distance from stellar UBVRI photometry *(Russian)* 1−32697

distillation
see also isotope separation
alloy, binary, zone refining, influence of distillation on impurity conc. 1−31341
environmental samples, fractionation anal. by gas chromatography 1−39698
field-flow fractionation appl. to radioactive waste disposal 1−28635
radioactive gas, quasi-zero discharge by low temp. distillation *(German)* 1−14642
solar stills, thermal performance as function of main parameters 1−17290
solar stills for direct solar distillation of seawater 1−17293

distortion, electric *see electric distortion*
distortion measurement, electric *see electric distortion measurement*
distortive transformations *see solid-state phase transformations*
distributed Bragg reflector lasers
No entries
distributed control
BWR plant, distributed DDC condensate clean up control system 1−50753
CANDU control functions hierarchy, distributed systems implementation *(French)* 1−50901
CANDU stations, control systems design 1−50899
GCFR, once-through steam generator dynamics and automatic control 1−28580
liquid metal cooled fast breeder reactor, distributed control system 1−50918
nuclear power plants, drywell sump leakage detection system 1−50900
pressurised water reactor nuclear steam supply system, protection and control system 1−50898
distributed feedback lasers
corrugated waveguide distributed feedback, effective index method, TM polarisation 1−15286
coupled wave method applied to radiating DFB structures 1−1726
dye dynamic DFB lasers, lasing efficiency and tuning range. 1−51475
dye-solution laser with pump-induced distributed feedback 1−1557
fluoromethane DFB 496 μm waveguide gas lasers 1−33719
heterojunction lasers, operation and design principles *(Polish)* 1−1570
polymethine dye dynamic DFB lasers, lasing efficiency and tuning range. 1−51475
two-dimensional transverse-distributed-feedback cavity injection laser, oscillation 1−46375

distributed feedback lasers continued
$Pb_{1-x}Sn_xTe$ DFB DH laser, TE and TM coupling coeffs. 1−46348
$Pb_{1-x}Sn_xTe$ DFB laser diodes, LEP grown, broad continuous single-mode tuning range 1−15182
distributed parameter networks
elastic wave equivalent electrical ccts. and wave eqns. *(Japanese)* 1−1873
transmission line networks for modelling of three-dimensional eddy current problem 1−24330
Al_2O_3 dielectric film for distributed RC filters and amorphous semiconductors, anodisation growth 1−39036
distributed parameter systems
fusion reactor, plasma equilib. static and dynamic control, self-consistent method 1−913
nuclear reactor suboptimal control using singular perturbation theory to obtain an approx. solution 1−815
thermonuclear devices, toroidal, control of transport processes *(Russian)* 1−2154
distributed processing
see also computer networks; multiprocessing systems
acoustic noise level monitoring, system appl. 1−51670
nuclear power plants, drywell sump leakage detection system 1−50900
nuclear research reactors, data acquisition system, distributed terminal support 1−50919
REDNET, a distributed data acquisition system for nuclear research reactors 1−50896
distribution networks
see also substations
automated distribution system, efficiency 1−43754
industrial applications of power, conf. Cincinnati, OH, USA (Sept.-Oct. 1980) 1−14679
distributions, statistical *see statistical analysis; statistics*
district heating
combined heat and power, nuclear energy contrib., UK 1−10551
electricity generation and district heat using solar ponds, system requirements, performance and costs 1−53677
geothermal, Klamath Falls district heating network, United States 1−48793
group solar heating schemes, anal. of technical perform. and cost 1−17246
networks, heat pump application possibilities and energy savings *(Hungarian)* 1−39811
solar/electric district heating and cooling system, CASES, using solar energy and surplus heat from community buildings 1−48805
Swedish district heating plants *(German)* 1−48782
divertors
see also surge protection
Alcator-A Tokamak, passive-limiter pumping efficacy of neutral particles 1−42197
bundle divertor, stability of plasma to local interchange modes 1−6958
dee-shaped plasmas using single-null poloidal divertor 1−15637
protection by plasma layer from impurities, toroidal divertor with closed magnetic trap *(Russian)* 1−25017
He ash enrichment and exhaust by simple divertor in INTOR-size reactor 1−11587
dividers, frequency *see frequency dividers*
dividers, voltage *see voltage dividers*
DLTS *see deep level transient spectroscopy*
DNA
1.5 MHz US cavitational bioeffects 1−39963
acoustic phonon effects on energy fluctuations 1−39961
bacterial DNA-membrane complexes, stimulation of DNA synthesis after low doses of ionising radiation 1−13289
binding of carcinogenic acetylaminofluorene, active sites, mol. electrostatic pot. 1−4247
break rejoining capacity obs. after irrad. by accelerated ions in the spread Bragg peak 1−8919
CHO cells, X-irrad. effects on DNA synthesis in synchronous cells 1−8925
dehydration, differential scanning calorimetry studies 1−48963
deoxydinucleotides d-pTpA and d-pAp-T, PMR spectra, struct., sequence effects 1−53750
DNA+hexaziridinocyclotriphosphazene interactions, antitumour activity, Raman studies 1−48946
B-DNA reactive sites, electrostatic pot. screening by MG^{2+} 1−51330
double-strand breaks, formation and repair in superinfecting phage λ, electron irrad., E coli hosts 1−22079
dry and hydrated states, DSC study 1−21977
E coli, exponentially growing, sensitivity to photo-induced psoralen-DNA interstrand crosslinks 1−32193
E coli, UV, X and γ produced photoreactivable DNA damage 1−17458
E. coli DNA, influence of membrane fluidity on radiation induced changes 1−22070
electron diffraction from single crysts. 1−13214
electron micrographs, automated recognition of line structures 1−50287
fibroblasts, Chinese hamster lung, UV-B exposure, effects on DNA 1−4333
gamma irradiation, identification of chem. modifications of adenine moiety 1−4335
helix-coil transition, thermodynamics, kinetics and sequencing 1−39875
helix-coil transition based on correlated walks, appl. 1−39879
histone-DNA interactions in nucleosomes 1−8795
internal rotation model, EPR in slow motion region 1−24299
leukemic lymphoblast, murine, correl. of survival with restoration of DNA struct., X-irrad. 1−26960
light scattering, quasielastic, in electric field electrophoretic mobility and apparent charge *(French)* 1−39116
liver, DNA repair of UV damage in heterochromatin and euchromatin, rat obs. 1−8920
lymphoblastoid cells (diseased), DNA and $(ADP\text{-}ribose)_n$ synthesis following γ-irrad. 1−13222
mammalian cells, π^- irrad., DNA strand breakage, repair and cell survival 1−22067
mammalian cells, repairable and unrepairable DNA strand breaks 1−49072
mammalian DNA polymerases, differential inhibition by X-irrad. DNA 1−22072
nonlinear electric props. *(French)* 1−53747
polynucleotide double helices, soliton-like extended open states 1−39876
psi-transition, scaling theory 1−38231
DNA continued
radiation damage, natural tissues characterized by different radiosensitivities, EPR obs. 1−17456
radiation sensitivity of DNA mols. in situ in normal and neoplastic mouse tissues 1−53824
radiation-induced strand breaks, detect. by radioisotope labelling, human cells 1−22174
restriction fragments, short, melting curves calcs. 1−35755
restriction fragments containing lactose operon promoter sequence, helix-coil transition, differential melting curve 1−39872
solution in aq. NaCl, dynamic elec. birefringence meas. using sinusoidal digital lock-in system 1−18272
stability in nucleosomes, calorimetric obs. 1−13223
synthesis and cell cycle progression of synchronised L-cells after irrad. 1−49074
torsional dynamics, direct obs. by ps spectroscopy 1−53748
unwinding protein and complexes, struct. from X-ray diffr. obs. 1−8808
UV laser pulse selective interaction with DNA and RNA components 1−35746
UV photobiology, production and repair of damage, enzymatic pathways 1−35839
virus protein shell and DNA struct., X-ray diffr. study 1−48948
water containing DNA, spin-spin and spin-lattice relax. of exchangeable N-H protons 1−41526
wormlike coils, sedimentation theory 1−8622
X-irradiated human tumour cells, post-repair DNA damage 1−32197
X-ray scatt., Rayleigh-Debye theory 1−1443
xeroderma pigmentosum human cells, newly synthesised DNA, size and freq. of gaps after UV irrad. 1−32192
Pt complex ions+DNA interactions, quasirelativistic EHT calcs. 1−1117
document retrieval *see information retrieval*
documentation *see information science*
domain boundaries
for boundaries between magnetic domains and electric domains see magnetic domain walls and electric domains walls respectively
see also antiphase boundaries
binary BCC, FCC, and PC systems, ground states and structs., pairwise interaction model 1−7345
incommensurate solids, static strains and lattice dynamics, classical theory 1−7268
silicates, layer, varieties of order and disorder, review 1−38338
smectic ferroelectic liq. cryst., domain boundaries resonance 1−30053
$Ba_2Bi_4Ti_5O_{18}$, ferroelec. perovskite, high resoln. imaging 1−34209
$LiNbO_3$:Fe, composition inhomogeneities, defect types 1−38545
Ni_4Mo ordered alloy, deformation twinning, slip, FIM obs. 1−21514
$Pb_3(VO_4)_2$, ferroelastic, domain boundary props. during phase transforms., electron diffr. and microscopy obs. 1−8302
$(Ti_{1-x}V_x)_4O_7$, impurity-induced stabilisation of intermediate phase 1−12048
domains
see also antiphase domains; crystal microstructure; domain boundaries; electric domains; magnetic domains
acoustoelectric phonon domains, acoustic impulse generation by piezoelec. shock 1−16320
adsorbed monolayer, interaction with substrate, commensurable-incommensurable transition 1−7477
MBBA, nematic, stripe domains in transverse elec. field 1−25161
polydomain crystals, symmetry props. and mutual reversal of domains in phase transitions 1−7240
polymers, inhomogeneous, in presence of solvent, free energy and microdomain size, theory 1−38238
smectic C phase, field induced domain like behaviour 1−52061
$Co_3B_7O_{13}I$, preparation and cryst. struct. 1−38343
$CsPbCl_3$, monoclinic phase, ferroelastic domain struct., theory 1−30294
$CsPbCl_3$, monoclinic phase, ferroelastic domain struct., expt. 1−30295
Hg_2Cl_2, ferroelastic phase transition, domain behaviour and thermal expansion 1−20380
KCN, stress aligned ferroelastic, librational-translational modes, Raman and IR studies 1−3392
$KClO_3$, stress induced domain struct., ferroelastic definition 1−7237
$NbSe_3$, strandlike domains associated with phase transitions, TEM study 1−30380
Nb_3Sn, nontransforming, Raman spectra meas., 400 to 20K 1−12500
$Pb_3(PO_4)_2$, ferroelastic. domains, statics and dynamics 1−7244
$RbCaF_3$, tetragonal domains in cubic phase 1−7150
V-N (0 to 25 at.%), solid solubility, V_8N and V_4N twinned phase form., domain struct. 1−38383
VF_2, cryst. distort., domain and modulated struct. 1−13971
V_3Si, transforming and nontransforming, Raman spectra meas., 400 to 20K 1−12500
$ZnGeF_6.6H_2O$, ferroelastic transition, permittivity US wave, elec. cond. and IR absorpt. meas. 1−30297
ZnS, Brillouin scatt. by injected acoustic domains 1−16576
domestic appliances
see also refrigerators
solar energy, technical and economic viability for domestic appls. 1−26817
doping, semiconductors *see semiconductor doping*
doping profiles
alkali halide crysts., doping with Pb ions by thermal treatment, annealing, optical absorpt. meas. 1−7186
alloy, ion-implanted and annealed, thermal evolution to equilib. 1−7195
C-V technique of measuring Schöttky's back conductive current and dopant concentration *(Chinese)* 1−30259
corundum, thermolum. props., dopant and growth method influence, γ-ray detect. appl. 1−26288
electric-spark doping, surface layers elements distrib. *(Russian)* 1−47108
III-V semiconductors, SIMS studies of dopant profiles, review 1−30268
ion implantation dose uniformity, computer program 1−52165
ion slowing down approx. to Boltzmann eqn., appl. to energy deposition and ion implantation 1−52196
metals, electric-spark doping, adsorption phenomena influence *(Russian)* 1−47100
MOS structures, low-dose ion implants, on-line capacitance-voltage doping profile meas. 1−25803
MOS structures in nonequilib. state with carrier depletion of semicond. surface, method for investigation 1−30836
p-n junction, impurity and defect diffusion and flicker fluctuations 1−25780
p-n junctions, DLTS to measure current transients 1−25796

doping profiles continued
polyacetylene, with controlled doping levels and doping gradients 1−7598
Schottky-barrier diode, barrier height reduction by thin doped surface layer 1−7708
semiconductor, laser annealed, defect identification and eval. techniques *(Japanese)* 1−20188
SOS, ion-microprobe mass anal. appl. to ion implantation 1−25299
steel, austenitic stainless, D_3^+ implantation, depth profiling and thermal desorption 1−25314
Al-Fe metastable alloys, ion implantation prod., thermal migration of Fe 1−7393
Al-SiO_2-Si:P Schottky barrier diodes, electron transport, fabrication 1−7707
$Al_xGa_{1-x}As$:Be LPE layers, doping characts., elec. props. 1−15914
$Al_xGa_{1-x}As$:Cr(Te), MBE, study of dopant distrib. SIMS 1−42647
B, oxidation-enhanced diffusion reduction, IGFET fabrication appl. 1−30472
$Bi_{12}GeO_{20}$:Cr(Mn)(Cu)(Ni), Czochralski growth method, dopant distrib. 1−21339
$Bi_{12}SiO_{20}$:Cr(Mn)(Cu)(ni), Czochralski growth method, dopant distrib. 1−21339
Cu:Pb single cryst. film, pulsed laser annealing 1−8341
CuO thin film doping by alkali metals, spark mass spectrometry anal. *(French)* 1−2488
Fe-Cr(Ni), ion implanted, conc. profiles and electrochem. props. *(Japanese)* 1−42411
Fe-Ti-C, ion implantation of Sb, diffusion and trapping 1−7195
GaAS epitaxial layers, electron velocity in high elec. fields 1−34714
GaAs, doped, VPE invest. *(Chinese)* 1−53096
GaAs, epitaxial film growth by RF sputter deposition 1−31343
GaAs epitaxial layers, dopant conc. profile automatic determ., photoelec. props. meas. of Schottky contact 1−7481
GaAs, impurity analysis by SIMS 1−20254
GaAs structures, meas. of doping profiles 1−20252
GaAs wafer, ion-implanted, semi-sealing capless anneal 1−21490
GaAs:Cr, Mg ion implant distrib., elec. props. 1−7202
GaAs:Cr, semi-insulating Cr profile after annealing in H_2-As_4 atmosphere 1−2490
GaAs:Cr(Fe), MESFET, doping profile determ. by SIMS 1−30264
GaAs:Fe, doping by MBE 1−47394
GaAs:Ge, ion implanted, elec. props. and photoluminesc. 1−47646
GaAs:N, SIMS studies of dopant profiles, review 1−30268
n-GaAs:O^+, carrier compensation 1−7638
GaAs:Se ion implanted, impurity profiles, diffusion, luminescence spectra 1−2479
GaAs:Si(S)(Se)(Te), ion channelling study 1−34380
$GaAs_{1-x}P_x$, SIMS studies of dopant profiles, review 1−30268
GaP:Fe, Sn impurity distrib. and behaviour of Fe during LPE 1−42404
InP:Be,Fe, SIMS studies of dopant profiles, review 1−30268
InP:Cr, S ion implantation, sheet resistance, carrier density 1−2477
InP:Fe, Si implanted annealing, CVD SiO_2 encapsulation 1−38396
KCl:Tl, diffusion coeff. determ. by 5 keV electron irrad. 1−11909
$LiNbO_3$:Si, Fe, dopant conc. anal. by atomic absorption spectroscopy 1−20251
Si anodic oxidation, calibration, doping profile determ. 1−48550
Si, channelled-ion implantation, theory, method and effects *(Japanese)* 1−15915
Si, D^+ bombarded, vol. expansion and O incorporation 1−25302
Si, doping profiles simulation *(French)* 1−20469
Si doping using phosphosilicate glass diffusion source 1−34362
Si epitaxial layers, determ. of dopant concentration profile by constant current non-eqn. MOS characteristics *(Chinese)* 1−30260
Si epitaxial layers, electron velocity in high elec. fields 1−34714
Si film, amorphous, ion implantation and H profiling, p-n junction form. 1−52156
Si ion-implanted, profile of radiation disturbed layers by spreading current probe 1−52164
Si, pulsed laser-annealed, solid solubilities of B, Al, Ga, P, As and Sb dopants 1−11865
Si structures, meas. of doping profiles 1−20252
Si:As,Ar, ion implanted, interf. in diffusion, backscatt., elec. meas., and TEM obs. 1−2484
Si:As wafer surfaces testing, As doping inhomogeneities visualisation and determination 1−7199
Si:As(B)(P)(Sb), ion range and damage distrib., Boltzmann transport equation 1−42439
Si:As(P) laser induced diffusion, doping profiles 1−42575
Si:B, impurity conc. meas. by SIMS 1−47109
Si:B, ion implanted, Hall effect and resist. meas. 1−2990
Si:B, ion implanted, range parameter meas. 1−34364
Si:B, ion implanted and surface deposited B distrib., laser annealing effects, SIMS meas. 1−30267
Si:B, ion-implanted, B distrib. after laser annealing, SIMS depth profiling 1−15920
Si:B, laser annealed, IR reflectivity and transmissivity 1−12487
Si:B, resistivity/dopant-density relationship 1−20769
Si:B doping profiles, diffused from BN sources, comparison of Thai's theory 1−11783
Si:B film, on sapphire, ion implanted, Hall effect and resist. meas. 1−2990
Si:B(P)(As), ion implanted, laser annealing effects on elec. props. 1−2485
Si:Cu, ion implanted, depth profile meas. by ion-induced X-ray emission 1−2495
Si:Ga, diffusion, solid solubility, neutron activation anal. and SIMS meas. 1−38594
Si:H,P film, amorphous, P conc. determ. using AES 1−30262
Si:P ion implanted layers, damage profile determ. 1−2478
Si:P(P,B), depth profiling by Cs^+ bombardment negative SIMS 1−30263
Si:Te(Ag), ion implanted, solute trapping by moving interface 1−30470
TiO_2:Fe, anode for photoelectrolysis of H_2O 1−26754
ZnSe-Si(-GaAs) p-n heterojunction solar cells, photoelect. props. 1−8717

Doppler broadening *see Doppler effect*

Doppler effect
see also atomic spectra; red shift; spectral line breadth
alloys, amorphous, positron annihilation studies *(Japanese)* 1−43209
atmospheric wind vel. and temp. meas. using Doppler shift spectrometer 1−40224
atomic model, energy-conservative dipole dephasing irreversibility 1−1654
atomic vapours, fluoresc. spectra near glass surface, Doppler struct. due to light induced polarisation 1−6195

Doppler effect continued
biacetyl, quantum beats, collision and mag. field effects 1−37183
biomedical CW US Doppler equipment, mixers, sensitivity and directional discrimination 1−22091
biomedical US, blood flow meas., mean and peak vel. extraction 1−22094
biomedical US, Doppler, signals of moving blood, directional information extraction 1−22093
biomedical US, range gating, pros and cons 1−22092
biomedical US Doppler systems, S/N ratios and mixers, meas. and standards 1−22090
biomedical US imaging, moving blood appl. 1−22096
biomedical US signals, spectrum anal. 1−22095
biomedical US transducers, reproducibility and output meas. 1−22097
blood/muscle interface detect. using Doppler power returns, dynamics and limitations 1−8930
carbon tetrafluoride, vibr., rot., isotope effects least-squares anal., laser stimulated IR 1−24141
correlation properties of resonantly scattered light 1−15074
CW solid-state laser with kinematic mode locking 1−51497
discrete particle laser Doppler anemometry data processing 1−29815
Doppler US system for peripheral artery disease diagnosis 1−13299
EM wave scatt. by rotating cylinder, perfectly conducting surface, relativistic soln., point-matching method, Doppler effect 1−29176
EM wave scatt. by three dimens. moving objects, Fourier anal. 1−41538
Fabry-Perot cavity, optical bistability, inhomogeneous broadening 1−15210
flow measurement, range-gated US detector 1−38027
frequency shift equation 1−41543
HF oblique radiowave propag. in main trough region of ionosphere, amplitude distribs. and Doppler shifts 1−17734
ionosphere sounding, oblique backscatter method, Doppler effect manifestation 1−22578
laser cytopherometer for meas. of biparticle electrophoretic mobility 1−44058
laser Doppler and induced fluorescence anemometry comparison 1−42113
laser Doppler anemometer for meas. of retinal blood vel. 1−8965
laser Doppler flowmeter for tissue blood flow meas., evaluation 1−8952
laser Doppler spectroscopy: applications to cell and particle electrophoresis 1−50225
laser Doppler spectroscopy, mapping of cerebral cortical strokes in rhesus monkeys 1−13365
laser Doppler velocimeter particle sizing by Mie scatt. 1−40759
Laser Doppler Velocimetry, freq. shifting by prism traverse *(Japanese)* 1−35857
laser flow meas. optical systems and signal analysis methods 1−42111
loudspeaker distortion audibility tests for music reproduction 1−29499
medical US, infinite gate pulse Doppler 1−53845
medical US Doppler blood-flow probes, directional characts. 1−53846
medical US signals, spectrum rel. to time interval histogram 1−53849
medical US system, colour digital echo/Doppler image presentation 1−53844
metal foils, ^{3}He implanted, local density meas. by Doppler shift attenuation method 1−34376
microwave Doppler radar activity monitor for measuring activity of moving animals 1−44054
Mossbauer spectra, second order Doppler shift, press. effect 1−47989
neutron, resonance cross-sections, Doppler effect 1−23709
optical Doppler turbulent-velocity meas. device, correlation function of photocurrent 1−46831
optical Ramsey interference fringes, ion beam-laser beam interaction by Doppler switching 1−51367
plasma boundary, magnetised fast moving, EM wave interaction *(Japanese)* 1−46890
plasma instability in mag. field, numerical anal. 1−19885
power spectrum centroid detector for US, performance and implementation in Doppler systems 1−6742
quantum theory and special relativity 1−65
reactor resonance integral calculations 1−36982
reflected ionosphere signals, effect of wavelike electron density disturbances 1−22588
resonance fringes in two-photon absorption with Doppler shift 1−1197
SIRIO VHF beacon in Graz and Landau/Harz 1−22571
snow level meas. and avalanche warning electronics 1−32562
solar flare, 1973 December 17, Doppler broadening of flare compact kernel XUV lines 1−49590
solar spectra, implications of whole-disc Doppler observations for solar oscills. and interior struct. 1−27462
supergiant stars, contrib. of Doppler effect to chromospheric reson. line profiles form. 1−49644
surface wave/atom interaction with momentum exchange 1−1186
Tokamak plasma, turbulently heated, in TRIAM-1 ion temp. meas. by Doppler broadening 1−42195
turbulent flow over a plane normal wall 1−33947
turbulent jet, laser light scattering *(French)* 1−11435
US, biomedical pulsed Doppler systems, range increase for blood flow meas. 1−8936
US blood velocity signals, directional, system for real-time spectrum anal. and display 1−26969
US Doppler-shift waveforms, physiological interpretation, clinical results 1−8935
US Doppler-shift waveforms, physiological interpretation, common femoral artery appl. 1−8934
US flow velocity meter, optimum freq. and ionisation angle, medical appl. 1−8932
US medical systems, technology, conf., London, England (Oct. 80) 1−17941
US monitoring of foetal heart rate, improved method 1−43927
US returns from foetal heart, electronic processing method 1−32213
US systems applications utilizing power spectrum centroid detection 1−6741
vertebral artery imaging, technique using pulsed Doppler US 1−35845
Voyager 1 and 2 spacecraft navigation, use of SIRIO Faraday rotation data 1−22659
weather monitoring, microcomputer-based Doppler system 1−40223
Ca, optical Ramsey fringe profiles, second-order Doppler effect 1−51165
CaF, optical optical double reson. spectra 1−1263
H, X-ray emission line broadening by laser prod. plasma *(French)* 1−37153
^{A}Kr(α,nγ), A=80, 82, ^{83,85}Sr lifetime and linear polarisation meas. by Doppler shift attenuation 1−666

Doppler effect continued
$^{82}Kr(\alpha,2n\gamma)$, ^{84}Sr lifetime and linear polarisation meas. by Doppler shift attenuation 1−666
Li^-, beam-foil excited, optical emission obs. 1−37317
LiF powder 1−35113
LiH powder, electron struct. from positron annihilation Doppler broadening 1−35113
Mg^+, fluorescence spectra, double resonance techniques 1−45889
N_2, CARS spectra, interference effects 1−33467
NO, CARS spectra, interference effects 1−33467
Na, unidirectional amplified spontaneous emission, vel. depend. light shift 1−6209
NaF powder, electron struct. from positron annihilation Doppler broadening 1−35113
NaH powder, electron struct. from positron annihilation Doppler broadening 1−35113
Na_2^*+Xe, rot. energy transfer, rate consts., velocity depend., Doppler shift 1−37313
Ni, ion implantation of ^{58}Co for positron annihilation Doppler broadening meas. 1−32968
O_2, CARS spectra, interference effects 1−33467
OH(OD), reaction prod., excitation spectra, velocity distrib. scattered species, Fourier transform Doppler obs. 1−37244
Si, divacancies and quadrivacancies, positron lifetime and Doppler broadening meas. 1−39178
Tl+Kr(Xe), collisional 535 nm line broadening and shift 1−19174

Doppler shift *see Doppler effect*

dopplerons
ferromagnetic conductors, anisotropic Fermi surfaces, excitation in magnetic field 1−2898
metal, nuclear spin-doppleron interaction at NMR freq., theory 1−26050
Cd, nuclear spin-doppleron interaction at NMR freq., theory 1−26050
W, ballistic and wave-type EM excitations, Doppler shifted cyclotron resonance *(Russian)* 1−43014

dosimeters
see also dosimetry; thermoluminescent dosimeters
albedo neutron dosimeters, phantoms for calibrating 1−9021
calibration, photographic technique *(Italian)* 1−50947
ceric-cerous system, potentiometric estimation of doses from 0.1 to 1.0 Mrad 1−18903
criticality accident, dosimetry and dosimeters, review 1−5974
diamond resistor for dose meas. 1−45741
electret dosimeter utilising gas multiplication 1−18899
electret ionisation chamber, cylindrical 1−6081
electron radiation dosimeter calibration in fields with electron energies of 3-10 MeV, reference installation 1−23860
fiber optics dosimetry, civil defence appl. 1−6043
gamma ray and neutron dosimetry system using PIN diode and RPL glass 1−6049
Geiger-Muller photon dosimeter, response for 100 keV to 19 MeV neutrons 1−41253
glass, intercalibration for neutron fluence determ. 1−18904
ion chambers used for neutron dosimetry, effect of finite size 1−23864
liquid ionisation chamber for neutron dosimetry 1−23977
neutron and gamma ray dosimetry system using PIN diode and RPL glass 1−6049
neutron dosimetry, fast neutrons, cellulose nitrate detector, etched neutron tracks 1−938
neutron dosimetry, personnel, CR-39 carbonate plastic track detectors 1−10549
neutron dosimetry, personnel, NRC Regulatory Guides 1−14704
occupational radiation exposure at the waste handling facility of the Karlsruhe Nuclear Research Centre 1−28742
personnel dosimetry devices, comparison of the film badge and pocket chamber dosimeter 1−50948
phosphate glass, dosimeter system, automatic RPL evaluation 1−6046
plastic track detector for fast neutron dosimetry 1−37056
plastic track detectors, CR-39 carbonate, for personnel neutron dosimetry 1−10549
polyethylene film dosimeter, UV absorbed dose obs. 1−13327
radiachromic film dosimeters, nylon-based, dose rate and humidity effects on γ-response 1−18901
radiotherapy standard dose meter calibration 1−9028
secondary standard dosimeters for X-rays and gamma-rays up to 2 MeV, calibration factors 1−41271
Teflon electret dosimeter charger, design and performance 1−6039
terephthalate, radiation chem. studies 1−4114
X-ray dosimetry using electret dosimeter, radiodiagnosis 1−9030
BeO exodetectors, dosimetric characteristics 1−14700
BeO films, evaporated on graphite substrates, TSEE dosimetry 1−968
BeO:Li, exodetectors, dosimetric characteristics 1−14700
$FeSO_4$ dosimeter, G-value for 3 and 14 MeV neutrons 1−44016
S tablet neutron dosimeters, Cherenkov rel. to proportional counting 1−6111

dosimetry
see also dosimeters; radiation detection and measurement; radiation monitoring
absolute absorbed dose, dose-equivalent response near proton accel. 1−18905
accelerator integral radiation dose meas. circuit 1−941
accident risk assessment, consequence model calc. of fatalities 1−5923
acoustic dosimetry of intense electron beams 1−23865
aerodigestive tract squamous-cell carcinoma, dose rel. to prognosis 1−32248
air-ground interface effect on gamma-ray submersion dose 1−18916
air-tissue interface, dose buildup considerations 1−22137
alanine dosimeters, ESR study 1−6047
albedo dosimeters, comparison of solid state and thermoluminescent detectors *(Czech)* 1−28710
albedo technique, neutron stray radiation field, interpretation and monitoring 1−6117
alumophosphate glass, thermoluminescent dosimeters, fast neutron sensitivity *(Czech)* 1−6042
angular distribution of gamma dose rate at deep penetrations 1−28714
ASTM E.10.05.01 task group on reactor dosimetry uncertainty anal., status report 1−50983
attenuation and absorption coeffs. for some elements and combinations *(Ukrainian)* 1−23869
beta-active radionuclides incorporated in mycobacteria, dose-response curves *(German)* 1−44001

dosimetry continued
cerebral blood flow meas. using ^{81m}Kr γ-rays, external exposure around the patient *(Japanese)* 1−32251
cervical and thoracic radiation myelopathies, dose effect relationships 1−53901
cervical carcinoma, Ra implant, dosimetry anal. 1−17497
cine radiographic procedures, exposure range 1−44018
collective, mean and sample dose statistics for nuclear fuel cycle workers in Canada 1−32253
collective doses of radiation due to UK nuclear power industry 1−28724
computed axial tomography, contrib. to dosimetry and treatment evaluation in lung cancer 1−13316
CR-39 carbonate plastic detector, neutron personnel dosimetry appl. 1−18969
CR-39 electrochem. etching, neutron track dosimetry apparatus 1−51057
criticality accident, dosimetry and dosimeters, review 1−5974
CSEWG dosimetry benchmark for pressure vessel damage anal., flux spectrum calcs. 1−50968
decay schemes for radionuclides of potential importance in the nuclear fuel cycle 1−45638
depth dose data for 4 MeV linear accelerators with Pb or U field flatteners 1−49126
diagnostic radiology, approach to the establishment of technique/exposure ranges 1−44022
diagnostic radiology, dose reduction pot. of C-fibre material 1−44024
diagnostic radiology, patient dose considerations 1−44020
diagnostic radiology, personnel exposure reduction 1−53908
diagnostic radiology, prediction of patient doses 1−44017
diazo film as film badge dosimeter 1−17498
displacement corrections used in absorbed dose determ. 1−23861
dose-effect relations, nonparametric representation 1−44025
EGS code appl. to synchrotron rad., shielding and dose meas. calcs. 1−18924
electron and photon beams from a 50 MeV racetrack microtron 1−53902
electron dosimetry calcs. for thermoluminesc. detectors using Monte Carlo method 1−18925
electrons, fast, dose equivalent index 1−53906
ENDF/B-V reactor dosimetry file, data testing 1−50991
environmental gamma-ray dosimeter 1−18915
environmental monitoring by passive dosimetry 1−21963
environmental radionuclide release following LWR core meltdown, risk assessment 1−5924
environmental Rn and Rn daughter dosimetry in the respiratory tract 1−44004
equivalent square fields for radiotherapy 1−22133
fast neutron dosimetry using a CR-39 plastic track detector 1−28799
fast neutron fields, high LET , dosimetry 1−6091
fast neutron therapy of the pelvis, in vivo dosimetry 1−32249
fiber optics dosimetry, civil defence appl. 1−6043
film dosimetry of MV photon beams, isodensity-to-isodose curve conversion method 1−44010
fission neutrons, depth dose distrib. calcs., heavy water moderation 1−18900
fission reaction rate ratio measurement errors 1−50980
flattening filters, design based on intracavitary absorbed dose meas. in external radiotharpy 1−53858
formalism for calculation of absorbed dose to a medium from photon and electron beams 1−44006
fuel rods, energy release, neutron and gamma components, Gray-chamber meas. 1−28596
gamma-ray spectra measured in a tissue-equivalent medium irradiated with neutron radiotherapy sources 1−53817
glutamine, lyoluminescence dosimetry, high-dose intercomparisons 1−6044
heavy ion target area fast neutron dose equivalent rates 1−14702
indoor α-dose rate, estimation calcs. 1−22135
integrating radiation dosimeter for the range 10^6-10^9 rad, using polyimide and a Pirani vacuum gauge 1−6115
international intercomparison of environmental systems 1−6089
ionising radiation, low-level radiation effects on human beings, therapeutic appls. and irrad. of materials 1−27002
ionising radiation, occupational exposure, statistical data base for USA, 1975 1−32252
ionising radiation dosimetry, basic terms in SI units *(Hungarian)* 1−41252
Ireland, γ-ray background radiation meas. 1−22136
ITER code for neutron flux multichannel spectra unfolding 1−50708
J1 unfolding method for neutron spectra in reactor dosimetry 1−50987
L54 fast reactor, neutron flux spectrum using activation result unfolding 1−50988
LaCrosse BWR, neutron dosimetry anal. 1−18787
LOUH178 neutron flux spectra, unfolding from activation data 1−50709
lyoluminescence phosphors, radiation quality and gamma dose, response function 1−6045
lyoluminescent dosimetry, appl. to ratiotherapy, radiation processing of food and sterilisation 1−9031
lyoluminescent phosphors, response to ionising radiation 1−8134
mammographic practice and dosimetry in Britain 1−49097
megavoltage X-ray beams, semiempirical model for depth dose distribs. 1−9024
microdosimetry, proximity functions for electrons up to 10 keV 1−43892
microdosimetry, use of secondary electron emission 1−49127
microdosimetry, use of secondary electron emission to simulate 2 target models 1−49128
microdosimetry for radiation nonequilibrium 1−49129
Monte Carlo program application 1−18926
multicomponent activation detectors, optimisation for reactor neutron spectroscopy 1−50984
neturon dosimetry, $^{52}Cr(n,p)^{52}V$ near threshold, cross-section meas. 1−702
neutron dosimeters for reactor environments, moderated neutron sources for calibration 1−14706
neutron dosimetry, $^{66}Zn(n,p)^{66}Cu$, activation cross-sections 1−703
neutron dosimetry, fast neutrons, cellulose nitrate detector, etched neutron tracks 1−938
neutron dosimetry, personnel, NRC Regulatory Guides 1−14704
neutron dosimetry at E_n=14.5 MeV, uncertainty of kerma factors 1−6057
neutron dosimetry calibration, monoenergetic and continuous-energy neutron fields 1−14705
neutron dosimetry for radio therapy, tissue equivalence 1−27006
neutron dosimetry intercomparisons: evaluation and implications for future developments 1−49130

dosimetry continued
neutron field, determ. of absorbed dose and kerma 1−44014
neutron flux spectra errors, computer calc. 1−50981
neutron flux spectra unfolding codes using least square approx. 1−50985
neutron source, d+T, at Antoni Van Leeuwenhoek hospital, dosimetry intercomparisons 1−44008
neutron spectra, moderated, neutron fluence to dose conversion factors calc. 1−14703
neutron spectra, unfolding codes, comparison 1−50989
neutron spectrum unfolding codes, benchmarking problems 1−18914
neutron therapy, correction for γ-ray component 1−9022
neutron therapy beam characterisation, central axis depth dose and off-axis ratios 1−40007
neutron therapy beam characterisation, skin-sparing and dose transition effects 1−44011
neutron whole body dose from ^{24}Na activity 1−28709
neutrons, fast, high flux, cellulose nitrate detector 1−6048
neutrons, suggested instrumental approach to surveying of neutron fields and personal dose meas. 1−45740
neutrons with energies below 30 MeV, kerma factors 1−14570
nuclear accident dosimetry systems meas. 1−969
nuclear power, health hazards rel. to other forms of power 1−26857
occupational exposure, effectiveness of means for maintenance ALARA, methodology 1−18918
occupational exposure estimate for spent-fuel geological storage operation 1−28743
occupational exposure management system, admin., data acquisition and anal. 1−18917
occupational radiation exposure, comparing nuclear power plant exposure histories 1−28733
occupational radiation exposure, dose equivalents during maintenance and operation of an organic-cooled research reactor 1−28726
occupational radiation exposure, optimum indicator of external radiation *(French)* 1−32260
occupational radiation exposure, Rn daughter exposure estimation, statistical anal. of monitoring freq. 1−32255
occupational radiation exposure at GDR nuclear power station 1−28728
occupational radiation exposure at Karlsruhe fuel reprocessing plant 1−28740
occupational radiation exposure at the Eurochemic reprocessing plant during normal operation and intervention periods 1−28739
occupational radiation exposure at the Idaho chemical processing plant 1−33355
occupational radiation exposure control at BWRs and PWRs 1−28732
occupational radiation exposure control of nuclear power plant personnel in the Federal Republic of Germany 1−28730
occupational radiation exposure in nuclear facilities *(French)* 1−32259
occupational radiation exposure in nuclear fuel cycle facilities, conf. Los Angeles, CA, USA (June 1979) 1−27676
occupational radiation exposure of the personnel of a nuclear research centre in Belgium 1−32257
occupational radiation exposure of the staff of the Karlsruhe nuclear research centre. A ten-year review 1−32258
occupational radiation exposure review at Georgia Power Company's Hatch Nuclear Plant 1−28734
occupational radiation exposure trends in the nuclear industry of NEA/IAEA member states 1−28723
occupational radiation exposures at NRC-licensed facilities 1−28725
occupational radiation exposures at Swedish LWRs 1971-78 1−28729
occupational radiation exposures in reprocessing facilities at the Savannah River Plant 1−28741
photoneutron beams, possible use for therapy 1−26995
pion dose distributions in water, calc. techniques 1−27005
pion dosimetry with thermolum. materials 1−6056
pion radiotheraphy, high LET dose meas. 1−22138
plastic detectors, electrochemical trace etching appl. in neutron dosimetry *(Hungarian)* 1−23944
pocket warning γ-dosimeter with numerical display 1−50977
polarographic vessel for anal. of stable products and dosimetry in pulse radiolysis expts. 1−17122
polyethylene film dosimeter, UV absorbed dose obs. 1−13327
population exposure rel. to medical radiology 1−35889
positron emission tomography 1−22131
post-LOCA coolant piping dose rates−a plant shielding survey tool 1−18796
power reactor radiation dose acceptability determ. and health hazard monitoring 1−45738
precision fast dosimeter for pulsed high energy X-ray beams 1−18906
pressure vessel dosimetry, Brown's Ferry results anal. 1−18909
pressure vessel fluences, extrapolation of surveillance dosimetry information 1−18790
pulsed emission from relativistic electron beam, dosimetry appls. 1−24348
PWR containment environment, neutron monitor evaluation 1−18908
PWR fuel assembly, nondestructive assay using solid-state dosimeters 1−50783
radiation exposure, risk assessment 1−35829
radiation therapy, computer-based file of X-ray and electron beam central axis depth dose data 1−22139
radiation therapy, electron build-up region, computer calc. of dose distrib. 1−9037
radiation therapy, microdosimetric investigations on collimated fast-neutron beams, water phantom obs. 1−44012
radiation therapy, microdosimetric investigations on collimated fast-neutron beams, radiation quality and RBE 1−44013
radiation therapy, time-dose effects, review 1−27003
radiation therapy dosimetry network in the US 1−44009
radiation transport and dosimetry, computer techniques, conf., Erice, Sicily, Italy (Oct.-Nov. 1978) 1−17924
radiation treatment planning on the basis of computerized tomograms 1−44003
radiation-induced cancer death and dose meas. for radiation workers 1−32254
radiographic magnification, detail perceptibility; dose efficiency and effects of resolution and noise 1−40006
radiography, automatic X-ray exposure controls, energy and exposure rate dependences 1−44019
radiography, dosimetric advantage of underweight people 1−9026
radiography, rare earth screens, compatibility with automatic exposure control systems 1−43981
radiography, survey of entrance skin exposure values for 2 projections 1−44021
dosimetry continued
radiotherapy, computer programs for output and depth dose from hyperbolic eqns. 1−40008
radiotherapy, conf., Teddington, England (Jul. 1980) 1−5021
radiotherapy, total body irrad., comparative dosimetry for ^{60}Co γ-rays and 25 MV X-rays 1−35886
radiotherapy accelerator, 25 MV X-rays, neutron contamination obs. 1−9025
reactor dosimetry wing ^{63}Cu(n,α)^{60}Co, threshold to 10 MeV, cross-section meas. 1−701
response curves for low-level radiation effects 1−40011
S_n transport calculations of the PCA experiments with some estimated uncertainties 1−18788
SAND-II code modification, rel. to least squares lognormal case 1−50982
SHIELDOSE, Al-spacecraft shielding radiation dose calcs. 1−10550
short pulsed radiation, review 1−45745
skin, mouse foot, explanation of dose-rate and split-dose effects on X-irrad. 1−43916
solid state dosimetry, conference, Toulouse, France (Apr. 1980) 1−11
spectroscopy of neutrons and γ-rays for clinical dosimetry 1−9023
spent-fuel transfer cask, shielding design and dose rate meas. 1−50972
surgical intensive care unit, scatt. radiation levels of 80 and 240 kVp X-rays 1−40010
teaching of thermoluminescent dosimetry in technical universities, Ispra proposal 1−9793
therapy X-ray beams, surface and depth dose obs. 1−9020
thermoluminescence, thermal activation energy of carrier capture 1−3504
thermoluminescence dosimetry system for personnel and environmental monitoring, calibration 1−9038
thermoluminescent, automated monitoring system, Austria 1−6055
thyroid function tests with ^{99m}Tc-pertechnetate, spatial dose distrib. curve around patients 1−40009
tissue-equivalence of Alderson Rando anthropomorphic phantom for diagnostic X-rays 1−44015
tissue-metal interfaces, high energy electron irrad., dose enhancement 1−22132
TL, LiF, exposures from full face diagnostic dental X-rays 1−9034
TLD, appl. to clinical and radiation protection dosimetry 1−967
TLD, clinical appl. in USA, current status 1−13325
TLD, clinical applications 1−9035
TLD, environmental monitoring, European test program preliminary results 1−6088
TLD, $LiBO_2$, skin dosimetry, total body superficial electron beam therapy appl. 1−9033
TLD, photon counting system, monitoring personnel exposure 1−965
TLD, radiotherapy applications, problems 1−9032
TLD (LiF) 1950-1, history 1−5070
TLD expts. and Chalk River Nuclear Labs. 1−50979
TLD large-scale monitoring, problems and solns. 1−6083
TLD-100, use near nuclear power stations, thermal effect correction, environmental doses *(Spanish)* 1−28707
TLD-700, human organ dosimetry after multiple scan computerised X-ray tomography, model expts. 1−13326
TLDS, ^{6}LiF, ^{7}LiF, response in tissue equiv. phantoms in 14 MeV neutron field 1−6090
TLDs, natural fluorite, gamma-ray dosimetry at 250°C in PFR 1−6092
TLDs and TLD readers, international standardisation, progress report 1−6097
tumour therapy, optimisation techniques for ionising radiation dosage *(German)* 1−35890
ultrasound, using BeO:Li transferred TSEE 1−9036
US neutron radiotherapy centres, calorimetric and ionimetric dosimetry intercomparisons 1−44007
uterine carcinoma treatment, dose distrib. around Ra arrays 1−44002
Varian Clinac 6-100 linear accelerator, X-ray beam charact. 1−26990
VVER, experiment of channel, dosimetry, thermal neutron capture, radiation therapy expts. *(Czech)* 1−942
wedge design and dosimetry for 25-MV X-rays 1−17486
whole-body radiation monitoring of internally deposited radionuclides in nuclear facility workers 1−32256
wide range survey meter for estimating γ- and β-dose rates 1−50978
X-ray beams, 10 MV, effects of acrylic resin tray on relative surface doses 1−35887
X-ray exposure factors, microcomputer controlled diagnosis 1−22140
X-ray procedures, selected, variations in measured patient entrance exposure 1−44023
X-rays, high-energy, postal intercomparison of absorbed dose using TLDs 1−9027
X-rays, MV, method for calc. of dose and dose parameters 1−27004
π^- beam, dose to tissue-equiv. phantom, Monte Carlo calc. 1−32250
π^- fields, high LET, dosimetry 1−6091
Al_2O_3, α/β, TSEE from plasma flame mixture 1−8203
Al_2O_3, sintered, exoelectron dosimetry material, enhanced by annealing 1−8352
Al_2O_3, thermoluminescence, very deep traps at temps. greater than 500°C 1−3507
$BaPt(CN)_4$, TLD material, properties 1−957
CaF_2:Dy, TLD system, Mn dopant effect 1−3512
$CaSO_4$, thermoluminescence mechanisms, V-centres 1−3503
$CaSO_4$:Dy, thermoluminescence, very deep traps at temps. greater than 500°C 1−3507
$CaSO_4$:Tm, thermoluminescent mechanism, ESR study 1−3505
$CaSO_4$:Tm TLD, radon daughter monitoring appl. in high gamma background. 1−6096
CdI_2, TLD material, properties 1−957
$CeCl_3$, TLD material, properties 1−957
^{252}Cf dosimetry in phantoms of various dimensions 1−53909
^{252}Cf, spontaneous fission neutrons, spectrum averaged cross sections, reactor dosimetry 1−41151
^{60}Co teletherapy units, revised depth dose data 1−22134
^{3}H, bounds for global population doses 1−53907
^{3}He(d,n)^{4}He, neutron fluence from assoc. α-particles and proton recoil meas. 1−28484
^{A}I, A=123, 125, 131-2, biokinetics, mean dose and dose distrib. 1−44026
^{115}In(n,n')^{115}In, 0.5 to 1.3 MeV, cross-section measurement, neutron monitoring 1−14518
^{85}Kr, estimation of global activity concs. and resulting doses to the public, γ-spectrometry 1−39855
$Li_2B_4O_7$, rare earth doped, dosimetric properties, luminescence studies 1−954
LiF, dose re-estimation using UV photo-transfer, effect of LET 1−951

dosimetry continued
LiF, high sensitivity tissue-equivalent thermoluminescent phosphor, simultaneous sensitisation and re-estimation 1−1044
LiF materials, flame-sintered, comparative TL-TSEE measurements 1−8140
LiF, TLD, B diffused thermoluminescent surface layer, skin dose assessment 1−958
LiF, TLD, radiation-induced colour centres at high absorbed dose rates 1−944
LiF TLDs, appl. to personnel and environmental dosimetry 1−6050
LiF, thermoluminescence sensitivity and non-radiation induced signals, particle size effects 1−955
LiF, thermoluminescence glow-curves, computerised curve-fitting 1−3509
LiF:Mg, thermoluminescence, Z-centre model 1−3511
LiF:Mg, Ti, TLD, Z-centre model 1−3508
LiF:Mg, Ti, thermoluminescence properties, influence of OH^- 1−3510
LiF:Ti, thermoluminescent mechanism, F-centre trap 1−3506
MgO, thermoluminescence mechanisms, V-centres 1−3503
$^{23}Na(n,2n)^{22}Na$, 14 to 18 MeV, cross-section measurement, neutron monitoring 1−14518
Ni-NaF systems, as UV dosimeters by TSEE 1−10589
$^{58}Ni(n,2n)^{57}Ni$, 14 to 18 MeV, cross-section measurement, neutron monitoring 1−14518
Ra applicators, dose-rate calcs., simple function describing absorpt. in Pt 1−53904
Ra insertions in cancer of cervix treatment, TLD assessment of radiation exposure to staff 1−53905
Ra needle spacing effect on dose distrib. of planar implants 1−53903
^{222}Rn, environmental, methods and theory for low-dose, integrated meas. 1−44005
$^{106}RuO_4$, inhaled by Fischer-344 rats, metabolism and dosimetry 1−9045
double heterostructure lasers *see semiconductor junction lasers*
double layers (electric) *see electrochemistry; liquid theory*
double nuclear magnetic resonance
see also INDOR
electron-nuclear spin system, nuclear relax. and nuclear double resonance *(Russian)* 1−52861
peptidyl amide, ^1H NMR, fine struct. anal., solvent effects 1−14917
spectrometer, double resonance, level-crossing, for investigating ^{14}N NQR spectra 1−28047
N-tertbutylacetamide in CCl_4 and cyclohexane, self-assoc., selective double reson. obs. 1−21721
tetramethylammonium silicate hydrate, ^{29}Si NMR, shielding tensor and Si-O bond length correl. 1−34959
torsional spectroscopy from nucl. magnetisation time evolution in rotating frame 1−43038
water, pulse Fourier transform NMR double reson. suppression and decoupling in aq. soln. 1−41410
Ag_xPt_{1-x}, NMR and susceptibility meas. 1−26058
$Ca_6[Si_2O_7(OH)_6]$, ^{29}Si NMR, shielding tensor and Si-O bond length correl. 1−34959
MgF_2 elec. field gradient meas. on nuclei 1−38758
double refraction *see birefringence*
double refraction, electric *see electro-optical effects*
double refraction, magnetic *see magneto-optical effects*
double resonance, electron nuclear *see ENDOR*
doublet antennas *see dipole antennas*
DPPH, diphenylpicrylhydrazyl *see organic compounds*
drag reduction
atherosclerosis initiation, effects of drag reducing polymers 1−53813
axisymmetric supersonic base flows with injection, drag reduction, approx. anal. 1−19742
blunt bodies, supersonic Navier-Stokes eqns. soln., generalised coords. 1−2019
boundary layers, compressible, momentum thickness, friction coeff. calc. *(Chinese)* 1−1928
drag reducing polymers, aq. soln., adiabatic compressibility and solvation 1−51822
elongational flow of dilute drag reducing fluids in a falling jet 1−51826
friction in channels, turbulent flow, two-layer model *(Russian)* 1−15545
interface drag coefficient in separated two-phase flow 1−51855
kinetic theory, generalised normal soln. method 1−24844
micropolar liquids, drag invariance, Stokes problem 1−6879
natural gas-hexane pipe flow, drag reduction 1−46814
pipes, polymer soln. mechanical degradation in turbulent flow, drag reduction 1−29730
poly(oxyethylene), γ-irradiated in presence of acrylic acid, drag reduction characts. 1−46813
polyacrylamide solns., effect of Fe^{+++} on drag reduction 1−46815
polyethylene oxide, aq. soln., hydrodynamic resistance reduction effect 1−11429
polyethylene oxide, rel. between mol. struct. and drag reduction, laminar and turbulent flows 1−15517
polyethylene oxide soln., irreversibility of drag-reducing props. 1−46783
polyethylene oxide solns., polymer induced fluctuations in high-strain rate laminar flows 1−24852
polyisobutylene solns., conform. changes of macromolecules in transient elongational flow 1−46786
polymer drag reduction, conf., Anaheim, USA (Mar. 1978) 1−44709
polymer soln., pipe flow drag reduction in 90° triangular open channel 1−24849
polymer solns., dilute, vortex flow 1−46760
polymer solns., molecular interactions evidence in turbulent pipe flows 1−46727
polymer solns., viscoelastic, drag reduction experienced by rotating disc under laminar flow conditions 1−24850
polymer solution drag reduction, conf., Boston, MA, USA (Oct. 1980) 1−24848
polymer solutions, ejection through thin slits, drag reduction, near-field viscoelastic effects 1−24851
polystyrene dilute solns., flow-assisted degradation 1−51751
scission of non-interpenetrating macromolecules in transient extensional flows 1−46816
stabilization of three-dimensional boundary layers by suction and cooling 1−42038
styrene solns., oil soluble polymers as drag reducers 1−46732
subsonic flow, relax. drag, nozzle and cascade profiles *(German)* 1−11421
turbulent drag reduction by addition of micelle-forming surface active substances in gaps between coaxial cylinders 1−46731
drag reduction continued
wake splitter plate, influence on aerodynamic characteristics of 2-D cylinder 1−33962
xanthan gun in soln., conform. and shear stability 1−49049
drawability *see ductility*
drawing (mechanical)
Cu, wire, swaged and drawn, difference hardness distribs. 1−3780
cylindrical shells, force requirements in deep drawing *(French)* 1−3776
deep drawing, lubrication mechanisms 1−26627
deepdrawing faults *(French)* 1−26496
drawroll assembly of textile drawtwisting machine, noise reduction 1−41920
fibres fabrication and performance 1−11190
fibres fabrication and props., based on multicomponent glasses 1−11189
flange wrinkling, in Swift cup test, anal. 1−41958
glass fibres for optical communication, interference method for parameters determ. *(Czech)* 1−11098
metal, internal damage calc., caused by drawing, cylindrical specimen, several passes *(French)* 1−3774
metal foils, electrochemically-deposited, ductility meas. using hydraulic deepdrawing test 1−26713
optical fibre fabrication, coating technique for high speed drawing 1−11208
optical fibres, metal coating by magnetron sputtering 1−15296
polycarbonate, orientation effect on crazing 1−35359
polycarbonate, thermal effects in necking, IR camera study 1−53233
polyethylene, high modulus, elongational flow effect on continuous processing *(Japanese)* 1−8266
polyethylene, high modulus tensile strength materials, prep. and props. 1−31503
polyethylene, low density, drawn and annealed, transport props. meas. 1−43362
polyethylene, melt crystallized, chain defect distrib. and microstruct., defect size and plastic deform. 1−2348
polyethylene, thermal effects in necking, IR camera study 1−53233
polyethylene, ultrahigh modulus, stiffness and creep 1−31582
polyethylene fibres, high mol. wt., maximum strength and hot drawing mechanism 1−8379
polyethylene fibres, porous high mol. wt., spinning/hot drawing influence on tensile strength 1−26421
polyethylene film, piled lamellae struct., deform., SEM obs. 1−2839
polymeric materials, cold forming, book contrib. 1−39305
polymers, biaxial drawing and orientation 1−34401
polypropylene, tape, retraction 1−35289
polypropylene, thermal effects in necking, IR camera study 1−53233
quartz-plastic fibre technology and applications 1−1707
square blank, deep drawing theory, flange region numerical soln. *(French)* 1−3777
steel, cylindrical shells without blankholding, calc. method for determ. limit of flange wrinkling in deep-drawing 1−21519
steel, dual-phase, ductility and strength 1−12818
steel, HSLA, drawability limit, proneness to wrinkling, mathematical model *(French)* 1−8335
steel, HSLA sheet, flow and fracture after cold forming *(French)* 1−3769
steel, low C, damage generation during sheet metal forming, inclusion effect *(French)* 1−3770
steel, stainless 17 Cr, development of {111} recrystn. texture with excellent drawability 1−48372
tube drawing intensification by axial US oscillation of plug 1−37679
AgCdO, worked sintered, working and heat treatment effect on strength props. 1−3781
Al wire, wet drawing for conductor manufacture 1−12777
Al-Mg (5 wt.%) clad with austenitic stainless steel, props. and formability *(French)* 1−8336
Cu single cryst. rod, periphery deform. band development during drawing *(Japanese)* 1−31537
$Fe_{29}Ni_{49}P_{14}B_6Si_2$, metallic glass, fabrication of wire by drawing *(Japanese)* 1−3766
Fe, ferritic, strain hardening, axisymmetric vs. plane strain elongation 1−21483
$Fe_{29}Ni_{49}P_{14}B_6Si_2$, Metglas 2826B, wire or tube fabrication by drawing 1−39266
Li_2O-SiO_2-(K_2O-P_2O_5-ZnO) glass-ceramic fibres, development and props. 1−8356
Nb_3Sn wire, prod. by in situ process, supercond. props. 1−48295
Ta, annealed and drawn, tensile and cyclic tensile fatigue strength in vac. at high temp. *(Japanese)* 1−53198
W wire, KAlSi dopes, K form. on surface during drawing *(German)* 1−48369
drives
see also electric drives; propulsion
precision rotary table for angular measurement *(German)* 1−27913
drop model (nuclear) *see nuclear liquid drop model*
droplets *see drops*
drops
acetone drop dropped onto hot silicone oil surface, evaporation 1−2040
airblast atomisation, mean drop size, linear scale effects 1−24869
automated holographic drop-size analyser 1−37437
chain in fluid stream, diffusion effects 1−46800
charged drops, elec. pot., elec. field and surface charge density calc. *(French)* 1−44274
cloud, particle size, laboratory expt., drop generators for calibration of drop spectrometers 1−44330
cloud droplet spectra evolution, entrainment influence, inhomogeneous mixing model 1−22464
cloud droplets, effect of size distrib. on solar radiation refl., transmission and absorpt. 1−13572
cloud droplets, Prigogine diffusion theorem appl. to atmospheric transfer processes 1−4558
clouds, drop size spectra, condensation 1−4593
coagulating droplets, Markovian system, backward Kolmogorov eqn. 1−8623
coal ash droplets in combustion flows, laser transmission for sauter mean dia. meas. 1−19839
coalescence in close-packed dispersions, effect of interdrop forces 1−16145
colliding droplets, velocity field in toroidal coordinates, nuclear fusion model 1−15518
condensation dropwise, heat transfer through individual drops 1−37778
containerless zero-gravity materials processing using drop tube 1−36641

drops continued
convective diffusion to drop arbitrary absorption conditions, diffusion boundary layer approx. 1−24778
deformation of a bubble or drop in a uniform flow 1−37996
density meas., photographic technique 1−40225
dichloromethane drop dropped onto hot silicone oil surface, evaporation 1−2040
diffusion to a particle at large Peclet numbers and small Reynolds and Hartmann numbers 1−38017
direct contact condensation of vapour on a spray of subcooled liquid droplets 1−19548
distortion in slow viscous flow 1−37999
droplet entrainment model for non-bubbling evaporator, calculation methods *(Russian)* 1−7308
droplet size, lower bound estimate for two-phase dispersed flow 1−38002
droplets, settling velocity in turbulent pipe flows, eddy diffusivity 1−19803
dropwise condensation of steam in vertical tubes, heat transfer 1−37915
electrostatically sprayed, vel. meas. by holographic technique 1−41636
entrained liq. drops, conc. distrib. and diffusivity, horizontal liq. film-mist 2-phase flow 1−24865
evaporating floating immiscible superheated, direct contact heat transfer, numerical anal. 1−1809
falling raindrops, mass accretion, Newton's second law problem 1−40616
flashing droplet obs. by multipulse holography 1−1530
fog droplets, growth by condensation, effect of radiative exchange 1−22388
heat and mass transfer involving single file drops, continuous and dispersed phase coefficients 1−15492
holocamera, lens assisted, for particle holography at extended distances and μm resolutions 1−15124
hydrodynamic fragmentation of drops 1−51860
hydrometeor terminal vel., altitude and electrical force effects 1−22411
impact of water drop with unyielding dry metal surface 1−24856
isothermal cylinder, heat transfer from two-phase laminar boundary layer, drop trajectory effects 1−37899
liquid, dropping from a point, pressure distrib. effects 1−46789
liquid drop, rotating, normal oscillations 1−2003
liquid fuel, optical sizing under combustion conditions 1−23167
liquid phase pyrolysis, effect on combustion, two-phase model 1−29796
metal droplets, atomised, heat flow 1−3721
methanol-N_2 system, drop evaporation and diffusion calc. 1−1805
methyl alcohol drop dropped onto hot silicone oil surface, evaporation 1−2040
moving chain of absorbing drops, mass transfer with saturation effect allowance 1−33997
moving ordered system at high Peclet numbers, convective heat and mass transfer 1−15490
n-pentane drop dropped onto hot silicone oil surface, evaporation 1−2040
oscillation, extended Rayleigh theory for viscosity and external elec. field effects 1−51834
oscillations, free, initial value problem 1−2066
paint droplet, from electrostatic spray gun, electrostatic and aerodynamic forces 1−21344
radiation fog, condensation process microphysics 1−54202
rain, evidence for large drops in radar bright band from microwave attenuation meas. 1−22444
rain, microwave scattering anal. by finite element analysis 1−32554
rain rate meas. by divergent laser beam, raindrop-induced amplitude scintillations 1−13585
raindrop shape, deviation from spherical form 1−9233
raindrop shape effect on crosspolarisation/attenuation relationship 1−36023
rainfall, size distrib. using VIDIAZ spectropluviometer and Joss-Waldvogel rainfall disdrometer 1−22528
Rayleigh's electrified water drops, stability calcs. 1−42082
refractory material liquid drops, evaporation in FM radiation field 1−25535
shear flow between concentric cylinders, drop migration 1−29738
size distrib. in fogs, IR extinction coeffs. rel. to liquid water content 1−9244
slender inviscid drops, evolution in axisymmetric straining flow 1−33991
spherical droplet in creeping flow, conjugate unsteady heat transfer 1−29752
spherical liquid drops, in binary viscous media, diffusiophoresis 1−11892
spray droplets, size and velocity measurements 1−33049
spreading, solid surface size depend. 1−25532
steam turbines, moisture separation in high pressure cylinder, droplets motion in turbulent flow 1−29657
supercooled drops splashing on hailstones, charge transfer, thunderstorm implications 1−22462
surface tension measurement by drop volume and max. bubble press. methods, diffusion-controlled adsorption kinetics soln. 1−38623
swirl nozzle, drop size distrib. and surface mean drop diameter of spray 1−29747
temperature-controlled surface, evaporation at arbitrary Knudsen number, theory 1−19762
vapor droplet flow of high moisture content, interaction of probe of Pitot tube 1−15535
viscous liq. drop, dynamic contact angles 1−7429
water droplet, backscattered radiance, elec. field effect 1−6457
water droplet explosion in CO_2 laser field, gasdynamic regime modelling 1−33733
water drops, in air, mass vel. distrib. in turbulent flow in heated tube 1−11449
^{3}He droplets, highly polarized, in solid ^{4}He matrix 1−2766
NH_3-N_2 system, drop evaporation and diffusion calc. 1−1805
Na-Ar system, drop evaporation and diffusion calc. 1−1805

drying
corundum, freeze-drying prep., mech. props. 1−48306
crack detectability in capillary flaw detection, drying regimes effect 1−8501
droplet entrainment model for non-bubbling evaporator, calculation methods *(Russian)* 1−7308
ferrite suspensions, drying kinetics of single drops 1−39295
fruit drying in India, solar technology 1−21911
gas suspensions, drying installation calcs. 1−13043
heat and mass transfer theory *(German)* 1−24811
Heat pump technology and applications, conf. Dusseldorf, Germany (June 1980) *(German)* 1−35675
drying continued
heat pumps, air-to-air, for timber drying *(German)* 1−35686
heat pumps, criteria for application in drying processes *(German)* 1−35685
high-temperature fluidic frequency-analogue humidity meas. systems 1−27989
microwave-vacuum drying of sliced parsley root 1−36653
mullite, freeze-drying prep., mech. props. 1−48306
steatite, freeze-drying prep., mech. props. 1−48306
timber, heat and mass transfer in porous media 1−1801
tobacco drying process in tunnel solar dryers 1−17153

dual resonance model *see duality and dual models*

duality (mathematics)
No entries

duality and dual models
see also Veneziano model
advanced institute, common trends in particle and condensed matter physics, Les Houches, France (Feb. 1980) 1−27645
automodelity of inclusive spectrum in dual models *(Russian)* 1−40975
cylinder unitarisation of planar poles 1−40973
dual model for parton densities, power counting rules 1−45219
flavour, colour, duality and the Pomeron, p+f model 1−10166
glueball effect on dual topological unitarisation, pomerons, reggeons, ω and φ 1−50376
hadron-nuceus collisions, high energy, dual topological unitarisation parton model, $\bar{\nu}$-universality 1−23521
hadronic processes, large transverse momentum in symmetric group model, exlusive scattering 1−45350
hadronic resonances, narrowness, small parameter in $1/N_c$ expansion 1−36787
heavy quark systems, duality relation for nonrelativistic potential models 1−50407
interaction unification, supersymmetry approach, spinning string model 1−18425
nonAbelian gauge fields, disorder parameter-loop operator duality 1−23407
O(3) sigma model, three-dimens., vortices and duality transforms 1−10077
QCD, perturbative and non-perturbative, review 1−10174
quark confinement, gauge theories, duality transform., excitations, coupling consts. 1−18390
quark confining string in finite temperature, statistical mechanics 1−45211
quark models, classification, production and possible presence in nuclei of multi-quark states 1−40968
relativistic string model, role in dual models, critical dimension 1−28300
relativistic string model in a space-time of a constant curvature 1−40922
six vertex model, duality and finite size effects 1−28301
spinning particles, superfield approach 1−14266
spinning string, first quantisation 1−5608
spinning string model, local current *(Russian)* 1−40974
string-field model, perturbation theory *(Russian)* 1−524
SU(2) theory, exact fractionally charged selfdual solution 1−14275
t-quark mass upper bound from duality and unitarity, χ_b and ν masses 1−10169
tunneling effects and precocious planarity, dual topological unitarisation 1−33168
Yang-Mills theory, string-like self-dual soln. 1−45116
e^+e^- annihilation, QQ̄ prod. total cross section, duality 1−18497
$e^+e^-\to h$, annihilation duality, dual model, c and b quark mass calc. 1−14405
NN, ISR energies, double diffraction dissociation, dual resonant Deck model, πN, ππN final states 1−14418
pp, Δk channel, three-component-dual-deck-model 1−41013
pp(p̄), scattering, high energy cross-section and Froissart bound 1−28350
pp scattering, large angle, dual model description 1−28302
ψ states, leptonic width radiative corrections, duality, van Royen-Weisskopf relativistic corrections 1−50417
ϒ states, leptonic width radiative corrections, duality, van Royen-Weisskopf relativistic corrections 1−50417

ductile-brittle transition
see also embrittlement
cryogenic metals, brittle fracture, notch testing 1−48471
polyethylene, low density, ductile-brittle transition 1−53275
polypropylene, fractures, plane stress and plane strain 1−35362
porous rock, confining press. for transition from brittle to ductile deform. 1−22332
steel, 21Cr-14Mn, grain-boundary precipitation and fracture behaviour 1−48502
steel, alloy, temper embrittlement, control by intercrit. and low temp. austenitising heat treatments 1−43375
steel, alloy, transition temp. characterisation using fracture toughness parameter 1−26584
steel, BWR pressure vessel, neutron irrad., effect on notch toughness props. 1−11791
steel, high strength, low alloy, ductile failure, effect of temper-embrittling heat treatment 1−35356
steel, low alloy, sheet, determ. of crit. brittleness 1−12870
steel, low-alloy, heat treatment effect on struct. strength 1−43379
steel, Mn, cryogenic mech. props., improvement through thermal/mech. treatment 1−12769
steel, Mn, ferritic, thermal processing for toughness at cryogenic temps. 1−16813
steel, Mn-Mo-Ni, SA533B class 1 plate, Charpy energy transitions for weld metal and HAZ 1−48514
steel, Ni-Cr, temper embrittlement, calc. of transition temp. changes 1−16875
steel, structural, ductile-brittle transition temp. determ. 1−26684
steel, V-Nb, micro-alloyed, mech. props., effect of external factors *(Slovak)* 1−12854
thin plate, crack growth with creep, rel. to plastic zone near crack tip 1−41983
Fe-Si, brittleness, physical prerequisites for overcoming it 1−8406
Ge, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
Ni-Cr-Mo-V rotor steel, temper embrittlement, role of Mn 1−8404
$Pd_{78}Cu_6Si_{16}$ amorphous alloy, ductile-brittle transition, in rel. to V-notch bending tests 1−21565
Si, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323

ductile-brittle transition continued
Ti-Al-Zr-W, mech. props., effect of W addition, 0-10 wt.%. 1−16884
Ti_3Al, deform. and fracture at elevated temps. 1−8388
W alloys, dilute, effect of struct. parameters on mech. props *(Russian)* 1−39378
W-Ni-Fe (90, 7, 3 wt.%), low-temp. brittleness 1−35380
WC-Cu pseudoalloys, mech. props. 1−31615

ductile fracture
see also ductile-brittle transition; notch ductility
characterisation, effect of specimen size and geometry 1−48641
composite shell in axial compression, ductile fracture 1−1897
damage micromechanisms in ductile fracture process *(Czech)* 1−12855
damage micromechanisms of ductile fracture process *(Czech)* 1−47164
dynamic pre-strain and inertia effects on the fracture of metals 1−11351
Fe, dislocation patterns, leading to initiation of ductile fracture 1−30238
Hastelloy, C-276, H-assisted ductile fracture 1−3921
LMFBR pressurised pipes, crack propag. due to ductile fracture 1−41184
Monte Carlo simulation, ductile fracture anal. *(Japanese)* 1−29622
polyethylene, ductile sheet, J and G_c anal. of tearing 1−39424
polyethylene, necking anomaly, DSC, SEM and polarised light obs. 1−48442
polyethylene, necking anomaly 1−43449
polypropylene fibre reinforced cement composites, mech. response, analogy with bone 1−12803
rod, cylindrical, ductile failure via a homogeneous strain field 1−6830
steel, fracture anal. 1−47166
steel, high and medium C, crit. crack opening determ. in bending tests 1−21661
steel, high strength, low alloy, ductile failure, effect of temper-embrittling heat treatment 1−35356
steel, line pipe, time-dependent ductile fracture 1−48516
steel, low-C, SS41 and SM50C, stress triaxiality effect on ductile fracture initiation *(Japanese)* 1−3895
steel, low-C, X-ray diffr. study of ductile and brittle fracture *(Japanese)* 1−3894
steel, Mn, wear resist. and strength-toughness, −196°C to room temp. *(Korean)* 1−12852
steel, Ni (9%), struct., fracture, heat treatment and Mo addition effects 1−48388
steel, nuclear pressure vessel, fracture toughness estimation, use of side-grooved Charpy-size specimens 1−12680
steel, pressure vessel, crack growth and initiation characterisation 1−48643
steel, transmission line pipe, relationships between mech. props. and extension and arrest of cracks 1−31637
steel fibre reinforced Al and Mg, SEM obs. of fracture 1−31616
steel fibre reinforced Mg, fracture characts. using fractographic anal. 1−16881
strain rate sensitivity effect 1−43504
stress corrosion crack propagation, interaction of strain rate and repassivation rate 1−48555
stress corrosion cracking in engineering materials, plastic fracture mechanics, implications of recent developments 1−3975
transition from slow to fast under post-yield condition 1−47168
void size and distrib., effect on ductile fracture 1−1887
work hardening rate influence, void growth model 1−21566
work needed to form surface 1−2559
Ag, dislocation patterns, leading to initiation of ductile fracture 1−30238
Ag, single cryst., in-situ HVEM study of fracture mechanism 1−3898
Al and alloys, fracture, brittle and viscous, EM emission 1−35382
Al-Cu (4 wt.%), strain rate dependent behaviour as function of precip. state 1−21536
Al-Mg alloys, hot-rolled, edge cracking 1−8424
B fibre reinforced Mg, fracture characts, using fractographic anal. 1−16881
Be, dislocation patterns, leading to initiation of ductile fracture 1−30238
Be, single cryst., in-situ HVEM study of fracture mechanism 1−3898
Cu tough-pitch bars, ductile fracture, annealing effect *(Japanese)* 1−26603
Cu-Al_2O_3 dispersion reinforced composite, mech. props. 1−39384
Cu-Si, dynamically loaded, deform. substruct. and fracture 1−26554
Fe and alloys, fracture, brittle and viscous, EM emission 1−35382
Fe, cast, nodular graphite, brittle and ductile fracture surface, SEM obs. rel. to microstruct. 1−43527
α-Fe, single cryst., in-situ HVEM study of fracture mechanism 1−3898
Mo, in situ TEM fracture obs., plastic zone struct. 1−39440
W, in situ TEM fracture obs., plastic zone struct. 1−39440
Zr, fractography, neutron irrad. effect 1−2521

ductility
see also ductile fracture; notch ductility
Astroloy superalloy, hot isostatically pressed, porosity effect on mech. props. 1−3667
BCC refractory metals, surface oxide softening 1−12936
cryogenic metals, brittle fracture, notch testing 1−48471
fatigue crack propagation rate, model relating low cycle fatigue props. and microstruct. 1−7250
FCC alloys, fracture under hot-forming conditions 1−39460
HCP metals, dislocation model for twinning and fracture 1−20209
Inconel alloy MA 754, oxide dispersion strengthened, creep and stress rupture behaviour 1−12808
metal foils, electrochemically-deposited, ductility meas. using hydraulic deepdrawing test 1−26713
metals, ductile, stress-rupture strength determ. 1−8503
metals, ductility reserve, effect of local residual stresses close to notch roots and cracks 1−31556
metals, plastic flow mechanism 1−39371
porous materials, cold pressing, high-speed, theory of dimens. for calc. density 1−21377
sintered ductile materials, props. control 1−3654
steel, 1Kh18N9T, cyclic loading, endurance and ductility rel. to loading history 1−12821
steel, $2\frac{1}{4}$% Cr 1% Mo, uniaxial creep life, effect of hydrostatic pressure 1−31552
steel, acicular ferrite X-70 pipeline, strain age study 1−43386
steel, alloy, creep cavitation and rupture under uniaxial and multiaxial stresses 1−35342
steel, alloy, fatigue-creep interactions, damage 1−35392
steel, alloy, reverse martensitic transform. characts. and mech. props. 1−16773

ductility continued
steel, aluminised 08kp, ductility, residual stresses, and redistrib. by heating 1−26571
steel, austenitic, type 21-4N, grain boundary reaction nodules, tensile props., fracture, deform. 1−26538
steel, austenitic stainless, fatigue life, low-cycle, high temp., effect of strain wave shape 1−43495
steel, austenitic stainless, props. and microstruct., TEM and SEM study 1−35394
steel, austenitic type 316, B content and distrib. effects on He bubble populations and stress-rupture props. 1−26595
steel, C, brittle fracture susceptibility using new fracture criteria 1−16888
steel, C, isothermal treatment, optimal parameters determ. 1−48381
steel, cold-drawn U9A wire, ductility, scale effect 1−3860
steel, Cr-Mo, creep crack propagation, applicability of fracture mech. parameters *(Japanese)* 1−43483
steel, Cr-Mo (2.25, 1 wt.%), comp. effects on creep ductility 1−26561
steel, Cr-Mo-V (0.5, 0.5, 0.25 wt.%), prior room temp. deform. effect on creep, rupture and cavitation 1−39401
steel, dual-phase, ductility and strength 1−12818
steel, dual-phase microstruct., importance of epitaxial ferrite 1−26499
steel, ductile processes, H suppression 1−26570
steel, high-strength heat-resistant 30Kh3NM3FTs, props. and appl. 1−8394
steel, HSLA martensitic, thermomech. treatment, rel. between struct. and mech. props. 1−31513
steel, HSLA sheet, flow and fracture after cold forming *(French)* 1−3769
steel, low C, ductility improvement by warm rolling and annealing 1−53238
steel, low C alloy, strengthening by rolling at austenite-ferrite two phase regions 1−35283
steel, low-alloy, structural, Se effect on struct. and props. 1−8430
steel, martensitic, heat-resistant, components in fast breeder reactors, review *(German)* 1−18747
steel, Mn, phase comp. and mech. props., preliminary heat treatment influence 1−35333
steel, rolled products, oxidation rate and ductility of 15A, stripcoat influence 1−53355
steel, stainless, 410, effect of H_2 on mech. props. 1−3903
steel, stainless, ferritic, Ti stabilised, struct. transforms., heat treatment effect 1−48390
steel, stainless, structure and properties, N effect 1−48433
steel, stainless fibre reinforced Al_2O_3 castables, high temp. mech. props. 1−31524
steel, stress-strain curve, influence of mode control, mean value and frequency of loading *(Slovak)* 1−3839
steel 20GS2, mech. props. after holding under stress in $Ca(NO_3)_2+NH_4NO_3$ solution 1−35447
steel 25KhGSA, mechanical props. in biaxial and uniaxial tension, stress concentrator effect 1−39390
steel 25KhGSA, strength characteristics, struct. effect 1−48429
steel forgings, form. of fine-grained struct. in 60KhN 1−16820
steel reinforcing bars, strengthening treatment 1−48385
steels, austenitic, at cryogenic temps. mech., props. review 1−53191
steels, low-C 2.25 Cr-1 Mo, effects of trace elements on creep strength and ductility 1−43441
steels, structural, mech. testing, features of deform. and fracture 1−31804
structural design criteria 1−39402
structural materials, durability during sudden drop-impact loads 1−30300
superalloys, heat resistant, hot workability *(Japanese)* 1−26509
superplastic materials, origin of high ductility, free energy for superplasticity and dislocation creep 1−52220
superplasticity, dynamic recovery and recrystn., mechanisms, microstructs., ductilities 1−12844
thermo-plastic shear instability criterion applied to surface cracking in upsetting and related processes 1−48451
Zircaloy-2 pressure tubes, cold-worked, creep ductility in-reactor 1−43430
Al alloy AK4-1-T1, resistance to low-cycle strain, eval. upon internal heating 1−31530
Al-Li, splat-quenched, alloy 2024, effect of Li on struct. and props. 1−8294
Al-Mg (2.2 wt.%), neutron irrad., microstruct. and tensile props. 1−52181
Al-Mg-Zn (5.6-6.1, 2.1-2.5 wt.%), deform. and fracture at elevated temp. 1−21560
Al-Zn-Mg (6, 2.5 wt.%), rel. between ductility and fracture toughness 1−26535
Al-Zn-Mg ribbed panels, corrosion and mech. props. 1−31755
Al-Zn-Mg-Cu alloy V93pch forgings, quenching water temp. effect on struct. and mech. props. 1−48392
Au electrodeposits, thick, soft and hard, microstructural characterisation 1−43529
BN based superhard materials, ductility and strength props., struct. effect 1−53291
Co-Ni-Cr-Nb-Fe, γ″-precip. strengthened, yielding behaviour 1−53237
Cu-Al_2O_3 dispersion reinforced composite, mech. props. 1−39384
Fe, cast, high-strength, annealability, S alloying effect 1−3720
Fe powder, atomised, and hot forged materials, correl. of props. 1−53136
Fe-Mo(-P) premixes, effect of Mo on sintering 1−39273
Fe-Ni-C duplex alloys, powder metallurgical prep., mech. props. 1−3660
Fe-Ni-Co(-Mo), maraging alloys, deformation and heat treatment, strength increase *(Russian)* 1−43371
Fe-Ni-Cr-Ti (30, 15, 2 wt.%), superalloy 1−43494
Li-Mg (40-60 at.%), deform. of single cryst., and polycryst. 1−26576
Mo:C, ductility, ageing effects 1−21509
Mo-Cu(-Ni) composites, sintered, mech. props., comp. and strain depend. 1−26517
Nb alloys, hydride induced ductility of phase hardened metals and alloys *(Russian)* 1−43423
Nb-(Zr)-c, dispersion strengthened, temp. relationship of strength 1−35264
Nb-W-Mo-Zr-C, dispersion and solid solution strengthened, temp. relationship of strength 1−35264
Nb-Zr-C in contact with molten Li, effect on props. and struct. 1−53246
Ni, S induced fracture mode transition at cathodic potentials 1−26620
Ni-Al (14 at.%), precipitated γ′-phase particle spatial distrib. during ageing, rel. to mech. props. *(Russian)* 1−26467
Ni-Al intermetallic cmpds., high temp. materials and coatings 1−31555
Ni-base superalloy, IN-939, interrelationship of γ′ size, grain size and mech. props. 1−31574
Ni-base superalloy, oxide dispersion and precip. strengthened, creep and stress rupture behaviour 1−12809

ductility continued
Ni-base superalloys, Co-free, development and props. 1−48503
Ni-Co-Cr, Rene' 150, gas turbine materials, thermal fatigue testing 1−35388
Ni-Cr-W-Mo-Fe-Al-Ti, ductility, effect of Mg and C 1−48434
Ni-Mo base alloy, precipitation of NiMo, effect on tensile and corrosion props. 1−12747
Pd alloys, hydride induced ductility of phase hardened metals and alloys *(Russian)* 1−43423
Pd, hydride induced ductility of phase hardened metals and alloys *(Russian)* 1−43423
SiC reinforced Al alloys, mech. props. 1−48509
Ta-C, dispersion strengthened, temp. relationship of strength 1−35264
Ti alloys, mech. props., improvement by optimising struct. 1−16842
Ti alloys, microalloying, effect of Y, Gd, Dy, Zr, Hf and Re on mech. props. 1−16844
Ti-Al-Mo-Zr, alloy VT9, props. and struct., effect heat treatment 1−16794
Ti-Al-Mo-Zr (6.7, 3, 1.7 wt.%), VT9, superplastic deform., improvement of mech. props. 1−16843
Ti-Al-V (6, 4 wt.%), superplastic, factors affecting ductility 1−16855
Ti-Al-V-Cr-Zr-Mo, aged, thermal stability 1−26474
Ti-Al-Zr-W, mech. props., effect of W addition, 0-10 wt.%. 1−16884
Ti-Nb-Si-B, supercond. props. of alloys with duplex struct. of amorphous and crysts. phases 1−16404
Ti-Nb-Si-M (M=Mo, Ru, Rh, Pd, Ir, B, C, Ge), ductile amorphous alloys, supercond., mech. props. 1−30894
V-(Zr)-c, dispersion strengthened, temp. relationship of strength 1−35264
V_3Ga multifilamentary wire, metallurgical processing and props. 1−53129
WC-Cu pseudoalloys, mech. props. 1−31615
Zr-Nb (2.5 wt.%), pressure tubes, cold-worked, creep ductility in-reactor 1−43430
Zr_3Al-based, fast neutron irrad., effect on props. 1−20271
ZrC, creep and long-term strength 1−39386

ducts, cable *see electric conduits*

duplicating *see reproduction (copying)*

dusk *see twilight*

dust
see also cosmic dust
AC breakdown voltage of rod gap in air, influence of dust particles 1−15583
airborne, transport from Asia to tropical N.Pacific, seasonal variation 1−44280
atmosphere, dust storms in China rel. to seasonal vars. of sunspot sightings 1−9251
atmosphere, dustfall chemical composition obs., Cairo, Egypt 1−13505
atmosphere, marine aerosol optical thickness calc., for satellite remote sensing 1−22490
atmosphere, suspended particulates in air in Madrid, Spain 1−54170
atmosphere, volcanic dust contrib. to stratosphere, Fuego volcano 1−36030
brush fire smoke clouds, IR radiation transfer study 1−40188
electrostatic precipitator, radiotracer meas. of particle deposition and reentrainment 1−39691
flue dust emission meas. *(German)* 1−13208
interplanetary dust, radiation force, theory 1−44494
lidar observations of the Mount St. Helens dust layers over Urbana, Illinois 1−4607
measurement in gas flow, novel pressure-drop dust meter *(German)* 1−26868
motion of dust particles, effects on turbulence transport eqns. 1−37879
Mount St. Helens ejecta, long-wave stratospheric transmission 1−40198
non-spherical particle light scatt. 1−9256
particulate quantitative characterisation by SEM automatic image analysis 1−5284
respirable airborne silica determ. by X-ray diffr. analysis 1−35736
soil dust, atmospheric transport from Africa to South America 1−44277
stratosphere, sulphate dust layer from volcanic eruption 1−22427
stratosphere dust, optical reflectivity meas. for single micron size irregularly shaped grains 1−13656
toxicity measurement appl. by thermolum. 1−8141
volcanic dust from Soufriere eruptions, lidar obs. 1−22410
volcanic eruption cloud, aerosol and dust particle study 1−32417

dust storms *see storms*

dwarf stars
see also white dwarfs
BD+24°692, BY Draconis variable, spectroscopic binary, surface phenomena, by photometry obs. 1−9519
BD −0° 4234, high-vel. metal-poor double-lined spectroscopic binary, spectroscopic obs. 1−9564
44=i Bootis, contact binary, IR light curves from K-band photometry 1−44590
α Canis Minoris, UV spectrum obs. rel. to methods of analysing line-veiled stellar spectra 1−17818
V523 Cassiopeiae, K-type contact binary star, light curve anals. 1−36329
Proxima=V645 Centauri, dMe flare star, Einstein X-ray obs. of star and surrounding region 1−49651
Centaurus X-4, transient, dwarf+neutron star, 1979 outburst, model and obs. 1−22925
UV Ceti, synchronous UBV obs. of 1978 August flares 1−9521
UV Ceti, synchronous UBV obs. of flares 1−22813
UV Ceti flare stars, nonthermal microwave emission charcts. 1−4994
UV Ceti stars, flare activity 1967-75, statistical analysis 1−22821
UV Ceti type spotted flare stars and related late-type dwarfs, mag. study 1−9512
16 Cygni A and B, spectroscopic anal. rel. to search for solar spectral analogues 1−54492
dMe stars, Hertzsprung Russell diagram 1−17827
BY Draconis, 1971-5 flare activity, ubv photoelectric photometry 1−36293
BY Draconis, new spectroscopic orbit for double-lined flare star 1−27555
F-type stars of solar neighbourhood, four colour/Hβ photometry rel. to age-metallicity relation and star form. history 1−44630
flare stars, active regions, physical conditions rel. to H plasma 1−27518
flare stars, Li abundance, non-LTE method, visible spectra 1−54519
flare stars in aggregates, statistics 1−36292
flare stars in clusters, slow flares, light curve classification and origin 1−49673
flare stars in Pleiades, proper motion membership probability and age 1−54570

dwarf stars continued
flare stars in Pleiades, space distrib. rel. to cluster mass and luminosity function 1−36353
flares of red dwarfs, inverse Compton effect interpretation 1−9522
G-type dwarf stars near Sun heavy element abundances from galactic gas contraction 1−4980
G-type dwarfs in Hyades, chemical comps. and distances from photometry, spectra and internal struct. 1−36350
G-type dwarfs in Hyades, Fe abundance 1−22850
G-type stars, energy distribs. rel. to solar spectral analogues and solar flux calibration 1−27492
U Geminorum, eclipsing binary, red+white dwarf, disk accretion from radiation anal. 1−17870
Gliese 15A, 424, 725A, flare stars, radial vels., spectra and flares, visible obs. 1−49685
Gliese 815 (Furuhjelm 54), triple system, astrometric study 1−9570
Gliese 867 (HD 214479), multiple flare star system, UBV photometry 1−13780
Groombridge 1618, red dwarf, 40-year intensive Sproul plate series and planetary detect. capability and probability 1−9481
HD 195987, spectroscopic binary, secondary dwarf, orbit determ. 1−17873
HD 27130, Hyades eclipsing binary system, X-ray flare obs. 1−54555
AM Herculis, red dwarf secondary spectral type from spectrophotometry 1−54553
HR diagrams for low luminosity stars 1−17829
late type stars theoretical chromospheres, temp. min. in grey LTE approach 1−36269
late-type stars, status and prospects of spectral classification by photoelectric meas. of mol. 1−49632
LB 3459; subdwarf eclipsing binary, orbit, evaluation and model 1−17869
M-type dwarfs and subdwarfs, medium resolution spectroscopy at 1 to 2 microns 1−49630
M-type stars, comparisons of temp. classes obtained by spectroscopic and photometric techniques 1−54485
main sequence dwarfs in NGC 1999, Trapezium, UBVRI photometry obs. *(Russian)* 1−49658
main sequence stars of Hyades cluster and solar neighbourhood, HR diagram sequences 1−22808
metallicity of F and G dwarfs, correl. with star form. *(Russian)* 1−17841
nearby flare stars, Einstein X-ray sampling 1−49665
μ Orionis B, identification as spectroscopic binary, components masses and mass-luminosity relation 1−49734
Parenago 1644, possible flare star, photographic obs. of light vars. (1980 November 30 to 1981 January 4) 1−40491
red dwarfs, narrow band photometry system 1−44438
remnant star of SN 1006, nature and motion, spectra and photometry obs. 1−49693
Ross 128, red dwarf, 40-year intensive Sproul plate series and planetary detect. capability and probability 1−9481
UU Sagittae, highly evolved low mass binary, soft X-ray emission 1−49725
δ Scuti variables, link between giant and dwarf type pulsators 1−27536
slow flares in Orion association 1−36291
solar-type stars, evolutionary models for Sun rotational spin-down 1−54472
Stein 2051, visual binary, parallax, proper motion and mass ratio astrometric meas. *(Italian)* 1−9579
late subdwarfs, extreme metal deficiency, spectrophotometric obs. 1−22793
V471 Tauri, highly evolved low mass binary, soft X-ray emission 1−49725
Wolf 294, red dwarf, 40-year intensive Sproul plate series and planetary detect. capability and probability 1−9481

dye lasers
acridine dyes, intramol. transitions and fluoresc., quantum yields and transition probabilities 1−10767
active media radial excitation inhomogeneity 1−15166
amplified spontaneous emission in dye amplifier, spatial modes and spectral narrowing 1−6549
amplified spontaneous emission subnanosecond pulses by N_2 pumped dye laser 1−6550
amplifiers, polarisation charcts., gain anisotropy, unidirectional mol. distribs., anal. 1−41686
amplifiers, polarisation charcts., isotropic mol. distribs., anal. 1−41687
amplifying layer reflectance calc. 1−1565
N-arylpyridinium salts as laser dyes 1−6551
atmospheric pressure pulsed discharge for dye laser pumping 1−41685
aza-1,2,4-triazine derivative, compound SKh-10, N_2 laser excited, stimulated emission 1−33680
beam splitters for dye laser pumping 1−11008
BEFBTPC-chloride dye in ethanol, stimulated emission obs. *(Russian)* 1−51472
4-(benzoxazole-2-yl)-4'-phenylstilbene derivatives, stimulated emission in 426-446 nm range 1−33679
2-(4-biphenylyl)-5-phenyloxazole vapour, luminesc. and lasing charact. 1−1560
bistability in organic dye laser operation 1−46332
cavity-length stabilization technique for synchronously pumped mode-locked lasers 1−37514
coaxial flashlamp-pumped dye laser, high-stability 1−6570
coumarin, active mode-locking using GaAs, GaP picosecond switches 1−15199
coumarin 102, intracavity freq. doubling, 238 to 249 μm tuning range 1−15224
coumarin 500 dye soln., double-prism beam expander 1−15193
coumarin 519 flashlamp pumped dye amplifier for coherent optical active feedback in 514 nm range 1−41731
coumarin 6 dye dissolved in K18 or K24, untraviolet-pumped liquid-crystal dye-laser 1−46335
coumarin-515 single-mode ring dye laser, narrow-band 250-260 nm radiation from intracavity doubling 1−24436
coumarins in dye laser, energy transfer 1−15165
CW, interferometrically tuned and actively modelocked 1−41729
CW dye laser, flow vel. effect on photon statistics 1−41683
diaryloxazoles solutions, lasing processes 1−10998
7-dimethylamino-4-methylcarbostyril, laser dye, excited singlet state absorpt. meas. 1−51477
discharge lamps, for dye laser pumping, charcts. 1−6565
double-prism beam expander in pulsed dye laser cavity, design 1−15193

dye lasers continued
dye solns., luminesc. spectral props., electrolyte effects 1−46334
dynamic DFB lasers, lasing efficiency and tuning range 1−51475
electromagnetic optics in moving media, generalised reciprocity theorem 1−41563
electrooptic tuning of flashlamp-pumped laser output freq. 1−46389
ethanolic rhodamine 6G laser, unstable cavity, optimal parameter 1−1592
excited singlet state absorpt. meas. in laser dyes 1−51477
flash-lamp pumped dye laser excited by a transverse discharge 1−51503
flashlamp pumped dye amplifier for active optical feedback systems 1−41592
flashlamp-pumped mode-locked dye lasers 1−19360
frequency locking in dye laser near sodium D lines, time characteristics 1−41684
frequency stabilisation, control systems *(Dutch)* 1−1586
gratings for tunable lasers, multidielectric coatings for improved efficiency 1−6563
halo laser, two-dimensional, performance 1−19331
Hansch-type dye laser, peak power temp. depend. 1−33678
hard mode instability in six-state model 1−15169
high power efficient dye amplifier pumped by Cu vapour laser 1−15184
holographic grating for grazing incidence, in nanosecond dye laser resonator 1−51504
holographic wavelength selectors recorded in dichromated gelatin films 1−19297
injection locking *(Chinese)* 1−51520
internally pumped mode-locked CW dye laser theory 1−46280
intracavity dye laser spectroscopy for O detect. at 630.03, 636.38 nm 1−53516
intracavity SHG using synchronously mode-locked CW dye lasers 1−15226
IR dye laser, tunable to 1.24 μm with picosecond excitation, superior photostability 1−41691
jet quasi-CW laser with high pulse repetition freq., efficient operation 1−33714
light amplification by internal refl. from inverted medium 1−29274
linear flashlamps, preionisation mode, dye laser pumping appl. 1−15175
malachite geen dye, transmission of multimode laser pulses 1−10997
master laser-amplifier system, lasing characts. 1−1562
4-methylumbelliferone, dye laser with lamp pumping, lasing characteristics, temp. depend. 1−1558
mode locking dyes, fluoresc. and laser action 1−51476
mode-locked, coherent pulse generation through relax. oscills. synchronisation 1−51530
mode-locked laser systems, theoretical models 1−19370
mode-locked with five-mirror cavity, stability and astigmatic compensation anal. 1−41750
nanosecond transient absorption spectrophotometer with dye laser probe 1−50236
organoluminophor solutions, stimulated radiation quantum yield, absorpt. effect 1−33496
output characteristic, nonuniform excitation effect, directional pumping *(Russian)* 1−1564
oxazine, synchronously pumped mode-locked laser, time-resolved coherent anti-Stokes Raman scattering 1−23318
oxazine-1 synchronously mode-locked CW dye laser, near-IR subpicosecond pulse generation 1−24417
2-phenylbenzoxazole derivatives, stimulated emission in 319-360 nm range 1−33679
picosecond, synchronously driven streak camera *(Russian)* 1−23343
picosecond phenomena, conf., Cape Cod, MA, USA (June 1980) 1−49883
picosecond pulse generation 1−1577
picosecond spectroscopy, continuous, of dyes, review, book contrib. 1−11000
polymethine dye dynamic DFB lasers, lasing efficiency and tuning range. 1−51475
POPOP, excited singlet state absorpt. meas. 1−51477
POPOP rarefied vapour, kinetics in lasing processes, population balance eqns. 1−41693
propylene glycol carbonate as replacement solvent for dimethylsulphoxide in CW dye lasers 1−41690
pulsed, with grating and etalon in symm. arrangement 1−11011
pulsed dye laser, N_2 laser pumped, 2 GHz linewidth, spectroscopic appl. 1−19357
pulsed laser with laser excitation, sweeping mechanisms, spectral width *(Russian)* 1−41689
pulses, long optical delay, generation by optical pumping via optical fibres 1−41756
pump-induced distributed feedback dye-solution laser 1−1557
pumping with N_2 laser 1−11019
p-quaterphenyl vapour pumped by XeCl laser, 361.5 nm laser action 1−6552
review of pulsed dye lasers, book contrib. 1−10999
rhodamine, unsubstituted, dye laser with lamp pumping, lasing characteristics, temp. depend. 1−1558
rhodamine 101, singlet energy transfer from charge transfer excited state of tris (2,2′-dipyridine) Ru(II) 1−3454
rhodamine 6 G, picosecond pulse CW autocorrelation meas. 1−1607
rhodamine 6G, dye laser with lamp pumping, lasing characteristics, temp. depend. 1−1558
rhodamine 6G, flash-lamp pumped, three-mirror reflector for freq. selection 1−33721
rhodamine 6G, picosecond 2D halo superradiance and laser operation 1−15168
rhodamine 6G, solvent effects on gain spectra 1−19328
rhodamine 6G, synchronously pumped mode-locked, pulse-width stabilisation 1−51532
rhodamine 6G dye laser, radiation polarisation, second absorpt. band 1−1561
rhodamine 6G dye ring laser, CW, freq.-locking and single-mode operation near at. lines of a Ne discharge 1−46397
rhodamine 6G excited state spectra, expt. and theoretical comparison 1−19329
rhodamine 6G in alcohol laser dye medium, radiation trapping 1−19330
rhodamine 6G in aq. soln., induced absorpt. spectra in UV region 1−51473
rhodamine 6G in ethanol soln., flashlamp pumped, output freq. electrooptic tuning 1−46389
rhodamine 6G jet laser for spectroscopic appls. 1−33715
dye lasers continued
rhodamine 6G lamp-pumped laser, radiation divergence reduction 1−41692
rhodamine 6G laser, CW, synchronous-pump, output characts. 1−37492
rhodamine 6G laser reciprocal passive mode locking with Ar^+ pump laser 1−41732
rhodamine 6G solns., fluoresc. decay, TEA UV CO_2 laser meas. 1−6294
rhodamine 6G solution, effect of reabsorpt. of stimulated emission and luminesc. 1−29273
rhodamine 6G synchronously pumped, passively mode locked CW dye laser, subpicosecond pulse generation 1−46409
rhodamine 6G thin-film logic element, energetic and temporal characts. *(Russian)* 1−6574
rhodamine 6G-micellar soln. under two-stage optical excitation, spectroscopic evidence of reversible, irreversible transforms. 1−41421
rhodamine 6G-rhodamine B energy transfer dye laser, donor conc. depend. of emission peak 1−15167
rhodamine C, dye laser with lamp pumping, lasing characteristics, temp. depend. 1−1558
ring dye laser, narrowband, unidirectional pulsed 1−24435
ring laser behaviour, backscattering effect 1−15195
single-mode laser with double-action Fizeau interferometer 1−51506
single-mode scanning geometry for tunable lasers, diffr. grating as dispersive element 1−51505
sodium 8-hydroxypyrene-1,3,6-trisulphonate, aq. soln., lasing efficiency enhancement 1−46333
solar energy conversion by fluorescent materials for utilization in space communication systems 1−17301
solid-state, model establishing steady-state conditions and relaxational autooscillations *(Russian)* 1−46331
spectral distribution of beam density, statistical method for calc. time invariance 1−1559
structures and synonyms of laser dyes, characteristic identification nos. 1−10996
subpicosecond passively mode locked dye laser, 0.1-0.2 ps pulse duration, time domain reflectometry 1−15205
subpicosecond pulse techniques based on passively mode-locked CW dye laser 1−19369
sweep lasers based on dye solns. with coherent pulse excitation *(Russian)* 1−41688
synchronously pumped CW dye laser, picosecond and subpicosecond pulse generation and meas. 1−19359
terphenyl dye, substituted, freq. tripling at 106 nm in pure Xe gas 1−41781
thin-film narrowband tunable dye laser 1−46336
thin-film waveguide laser amplifier with lossy cladding, small-singal gain improvement 1−15260
transient processes, emission spectra, CW wide-band dye lasers used for intracavity laser spectroscopy 1−1563
tunable, single longit. cavity mode, pumped by N_2 laser 1−15188
tunable radiation excitation of stimulated Raman scatt. in benzene filled capillaries 1−33758
tuning with reflecting Fizeau wedge 1−15187
two-mode laser, first passage time distributions under influence of quantum fluctuations 1−6537
two-photon resonant four-wave mixing processes in atomic Ba 1−19382
two-wavelength operation using reflecting Fizeau interferometer 1−33701
ultrashort bandwidth-limited pulse generation technology review, book contrib. 1−11032
ultrashort pulse amplification model of laser pumped dye amplifier 1−51478
uranine-DAMC dye mixture laser, N_2 laser pumped, gain studies 1−24416
UV picosecond pulses, amplification using excimer laser *(Japanese)* 1−51454
vapours pumped by relativistic electron beam, fluorescence spectra and fragment emission 1−19332
xanthene dyes, intramol. transitions and fluoresc., quantum yields and transition probabilities 1−10767
Hg I, $6d^3D_1$-$6p^3P_0$ transition isotope shift meas. at 296.7 nm using saturated absorpt. spectroscopy with CW freq.-doubled ring dye laser 1−24461
Hg I UV transition saturation spectroscopic anal. using freq.-doubled CW ring dye laser 1−24462
N_2 laser pumped dye laser *(Chinese)* 1−6553
N_2 laser pumped dye lasers, beam expander comparative study 1−51474

dyeing
acrylic fibres, carrier dyeing 1−52358
polyester fibres, carrier dyeing 1−52358

dynamic braking *see braking*

dynamic nuclear polarisation
see also CIDNP; Overhauser effect; solid effect
ammonium acetate, diffusion of methyl-group tunneling energy, dynamic nucl. polarisation obs. 1−34958
p-dibromobenzene: p-dichlorobenzene, microwave-induced optical nuclear polarisation, spin-orbit interactions 1−16504
fluorinated alcohols −NO free radical hydrogen bonding dynamics 1−47974
free radical solutions, dynamic proton polarization *(French)* 1−12429
NMR spectra from chemical polarisation of nuclei for RF pumping 1−29002
perfluoro-t-butanol-NO complex, H-bonding studied by DNP and ^1H and ^{19}F relax. meas. 1−14949
trans-polyacetylene, undoped, EPR, PMR and dynamic nucl. polarisation studies 1−42995
pseudomagnetic field anal. 1−1048
semiconductor, nuclear polarisation, optical, in presence of deep impurity levels 1−21084
^6LiD, function of time 1−26078
Si, impurity level ionisation energy determ. 1−34660
Si:Au,P, nuclear polarisation, optical, in presence of deep impurity levels 1−21084

dynamic programming
speech, isolated word recognition, dynamic time warping algorithms, performance tradeoffs 1−29472
Turkish energy sector dynamic linear programming model for decision analysis 1−43746

dynamic response
contact thermometer dynamic parameter conversion for wider operating conditions 1−27978

dynamic response continued
digital frequency meter dynamic properties 1−27960
elastic structures, dynamic response, second-order linear differentiar eqn. soln. *(Chinese)* 1−1824
momentum flowmeter dynamical principle and applicability 1−29816
untuned viscous dynamic vibration absorber, effect of primary system damping on optimum design 1−37837
Pt resistance thermometer response time meas. methods 1−27979

dynamic stability *see stability*

dynamic testing
see also fatigue testing
bulge test: a comparison of theory and experiment for isotropic and anisotropic films 1−35302
carbographite materials, elasticity consts. meas. by dynamic methods, 20-3000°C, review 1−31787
frames, using two-level finite element method 1−51723
impact testing, magnetic impulse, high speed equipment 1−12951
narrow band analysis of frequency and temperature sensitive elastic mountings 1−33936
non-linear oscillators, transient response calc. 1−51724
piezoelectric quartz strain transducer for massive structures 1−14107
polymer fibres and films, apparatus for isometric heating and thermomech. testing 1−17013
polythene, high density, dynamic compression tests at high strain rates *(French)* 1−43420
shock wave research, continuous loading, experimental techniques 1−39583
steel, maximum dynamic tensile strength, and determ. method 1−3858
viscoelastic solids, dynamic mech. testing in free and forced oscill. using modified Weissenberg rheogoniometer 1−17008
Cu, explosive loading, dynamic extension diagram, study using electronic inertia method 1−31805
Ni-base heat-resist. alloys under asymmetric high-cycle loading, method of predicting limiting state 1−12868
Ti alloy VT14, explosive loading, dynamic extension diagram, study using electronic inertia method 1−31805

dynamical symmetry
broken symmetry restored in spacetime sphere 1−45156
E_8 local symm. for Yang-Mills unified theory, dynamic symm. breaking 1−45194
global symmetries, first integrals and limit cycles of dynamical systems 1−454
interacting boson model, dynamic SU(6) symm. rel. to particle physics theories 1−28402
Kepler system, dynamical symmetry and magnetic charge 1−5538
lepton mass differences, dynamical generation, SU(3) lepton model *(Chinese)* 1−45158
monopole, magnetic 1−28228
nuclear collective properties, interacting boson model, SU(6) Hamiltonian, shape phase transitions 1−10334
QCD, dynamical symmetry breaking of chiral invariance and collective coordinates in Fermi systems 1−50373
SO(10) unification group with complicated Higgs structure, dynamic generation 1−45195
weak interactions, dynamical symmetry breakdown 1−45173

dynamics
see also ballistics; fluid dynamics; force; friction; haemodynamics; impact (mechanical); kinematics; resonance; rotating bodies; rotation; vibrating bodies; vibrations
Abell 2319, rich galaxy cluster, evidence for rapid dynamical evolution from X-ray struct. 1−44650
Abell 98, double cluster of galaxies, X-ray and optical obs. rel. to cluster merging hypothesis 1−54643
American Astronomical Society, Dynamical Astronomy Division meeting, College Park, Maryland (1980 June 18 to 20) 1−36446
Bernoulli dynamic systems, rel. to stochastic Markov processes 1−27876
black hole dynamics in globular cluster, standard model reinvestigation 1−49707
3C 129, radio galaxy, orbital dynamics of supermassive objects rel. to internal tail struct. 1−9700
Cassiopeia A supernova remnant, dynamical determ. of supernova ejected mass 1−4926
clusters of galaxies, dynamical evolution 1−9696
clusters of galaxies, effects on gas dynamics of heating by relativistic electrons 1−9644
comets, long-period, physical and dynamical evolution 1−44509
comets, one-apparition, dynamical problems in preparation of catalogue 1−44511
galactic centre, compact radio source dynamics 1−13869
galactic dynamics, potential in central bar struct. 1−9646
galaxies active nuclei, dynamics of broad-line-emitting regions rel. to broad lines profiles 1−44625
galaxies large-scale systems, dynamics of Coma and Local Superclusters 1−9695
galaxy clusters, correls. between dynamical time scales and Bautz-Morgan types rel. to galactic cannibalism 1−44651
galaxy clusters dynamical evolution, implications of X-ray clusters with bimodal mass distrib. 1−54642
globular clusters, dynamics and evolution 1−36363
integrable model problem suggested by A.A. Kochiev, connection with problems of celestial mechanics 1−13677
interstellar giant cloud complexes, role of mag. fields in constraining translational motion 1−54578
NGC 5128 (Centaurus A), giant radio galaxy, dynamical evolution 1−49792
planets and satellites dynamics, IAU Colloquium 41, Cambridge, England, (1976 August 17 to 19) 1−36461
pole vault dynamics, nonlinear differential eqns. 1−32165
quasars, dynamics of broad-line-emitting regions rel. to broad lines profiles 1−44625
radio galaxies, dynamical importance of mag. fields in beam models 1−4989
solar system, orbital elements and evolutionary connections of minor bodies *(Polish)* 1−32635
stability of dynamical systems, perturbational picture *(Polish)* 1−32612
star clusters, late core collapse rel. to gravothermal instability 1−44598
star clusters containing massive central black holes dynamical evolution 1−9583
stellar dynamics, collisionless relaxation theory 1−17880

dynamics continued
stellar dynamics, computer simulations of close encounters between single stars and hard binaries 1−9582
stellar dynamics, kinetic effects in gravitating systems 1−13819
stellar dynamics theory, appl. to Galaxy mass distrib. determ. 1−17896
stellar open clusters, internal dynamics 1−36352
stellar orbits near 2/3 resonance, theory 1−27565
stellar system dynamics, collision integral divergence in discontinuous random process scheme *(Polish)* 1−32729
Sun-Jupiter-Saturn system, qualitative dynamics 1−40333

dynamometers
see also force measurement
OUPK standard arrangement for checking dynamometers 1−18190
tensoresistors, temp. compensation *(Rumanian)* 1−32976

dynamos *see d.c. generators*

dysprosium
see also nuclei with .....
antiferromagnetic, commensurate turn angle effects 1−30914
antiferromagnetic domains, US study *(Portuguese)* 1−26005
film, optical spectra, 5p threshold study 1−31165
magnetisation, AC susceptibility, and microwave absorpt. 1−47867
^{161} ion implanted in Cu single crystals, crystal field, Mossbauer spectroscopy 1−16266
CaF_2:Dy, antireson. type effect, EPR optical detect. for Dy^{3+}-Dy^{3+} pairs with colour centres 1−31027
CaF_2:Dy, Mn, TLD system, Mn dopant effect 1−3512
CaF_2:Dy, TLD, conference, Toulouse, France (Apr. 1980) 1−11
CaF_2:Dy, TLD, dependence on radiation quality, fading and light effects 1−956
CaF_2:Dy, thermoluminescent response under heavy ion bombardment 1−948
CaF_2:Dy^{3+}, MCD optical detect. of EPR for Dy^{3+}-O^{2-} trigonal centre ground state 1−43040
$CaSO_4$:Dy, preparation, TL dosimeter 1−960
$CaSO_4$:Dy, sintered TLD development 1−961
$CaSO_4$:Dy, TLD, energy depend. 1−28835
$CaSO_4$:Dy, thermoluminescence depend. on stopping power 1−26285
$CaSO_4$:Dy phosphor, photothermoluminesc. and behaviour of high-temp. glow peaks 1−26284
$CaSO_4$:Dy phosphors, mag. suscept., temp. depend. 1−30906
$CaSO_4$:Dy phosphors, X-ray induced fluoresc. and phosphoresc. 1−39134
$CaSO_4$:Dy TLD, energy dependence 1−950
$CaSO_4$:Dy, thermoluminescence, very deep traps at temps. greater than 500°C 1−3507
Cs_2NaYCl_6:Dy^{3+}, relaxation data of lanthanides in matrix, orbit-lattice interaction model 1−38979
Dy I, excited levels, lifetimes, spectral line oscill. strengths 1−33425
Dy II excited levels, lifetimes 1−33425
Dy^{2+} excited states, SCF wave functions 1−6153
Dy^{3+}, Yb^{3+}:YAG, 3 μm laser action 1−6560
Dy^{3+}:BaY_2F_8, 3 μm laser action 1−6560
Dy^{3+}:LaF_3, 3 μm laser action 1−6560
Dy-Na-I-Hg discharge, radiation transport, temp. profile calcs. 1−38193
$LiYO_2$:Dy^{3+} single cryst., spectrosc. props. 1−16601
$LuAl_2$:Dy, crystalline elec. field, magnetisation meas. 1−47593
MgB_4O_7:Dy, sintered TLD development 1−961
$ZrSiO_4$:Dy^{3+}, trapping and emission centres, thermolum.. obs. 1−39163

dysprosium alloys
Ag-Dy, cryst. field of ^{161}Dy, Mossbauer study 1−52878
Au-Dy, ion implanted Dy cryst. field, Mossbauer study 1−47983
Dy-Co, amorphous, thermal stability, crystn. study by DSC and X-ray diffr. 1−30091
Dy-Th, mag. phase diagram, search for Lifshitz points 1−12292
DyAg, amorphous and cryst., Mossbauer study of relaxation effects 1−26088
$DyAl_2$, electrical resistivity anisotropy in ferromagnetic range 1−30720
$DyAl_2$, exchange coupling depend. on interatomic distance 1−7825
$Dy_{65}Al_{35}$, amorphous, mag. props. meas. 1−12266
$DyCO_3$, multiplateau H sorption isotherms, Rees theory 1−30553
$DyCo_2$, transport props. rel. to mag. ordering transition 1−42747
$DyCo_2$, H absorption isotherms, Lacher and Rees theories, enhancement 1−52417
$DyCo_3$, magnetostrictive strains, 77K to room temp. 1−21023
$DyCo_{5.3}$, magnetisation, magnetostriction, spin reorientation, mag. field effects *(Russian)* 1−7877
Dy_3Co, metamagnetic phase transitions *(Russian)* 1−20982
Dy_3Co, metamagnetic phase transition, mag. hysteresis and galvanomag. effect 1−52781
$Dy_{67}Co_{33}$, metallic glasses, defect struct., positron studies 1−43205
$DyCo_3H_x$ (x=0 to 4.25), H_2 desorpt. isotherms 1−2803
$DyFe_2$ (100) plates, mag. domain struct. 1−25978
$DyFe_2$, anisotropic hyperfine fields, mag. induced quadrupole interactions, Mossbauer studies 1−26083
$DyFe_2$, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297
$DyFe_2$-H_2 system: magnetism and pressure-composition isotherms to 1400 atm 1−20962
$Dy_{1-x}Fe_x$, amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
Dy_6Fe_{23}, magnetostriction, anisotropic 1−26008
$DyFe_3H_x$, cryst. struct. and mag. props 1−7132
$DyFe_2Si_2$, solid solution, mag. susceptibility, lattice const. *(Russian)* 1−20967
$DyGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
Dy_5Ge_3, elec. and mag. props. 1−20704
Dy_5Ir_3, Dy_3Ir_2, cryst. struct. 1−34289
$DyMn_2$, X-ray absorption spectroscopic study 1−43219
Dy_6Mn_{23}(-H_{23}), mag. ordering, absorbed H effect 1−20970
$DyNi_2$, Laves phase, magnetostriction meas. 1−12375
$Gd_{1-x}Dy_xAl_2$, ESR spectra, g-factor and thermal broadening 1−34935
$Ho_xTb_yDy_{1-x-y}Fe_2$, magnetic anisotropy and spin reorientations 1−20975
$Lu_{0.02}Dy_{0.98}$, dil., anal. of ^{175}Lu NMR data 1−34946
$Sm_{2-x}Dy_xCo_{10}Cu_{1.5}Fe_{3.2}$ $Zr_{0.2}$ magnet 1−7901
$Sm_{2-x}Dy_xCo_{17-y}Mn_y$, magnetic props. 1−25930
$Tb_{0.27}Dy_{0.73}Fe_2$, mag. domain struct. 1−47089
Ti alloys, microalloying, effect of Y, Gd, Dy, Zr, Hf and Re on mech. props. 1−16844

dysprosium compounds
see also dysprosium alloys
thiosalicylic acid cpds., white lines at L-absorpt. edges 1−26303

dysprosium compounds continued
$Ba_4Dy_3F_{17}$, cryst. struct., electron diffr. study 1−20145
Bi_2O_3-Dy_2O_3 sintered oxides, high O^{2-} ion cond., phase diagram 1−47286
$CsDy(MoO_4)_2$, EPR and Zeeman effect study, struct. phase transform *(Russian)* 1−47941
$CsDy(MoO_4)_2$, heat capacity anomalies near phase transition *(Russian)* 1−20416
Dy complex, $Dy[S_2P(C_6H_{11})_2]_3$, cryst. and mol. struct., trigonal prismatic vs. octahedral coordination 1−25233
Dy-S system, phase diagram in 50-60 at.% S conc. range, Dy_2S_7 phase obs. 1−48335
$DyAlO_3$, Mossbauer effect, hyperfine parameters, mag. ordering, relaxation 1−12434
$DyCo_3H_x$ (x=0 to 4.25), H_2 desorpt. isotherms 1−2803
DyD_2, cryst. elec. fields, neutron energy loss spectra study 1−34669
$DyFe_{0.9975}Co_{0.0025}O_3$, Morin type transitions 1−34880
$DyFe_{1-x}Ni_xF_xO_{3-x}$, antisymmetric exchange, magnetisation meas. 1−52768
DyH_3, Mossbauer study, quadrupole interaction, 1.5 to 350K 1−7980
DyI_2, anomalous electronic behaviour, Mossbauer spectra study 1−12442
$Dy(Ir_xRh_{1-x})_4B_4$ supercond. system, mag. props. 1−12223
$DyMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
$DyMo_6S_8$, superconductor, spin density waves, supercond. crit. props., theory 1−12232
Dy_2O_3, L_{III} X-ray absorpt. discontinuity 1−48196
Dy_2O_3 thin films, crystallographic parameters and phase transforms. 1−38685
$DyPO_4$, Ising antiferromagnet, intrinsic fluoresc. in mag. field 1−43172
$DyPO_4$, paramagnetic, rotational cooling magnetic refrigerator, 4 to 20K 1−27992
DySb, paramagnetic, classical mean-field model 1−12254
Dy_2Sb_3, thermal expansion coeff. determ. 1−16070
$Dy_2Ti_2O_7$, synthesis kinetics 1−35512
$DyVO_4$, ferroelastic antiferroelec., microscopic theory, dielec. and elastic props. 1−7239
$Ho_{0.5}Dy_{0.5}FeO_3$ domain struct. near Neel temp., Faraday effect experiment 1−34904

E-layer *see E-region*

E-region
see also sporadic-E layer
anomalous ionogram multiple traces below f_0E 1−49444
E_2-layer, regularities planetary distrib. 1−4694
electrojet, equatorial, mag. field features from POGO satellites 1−32577
electron density, model profile for noontime equatorial lower ionosphere 1−13628
ELF propagation in Earth-ionosphere transmission line, worldwide model 1−32576
geomagnetic disturbance generation by acoustic pulses, gravity effect 1−22585
gravity waves internal, effect on lower ionosphere 1−4687
h_{max} diurnal variation, from 2.2 MHz absorpt. obs. 1−54310
ionisation irregularities, growth and decay 1−44385
irregularities, generation from plasma instabilities, review 1−13641
night-time photoionisation rate, ionisation sources 1−22614
removal of meteor derived Si^+, rate consts. 1−44388
Sq and L variation elec. currents, location within ionosphere 1−27327
temperature and ion-neutral collision freq., radar meas. 1−40262
VLF waves propagation at low latits., lower ionosphere effects 1−13629

ear
see also hearing
acoustic reflex growth in the aging adult 1−4294
basal turn of cat cochlea, sound pressure meas. 1−32142
basilar membrane nonlinear model, two-tone suppression meas. *(Japanese)* 1−49000
cochlea, estimation of stiffness of basilar membrane 1−49005
cochlea, hydroelastic model, LF asymptotics 1−32145
cochlea of rat pup, combined effects of amikacin and acoustic trauma during sensitive period *(French)* 1−32131
cochlear fluid mechanics, direct asymptotic approach 1−32129
cochlear fluid mechanics, math. theory 1−22041
cochlear fluid mechanics, signal anal. in terms of statistical hydromechs. and functional calculus 1−32148
cochlear micromechanics, physical model of transduction 1−32140
cochlear microphonic potential, source along the basilar membrane 1−26910
cochlear model, holographic investigation of hydroelastic modes and waves 1−8882
cochlear nonlinear mechanics affected by alteration of endolymphatic pots. 1−49015
cochlear nonlinear microphonic pots. rel. to acoustic intensity variation rate 1−49014
cochlear prostheses, review of current status 1−32311
deafness mice, nature of inherited deafness 1−13259
diagnostic methods of ear, nose and throat diseases *(Japanese)* 1−49151
eardrum AF microscopic motion mes. by laser speckle vibrometry 1−44062
eardrum of guinea-pig, acoustic response meas. by laser speckle vibrometry 1−44061
fluid dynamics of the heart and the ear 1−8895
implantable prosthesis, multichannel, fabrication and packaging 1−32313
middle, normal reflex thresholds, white noise and acoustic clicks, young adults 1−26911
middle, press. meas. by single transducer and a half-wavelength transmission line 1−43928
middle ear prosthesis 1−13353
nonlinear response 1−13981
otoradiology, the use of Medichrome film 1−43956
protector for industrial noise *(Hungarian)* 1−32262
secretary otitis media, negative middle ear press. and hearing thresholds obs. 1−26913
sonotubometry, accurate meas. of Eustachian tubal opening using sound transmission through to external auditory canal 1−4342
spontaneous narrowband acoustic signal emission 1−49007
time constant of cochlear potentials produced by defined Gaussian-shaped condensation and rarefaction acoustic impulses at ear drum *(German)* 1−4286
time-constant of cochlear potentials resulting from defined Gaussian-shaped condensation and rarefaction impulses at ear-drum, meas. apparatus *(German)* 1−4287

ear continued
tympanic membrane displacement obs. in guinea pig by laser interferometry *(French)* 1−13252
tympanic membrane displacements to various acoustic stimuli, laser interferometer for meas. 1−9066
vestibular testing, clinical instrumentation system, eye movements anal. 1−13341
xerotomography in otoradiology 1−43957

ear microphones *see microphones*

earphones
see also hearing aids; telephone sets
biomedical, acoustic condensation and rarefaction determ., brainstem auditory evoked responses appl. 1−22083
MX41/AR earphone cushions versus a new circumaural mounting 1−46650
piezoelectric plastic film transducers, for earphones, reaction effects 1−24642
quadraphonic, psychoacoustic investigation of listening 1−15332

Earth
see also Earth composition; Earth orbit; Earth rotation; Earth structure; earthquakes; geochemistry; geochronology; geodesy; geomagnetic variations; geomagnetism; terrestrial atmosphere; terrestrial electricity; terrestrial heat
dynamics, contribution of geodetic astronomy and satellite geodesy to research *(German)* 1−22190
EM induction in Earth and Moon, workshop, (Murnau, Germany, 1978 September 7 to 13) 1−17928
evolution, long time-scale fluctuations, review 1−44193
flux density estimation from radiation meas., geometric shape factor approach 1−13462
free oscillations, $_0S_0$-mode freq. high precision meas. 1−35946
free oscillations in non-elastic Earth, aperiodic solns. 1−9100
history of Earth and planetary dynamics, cross-disciplinary methods of study 1−27049
International Spheroid 1930, redefinition using satellite data 1−27052
lunar orbit evolution, re-examination 1−4790
orbital perturbations rel. to climatic vars., freq. sensitivity of deep-sea sediments records 1−9240
remote sensing satellite system SPOT 1−32601
seismicity of whole Earth, nature of variation as basis for earthquake prediction 1−44125
surface radiation budget, effect of small scrub fire 1−9158
system libration point with spacecraft, motion about its centre of mass 1−54343
terrain radar backscatter coeff. 1−27161

earth (electric) *see earthing*

earth (soil) *see soil*

Earth age *see geochronology*

Earth atmosphere *see terrestrial atmosphere*

Earth composition
see also Earth structure
Ahaggar volcanic suite (African shield area), Pb-Nd-Sr study 1−40085
antineutrino luminosity from β-decay, chemical composition 1−54088
Archaen gneiss from W.Greenland Pb isotope study of crust contamination 1−40094
basaltic rock Pb isotopes (of oceanic islands) and mantle evolution 1−54021
baslats, homogeneous, from East Pacific Rise, major element comps. rel. to steady state magma reservoirs 1−27151
British Tertiary Volcanic Province lavas, crust contamination using Th-Hf-Ta data 1−13418
carbonates, ^{13}C and ^{18}O behaviour during contact metamorphism rel. to isotope systematics in impure dolomitic limestones 1−40126
continental crust, Nd isotopic data from Sierra Nevada and Peninsular Ranges rel. to crustal growth 1−27127
continental flood basalts, Nd and Sr isotopic comps. rel. to continential influence on generation 1−35980
core, compositional convection and stratification 1−44149
core, shock wave data and composition 1−44156
Cretaceous-Tertiary boundary meteorite impact, sediment chemistry record 1−32442
Cretaceous-Tertiary species extinction, element abundance and asteroid impact? 1−9157
crust growth and mantle evolution, isotope and geochem. model 1−22280
diabase dikes, early Mesozoic, of Avalon Peninsula, Newfoundland, petrochemistry, mineralogy and origin 1−54081
difluorides and dioxides, rutile struct. in Earth interior, elasticity and phase transform. 1−32434
gabbroic rocks and breccias from E.Pacific Ocean, minerals and chemistry rel. to fractionation 1−4490
geothermal waters anal., molybdenum blue appl. to As and P determs. in fluoride and SiO_2 rich waters 1−54259
halogen composition of upper mantle, principal reservoirs 1−49240
inert gases absorbed from primordial atmos. 1−13576
intrusive rock Sr isotope geochemistry of Puerto Rico 1−13422
Kemess porphyry Cu-Mo deposit, BC, Canada, geology and age 1−32437
lherzolite complexes orogenic, implications for mantle convection 1−22266
upper mantle, oxidation state and implications for primitive atmosphere 1−17569
mantle-crust evolution, two-reservoir recycling model 1−49242
midocean ridge, chem. alteration by hydrothermal seawater circulation 1−54024
midocean ridge lava and chem., Ninetyeast Ridge, Indian Ocean 1−13430
Oklo natural nucl. reactor, fission yields and retention of fission products 1−13424
olivine glass, high-press. phase formed in diamond-anvil cell expt. 1−13436
Pb isotope data, diagrammatic representation methods 1−4626
petrological parameters of crust and upper mantle, relation to elec. cond. 1−22275
plagiogranites from oceanic crust, rare earth elements abundances and comparison with ophiolites 1−44185
Precambrian sediment, S isotope ratio, implication for early life 1−9137
radionuclides as core heat source study of Fe meteorites 1−54428
REE and TH abundances in sedimentary rocks and continental crust 1−49237
Reykjanes Peninsula basalts, Nd and Sr isotopes indicating mantle inhomogeneities 1−40088

Earth composition continued
rocks chemical analysis, appl. of type RK-103 field portable X-ray radiometric analyser *(Russian)* 1−27276
sea bed geothermal springs, chem. processes, W.Florida continental shelf 1−54066
sedimentary rock, trapped noble gas composition 1−49238
deep-sea sediments and sediment pore waters from N.Equatorial Pacific, Ra, Th, U and ^{210}Pb concs. 1−44163
sediments of Cochin backwaters, Kerala, S. India, comp. rel. to pollution 1−53717
South Mountain batholith, Nova Scotia, Sr isotope geolog. 1−22279
spinel, high-press. phase formed in diamond anvil expt. 1−13436
sulphide precipitates at 21°N on E.Pacific Rise, ^{226}Ra, ^{210}Pb and ^{210}Po activities 1−17577
Yenisei Range, Siberia, Riphean volcanic belt, zoning and metallogeny 1−54036
C in solid solution in forsterite 1−27101
CO_2 outgassing from mantle, role in carbonic metamorphism, granulites form. and crustal growth 1−17568
^{14}C, cosmogenic, anal. using multichannel scintillation arrangement for cosmic ray var. investigation 1−36188
Fe ore deposits of Labrador, Canada, prospecting methods *(Hungarian)* 1−32546
He in natural gas from thermal springs 1−13461
^{3}He anomalies in deep Atlantic Ocean, distrib. 1−4540
^{176}Hf/^{177}Hf in oceanic basalt of mantle origin 1−44142
K in upper mantle and stability of sanidine+forsterite system 1−22271
K partition in core, thermochemical calcs. 1−44170
K, Th, and U radionuclide distrib. in continental crust, heat flow model 1−54025
$MgSiO_4$-MgO-H_2O in Earth mantle, phase changes at high press. and temp. 1−32405
Nd and Sr isotopes of Namibian rocks, study of Damara orogenic event 1−40101
Nd isotope composition and mantle evolution 1−54034
P composition of upper mantle, principal reservoirs 1−49240
P in upper mantle, conc. set by peridotite melting model 1−32395
Pd, isotope composition in meteorites, and terrestrial samples 1−32667
Rb-Sr in volcanic rocks of Afar, indicating mantle source region 1−13425
Th, U and K radionuclide distrib. in continental crust, heat flow model 1−54025
Th-HF-Ta diagram for identical of igneous rock crustal contamination 1−13417
Th-Hf-Ta diagram for tectonomagmatic classification of rocks 1−13418
U in Pine Creek geosyncline, Australia, conf., June 1979, Sydney, Australia 1−9772
U low grade ore deposits, Kvanefjeld, Greenland, γ-ray well logging study 1−9124
U, Th and K radionuclide distribs. and continental heat flow 1−54025
Xe/Ar, rare gas evidence of mantle-crust material interaction 1−17570
Zn mineralisation in marbles of Mont-Laurier Basin, Quebec 1−9121

Earth core
Chandler wobble calculation, influences of equatorial bulge and interior props. 1−32343
compositional convection and stratification 1−44149
convection of whole of core, geomagnetic evidence 1−4476
day length changes due to outer core effects 1−49182
dynamo with anisotropic resistivity 1−44104
electrical conductivity inferred from meas. of Fe-Ni-S solid solns. *(German)* 1−44101
formation time from palaeomagnetic obs. of Archaean rock 1−22219
geomagnetic field, EM field due to circular loop in conducting medium 1−53970
Gruneisen parameter near, pressure-induced phase transform., lattice dynamics theory 1−42502
magnetic radius from secular variations obs. 1−32403
mantle-core boundary roughness, PKKP wave scatt. evidence 1−40103
nutation of Earth due to core rotation 1−49186
PKP times from ISC data 1−13406
radionuclides as core heat source study of Fe meteorites 1−54428
rotation of Earth about its axis, due to core and mantle processes 1−49246
segregation, model of thermal effects 1−40099
seismic wave propagation at second-order velocity discontinuity 1−35944
shock wave data and composition 1−44156
turbulent convective dynamos, upper bounds for ohmic dissipation 1−49201
wave motions in rapdily rotating spherical shells, non-magnetic case 1−54030
Fe alloy core with slurry, simple model of motion 1−54029
Fe oxides, high-press. polymorphs of high density 1−49259
K partition in core, thermochemical calcs. 1−44170

Earth crust
see also geology; oceanic crust
active continental margins, of NW.Pacific evolution 1−40114
Adelaide foldbelt evolution (Australia), Late Proterozoic to Early Palaeozoic 1−40115
Afar volcanic rock Rb-Sr ratios, mantle source region 1−13425
Afghanistan, plate tectonics, sutures and Mesozoic ophiolites 1−54048
S.Africa, conductive structs. in crust or upper mantle 1−9077
N.Africa, gravity survey, E.-W. traverse (made in 1975) 1−27051
Africa, great negative Bouguer anomaly and tectonic implications 1−27141
Africa, P-wave travel-time residuals rel. to crust and upper mantle lateral inhomogeneities 1−4479
NE.Africa rift system, submarine geophysics of Red Sea and Aden Rifts *(Russian)* 1−32433
African Western Rift Valley, earthquake generating stresses 1−32377
Ahaggar volcanic suite (African shield area), Pb-Nd-Sr study 1−40085
Alaska, tectonic stress map using fault and volcano data 1−44160
Alpine foreland, stress pattern and strain release 1−54040
Alps, plate tectonic motion deduced from neotectonic stress field 1−54062
Alps, seismic refraction study 1−4464
E.Alps, transition zone with Pannonian Basin, deep crust cond. anomaly *(Hungarian)* 1−40058
E.Alps, U-Pb ages of metamorphosed tonalite 1−13421
N.America, plate tectonic motion deduced from neotectonic stress field 1−54062
Upper Amur region, USSR, geological and tectonic conditions assoc. with Ogoron earthquake, (1977 August 16) 1−9110

Earth crust continued
andesitic magmas from partially melted basaltic eclogite, REE systematics 1−40087
Apennine mountains, Italy, linneation patterns and tectonic history 1−9134
Appalachian plateau, New York, regional joint sets for palaeostress field 1−27115
arc-back arc regions and plate subduction, stress gradients 1−27139
Archaean granulite-facies metamorphism, rocks of W.Greenland 1−13420
Archaen gneiss from W.Greenland Pb isotope study of crust contamination 1−40094
Archean greenstone belt (NW.Ontario), Bouguer gravity field 1−27050
Arctic continental margin relief, genetic classification 1−54073
Arctic lithosphere struct., from teleseismic P-wave data 1−32381
Arctic Ocean, Podvodnik basin, local mag. var. sounding of crust struct. 1−4419
Arctic region, teleseismic P-wave anomalous travel times 1−32379
N.Armorican Massif (France), geochronological study *(French)* 1−49233
at Pades-Gorj and Craciunesti-Deva, Rumania, effects of atmospheric press. field vars. *(Rumanian)* 1−44071
N.Atlantic, continental margin relief, genetic classification 1−54073
Aulneau batholith in northwestern Ontario, gravity model 1−35951
Australia, Precambrian mobile belts and transform-like processes 1−27123
Australia, upper mantle seismic anisotropy and lithosphere decoupling 1−40100
Australian crust struct. and mineral deposits, conf., April 1980, Australia 1−40128
Avalon Peninsula, Newfoundland, tectonic setting and origin of early Mesozoic diabase dikes 1−54081
N Baikal mountain region, Precambrian domes discovery 1−9151
Baikal rift zone, earthquake foci, possible rupture planes, strike distrib. 1−22259
Banda Sea region, seismicity model, Benioff zones etc. 1−32382
Bataan orogene, plate tectonic history of W.Pacific 1−13445
Benue trough and Cameroon line, W.Africa, origin model 1−22267
Betic Cordillera, Spain, crust and mantle struct., seismic refr. study 1−4468
Bohemian Massif, heat-flow−radiogenic heat generation relationship 1−13439
bore hole, cylindrical, for acoustic logging, elastic wave propag. in hole fluid *(Chinese)* 1−54254
Brazilian mafic-ultramafic complex at Pien, origin and evolution 1−9130
British Tertiary Volcanic Province lavas, crust contamination using Th-Hf-Ta data 1−13418
buckling, evidence from features of earthquakes distrib. around Peking *(Chinese)* 1−9086
Byelorussia, elec. cond. of sedimentary cover 1−22211
Calaveras fault, California, geodetic, obs. of motion 1−54060
Calaveras Fault, California, seismic activity (1969 to 1979) 1−32357
Caledonian Jotun nappe of S.Norway, U-Pb and Rb-Sr age study 1−4466
S.California, aseismic uplift due to geodetic errors 1−53956
S.California, time-depend. gravity obs. 1−13381
Calingiri earthquake, Australia (1970), crust stress field, postshock obs. 1−13411
Cambrian Slate Belt of Wales, deform. giving to geol. structs. 1−9133
Canada, contemporary vertical crust motion map 1−49255
E.Canada, continental margin, rifting and thermal evolution 1−32397
W Canada basin, sedimentary rock density studied by gamma-gamma logging 1−9123
Caribbean region, gravity anomalies, model *(Russian)* 1−22184
S.Carolina Piedmont, deformed Hercynian granitic rocks 1−44130
intra-Carpathian basins, formation process deduced from subsidence data 1−22268
Carpathian-Balkan region, vertical crust movements 1−54057
W. Carpathians, Upper Cretaceous sediment, palaeomag. characts. rel. to palaeotectonics 1−4414
Cauca depression anomalous paleomag. directions in Columbian Andes 1−17561
Char ophiolite belt, E.Kazakhstan, geological struct. and history 1−13455
Charnwood Forest Precambrian rock series, seismic vel. variations 1−4445
N.Chile, groundwater graben struct., detect. by gravity and seismic expts. 1−4407
China, dislocating inclined fault, stress field *(Chinese)* 1−4425
N.China, general features of of crustal stress field *(Chinese)* 1−54018
N.China, seismic transference pattern, mathematical simulation *(Chinese)* 1−4427
Chukotka Peninsula, Siberias tectonic nature of metamorphic rock complex 1−9150
Churchill Province (N. Saskatchewan), thermotectonic evolution 1−22302
coal gasification in situ, remote induction sounding method 1−36072
coal gasification underground, remote EM sounding method applicability 1−9281
compressive stress in SE.Australia 1−17563
contemporary vertical movements, inherited nature 1−13443
continental and buried ocean crust geomagnetic induction anomalies assoc. 1−35950
continental boundary with normally incident Love waves 1−32354
continental crust sources, Nd isotopic evidence from Sierra Nevada and Peninsular Ranges 1−27127
continental lithosphere, thermal model 1−32412
continental margin drilling project (OMDP) 1−49392
continential crust, influence in flood basalts generation, evidence from Nd and Sr isotopic comps. 1−35980
Cordilleran suspect terrane, character, distrib. and accretionary history 1−22292
Costa Rica, recent crustal uplift obs. at coast 1−49252
Cottonball Basin, Death Valley, California, radar obs. of fault in evaporite deposits 1−36079
Crimea Plain, abyssal geoelectrical section detect., tectonic dislocation, magnetotelluric obs. 1−9078
crustal stress induced by anomalies at boundaries of geological provinces 1−40108
cryptoexplosion structures, origin rel. to roles of impact and volcanism in planetology 1−4787
Dalma greenstone belt, Singhbhum, India, geology and tectonic history 1−44135
Damara orogenic event, Nd and Sr isotope study of Namibian rocks 1−40101

Earth crust continued
deep processes and structure, physico-chemical models 1−13429
deep structure from seismic refl. obs., review 1−13622
Devonian-Mississippian shales, S isotopes in iron sulphide deposits rel. to sedimentation rate 1−32388
dikes showing coexistence of acidic and basic magma, Mount Desert Island, Maine, USA 1−27122
Dufek mafic intrusion, Antarctica, aeromag. survey and sub-ice topography 1−35960
dyke metamorphism in high grade basement terrains, trace element mobility 1−32439
earthquake P-waves at small array used to find crustal parameters 1−22539
earthquake sources, crustal stress, deform. and tilt fields *(Chinese)* 1−9087
Elberton pluton, Georgia Piedmont, USA, age, palaeomag. and tectonics 1−27063
electrical conductivity anomalies in lower crust and uppermost mantle, geomag. sounding 1−22204
electrical conductivity of crust and upper mantle, relation to petrological parameters 1−22275
electrical resistivity, changes assoc. with tectonic activity rel. to earthquake prediction 1−22240
electrical struct. of orogenic and ancient tectonic areas 1−4422
Elsinore fault, S.California, vertical displacement 1−27121
EM sounding obs. of elec. struct. down to 40 km depth 1−27258
England, P-wave relative delays between Eskdalemuir and Charnwood Forest 1−54009
Eromanga Basin, hydrocarbon deposits, Queensland, Australia 1−4147
Eurasian continent, crust and upper mantle struct. from surface waves phase rel. and Q 1−35956
Eurasian-African plates relative motion, rel. to El Asnam, Algeria, earthquake 1−49226
SE. Europe, deep lithospheric struct., seismic study *(Russian)* 1−22281
E.European platform, deep crustal structure *(Russian)* 1−27104
evolution through subcrustal plastic mantle flow 1−13416
Far East ancient sialic blocks in folded struct. 1−22294
fault mechanics, for discontinuous faults 1−13404
fault motion, power dissipation and stress levels 1−27111
fault propagation model, 3-D finite element anal. 1−17573
fault surface displacement calc., motion of inclined rectangular fault 1−32399
fault zone cataclastic rock formation, of San Andreas fault 1−13438
fault zone rocks, deformation induced microstructures 1−27113
faulting process, elastic energy, theory *(German)* 1−40070
faulting process causing shear heating and metamorphism 1−27107
Fennoscandia, crust thickness, beneath seismic stations, seismic study 1−27099
Fennoscandian Shield, crustal uplift and geodynamics 1−54064
Fennoscandian shield, palaeomagnetic study of Svecofennian basic rocks 1−9082
Finland, crustal uplift during modern times 1−54059
flow stress of rocks, obs. of microstructs. of mylonites 1−27112
Fohnsdorf-Knittelfeld basin, Austria, gravity survey of crust density 1−22181
folding due to thrust sheet motion over ramp 1−49243
fracture behaviour of porous rock, effect of confining press. 1−22332
fracture mechanics appl. 1−13624
France, seismicity and recent crust movements 1−54013
Franciscan intrusive gabbros, California, geology of oceanic basaltic magmas 1−32386
Garlock fault, California, groundwater interaction, geochemical evidence 1−27214
Garm geodynamic testing ground, crust block movement, kinematic model 1−9126
Garm region, jointing from earthquake source mechanism statistics 1−9127
Geikie River area, geology and geochronology, N.Saskatchewan 1−44138
geomagnetic anomalies, mag. fields of uniformly magnetised polyhedra *(Chinese)* 1−53968
geosynclinal folding, geodynamical aspects 1−44187
West German deep drilling program for continental crust exploration *(German)* 1−27251
W. Germany, vertical crust motion and height change maps 1−54058
Getic Nappe, seismic sections migration in time by wave eqn. method *(Rumanian)* 1−40230
Ghoubbet-Asal rift, Djibouti, magma chamber identified near volcano 1−54044
global scale aspherical heterogeneity suggested by Earth free oscills. 1−49225
Gondwanaland reconstruction, using seafloor constraints 1−32423
granophyre hydrothermal Sr contamination, Isle of Skye, Scotland 1−22265
gravity anomaly due to buried prism, calc. 1−44065
gravity data, ambiguous interpretation when also using geological surface data 1−22182
Great Artesian Basin of Australia, groundwater regime 1−4544
Greece, Pelagonian zone volcanic flows of Upper Palaeozoic *(French)* 1−49245
Greenland, crust struct. from teleseismic P-wave data 1−32381
Greenland, teleseismic P-wave anomalous travel times 1−32379
Grenville Belt, radiometric evidence for two orogenies 1−54033
growth history model based on element transport and Nd and Sr isotopes 1−22280
Gulf of Lion, young Atlantic-type continental margin subsidence 1−9135
Hawaiian igneous rock origin, Ar and He isotope study 1−9138
heat conduction of crust, estimation using seismic vel. data *(Russian)* 1−22282
heat production and thermal conductivity equivalence *(German)* 1−40091
heat production model, in heat flow study 1−27100
Hellenic arc, Benioff zone existence 1−49229
Hercynian belt of Brittany, France, a major shear zone? 1−27124
Himalaya, crust. struct., seismic sounding study 1−49244
Himalaya, plate tectonic motion deduced from neotectonic stress field 1−54062
Himalayan seismic profile, Nanga Parbat to Karakul 1−4465
Hokkaido, Japan, seismic refr. meas. of crustal struct. of continental slope off Hidaka 1−4474
E.Hokkaido intermediate depth, seismic wave K-phases anal. crust struct. earthquakes 1−54014

Earth crust continued
SW.Hungary, deep struct. from filtered gravity data *(Hungarian)* 1−40042
hydrocarbons, oil and gas resource form., effect of seismicity and glaciation 1−22340
hydrothermal circulation and heat flow 1−13441
Iberian arc rotation, Cambrian-Carboniferous palaeomag. data 1−13387
Iceland, current rifting process, gravity and height obs. 1−54063
impact craters, complex, formation, evidence from Mars and other planets 1−4806
India, S. Peninsular, gravity anomalies, isostasy and topography 1−32432
NE. Indian Ocean, 3-D gravity model *(Russian)* 1−22183
Indian orogenic belts, palaeo-uplift and cooling rates 1−35970
Indian region, plate junctions rel. to hydrocarbon accumulations 1−53526
Indonesia, Bouguer gravity map and tectonic implications 1−49190
intrusive rock Sr isotope geochemistry of Puerto Rico 1−13422
isostatic compensation depth, estimation methods 1−22316
isostatic compensation of mountains, calc. including second order terms *(German)* 1−40111
Israel and Sinai, deep crustal struct., seismic study 1−22270
Izu Peninsula, Japan, crustal tilt obs. (made since 1979) *(Japanese)* 1−44133
Jamaica, Neogene structures and tectonics of plate boundary zone 1−27119
Japan, pseudomag. anomalies derived from gravity data (assuming common sense) 1−44096
Japan, volcanic rock Nd and Sr isotopes and tectonic structure 1−54082
Jharia coalfield, India, electrical resistivity methods applied to study of faults 1−22203
Jordan Valley-Lake Kinneret, geomag. anomalies and basaltic rocks 1−32478
Kaapvaal craton, S.Africa, Precambrian palaeomag. and crust struct. 1−49204
W.Kanto district, Japan, explosion seismic obs. of refl. waves from Mohorovicic discontinuity rel. to crustal struct. 1−4453
Kanto district, Japan, seismic stations correction rel. to new seismicity map 1−4451
Kapuskasing line, Ontario, Canada, crust struct. and origin 1−40082
Karakorum, crust. struct., seismic sounding study 1−49244
Kazakhstan, seismic and gravity two-dimens. inhomogeneous model 1−22272
Kemess porphyry Cu-Mo deposit, BC, Canada, geology and age 1−32437
Kern County earthquake (1952) California, assoc. strain changes 1−54000
kimberlite intrusions due to mantle hotspots 1−13426
Kirishima volcano, Kyushu, Japan, gravity anomaly obs. *(Japanese)* 1−44157
Kodiak Island trench slope, deformation history 1−13431
La Malbaie Region, Quebec, crustal struct. of meteorite impact site 1−44190
Labrador, Canada, bedrock maps determined from river sediment minerals 1−44136
LAGEOS and VLBI studies of crustal dynamics 1−22342
Laramide orogeny, low-angle subduction of oceanic plateau 1−40113
laser ranging system (using satellite), performance anal. 1−17692
Lesser Antilles island arc, volcanic rock chem. and magma genesis 1−32418
Lewisian granulite complex of NW.Scotland, geochem. and Archaean petrogenesis 1−32393
lherzolite xenolith, Ichinomegata crater, Japan, petrology 1−49235
lightning strikes causing geomag. anomalies in sulphide ore deposits *(Russian)* 1−22208
Limpopo Belt, southern Africa, deep struct. from surface geology and gravity obs. 1−22301
Limpopo mobile belt, crust struct. and palaeomag. 1−49204
lithosphere plate thickness, rel. to Earth mantle elec. cond. and asthenosphere physical conditions 1−22274
lithosphere stress and deform. on viscosity var. with depth 1−9125
longitudinal waves in linear viscoelastic media 1−9128
magma ionic diffusion processes at depth, press. and H_2O effects 1−54023
magnetotelluric soundings of lower crust and uppermost mantle, recent work 1−22205
magnetotellurics, latest methods and techniques *(Hungarian)* 1−17560
Manicouagan impact structure, Quebec, Canada *(French)* 1−40132
NW.Manitoba, seismic study of Thompson nickel belt and Churchill Tectonic Province 1−40084
mantle convection rel. to crust struct. of USA 1−13444
mantle interface, evolutionary alterations *(Russian)* 1−27103
mantle-crust evolution, two-reservoir recycling model 1−49242
Meckering earthquake, Australia (1968), crust stress field, postshock obs. 1−13411
W.Mediterranean, crust and upper mantle struct., seismic study 1−9122
meta-igneous granulitic xenoliths of French Massif Central, petrology and geochem. 1−13419
metal content of crustal rocks, Cd, Bi, Tl, Pb, Zn Rb contents 1−40095
Metchosin Eocene Volcanics, Vancouver Island, geochem. and origin 1−44134
meteorite crater in Canadian Shield region *(French)* 1−40132
meteorite craters of Canada, element anal. to identity of parent meteorite 1−4497
meteorite impact crater at Lappajarvi, Finland, Ar isotope age of Cretaceous feature 1−4498
meteorite in Ordovician limestone deposit from Sweden 1−40442
Middle Asia, geologic fault distrib. and tectonic history 1−32387
Middleton Island, Gulf of Alaska, vertical deformation movements 1−54046
miliolite deposits of Saurashtra coast, Gujarat, India, age and origin 1−27125
Mohorovicic boundary displacement, correl. with sedimentary cover form. 1−4471
N.Mongolia, Early Caledonides, Devonian and Permian orogenic magmatism 1−44188
More Gneiss Region, S.Norway, evidence for subduction of Iapetus Ocean crust 1−22320
Mosel valley, Germany, gravity anomaly measurable by geodetic method *(German)* 1−40045
Mount Etna, discovery of low vel. zone beneath volcano rel. to magma storage 1−9140
movements, geodesy and cartography aspects *(German)* 1−17554
movements, studied by geodetic meas., anal. methods 1−22550

Earth crust continued
multilayered medium intersected by well, electric charge at boundaries, surface density 1−22551
Nepal Himalaya, palaeomag. data and tectonic history 1−32346
New Caledonia, crust and mantle struct. from peridotite-gabbro nappe 1−32413
New Madrid, seismic zone, Missouri, USA, seismic profiling study 1−35959
New South Wales, earthquake accelerograms and seismic attenuation 1−4438
New Zealand, axial tectonic belt bending, last 9 Myr 1−54050
New Zealand, tectonic strain axis and drift 1−54061
Newfoundland, geothermal meas. rel. to tectonic zones 1−54019
Newfoundland (south-central), geology and evolution of Iapetus margin 1−44129
Newfoundland Appalachians basaltic rocks (Snooks Arm Group), geochem. and origin 1−40083
Newfoundland trans-Avalon aeromag. lineament, crust struct. study 1−44140
Nicoya Ophiolite Complex, Costa Rica, geologic and tectonic history 1−17574
E.North America, continental crust shear wave internal friction, freq. dependence 1−22283
E.North America, plate tectonics model for post-Jurassic tectonism 1−4484
SW.North America, ridge subduction and eduction rel. to Neogene tectonics 1−4485
Nova Scotia and Labrador continental shelves, rifting and thermal evolution 1−32397
nuclear reactor (natural) at Oklo, Gabon, fission products study 1−13424
Nyurol'sk Basin (W.Siberian Plate), Palaeozoic deposits 1−54038
Ojiya active crustal folding area, Niigata, Japan, vertical movements *(Japanese)* 1−44161
Okhotsk Sea continental crust off Central Sakhalin, deep-seated geological struct. 1−13456
Oklo natural nucl. reactor, fission yields and retention of fission products 1−13424
Oklo natural nuclear reactor in Gabon, Lu isotope study *(French)* 1−40131
Omolon massif, basement complex structure 1−40104
Ontario province, N.W.-S.E. regional folding and mineralisation patterns 1−9120
Owens Valley, California, crustal deformation study 1−32391
Ox Mountain granulites of Ireland, seismic velocity study 1−9098
Pacific mobile belt, east Australia-New Zealand sector, tectonic Mesozoic struct. 1−22296
Pacific Ocean are belt, geological history and rel. to seismology, tectonics and volcanology *(Russian)* 1−32440
palaeostress determining by obs. of mineral mechanical twinning 1−27297
Pamir, crust. struct., seismic sounding study 1−49244
Parisian Basin, tectonic stress field obs. in France 1−27116
Pemberton Volcanic Belt, B.C., Canada, magnetotelluric sounding study 1−44098
Philippine region, seismic attenuation with epicentral distance 1−32360
planetary and Earth sciences review (book) 1−9790
platform basins from geological sedimentary deposits, type and features 1−13440
polar regions, review of research 1−27167
postglacial rebound, effects of transient rheology rel. to mantle viscosity meas. 1−22314
Precambrian crustal evolution, carbonic metamorphism rel. to granulites form. and crustal growth 1−17568
Proterozoic mobile belts, palaeomag. evidence for transcurrent tectonics 1−35967
Pyrenees, crust and mantle seismic struct., tectonic implications 1−44128
Pyrenees mountain range, crust struct., seismic study 1−44126
E. Pyrenees region, seismic study of crust-mantle boundary 1−44127
Qinghai-Xizang plateau, China, geophys. fields and plate tectonics *(Chinese)* 1−22311
Qinghai-Xizang plateau, plate tectonics of Himalaya region inferred from earthquake foci *(Chinese)* 1−22312
Quebec, geology of layered gneiss and migmatite of Superior Province 1−44141
radionuclide migration into bedrock, radioactive waste disposal study 1−13459
rare gas evidence of mantle-crust material interaction 1−17570
Red Sea opening and uplift of Sinai, fission track study 1−40110
REE and TH abundances in sedimentary rocks and continental crust 1−49237
regional metamorphism in mobile belts, two models rel. to origin of granitoid magma 1−4496
response to imposed body force or surface traction, theory 1−49183
Rhenish Massif (Germany), seismic vel. struct. of crust and upper mantle 1−4475
Rhinegraben, telluric and differential geomag. soundings 1−53976
Riku-u earthquake, Japan, subsidence following AD 1896 event 1−27140
ring-complexes in crust due to upward force of magma chamber, model 1−9131
Rio Grande Rift, deep crust struct., seismic refl. study 1−13432
Rio Grande rift, New Mexico, USA, K-Ar ages and evolution of rift 1−32394
Rio Grande rift near Socorro, geodetic meas. of horizontal deformation 1−44067
rock elastic props. under conditions inherent in upper lithosphere 1−32435
rock mag. props., deduced from geomag. variations during reservoir filling 1−22364
rock magnetisation effect of crustal stress *(French)* 1−49262
S.Rockall Trough, age and structure seismic profile study 1−40086
S-wave attenuation and scattering in crust, due to heterogeneity 1−27088
Sahara, gravity survey, E.-W. traverse (made in 1975) 1−27051
salt dome, origin of contained water, ^{18}O abundance study 1−13433
Salt Lake City, Utah, slip vectors on faults rel. to seismicity 1−49213
salt plug tectonics, seismic study of North Sea, Norwegian sector 1−17575
San Andreas Fault, central California, evidence for clustering of four similar earthquakes 1−17566
San Andreas fault, groundwater interaction, geochemical evidence 1−27214
San Andreas fault, interpretation of strong motion records of Parkfield earthquake, (1966 June 27) 1−54005
Earth crust continued
San Andreas fault, slip and creep, alinement survey obs. 1−32392
San Andreas fault, stress obs. made in boreholes 1−27106
San Andreas fault zone, heat flow and enegetics 1−27108
San Andreas fault zone, stress and temp. distrib. model 1−27109
San Gabriel fault, S.California, 1953 to 1964 subsidence obs. 1−35929
Scandinavia, elec. cond. struct. using geomag. inductive response function from magnetometer array data 1−35934
Scotland, natural EM field time variations 1−40060
ScS wave Q-factor, regional variations in crust and mantle 1−27071
sedimentary basins and continental geology, role of plate tectonics 1−27145
sedimentary rock, trapped noble gas composition 1−49238
seismic faulting, far-field displacements from rectangular fault with two rupture vels. 1−9109
seismic models, practical scheme for synthetic seismograms computation using 'reflectivity method' *(Chinese)* 1−54253
seismic regions, statistical distrib. of stress drops and fault lengths 1−4459
seismic travel time residuals, obs. of Swiss seismic network 1−44110
seismogram synthesis in Earth model with radially inhomogeneous layers 1−22226
Senegal River, Holocene estuary shore level tilt rel. to geoid change 1−53955
Serra da Cangalha, Brazil, meteorite crater 1−32443
Sette-Daban Lower Carboniferous deposits, Siberia, USSR 1−44154
shear modulus profile of layered Earth, inverse problem 1−22285
shear stress levels in crust, constraints from theory and obs. 1−27110
shear wave velocities of Australian crust and upper mantle 1−27078
Shelter Cove, California, crust motion, geodetically derived strain 1−22262
shields of Laurentia and Gondwana, comparative tectonics 1−22297
Shikoku, Japan, crust and mantle struct. from P-wave aparent vel. 1−54043
Shoo Fly formation, California, geology of Devonian rocks 1−9132
W Siberian plate, platform mantle's basement struct. from rock densities 1−22299
W Siberian platform, characts. of methods of multiple noise waves suppression in refl. seismology 1−9111
Siberian platform, reflected PP waves, travel time residuals 1−9107
Siberian Platform Cambrian deposits, seismic refl. models and geophys. prospecting 1−40078
Simferopol, USSR, crustal struct. from distant earthquakes first extrema record anal. 1−4469
Sinai Peninsula vertical crustal motion, and Red Sea opening 1−40110
South America/Antarctica/Africa, relative motion during Late Cretaceous from Aqulhas Basin mag. bight 1−9081
South Caspian basin, crust struct. and formation conditions 1−32414
South Mountain batholith, Nova Scotia, Sr isotope geolog. 1−22279
spinel peridotite xenoliths in Ethiopia, REE abundances 1−49239
strain, tides and seismic waves record from water level fluctuations in deep borehole *(Chinese)* 1−9181
strain determ. from microgeodetic network obs. 1−36067
strain determination with tiltmeters sited in caves 1−17708
strain estimation from orientation distrib. of linear markers 1−49254
strain from geodetic measurements, computation method 1−53963
strain seismograms (theoretical) and applications *(Japanese)* 1−44114
stratigraphic correlation techniques, new methods 1−27303
stress field constaints, limits set by expts. on rocks 1−27134
stress fields of lithosphere, conf., Carmel, CA, USA (July-Aug. 1979) 1−22940
stress in lithosphere, limits imposed by lab. expts. 1−27131
stress magnitude inferred from rheomorphic petrology 1−27114
stress models for lithosphere plates 1−27129
stress state, implications of regional gravity anomalies 1−27136
stress state estimates from isostatic considerations 1−27137
strongly viscous two-phase porous medium mechanics, plate tectonics appl. 1−27128
subducting slabs, mechanical models 1−27132
subsurface complicated structres, seismic modelling *(Chinese)* 1−54255
sulphide ore prospecting, by mag. anomalies due to lightning strikes *(Russian)* 1−22208
Sumatra, Central Tertiary Basin heat flow and tectonics 1−32415
Sumba Island, Indonesia, palaeomag. and island drift since Jurassic 1−40052
Switzerland, recent crust movement and geophys. interpretation 1−54039
Taimyr folded region, USSR, nappe struct., fault tectonics 1−22298
Tangshan earthquake, 1976 July 28, fracture processes and mechanical anal. *(Chinese)* 1−9084
tectonic strength, depend. on time since last orogenic activity 1−40109
tectonic stress, variation in Beijing-Tianjin region before and after Tangshan earthquake, (1976) Tianjin *(Chinese)* 1−9085
tectonic stress directions, rel. to earthquake source mechanisms solns. *(Chinese)* 1−4434
teleseismic P_n waves, crust-mantle whispering gallery phase 1−22254
Texas coastal hydrocarbon bearing strata, hydrocarbon migration 1−21837
thickness prediction using isostasy principle 1−40233
Tien Shan, crust. struct., seismic sounding study 1−49244
tilt meter array, performance of shallow borehole array 1−13597
Tokyo Metropolitan area, underground struct., seismic survey 1−27092
Topsails igneous complex of Newfoundland Appalachians 1−44139
Transylvania, Rumania, geochemical regime of tectonic units *(Rumanian)* 1−17572
Troy, geomorphic reconstructions of environs during last 10000 years 1−27164
Tungus Syncline, USSR, basement studied by seismic refr. methods 1−44153
Tunguska synclise interior zone, crust thickness from seismic obs. 1−22258
NE.Tunisia, Fortuna sedimentary series, late Alpine activity 1−44179
Ukraine, geomagnetic anomalies rel. to Precambrian tectonics and crustal structure *(Russian)* 1−27058
Ukraine, magnetotelluric and magnetovariational sounding *(Russian)* 1−27061
Ukrainian crystalline massif, magnetotelluric obs. 1−9079
Ukrainian Shield, igneous rock magnetization and magma chamber developments *(Russian)* 1−27060
Ukrainian shield abyssal fractures, correl. with mineral deposits, gravity and geomag. techniques 1−54026

Earth crust continued
Ukranian Shield central part, meridional crustal struct., southern extension 1−4470
United States, crustal stress orientations, map 1−27105
NE.United States, Grenville and Appalachian Provinces crust struct. 1−4477
Upper Siwalik sediments, Bhittani Range, Pakistan 1−49203
W USA, mantle convection explanation of tectonic sequence 1−9144
NE.USSR, crust and upper mantle deep struct. from gravity data 1−22189
USU volcano earthquake swarm assoc. with doming activity 1−54016
SW.Utah, Late Cainozoic mafic volcanism 1−44178
Vancouver Island, plate tectonic history from palaeomag. evidence 1−40107
vertical fault problem in geoelectrics interpretation using Hankel integral 1−54268
Vietnamese Late Palaeozoic magmatism, geochronological study 1−54037
volcanic arc magmas melting-mixing model 1−54031
volcano elevation and edifice height at subduction zones 1−9139
Vourinos Ophiolite Complex, Greece, tectonic history 1−35961
Vrancea zone, Rumania, lithosphere and asthenosphere struct. from seismic waves vel. var. 1−35936
Wasatch Front, Utah, crustal flexure assoc. with normal faulting 1−49232
wavetilt anal. of elec. props. of Earth, VLF ground mode propag. 1−13596
Wilmington oil field, California, USA, subsidence by nonlinear model 1−35962
Wind River Line 1, Wyoming, deep basement refls. obs. and crustal struct. 1−22277
Xizang Plateau, SW.China, seismic surface wave Q-values *(Chinese)* 1−22222
Xizang plateau SW.China, crustal stresses in Himalaya region *(Chinese)* 1−22313
Yamasaki fault in Yasutomi region, identification by underground water distrib. 1−54042
Yenisei Range, Siberia, gravity anomaly interpretation 1−53957
Yenisei Range, Siberia, Riphean volcanic belt, zoning and metallogeny 1−54036
Yenisei Range, Siberia palaeotectonic maps 1−44151
S.Yukon, drainage and physiography, evolutionary study 1−40144
Yukon Crystalline Terrane, geochronology, U/Pb study 1−44137
Fe ore deposits of Labrador, Canada, prospecting methods *(Hungarian)* 1−32546
Nd isotope composition and mantle evolution 1−54034
Rb/Sr geochronology and geochem. of Archaean polymetamorphic gneisses of SW.Greenland 1−13423
Rn flux, meas. methods using nuclear track technique 1−44323
Rn in geological formations, movement of Rn in overburden theory 1−22508
Sn mineralisation of metamorphased pluton zones 1−44152
Th-HF-Ta diagram for identical of igneous rock crustal contamination 1−13417
U in Pine Creek geosyncline, Australia, conf., June 1979, Sydney, Australia 1−9772
U low grade ore deposits, Kvanefjeld, Greenland, γ-ray well logging study 1−9124
U prospecting method, Rn adsorption onto activated charcoal (ROAC) 1−9292
U, Th and K radionuclide distribs. and continental heat flow 1−54025
W skarn deposits, Selwyn Mountains, Yukon, Canada, isotope geochronology 1−32436
Zn mineralisation in marbles of Mont-Laurier Basin, Quebec 1−9121

Earth electricity *see terrestrial electricity*

Earth heat *see terrestrial heat*

Earth interior
see also Earth core; Earth crust; Earth mantle; tectonics; volcanology
apatite/rock melt equilibria at 25 kbar 1−32395
body tides of an elliptical, rotating, elastic oceanless Earth 1−49184
Caribbean region, gravity anomalies, model *(Russian)* 1−22184
Chandler wobble calculation, influences of equatorial bulge and interior props. 1−32343
convection, effect of temp.-dependent viscosity 1−15482
core-mantle boundary materials, Gruneisen parameter press. depend., review 1−44145
crust growth and mantle evolution, isotope and geochem. model 1−22280
crustal geotherms, determ. for Newfoundland from heat flow and heat prod. meas. 1−54019
difluorides and dioxides, rutile struct., elasticity and phase transform. 1−32434
elastic-gravitational deformation of layered half space, point source loading 1−22284
electrical conductivity of crust and upper mantle, relation to petrological parameters 1−22275
electrical impedance, normalisation to internal mag. field for magnetotelluric studies of horizontally heterogeneous media 1−44109
electrical response of Earth mater-als, by linear system theory 1−4495
EM induction of spherical Earth model, non-uniform 1−44095
equations of state of gas or water saturated media, under static loading 1−27154
free oscillations and aphserical heterogeneity, spheroidal mode obs. 1−49225
free oscillations of multilayer Earth, asymptotic spheroidal eigenfreqs. 1−44113
heat flow, oceanic and global estimates review 1−35958
high pressure effects in rocks and minerals, rel. to physics of Earth deep interior 1−13452
high pressure geophysics 1−32416
NE. Indian Ocean, 3-D gravity model *(Russian)* 1−22183
inert gases absorbed from primordial atmos. 1−13576
inertia axes, angular difference from rotation axis 1−17547
inverse kinematic seismic problems, chracteristic method for numerical soln. 1−35948
isostasy of whole Earth in geoid deviation study *(Russian)* 1−22185
isostatic compensation depth, estimation methods 1−22316
magma, double-diffusive processes, laboratory expts. with glycerine-H_2O 1−9169
magma ionic diffusion processes at depth, press. and H_2O effects 1−54023

Earth interior continued
magma processes, Raman obs. on silicate melts, anionic struct. rel. to viscosity 1−16079
magnetotelluric inverse problem, soln. from incomplete data 1−13392
mineral structures, stability and transitions at mantle pressures (dihalides and dioxide polymorphs) 1−27155
monopole-baryon ratio from internal heat obs. due to monopole annihilation 1−18407
non elasticity model, free oscills., aperiodic solns. 1−9100
nutation of Earth's rotational axis, effect of Earth's elasticity 1−44084
nutations of an ellpitical, rotating, elastic, oceanless Earth 1−49185
olivine glass, high-press. phase formed in diamond-anvil cell expt. 1−13436
phase transitions in lower mantle, negative press.-temp. slopes 1−17588
properties of Earth and planetary interiors, book 1−27691
review of study of Earth interior and plate tectonics 1−27126
rheology of mantle rock, dislocations and nonelastic processes 1−27133
rock glass at high-press., elastic moduli 1−27156
rotation of Earth about its axis, due to core and mantle processes 1−49246
sanidine+forsterite system, stability under upper mantle conditions 1−22271
ScS wave Q-factor, regional variations in crust and mantle 1−27071
seismic waves propagation in inhomogeneous media, soln. by partial separation of variables and finite-difference methods 1−35947
shear modulus profile of layered Earth, inverse problem 1−22285
silicate liquid behaviour at high-press. 1−4467
spinel, high-press. phase formed in diamond anvil expt. 1−13436
stress system, results from anal. of var. of seismicity of whole Earth 1−44125
teleseismic waves from central Asia, P and S travel times 1−27076
Fe oxides, high-press. polymorphs of high density 1−49259
Fe-Ni-S solid soln. as analogue of outer core, elec. cond. *(German)* 1−44101
^{129}Xe, outgassing to form terres. atmos. 1−13577

Earth lower mantle *see Earth mantle*

Earth magnetic field *see geomagnetism*

Earth magnetic field variations *see geomagnetic variations*

Earth mantle
Afar volcanic rock Rb-Sr ratios, mantle source region 1−13425
S.Africa, conductive structs. in crust or upper mantle 1−9077
Ahaggar volcanic suite (African shield area), Pb-Nd-Sr study 1−40085
S America, mantle convection and subcrustal stress field 1−49249
apatite/rock melt equilibria at 25 kbar 1−32395
Apulian plate, upper mantle struct. from Rayleigh wave obs. 1−4458
Arctic Ocean, Podvodnik basin, local mag. var. sounding of crust struct. 1−4419
Arctic region, teleseismic P-wave anomalous travel times 1−32379
ascending magma P-T modelling, behav. of silicate liquidus 1−4467
asthenosphere, relation of conductivity to physical conditions 1−22274
asthenosphere, relation of elec. conductivity to physical conditions 1−22273
Atlantic Ocean, Rayleigh wave group vel. dispersion 1−53995
Australia, upper mantle seismic anisotropy and lithosphere decoupling 1−40100
Baikal rift zone, seismic model of upper mantle 1−13437
Betic Cordillera, Spain, crust and mantle struct., seismic refr. study 1−4468
Caribbean region, gravity anomalies, model *(Russian)* 1−22184
Chagos Archipelago to Seychelles, gravity force anomalies and deep comp. struct. peculiarities 1−4472
Chandler wobble calculation, influences of equatorial bulge and interior props. 1−32343
conference on physico-chem. props. at high press., Canberra (Dec. 1979) 1−27659
continental flood basalts generation, primary magmas comp. and influence of crustal mixing 1−35980
convection, and subcrustal stress beneath USA, calc. from gravity data 1−13444
convection, constraints provided by plate vels., gravity, topography and heat flow 1−40098
convection, implications of study of organic lherzolite complex 1−22266
convection, thermal, of internally heated infinite Prandtl number fluid in spherical shell 1−4483
convection and plate motion, conversion of heat to mech. work 1−27130
convection beneath oceanic lithosphere, secondary motion 1−54053
convection cells with large aspect ratio, in two-dimens. convection 1−32421
convection of chemically layered mantle, model 1−54055
convective instability, spherical model 1−22315
core-mantle boundary roughness, PKKP wave scatt. evidence 1−40103
crust-mantle evolution, two-reservoir recycling model 1−49242
crustal interface, evolutionary alterations *(Russian)* 1−27103
deep processes and structure, physico-chemical models 1−13429
eclogitic mantle mineralogy, omphacite and pyrope-rich garnet phase transform. 1−32404
electrical conductivity anomalies in lower crust and uppermost mantle, geomag. sounding 1−22204
electrical conductivity of crust and upper mantle, relation to petrological parameters 1−22275
EM induction in lower mantle, operational problem solving method 1−22197
NW.Eurasia, upper mantle structure 1−44147
Eurasian continent, crust and upper mantle struct. from surface waves phase rel. and Q 1−35956
SE. Europe, deep lithospheric struct., seismic study *(Russian)* 1−22281
evolution of mantle, model based on element transport and Nd and Sr isotopes 1−22280
evolution of mantle, model based on Nd isotope data 1−54034
gas hypothesis 1−4478
global scale aspherical heterogeneity suggested by Earth free oscills. 1−49225
E.Great Basin, mantle lid and low vel. zone, Q-struct. and seismic vel. 1−40092
halogen composition of upper mantle, principal reservoirs 1−49240
hotspots in mantle giving rise to kimberlite intrusions 1−13426
NE. Indian Ocean, 3-D gravity model *(Russian)* 1−22183
Indian subcontinent, seismology evidence for upper mantle heterogeneity at 650 km depth 1−22300
Indonesia-Philippines, seismic rel. struct. 1−40074

Earth mantle continued
isostatic compensation depth, estimation methods 1−22316
kimberlite intrusions due to mantle hotspots 1−13426
kimberlite origin from a diapric model 1−44180
Koko Seamount, crust and upper mantle struct. of Hawaiian Ridge 1−32390
lower mantle thermodynamic props. 1−32408
magma ionic diffusion processes at depth, press. and H_2O effects 1−54023
magnetotelluric soundings of lower crust and uppermost mantle, recent work 1−22205
Marianna Arc structures, two-dimens. model 1−22287
material movement causing gravity anomalies before and OSC *(Chinese)* 1−4426
mechanical dissipation factor determ. 1−13428
W.Mediterranean, crust and upper mantle struct., seismic study 1−9122
mineral assemblages, MANTLE program to calculate 30 kbar norm assemblage in FORTRAN IV 1−49413
mineral phase separation surfaces in Earth mantle 1−44176
mineral structures, stability and transitions at mantle pressures (dihalides and dioxide polymorphs) 1−27155
Mohorovicic boundary displacement, correl. with sedimentary cover form. 1−4471
Mohorovicic discontinuity and crust struct., deep seismic sounding results anal. 1−22295
Mohorovicic discontinuity obs. below W.Kanto district, Japan, from refl. seismic waves 1−4453
New Caledonia, crust and mantle struct. from peridotite-gabbro nappe 1−32413
SW.North America, mantle material lateral flow rel. to eduction and Neogene tectonics 1−4485
E.North America, sub-crustal flow rel. to post-Jurassic tectonism 1−4484
oceanic basalt, mantle derivation, bulk Earth $^{176}Hf/^{177}Hf$ variations 1−44142
oceanic island basaltic rock Pb isotopes and mantle evolution 1−54021
oceanic mantle rock comp. var. due to unequal oceanic crustal basification 1−4473
orthopyroxene, solubility of Al_2O_3 in $MgO-Al_2O_3-SiO_2$ system, geothermobarometric appl. to mantle 1−44144
oxidation state of upper mantle, implications for primitive atmosphere 1−17569
P-wave velocity discontinuities below 650 km 1−32407
Pacific crust and upper mantle, seismic surface wave propagation 1−4446
Pacific Ocean, planform of mantle convection 1−22318
East Pacific Rise, seismic refl. from magma chamber and mantle 1−35954
E.Pacific Rise hydrothermal site, Mn and ^3He obs. in water samples 1−13489
peridotite melting model, P as incompatible element 1−32395
phase transitions in lower mantle, negative press.-temp. slopes 1−17588
Philippine Sea plate, dipping interface in mantle beneath Japan 1−32380
polymorphic phase transition from metastable state 1−40125
Proterozoic upper mantle beneath New Mexico, light REE depletion 1−54032
Pyrenees, crust and mantle seismic struct., tectonic implications 1−44128
E. Pyrenees region, seismic study of crust-mantle boundary 1−44127
Qinghai-Xizang plateau, China, geophys. fields and plate tectonics *(Chinese)* 1−22311
rare gas evidence of mantle-crust material interaction 1−17570
rel. to crust and upper mantle lateral inhomogeneities 1−4479
Reykjanes Peninsula basalts, Nd and Sr isotopes indicating mantle inhomogeneities 1−40088
Rhenish Massif (Germany), seismic vel. struct. of crust and upper mantle 1−4475
rheology, inferences from peridotite xenolith 1−35969
rheology of asthenosphere, implications of subsidence following AD 1896 Japanese earthquake 1−27140
rheology of lower mantle, solid state physics approach 1−40102
rheology of mantle rock, dislocations and nonelastic processes 1−27133
rock deform. due to tectonic motion, review 1−13442
rock glass at high-press., elastic moduli 1−27156
rotation of Earth about its axis, due to core and mantle processes 1−49246
Ryukyu-Taiwan Arc, upper mantle vel. struct. 1−27093
sanidine+forsterite system, stability under upper mantle conditions 1−22271
Scandinavia, elec. cond. struct. using geomag. inductive response function from magnetometer array data 1−35934
Scotland, natural EM field time variations 1−40060
ScS wave Q-factor, regional variations in crust and mantle 1−27071
seismic discontinuities interpretation in terms of mineral phase transform. and comp. changes 1−32409
seismic discontinuity at 200 km, implication of pyroxene-garnet transform. 1−32406
seismic surface wave propagation, with anisotropic mantle 1−35943
seismic surface wave propagation with anisotropic mantle 1−35942
seismic travel time residuals, obs. of Swiss seismic network 1−44110
seismic wave propagation across dipping interface in mantle beneath Japan 1−32380
seismic wave propagation at second-order velocity discontinuity 1−35944
seismogram synthesis in Earth model with radially inhomogeneous layers 1−22226
Shatsky Rise, Pacific mantle density, inferences from gravity data 1−22288
shear wave velocities of Australian crust and upper mantle 1−27078
Shikoku, Japan, crust and mantle struct. from P-wave aparent vel. 1−54043
silicate high-pressure phases in lower mantle, synthetic perovskite studies 1−22328
stress magnitude of lithosphere inferred from rheomorphic petrology 1−27114
stress state, implications of regional gravity anomalies 1−27136
subcrustal plastic flow, role in crust evolution 1−13416
subduction zone dehydration, asthenosphere convection and seismicity, model 1−27144
tectonic mobile belts, mantle fluid flow model for regional metamorphism and granitoid magmas origin 1−4496
teleseismic P_n waves, crust-mantle whispering gallery phase 1−22254
temperature profile from seismological and mineralogical data 1−40097
thermal convection, between non-conducting boundaries, model 1−32420
thermal plumes and seismic D″ layer thermal stability 1−22276
Earth mantle continued
transient creep in upper mantle 1−32402
Ukraine, electrical conductivity in upper mantle *(Russian)* 1−27061
upper mantle depletion and continental crust growth, Nd isotopic evidence from Sierra Nevada and Peninsular Ranges 1−27127
W USA, mantle convection explanation of tectonic sequence 1−9144
NE.USSR, crust and upper mantle deep struct. from gravity data 1−22189
viscosity determ. from postglacial rebound, effects of transient rheology 1−22314
volcanic arc magmas melting-mixing model 1−54031
Vrancea zone, Rumania, lithosphere and asthenosphere struct. from seismic waves vel. var. 1−35936
Yenisei Range, Siberia, gravity anomaly interpretation 1−53957
Zo-Se, China, upper mantle elec. cond. from short period induction field during mag. storms *(Chinese)* 1−53967
CO_2 outgassing, role in carbonic metamorphism, granulites form. and crustal growth 1−17568
^3He outgassing, rel. to distrib. of ^3He anomalies in deep Atlantic Ocean 1−4540
$MgSiO_4-MgO-H_2O$ in Earth mantle, phase changes at high press. and temp. 1−32405
$Mg_{21}Si_8O_{42}H_6$, high-pressure stability, geophysical implications 1−44167
Os-Ir-Ru alloys and deep mantle history 1−22290
P, composition of upper mantle, principal reservoirs 1−49240
PbO_2, orthorhombic-cubic transform., transform. rate and phase boundary, X-ray obs. 1−38528

Earth orbit
elements from Danjon astrolabe at CERGA *(French)* 1−49510
equinox position and motion, appl. to FK5 catalogue fundamental reference coordinate system 1−44410
heliographic latitude, role in eleven-year cosmic ray cycle 1−36143
obliquity of ecliptic, determ. using obs. of minor planets *(Polish)* 1−32607
palaeoclimatic effects, Milankovitch astronomical theory, review 1−9241
perturbations effect on zonal climate-ice sheet model during Quaternary ice age 1−36054

Earth rotation
see also time and latitude
angular velocity secular variation, anal. of motion of Earth-Sun-Moon system 1−13382
astrolabe observations, FK4 catalogue *(French)* 1−44075
atmosphere circulation affecting rotation (1963 to 1973) 1−32342
atmospheric excitation of annual wobble 1−35928
body tides of an elliptical, rotating, elastic oceanless Earth 1−49184
Chandler period variations, harmonic analysis *(German)* 1−40040
Chandler period variations, observed at Potsdam (1957 to 1978) *(German)* 1−40039
Chandler wobble calculation, influences of equatorial bulge and interior props. 1−32343
computation by classical astronomical method, using improved UT and latitudes 1−49193
conference, San Fernando, Spain (May 1978) 1−40606
coordinate systems for measuring polar motion 1−44076
core of Earth, influence on day length 1−49182
Danjon Astrolabe at Potsdam Geodetic Astronomical Observatory, new obs. program 1−4747
Doppler satellite obs. of MEDOC program 1−44092
Doppler satellite obs. of polar motion (1972-1977) 1−44089
EDOC-2 campaign, appl. of new Doppler telemetry station at Cagliari Observatory *(Italian)* 1−9374
ephemeris reference frame for astrometric work 1−44083
equinox position and motion, appl. to FK5 catalogue fundamental reference coordinate system 1−44410
FK4 catalogue equinox motion, false non-precessional motion cause *(Russian)* 1−13668
Foucault pendulum at Monash University 1−4655
geodesy contribution to geodynamics *(German)* 1−17553
Greenwich Obs. Time and Latitude Service, Time Report (July-September 1979) 1−9348
Greenwich Obs. Time and Latitude Service, Time Report (October-December 1979) 1−17757
inertia axes, angular difference from rotation axis 1−17547
inertia axis motion, calc. 1−44078
JYD system of pole coords., stability anal. *(Chinese)* 1−40036
kinematics in non-rotating frame of reference 1−49191
Lageos geodetic satellite obs. of polar motion and Earth rot. 1−49197
latitude variations, results from obs. of Talcott star pairs in circumzenithal zone with (Pulkovo ZTL-180) *(Russian)* 1−13667
length of day, short term fluctuations *(French)* 1−53953
lunar distance effect on tides and rot. *(Swedish)* 1−44063
lunar laser ranging, EROLD program 1−49198
lunar laser ranging for rotational motion 1−44088
magnetism, α^2 dynamo model anal., rapid rot. 1−27054
mantle and core processes causing day length changes 1−49246
Merate Observatory, time and latitude obs. (1978) 1−9347
nutation, 18.6 and 9.3 years terms from astrolabe obs. *(French)* 1−44080
nutation, the effect of the Earth's elasticity and liq. core 1−44084
nutation due to core rotation, excitation mechanisms 1−49186
nutation in IAU System of Astronomical Constants *(Russian)* 1−40046
nutation observations made at Paris (since 1956) *(French)* 1−44073
nutational motion, due to resonant ocean tide effects 1−49187
nutations of an ellpitical, rotating, elastic, oceanless Earth 1−49185
obliquity of ecliptic, determ. using obs. of minor planets *(Polish)* 1−32607
ocean tidal friction influence, problems of hydrodynamical integration 1−44094
Pacific plate motion rel. to spin axis 1−22212
photographic zenith tube observations, (α-2L) terms 1−44074
polar motion, comparison of Doppler satellite and astrometry data 1−44090
polar motion, GEOS-3 laser ranging obs. 1−44087
polar motion, spectral anal. of velocity data 1−44082
polar motion parameters, statistical model of excitation processes 1−44093
pole position coordinates (1968 to 1974) 1−44079
pole positions since 1899, calc. using International Latitude Service data 1−44077
radio interferometric techniques to determine Earth rot. 1−44351
radioastronomical determination of Earth rot., NAVOBSY/NRL program 1−49196

Earth rotation continued
radioastronomical obs. of quasars to monitor rotational parameters 1−49393
reference systems for meas. of Earth's motion in space 1−49194
satellite techniques using Doppler effect 1−44091
sea ice dynamics, change in horizontal divergence with inertial period due to Earth rot. *(Japanese)* 1−9171
secular variations by different methods, comparison of results *(Polish)* 1−22188
time adjustment, positive leap second on (1981 June 30) 1−44066
time measurement systems used in USSR 1−44072
Tokyo Astronomical Obs., Time and Latitude Bulletins (Jan.-March 1980) 1−32609
Tokyo Astronomical Obs., Time and Latitude Bulletins (Oct.-Dec. 1979) 1−22666
Universal Time Service improvement using autoregressive series model *(Chinese)* 1−44064
UT1 determination using VLBI technique 1−44086
variability 1−32344
VLBI measurement of UT1, utilising spacecraft VLBI navigation system 1−49195
VLBI obs. of polar motion and Earth rot. 1−44085

Earth satellites *see artificial satellites; Moon*

Earth structure
see also Earth composition; Earth interior
N.Atlantic, lithospheric structure, from Love and Rayleigh wave obs. 1−44146
core, compositional convection and stratification 1−44149
crust growth and mantle evolution, isotope and geochem. model 1−22280
crustal deep processes and structure, physico-chemical models 1−13429
crustal structure beneath Kagamihara City, resistivity survey *(Japanese)* 1−32411
NW.Eurasia, upper mantle structure 1−44147
E.European platform, deep crustal structure *(Russian)* 1−27104
Far East ancient sialic blocks in folded struct. 1−22294
geomagnetic anomalies, mag. fields of uniformly magnetised polyhedra *(Chinese)* 1−53968
gravity anomaly, three-dimensional field, analytical continuation from spherical surface 1−4406
Great Basin of Nevada and W.Utah, higher mode surface waves 1−44116
induced polarisation sounding, geophysical contribs. to negative anomalies *(Rumanian)* 1−44107
Japan, conductivity structure from magnetotelluric fields 1−13384
mantle deep processes and structure, physico-chemical models 1−13429
oceanic lithosphere, inferences on constitution from EM induction in oceans 1−22323
Omolon massif, basement complex structure 1−40104
Pacific mobile belt, east Australia-New Zealand sector, tectonic Mesozoic struct. 1−22296
rel. to crust and upper mantle lateral inhomogeneities 1−4479
seismic inhomogeneities, wave propag. theory in one dimensional inhomogeneous elastic media 1−4452
subsurface complicated structres, seismic modelling *(Chinese)* 1−54255
Ukraine, geomagnetic anomalies rel. to Precambrian tectonics and crustal structure *(Russian)* 1−27058
Vrancea zone, Rumania, lithosphere and asthenosphere struct. from seismic waves vel. var. 1−35936
Wind River Line 1, Wyoming, crustal struct. from deep basement refls. obs. 1−22277

earth surface processes *see geomorphology*

Earth third layer *see Earth mantle*

Earth upper layer *see Earth mantle*

earthing
personnel protection from electric shocks, protective measures and effects of current passage through body 1−39906
soil resistivity in Finland as regards the effects of earth-fault currents *(Finnish)* 1−4424

earthquake recorders *see seismometers*

earthquakes
see also seismology
AD 1977 03 04 Rumainian earthquake, fault plane soln., directivity effects 1−27089
southern Africa, Lg wave amplitudes in earthquake magnitude estimation 1−27082
African Western Rift Valley, earthquake generating stresses 1−32377
Alai Valley, prediction and actual event *(Russian)* 1−44122
W.Alaska, distrib. pattern 1−22235
Alaskan 'quake of Feb. 1979 causing Iowa aquifer fluctuations 1−54146
Aleutian island arc, postseismic uplift, viscoelastic model 1−27142
S.America, amplitude data anal. 1−22233
EN.America, large historical quakes correl. with moderate shocks >10 km deep 1−40072
N.American large quakes of historical times, focal depth estimates 1−4448
atmosphere pressure waves as earthquake precursors, preliminary study *(Chinese)* 1−49209
Baikal rift zone, earthquake foci, possible rupture planes, strike distrib. 1−22259
Baltic Shield near-surface earthquake series (during 1979) 1−13415
Bihar-Nepal (1934), source dynamics and tectonic stress 1−22228
brittle rock, pseudostatic uniaxial compressive load, microfracture and failure 1−27157
Burma-India border, 1969 October 17, source mechanism 1−4460
Calabro-Peloritano Arx, Italy, earthquake parameter estimation from macroseismic field obs. 1−4437
Calaveras Fault, California, seismic activity (1969 to 1979) 1−32357
central California, 1978 to 1979, anal. of four similar earthquakes on San Andreas Fault 1−17566
California great earthquake of 1857, strong ground motion 1−53987
Calingiri, 1970 Australia, stress field near epicentre for quake mechanism 1−13411
China, dislocating inclined fault, stress field *(Chinese)* 1−4425
N.China, earthquake phenomena, AD 143 to 1979, rel. to Earth crust stress field *(Chinese)* 1−54018
N.China, seismic transference pattern, mathematical simulation *(Chinese)* 1−4427
Chu depression basin, Kazakhstan, seismicity, focal mechs., precursors 1−22248

earthquakes continued
conference on earthquakes along Wasatch Front, Alta, UT, USA (July-Aug. 1979) 1−44690
core phase arrivals, PKP times from ISC data 1−13406
crack propagation during earthquake, leading to Doppler effects in seismogram 1−32373
cryoseisms phenomena in United States 1−35938
Dagestan, SW. USSR, fore- and aftershock activity 1−22249
depth dependence of seismicity 1−53996
Diamond Valley, earthquake sequence in Sierra Nevada-Great Basin boundary zone 1−49215
Dibra, Albania, 1 November 1967, mechanism, macroseismic field and aftershocks 1−13413
dilatancy focal mechanism, theory 1−49207
dislocating inclined fault, stress field described by analytical expressions *(Chinese)* 1−4425
dislocation mechanism studied by elastic theory 1−49227
Earth mantle, polymorphic phase transition from metastable state 1−40125
East pacific Rise-Rivera Fracture Zone junction, earthquark sequence 1−35940
El Asnam, Algeria, 1980 October 10, meas. rel. to earthquake prediction 1−49226
energy of 'quake and fault impedance, theory 1−53988
epicentre determination from seismological station network 1−13591
far field ground motion peaks, correl. with Modified Mercali intensity 1−22239
far-field and near-field radiation from a growing and propagating relaxation source 1−32384
fault mechanics, for discontinuous faults 1−13404
fault propagation model, 3-D finite element anal. 1−17573
fault surface displacement calc., motion of inclined rectangular fault 1−32399
faulting process, dynamics of one-dimens. crack with variable friction 1−32372
faulting process, elastic energy, theory *(German)* 1−40070
fish behaviour as precursor, sensitivity of fish to seismic waves 1−4302
fission reactor safety, Seismic Safety Margins Research Programme, in United States, brief overview 1−869
focal mechanism determination, from regional network S to P amplitude ratios 1−27253
focal mechanisms solns. of major quakes, (1970-1978) 1−13410
foci zones detect. by high and low freq. spectra of focal radiation 1−4635
fracture behaviour of porous rock, effect of confining press. 1−22332
fractured rock seismic velocity in earthquake areas *(German)* 1−40071
Friuli, Italy, 6 May 1976, reconstructed from aftershock data 1−13414
Friuli, Italy, May 1976, source characts. from teleseismic data 1−27068
Friuli, Italy (1976), focal medium props. from aftershock activity study 1−17567
Friuli earthquake sequence, model of stress corrosion crack propag. 1−4456
Galapagos, mechanism of earthquake swarm (June 1968) 1−53993
Garm region, Earth crust jointing from earthquake source mechanism statistics 1−9127
Gazali, USSR, April and May 1976, focal mechanisms 1−53991
Gazali, USSR, May 17 1976, faulting process 1−53990
geochemical precursors 1−32385
Ghaenat, Iran, Nov. and Dec. 1979, and tectonic implications 1−53992
Gissar-Kokshal fault zone, central Asia, premonitory quakes to large shocks 1−13405
ground motion, theoretical calc. 1−32376
Gulf of Aden, complex teleseismic P waveforms from shallow earthquake 1−32374
Haicheng, China, Feb. 1975, precursory Earth tilt anomalies *(Chinese)* 1−22224
Haicheng (1975), China, gravity var. before and after *(Chinese)* 1−4426
Hawaii (Kalapana) earthquake, Nov. 1975, prediction using asperity model 1−40073
Hellenic arc, Benioff zone existence 1−49229
W Hellenic Arc, prediction of large quake based on past seismicity 1−54011
Himalayan region earthquakes, source parameters 1−4454
E.Hokkaido intermediate depth, seismic wave K-phases anal., crust struct. 1−54014
horizontal movement, disturbance propag. up to ionosphere, effect of sound vel. vertical gradient 1−22583
Hungary, max. observed earthquake intensities (since 455 AD) 1−54003
hydro-fracture dilatancy in fault terrains 1−49261
hypocentre determination by mixed inverse problem method 1−9103
S.Illinois, 1891 September 27, magnitude and position correcton 1−22238
Indian subcontinent, evidence for upper mantle heterogeneity at 650 km depth 1−22300
Izu-Oshima, 1978 January 14, induced ground movement 1−27097
Izu-Oshima-Kinkai, 1978, transfer function changes at Nakaizu 1−9075
Izu-Oshima-Kinkai, Japan, Jan. 1978 source mechanism 1−27095
Jamaica, West Indies, seismicity and seismic intensities rel. to risk assessment 1−17564
Japan, earthquakes before 1872 rel. to prediction and seismicity 1−13399
Kakioka, Japan, geomag. time changes rel. to earthquake occurrence 1−4450
Kanto, Japan 1923, fault mechanism 1−44117
Kanto district, Japan, 1975 January to August, new seismicity map 1−4451
Kern County earthquake (1952) California, assoc. strain changes 1−54000
Kilauea Volcano, Hawaii, ground Rn concs. vars. before and after seismic events 1−17591
Koyna reservoir area, Maharashtra, India, earthquake relocation 1−53999
Koyna reservoir region, Maharashtra, India, 1973 to 1976 period quakes 1−53998
Kurile Islands, amplitude data anal. 1−22233
Kyushu-Ryukyu arc, tectonics, seismicity and earthquake evidence 1−32427
late maximum near and far events, magnitude *(Chinese)* 1−4432
low-frequency earthquakes, zone beneath inner wall of Japan trench, discovery 1−4461
Luzon, Philippines, seismicity rel. to plate underthrusting 1−40075
magnitude determination from a fault 1−22237
magnitude distrib., recurrence relation 1−53997
magnitude-frequency distribution scale *(Japanese)* 1−9114

earthquakes continued
main shock and largest aftershock, magnitude difference, statistical distrib. *(Japanese)* 1−9117
maximum magnitude and W.Great Basin seismic zone changes 1−49217
McNaughton Lake, Canadian Rockies, mechanism of May 1978 quake 1−53994
mechanism of slow and multiple quakes, math. model 1−44119
Meckering, 1968 Australia, stress field near epicentre for quake mechanism 1−13411
Monticello reservoir, South Carolina, spatial and temporal vars. in t_s/t_p before induced earthquakes 1−22242
Mukawa, 1979 January 13, shallow earthquake, damage, intensity 1−54015
multiple large shocks, model based on stress corrosion theory of crack propag. 1−4456
New Hebrides Islands, Aug.1 1965, source mechanism study 1−4444
New South Wales, earthquake accelerograms and seismic attenuation 1−4438
Oaxaco, 1978 November 29, seismic moment tensor recovery technique appl. 1−22503
oceanic intraplate earthquakes, local and region stress implications 1−22253
Ogoron, Upper Amur region, 1977 August 16, geological and tectonic conditions 1−9110
Oroville, 1975 August 1, aftershocks and source parameters, spectra 1−22227
Owens Valley, California, crustal deformation study 1−32391
P-waves at small array used to find critical parameters 1−22539
E.Pacific, earthquake Rayleigh wave attenuation coeffs., regional var. 1−4651
Pacific seismic belt, strongest earthquake location 1−13402
Parkfield, 1966 June 28, appl. of method to determine ground motion 1−22502
Parkfield, California, 1966 June 27, interpretation of strong motion records 1−54005
Peking region, features of earthquakes distrib. rel. to crustal buckling *(Chinese)* 1−9086
pore water affecting earthquake process, resistance to fault motion 1−27086
precursors, exptl. results on Rn and Tn emanations from rock specimen under press. *(Chinese)* 1−9089
precursors, review of time depend. of Earth EM transfer functions assoc. with tectonic activity 1−22240
precursors, use of b-value is recurrence relation 1−35949
precursors, wave vel. changes assoc. with generalised triaxial deform. of pyrophyllite 1−22337
precursory behaviour of fish 1−4302
precursory Rn emanation, study of active faults 1−27094
prediction, obs. of atmospheric microbaromic waves as aftershock precursors *(Chinese)* 1−9090
prediction, random stress model for seismicity statistics 1−22241
prediction, seismic activity effect on underground and surface water *(Russian)* 1−44123
prediction, techniques based on nature of change in seismicity of whole Earth 1−44125
prediction, use of automatic recorder for meas. of acoustic pulses emission from rocks *(Russian)* 1−27281
prediction in Garm polygon 1−13401
prediction with tiltmeter strain detectors in subterranean cavity 1−17708
premonitory slip and precursory pore press. changes during stick-slip sliding 1−32383
Qinghai-Xizang plateau, plate tectonics of Himalaya region inferred from earthquake foci *(Chinese)* 1−22312
Quetta (1935), source dynamics and tectonic stress 1−22228
reservoir, filling causing seismicity, stress loading theory 1−4455
Riku-u, Honshu, Japan 1896, subsequent subsidence, mantle rheology implications 1−27140
Robertson, SE.Australia, 1961 May 21, compressive stress 1−17563
rupture process of slow earthquake, theory 1−54007
W.Russia, earthquakes discrimination from explosions, from L_g propag. obs. 1−22234
San Andreas fault, strong motion calc. for hypothetical quake 1−27067
San Fernando (1971), strong ground motion 1−54001
seismic moment determ. technique using seismological bulletins 1−54288
seismic sources, statistical distrib. of stress drops and fault lengths 1−4459
Shizuoka (1935 July 11), mechanism and source parameters determ *(Japanese)* 1−9115
Shizuoka City, Japan (1976 October 26), correl. with Suruga Bay seismic activity *(Japanese)* 1−9116
Shkodra, Albania, June 1905 1−13412
Shumagin seismic gap, Alaska, high stress drop events 1−44115
Sierra Nevada-Great Basin boundary zone earthquakes rel. to structure and tectonics 1−49216
Simferopol, USSR, crustal struct. from distant earthquakes first extrema record anal. 1−4469
simulation program 1−54017
Slovakia, max. observed earthquake intensities (since 1000 AD) 1−54003
Songpan-Pingwu (1976) precursory seismic vel. ratio, anomalous var. *(Chinese)* 1−4428
source mechanism deducation procedure for region of differing source mechanism 1−27069
source mechanisms, application of theoretical strain seismograms *(Japanese)* 1−44114
source mechanisms solutions, rel. to tectonic stress directions *(Chinese)* 1−4434
St. Elias, Alaska, 1979 February 28, aftershocks and preceding seismicity 1−49220
St. Elias, Alaska, 1979 February 28, fault parameters 1−49222
St. Elias, Alaska, 1979 February 28, intensities and isoseismal map 1−49221
St. Elias, Alaska, 1979 February 28, tectonics and precursory seismic pattern 1−49219
St. Elias, Alaska, 1979 February 28, tiltmeter obs. at Cape Yakataga 1−49180
strong earthquakes, precursory changes in Earth resistivity *(Chinese)* 1−9088
strong motion of great earthquake calc. for San Andreas fault 1−27067
strong-motion earthquake record analysis, response amplitude duration 1−49223
earthquakes continued
strong-motion time-histories, appl. to development of structures response spectra 1−9118
subsonic gravity wave in atm., effect on radiowave refl. from ionosphere 1−22582
Sumbawa, Indonesia, 1977 August 19, high precision meas. of Earth $_0S_0$-mode freq. 1−35946
Sungpan Pingwu (1976) nearby spring water Rn content, abnormal charcts. *(Chinese)* 1−4430
Sungpan-Pingwu, China, Aug. 1976, prediction by field observation program 1−32358
surface faulting on Wasatch fault zone, Utah, occurrence probabilities 1−49211
Susanville, California, 1976 June-July sequence, Earth tide correl. 1−49218
Swabian Jura, 1978 September 3, source parameter determ. 1−22260
swarm activity mechanism in Kawanazaki-oki, Izu Peninsula 1−9091
Sweden, 1951-1976, macroseismic intensity relations 1−4462
synthetic seismogram calc. for medium for large quakes *(French)* 1−44111
Tangshan, 1976 July 28, seismomagnetic effect 1−32350
Tangshan, 1976 July 28, stress vars. in Beijing-Tianjan region before and after earthquake *(Chinese)* 1−9085
Tangshan, China, 1976 July 28, fracture processes and mechanical anal. *(Chinese)* 1−9084
Tangshan (1976), China, gravity var. before and after *(Chinese)* 1−4426
Tangshan (1976), shallow groundwater anomalous migration as precursor *(Chinese)* 1−4429
Tattal, Chile, 28th of Dec. 1966, source mechanism *(French)* 1−44112
tectonic plate boundaries, earthquake seismology 1−27145
Texas, Aug.16 1931 epicentre, magnitude and mechanism reevaluation 1−32356
Texas, USA, June 16 1978 (Snyder), focal depth and mechanism 1−35937
tidal triggering of earthquakes and volcanic activity 1−49188
Tokyo, strong ground motion in 1-15 sec. period range *(Japanese)* 1−9093
Ukraine, prediction problems *(Russian)* 1−27084
urban earthquake hazards and risks to populace, systems anal. study 1−32378
USU volcano earthquake swarm assoc. with doming activity 1−54016
Wasatch fault zone, Utah, surface faulting and earthquake recurrence 1−49210
Wasatch front area, Utah, network monitoring, seismicity and seismic hazards 1−49212
wave propagation, bridges response anal. using response spectrum *(Japanese)* 1−49231
S and P wave travel time ratio for distances less than 10° 1−22232
weak earthquake epicentre behaviour before strong quakes *(Russian)* 1−22246
Williams, Arizona, 1971 November 4, fault plane soln. and focal mechanism 1−22236
wind and seismic effects, conference, Gaithersburg, Maryland, USA (1978 May 23 to 26) 1−49884
Xizang plateau SW.China, crustal stresses in Himalaya region *(Chinese)* 1−22313
Yunnan province, China, atm. press. field charcts. precursory evidence *(Chinese)* 1−4431
Zagros mountains (Iran), mechanisms of larger quakes 1−49224
H_2 degassing and fault activity, soil gas obs. 1−49228

EAS *see cosmic ray showers and bursts*

Eberhard effect *see photographic materials*

ebullition *see boiling*

e.c.g. *see electrocardiography*

echelles *see diffraction gratings*

echelons *see diffraction gratings*

echo
see also anechoic chambers; architectural acoustics; clutter; reverberation; sonar
crystals, dynamic polarisation echo 1−41904
disordered solid, echo phenomena for studying interaction of phonons with tunnelling systems 1−16000
infrapitch echo detection 1−13257
lightning, radar echoes props. 1−44254
liquid with bubbles, acoustic phase echo 1−41903
multiple target generalised model and its spectral anal. *(Russian)* 1−27240
piezoelectric powder, storage echo, model 1−16528
porpoise echo-recognition, anal. of controlling target characteristics 1−11271
soft mode driven instabilities and phase transitions investigated using wavevector reversed US 1−16011
US beam profiling using correlation systems 1−37750
US pulse diffraction, phase advance detect. at 3 MHz and 9 MHz in methanol-water mixture using pulse-echo-overlap method 1−6735

ECL *see emitter-coupled logic*

eclipses
see also solar eclipses
Algol-type binaries, eclipses visual timings and new ephemerides for 120 systems 1−49731
VV Cephei, 1976/78 eclipse egress, spectroscopic obs. 1−54550
BL Lacertae, eclipse phenomenon during radio emission flare 1−13874
lunar, concurrent surface photometry obs. 1−22701
lunar, Earth shadow density var. due to ozonosphere absorpt. 1−22702
lunar total penumbral eclipses, ephemerides, (1600 to 2500) 1−49544
Moon, 1979, September 6, gravitational anomaly and obs. using torque pendulum *(Chinese)* 1−49543
X-ray burst sources, search for pulsations and eclipses 1−49855

eclipsing binary stars
Algol systems, gas stream effects 1−32723
Algol type stars nonthermal microwave emission charcts. 1−4994
Algol-type binaries, new ephemerides for 120 systems 1−49731
Algol-type binaries evolution, props. of semi-detached systems before and after mass transfer 1−17868
ζ Andromedae, β Lyrae star, CA II H and K line var. 1−49737
AN Andromedae, motions and comp. from UV and visible obs. 1−32705
V599 Aquilae spectrophotometric study *(Russian)* 1−17874
ζ Aurigae, spectroscopic obs. during 1979 eclipse 1−49735

eclipsing binary stars continued
44=i Bootis, contact binary, IR light curves from K-band photometry 1−44590
44=i Bootis, IR light curves of contact binary 1−54551
S Cancri, orbital period and light curve variabilitiy, uvbyI_k photometry obs. 1−49738
RY Cancri, Praesepe cluster membership possibility, BV photometry 1−13814
UW Canis Majoris, C III multiplet P Cygni profile vars., phase correlation 1−54548
FZ Canis Majoris, early-type eclipsing binary star, photometric elements 1−49724
YY Canis Minoris, evolved contact binary system, photometric elements 1−54552
RS Canum Venaticorum, spectrum 1−32726
RS Canum Venaticorum-type binaries, UBV photoelectric light curves 1−9575
OY Carinae, dwarf nova, accretion disc size determ. from eclipse light curves anal. 1−27509
OY Carinae, eclipsing dwarf nova, component masses from visible spectra obs. 1−36309
OY Carinae, eclipsing dwarf nova, ephemeris and physical parameters from eclipse light curves obs. 1−54506
RX Cassiopeiae, beta Lyrae star, light curve, period increase, mass transfer, UBV obs. 1−40529
V523 Cassiopeiae, K-type contact binary star, light curve anals. 1−36329
cataclysmic binaries, accretion discs sizes determ. from eclipse light curves anal. 1−27509
catalogue of light curve synthesis photometric solns. *(Italian)* 1−44445
Centaurus X-3, optical spectroscopy 1−13883
VV Cephei, 1976/78 eclipse egress, spectroscopic obs. 1−54550
U Cephei, Algol type semi-detached binary, model from polarimetric obs. 1−13806
AH Cephei, early type, light elements and increasing period, VB obs. 1−40530
U Cephei, light var. depend. on orbital phase, interpretation 1−36328
VV Cephei, M supergiant+Be star, photometry obs. 1−4942
VW Cephei, new photoelectric photometric obs. 1−22833
Z Chamaeleontis, dwarf nova, accretion disc size determ. from eclipse light curves anal. 1−27509
Z Chamaeleontis, dwarf nova, gravitational wave evidence *(German)* 1−9914
close binaries, period changes caused by third companion 1−27553
close binary star systems, obs. determ. of 1−9578
RW Comae Berenices, early photometry and UBV light curves 1−9577
composite spectra stars, O-G type binaries, component spectral type synthesis and obs. 1−54554
RW Coronae Austrinae, orbital elements from WULBV photometry obs. 1−40531
V382 Cygni, early type, light elements and increasing period, VB obs. 1−40530
Y Cygni, photoelectric photometry and apsidal motion determ. 1−49733
CI Cygni, symbiotic star, visible photometry and spectral obs. 1−27517
detached binaries, main sequence calibration 1−13809
detached eclipsing binaries, photometric orbits from photoelectric light curves 1−40518
detached systems, revised photometric elements for eight stars 1−9573
RZ Draconis, masses, photometric orbital soln. and long term period changes *(Chinese)* 1−40525
TW Draconis, revised photometric elements 1−36330
RU Eridani, period and light elements from BV photometry 1−40519
U Geminorum, red+white dwarf, disk accretion from radiation anal. 1−17870
HD 153919 primary of 4U 1700−37, eclipsing X-ray binary spectral var., visible obs. 1−9725
HD 163181 (V453 Scorpii), evolution mass loss and CNO abundance, visible spectra obs. 1−44593
HD 27130, Hyades eclipsing binary system, X-ray flare obs. 1−54555
HD 5980, Wolf-Rayet star in SMC, uvby photoelectric obs. 1−13808
HD 77581 (=Vela X-1), X-ray binary UBV linear polarisation obs. 1−27552
Hercules X-1, 58 keV synchrotron emission line 1−32725
DQ Herculis, cataclysmic variable binary system with accretion disc, phase shift model 1−36327
AM Herculis, correlated IR, visible and X-ray obs. 1−49715
AM Herculis, direct meas. of mag. field 1−54553
HZ Herculis, Hercules X-1 optical counterpart, primary min. shape, UBV obs. 1−13807
RX Herculis, light curve, photometric obs. 1−17872
AM Herculis, numerical models, X-ray and IR emissions from accreting magnetic white dwarf 1−54559
AM Herculis, rapid brightness flickering due to accretion on white dwarf, UBV obs. 1−49716
HZ Herculis (Hercules X-1), long-term radio study 1−13813
HZ Herculis (Hercules X-1), pulse shape change, 35 day dependence 1−49712
HZ Herculis (Hercules X-1), X-ray binary light curve anal. model BV obs. *(Russian)* 1−22840
HR 9049(=HD 224113) eclipsing binary, spectral types and light curves, photometry anal. 1−40520
VW Hydri, dwarf nova, photometry and polarimetry during October 1978 supermaximum 1−27507
16 Lacertae, eclipsing system with β Cephei primary, mass and radius from photometric obs. 1−27562
RT Lacertae, RS Canum Venaticorum star, light curve variations, BV obs. 1−9728
Lanning 10, probable cataclysmic variable, coude spectroscopy and high-speed photometry 1−36337
LB 3459; subdwarf eclipsing binary, orbit, evaluation and model 1−17869
LB 3459, O-type subdwarf system, orbit and radial vol. curve, visible spectrum obs. 1−44592
light curve analysis by direct synthesis method 1−36195
light curve Fourier anal. 1−9571
light curves analysis, Fourier techniques 1−13802
light curves analysis, Fourier techniques 1−17866
limb darkening coeffs., anomalous, calcs. from model atm. 1−27557
limb-darkening observations, appl. to stellar source function derivation 1−13764
β Lyrae, absolute spectrophotometry and new model *(Russian)* 1−17875
β Lyrae, H and He spectral emission, short time fluctuation, visible obs. *(Russian)* 1−17878
eclipsing binary stars continued
β Lyrae, He I 10830 Å emission line obs. rel. to circumstellar envelope radiation *(Russian)* 1−17876
β Lyrae, qualitative anal. of emission spectrum *(Russian)* 1−13810
β Lyrae, quasiperiodic vars. of Hα emission *(Russian)* 1−4943
TZ Mensae, photometric elements 1−44589
VV Orionis, UV data rel. to consistency of photometric anal. of eclipsing binary light curves 1−13765
DI Pegasi, semidetached binary, revised photometric elements 1−27551
period distribution of eclipsing and spectroscopic binary systems, depend. on spectral type 1−17867
β Persei, Mg II k-line profile, circumstellar envelope interpretation 1−54545
β Persei (Algol) appl. of narrow band photometry 1−9581
β Persei (Algol) study of optical polarisation 1−54543
δ Pictoris, IUE obs. of UV spectrum 1−27559
TY Pyxidis, RS Canum Venaticorum star, light curve, uvby photometry obs. 1−36336
2S 0921-630, binary, optical counterpart, eclipses of accretion disc, UBV photometry obs. 1−49721
2S 1822−371, occulted accretion disc model for 5.57 hr modulation in optical counterpart 1−49726
U Sagittae, Algol type system, appl. of narrow band photometry 1−9581
WZ Sagittae, dwarf nova, light curve oscills. model, visible obs. 1−36287
UU Sagittae, highly evolved low mass binary, soft X-ray emission 1−49725
UU Sagittae, nucleus of planetary nebula Abell 63, photovisual light curve and photometric elements 1−22835
V861 Scorpii, IUE, optical and IR obs. 1−40523
V861 Scorpii, upper limit to X-ray flux 1−27636
V861 Scorpii (HD 152667=OAO 1653−40?) UV spectrum and flux 1−9566
semi-detached (sd) systems, revised photometric elements of seven binaries 1−49729
semi-detached binary stars, evolution 1−36332
SS 433, early-type binary models, accretion disk precession 1−54509
SS 433, eclipsing binary, orbital period, radial vels., BV obs. 1−54518
SS 433, kinematical anal. of spectrum after two observing seasons (1978 to 1979) 1−54507
SS 433, radio source struct., strength and polarisation changes obs. 1−54520
SS 433, variability, SHF obs. *(Russian)* 1−54522
SS 433, VLBI obs. at 3.6 and 13 cm. 1−54503
Stepanyan's star, eclipsing cataclysmic binary, high speed white light photometry obs. 1−49677
V471 Tauri, highly evolved low mass binary, soft X-ray emission 1−49725
HU Tauri, photoelectric photometry, min. light epochs and new ephemeris 1−13803
HO Telescopii orbital elements from WULBV photometry obs. 1−40531
4U 0900-40 (Vela X-I), eclipsing binary, hard X-ray 1−9724
UX Ursae Majoris, cataclysmic variable binary system with accretion disc, phase shift model 1−36327
UX Ursae Majoris, novalike variable, UV spectrum var. obs. 1−13786
W Ursae Majoris, UV colours obs. rel. to gravity darkening, temp. differences and cause of W-type light curves 1−9563
UX Ursae Majoris, UV emission lines fading obs., (1980 November 25) 1−22841
UX Ursae Majoris disc star, spectra comparison with white dwarf accretion disc. 1−27497
W Ursae Majoris stars, evolution and stability from models 1−40524
W Ursae Majoris type contact binaries, period changes caused by third companion 1−27553
AL Velorum, obs. of two eclipses and evidence for atmospheric eclipse 1−27558
ER Vulpeculae, orbital period and elements from BV photometry obs. 1−36334
X-ray burst sources, search for pulsations and eclipses 1−49855

ecology
chlorophyll conc. in sea, Nimbus 7 coastal zone colour scanner data 1−4662
deciduous forest, species rich, origin in N.Florida during Late Wisconsin period 1−49391
deforestation in USA, effect on atmosphere C budget 1−49373
energy resources, technological developments, ecological and environmental impact 1−32059
global C cycle, ten-compartment model calibration and testing 1−9238
Lake Sammamish, phytoplankton response to wastewater diversion and urban runoff 1−4225
lakes of Florida nutrient ecology var. due to mixing by motorboats 1−4551
photobacteria symbiosis in marine animal light organs 1−4404
potato blight management, application of model of daily weather 1−54184
radiological protection in Danube catchment area, research programme scope and representative data 1−4367
CO_2 content in atmosphere, methods of estimating past concentrations *(French)* 1−27239

econometrics *see economic cybernetics*

economic and sociologic effects
see also demography; personnel
SE.Asia, endemic energy resource shortages, economics and future research 1−26803
energy resource management and technological development, effect on society's lifestyles, motivation and values 1−31994
European USSR, effects of economic activity on water mineralisation of large rivers 1−21944
fuel cells, commercialisation of new energy technologies, socioeconomic impact 1−21873
global energy requirements, supply and demand over next 50 years 1−26804
HTGR, exploitation in Germany, effects of licensing regulations 1−10511
levee drainage system design, multiobjective optimisation problem 1−17633
Lithuanian SSR, land structure, natural and socio-economic effects *(Russian)* 1−13460
nuclear power development during the 1980s, public acceptance aspects 1−23717
nuclear waste isolation, technical, social and political decisions 1−5078

economic and sociologic effects continued
nuclear waste management, socio-economic and institutional considerations 1−5079
nuclear waste repositories, implications of large-scale project social and demographic impacts 1−5080
polymer materials, socio-economic eval. *(German)* 1−36487
river diversion schemes in USSR, and Soviet policy making 1−5077
science teaching, integrated schemes, impact on educational systems and society 1−13955
technological risk assessment, social aspects and the decision process 1−5076

economic cybernetics
energy-economics systems, appl. of classical and optimal control theory 1−43747
energy/economy models, mathematical programming framework 1−39721
time-stepped energy system optimisation model 1−39725

economics
aquifer storage of chilled water for air conditioning, economics 1−53693
automatic devices in optical industry, technical-economic problems 1−1742
biomass biological conversion to liquid fuels, methods and economics 1−53683
combustion processes optimisation for energy economisation *(German)* 1−35531
compressed air energy storage with thermal energy storage, economics for utilisation for electric power generation 1−53705
crude oil demands and costs and importance of nuclear energy and coal gasification and liquefaction *(German)* 1−13072
Eastern European Countries, capital requirements for development in fuel and energy sectors *(French)* 1−8650
electric power generation through industrial waste heat recovery by vapour turbine and induction generator, aspects 1−26826
electricity substitution for imported oil in Canada, assessment 1−26829
electricity supply industry, environmental influences exercised within overall economic system *(German)* 1−4229
electricity supply industry, investment in USA and Europe for 1980-1990 *(French)* 1−8647
energy conservation in the industrial sector, cost forecasts using regression equations 1−48806
energy conservation projects, economic assessment, calc. of discounted payback period 1−43752
energy consumption and resources, industrialised countries capital requirements *(French)* 1−8649
energy independence, resource use and reuse 1−35610
energy resources, alternatives, economic assessment 1−35609
energy resources, development and utilisation, financing risks assessment *(French)* 1−8653
energy resources, development projects, financing *(French)* 1−8655
energy resources, economic perspective of UK low energy strategies 1−53568
energy resources, economics of energy prices: doubts and uncertainty *(French)* 1−8652
energy resources, environmental and economic analysis 1−35598
energy situation and future prospects *(French)* 1−31973
energy sources, renewable, world wide financing *(French)* 1−8648
European community coal industry investment requirements *(French)* 1−8661
exploration and development of Indonesian oil resources and their financing *(French)* 1−8662
fission reactors, comparative economics of the breeder and light water reactor 1−50992
French nuclear programme, financing and developments *(French)* 1−8693
Frigg North Sea Gas Field financing and resources development *(French)* 1−8660
frosted covers for solar cells, benefits 1−39783
gas panel backfill process, pump efficiency improvement 1−272
geothermal hot water, economic use *(German)* 1−13079
geothermal power, financing considerations and problems 1−48800
geothermal-resource extraction for electric power generation, optimal economic model 1−43740
heat pumps, development and testing for low-temp. grain drying, comparison to electric resistance heat drying *(German)* 1−35687
heat pumps, electric, load following, free-piston variable stroke compressor development for space heating *(German)* 1−35682
high efficiency concentration/multi-solar cell system for orbital power generation 1−48858
hydroelectric power stations, low-head, marketability assessment 1−39732
Korea, future nuclear reactor strategy as function of GNP growth 1−48808
LNG projects, financing trends *(French)* 1−8692
methane, reforming and methanation, appl. to high-temp. heat transport *(German)* 1−35562
Mod 2 windmill, electricity generating costs 1−53536
modelling, integrated methodology for assessing energy-economy interactions 1−35631
modelling, reconciliation of the results of an energy optimisation model with a general economic profile 1−35632
modelling of energy and the economy 1−35630
modular 10 W, 20 W and 40 W solar cell panels and applications 1−43765
molten carbonate fuel cell, natural gas fuelled, potential energy savings in industrial cogeneration, determ. 1−48829
non-communist world coal industry, investment, consumer demand and future trends *(French)* 1−8656
nonlinear dynamic models, wave props. 1−53744
nuclear electricity generating costs in UK 1−53569
nuclear power, efficiency development in Czechoslovakia *(Czech)* 1−743
nuclear power, integrated system within COMECON, optimisation 1−23870
nuclear power for industrialised countries energy needs *(French)* 1−26827
oil exploration and production financing *(French)* 1−8658
optical design, distributed computing 1−46499
organic Rankine cycle engine 40 kW, experimental results and economics 1−48896
OTEC, 40 MW grazing and moored pilot/demonstration plants, design and costs 1−53646
OTEC operation possibilities and economics 1−26845
petrodollar recycling and monetary problems *(French)* 1−8659
petroleum industry, world investment, through 1980 *(French)* 1−8657

economics continued
photovoltaic technology, economic development, present status and potential appls. 1−39778
powder metallurgical production, and processing, cost estimates and economic considerations 1−53120
power generating plants, flue gas desulphurisation systems, costs variation anal. 1−4603
primary commercial energies potential supply and investment and production costs *(French)* 1−8651
pumped-storage power, development potential in Brazil 1−43738
radiation protection, cost-benefit analysis appl. 1−23858
residential photovoltaic systems costs 1−53619
residential/commercial cogeneration using Stirling engines and externally-fired open and closed-cycle gas turbines, technological and economic issues 1−53533
salt-stratified solar ponds, application problems 1−53674
Seasonal Thermal Energy Storage in aquifer formations, economic feasibility 1−53691
seasonal thermal energy storage of chilled water in aquifers 1−53690
seismic prospecting, economic aspects *(Rumanian)* 1−44124
shallow solar ponds, economic, technical and environmental factors assessment for efficient power generation 1−53672
simultaneous production of heating and cooling *(French)* 1−26843
solar energy, viability for domestic appls. 1−26817
solar power, commercial prospects to year 2000 *(Italian)* 1−48804
solar power photocell/pumped storage agricultural installations, viability *(Italian)* 1−48803
solar power station 500 kW/Si space solar array, design, performance and life cycle cost relationships for Low Earth Orbit applications 1−53625
solar swimming pool heating, cost effectiveness 1−53670
solar thermal electric power systems, comparative economics 1−53567
space heating, domestic, combined electric heating and heat pump usages *(German)* 1−17229
space heating by heat pumps utilising lakes and rivers as heat sources *(German)* 1−35679
space heating using electrical heat pumps−future opportunities for electrical contractors *(German)* 1−17228
space heating using solar assisted annual Cycle Energy System, energy effectiveness and economic viability 1−39735
Spacecab Project, minimum cost orbital taxi, economics and appls. 1−54346
spact heating, solar heating system optimisation using computer methods 1−39813
steam reforming plant heated by HTGR, process feasibility and investment cost evaluation of hydrogasification 1−48916
superconducting magnet cryogenic system operating costs and tradeoffs 1−44968
superconducting MHD magnet cost factors and optimum current level 1−48880
thermal energy storage using fluidised bed heat exchanges, technical and economic assessment 1−53687
thermal energy storage via low-pressure feedwater storage and coupled operating storage systems, layout, operation and technical and economic results 1−17303
thermal/electric conversion systems using wood fuel, cost effectiveness 1−53644
USA energy policy, utilisation of home resources to cut oil imports *(French)* 1−8654
H_2 power engineering and technology, state-of-the-art 1−35716
Si solar cell arrays, elec. prod. using power tracking techniques *(Dutch)* 1−17198
U production, long run costs 1−26809
U production, long-run marginal cost estimation 1−26810

eddy current losses
300 MVA cryoturbogenerator, nontoothed, eddy currents and losses in screened covers *(Russian)* 1−33594
ferromagnetic electrically conducting half-space, losses caused by AC current carrying filament 1−1435
power transformers, open-circuit, fixed losses separation and voltage wave study *(Spanish)* 1−30973
pumped-storage power station, synchronous machine, asynchronous starting, electromagnetic, thermal and mechanical quantities computation 1−37384
rolled steel strips, mag. parameters meas., ATE, microprocessor-based automata family 1−23281
steel structure, surface magnetic field and eddy current loss, graphical approach calc. 1−7871
superconducting multifilamentary composites, AC losses, penetration hysteresis and eddy currents 1−47791
Fe-Co-Si-B amorphous alloy sheets, eddy current losses, field annealing 1−12351
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, ribbons, power loss and domain struct., ribbon width depend. 1−12350
Nb-Ti multifilamentary composite in Cu matrix, losses in transverse alternating and rotating fields 1−47800

eddy currents
see also induction heating
300 MVA cryoturbogenerator, nontoothed, eddy currents and losses in screened covers *(Russian)* 1−33594
boundary integral representation of eddy current problem 1−6424
calculations with program EDDYNET, incorporating loop currents and quadrilateral mesh 1−6425
conductivity simulator for testers 1−35489
finite element analysis, appl. to NDT of flaws in metallic structs. 1−12945
fusion reactors, JT-60, eddy currents, finite element circuit method 1−911
magnetic structure, eddy current testing *(Japanese)* 1−34861
metal, ferromagnetic, appl. of multi-frequency eddy currents to testing 1−35477
plate excited by sinusoidal AC in cylindrical coil, mag. field calc. *(Polish)* 1−29167
probe signal trajectories prediction, for NDT 1−8497
skin-effect transients on thin plate due to arbitrarily moving flexible current carrying spatial loop *(German)* 1−24321
surface defect detection using eddy currents *(French)* 1−21688
three-dimensional eddy current problem soln. using combined elec. vector and scalar mag. pot. method 1−24327
three-dimensional eddy current problem soln. using modelling techniques based on transmission line networks 1−24330
transducer design with shell-type ferrite core 1−36650

eddy currents continued
transducer on aerostatic support 1−36649
transducer with nonuniform coil winding density, theory of eddy current inspection 1−39579
transformer type eddy current transducer, parameter effect on struct. and charact. of electromagnetic meas. devices 1−35490
variational formulation, using finite element analysis for non-moving rigid bodies *(French)* 1−10887
weld defect nondestructive examination methods, limitations of methods in current use 1−39548
W, powder metallurgical rod, eddy current loss 1−3941

edge-defined film fed growth *see crystal growth from melt*

edge dislocations
BCC refractory metals, surface oxide softening 1−12936
crack formation, dislocation theory, book contrib. 1−2461
crystal deform., in-situ obs. of basic deform. and other dynamic processes 1−2447
crystal growth sources, edge dislocations 1−34268
diffusion, vibrating edge dislocations as sinks for point defects 1−38403
dimyristoyl phosphatidylcholine (hydrated), smectic liquid cryst., permeation coeff. determ., edge dislocations 1−52062
dipole loop annihilation, glide induced mechanism 1−2502
dislocation trapping of positrons 1−15890
elastic solid, 3-D, displacement discontinuity effects on wave propagation 1−29593
epitaxial monolayers on FCC and BCC substrates, misfit accommodation 1−30599
extended, hard sphere model of climb 1−38367
fatigue dislocation behaviour, loop patches breakdown, persistent slip bands and dislocation cells formation 1−30240
ferromagnetic resonance line width and shift by dislocation group 1−7957
hexagonal mesophases, non-smectic, geometry, translation defects 1−25156
III V compound epitaxial layers, elastobirefringence study of dislocations and strain fields 1−3361
inhomogeneous materials, elastic and elastic-plastic deform., model approach 1−20306
interaction with wedge crack in hydrostatically compressed crystal *(Russian)* 1−42382
metal, electron effective mass, dislocation effects 1−2861
metal, FCC single crystal, dislocation mechanisms responsible for irrad. induced creep, orientation depend. 1−42418
metals, cubic crystals, US propag. parameters study 1−38472
metals, spectra of electron states located near dislocations *(Russian)* 1−34661
nematic film, homeotropic, homogeneous nucleation of pair of edge dislocations *(French)* 1−30048
non-uniformity of dislocation cores 1−2442
nucleation and precipitation on dislocations, book contrib. 1−3750
precipitation hardening, superposition of coherency and ordering mechanisms 1−21460
prismatic dislocation loops, electron microscopic contrast, free surface effects 1−7179
Rene 77, low cycle fatigue at elevated temp. 1−53265
residual stresses, induced by fatigue cracking 1−25363
semiconductors, dislocation interaction with electron-hole drops *(Russian)* 1−52500
smectic A liq. cryst., static helical instabilities of dislocations, plasticity consequences 1−52053
solid solution, edge dislocation, in equilib. and gliding, vacancy and substitutional solute distrib. 1−20203
steel, cylindrical rod, impact loaded, plastic deform. and dislocation struct. along axis *(Czech)* 1−3836
subgrain boundaries, numerical study of long-range internal stresses 1−25289
transition metals, BCC, edge dislocations, core struct. and core energy, tight-binding calc. 1−42384
Al, dynamical recovery at high temp. 1−26566
$AuCu_3$ superstructure, concentration of vacancies, interaction with edge dislocations 1−42416
Cu, yielding in highly perfect crystals, etch pit obs. 1−12835
Cu-Al, FCC alloy, Shockley partial dislocations, anisotropic elasticity and solute interaction effects 1−7178
Cu-Fe single cryst., deformed and annealed, struct. changes of Fe particles 1−43459
Cu-Zn (30 wt.%), slip band form. and deform. dynamics in single crysts., photometric study 1−20234
α-Fe, electronic states near dislocations, SCF-Xα-SW calcs. 1−7551
Fe, Ni-plated single crysts., surface film softening 1−16982
Fe:H, yield and flow stress, orientation depend. 1−21563
$Ga_{1-x}Al_xAs$ epitaxial layers, elastobirefringence study of dislocations 1−3362
GaAs, LPE, anal. of dislocations creating monomolecular growth steps 1−34267
KCl-KBr solid solns., highly conc., plastic deform., 1.6-923K 1−25358
Li, dislocation shapes, TEM study 1−11761
LiF, annealing kinetics, dislocation dipole distribution 1−2453
LiF, hydrostatically compressed, edge dislocation mobility 1−25283
$MgO:Li^+$, thermochemically treated, dielec. polarisation and optical absorpt. study 1−3320
$NaF_2:Ca^{2+}$, internal friction, charged dislocations, plastic props. 1−11812
Ni-Ti (12 at.%) age-hardened system with modulated struct., electron irrad., void form., dislocation climb interpret. 1−42425
Sb_2Te_3 evaporated cleavage faces, surface decoration study 1−20227
Si (111) surface, dislocations and atomic steps, image contrast in refl. electron microscopy 1−38635
Si, energy band associated with dangling bonds, HF capacitance meas. 1−2916
Si, glide 60° partial, struct. and energy levels 1−11747
Si:P, effects of dislocation on planar channelling of energetic H^+ and He^+ ions 1−38415
Zn, electron scattering by edge and screw dislocations 1−2952

education
see also computer science education; educational aids; educational courses; teaching; training
adolescence reasoning, educational programmes designing 1−36479
affective and cognitive-affective domains in socially oriented innovative science and technology curricula 1−36473
applied chemistry course at a Third World university 1−36477
astronomy, introductory course design problems 1−44746

education continued
bioengineering technology transfer and education 1−13958
biology education of OPE lab., via computer simulated expt. 1−36475
biomedical engineering, enrollment, courses, degrees and employment 1−32816
electromagnetism, laboratory instruction evaluation 1−36480
energy management: interdisciplinary curricular design 1−32817
energy sources as part of school curriculum *(French)* 1−27695
general education, general-technical education and integration 1−36474
mATAL: the Israel elementary science project−a retrospective 1−36476
personality charact., rel. to preference for science, model 1−9792
Piaget-type questionnaires, students' scores after two semesters of college 1−5041
Piagetian testing 1−40610
science activities for school trips 1−27746
science for elementary school teachers: a quantitative approach 1−40609
science laboratory courses, survey of students, graduates and practising scientists 1−36478
science teachers shortage at schools 1−5042
women scientists, spatial ability, sexism and society 1−5043

educational aids
see also student laboratory apparatus
Abbe's theory, school expt. confirmation and wave phenomena 1−5058
audio/visual, RF-type two-way school broadcasting system 1−22984
Canadian innovations, Telidon teletext and Programme Eval. Anal. Computer 1−27735
Cyclops microprocessor-based audio-visual system, innovation difficulties in Open University 1−27734
high-power laser laboratory for use by GMI students 1−32820
incompatible quantum variables, working model 1−5057
Indian education, low cost teaching aids 1−27738
lap-dissolve slide technique, crystallographic concepts introduction 1−13964
patient-simulator for medical education of extraordinary reflex 1−36481
video application in English language teaching 1−27736
video application to farmer training in developing countries 1−27737

educational computing
see also computer-aided instruction
Canadian innovations, Telidon teletext and Programme Eval. Anal. Computer 1−27735
Cyclops microprocessor-based audio-visual system,. innovation difficulties in Open University 1−27734
physics teaching, 6502 microcomputer application 1−22969
video application in English language teaching 1−27736
video application to farmer training in developing countries 1−27737

educational courses
physics curriculum, microcomputers and microelectronics program 1−9791
sophomore mechanics course 1−17968
structured and unstructured laboratory teaching, conventional course *(Portuguese)* 1−32822
structured and unstructured laboratory teaching, individualised course *(Portuguese)* 1−32821
teaching of thermoluminescent dosimetry in technical universities, Ispra proposal 1−9793
thermodynamics, undergraduate level, black hole physics 1−27706

e.e.g. *see electroencephalography*

effective mass (band structure)
alkali metal dilute systems, metal-insulator transition, theory 1−38722
CDW metal, electron-phason interactions, electron mass enhancement 1−34637
core excitons in insulators and semiconds., effective mass approx., review of theory 1−30637
direct-gap crystals, two-photon absorpt. coeff., calc. 1−35003
electron-phonon interaction, polaron transport, effective mass 1−30649
graphite, pyrolytic, press. effect on energy spectrum parameters, mag. props. *(Russian)* 1−7508
graphite intercalation compound with AsF_5, magneto-oscillations 1−38763
graphite intercalation compounds with HNO_3, $HFSO_3$, Br, Li, KHg, quantum oscillatory effects 1−42678
graphite intercalation compounds with $PdCl_2$, $FeCl_3$, $CuCl_2$ and WCl_6, electronic props. 1−42679
III-V semiconductors, electronic struct. using simple orbitals 1−20629
intercalation compound, stage 1 acceptor intercalate, idealized, with inequivalent cond. layers, collective excitations 1−47521
intersubband dipole matrix elements of narrow-gap semiconductor films 1−52486
magnetophonon effect and light-hole effective mass 1−7642
metal, electron effective mass, dislocation effects 1−2861
noble gas crystals, nodal surfaces of ψ-function, band struct. calcs. *(Russian)* 1−47427
polaron theory, effective mass and free energy calc. at finite temps. 1−7535
semiconductors, degenerate, diffusion coefficients, proportionality to impurity density 1−16095
zero-gap semiconductor surface states *(Russian)* 1−52630
AgBr, indirect exciton relax., reson. Raman scatt. study 1−26191
$Bi_{1-x}Sb_x$, cyclotron mass of cond. band near semimetal-semicond. transition, expt. 1−16218
$Bi_{1-x}Sb_x$ cyclotron reson., helicon wave contrib., Fermi surface anisotropy effects 1−34612
Cd_3As_2 crystalline film, Shubnikov-de-Haas effect 1−52586
$CeSn_3$, mixed-valence, Fermi surface meas. 1−42674
$Cu_yCr_2Se_{4-z}Br_z$, mag. semicond. spinel, thermoelectric power 1−20785
$Cu_{1.8}Mo_6S_8$, electronic props. of Chevrel phases, positron angular correlation study 1−31226
Cu_2O, nonparabolicity of the Γ_7^+ valence band 1−16231
$Ga_xIn_{1-x}As_yP_{1-y}$, shallow hydrogenic donors, IR photocond. and transmission meas., mag. field depend. 1−48054
GaSb, L-band spectroscopy, Shubnikov-de-Haas effect in high mag. field under uniaxial stress 1−47456
GaSe crystals, optical props. of band edge exciton, 10K 1−35002
p-Ge:Ga, resonant recombination of photo-excited light holes *(Russian)* 1−34750
$Hg_{1-x}Mn_xTe$, effective mass of cond. band electrons, Shubnikov-de Haas oscills. 1−25617
In_2O_3:Sn films, RF reactively sputtered, optical props. *(Japanese)* 1−21284
InSb inversion layers, electronic props., subband struct. 1−25804

effective mass (band structure) continued
$Mo_6S_8(Se_8)$, electronic props. of Chevrel phases, positron angular correlation study 1−31226
Ne crystalline, exciton bands *(Russian)* 1−2889
$PbMo_6S_8$, electronic props. of Chevrel phases, positron angular correlation study 1−31226
PbSe epitaxial films, optical props. meas. 1−31214
$Pb_{0.93}Sn_{0.07}Se$ epitaxial film, band struct. 1−42689
$Pb_{1-x}Sn_xTe$, local states of Te vacancies, Hall effect *(Russian)* 1−2922
Pd, Fermi surface and many-body enhancement 1−42676
Pt very thin films, size quantisation of electronic states 1−12212
Si MOSFET on sapphire and spinel, magnetocond. oscillations, (100) inversion layer obs. 1−12205
Si-SiO_2 inversion layer, quasiparticle effective mass, ionic scatt. depend. 1−7691
SiC(6H), electron mobility impurity conc. *(Russian)* 1−47687
Si:SiO_2 MOS capacitor, (100) inversion layers, cyclotron reson., uniaxial stress effect 1−12203
SnO_2:Sb, electrical and optical props. 1−42874
SnTe epitaxial film, IR plasma reflectivity meas., hole conc. depend. 1−39166
p-$(SnTe)_{0.1}(PbSe)_{0.9}$ epitaxial layers, elec. props., band struct. *(Russian)* 1−38782
Te surface, optical props. of quasi two-dimens. electron systems 1−12482

effusion
Knudsen effusion method for vapour pressure meas. 1−50295
torsion-effusion expts., optimum geometry for conical orifices 1−38038
$PbIn_2S_4$, vaporisation dissoc., computer automated Knudsen and torsion effusion method 1−38523
PtF_4, heats of charge-exchange reactions, mol. negative ion equilib., effusion method obs. 1−24240
PtF_6, heats of charge-exchange reactions, mol. negative ion equilib., effusion method obs. 1−24240

EFG *see crystal growth from melt*

EHD *see electrohydrodynamics*

EHT calculations
cyanamide-isocyanamide rearrangement, relative energies, struct., inversion barrier, ab initio SCF and correlated SCEP calcs. 1−10636
DNA+Pt complex ions, interactions, quasirelativistic EHT calcs. 1−1117
ethylene epoxides+amines reactivity epoxide conformation energy calcs. by EHT *(French)* 1−29156
gas-solid reactions, quantum chem. calc., general mechanism, balloon effect *(German)* 1−53472
group IV tetrahalides, orbital energies and relativistic splitting, relativistically parametrized EHT calcs. 1−1114
group IV tetramethyls, orbital energies and relativistic splitting, relativistically parametrized EHT calcs. 1−1114
homoallylic cation, nonclassical reson., EHT and CNDO/2 calcs. 1−41321
interstellar molecules desorption on grains, Langevin eqn. and iterative extended Huckel appl. 1−49489
LCAO calcs. in solid state, parameteristation 1−12014
cis-polyacetylene, extended Huckel band struct. calcs. 1−7518
Ag, chemisorption of halogens, UPS meas., EHT calc. 1−16664
CsF, self-trapped hole, extended Huckel theory study 1−7169
Fe chelate, therapeutic agents, Fe binding, EHT calcs. 1−1118
GaAs, chemisorption of Al on (110) surface, adsorption mechanisms and bond calcs. *(Chinese)* 1−47364
GaAs, surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
GaAs:O, ion implantation, deep level prod., LCAO-MO calcs. 1−7552
GaP, surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
GaSb, surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
Ge, chemisorption of Cl on (111) surface, adsorbed site determ. *(Chinese)* 1−47363
Hg, expanded, pseudogap in density of states and anomalous dispersion 1−25618
KCl:Tl^+, electronic struct. rel. to A, B, and C absorpt. bands 1−25658
KCl:Tl^+, electronic struct. rel. to D absorpt. band 1−26246
α-MnS, optical absorpt. edge, blue shift, antiferromag. ordering effect 1−12523
Pt (111) surface, adsorption of acetylene, EHT study 1−16185
Pt complex ions, electronic struct. and bonding, quasirelativistic SCF EHT calcs. 1−1117
Pt(II) complexes, tetragonal planar, self-consistent extended Huckel calcs., relativistic effects 1−28879
Ru complex, Ru(diimine)$_3^{2+}$, electronic struct., low-lying excited states, Xα and EHT calcs. 1−41317
Si, chemisorption of Cl on (111) surface, adsorbed site determ. *(Chinese)* 1−47363
Si:He(Ne)(Ar)(Kr), noble gas-divacancy complexes, electron states, EHT calc. 1−30663
Si-SiO_2 system, tight-binding calcs. 1−38853
Ta (100) and (110), chemisorption of N, electronic struct. and binding energy extended Huckel MO calc. 1−38832

eigenfunctions *see eigenvalues and eigenfunctions*

eigenvalues and eigenfunctions
atomic potential, analytic, energy eigenvalues, perturb. treatment *(Spanish)* 1−51073
atomic systems, resonances in Stark effect, Borel summability of perturbation series 1−51160
atoms, electronic wave functions long range behaviour, generalised Carlson-Keller expansion 1−51094
atoms, Hartree-Fock-Slater scheme, α-parameter, 1-electron eigenvalues and total energy calcs. 1−1091
atoms, screened Coulomb pot., Pade approx. and perturbation theory 1−45816
avoided crossings, Hamiltonian system, eigenvalues, quantum perturbation theory 1−46033
baroclinic stability with Ekman damping, eigenvalues 1−19674
Boltzmann equation, linear, solns., decreasing like powers of vel. in neutron thermalisation and hard sphere interaction cases *(French)* 1−36585
Boltzmann equation, linearised, for neutron thermalisation and hard sphere interactions, power-like decreasing solns. 1−18710
Boltzmann equation, nonlinear, relaxation to equilibrium and build-up of high-energy tails 1−40730
bound-state coupled equations, WKB approx. 1−9871

eigenvalues and eigenfunctions continued
boundary-value problems, random, asymptotic expansions of eigenvalues and eigenfunctions 1−18014
Brownian motion, fractional, eigenfunction expansion 1−50050
buccal cavity natural freq. calc. for synthetic speech generation *(German)* 1−37725
central potential Schrodinger operator, eigenvalues via Prufer transformation 1−49977
central potentials, non-precessional classical orbits vs. *l*-degeneracy of quantised energies *(Korean)* 1−44783
chaotic systems, transitions and distrib. functions 1−50053
chemically bistable system, variational calc. of lower excited states 1−17026
combination resonance, harmonic parametric excitation, method of weighted residuals 1−19631
continuum atomic states, charge transfer, eigenvalues, reduced widths, R-matrix theory 1−24243
critical inverse eigenvalue problem, discrete soln. 1−18063
diatomic molecules, perturbed Morse oscillator model, radial eigenfunctions calcs. 1−46053
diatomic molecules, vibr.-rot. states, wave functions and eigenenergies determ. by factorisation method 1−24104
diffractive excitation, single or double, eigenstate formalism 1−33169
diffusion process, expansion of master eqn. containing critical point 1−5262
diffusion system, reaction mechanisms, rotating spiral wave solutions 1−50077
dimers, exciton-phonon coupling, analytic approx. for eigenvalues and eigenvectors 1−47180
Dirac equation with scalar potentials, bound-state eigenvalues, WKB method 1−33093
dissipative system, Caldirola-Montaldi eqn., time-dependent soln. 1−23040
drift wave eigenmodes in sheared slab geometry, integral equation anal. 1−29868
elastic fields caused by periodically distributed spherical inclusions, in infinite anisotropic medium 1−29546
elastic structures, dynamic response, second-order linear differentiar eqn. soln. *(Chinese)* 1−1824
electromagnetism, electrons in EM plane wave field, optically induced band structure 1−6439
EM plane wave far-field scattering by thin circular metallic disc, eigenfunction soln. 1−1449
energy eigenstates, integrable and nonintegrable regions, Henon-Heiler system 1−14036
energy eigenvalues and bound-bound transitions of H atoms in magnetic field 1−6138
energy levels in pot. well, phase function method *(Russian)* 1−40675
equal mass particle decay, complex energy eigenstates model 1−50410
equivalent electrons, angular momentum eigenstates 1−40628
even-Z atoms, eigenvalues and total energies, SCF Ξ_α-SW calcs. 1−10643
evolution equations, nonlinear, associated to matrix Schrodinger spectral problem, Lax pair 1−9845
evolution equations, nonlinear, associated to matrix Schrodinger spectral problem, Lax pair 1−9846
Fermi resonance, vibrational eigenvalues and wavefunctions, SCF CI calcs. 1−6173
fibre polarisation transmission characts. calc., with elliptical cross section, polarisation transmission characts. calc. 1−1718
fluid dynamics of gas centrifuge, Onsager's pancake approx. 1−19726
fluid oscillations, in half space with straight cut-out cavity *(Russian)* 1−15503
fluid-structure eigenvalue problems, finite element approach, reduction methods 1−14009
Fokker-Planck equations, multidimensional, exactly soluble, with nonlinear drift 1−40716
frequencies, acoustic, of cavity containing tube bundle, homogenisation techniques 1−11334
fusion device, dynamic analysis model of large complicated structure 1−2256
generalized Gel'fand-Levitan equation and variational relations of the Kaup-Newell equation 1−5166
glasses, network dynamics, bonds vibrational states 1−11831
graded-index fibre, asymptotic eigenvalues of vector wave equation for guided modes 1−33808
gravitational instanton, CP^2, eigenfunctions and spin^c structures 1−23087
hadron+hadron, elastic and inelastic diffractions of composite hadrons, shadow approach 1−45348
Hamiltonian systems, periodic orbit stability transitions 1−83
harmonic oscillator, damped, time-dependent, constants of motion and non-stationary wave functions 1−5156
Helmholtz equation, 2-D, lower bound to eigenvalues 1−24334
Higgs potential extrema, symm. breaking due to scalar fields, in SU(n) 1−10085
high-β Tokamak unstable modes, Rayleigh-Schrodinger perturbation theory 1−46918
hydrodynamic systems, upper bound on propagating modes, time reversal symmetry 1−50082
ideal MHD, simplified eigenvalue eqn. 1−6904
inert gas atoms, excited states, photoionisation 1−14853
inverse scattering problems for cubic eigenvalue problems 1−9878
inverse scattering transform for eigenvalue problems, book contrib. 1−36509
isospectral matrices and polynomials 1−99
Jahn-Teller effect, E⊗e system, approx. analytical treatment 1−28890
jets, round, stick-slip problem, large surface tension 1−51840
Josephson effect, quantum theory, current-biased eigenstates and excitation spectrum 1−42921
Josephson junction, current biased, eigenstates and eigenvalues 1−3110
Klein-Gordon equations, nonlinear, and Toda lattices, matrix scattering 1−75
Lanczos algorithm for self-adjoint operators 1−44784
Lanczos method, analysis 1−37834
Lie algebras, semi-simple, trace formula 1−10097
linear neutron transport, linear Boltzmann operator in $L^1(R^6)$ and $L^2(R^6)$, eigenvalue spectrum 1−36977
liquid drop, rotating, normal oscillations 1−2003
magnetoatmospheric shear flow, stability, rectangle and semicircle theorems, eigenvalue bounds 1−6898
many-body interactions, Kirkwood-Salsburg and Mayer-Montroll eqns. 1−50033

eigenvalues and eigenfunctions continued
Markov process, expansion of master eqn. containing critical point 1−5263
mechanical systems, coupled, staggered transient analysis 1−9824
mixed valence compounds and spin crossover systems, vibronic model 1−45932
modified Bars-Durgut equation with polynomial eigenfunctions 1−5585
mol. energy 1−10618
molecular energy levels of coupled vibr. modes, SCF semiclassical calc. 1−28858
molecule in tetrahedral field, tunnelling states, rot. eigenvalues and eigenvectors examined 1−24107
momentum eigenfunctions in complex momentum plane, local pot. functions 1−45843
monopole, magnetic, dynamical symmetry 1−28228
Monte Carlo radiation transport problems, pattern recognition techniques appl. 1−50079
Morse oscillator, vibrational problems, one dimens., matrix element eigenfunctions, numerical evaluation 1−46055
N-body system, two-cluster coupling const. thresholds 1−27806
N-electron atomic isoelectronic sequence, N=2 to 10, Rayleigh-Schrodinger perturbation expansion 1−45811
n-electron systems, cusp conditions for eigenfunctions 1−24011
neutrino oscillation length and other kinematical considerations 1−36834
neutron flux, even-parity, in slab geometry, finite element/orthogonal function scheme 1−45564
neutron multigroup problems, plane asymmetric cell lattices with superimposed small buckling 1−5832
neutron transport theory, comparison with conventional solutions 1−728
neutron transport theory, correlated Monte Carlo, samples, eigenvalue estimators comparison 1−23706
nuclear many-body problem, numerical analysis of Perey effect 1−45474
nuclear model, relationship between shell model and Bohr collective Hamiltonian 1−5714
nuclear rotation, constrained Hartree-Fock-Bogoliubov equation derived from the double variational method 1−41067
nuclei, convergent theory for effective interaction between nucleons 1−50519
numerical solution of sparse matrices 1−13997
one-dimensional randomly inhomogeneous boundary-value problem, eigenvalue statistics 1−17990
optical coherent pulse propag., initial eigenvalue soliton soln. 1−24446
optical fibre-index profiles, mode props. and dispersion, propagating beam method 1−6660
optical fibres, parabolic index, leaky ray propagation 1−6666
optical resonator, confocal unstable, analytical soln. in Fourier space *(Chinese)* 1−19366
para-Bose oscillator operators, representations and properties, eigenstates 1−162
partial eigenvalue problem, numerical study of soln. 1−37832
particle transfer in finite plane-parallel medium, reduction to semi-infinite problem 1−5824
percolation in two dimensions, renormalisation group transformation 1−18164
perturbed wave functions, spin-dependent props., exact and unrestricted HF calcs. 1−28861
Pfluger's rod, follower-force system, boundary-value eigenvalue problem soln. by Liapunov-like procedure 1−1830
plasma, toroidal, drift wave eigenvalues, slab-like and toroidicity-induced 1−19890
plasma waves, longitudinal anisotropic, boundary-value problem, operator theoretic approach 1−6941
plate, vibrating, asymptotic theory, stationary plane wave example 1−6828
point spectrum changes, rel. to potentials, anharmonic oscills. with exact solns. 1−112
polymer dynamics, conformational transition, viscous drag forces effect 1−24300
polymer dynamics, Smoluchowski diffusion eqn. eigenfunctions in double well pot. 1−15045
Potts model, extended, mag. eigenvalue 1−9944
projection-operator approach to perturbation theory 1−110
protein model chains, eigenvalue spectra 1−20613
pulse propagation in particulate medium 1−19263
q-differential operators, eigenfunctions and eigenvalues 1−27808
quantum friction in dissipative system 1−49971
quantum mechanical systems, adiabatic invariant, minimum property of n-dimensional sphere 1−90
quantum mechanics, discrete spectrum computation 1−49957
quantum mechanics, many-fermions system, application of the maximum algorithm to the Lipkin model 1−9858
quantum theory, nonexponential decay of nonstationary state 1−27803
radiative transfer, discrete eingenvalues, using Eiener-Hopf factorisation 1−4763
resonance scattering of EM radiation by macroscopic bodies 1−19246
S-matrix in quantum field theory, eigenvalues of energy operator 1−50328
scattering in exponential atmosphere, singular eigenfunctions for linear transport 1−121
scattering theory, analytic, for many-body systems below smallest three-body threshold 1−86
Schrodinger equation, charmonium Hamiltonians, energy calculations 1−5150
Schrodinger equation, discrete spectrum, Coulomb Sturmian basis *(French)* 1−18065
Schrodinger equation, hypergeometric eigenfunctions 1−27817
Schrodinger equation, many-electron, direct configuration interaction method 1−14826
Schrodinger equation, one-dimens., eigenvalue correction estimates, iterative scheme 1−89
Schrodinger equation, radial, confining and inverse-power law potentials 1−9868
Schrodinger equation, radial, convergence, computer derivation of eigenvalues and eigenfunctions 1−23038
Schrodinger equation involving $x^2+\lambda x^2/(1+gx^2)$ potential, energy levels and wave functions 1−27816
Schrodinger equation with charmonium confining potentials 1−5146
Schrodinger field theory, cubic, bound state operators 1−45147
Schrodinger operator, proof of absence of positive discrete spectrum 1−78
Schrodinger operators, Coulomb-type interacting, Born expansions 1−44777
eigenvalues and eigenfunctions continued
Schrodinger operators, coupling constant thresholds, short-range two-body case 1−49958
Schwinger model, massive, eigenvalues from finite-lattice Hamiltonian approach 1−5482
selfadjoint operator eigenvalues, variance minimisation, var. calcs. 1−28846
semiconductor, thermochemistry, book contrib. 1−47260
shells, elastic, semifinite, resonance theory 1−6825
shells, finite cylindrical, with and without surrounding fluid, free vibr. anal. 1−6827
shells, linear problems, lower order integration schemes 1−49940
shells of varying thickness, optimal stability, spectral characteristic features *(Ukrainian)* 1−29581
shift operator techniques, properties of nonscalar R(3) product operators 1−9866
shift operator techniques, R(5) O_1^0 eigenstate and eigenvalue determ. 1−9867
solid electron-avalanche breakdown theory 1−39193
solid rectangular waveguide, normal modes (eigenfunctions) 1−19484
solutions for blocked matrices using HYMNIABLOCK code 1−23032
speckle and photocounting statistics, approximate probability density 1−1498
stellar pulsations, eigenfunctions and eigenfreqs. for effect of mag. field, perturbation problem 1−49620
strong coupling harmonic oscillator potential with weakly coupled linear and cubic anharmonicities 1−23035
structural eigenvalue problems, finite element approach, reduction methods 1−14009
Sturm−Liouville problems, uniformly valid approx. of eigenvalues 1−9274
Sturm-Liouville boundary value problems, random, eigenvalues 1−17999
symmetric matrix, eigenvalues and eigenvectors computation, teaching 1−40632
tetrahydroquinoline, correlation energy contribs. to optical activity in random phase approx. 1−35008
thermonuclear reaction stabilisation, automatic temperature deviation control system *(Russian)* 1−7010
Thomas-Fermi and Emden-Fowler eqns., iterative techniques 1−37116
trial functions for conical shells, consistent set 1−24734
tridiagonal vector recurrence relations, solns. and appls. 1−9877
two-electron systems, eigenfunctions of RPA, computer program 1−6137
unstable resonators with misaligned strip mirrors, eigenvalues 1−6629
variational relativistic calcs., squared Dirac operator appls. 1−51141
vibrating plates, finite element analysis of mixed boundary integral 1−15442
vibration and local instability in thermally stressed plates 1−51711
vibration frequencies of thin cylinders, with elastic end rings 1−51714
vibrations, free, of structures, natural frequencies determin. by numerical algorithm and computer program 1−41969
vibrations free and forced, of linear non-conservative system with multiple eigenvalues 1−51719
vibrations of hexagonal plate on elastic foundation, trilinear coordinate system 1−1860
Wigner angular momentum operators, Lie algebra, eigenfunctions and eigenvalues 1−5531
NN diffraction scattering, spectrum of absorption strengths 1−14366
CO, perturbed Morse oscillator model, radial eigenfunctions calcs. 1−46053
H, atomic electron impact ionisation, exchange scattering amplitude, eikonal approx. 1−1382
H, two dimensional, eigenfunctions and eigenvalues, teaching 1−40634
H, Zeeman Hamiltonian, Rayleigh-Schrodinger series calcs., review 1−51159
$H+C^{3+}(N_2^+)$, charge transfer at thermal energies 1−51286
He, ground state, selfadjoint operator eigenvalues, variance minimisation, var. calcs. 1−28846
He Hamiltonians, pseudo-spin structure and large N expansion 1−49960
He, perturbation, isoelectronic series, eigenvalues, Hamiltonian linear 1−9857
He-like ions, general theory for restricted quantum-mecanical three-body problems 1−9852
I_2, eQq hyperfine parameters meas. for X, 1_g, O_g^+ and B states 1−6227
OH free radical, $A^2\Sigma^+$ state quantum-beat spectroscopy 1−5410
Si semiconductors, and resistivity eigenvalues *(German)* 1−25724
Tm^{3+}, 3d photoabsorption in X-ray region 1−51154
eigenvectors *see eigenvalues and eigenfunctions*
eightfold way *see SU_3 theory*
Einstein-de Haas effect
see also gyromagnetic ratio
No entries
einsteinium
see also nuclei with .....
Es IV, new oxidation state, thermochromatographic detect. *(French)* 1−4131
einsteinium compounds
EsF_4, evidence for new oxidation state, Es IV, thermochromatographic detect. *(French)* 1−4131
elastic aftereffect
composites, pulse surfaces propagation, nonhomogeneous material with aftereffect 1−29611
slow processes, obs. by laser interferometry 1−16991
elastic constants
see also elastic moduli
A15 compounds, martensitic transition, elastic softening 1−25425
acoustic waves in elastically anisotropic solids, closed-form expressions 1−7266
alkali halides, elastic constants, interionic pots., theory 1−2554
alkali halides, lattice dynamics calcs., phonon dispersion, specific heat, Raman and IR spectra 1−47188
alkali metals, lattice static and dynamic props., pseudopot. study 1−7282
alkali silicate glasses, surface tension and elastic modulus 1−42624
alloys, A_3B, cryst., elastic consts. rel. to interatomic force consts. 1−25357
alloys, thermal expansion calc. from third-order elastic consts., isotropic continuum model 1−38565
ammonium fluosilicate, trigonal, US and thermal expansion study at phase transition 1−20425
BCC solid solutions, dimens. Hume-Rothery factor, shear stability 1−47147

elastic constants continued
benzil, ferroelastic transition, Brillouin scatt. study 1−35065
β-brass type phases, Fermi surface interaction with Brillouin zone faces and elastic props., pseudopot. method *(Russian)* 1−12016
carbazole-trinitrobenzene, charge transfer crystals elastic and piezoelectric properties, elec. oscill. studies 1−31092
composite elastic media with spherical inclusions, derivation based on LW propag. 1−29426
composite elastic media with spherical inclusions, derivation based on LW propag. 1−29427
composites, sterically-curvolinear fibre reinforced, deform. and elastic props. determ. 1−12782
cubic crystals, convergence of elastic consts. calcs. from wave velocities 1−38429
cubic crysts., negative contraction ratios 1−8358
cylinder, hollow, non-homogeneous, of aeolotropic material, variable density, rotating about axis, stresses 1−6757
m-dinitrobenzene, elastic consts., Brillouin scatt. meas. 1−48099
dislocation cores, non-uniformity 1−2442
Dy, antiferromagnetic domains, US study *(Portuguese)* 1−26005
elastomers, effect of different types of black on elastic constants 1−12783
ethylammonium copper chloride, high-temp. phase transform., dielectric and optical props. 1−42533
ferroelectric ceramic complex elastic, dielec. and piezoelec. constants by domain wall damping 1−21149
fibre reinforced laminates, physical relationships determ. 1−43401
fibre-reinforced composites, self-consistent approach to elastic stiffness 1−21501
force constant derivation, dispersion curves 1−52243
graphite, pyrolytic, electron irradiated, thermal cond., phonon-interstitial scatt. 1−25512
HCP crystals, elastic consts. evaluated from dynamic atomic displacements 1−6760
HCP lattice, second-order sublattice displacement for fourth order elastic const. determ. 1−38432
ionic solids, second order elastic const. press. derivatives 1−30292
liquid crystal films, smectic, cholesteric, and Rayleigh-Benard order 1−34231
lithium ammonium tartrate, ferroelastic phase transition 1−38527
melting crystal vacancy, theory 1−20197
metal, elastic const. of axial grain orientations 1−8359
metal, FCC, mean-square atomic displacements 1−20346
metallic glass, elastic props. rel. to those of cryst. 1−7234
metallic surface film, surface bonding, deform. depend. 1−12960
nematic liquid crystal, surface geometry and induced orientation 1−34228
nematic liquid crystals, elastic constant measurements 1−7081
nematic liquid crystals, planar deformation induced by simultaneously applied magnetic and electric fields 1−30050
nematic liquid crystals, spherocylindrical mol. with attractive forces, statistical theory of elastic const. appl. 1−38266
nematic liquid crysts., optical charact., elastic consts. 1−38277
orthorhombic media, elastodynamic classification 1−29612
phloroglucinol dihydrate, elastic const. by X-ray diffuse scatt. 1−34393
piezoelectricity, IEEE standard review 1−16530
poly(γ-methyl-L-glutamate) films, piezoelec. relax. at high temp. 1−34990
polymeric materials, cavitation erosion, influence of microstruct., SEM study 1−16908
polypeptide, α-helical, mol. theory of piezoelectricity 1−3335
polystyrene, polymer glass, longitudinal US wave vel. meas. using pulse echo apparatus 1−24618
polyvinylidene fluoride, Lamb wave propagation at low temp. 1−38473
quartz, anomaly in β-phase near α-β transition 1−25424
α-quartz, phonon dispersion branches 1−34434
quartz, surface wave velocity, temp. depend., calc. 1−7445
quartz rods nonlinear vibrations 1−21134
rare earth intermetallic compounds with CsCl struct., magnetoelastic and elastic consts., point charge cryst. field calc. 1−26002
rare gas solids, mean-square atomic displacements 1−20346
Schiff's bases, nematic liq. cryst., elastic consts., depend. on alkyl chain length 1−47138
semiconductors, tetrahedrally bonded, Debye temperature from elastic consts., HBT method weighting coeffs. 1−34449
shape memory alloys, model free energy, mechanics and thermodynamics 1−25457
slider, computation of worn shape 1−25368
squaric acid, phase transition, pseudospin model for H bond system 1−34994
steels, cavitation erosion, influence of microstruct., SEM study 1−16908
TGS: L-α-alanine, phys. props. of disordered regions, elastic and piezoelectric props. 1−52214
transition metals, HCP, transport and thermophysical props., 300 to 3000K, carrier mean free path influence 1−2940
transitional metallic glasses, elastic consts., semiquantitative theory 1−34394
zero-gap semiconductor, elastic props. and valence-force-field theory 1−16247
Ag coatings, mech. props. meas. 1−12784
Ag, elastic constant depend. on press. 1−52215
Ag-Zn, β_1 to ζ transition, elastic consts. and phase stability meas. 1−11858
β-AgI ionic cryst., US attenuation and velocity 1−20321
Al, coatings, mech. props. meas. 1−12784
Al, lattice mechanical and electronic props., unified calc. 1−42488
$Al_2O_3:V^{3+}$, hyperfine spectrum at 166 GHz, phonon freq. crossing spectroscopy 1−30494
$AlPO_4$, berlinite, elastic const. near α⇌β transition, Brillouin scatt. 1−53224
Au coatings, mech. props. meas. 1−12784
Au, elastic constant depend. on press. 1−52215
$Ba(NO_3)_2$, pressure derivatives of second-order elastic consts. 1−15944
$Ba_xSr_{1-x}Nb_2O_6$, mol. scatt. of light, elastic and photoelastic consts. 1−35067
CaF, undoped and YF_3 doped, transition to superionic state, impurity effect 1−38819
$CaWO_4$, elastic constants calc. 1−52216
CdI_2-structure crystals, elastic constants, short range force constants 1−47145
CdSe-HgSe, zincblende-wurtzite phase transition 1−16247
γ-Ce, elastic consts. of single crysts. 1−16828
$CeAl_3$, low temp. elastic consts., rel. to cryst. field splitting 1−35299

elastic constants continued
$CeBi(Ag)(Al_3)(Pd_3)(Sn_3)(Al_2)$, thermal and elastic props. 1−20433
$CeNi_5$, elastic consts., US vel. meas. 1−2550
Cr, spin density wave state, phenomenological theory 1−3233
Cu polycrystal US velocity and elastic constant averaging 1−7264
CuAl, thermal expansion calc. from third-order elastic consts., isotropic continuum model 1−38565
Dy, antiferromagnetic, commensurate turn angle effects 1−30914
Er, magnetoelastic effects, US meas. 1−31007
GaP, elastic behaviour and force constants, press. depend. 1−38431
GaP, US wave velocity and elastic consts. 1−34396
GaS layer semiconductor, Brillouin and Raman scatt. 1−16577
GaSe layer semiconductor, Brillouin and Raman scatt. 1−16577
Gd, magnetoelastic effects, mag. phase diagram, 170 to 300K 1−26003
Ge, coatings, mech. props. meas. 1−12784
GeO_2, glassy, as optical fibres, elastic, photoelastic consts., Brillouin scatt. meas. 1−33782
$Ge_{1-x}Sn_xTe$, US wave velocity and elastic consts. 1−34396
$Hg_3Cl_2(Br_2)$, improper ferroelastics, thermodynamic props. at crit. point, Landau theory 1−25464
HgTe 1−34396
KCl-KBr mixed system, Debye temp., temp. depend. 1−47200
$KD_{2x}H_{2(1-x)}PO_4$ crystals, determination of constant C_{66} i C_{11} 1−15336
KH_2PO_4, piezoelec., nonequilibrium thermodynamics and quasielastic light scatt. 1−39115
KH_2PO_4 single crystal, determination of constants at 10 KHz 1−15336
$K_2Pt(CN)_4Br_{0.3}.3H_2O$, acoustic mode softening, shear elastic const. meas., 30 to 280K 1−47144
K_2SeO_4, successive phase transitions, Brillouin scatt. 1−48097
K_2SnCl_6, phase transition, ultrasonic meas., elastic const. 1−30383
La_3S_4, acoustic phonon mode softening near struct. transition, elastic consts. meas. 1−2584
Li_3N, lattice vibrs., coherent inelastic neutron scatt. study 1−25388
$LiY_{0.5}Tb_{0.5}F_4$, elastic stiffness const. and acoustic symmetry 1−7231
$Mn_{83}Ni_{11}C_6$, martensitic transform, elastic consts., lattice dynamical props. 1−30378
$Mn_{85}Ni_9C_6$, martensitic transform, elastic consts., lattice dynamical props. 1−30378
$Mn_{85}Ni_9C_6$, martensitic transform., lattice vibr. data anal. 1−30379
ND_3, vibr. intermol. modes meas. by coherent inelastic neutron scatt., elastic const. 1−34430
$(NH_4)_2SiF_6$, elastic const. meas. 1−30383
$[(NH_4)_2.BeF_4]$, elastic constants determ. by X-ray thermal diffuse scattering 1−7224
NaCN, elastic anomaly, at 284K 1−25355
NaCl single cryst., elastic props. up to 9 GPa and 293K 1−34397
$NaH_3(SeO_3)_2$, α-β phase transition dynamics, elastic coeff. crit. behaviour 1−26142
Nb_3Sn, elastic consts. and shear mode instability, press. depend. 1−11800
Ni (001) with CO monolayer, CO ejection due to ion irrad. 1−8177
Ni, wave velocity calcs. 1−38429
Ni_3Fe, domain struct. after tensile deform. 1−8014
$Pb(NO_3)_2$, pressure derivatives of second-order elastic consts. 1−15944
$PbT_{1-x}Zr_xO_3$, piezoelectric ceramics, resonant freq. temp. depend. 1−39039
PbTe, US wave velocity and elastic consts. 1−34396
Pd-H, elastic const., temp. depend., effect of H, US meas. 1−42447
$Rb_2Cd_2(SO_4)_3$, ferroelec., elastic anomalies 1−7230
Sb, free carrier contributions to second and third order elastic consts. 1−47143
Sb_5O_7I, polytype 2MC, ferroelastic, elastic behaviour, US and Brillouin scatt. studies 1−11801
SiC(6H) crystals, photoelastic props. 1−48031
SnTe, US wave velocity and elastic consts. 1−34396
$SrCl_2$, undoped and Gd doped, transition to superionic state, impurity effect 1−38819
$Sr(NO_3)_2$, pressure derivatives of second-order elastic consts. 1−15944
TbIG, single crystal, elastic constants 1−7232
TmCu, paramagnetic phase, quadrupolar interactions 1−34857
transition metal-H system, intrinsic embrittlement 1−21577
Y-Ir eutectic, strain-induced lattice softening, supercond. transition temp. increase 1−30868
YAG, ultrasonic velocity, elastic consts. under press. 1−34428

elastic deformation
see also bending; elasticity; electrostriction; stress/strain relations; torsion
axisymmetric dynamics of a sheet under large deformation conditions 1−15407
beam, continuous skew-curved, static anal., closed form soln. 1−6758
beams, curved, shear deformation, dynamic large-displacement analysis 1−1825
beams, pulse loaded structs., finite elastic and plastic deformations, extended mode technique 1−33907
benching and stability of elastic systems interacting locally with strained material 1−11315
bifurcation of rotating thick-walled elastic tubes 1−11311
α-brass, hardening mechanisms due to tension and combined torsion-tension deform. 1−53205
circular ring, strain in plane of another material, elastic equilib. *(Russian)* 1−46671
coherent hexagonal phases formation, influence of elastic strain energy 1−21451
composite materials, thermoelasticity and plasticity 1−48455
composites, sterically-curvolinear fibre reinforced, deform. and elastic props. determ. 1−12782
concrete, deformation and fracture under impact and blast shock loading 1−43466
cubic close packed CuAu-type alloys, elastic and mag. props., effect of atomic order *(Russian)* 1−7827
cylinder, finite hollow, subjected to axi-asymmetric deform., 3-D elastic anal. 1−46668
discontinuous deformation gradients in plane finite elastostatics of incompressible materials 1−29550
dislocation generation model, shock-wave deform. 1−20208
elastodynamic contact stresses anal. by dynamic zooming method 1−46714
Eulerian and Lagrangian techniques for elastic and inelastic large deformation processes 1−24690
faceted rod, semicoherent or coherent, anisotropic elastic fields, anal. 1−20299

elastic deformation continued
fatigue evaluation for elastic stress or plastic strain with constant or varying principal direction 1−31635
FCC metals, self-interstitial formation energies, elastic calc. 1−7167
fibre composites, anisotropic couple-stress theory *(Russian)* 1−15397
fibre reinforced materials, bifurcation of equilibrium state 1−15428
fibre-reinforced cylinders, axially symmetric deform. 1−29549
final-states space, large elastic deform. application 1−24683
flexible disc bonded to an elastic half space, deform., lung appl. 1−22047
flexible pipelines, large displacement calc. by finite element and non-linear programming methods 1−24691
fusion reactor magnets, elastic and slip responses, finite element model 1−19595
geometric method in mathematical physics, conf., Lowell, MA, USA (March 1979) 1−22951
glassy polymers, glassy, deformation kinetics in wide temp. range (−200 to 100°C) 1−3816
half space with elastically reinforced cylindrical cavity, axisymmetric deformation 1−24684
half-plane, incompressible with initial stresses, nonstationary load *(Ukrainian)* 1−24675
half-space, indentation by concave rigid punch, stress anal. 1−46667
hemispherical shell, 3-D stressed state 1−19576
highly stretched rubber specimens, viscoelastic response to superimposed torsional deformation 1−29569
hip cartilage, human, changes in deformational behaviour with age 1−22045
incremental shear modulus in an incompressible elastic material 1−11313
inhomogeneous materials, elastic and elastic-plastic deform., model approach 1−20306
irreversible thermodynamics of flow in solids 1−1840
Knoop micro-indentation hardness number, measurement *(Italian)* 1−31583
laminated thin shells with holes, deform. and stress conc. 1−11314
large monoaxial dilations of single crystals, method 1−20298
ligament, canine anterior cruciate, load elongation behaviour 1−22044
limit state of circular cylindrical shell with nonuniform external pressure 1−15406
mechanical testing, indentation, elastic yielding effect 1−16999
membranes, spherical, elastic, bifurcation after inflation 1−15394
membranes, vertical, gravity-induced wrinkle lines 1−46677
mixed mode crack, J-integral and its appl. 1−46712
monoclinic monocrystals, classes 2,m,2/m, yield conditions 1−52217
neutron diffraction, deformed single cryst., secondary refl. effects, meas. 1−7048
nonaxisymmetric deformation of thick circular plates of variable stiffness 1−15404
particles deformation and adhesion to rigid substrate or each other, surface forces influence 1−51722
4′-n-pentyl 4-cyanobiphenyl, liquid crystal thin film, elastic deform. 1−34221
plate, fixed, deformations and stresses *(French)* 1−11312
plate, rectangular, stability under bilateral compression with residual stress *(Russian)* 1−37821
plates, breakdown and strength, dynamic axisymmetric stress field 1−24745
polymer, fluid, linear, viscoelastic props., transition to high elastic state 1−51726
polymer fabrics, anisotropic technical, nonlinear time depend. deofrm. processes 1−12788
polymer solutions, dynamic equilibrium shape of film formed by jet encountering obstacle 1−51837
polymers, biaxial drawing and orientation 1−34401
precipitate formation, linear arrays, role of shear transform. strains 1−52303
ring, nonlinear elastic, strained deformable state, heating effect *(Russian)* 1−37800
semi-infinite poroelastic medium, deformation under compressive action of rigid body 1−41945
shell, complete spherical, polar dimpling, asymptotic soln. 1−6805
shell, elastic, strain-deformed by irradiation, variational principle *(Russian)* 1−37799
shells, orthotropic cylindrical composite, vibrs., including transverse shear deform. 1−6807
single flat spring used as fulcrum of scale 1−23187
small thermoelastic deformations, incremental eqns. 1−19566
solid body, three-dimens. finite element anal. 1−24692
solids, thixotropic viscoelastoplastic medium, rheological model 1−15460
spherical microcapsule freely suspended in linear shear flow 1−11446
spherical shell, nonstationary interaction of shock wave, acoustic model *(Ukrainian)* 1−19563
steel, austenitic stainless, fatigue, low-cycle, under creep-fatigue interaction 1−8414
steel, Cr-Mo (2.25, 1 wt.%), ausscheidung und kriechfestigkeit (Precipitation and creep resistance) *(German)* 1−3752
steel, fatigue failure, stress distrib. in plates with welded-in pieces in elastoplastic deform. 1−35448
tensorial Hencky meas. of strain and strain rate for finite deform. 1−11310
thermomechanical coupling, large deformations, natural formulation 1−41951
thin shells, loaded through elastic one dimensional doublers 1−15405
three dimensional surface crack problem by Rayleigh Ritz method *(Japanese)* 1−15444
torus with noncircular meridian section, axisymmetric deformation 1−19577
variational principle of complementary energy, type in finite elastostatics 1−24688
variational principles, appl. in finite elasticity 1−24689
Vickers micro-indentation hardness number, measurement *(Italian)* 1−31583
welds, mechanically nonuniform, resist. to fracture and deform. under one-time loading 1−12822
Ag-Ni(Au) island condensate, influence on substrate cond. *(Russian)* 1−34811
Al-Mg-Zn system, coherent hexagonal phases formation, influence of elastic strain energy 1−21451
Au-Cd (47.5 at.%), reverse thermoelastic transform., release of elastic strain energy as acoustic emission 1−12745
CdSb crystal, elastic deform. investigation *(Russian)* 1−38434
α-Fe, friction stressed single crystal, X-ray obs. 1−53299

elastic deformation continued
Fe-Cu (1.8 wt.%), ausscheidung und kriechfestigkeit (Precipitation and creep resistance) *(German)* 1−3752
NaCl, single crysts., compression along [001] direction 1−30293
Ni-Au island condensate, influence on substrate cond. *(Russian)* 1−34811
Si, substrate wafers, lattice curvature, X-ray diffr. 1−42660
Si, thin single crysts., elastically deformed, containing dislocation loops, X-ray scattering *(Russian)* 1−20219
Si, uniaxially stressed, dense electron-hole system and exciton-plasma transform 1−52495
Ti alloys, commercial, stress induced H redistribution 1−15919
α-Ti, Gruneisen parameter, strain derivative meas. 1−47202
V-O-H solid solns., quadrupole effects and Knight's shifts *(Russian)* 1−47967

elastic hysteresis
ABS, rubber roughening of plastics, fatigue damage mechanisms 1−31595
discrete memory effects, thermomechanical scheme *(French)* 1−15399
plasticity theory, existence proof, discretisation *(Japanese)* 1−15420
polystyrene, high impact, rubber roughening of plastics, fatigue damage mechanisms 1−31595
polyvinylidene fluoride, piezoelec. elastic props. meas. 1−7228
thin walled rod with open profile of material with nonlinear hysteresis, vibrations 1−1876
β-Al bronze, single crysts., input and hysteresis energies vs. temp. 1−48444
$KH_3(SeO_3)_2$ cryst., mech. hysteresis loops 1−7243
$Pb(Mg_{1/3}Nb_{2/3})O_3$-$PbTiO_3$ (10 mol.%), inverse hysteresis of field induced elastic deform. 1−12457

elastic limit
fibre reinforced laminates, physical relationships determ. 1−43401
glass, elastoplastic behaviour when exposed to plane shock wave *(French)* 1−38466
Hugoniot elastic limits and compression parameters for brittle materials 1−38463
steel, influence of deform. rate on tensile behaviour *(French)* 1−35325
thermoelastoplastic waves, unidimensional, in half-space, origin and development of plastic deform. 1−11347
Al alloy, thin sheet, strength reduction by laser irrad. 1−47111
Be, cold isostatically pressed/hot isostatically pressed, deform. under shock compression 1−35340
Fe-Ag (50 vol.%) biphase system, plastic deform., elastic limit as function of conc. *(French)* 1−12820
Ge, elastic uniaxially strained, band gap collapse 1−42684
NaCl, cryst. lattice deform. by shock compression 1−38459
Ni-Cr-Nb-Co (15, 10, 6.8-33.5 wt.%), dispersion and precip. hardening, effect of Co 1−16795
Si, monocryst., deformation at high temp., stages I and II *(French)* 1−26567
UO_2, shock-compression parameters and Hugoniot elastic limit, 5 to 330 GPa 1−38464

elastic moduli
see also Poisson ratio; shear modulus; Young's modulus
acoustic materials, transmission function system to investigate complex elasticity modulus *(Hungarian)* 1−2552
actinide metals, band struct. and cohesive props. 1−47443
alkali halide crystals, bulk modulus temp. depend., Anderson parameter 1−42449
alkali halide ionic solids, bulk moduli press. derivatives 1−15945
alkali hydrides, repulsive hardness parameter anal. 1−30131
alkali silicate glasses, surface tension and elastic modulus 1−42624
alkaline-earth fluorides, repulsive hardness parameter anal. 1−30131
alloy, compressibility determ. from density 1−25359
amorphous and glassy metals form. and characterisation 1−26418
BCC alloys, hardening by spinodally modulated structure 1−26477
bulge test: a comparison of theory and experiment for isotropic and anisotropic films 1−35302
cast-Fe with lamellar graphite *(German)* 1−26524
complex, defn. and meas. *(German)* 1−33939
composites, short-fibre and hybrid, mechanical props., book contrib. 1−39451
diamond, ground state properties, LCAO SCF ab initio HF method 1−34609
elastic-isoviscous point contacts, breakdown of fluid film lubrication 1−39471
elastomers, wear of metals in abrasive environment 1−12892
Elinvar, Fe-Ni-Co, precip.-hardening, physicomech. props., Co effect 1−43397
fibre reinforced laminated composite discs, rotating strength 1−26537
fluid, second grade, temperature dependence of normal stress moduli 1−30287
fracture toughness, elastic-plastic, of US Navy structural alloys, J-integral as criterion 1−48642
graphite, oxidation effects on toughness and slow crack growth 1−21568
graphite fibre reinforced epoxy composite laminates, fracture toughness through intermittent interlaminar bonding 1−21579
gypsum, strength in hydrostatic tension 1−31562
ionic crystal, Anderson-Gruneisen parameter, temp. depend. 1−34450
jute fibre reinforced polyester, mech. props. 1−43471
jute fibres, mech. props. 1−43471
keratin, viscoelastic polymer, stress-strain curves, no Hookean region 1−6790
lipid membranes, double-layer, freq. depend. of elastic modulus 1−53465
liquid metals, bulk moduli by homogeneous deform. and long wave methods 1−30290
lunar regolith microfragments, physical prop. determ. 1−32636
mass concrete mech. props. at elev. temps. 1−43468
mech. props. 1−48509
metals, cubic crystals, US propag. parameters study 1−38472
metals, FCC and BCC, effect of grain orientations scatter on elastic props. of axial textures *(Russian)* 1−43392
metals, melting curves and Gruneisen coeff. at high press. *(French)* 1−38513
nematic liquid crystal, Euler's problem of density of free energy *(Rumanian)* 1−7075
organic fibres, high modulus/high strength, book contrib. 1−39306
orthorhombic crystals, bulk and shear moduli and Debye temperatures, calc. 1−20296
poly(p-phenyleneterephthalamide), effect of anisotropy in wet spinning on tensile props. 1−48441

elastic moduli continued
poly(styrene-b-isoprene) block copolymer, structural evolution with temp. 1−52210
polyacrylamide, critical elasticity above gel point 1−17053
polybutene-1, spherulite deform., stress/strain behaviour rel. to spherulite size and crystallinity 1−21510
polydiacetylene, model conjugated polymer, exptl. studies 1−20081
polyethylene, high density, microhardness of extruded fibres 1−48497
polyethylene, high modulus, elongational flow effect on continuous processing *(Japanese)* 1−8266
polymer elasticity nature, in transition zone 1−43393
polymer solutions, dynamic equilibrium shape of film formed by jet encountering obstacle 1−51837
polymer tubes, resonance testing 1−31815
polymers, filled amorphous, fatigue breakdown anisotropy 1−48494
polypropylene, reinforced moulding compounds 1−53192
polystyrene-polybutadiene-polystyrene copolymers, and blends, morphology rel. to mech. props. 1−35273
quartz, crystal structure and elastic props at press. 1−42350
random elastic media, effective elastic moduli as Neumann type infinite series 1−29547
rock glass at high-press., elastic moduli 1−27156
simple metals, third-order elastic modulus *(Russian)* 1−31514
steel, low C, internal damping and defect of elasticity modulus, effect of cyclic straining *(Slovak)* 1−48487
steel 20GS2, mech. props. after holding under stress in $Ca(NO_3)_2+NH_4NO_3$ solution 1−35447
steel fibre reinforced Al+Ti hybrid, mech. props. *(Slovak)* 1−3813
steel-casting taps, SP-12, sonic NDT 1−12950
stochastically inhomogeneous incompressive bodies, nonlinear elasticity theory, macroscopic variables *(Ukrainian)* 1−24676
styrene-butadiene block polymer, tensile and impact strength, viscoelasticity and moduli, effect of mol. orientations 1−34252
thermodynamics of high pressures, system-independent treatment 1−38556
3d transition metal alloys, cohesive props., rel. to mag. props. 1−52102
two-component composites, bounds on elastic and EM props. 1−42448
Ag halides, defect press., formation vol., temp. depend. of formation props. of point defects 1−2429
Ag hydrides, repulsive hardness parameter anal. 1−30131
Al-Cu(Mg) alloys, polycryst., third order elastic moduli, US vel. obs. 1−31517
Al_2O_3 substrate for CdS thick disordered film, two mode ultrasonic excitation 1−25376
B fibre reinforced Al-Cu, mech. props. *(Slovak)* 1−48405
β-B, thermal and elastic props. meas. 1−20426
B_4C pellets, thermally induced stresses and fracture 1−3874
C fibres, PAN based, elastic moduli, charact. 1−39357
C fibres, stress relaxation at elevated temperatures 1−48407
CaF_2, cohesive props., equation of state, lattice parameters, LMTO calc. 1−20109
$CaO-ZrO_2$, partially stabilized, mech. props. transformation toughened, aged 1−16894
$CaO-ZrO_2$ system, fracture mechanics study 1−21569
$Cd_{1-x}Hg_xTe$, Debye temp. and thermal expansion temp. depend. *(Russian)* 1−2583
Ce, volume compression up to 4 GPa 1−7254
Co-Ag-MoS_2 powder metallurgical composite, mech. props. 1−39464
Co-Ag-$NbSe_2$ powder metallurgical composite, mech. props. 1−39464
Cu foil, bulge test: a comparison of theory and experiment for isotropic and anisotropic films 1−35302
Cu-Ni (50 at.%) foil, bulge test: a comparison of theory and experiment for isotropic and anisotropic films 1−35302
Cu-Sn-WSe_2-(graphite)-Pb powder metallurgical composite, mech. props. 1−39464
$DyFe_2$, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297
Fe-Al (10 to 50 at.%), phase diagram *(German)* 1−31427
GaP single cryst., elastic moduli and press. derivatives 1−34398
β-GaSe, layered, calc. of elastic moduli 1−3817
InP, elastic anharmonicity rel. to high press. phase transition 1−38433
InP single cryst., elastic moduli and press. derivatives 1−34398
K, Gruneisen parameter at high press. 1−34451
KCl, Anderson-Gruneisen parameter, temp. depend. 1−34450
KCl, lattice mechanics in point-dipole approx., perturbation theory 1−25383
K_2O-SiO_2 binary alkali glass, strength 1−3852
Li_2O-SiO_2 binary alkali glass, strength 1−3852
$Li_2O-SiO_2-(K_2O-P_2O_5-ZnO)$ glass-ceramic fibres, development and props. 1−8356
$MgO-ZrO_2$, fully stabilized, mech. props. transformation toughened, aged 1−16894
Mo-Cu(-Ni) composites, sintered, mech. props., comp. and strain depend. 1−26517
Mo_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
Na, Gruneisen parameter at high press. 1−34451
NaCl, lattice mechanics in point-dipole approx., perturbation theory 1−25383
NaCl type alkali halides, relation between elastic modulus C_{44} and covalency 1−38430
Na_2O-SiO_2 binary alkali glass, strength 1−3852
Nb, internal friction, low temp., effect of H_2 1−15897
Nb-Ti multifilamanetary supercond., phys. mech. and elec. props. 1−52733
Ni-Mo-MoS_2 powder metallurgical composite, mech. props. 1−39464
$PdD_x(H_x)$, elastic consts., theory 1−7233
$Rb(D_xH_{1-x})_2PO_4$, phase transitions, 290 to 320K, elastic props. study 1−25431
SiO_2, vitreous, elastic modulus, temp. depend. 1−42450
Tb-Fe, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297
Ti-M-C-N, M = Zr, V, Nb or Hf, solid solutions, microhardness and elastic props. 1−35347
UO_2, cohesive props., equation of state, lattice parameters, LMTO calc. 1−20109
UO_2 fuel pellets, thermally induced cracking in LWR 1−45680
V_3Si substrate for CdS thick disordered film, two mode ultrasonic excitation 1−25376
elastic moduli continued
W_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
ZrH_x, x=1.84, 1.65, low-temp. phase transition, elastic moduli determ. 1−2624
elastic moduli measurement
carbographite materials, elasticity consts. meas. by dynamic methods, 20-3000°C, review 1−31787
cast-Fe with lamellar graphite *(German)* 1−26524
complex modulus of spring-like acoustic materials using transfer function method 1−19622
dynamic moduli, viscoelastometer for low shear meas. 1−51885
elastomers, elasticity modulus determination, contact-optical method 1−31786
fibre viscoelastometer for complex moduli magnitude and loss angle meas. 1−1900
instruments, for complex moduli meas. *(German)* 1−33939
mechanical impedance, experimental procedures *(German)* 1−27966
mechanical impedance and complex elastic modulus meas. system *(German)* 1−19662
modified resonance method 1−44913
plasma coating Poisson ratio, sonic determ. 1−26707
relaxation and elastic properties determination, materials in solid and liq. state 1−53372
sheet materials at low temperatures, devices for strength, strain and elastic moduli meas. 1−21670
Wood's alloy, elastic and relax. props. determ. in solid and liq. state 1−53372
elastic scattering of atoms and molecules
atom+atom, collision strengths at high speeds 1−19169
atom-surface elastic scattering in presence of laser radiation, effect on diffr. patterns 1−1304
atomic, molecular and nuclear collisions, review 1−51263
atomic processes, molecular approximation 1−10807
conference on few body problems, Eugene, USA (Aug. 1980) 1−49876
differential scattering of state-selected molecules in distorted wave and sudden approximation 1−29081
Feynman diagram approach 1−6331
inert gas atom+H_2, distorted wave and close coupling calc. of cross sections above rot. transitions 1−10804
ion+neutral elastic collision, ion-ion recomb. 1−46062
ionosphere, electrons collision freqs. and transport props. 1−13630
laser gases, optically pumped elastic and inelastic collisional processes 1−46318
multiple collisions in molecular beam scattering experiments 1−51262
optical model for the scattering of indistinguishable molecules 1−37296
pore diameter, determ. by permeability meas. 1−40757
scattering amplitude from differential cross section, solution of nonlinear equation 1−19159
small angle scatt., ang. transmission function, Monte Carlo calc. 1−29080
three-body system, two-dimension Efimov effect, Fonseca-Redish-Shanley solvable model 1−10798
Ar+H_2, distorted wave and close coupling calc. of cross sections above rot. transitions 1−10804
Ar+Kr, small angle scatt., ang. transmission function, Monte Carlo calc. 1−29080
Cs+$H_2(N_2)$(inert gases), elastic collision cross section 1−19158
H, spin polarised, effective range theory and many-body perturbation theory 1−1080
H(1s)+Cs, H^- form., ang. distrib., differential electron attachment and elastic scatt. cross sections 1−41459
Na D line density shift and broadening, elastic and inelastic collision influence 1−37350
Na, laser induced ionisation, superelastic effects 1−10805
Ne+Ne, elastic scattering, differential cross sections, time of flight obs. 1−24289
$Ne^*(3s^3P_{2,0})$+Ar(Kr)(Xe), differential elastic scatt., optical pot. and orbital interpretation 1−46061
elastic scattering of electrons by atoms and molecules
see also gas phase electron diffraction
acetylene, electron impact, rot. excitation and elastic scatt. calcs. 1−37117
atom, degenerate perturbation theory for scatt. in laser field 1−19184
atoms, positron scatt., ionisation pot., binding energy, dispersion relation 1−46117
atoms, Rydberg level broadening and slow electron reson. scatt. 1−41495
atoms in orbital-degenerate states, quasiclassical scatt. calcs. 1−33535
complex atoms, electron pot. and Glauber scatt. 1−37327
complex atoms, potential and Glauber scatt. 1−29114
diatomic molecule, electron scattering by closed or open shells 1−10838
effective path length corrections in beam-beam scattering experiments 1−33559
electron multiple scattering, in amorphous or polycrystn. targets, Monte Carlo calcs. 1−42267
electron-atom scattering at intermediate energies 1−33560
electronics and electron physics advances, book 1−32810
emission line broadening in plane semi-infinite layer 1−36173
ethene, gas, critical and liquid, electron mobility, cross section, temp. and density effects 1−51291
ethylene, electron elastic scatt. cross sections, MS Xα calcs. 1−51292
Glauber and eikonal approximations appl. to atomic collisions, book contrib. 1−33565
heterogeneous media, collision freqs., Kihara pot. calcs. 1−24206
high-Z atoms, unpolarised electron scatt. cross-sections, spin-conserved and spin-flip components 1−33558
inert gas, positron scatt., low energy meas. 1−6386
inert gas atoms, electrons elastic scatt., phaseshifts, differential, integrated and momentum transfer cross sections 1−33561
inert gases, electron scatt., total cross sections meas. 1−6385
inert gases, positron scatt., momentum transfer cross sections 1−46116
light atoms, scatt., critical energies and angles, static field approx. 1−24250
many-electron atom in $1s^22s^22p^N$ config., scatt. lengths, single-config. approx. 1−15010
methane, electron elastic scatt., total cross-section, multiple scatt. calcs. 1−6383
methane, low energy electron scatt. studied using crossed beam expt., vibr. elastic scatt. and excitation cross sections 1−24255
modified effective range theory, appl. to molecules 1−46118
molecules, electron elastic scatt. from two centre pot. 1−10840

elastic scattering of electrons by atoms and molecules continued
multichannel scatt., Schwinger var. principle 1−15007
nonpolar molecules, electron scatt., exchange interaction calcs. 1−24272
optically active molecules, electron scatt., spin-depend. features 1−1368
polar molecules, electron scatt., exchange interaction calcs. 1−24272
polar molecules, state-selected, electron scatt., Glauber and Born approx. 1−1394
polyatomic molecules, electron elastic scatt. cross sections, MS Xα calcs. 1−51292
radiological images, electron backscattering [radiological images] 1−8989
review of electron atom scatt. calcs. 1−1364
shape resonances, vibr. excitation and dipole fields 1−37329
small angle scatt., ang. transmission function, Monte Carlo calc. 1−29080
1,3,5-trifluorobenzene, electron elastic scatt. cross sections, MS Xα calcs. 1−51292
VLAM, electron-molecule static interaction pot. calc. program 1−24043
water, electron distrib. by high-energy electron scatt. 1−1365
Ar, positron scatt., total cross section meas. 1−15019
Ba electron scattering cross-sections *(Russian)* 1−19185
Ba, in inert gas, absorpt., collision-induced dipole transitions 1−6187
C III, elastic and inelastic cross sections calc. method 1−33560
CO, electron scatt. and rot. excitation, SCF quantum mechanical study 1−6384
CO_2, drift velocity of electrons, 193 to 573K 1−42123
CO_2, electron impact excitation of asymmetric stretch mode, cross-sections calcs. 1−37340
CO_2, electron scatt., cross section meas., time of flight obs. 1−41491
CO_2, electron scatt., static exchange approx., linear algebraic calcs. 1−41492
Ca electron scattering cross-sections *(Russian)* 1−19185
D_2, electron scatt., vibr. effect 1−15009
H and H-like ions, electron and positron elastic and inelastic scatt., relativistic Glauber amplitudes 1−1375
H, elastic electron scatt., Glauber theory, Fresnel and recoil corrections 1−10843
H, elastic electron scatt., exact second Born exchange amplitude 1−24253
H, electron (positron) scattering, multichannel theories, review 1−51289
H, electron elastic scatt., low energy, adiabatic and nonadiabatic polarisation pots. 1−46128
H, electron impact and elastic scatt., entrance channel, optical model calcs. 1−24258
H, electron scatt., Born approximations 1−1369
H, electron scatt., distorted-wave second Born approx. appl. 1−24251
H, electron scatt., eikonal exchange amplitude approx. 1−51297
H, electron scatt., P shape reson. 1−51296
H, electron scatt., single channel radial Schrodinger eqn., soln. by EXPFIT1 program 1−10839
H-like atom, independent atom-model for elastic scatt. of electrons, exchange effects 1−19183
H-like ions, elastic electron scatt., Glauber theory, Fresnel and recoil corrections 1−10843
H_2, electron impact total cross section 1−1367
H_2, electron scatt., vibr. effect 1−15009
H_2, electron scatt. cross-section, exchange correction in Glauber approx. 1−46127
H_2, electron scatt. static exchange approx., linear algebraic calcs. 1−41492
H_2, independent atom-model for elastic scatt. of electrons, exchange effects 1−19183
H_2, modified effective range theory 1−46118
He, 1^1S-2^1P transition, large-momentum-transfer limit of some matrix elements [atomic electron scattering] 1−1374
He, electron elastic scatt., phase shift anal. 1−1370
He, electron elastic scatt., 2-400 eV, ang. distrib. 1−1372
He, electron elastic scatt., intermediate and high energies 1−46129
He, electron scatt., low energy, from (2^1L) 1−51298
He, electron scattering, elastic and inelastic, saddle-point technique, calcs. 1−1371
He, electron scattering, multichannel theories, review 1−51289
He, electrons elastic scatt., phaseshifts, differential, integrated and momentum transfer cross sections 1−33561
He, exchange corrected eikonal-Born approx. calcs. 1−19186
He, positron elastic scatt., phase shift anal. 1−1370
He^+ elastic electron scatt. cross section, autoionising state influence *(Russian)* 1−1376
He^+, electron scattering, multichannel theories, review 1−51289
Hg, electron scatt., relativistic effects, Schrodinger nonrelativistic and Dirac relativistic eqn. 1−41493
K, electron impact differential cross sections determ. 1−24254
Li, positron impact, positronium form. and elastic scatt. calcs. 1−46135
LiF, electron scatt. cross-sections, hybrid calcs. 1−46126
LiH, electron scatt. 1−41492
Mg, bound states, resonance struct., two-electron model, frozen approx. 1−41310
N_2, absolute total cross section meas. for intermediate energy electron scatt. 1−24252
N_2, electron elastic scatt., 1.5-400 eV, ang. distrib. 1−1373
N_2, electron elastic scatt. cross sections, MS Xα calcs. 1−51292
N_2, electron scatt., static exchange approx., linear algebraic calcs. 1−41492
N_2, modified effective range theory 1−46118
NO, absolute total cross section meas. for intermediate energy electron scatt. 1−24252
$Na(^2P_J)$+He, orbital-degenerate states, quasiclassical scatt. calcs. 1−33535
Ne, elastic scatt. of electrons, cross section, critical energy 1−37328
Ne, electron scatt., S-wave phaseshifts from electron drift velocity 1−1366
Ne, electrons elastic scatt., phaseshifts, integral and momentum transfer cross sections determ. 1−33562
O_2, absolute total cross section meas. for intermediate energy electron scatt. 1−24252
Sr, electron scattering cross-sections *(Russian)* 1−19185
Xe, positron scatt., total cross section meas. 1−15019

elastic waves
see also acoustic waves; Love waves; magnetoelastic waves; Rayleigh waves; seismic waves; vibrations
anisotropic media, inhomogeneous, elastic stress wave propagation and dynamic compactness of stress waves 1−15439

elastic waves continued
antiplane shear waves, diffraction by Griffith crack, rigid strip, anal. by Fredholm integrals 1−6808
attenuation of elastic waves in a cracked, fluid-saturated solid 1−29610
bar, elastic-plastic, resonance for longitudinal small amplitude excitation 1−33922
bar, rectangular parallelopiped, wave propagation with boundary conditions as distributions 1−11336
bars, with various bends, dynamic stress concs. due to flexural waves, solns. of excitations in arbitrary directions 1−24718
beams, immovably supported, vibr. nonlinearly, Ritz type finite element anal. 1−1857
beams, strongly anisotropic, fibre reinforced, transverse flexural vibrs. 1−29596
beams, uniform, restrained, wave eqn., existence and uniqueness of solns. 1−6809
Bleustein-Gulyaev type elastic surface waves, in piezoelec. plates 1−30541
charged carrier-elastic-wave system, long-time behaviour 1−34453
composite hollow cylinders, interacting with environment, 3D wave processes 1−41980
composite materials, elastic, with inextensible rigid fibres, wave propag. and buckling *(Japanese)* 1−34417
concentric spherical stress wave reflection 1−33926
cracks, rectangular, in infinite elastic medium, dynamic stress concentration 1−33934
cubic crystals, convergence of elastic consts. calcs. from wave velocities 1−38429
cylindrical region, elastic wave propagation, rate of energy transport 1−27790
diffraction by anisotropic cylindrical inclusions in multiply-connected solids *(Ukrainian)* 1−37827
dimethylammonium cadmium tetrachloride, layer struct., elastic soft mode meas., order parameter fluctuations 1−11835
dimethylammonium manganese tetrachloride, layer struct., elastic soft mode meas., order parameter fluctuations 1−11835
discontinuity disintegration, isentropic approx. 1−33925
discontinuous deformation gradients in plane finite elastostatics of incompressible materials 1−29550
displacement discontinuity effects on wave propagation, in 3-D elastic solid 1−29593
elastic half-space, impact loading, self-similar problem, shock waves 1−37853
elastic media, wave impedance calcs. 1−29613
elastic-plastic boundary, reflected and transmitted stress waves, theoretical anal. 1−6791
elastoplastic medium, with hardening, shock wave interaction 1−41976
equations of motion in cracked solid 1−15450
equivalent electrical ccts. and wave eqns. *(Japanese)* 1−1873
ferroelectric, Bleustein-Gulayev surface waves *(French)* 1−42620
finite viscoelastic rods, wave front expansions, Laplace transform technique 1−24736
flexural wave transmission across system of parallel beams 1−19503
fluid-solid boundary; interface waves involving cavitation 1−11432
geophysical acoustic logging, elastic wave propag. in fluid-containing cylindrical bore hole *(Chinese)* 1−54254
harmonic wave propag. in infinite elastic medium with periodic array of cylindrical pores 1−19611
hollow cylinder, elastic shear wave propag., load distrib. along lateral surface *(Russian)* 1−46689
homogeneous periodically layered media, propag. of plane harmonic waves perpendicular to layer *(French)* 1−18031
hyperelastic materials, nonbreaking waves 1−46696
incremental shear modulus in an incompressible elastic material 1−11313
inelastic scattering of ultrasound 1−41906
infinite elastic space containing cylindrical bore, micropolar thermoelastic wave propag. 1−19629
inhomogeneous elastic media, variable viscosity and Poisson's ratio, elastic wave eqns. 1−40653
initial boundary-value problems, summed progressing wave formalism 1−18048
laminated elastic-viscoplastic medium under general loading, average theory 1−19584
layered elastic bodies, pulsed waves from line source, generalised ray integrals *(German)* 1−1878
LMFBR, cracked subassembly ducts, dynamic response 1−33315
LW propag. in composite elastic media with spherical inclusions 1−29426
LW propag. in composite elastic media with spherical inclusions 1−29427
Maxwell viscoelastic body under dynamic loads, stress wave propagation 1−24737
metals, thermally generated elastic waves by laser irrad. 1−42471
nonlinear dispersive waves in relaxing medium 1−27795
nonlinear thermoelastic Cosserat solids, acceleration and shock wave propag. 1−19627
null isotherms of materials from shock adiabats 1−24721
orthorhombic media, elastodynamic classification 1−29612
parabolic approx. 1−27793
piezoelectric medium, coupling of elastic and EM waves 1−30321
plate, vibrating, asymptotic theory, stationary plane wave example 1−6828
polystyrene, foamed, compression shock wave propag. 1−41977
porous bodies, shock compression 1−24720
propagation in arbitrary, inhomogeneous, lossy medium, formulation and development of generalized soln. for governing eqns. 1−29438
propagation in fluid-saturated porous media 1−46616
propagation in inhomogeneous media, soln. by partial separation of variables and finite-difference methods 1−35947
propagation is one dimensional inhomogeneous elastic media, statistical theory 1−4452
propagation of SH waves in the presence of a multilayer sphere *(French)* 1−46695
quartz, surface wave velocity, temp. depend., calc. 1−7445
Rayleigh-Taylor and other surface instabilities in solids 1−29598
rectangular elastic waveguides (rods), improved theories, locking freqs. 1−24739
reflection and transmission coeffs. of elastic waves for plane-parallel plate with conical spiral mag. struct. *(Russian)* 1−38963
rod, coupled nonlinear thermoviscoelastic wave propag. 1−6787
rod, linear random non-homogeneous, semiinfinite viscoelastic, wave propag. 1−19607
rods, nonhomogeneous five-parameter viscoelastic, longitudinal wave propag., reflection, transmission 1−33924

elastic waves continued
scattering by long thin obstacles, forward amplitudes 1−51794
scattering from planar cracks in isotropic media 1−37645
scattering of elastic waves by a surface-breaking crack 1−27796
seismology, ray tracing, two-point, in heterogeneous media, and travel time data inversion 1−9295
semiconductors, dislocation interaction with electron-hole drops *(Russian)* 1−52500
shear wave, antiplane, diffraction by two coplanar Griffith cracks 1−15434
shear wave diffraction on series of hollow circular inclusions *(Ukrainian)* 1−19602
shear waves, elliptical polarization and polarization effects in crystals 1−52227
short cylinder impacted by thin bar, elastic wave motion 1−24725
signal processing appls., book 1−44733
solid, hard, shock effect on flexible bonds, incl. external medium press. *(Russian)* 1−37831
stochastic inhomogeneous elastic medium, surface wave propag., Markovian approx. 1−37823
stress intensity factor of anti-plane strain edge crack during propagation and arrest, effect of reflected stress waves 1−46707
stressed cylinder of incompressible material, liquid effect on longitudinal wave propagation *(Ukrainian)* 1−29590
thermoelastic layered composites, dynamic behaviour, continuum theory 1−15396
thermoelastic plates, development of dynamic theories for structural elements 1−15395
thermoelastic wave propagation, Laplace transform technique 1−1875
thin cylindrical shell, instability dynamics 1−41966
thin strips, stress state due to longitudinal impact, numerical cal. accuracy 1−1855
unidimensional progressive waves in generalized thermoelasticity 1−19628
unsteady diffraction of spherical stress waves in spherical cavity *(Russian)* 1−15435
viscoelastic bodies, gravitational wave induced oscillations 1−37829
wave propagation in fine periodic structures 1−24743
waveguide, cylindrical anisotropic, separable equations 1−19614
Al, shock compressed type 2024, elastic release wave recording 1−25369
$CaCO_3$, spatial distrib. of acoustic emission *(Russian)* 1−42457
Fe-Ni(Mn), martensitic transform. temp., conc. depend., elastic wave generation *(Russian)* 1−16775
MgO crystal, acoustic damping surface construction from meas. along one direction 1−42456
Ni, elastic constants from wave velocities, calcs. 1−38429
$Rb(D_xH_{1-x})_2PO_4$, phase transitions, 290 to 320K, elastic props. study 1−25431

elasticity
for crack problems in elasticity see crack-edge stress field analysis
see also elastic constants; elastic moduli; elasticity of liquids; elastoplasticity; photoelasticity; rheology; thermoelasticity
3D stressed bodies, generalized problem soln., combined experimental and numerical method 1−46670
acoustical tensometry, phys. principles, review 1−29561
anisotropic materials, stability criteria, relative strengths 1−1829
anisotropic three-layered plates of finite deflection, approx. anal. 1−46675
anisotropic two-phase media, periodic elastic fields, appl. to interfacial dislocations 1−38368
arch, one hinged circular elastic, initial postbifurcation behaviour 1−19596
arterial segments, elastic response, dog aorta expts. 1−32163
axial vibrations of rotating bars, mathematical model 1−51717
axisymmetric elastic solids, stress conc. at grooves, boundary integral eqn. method *(Russian)* 1−19640
axisymmetric heated annular plates, nonlinear deflection anal., rel. to boundary conditions 1−24679
axisymmetric solid elastic mechanics, finite element method error anal. *(Chinese)* 1−23021
bars, destablising effect of additional restraint, critical load factor 1−11330
bars in torsion, multiparameter shape optimisation 1−11308
beams, circular, loaded by coplanar concentrated forces, nonlinear elastic analysis 1−41950
beams, elastic stability under unilateral constraints 1−29584
beams, linear system, unilateral constraints *(Italian)* 1−29537
beams and frames, large deflection, numerical results using elliptic integrals 1−29548
biharmonic unilateral problem, mixed finite element soln. 1−46676
bilayer membrane, elastic model 1−39890
boundary value problem with mixed boundary conditions, numerical soln. *(German)* 1−33900
boundary-value problems, linear, with complex operator, multiple calc. of simpler system *(Ukrainian)* 1−18016
α-β brass, two-phase bicrystal, elastic incompatibility during deform. 1−31534
buckling load enhanced by increased length 1−33920
butadiene-acrylonitrile rubber, elasticity nature, in transition zone 1−43393
cantilevered three-layer plates, contour-stiffened, transverse bending 1−29562
circular plates, finite element iterative method for optimal elastic design 1−37793
circular ring, strain in plane of another material, elastic equilib. *(Russian)* 1−46671
columns, critical load determ. using nondestructive dynamic method 1−33937
commensurate-incommensurate transform., coupling between phase solitons and strain 1−42508
composite materials, three-dimens. problem, asymptotic method appl. *(Russian)* 1−14014
composite orthotropic shell, variable thickness, with complex shape filler, stress-strain state 1−15401
composite structure, elastic slip, homogenisation using energy method *(French)* 1−15452
composites, anisotropic fibre reinforced, elastic props. 1−46674
compound elastic strip, contact problem *(Ukrainian)* 1−15454
compressible bodies, contact problem *(Ukrainian)* 1−15453
conservative shell buckling 1−1853
contact problems for elastic incompressible bodies with initial stress *(Ukrainian)* 1−15455

elasticity continued
contact problems in classical theory, book 1−36469
contact stiffness matrix for finite element problems involving external elastic restraint 1−37854
continual elastic system, under conservative load, optimal control *(Ukrainian)* 1−18015
continuous media mechanics, quasistatic mixed problems, integral eqn. solution 1−29556
corner points, in plane elastic media, Mode I stress intensity factors 1−37798
coupled conductors, aeroelasticity, wake induced flutter 1−19579
crack problems, in plane elasticity, case of loading discontinuities, numerical soln. 1−37843
crack propagation, elastodynamic, energy release rate 1−29617
cracked infinite plate of nonlinear material, loaded biaxially at infinity, upper-bound on J 1−19641
cracks, external, in 2-D elastostatics 1−24750
cracks, theory for semiinfinite areas bound by a curvilinear contour 1−51720
cracks and punches, dynamic problems, complex variable methods and closed form solns. 1−29621
crystal plate eqns. sesquicentennial 1−14016
curved slits in elastic body under antiplane strain, elasticity theory 1−29626
cylinder, circular, with eccentric spherical cavity, stress under tension 1−11306
cylinder, finite hollow, subjected to axi-asymmetric deform., 3-D elastic anal. 1−46668
cylinder, finite hollow circular, elastostatic solns., integral transform methods 1−41948
cylinder, semi-infinite, with end face and lateral surface subjected to tractions 1−33894
cylinders, with widely spaced stiffeners, elastic buckling, critical mode effect 1−6804
cylindrical panel bound to elastic base, nonlinear oscillations 1−24741
cylindrical shells plane-strain bending deform. 1−33314
deformable systems, tracking loads, stability anal. 1−6770
dielectric halfplane, mech. and elec. pot. 1−5104
dielectrics, equilibrium boundary problems, variational principle 1−37806
difluorides, MF_2 (M=divalent cation), rutile struct., elasticity and phase transform. 1−39360
difluorides and dioxides, rutile struct. in Earth interior, elasticity and phase transform. 1−32434
displacements, program set construction for fundamental eqns. soln. *(German)* 1−27783
dynamic problems in spherical and cylindrical coords. *(Ukrainian)* 1−14011
dynamical stability of elastic systems 1−29586
elastic body, couple-stressed, generalisations of plane theory, shell theory appl. 1−6775
elastic media, wave impedance calcs. 1−29613
elastic plates with re-entrant corners, asymmetrically loaded, stress intensity factors 1−41947
elastic strain energy function determ. from torsion and extension 1−1826
elastic structures, dynamic response, second-order linear differentiar eqn. soln. *(Chinese)* 1−1824
elastic-viscoelastic config., under random load environment, finite element anal., missile appl. 1−1827
elastomer, elastic strain energy function, Valanis Landel type, meas. methods 1−3812
elastomers, elastic matrix detachment from rigid spherical inclusion 1−26525
electroelasticity assuming elastic isotropy and electrostrictive effects 1−31091
fibre composites, anisotropic couple-stress theory *(Russian)* 1−15397
fibre reinforced composites, laminate, computer appl. to design anal. 1−3818
fibre reinforced materials, bifurcation of equilibrium state 1−15428
fibre reinforced polymer composites, mech. props. after implantation as fracture fixation plates 1−26478
filled polymer melts, rheological props. 1−41996
final-states space, large elastic deform. application 1−24683
finite rotations in shells 1−6776
foundations, concept and boundary-value problems, homogeneity and isotropy 1−33888
fracture, scale effects, review 1−26582
geometric method in mathematical physics, conf., Lowell, MA, USA (March 1979) 1−22951
glass-textolite laminates, mech. props. anisotropy 1−48436
group theory, semi-groups 1−27780
grouped pile foundation, load-sharing ratio and group effect calc. in elasticity theory *(Japanese)* 1−46669
half space with elastically reinforced cylindrical cavity, axisymmetric deformation 1−24684
half-space, elastic, transient response to uniform normal pressure acting over elliptic area 1−24668
half-space, impact loading, self-similar problem, shock waves 1−37853
half-space, indentation by concave rigid punch, stress anal. 1−46667
half-space about a spherical nonuniformly loaded cavity, stability 1−24711
half-space Green's tensors for boundary integral eqn. method *(Japanese)* 1−24678
half-space on elastic base, elasticity mixed static problem solution 1−29555
half-space with paraboloidal cut, stress state 1−18024
half-space with several piecewise smooth separation lines of boundary conditions, mixed problem *(Ukrainian)* 1−37797
hemispherical shell, 3-D stressed state 1−19576
homogenisation by dual method *(French)* 1−32848
homogenisation problems, asymptotic developments *(French)* 1−15388
Hooke's law, covariant formulation, teaching 1−27715
hyperelastic materials, nonbreaking waves 1−46696
hyperelastostatics, nonlinear, nonexistence theorem for mixed boundary-value problems 1−14015
imperfectly conducting penny shaped crack, steady state thermal stresses 1−19644
improved shell theory variant, 3-dimens. elasticity reduction to two dimens. 1−24685
inclusions, spherical, periodically distributed in infinite anisotropic medium, elastic fields 1−29546

elasticity continued
inclusions in isotropic medium, interacting system of rectilinear or curved thin-walled inclusions *(Ukrainian)* 1−15390
incompressible and nearly incompressible media, elasticity, variational formulation, finite element anal. *(Russian)* 1−19565
incremental shear modulus in an incompressible elastic material 1−11313
infinite solid with an annular crack, effect of shear on stress field 1−24744
inhomogeneous elastic media, variable viscosity and Poisson's ratio, elastic wave eqns. 1−40653
inhomogeneous material, zone of abrupt change of elastic props., stress distrib. 1−33893
lamellar thin-walled structures, stressed state, homogeneous solns. *(Ukrainian)* 1−19564
laminated elastic-viscoplastic medium under general loading, average theory 1−19584
laminated media, linear elastodynamics, mixture theory with director 1−33891
layered body dynamics, nonlinear models 1−1834
layered elastic bodies, pulsed waves from line source, generalised ray integrals *(German)* 1−1878
layered shells, investig. of stresses and displacements in edge zone 1−9835
linear elasticity theory, contact optimisation problems *(Russian)* 1−15398
linear incompatible theory, appl. to structural anal. of solid bodies *(German)* 1−6764
linear theory 3D problems, orthogonal expansions on domain boundary 1−37792
liquid crystal, disclinations, general theory 1−2328
membranes, corrugated, random oscillations *(Russian)* 1−29530
membranes, spherical, elastic, bifurcation after inflation 1−15394
multispan nonuniform beams, shafts and frames, elastic stability and buckling loads 1−41962
muscle stiffness measurement instrument, mammal appls. 1−4394
myocardial fibre stiffness, eqn. derivation based on laminated composite theory 1−22049
Neumann potential problems for thin circular annulus, appl. to fluid mechanics and elasticity 1−24761
newsprint roll, centre-wound, centrifugally induced stresses 1−19572
non-Hertz elastic contact with initial gaps *(Chinese)* 1−29630
nonhomogeneous elastic solid, dynamic expansion of spherical cavity 1−33896
nonlinear elastica, inverse problem, homotopy method 1−18017
nonlinear elasticity, finite elements with penalties 1−11309
nonlinear elasticity, global bifurcation, geometric aspects 1−23017
nonlinear elasticity, variational principles, virtual work principle double tensors *(German)* 1−71
nonlinear mechanics, computational method, conf. Austin, TX, USA (Mar. 1979) 1−22950
nonlinear mechanics, numerical computations 1−6795
nonlinear micropolar elasticity, mixed boundary problems, continuous depend. results 1−6759
nonlinear pattern selection in elasticity 1−29553
nonlinear plate models from three-dimens. elasticity 1−23016
nonlinear shallow shells, existence theorem using pseudo-monotone operators *(French)* 1−11307
nonlinearly elastic circular arches, buckled states, global qualitative behaviour 1−29582
nonlocal elastic bodies, integral models, boundary-value problems and surface forces 1−29539
nonlocal elastic bodies, integro-differential models, boundary-value problems and surface forces 1−29540
organo-textolite laminates, mech. props. anisotropy 1−48436
orthotropic shell-filler system, elastic and isocoelastic behaviour under action of body forces 1−29554
patched variational principles 1−29552
Pfluger's rod, follower-force system, boundary-value eigenvalue problem soln. by Liapunov-like procedure 1−1830
phase transitions and soft acoustic modes 1−11840
phonon focusing and phonon conduction in elastically anisotropic crystals 1−15981
plastic alloy, thin cracked plates, determ. of plastic strains and strain energy dissipation 1−47152
plate, elastic, on one sided elastic or rigid foundation 1−46673
plate, hexagonal, on elastic foundation, elastic vibrations 1−1860
plate, stiffened, stability anal., limit element method, variational principle *(Chinese)* 1−1850
plate, stress eqns. of motion 1−29541
plate bending studies, new Ligtenberg method using laser speckle 1−19663
plate weakened by regular series of circular holes, stress concentration 1−18022
plates, annular, under uniform in-plane tensile forces along inner edge, flexural vibrs. and elastic stability 1−24724
plates, circular, free, elastically constrained along parts of edge, flexural vibrations 1−19605
plates, circular, thick, elastodynamic theory 1−33928
plates, elastic, clamped and thrusted, large deflections, variational principle with penalty 1−11359
plates, electroconductive, elastic, magnetic field oscills. 1−6826
plates, equilib., asymptotic expansion method, von Karman eqns. justification 1−1823
plates, laminated bimodulus composite-material, finite element anal. 1−37796
plates, multilayer, transverse compression, variant of nonclassical theory 1−19562
plates, rectangular, elastically supported, elastically restrained, flexure, adjoint diffential eqn. formulation 1−6762
plates, twisted, buckling loads *(German)* 1−11331
plates and rods with nonhomogeneous precritical states, three-dimens. theory of elastic stability soln. 1−46686
plates on elastic foundations, spline finite element calc. *(Chinese)* 1−29538
plates with holes, plane problem solns. 1−1835
polyethylene, hard-elastic fibre, mechanical properties *(German)* 1−52089
polyethylene crystals, elastic force dipole model and elastic energy of cross-links 1−20080
polymer, heterogeneous, renormalization method in mech. props. modelling 1−48410
polymer chain, elastic props., Monte Carlo simulations 1−26528
polymer elasticity nature, in transition zone 1−43393
elasticity continued
polymer networks, elasticity and relaxation props., conf., Karlovy Vary, CSSR, (Sept. 1980) 1−44703
polypropylene, talc-filled, rheological props., effect of polymeric additions 1−35300
polyvinyl acetate, swollen network, gel, elasticity and compression meas. 1−53227
polyvinyl alcohol, swollen network, gel, elasticity and compression meas. 1−53227
prismatic beam, isosceles triangle cross-section, torsional stiffness calc. 1−24682
pulmonary dynamic compliance, computer meas., technique and reproducibility in man 1−13331
punch, concave, indentation of elastic half-space 1−41989
quartz, elastic and struct. changes at high press. and temp. 1−38455
radiation conditions for elasticity and thermoelasticity *(Ukrainian)* 1−15389
Rayleigh wave obliquely incident on periodically irregular surface, Bragg reflection 1−2794
rectangular beams, theory 1−51701
rectangular cylinders in torsional mode, aeroelastic instability due to transverse wind 1−24730
rectangular elastic waveguides (rods), improved theories, locking freqs. 1−24739
rigid circular plate, harmonic rotation, stress analysis 1−24680
rock elastic props. under conditions inherent in upper lithosphere 1−32435
rod, stability optimisation under thermal loading *(Russian)* 1−15430
rough bodies, elastic deform., depth of propagation under frictional contact 1−37857
rubbers, theory of high elasticity and birefringence 1−43394
running cracks, under constant velocity, elastodynamic forms of caustics 1−37842
sandwich strip, Saint Venant's principle 1−37795
semi-infinite cylinder, displacement bounds and Saint Venants principle, boundary value problem 1−41949
semi-infinite strip, traction boundary value problem, Papkovich-Fadle eigenfunctions 1−29551
shell, complete spherical, polar dimpling, asymptotic soln. 1−6805
shell, curved triangular, finite element approach 1−6767
shell, cylindrical, influence of defect on stress-strain state, small parameter method *(Russian)* 1−9840
shell, elastic, in form of elliptic paraboloid supported on ribs, bending *(Polish)* 1−15400
shell, elastic, strain-deformed by irradiation, variational principle *(Russian)* 1−37799
shell, spherical, orthotropic, stress-strain state when aperture is momentarily uncovered 1−19637
shell, spherical, thick walled, corrugated, stressed state 1−19575
shell, theoretical problems, total approximation method appl. 1−6769
shell roof, continuous circular cylindrical, Fourier series soln., finite element method comparison 1−6785
shells, anisotropic variable thickness, weakened by holes, stress state distrib. 1−24686
shells, clamped circular cylindrical, under torsion, buckling and postbuckling behaviour, perturbation anal. 1−6806
shells, convex, composite, stressed state determ. 1−6772
shells, cylindrical, interaction with surrounding media 1−6784
shells, double shape, Lagrangian dynamics, impulse-momentum approach 1−6778
shells, elastic, semifinite, resonance theory 1−6825
shells, linear theories, validity domains 1−6774
shells, linear theory, recent developments review 1−6766
shells, linear theory structure 1−6773
shells, mixed finite element formulation using reduced Reissner's principle in elastodynamics 1−5105
shells, nonlinear elastic, variational asymptotic scheme theory 1−6765
shells, plates, finite differential element method soln. 1−6781
shells, prismatic cusped, boundary value problem formulation, review 1−6771
shells, rigid plastic, with large displacements, min. principle appl. 1−6794
shells, shallow, multilayer, transverse compression, variant of nonclassical theory 1−19562
shells, shallow, nonlinear problems, existence theorem using pseudo-monotone operators *(French)* 1−11307
shells, surface rigidity, as differential geometry problem 1−6768
shells, theory, variational-difference method appl. 1−6780
shells, theory conf., Tbilisi, USSR (Aug. 78) 1−5029
shells, thin, cylindrical and spherical, stress concentration 1−6777
shells, thin, ellipsoidal, torispherical, Al and steel, failure 1−6802
shells, thin, linear elastic, finite element, variational anal. 1−6779
shells, thin cylindrical with random imperfections, buckling 1−6803
shells, thin elastic, buckling, simplified physical approach 1−6800
shells, thin elastic, mixed tensor formulation, consistent theory 1−6782
shells, thin elastic, one dimensional stability problems, superstability conditions 1−29583
shells, variational asymptotic method in 3D elasticity theory 1−37791
shells and plates, Vekua's theory applications 1−6783
shells and plates thin composite variable thickness geometrically nonlinear theory 1−33892
Signorini problem in semi-coercive cases, finite element anal. 1−37790
Signorinis problem and plastic flow, plasticity and elasticity variational inequalities 1−1845
skew plates in flexure, simply supported, elastic stress parameters 1−19571
solid of revolution, gravitational strain and stress calc. by mixed point matching 1−18019
solids, alternative energy techniques for equilibrium stability problems 1−46685
sphere with nonconcentric spherical cavity, axisymmetric stressed state *(Ukrainian)* 1−29543
sphere-cylinder system, penetration behaviour 1−47146
spherical lune, axisymmetric problem, functional equations *(Ukrainian)* 1−29544
st. Venant principle for strongly anisotropic elastic media 1−51702
stability, dynamic, of elastic systems, variational principle 1−27781
stability, embedding technique 1−41967
stability of elastic systems, book 1−44730
static and dynamic instabilities 1−15431
stationarity principle for simple elastic materials 1−1833

elasticity continued
steel, cylindrical rod, impact loaded, plastic deform. and dislocation struct. along axis *(Czech)* 1−3836
stochastic inhomogeneous elastic medium, surface wave propag., Markovian approx. 1−37823
straight isolated cut, loaded by concentrated forces, stress state 1−46672
stress state singularity problems, numerical solns., method *(Russian)* 1−14013
stressed state of a medium with a rigid ellipsoidal inclusion 1−19574
strip, rigid, on elastic half-space, numerical results for dynamic response 1−51721
strip with thin elastic inclusion, stress distrib. and intensity coeffs. 1−24674
surface processes in elastic solids, mech. props. of near-surface layer 1−29557
symmetry transformation, elastic material point and element, extension to materially smooth uniform body 1−33889
tensorial Hencky meas. of strain and strain rate for finite deform. 1−11310
theory, three dimensional problems, economical and concise representation of stiffness matrices 1−29559
thermally driven penny shaped crack enlargement, stability considerations 1−37851
thick plates, mathematical model of bending 1−19592
thin cylinders with elastic end rings, eigenfrequencies 1−51714
thoracic aorta tissue, steer, 2D passive stress/strain elasticity relationships 1−17424
three layer plates, optimum design 1−29560
trusses, elastic, optimal design by approximate compatibility 1−37794
tubes, thin hyperelastic, finite elastodynamics, free oscillations and loading 1−29592
two dimensional problems, potential functions method appl. *(French)* 1−24681
undamped elastic shell natural frequencies, finite element calc. 1−24716
van der Merwe misfit dislocation theory: reconsideration of the Peierls-Nabarro model 1−11749
variational principle of complementary energy, type in finite elastostatics 1−24688
variational principles, appl. in finite elasticity 1−24689
vibrating bodies, linear, elastic, means and autocorrelations 1−1859
wedge, truncated, stress-strain state 1−18021
wedge contact problem in presence of friction 1−1832
wound laminated organic plastic, elastic charact. prediction rel. to props. of structural components 1−31521
Al, extended screw dislocation−⟨111⟩ defect elastic interactions 1−2497
Be, cold isostatically pressed/hot isostatically pressed, deform. under shock compression 1−35340
Ce, elastic props. up to 8.4 GPa and 293K 1−34395
Cu, extended screw dislocation−⟨111⟩ defect elastic interactions 1−2497
Cu-Al, FCC alloy, Shockley partial dislocations, anisotropic elasticity and solute interaction effects 1−7178
In-Pb (10 wt.%), elastic twinning, superelasticity phenomenon 1−35322
$LaNi_{5-x}Al_x$ (Pt_x), heat capacity, hydrogenation, influence of lattice and electronic factors 1−20418
$La_{1-x}Th_xNi_5$, heat capacity, hydrogenation, influence of lattice and electronic factors 1−20418
NaCl single cryst., elastic props. up to 9 GPa and 293K 1−34397

elasticity of liquids
see also compressibility of liquids
cholesteric liquid cryst. twist cell performance, surface orientation and compliance effects 1−38274
elastohydrodynamic lubrication, effect of temperature on traction 1−16902
liquid crystals, optical, mech. and elec. props. rel. to mol. ordering, book contrib. 1−38271
rotating oblate spheroid, couple in elastico-viscous liquid 1−15461
shear and elongation 1−37975

elasto-optical effects *see photoelasticity; piezo-optical effects*

elastomers
see also rubber
coating of support rolls in wire rope mills for noise control 1−41919
elastic strain energy function, Valanis Landel type, meas. methods 1−3812
elasticity modulus determination, contact-optical method 1−31786
elastomeric adhesive films, in triaxial stress state, strength 1−43425
filled, amorphous material, sandwich model 1−42329
fluid-filled elastic tubes, dispersive wave motions, Love's approx. 1−15502
matrix detachment from rigid spherical inclusion 1−26525
micro- and macrostructure props., elastomer architecture 1−11698
microrheology of elastomers and arterial wall tissue 1−49041
optical storage device for adaptive spatial filtering 1−24477
plasticised, dielec. props. investig. 1−34968
polar, relax. character of fracture process *(German)* 1−16892
polybutadiene, glass bead filled model elastomer, tear and tensile strength 1−43435
polyurethane, Solithane 113 elastomer, press. depend. of glass transition 1−11692
polyurethane elastomer, stress-strain field anal. using photoelasticity 1−26167
polyurethane elastomers/PVC blends, compatibility of mixtures 1−48439
polyurethane/metal elastic-isoviscous point contacts, breakdown of fluid film lubrication 1−39471
reinforcement by fillers, review, 1967-76 1−35261
segmented, morphological changes, DSC anal. 1−35277
silicone elastomer for mammary prothesis, radiation transmission study 1−20260
storage device for optical signal processing 1−46245
thermoplastic elastomers, complex relative permittivity spectra using dielec. spectroscopy at sub-audio freqs. 1−9996
wear of metals by elastomers in abrasive environment 1−12892

elastoplasticity
bar, elastic-plastic, resonance for longitudinal small amplitude excitation 1−33922
bar, finite elastic-viscoplastic, impact dynamic loading, dynamic response 1−24756
beam, elastoplastic, finite deformation anal. 1−24708
beam, elastoplastic bending impulse of steel ball pushed against Al beam *(German)* 1−1847
beams continua elastic plastic anal., finite element models, 1−1839
Bifurcation and imperfection-sensitifity at necking instabilities 1−1854
elastoplasticity continued
bodies under hydrostatic compression, stability, subcritical strains 1−24702
boundary element analysis 1−51704
boundary value problems in small-curvature elastoplastic processes *(Russian)* 1−9841
branch points and branches of response, selectivity condition 1−9837
brittle materials, erosion by solid particle impact 1−26628
buckling, dynamic, response of imperfection-sensitive idealised model with elastic-plastic springs 1−1851
ceramic bodies, surface-active agents effect on elastoplastic-viscous props. 1−12902
circular plates, thermal ratcheting, effect of transverse press. loading 1−41955
crack tip plastic blunting and J-integral relationship 1−47167
curvilinear tube under internal pressure, finite element method *(German)* 1−51706
cylindrical high pressure container, thick-walled *(German)* 1−51708
deformation, holographic interferometric investig. 1−41991
ductile materials, fracture anal. 1−47166
dynamic shakedown stability in elastic-plastic range 1−46684
elastic-plastic boundary, reflected and transmitted stress waves, theoretical anal. 1−6791
elastic-plastic strain problem, finite element method *(Japanese)* 1−1838
existence proof in plasticity theory, discretisation *(Japanese)* 1−15420
fatigue crack closure in modes I and II, elastic-plastic anal. 1−46697
fatigue crack growth in antiplane strain state 1−15447
fatigue crack propagation, energy considerations 1−46708
fracture toughness, elastic-plastic, of US Navy structural alloys, J-integral as criterion 1−48642
fracture toughness test results, influence of load at fatigue precracking *(Slovak)* 1−48619
fracture transition correlation, fracture diagrams, elastoplasticity 1−24751
glass, elastoplastic behaviour when exposed to plane shock wave *(French)* 1−38466
heterogeneous materials, inclusion problem *(French)* 1−15418
impact phenomena 1−53251
incompressible deform., flow and hardening *(German)* 1−6786
inhomogeneous materials, elastic and elastic-plastic deform., model approach 1−20306
inverse problem, direct search soln. 1−24696
line plastic-zone model for steady mode III crack growth in an elastic-plastic material 1−11352
localised shear bands initiation in plane strain 1−33917
metals, compression and rarefaction waves, numerical modeling 1−15438
mixed mode crack, J-integral and its appl. 1−46712
Neuber's rule, generalized appl. 1−46679
piping systems, elastic-plastic nonlinear behaviour under transients 1−33327
plane-strain sheet bending, finite element anal. 1−29568
plates, cracked, tensile loaded in elastic plastic range, finite-element-method and Dugdale model anal. *(German)* 1−41985
plates, elastoplastic bending, finite element anal. *(German)* 1−1846
plates, wide rectangular, elastic-plastic bending 1−33914
PMMA, fracture transition correlation, fracture diagrams, elastoplasticity 1−24751
polythene, high density, dynamic compression tests at high strain rates *(French)* 1−43420
porous elastoplastic medium, energy dissipation from explosion 1−41952
precipitate, misfitting spherical, plastic relax. of transformation strain, plastic behaviour 1−26562
rectangular parallelepiped torsion at small elastoplastic deform. *(Russian)* 1−37815
shaft, elastoplastic torsion, soln. using variational techniques 1−33915
shell, spherical, with stub pipe, elastoplastic state anal. taking compressibility into account 1−41956
shells, axisymmetrical, dynamic response, overlay model 1−29577
shells, cylindrical welded joints, stress and strain calcs. 1−37808
shells, theory conf., Tbilisi, USSR (Aug. 78) 1−5029
shells, thin, ellipsoidal, torispherical, Al and steel, failure 1−6802
shock wave interaction in elastoplastic medium with hardening 1−41976
small-curvature elastoplastic processes *(Russian)* 1−29580
spherical caps with initial imperfections, elastoplastic nonlinear dynamic buckling 1−41961
steel, low alloy, reactor pressure vessel, acoustic emission during elastic-plastic deform., uniaxial 1−3842
steel, low alloy, reactor pressure vessel, acoustic emission during elastic-plastic deform. around crack 1−3843
steel, low C, fatigue crack propagation rates in elastic-plastic region *(Czech)* 1−48485
steel, stainless, 304, elastic-plastic mechanics approach to fatigue crack growth *(Japanese)* 1−43493
steel, structural, comparison of J-testing techniques and correlation J-COD 1−48613
steel, structural, dynamic bearing capacity, influence of neutron irrad. and temp. *(Czech)* 1−12801
steel, thermal shock cracking, elastic-plastic fracture mechanics study 1−48515
strain analysis, computational aspects 1−24707
strain analysis, computational aspects 1−29570
strain rate, elastic component *(French)* 1−29564
stress state, plane, inversion of relationships between stresses and strains 1−24705
subsurface damage in solid particle erosion, mechanics 1−11810
superalloy, fracture mechanics anal. of low cycle fatigue 1−1883
surface instabilities on statically strained plastic solids 1−11321
tension specimen with semi-circular notch, finite element anal. of elastic-plastic problems 1−24697
thermal shock on surface of elastic-plastic half-space *(Russian)* 1−29579
thermodynamically derived, elastic-plastic constitutive eqns. for large deform. *(Japanese)* 1−2555
thermoelastoplastic waves, unidimensional, in half-space, origin and development of plastic deform. 1−11347
unsteady flow of elastoplastic media in viscoelastic pipes *(Russian)* 1−38015
viscoplastic flow, effects of boundary conditions 1−29571
warm prestressing, theory, expt. validation and implications for elastic-plastic failure criterion 1−47160
welds, mechanically nonuniform, resist. to fracture and deform. under one-time loading 1−12822
Al, wear process, anal. using finite element method 1−11811

elastoplasticity continued
Al-Cu-Mn, D16 type, compressive strength in shock 1−53231
Fe-Si, transition correlation, fracture diagrams, elastoplasticity 1−24751
Ti-Al-V (6,4 wt.%), elastic-plastic mechanics approach to fatigue crack growth *(Japanese)* 1−43493
Zr-Nb (2.5 wt.%), pressure tubes, fast fracture prediction using elastic-plastic fracture mechanics 1−48517

elastoresistance
No entries

ELDOR
spin probes undergoing jump diffusion, lineshape simulations in nonlinear EPR spectroscopy 1−14945

electrets
see also dielectric devices; electrostatics; photoelectrets; thermoelectrets
dosimeter utilising gas multiplication 1−18899
history, manufacture and applications 1−44741
ionisation chamber, cylindrical geometry with electret on axis of cylinder 1−6081
polymer tubes, thermally stimulated discharge currents and isothermal charge decay, use as vascular prosthesis 1−39028
polymers, electrothermographic characts., humidity and ambient temp. effects 1−18322
polypropylene, magnetoelectret state, dielec. investig. 1−21114
polystyrene, elec. props., physical ageing effects 1−21113
silicone rubber tubular electrets, magnetically polarised, dielec. loss factor, TSDC obs. 1−26116
X-ray dosimetry using electret dosimeter, radiodiagnosis 1−9030

electric actuators
magnetic, materials and components in communication engineering and data transmission, conf., Bad Nauheim, Germany *(German)* 1−27658
stacked-actuator deformable mirror parameters and optical performance 1−46496

electric admittance
cytosine thin film, elec. ordering, permittivity, admittance, hysteresis meas. 1−21107
lung oedema and congestion, meas. by peribronchial elec. admittance, method and dog expts. 1−27019
resistance and conductance *(Spanish)* 1−32948
skin, admittance variations of the cutaneous effector in the galvanic skin response *(French)* 1−8838
small gap semiconductors, MOS struct. capacitance, mag. field effect under strong surface fields 1−38860
GaAs Schottky gate FET, cond. oscillations in two-dimens. impurity bands 1−47745
Si, low-frequency grain-boundary capacitance 1−30736
Si-SO_2 interface, admittance meas., localised electron states 1−38856
ZrO_2, stabilised, with porous Pt electrodes, AC admittance meas. 1−7381

electric admittance measurement
bridge instrument, using digital double-sinewave genrator 1−36686
MIS capacitor, interface-state density determ., single freq. approx. method 1−7688
$In_{2-x}Sn_xO_{3-y}$-SiO_x-Si solar cells, automated steady-state admittance spectroscopy for surface studies 1−26832
ZnTe semiconductor crystal, carrier traps, admittance spectroscopy technique 1−12067

electric amplifiers *see amplifiers*

electric arc furnaces *see arc furnaces*

electric arc welding *see arc welding*

electric arcs *see arcs (electric)*

electric breakdown
see also electric breakdown of gases; electric breakdown of liquids; electric breakdown of solids
aerosol transparent particles, laser breakdown 1−26125
chains, behaviour during corona discharge *(Rumanian)* 1−2263
contact zone of two surfaces, elec. discharges characts. *(Russian)* 1−42223
dielectric strength of material in supercritical state 1−29832
gas desorption from electrodes and elec. breakdown in vacuum 1−43702
plasma jet-metal electrode system, electric breakdown investigation *(Russian)* 1−46895
spark channel, spatial struct. in breakdown phase 1−34175
Pb(Zr, Ti)O_3, isostatic pressing, elec. props. 1−3683

electric breakdown of gases
see also electron avalanches
AC breakdown voltage of rod gap in air, influence of dust particles 1−15583
air, breakdown voltage of gas gaps, polarity effect 1−11613
air, dry, breakdown and V-I characts. in crossed mag. and elec. fields 1−11612
air, electric breakdown in overlapping fields, pot. difference variation *(German)* 1−15574
air, electric breakdown in superimposed fields 1−2135
air, HF breakdown voltage of point-to-plane gaps 1−20022
air, high-temperature characts. 1−15700
air, hot, elec. breakdown tests behind refl. shock wave in shock tube 1−15693
air, KrF laser-induced breakdown, threshold intensity meas. 1−42124
air, laser-induced breakdown, pulse-width and focal vol. depend. 1−53018
air, supersonic streams breakdown obs. 1−15591
air breakdown by pulsed laser radiation 1−15575
air breakdown limitations for pulsed laser energy transmission through atm. 1−40197
air gaps, breakdown at sign-changing surges 1−15727
air insulation dielectric strength and behaviour study 1−52019
air rod-to-plane gaps with DC voltages, breakdown process 1−20019
air-gaps under sandstorm or humidity condition, breakdown voltage 1−15582
atmospheric air, effects of elevating temp. 1−15590
boundary value problem, singular, arising in pre-breakdown gas discharge 1−52016
c-C_4F_8-SF_6-N_2 gas mixture, impulse breakdown study 1−7035
carbonisation prediction of gases and gas mixtures 1−20004
compressed-gas insulation, conducting particle attached to epoxy resin, influence on breakdown voltage 1−20000
corona inception time in atm. air 1−20020
corona pulse sequences obs., negative, in air, statistical props. evaluation 1−15708
dielectric gases, environmental effect aspects 1−15687

electric breakdown of gases continued
discharge and breakdown anal. in non-uniform electric fields *(German)* 1−34131
discharge development, long tubes, ionisation waves 1−42245
discharge gap breakdown by high overvoltage, explosive processes at cathode, role of impurities 1−29942
discharge phenomena and their appl., conference, Edinburgh, Scotland (Sept. 1980) 1−13934
discharge structure in rod-plane gap, possible interpretation 1−7026
electronegative gases or gas mixtures, surface defect effect on breakdown evaluation 1−19994
field strength in channel and streamer zone of positive leader in air 1−15730
gas insulated edge-plane rail-gap, laser triggered for synchronised low-jitter multichannel breakdown 1−25111
gas mixture, dielectric strength calc., test for $\bar{\eta}$-synergism 1−6921
gas-insulated apparatus, particle control electrostatics 1−20003
gaseous dielectrics, elec. field-induced electron detachment rate from mononegative ions calc. 1−11494
gaseous dielectrics, symposium, Knoxville, USA (Sept. 1980) 1−5031
gaseous dielectrics, unitary and multicomponent 1−7030
gases and gas mixtures elec. strength 1−7031
gases and gas mixtures in uniform and nonuniform field, breakdown behaviour 1−11614
high pressure corona discharge, gas dynamic interactions, current and voltage at breakdown 1−38176
HV experimental breakdown investigations on insulating materials, reporting recommendations by CIGRE committee *(French, English)* 1−21125
HV large conductor-tower air gaps, switching surge discharge characts. 1−15683
HV power transmission cables, compressed gas insulated improved structure using bundled conductor arrangement 1−37769
hyperboloidal electrodes, Laplace eqn. solution, appl. to dielectric testing in nonuniform elec. fields 1−11616
impulse breakdown, atmospheric, two-wavelength interferometry, simultaneous recording 1−42230
inert gases, KrF laser-induced breakdown, threshold intensity meas. 1−42124
intrinsic insulating strength of gases, test electrodes for meas. 1−20006
ionisation current growth theory 1−46946
large area E-beam controlled switch, design and operation 1−25115
large scale gas-insulated systems, expt. study of breakdown characts. 1−15684
laser breakdown of gas near metal surface, mechanism 1−25016
leader conductivity in long air electrical discharges 1−15586
long sliding spark, breakdown characts. 1−46940
metal carbonyls, IR photodissoc. kinetics and mechanisms 1−35555
metal inclusion effect on breakdown voltage of gap with non-uniform field 1−15726
methane, KrF laser-induced breakdown, threshold intensity meas. 1−42124
multicomponent gas mixtures in concentric cylinder geometries, DC breakdown strengths 1−7032
nanosecond pulse breakdown, high overvoltages, initiation processes, form. time 1−38045
needle-and-plane electrode config., air breakdown, ns discharge 1−42239
negative discharge development in symmetrical air gaps 1−15587
neutral gas, high freq. breakdown by ions, processes in mag. traps *(Russian)* 1−24920
octafluorocyclobutane-SF_6 gas mixture, impulse breakdown study 1−7035
ozonizer, prebreakdown phenomena between glass-glass and glass-metal electrodes 1−15703
particle traps in gas-insulated system 1−20002
Paschen characts. in crossed mag. field 1−11615
Peek's law, theoretical evaluation 1−20021
plasma stage in avalanche during spark breakdown of gases 1−24922
small gaps, breakdown electric field depend., quantum theory anal. 1−42240
space charge effects in negative rod-plane discharges 1−15588
spark breakdown potential in ternary gas mixtures, automatic meas. 1−15743
spark gaps, flowing gas, electrical breakdown statistical and formative times 1−25108
spark gaps, SF_6 insulated, X-ray triggered switching for particle beam accelerators 1−25113
sphere-gaps and rod-gaps, sparkover DC voltage meas. up to 1 MV 1−20008
sphere/plane gap, anomalous behaviour under impulse conditions 1−15584
supersonic streams breakdown obs., air and SF_6-N_2 mixtures 1−15591
switchgear, SF_6 insulated, breakdown behaviour under impulse stress 1−52020
switching impulse breakdown voltage, effect of interaction between temp. and humidity 1−15585
transverse discharges, homogeneization by preionization 1−51999
triggered vacuum gap switch design for crowbar operation 1−25117
Ar, electric breakdown in superimposed fields 1−2135
Ar metastables, long-living, transport by own gas stream 1−15581
H_2, KrF laser-induced breakdown, threshold intensity meas. 1−42124
H_2, laser-triggered elec. breakdown, pre-spark channel phenomena 1−38177
He, cold, breakdown mechanism in sharply non-uniform field 1−15589
He, longitudinal mag. field, formation time, optical studies *(Russian)* 1−38043
Hg vapour, nearly saturated, pre-breakdown elec. conductivity 1−15579
N metastables, long-living transport by own gas stream 1−15581
N-O gas mixtures at low press., impulse discharge processes during glow to arc transition 1−15715
N_2 electric breakdown in superimposed fields 1−2135
N_2, electric breakdown mechanism in an externally sustained gas discharge 1−52017
N_2, hot, elec. breakdown tests behind refl. shock waves in shock tube 1−15693
N_2 photoionisation plasma, breakdown mechanism 1−42246
O_2, electrical stability in range 300-2000K at atmospheric pressure *(Russian)* 1−25106
SF_6 and mixtures with CF_3SF_5, CF_3CFCF_2 and He, 60 Hz breakdown characts. 1−11507
SF_6 and SF_6-N_2 mixtures, breakdown characts. 1−11498
SF_6, arc discharge, enhanced photoemission 1−42229

electric breakdown of gases continued
SF_6 at high press. in uniform-field gaps with anode mounted projection, prebreakdown phenomena 1−15714
SF_6 binary mixtures, discharge parameters meas. 1−15578
SF_6, breakdown development, spectroscopic investigation 1−15716
SF_6, compressed, conductive particle influence on spacer DC-voltage strength 1−19999
SF_6, compressed, corrugated coaxial electrodes impulse breakdown 1−7034
SF_6, compressed, electrical breakdown between highly polished electrodes 1−7029
SF_6 compressed gas insulation, effect of regular electrode surface roughness on breakdown strength 1−11501
SF_6, compressed gas-impregnated and polymer film-insulated transformer windings, breakdown studies 1−15685
SF_6 compressed-gas insulation transmission systems, particle contamination effect, particle control and elimination method 1−20001
SF_6 corona inception conditions, influence of electrode charact. 1−11628
SF_6, DC and AC voltage strength meas. of thermoplastic materials in compressed gas 1−16524
SF_6 DC apparatus, flashovers over insulator surface 1−12455
SF_6, discharge formation for impulse voltage stress 1−11505
SF_6, effect of cathode surface on elec. breakdown at high pressures 1−11627
SF_6 gas, charact. of elec. breakdown in short gaps 1−11496
SF_6 gas, triggered and untriggered breakdown, time lags 1−11497
SF_6 gas gap, epoxy resin spacers with high resistive contamination, flashover voltage meas. 1−12454
SF_6 gas insulated 500 kV cables, test results 1−15713
SF_6 gas insulation system, statistical breakdown charact. 1−11500
SF_6 gas mixtures, breakdown voltage calculation *(German)* 1−38164
SF_6 gaseous insulation breakdown reliability 1−52021
SF_6, high-temperature charact. 1−15700
SF_6 impulse and AC breakdown, polished and rough electrodes coating influence 1−19995
SF_6, impulse breakdown and prebreakdown corona processes 1−7027
SF_6 insulated coaxial conductor system under HVDC, motion of small metallic particles, anal. *(Italian)* 1−6919
SF_6 insulated HV equipment, dielectric coatings 1−11503
SF_6 insulated spacer surfaces, flashover caused by conducting particles 1−11629
SF_6, negative breakdown voltage charact. 1−11504
SF_6, particle contaminated, generalised breakdown criteria under DC, AC and impulse voltages 1−11506
SF_6, pressurised gas, influence of electrode surface state on breakdown 1−11502
SF_6, relation between luminous phenomena and discharge mechanism 1−7028
SF_6-CO_2-fluorocarbon mixtures, electric breakdown studies 1−7033
SF_6-gas mixtures, cylindrical insulator flashover voltages 1−15711
SF_6-gas mixtures, electrode surface roughness effect on breakdown voltage 1−15710
SF_6-insulated system, breakdown-volume and statistical time lag at impulse voltage stress 1−11499
SF_6-N_2 (CO_2, air) mixtures, field breakdown gradient 1−2268
SF_6-N_2 mixtures, breakdown process between parallel plates 1−15717
SF_6-N_2 mixtures, electrode-area and surface-roughness effects 1−19996
SF_6-N_2 mixtures, flashover studies using direct applied voltages 1−19997
SF_6-N_2 mixtures, impulse breakdown and prebreakdown corona processes 1−7027
SF_6-N_2 mixtures, supersonic streams breakdown obs. 1−15591
SF_6-perfluorocarbon mixtures, props. meas. relevant to appl. 1−15709

electric breakdown of liquids
HV experimental breakdown investigations on insulating materials, reporting recommendations by CIGRE committee *(French, English)* 1−21125
lubrication film thickness measurement by dielectric breakdown 1−23175
oil, mineral, breakdown probability obs., temperature effect 1−21126
water, electric breakdown in diffusion electrode system 1−52897
N_2, polarity effect rel. to pulse width 1−31089
N_2, space and time dependent parameters of electrical discharge development *(Polish)* 1−3329

electric breakdown of solids
see also impact ionisation; partial discharges; Zener effect
alkali halide crystal transparent dielect. optical breakdown and light flash emission by CO_2 laser pulses 1−26290
alkali halide ionic dielectric, laser radiation breakdown, electron avalanche ionization 1−8001
cathode, active layer-substrate interface, electron emission, Schottky effect 1−43238
conductors, elec. breakdown, fusion stage simulation 1−15673
discharge development in support insulation structures 1−15728
electron-avalanche breakdown theory 1−39193
epoxy insulators in SF_6, flashovers over insulator surface 1−12455
epoxy resin spacers with high resistive contamination, flashover voltage meas. 1−12454
film impurity breakdown model, laser-induced damage 1−39194
HV experimental breakdown investigations on insulating materials, reporting recommendations by CIGRE committee *(French, English)* 1−21125
insulating structures, discharges, relationship between electric strength and electric fields 1−15729
insulator, wide band gap, laser-induced breakdown, freq. and focal volume dependence obs. 1−39195
insulators, contamination, XPS examination method 1−8199
interband probabilities, two-band crossings 1−26122
metallic particle motion in high current vacuum arc discharges 1−7017
MOS capacitors, radiation effects meas., by avalanche injection technique 1−38858
MOS field-time-dependent breakdown model 1−42865
non-metallic solids submitted to intense electric field, internal heat dissipation and thermal breakdown *(French)* 1−48005
optical glass, crown, flint, electric breakdown due to shock wave 1−26123
oxide cathode breakdown theory 1−26126
oxide film in MOS capacitor with low press. CVD polycryst. Si gate 1−34798
p-n junction, secondary breakdown, current channelling, effect of external reactances on channelling stability 1−20867
PMMA, initial tree growth 1−3330
polyethylene, H_2O and ion absorption in relation to H_2O treeing 1−11973
polyethylene, treeing, electric field and space charge effects *(Portuguese)* 1−43066
electric breakdown of solids continued
polyethylene, water treeing, effect of O *(French)* 1−52895
polyethylene thin films, self-healing breakdown at spherulite boundaries 1−43067
polyethylene water treeing mechanisms obs., in HV cables 1−21604
polyimide thin films, elec. breakdown strength, cond., adhesion determ. 1−20892
polymer insulation, morphology influence on elec. strength 1−2341
PVC thermoplastic resin, arc resist. at low temps. *(Japanese)* 1−34986
steel, stainless, electrode electric breakdown props. in ultra-high vacuum 1−48004
Teflon edge breakdowns, due to electron beam, charact. 1−34984
thermoplastic spacers in SF_6, DC and AC voltage strength meas. 1−16524
thermosetting resins, arc resist. at low temps. *(Japanese)* 1−34986
transparent solid dielectrics, accumulation effects and time depend. of threshold for laser breakdown 1−35131
Ag/NaCl(s)/NaCl(p)/Ag double-layer capacitor, elec. breakdown 1−48006
β-Al_2O_3 ceramic membranes, electrical breakdown 1−43070
Al_2O_3, film, electrical phenomena during mechanical impact *(Russian)* 1−47772
GaAs, breakdown voltage orientation depend. 1−7718
n-GaAs epitaxial film, influence of elec. field on negative magnetoresistance 1−42798
n-GaAs polycrystaline layers evaluation for solar cells using electrochemical technique 1−26833
GaS(Se), elec. strength, lifetime-under-load 1−26124
Ge, p-n junction, secondary breakdown, current channelling, effect of external reactances on channelling stability 1−20867
n-InSb, electron runaway in strong mag. fields and breakdown 1−25743
KCl polycrystalline films, impulse breakdown 1−43068
MgO, film, electrical phenomena during mechanical impact *(Russian)* 1−47772
MoO_3 films, vacuum deposited, dielec. and elec. props. 1−48007
NaCl, laser-induced breakdown, pulse-width and focal vol. depend. 1−53018
RbCl polycrystalline films, impulse breakdown 1−43068
Si, current instability at high temp. thermal breakdown 1−20755
Si:P, bound electron kinetics, elec. breakdown studies 1−47664
SiO_2 film, dielec. breakdown retarded by annealing in NH_3 gas 1−26121
SiO_2, film, electrical phenomena during mechanical impact *(Russian)* 1−47772
SiO_2, fused, laser-induced breakdown, pulse-width and focal vol. depend. 1−53018
SiO_2 very thin film growth and characterisation 1−7490
SmF_3 thin films, thermal evaporation prep., AC elec. props. 1−31090
Ti electrode electric breakdown props. in ultra-high vacuum 1−48004
Yb_2O_3 films, electron beam evaporated, dielec. props. 1−3332

electric cables *see cables (electric)*

electric capacity *see capacitance*

electric cells *see cells (electric)*

electric charge
see also space charge
cometary dust tails, grains charging and disruption rel. to origin of striae 1−44496
electrophotographic photosemiconducting layers, electrostatic image forming 1−20823
high-voltage differential charging of geostationary spacecraft 1−4740
nonpolar molecule cryocondensates, binary mixtures, surface elec. charge generation 1−2608
point charge radiation, moving along axis of circular opening, in planar shield 1−15058
$Al(OH)_3$spherical colloidal particles containing dye, prep. and optical props. 1−17115

electric coils *see coils*

electric condensers *see capacitors*

electric conductance *see electric admittance*

electric conductance measurement *see electric admittance measurement*

electric conduction processes *see electrical conductivity*

electric conductors *see conductors (electric)*

electric conduits
see also cable sheathing; power cables
entry, type LC, for PWR containment vessels *(Japanese)* 1−799

electric connectors
see also cable jointing
coaxial connector pairs, Soviet, loss repeatability meas. 1−23275
residential branch cct. connections, system for meas. constriction resistance 1−303
spherical electrical feedthroughs for high pressure nonambient temperature vessels 1−23255
Cu alloy strip, high strength bronze for contacts, terminals, and connectors 1−43531
Cu-Be and Ni-Be alloys, stress relax. 1−43404
Ni-B, autocatalytic, metallisation of connectors 1−43617

electric control equipment
see also controllers; electric actuators; electric sensing devices; switches; telecontrol equipment; telemetering equipment
electromagnetic angular-velocity converter 1−50111

electric control gear *see electric control equipment*

electric current
see also arcs (electric); corona; critical currents; current density; current distribution; current fluctuations; eddy currents; electrojets; fault currents; leakage currents; overcurrent; short-circuit currents; sparks
in astronomical bodies, volumetric electrolysis of ice rel. to fate of planet Phaethon 1−54410
cometary ionospheres, electric currents rel. to origin of striae in cometary dust tails 1−44496
energy current theory, modified version 1−19234
solar atmosphere current sheets, possible detectability via radio obs. 1−4901

electric current control
cyclotron, Kyoto Univ., magnet exciting current stabiliser improvement 1−14709
NMR spectroscopy, DC-current control using SQUID-gradiometer systems 1−36712

electric current measurement
see also ammeters; galvanometers
100 pA full scale deflection current meas. *(French)* 1−33000
absolute ampere meas. by a coil system 1−36702
AC-DC transfer standards, international comparison of thermal convertors 1−36690
AC/DC transfer at LF, computable D/A sinewave generator 1−36695
ammeter frequency range extension up to 100 MHz using current transformers 1−23263
ampere, absolute measurement using NMR 1−36603
ampere realisation at NBS 1−36602
brain current density vector measurement apparatus under direct computer control 1−32337
charged particle beam intensity using noise-immune system, appl. to linear electron accelerator 1−44955
cryostat, demountable, for making meas. down to 0.3K 1−44927
distorted power freq. waves, RMS and average values 1−36699
electron beam instability region limit meas. 1−1474
Faraday cup array for meas. of beam profile and HF wave behaviour of electron beam of Auto-Resonant Accelerator 1−23922
Faraday cylinder for magnetized high current beams 1−50165
inductive-shunt sensor, capacitively-coupled, for measurement in pulsed high magnetic fields 1−40821
large DC currents, mag. liquids appl. *(Rumanian)* 1−33003
low current measurement in solid state sensing 1−40819
metals in solution, computerised corrosion rate monitoring method 1−8468
multijunction thermal convertor, method for reduction of AC-DC transfer error caused by Thomson effect 1−36694
multijunction thermal convertor with adjustable output voltage/current characts. 1−36693
optical fibres appl. to current sensing, multimode, Al-coated 1−24502
plasma, turbulent heating, meas. of current and voltage 1−29913
proton accelerators, measurement of fast risetime megampere currents by quartz gauge 1−33358
reactive current in nonsinusoidal systems, direct meas. using convertor 1−36697
reference photoammeters for calibration of HF ammeters in working freq. range 1−23259
Rogowski coil for meas. fast, high-level pulsed currents 1−23266
self balancing photogalvanometer, highly sensitive 1−23204
semiconductor diodes, electrical characteristic meas. using four-probe method 1−44954
sensors with magneto-dielectric magnetic circuit *(Russian)* 1−36643
small magnitudes, using 2nd harmonic type magnetic modulator 1−36687
superconducting critical current measurement standards, development 1−44952
superconducting gyroscope with no moving parts 1−50158
Z pinch, high density, voltage and current sensors 1−38150
Nb_3Sn diffusion-layer superconductor, characterization techniques 1−47774

electric discharge machining *see spark machining*

electric discharges *see discharges (electric)*

electric distortion
see also fading; reception
nonlinear, sound signal recording analysis, magnetic, cinematographic recording appl. *(Russian)* 1−45063
spectrometer channel pulse-overlap amplitude spectrum distortion analysis 1−41270
V-groove laser noise and distortion, metering equipment for linearity meas. *(German)* 1−19344

electric distortion measurement
harmonic distortion meas. of elec. mains signal *(Spanish)* 1−33006

electric domain walls
ferroelectric ceramic complex elastic, dielec. and piezoelec. constants by domain wall damping 1−21149
$Ba_2Bi_4Ti_5O_{18}$, ferroelec. perovskite, high resoln. imaging 1−34209
$BaTiO_3$ ceramic, domain configuration and equilibrium size 1−8022
$BaTiO_3$ ceramic, piezoelec. effect 1−31096
$Gd_2(MoO_4)_3$, ferroelastic and ferroelectric, pol. reversal and field induced phase transform., electron microscopy 1−39049
PLZT 6/65/35 ceramics, domain wall motion, optical method 1−26148
$PbTiO_3$, cryst. lattice defects obs. by TEM 1−20214
$RbH_3(SeO_3)_2$, ferroelec., phase transition, dielec. and elastic props. 1−39044

electric domains
see also electric domain walls; ferroelectric materials
n-butyl-n′-methoxyazoxybenzene twisted struct. flexoelectric domains 1−34233
ethylammonium copper chloride, high-temp. phase transform., dielectric and optical props. 1−42533
ferroelectric materials, 3-D dynamic electromechanical constitutive relations 1−16537
ferroelectric materials, mechanical strain meas. due to domain switching using double beam laser interferometer 1−14177
ferroelectric materials, polarisation wave excitation by moving domain walls 1−21151
ferroelectrics, SEM imaging 1−40900
MBBA, electrohydrodynamic instability in homeotropically oriented layers *(Russian)* 1−52066
PLZT ceramic, domain switching, light scatt. and strain variations 1−8023
TGS, domain dynamics study using nematic liq. crystals 1−21150
TGS, domain struct. visualisation using nematic liq. crysts. 1−26146
$BaTiO_3$ ceramic, domain configuration and equilibrium size 1−8022
$BaTiO_3$ single cryst., luminesc. during mech. switching 1−8144
n-GaAs, epitaxial, current instability and microwave transmission oscillations, transverse mag. field 1−20891
$Gd_2(MoO_4)_3$ single cryst., luminesc. during mech. switching 1−8144
KD_2PO_4, domain struct., elec. field effect, neutron diffr. data 1−8021
KD_2PO_4, domain struct. rearrangement in elec. field, neutron diffr. study 1−26147
KH_2PO_4 twinned crystals, ferroelec., differential γ-ray diffractometry 1−20036
$KTaO_3$:Li, birefringence meas. 1−35009
$LiNbO_3$ single cryst., SHG in polydomain striae region *(Chinese)* 1−46443
$LiNbO_3$ with periodic laminar ferroelec. domains, SHG enhancement 1−15217

electric domains continued
$NaH_3(SeO_3)_2$ single cryst., domain struct. rearrangement and Barkhausen effect 1−8020
$Pb_5(Ge_{1-x}Si_x)_3O_{11}$, pulsed polarisation switching 1−31106
$Pb_3(VO_4)_2$, antiferroelec. ferroelastic, domain struct. and phase transitions 1−26150
$Pb(Zr,Ti)O_3$, PZT 65/35, 1-D polar mechanical and dielectric responses due to domain switching 1−26149
$Pb(Zr,Ti)O_3$, props. under high electric field 1−16538
$RbH_3(SeO_3)_2:Cr^{3+}$, ferroelec., EPR study 1−38971
$SrTiO_3$, defects and central peak 1−2440

electric double layers *see electrochemistry; liquid theory*

electric double refraction *see electro-optical effects*

electric drives
see also electric propulsion
PM DC stepping motor for the autoscanning densitometer 1−5428

electric field effects
see also acoustoelectric effects; discharges (electric); electrical conductivity; electro-optical effects; electrochemistry; electrodynamics; electrokinetic effects; electroluminescence; electromechanical effects; electromigration; electron field emission; electrophoresis; field emission ion microscopy; field evaporation; field ion emission; field ionisation; high field effects; magnetoelectric effects; particle optics
380 kV power transmission lines, biological effects on people in neighbourhood *(Dutch)* 1−8896
alkali metal atoms, core charge polarisation effects, HF calcs. 1−28862
bilayer lipid membranes, generation of higher alternating-current harmonics 1−17353
charged particle swarms in neutral gases, kinetic theory, review 1−15565
chlorodifluoromethane, IR multiphoton dissoc. elec. field effects 1−46041
enkaryotic cell system perturbation, associated 60 Hz elec. field parameters 1−49060
epoxy insulation, long-term dielec. strength, elec. field and defects effects 1−43069
heptane-H_2O system, electrocapillary effect on ionis. of liqs., interfacial tension and energy 1−52394
HF power absorpt. by plasmas, magnetic and electric field effects *(Russian)* 1−24936
HVAC/DC hybrid transmission line corona and electric field effects 1−38165
insects, elec. stimulated visible emission rel. to nonlinear radiation scatt. and UFO sightings 1−4320
interfacial tension in low C steel/slag system AC mains freq. effects 1−52391
ion oscillations in one dimens. RF elect. field, electron space charge distortion 1−23365
LF electric and magnetic fields, biological and clinical effects 1−17452
liver homogenate paramagnetic species, rat, effects of pulsed elec. fields 1−32182
nematic liquid crystals, planar deformation induced by simultaneously applied magnetic and electric fields 1−30050
nucleation, at charge centres, thermodynamic relations 1−16144
plasma, ion acoustic wave dispersion, HF electric field effect 1−42171
plasmas, electron density distrib., diffusion coeff., crossed elect. and mag. fields *(Russian)* 1−24948
polymeric thermoelectrets, device for production *(Bulgarian)* 1−12448
power transformer, electrodynamic forces acting on current-carrying circuit in vicinity of ferromagnetic cylinder *(Russian)* 1−33596
purple membrane of Halobacterium halobium, elec. dichroism obs. 1−39959
quartz, positronium formation, elec. field depend 1−12071
smectic C phase, field induced domain like behaviour 1−52061
surface, spherical, surface tension, surface polarisation, thermodynamics 1−16143
thiourea, elec. field phase diagram, optical birefringence study 1−48015
thiourea, phase diagram at atmos. press. under elec. field, theoretical anal. 1−48016
two-dimensional motion of aerosol particles in an electric field at Reynolds numbers greater than unity, calc. 1−8626
two-phase equilibrium, effect of field and surface curvature 1−16012
X-ray photomaterials, sensitivity, pulsed elec. field effects 1−50257
α-$AgSbS_2$, phase transition induced by external elec. field 1−47230
Ar, liq., free-ion electron yield and recomb. luminesc., elec. field effects 1−21269
Ba, doubly excited autoionising Rydberg states, electric field effect 1−1189
CdSe crystals, elec. field effect on polarity of growth direction 1−52097
Cu, compressed powder, elec. cond., influence of ageing and elec. field strength 1−43545
GaAs, deep-level transients, electric field effect 1−7550
GaP, deep-level transients, electric field effect 1−7550
HF, laser polarisation effects, two-laser excitation 1−33525
4He, state mixing and transition line shapes, mag. and motional Stark field effect 1−1180
NaCl, screw dislocation mobility, effect of applied elec. field pulses, meas. 1−25287
NaCl, X-ray irrad. under DC field, F-centre absorption and gradient 1−3439
NaCl:Sr crystal, dislocation path increase by elec. pulses 1−52144
Xe, liq., free-ion electron yield and recomb. luminesc., elec. field effects 1−21269
ZnO crystals, elec. field effect on polarity of growth direction 1−52097

electric field measurement
see also field plotting
initial field strengths of unipolar corona at elevated air pressure, obs. 1−2275
inverse scatt., low freq., far-field meas. 1−6426
monomode glass fibres, parameter meas. and characterisation *(German)* 1−19460
plane-parallel dielectric, using dynamic capacitor method 1−50164
plasmas using optoisolator 1−42207
RF dielectric heaters elec. and mag. field intensity meas. in region near device, survey 1−4325

electric field strength measurement *see electric field measurement*

electric fields
see also electric field effects; electric field measurement; electromagnetic fields; electromagnetic waves; field plotting
anisotropic dielectric cylinder, electrostatic field 1−24316
Bakelite insulation, target exposed to laser radiation, induced elec. pot. investigation laser 1−53019

electric fields continued
charged drops, elec. pot., elec. field and surface charge density calc. *(French)* 1−44274
clathrate hydrates, dipolar correlation factor, electrostatic field, dipole moment, interaction energy calcs. 1−46163
coaxial cylinders with space charge, soln. *(Czech)* 1−1432
conducting and dielectric bodies modelling, in uniform electric field *(Polish)* 1−1430
conductive spherical shell, point charges, field intensity 1−49907
Coulomb field resolution into evanescent modes 1−29165
dielectric objects, inhomogeneous, irregularly shaped, variational estimates of electrostatic fields 1−24315
dielectric wedges with common apex, asymptotes of plane electrostatic fields *(Russian)* 1−37381
discharge in N_2, pulsed, net space charge density evolution 1−15737
disk in coaxial circular aperture in conducting plane, electrostatic problem anal., capacitance meas. 1−24317
Duraluminium target exposed to laser radiation, induced elec. pot. investigation laser 1−53019
dyadic Green's functions in source region, comments 1−41537
electrodes, field in vicinity of sheer edges *(Croatian)* 1−46197
electrostatic and magnetostatic fields energy and balanced 3-phase systems power expressions determ. using power assignment principles 1−19236
electrostatic fields inside two planar distributions of potential 1−37383
field ion microscope, electric field distrib. as function of specimen shank 1−14210
Fresnel amplitude coeffs., direct relations 1−1484
gas discharge and breakdown anal. in non-uniform electric fields *(German)* 1−34131
HV, mapping technique *(Russian)* 1−29163
HV power transmission cables, compressed gas insulated improved structure using bundled conductor arrangement 1−37769
HV rod-type electrodes with spherical tip, calc. 1−1433
hyperboloid-to-plane model electric field distribution calc. method *(Portuguese)* 1−16523
inhomogeneous conducting media in strong mag. field, elec. field props. 1−16268
interplanetary field, effect on magnetosphere partial ring current devel. 1−40279
ionosphere, quiet-day F-region electric fields, empirical model 1−9317
Laplace field problems with periodic boundaries, integral point-matching method appl. 1−10884
macroscopic electric field far from charge and dipole 1−46193
magnetotail, electric field along magnetic neutral O-line, upper limit 1−9328
meridional flux focusing in difference field 1−1472
multilayer thin films, relationship between optical absorptance and electric field 1−46211
nanosecond electric field reversal system 1−50172
nanosecond electric field reversal system for surface ionisation study 1−50172
neutron stars, rotating, electronic surface states sustained by elec. field 1−4935
paint sprayer, comparison between electrostatic and aerodynamic forces 1−21344
polarisability orientational pair correlations, Kerr and Cotton-Mouton effects, local electric field theory 1−37362
pulsed field production using capacitively coupled electrodes 1−23267
rare earth-Au alloys, R_4Au, amorphous, elec. field gradients and exchange interactions 1−25925
small bubble formation by using strong nonuniform electric field 1−24867
solar flares, thermoelectric field effects on electrons streaming and escape rel. to hard X-ray emission 1−49584
solar wind, plasma wave elec. fields rel. to electron oscills. and type III radio burst emissivity 1−4737
source region electric field derivation by a dyadic Green's function approach 1−1437
stationary, calc. using finite element anal. 1−51341
stationary plane fields, soln. *(Czech)* 1−1431
use of electric double layers in anal. of electrostatic fields *(German)* 1−1434
white dwarfs, surface chemistry and elec. field of chemically inhomogeneous star 1−44551
$Eu_{80}Au_{20}$, amorphous, electronic, mag. and struct. props. from hyperfine interactions 1−25680

electric filters *see filters*

electric furnaces
see also arc furnaces
continuous operation, for heat treatment of welding electrodes, electric equipment details *(German)* 1−53215
electrode siting effect on convection in glass melt 1−9985
graphite induction furnace design and application to optical fiber multipulling 1−11209
heat balance calcs. using IR thermography 1−18233
LPE, furnace and temperature controller *(Japanese)* 1−3643

electric fuses
current interruption process, fuse voltage 1−34171
HV, ultra-high speed and high breaking capacity, pre-arc phenomena considerations *(Rumanian)* 1−15662
HV EM switchgear, screw quenching arc appl. 1−15698

electric generators
see also a.c. generators; d.c. generators; magnetohydrodynamic convertors; standby generators; turbogenerators; Van de Graaff generators
diesel engined mobile motor generating set, permissible noise levels, causes and damping measures *(German)* 1−1764

electric glow *see corona*

electric heaters *see electric heating*

electric heating
see also dielectric heating; domestic appliances; drying; electric furnaces; heating elements; induction heating; radiofrequency heating; space heating
diffusion pumps, heater design for high performance 1−23250
domestic oil central heating systems supplemented by electric heating and heat pump hot water storage *(German)* 1−21892
Heat pump technology and applications, conf. Dusseldorf, Germany (June 1980) *(German)* 1−35675
heat pumps, development and testing for low-temp. grain drying, comparison to electric resistance heat drying *(German)* 1−35687
heat pumps, electrically driven, for heating and cooling in electrodeposition processes *(German)* 1−35691

electric heating continued
radioactive waste vitrification in ceramic-lined electric glass melter 1−14684
sintered powdered material, diffusion pore healing under Joules heating *(Russian)* 1−35208
steel, blanks, square, electrocontact heating 1−11297
Ti, polycrystn., eval. of contribution of skin, pinch and heating effects to electroplastic effect 1−12802
UO_2 fuel, temp. profiles under direct electric heating conditions 1−42590

electric heating elements *see heating elements*

electric ignition
No entries

electric impedance
see also electric reactance; electric resistance
antennas, disc-shaped, radiation impedance for electron plasma wave 1−46870
coils for NDT of flaws in metallic structs., impedance calc. 1−12945
ferromagnetic conducting plate, collective excitations, surface impedance in mag. field *(Russian)* 1−3159
Josephson junction, capacitively shunted, plasma reson. in response and RF impedance in presence of thermal noise 1−42909
magnetostrictive displacement transducer, using impedance var. due to core torsion 1−5294
metal, nuclear spin-doppleron interaction at NMR freq., theory 1−26050
metal, surface impedance, normal and anomalous skin effect in very weak mag. fields 1−7650
metal/solid electrolyte interface impedance 1−42571
metallic film, impedance under anomalous skin effect conditions *(Russian)* 1−3078
serum albumin solution, bovine, linear AC electrode polarisation impedance meas. 1−43864
superconductor, current-induced intermediate state, dynamic resistance 1−16414
β-Al_2O_3-Na_2O, complex impedance, automated multifreq. meas. 1−33008
Cd, nuclear spin-doppleron interaction at NMR freq., theory 1−26050
Cu electrodes, impedance studies of benzotriazole inhibitive effect on corrosion in NaCl medium 1−43569
ZrO_2, stabilised, with porous Pt electrodes, AC admittance meas. 1−7381

electric impedance measurement
see also electric reactance measurement; electric resistance measurement
26 to 40 GHz using 6-port consisting of 2 directional couplers and 2 voltage probes 1−36688
antennas, disc-shaped, radiation impedance for electron plasma wave 1−46870
automatic measuring device for LF and VLF ranges *(French)* 1−18252
body fluid changes monitoring by body impedance change meas. *(Swedish)* 1−35918
complex impedance meas., wide-range fast digital meters 1−27963
corrosion rates from impedance meas. 1−12896
digital AC bridge with two programmable sources 1−28035
EHF reflectometry *(French)* 1−33004
fast ion conductors, complex impedance, automated multifreq. meas. 1−33008
high resolution digital comparator 1−36682
island slot antenna, interpretation of VLF impedance meas. 1−13578
Leclanche cells, impedance at various discharge states and state-of-charge indication by impedance method 1−35636
microwave complex impedance meas. with desk-top computer 1−28023
swept-frequency reflectometry, automated precision, impedance standards 1−36689
Fe polycrystalline electrode impedance at 298K, obs. 1−8576

electric load *see load (electric)*

electric machine analysis computing
compressed mag. field current generators, finite element model 1−34129

electric machine testing *see machine testing*

electric moments
see also atomic electric moment; molecular moments; nuclear electric moment
anomalous moments and spin in classical particles, modified Dirac eqn. 1−5477
benzene liquid derivatives, hydrostatic press. effect on electric permittivity 1−3316
colloidal particles, elec. cond. of dil. disperse systems in strong elec. field 1−17112
dipole radiation in cassette film, teaching 1−40631
inverse scatt., low freq., far-field meas. 1−6426
isotropic molecules, depolarising dipole induced dipole effect in Rayleigh and Raman scatt., density depend. 1−37216
neutron electric dipole moment, cosmological lower bound from grand unification 1−50432
polarised hadron-lepton scatt., lepton, quark electric dipole moments *(Russian)* 1−28318
single photon transition amplitudes, elec. and mag. dipole, relativistic corrections 1−19304
Γ electric dipole moment limit 1−45286
ClO_3F, rot., electric dipole moments, Stark effect, mol. beam electric resonance 1−24190
KI(Br)(Cl):NCS^-, thermally stimulated depolarisation, electric dipole moments 1−3322
RbI(Br)(Cl):NCS^-, thermally stimulated depolarisation, electric dipole moments 1−3322

electric motors
see also d.c. motors; stepping motors
diesel engined mobile motor generating set, permissible noise levels, causes and damping measures *(German)* 1−1764
industrial applications of power, conf. Cincinnati, OH, USA (Sept.-Oct. 1980) 1−14679

electric networks *see networks (circuits)*

electric noise measurement
1/f or flicker noise, brief review 1−14093
electron gun development, field emission, energy spread and fluctuations meas., book contrib. 1−402
HF radio noise in topside ionosphere, satellite meas. 1−32579
noise-factor meters, checking overall meas. error of unit 1−297
p-n junctions, DLTS to measure current transients 1−25796
photomultipliers, noise characteristics, effect of external factors 1−44978
S/N ratio of photoelectric defectoscope 1−31814

electric noise measurement continued
semiconductor hot carrier diffusion and noise coeff. relationship and meas. 1−16325
thermal, effect on amplitude of oscillation in masers 1−37448

electric potential
see also contact potential; overvoltage; surface potential; voltage control; voltage measurement
charged drops, elec. pot., elec. field and surface charge density calc. *(French)* 1−44274
coil moving with respect to long wire, induced electromotance calc. *(Polish)* 1−29169
dielectric with spherical inclusions, elec. pot. distrib. 1−24318
B-DNA reactive sites, electrostatic pot. screening by MG^{2+} 1−51330
electrodes, potential in vicinity of shear edges *(Croatian)* 1−46197
electrostatic fields inside two planar distributions of potential 1−37383
interplanetary grains electrostatic potential, influence of thermoionic effect 1−36155
quasistatic boundary-value problem in electrodynamics, iterative soln. 1−18053
redundancy and superfluity 1−27707
rotationally cylindrical system electrostatics, axial and boundary potentials *(French)* 1−51337
Seebeck EMF, origin, theory 1−47616
semiconductors, EMF development in inhomogeneous mag. field 1−20735
spherical cap, electrostatic potential 1−51343
standard cells, saturated acid type, effect of temp. on EMF, exact expression by formula 1−33009
streaming potential technique, microcomputer appls. 1−53506
stress corrosion crack, pot. distrib., effect of crack width variation 1−12920
Fe oxide films, deposited on Au substrate, open circuit behaviour 1−53311
Fe_2B and FeB, thermodynamic props. 1−34490
InSb, EMF development in inhomogeneous mag. field 1−20735
MnO_2 porous electrodes during discharge, nonlinear simulation of current distribution and potential profile 1−53432
Si solar cells, open-circuit voltage, influence of front metal coverage factor 1−39797
Sn, polymorphic phase transitions, resistivity, thermal cond. and ultrasound speed 1−16038
$ZnSnAs_2$, enthalpy and entropy of form., EMF method obs. 1−43692

electric power generation
see also direct energy conversion; ocean thermal energy conversion; power stations; wave power generation
coal-fired, open-cycle, component development and integration facility, USA 1−48877
cogeneration by means of photovoltaic concentrator arrays 1−53613
compressed air energy storage with thermal energy storage, economics for utilisation for electric power generation 1−53705
conference, energy conversion, Seattle, Washington, USA (1980) 1−48810
development of molten carbonate fuel cells for power generation 1−53607
development of the high temperature air heater for open cycle MHD 1−53629
electrogasdynamic wind energy devices for electricity prod., IV charact. 1−17222
environmental problems of power generation *(Italian)* 1−53708
fluidised bed heat store for power generation, assessment by computerised modelling 1−43810
fossil fuel consumption forecasts for electric utilities 1−4149
fuel cell, solid electrolyte, high temperature, fabrication and results of electric power generation 1−48830
fuel cell burning NH_3, electricity and NO cogeneration 1−4173
geothermal-resource extraction for electric power generation, optimal economic model 1−43740
industrial waste heat recovery by vapour turbine and induction generator 1−26826
low temperature geothermal resources and wood residues utilisation 1−48798
MHD coal-fired flow facility, description 1−48878
MHD power generation using coal/oil fuel, near term commercialisation 1−53630
molten carbonate fuel cell, natural gas fuelled, potential energy savings in industrial cogeneration, determ. 1−48829
nuclear power development and present energy generation situation *(German)* 1−23704
open-cycle MHD generator channel development 1−48875
photovoltaic systems, intermediate load centre, expt. 1−53620
power production from geothermal brine with the rotary separator turbine 1−53553
residential photovoltaic systems costs 1−53619
solar energy alternatives, economic anal. 1−21860
solar energy appls. in centralised electricity generation, technology and economics 1−21861
solar energy integration of power systems in Saudi Arabia 1−21857
solar heating systems and related schemes for household power generation 1−17185
solar ponds, collection efficiency, thermal yield and costs for electricity prod. 1−39831
Stirling cycle thermomechanical generators for low power uninterrupted supply over long periods, operating experience report 1−13156
thermal/electric conversion systems using wood fuel, cost effectiveness 1−53644
H_2 systems for electricity generation using fuel cells gas- and steam turbines *(German)* 1−43829

electric propulsion
see also electric drives; electric vehicles; traction
Al-air battery development and technical problems, for electric vehicle propulsion 1−53597
Fe-air battery system, performance and structural charact. for electric vehicle propulsion 1−53595
$LaNi_xH_x$ fuel cell, appl. in vehicular propulsion 1−21874
Li-H_2O air battery system, development and scaling up for electric vehicle propulsion 1−53596
Pb-acid traction batteries for electric road vehicle propulsion, research and development problems 1−8700

electric reactance
see also capacitance; inductance
variable, use in frequency modulation of FIR laser 1−37518

electric reactance measurement
see also capacitance measurement; inductance measurement
Henry realization at NPL, self inductance in terms of capacitance and frequency 1−9963

electric relays *see relays*

electric resistance
bar with two lateral electrodes, electrical resist. determ. using conformal mappings *(French)* 1−46192
binary alloys with short range order, elec. resistance in CPA 1−47611
boxes, calibration formula calcs. 1−44877
conductance and resistance *(Spanish)* 1−32948
Ohm's law and resistance definition, teaching 1−5059
semi-automatic equipment for decade resistance box calibration *(French)* 1−18189
spreading resistance correction factors, continuum formulation 1−20718
Al contact layers, vacuum deposition, resistance, resistivity and thermal ageing coeffs. *(Polish)* 1−21353
Ge, amorphous, negative differential resistance, geometry effects 1−47668
Na-S cells, resistance rise 1−21871
Sb, purity criterion, electrical resistance, temp. depend. 1−16274

electric resistance measurement
see also ohmmeters
AC comparator bridge, for measurement at power frequencies 1−36684
constriction resistance, meas. for evaluating performance of residential branch cct. connections 1−303
cryogenic insulating materials, thermal and elec. resist., loading effect 1−14139
diamond indentor-anvil technique, megabar press. in submicron vols. 1−28003
linear scale ohmmeter, using analogue test meter and op. amp. 1−18215
Manganin wire, continuous meas. of hydrostatic press., liq.-solid hybrid system *(Japanese)* 1−50150
manganin wire, resist. meas. up to 60 kbar, using cubic-anvil type press. apparatus 1−44948
metals, quenched-in vacancies, elec. resist. decay curves, AC automatic recording method 1−44956
neutron detection using fissile resistor, calorimetric technique 1−28511
quasi-static methods, accurate determ. by double-current method *(German)* 1−23264
solar cell, concentrator, series resist. meas. by flash testing 1−17196
solar cell grid resistance, using four test probes 1−14137
transducers, resistance measurement system 1−18211
Cu/Sn(Pb) (15 wt.%) powder mixture, resist. meas. during inductive liq. phase sintering *(German)* 1−3657
Nb film, microwave surface resist. 1−52721
Ta_2N-Ni films, RF sputtering prep. of Ni films, props. and interdiffusion anal. 1−35174
V_2O_5 catalyst, supports, oxidation, mass changes, electric resistance *(German)* 1−21764

electric resistors *see resistors*

electric sensing devices
see also instruments; measurement
ambient temperature thermometer, −50°C to +50°C, using Si transistor, ICs *(Spanish)* 1−50129
biomedical electro-pneumatic press. sensor for routine use 1−49141
blind reading aids, automatic conversion of printed data *(Italian)* 1−53930
camera flash trigger, using 555 timer IC 1−23328
capacitance measurement, small, elimination of stray capacitances *(Japanese)* 1−44959
chemically sensitive MOS element with ultrathin SiO_2 film 1−36651
current sensing with optical fibres, multimode, Al-coated 1−24502
current sensors with magneto-dielectric magnetic circuit *(Russian)* 1−36643
electronic anemometer, using diode sensor, 741 IC op. amp. *(Spanish)* 1−46832
electronic linear thermometer, using semiconductor diode temperature sensor 1−5309
EM field probe based on dipole antenna for monitoring of complex fields, 10 MHz-1 GHz 1−50170
gas sensors correction, for O_2 concentration meas., correction based on hybrid simulation *(Spanish)* 1−48770
heat-sterilisable pH glass electrodes and Clark-type D_2 sensors 1−32331
ion selective FET chemical sensor, design and applic. *(Japanese)* 1−21819
LED sensor, fibre-optic 1−24503
local convective heat flux meas., detector using thin disc sensing element 1−18220
microwave, National Oceanic Satellite System for ocean parameter measurement appl. 1−32600
MIS FET, SAW detector appl. *(German)* 1−51677
nickel dimethylglyoximate thin-film temp. detector for use in range 20-130°C 1−18228
non-contact probes for electronic gauging 1−14100
point-contact probe, meas. of dipole domains in InP 1−52570
PVC dielectric const. meas. using condensator sensor during extrusion process, rel. to mechanical props. 1−23271
pyroelectric IR detectors, S/N ratios, temp. resolution, range *(German)* 1−10015
resistive microwave field intensity sensor, dynamic range and possibility of range extension *(Russian)* 1−5290
strain-gauge pressure transducer, appl. in ocean wave and tide gauge 1−54270
temperature off limit alarm system 1−9984
temperature sensor, high resolution, appl. to oceanography 1−9270
thermal interlock system with quick response time for high-power magnetic coil systems 1−36648
Zirconia sensors appl. 1−43725
δ-$(Bi_2O_3)_{1-x}(Y_2O_3)_x$, thermogalvanic power and fast ion cond., appl. to O_2 gauge 1−34513
CO gas sensor using stabilised ZrO_2 1−8640
Si integrated micromechanics for sensors and transducers 1−44910
Si sensors, appls. 1−14108
Si temperature sensor, KTY 10, low-cost, electronic evaluation circuits 1−44921
$SrCl_2$-based solid electrolyte cell, utilisation as O_2 gauge 1−35594
Ti-TiO_2-Pt structure, selective H_2 detector 1−35586
ZrO_2, solid electrolyte detector, characteristics 1−21811
ZrO_2 stabilised cell, control of very low O_2 partial press. 1−35595
ZrO_2-Y_2O_3 membrane-type pH sensor, use in high temp., high press. solns. 1−21810

electric shielding, nuclear *see nuclear screening*
electric shocks
see also electrical faults; protection; safety
hospital equipment, electrical injuries, types and legal aspects *(Italian)* 1−35848
medical procedures, risk of injury by elec. current *(Italian)* 1−35847
MHD generators, prediction of shock fronts 1−35665
personnel protection from electric shocks, protective measures and effects of current passage through body 1−39906
physiological and pathological aspects *(French)* 1−4258
reaction of human body *(Portuguese)* 1−4256
electric spark machining *see spark machining*
electric sparks *see sparks*
electric strain gauges *see strain gauges*
electric strength
see also electric breakdown
air, breakdown voltage of gas gaps, polarity effect 1−11613
air, hot, elec. breakdown tests behind refl. shock wave in shock tube 1−15693
c-C_4F_8-SF_6-N_2 gas mixture, impulse breakdown study 1−7035
dielectric strength of material in supercritical state 1−29832
epoxy insulation, long-term dielec. strength, elec. field and defects effects 1−43069
epoxy insulators in SF_6, flashovers over insulator surface 1−12455
field strength in channel and streamer zone of positive leader in air 1−15730
gas mixture, dielectric strength calc., test for $\bar{\eta}$-synergism 1−6921
gas Paschen characts. in crossed mag. field 1−11615
gaseous dielectrics, unitary and multicomponent 1−7030
gases, intrinsic insulating strength, test electrodes for meas. 1−20006
gases and gas mixtures elec. strength 1−7031
gases and gas mixtures in uniform and nonuniform field, breakdown behaviour 1−11614
insulating structures, discharges, relationship between electric strength and electric fields 1−15729
multicomponent gas mixtures in concentric cylinder geometries, DC breakdown strengths 1−7032
octafluorocyclobutane-SF_6 gas mixture, impulse breakdown study 1−7035
polyethylene thin films, self-healing breakdown at spherulite boundaries 1−43067
thermoplastic spacers in SF_6, DC and AC voltage strength meas. 1−16524
water, electric breakdown in diffusion electrode system 1−52897
AlN, based high-density ceramic, prep., mech., thermal and dielec. props. 1−31390
GaS(Se), elec. strength, lifetime-under-load 1−26124
MoO_3 films, vacuum deposited, dielec. and elec. props. 1−48007
N_2, hot, elec. breakdown tests behind refl. shock waves in shock tube 1−15693
SF_6 binary mixtures, discharge parameters meas. 1−15578
SF_6, compressed, conductive particle influence on spacer DC-voltage strength 1−19999
SF_6 insulated spacer surfaces, flashover caused by conducting particles 1−11629
SF_6 model circuit breaker, dielectric recovery study 1−11619
SF_6-CO_2-fluorocarbon mixtures, electric breakdown studies 1−7033
SF_6-gas mixtures, cylindrical insulator flashover voltages 1−15711
SF_6-gas mixtures, electrode surface roughness effect on breakdown voltage 1−15710
SF_6-perfluorocarbon mixtures, props. meas. relevant to appl. 1−15709
electric susceptance *see electric admittance*
electric susceptibility *see optical susceptibility*
electric switchgear *see switchgear*
electric transformers *see transformers*
electric utilities *see electricity supply industry*
electric variables measurement
see also attenuation measurement; capacitance measurement; charge measurement; dielectric measurement; electric admittance measurement; electric current measurement; electric distortion measurement; electric field measurement; electric impedance measurement; electric noise measurement; electric reactance measurement; electric resistance measurement; electrical conductivity measurement; frequency measurement; gain measurement; inductance measurement; phase measurement; power factor measurement; power measurement; Q-factor measurement; voltage measurement
analogue and digital instruments, accuracy indexes sample parameters identification 1−23161
carrier lifetime, conactless meas., influence of lightening area for minority carrier injection *(Japanese)* 1−47708
developments in measurement technology *(German)* 1−28013
effect of superconducting IC technology 1−36600
radiotechnical measurements, development of physical-standard base 1−291
semiconductor blocks, carrier lifetime meas. by UHF contactless method 1−14138
semiconductors, high uniaxial stress elec. investigations, apparatus 1−18253
units, absolute meas. using NMR 1−36604
wafer, contactless meas. of elec. props. *(Japanese)* 1−47673
GaAs:Cr, semi-insulating, characterisation using galvanomagnetic meas. *(Slovak)* 1−20767
electric vehicles
see also electric drives; electric propulsion
battery development, progress and forecast 1−53605
battery electric vehicle feasibility testing, computer-generated driving profile appl. 1−53606
electrochemical energy storage systems, status for electric vehicle, solar and electric utility applications 1−53586
fuels cells, H_2/air, alkaline, electrodes and other improvements for transportation applications 1−48831
secondary cells, Fe-Ni, design, constructional and operational details for electric vehicle propulsion 1−53588
wind energy for electric vehicle recharge 1−53558
Li-FeS cells for elec. vehicle appls., design study 1−48821
Pb-acid traction batteries for electric road vehicle propulsion, research and development problems 1−8700
electric welding
see also arc welding; electron beam welding; welding electrodes
No entries
electrical conduction in condensed matter
see also carrier density; carrier lifetime; carrier mean free path; carrier mobility; carrier relaxation time; dislocation scattering; electrical conductivity of liquids; electrical conductivity of solids; electrical conductivity transitions; electron density (metals); electron mean free path (metals); electron mobility (metals); electron-phonon interactions; electron relaxation time (metals); high field effects; hopping conduction; impurity scattering; Lorenz number; minimum metallic conductivity; minority carriers; mixed conductivity; negative resistance effects; one-dimensional conductivity; photoconductivity; point defect scattering; size effect; skin effect; small polaron conduction; space-charge-limited conduction; spin disorder resistivity; surface conductivity; surface scattering; thermally stimulated currents; tunnelling
colloidal particles, in strong elec. field 1−17112
conductivity freq. depend. in random walk models with internal states 1−34673
disordered Anderson model, one-dimens., DC cond. and localisation props., numerical method 1−30691
disordered materials, multiple scatt. theory 1−30608
inhomogeneous conducting media in strong mag. field, elec. field props. 1−16268
Landauer formula, δ-dimens., energy quantisation case 1−52538
multiple scatt. in disordered materials, wave number, local currents 1−42734
quantum mechanical Boltzmann equation *(French)* 1−12085
random resistor networks, non-universal critical behaviour 1−47597
electrical conductivity
see also electrical conduction in condensed matter; electrical conductivity of gases; electron mobility; ion mobility; space-charge-limited conduction
battery active masses electronic conductivity, limiting factor 1−8697
Moon, electrical cond. investigations using EM induction model 1−22698
neutron stars, thermal and electrical cond. 1−44548
white dwarfs, thermal and electrical cond. 1−44548
$Si_{12}Te_{48}As_{30}Ge_{10}$, glassy films, switching delay time influence 1−7679
electrical conductivity measurement
4-terminal resistance bridge for low-temp. meas. of resistivity to 0.1 ppm 1−23265
adsorbed gas phase species on solids using combined IR and elec. conductance cell 1−40816
aqueous solutions of $B(OH)_3$ and KOH at high temps. and pressures 1−36991
automatic resistivity and Hall effect meas. apparatus 1−50169
certification of standard samples of electrical conductivity 1−44873
conductivity of highly dosed air 1−34036
contactless monitoring of heterogeneous materials, device using a selfexcited oscillator 1−18209
eddy-current instruments, methods of making standard-conductivity specimens 1−28018
electrolytes, EM energy losses under action of HF field, inductance cell method 1−50152
EM testing, independent of diameter and distance, cct. 1−4022
four-electrode meas. of conductivity of solutions, circuit for temp. compensation *(Bulgarian)* 1−50154
low temperature AC conductivity device for superionic conductors 1−28016
microwave meas. of semiconductor spheres by cavity perturbation technique 1−40813
microwave resonator, perturbed Q correl., skin effect 1−23268
nondestructive photovoltaic technique for resist. meas. in circular semicond. slice, theory and appl. 1−3019
organic solid, DC conductivity meas. assembly 1−33001
seawater, elec. cond. measurement probe 1−54276
semiconductors, high resistivity, contactless transient conductivity meas. for external stimulus, slow photoconductivity kinetics 1−9997
soil, local conductivity meter with radio link *(Polish)* 1−5339
soil resistivity in Finland as regards the effects of earth-fault currents *(Finnish)* 1−4424
Ge, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
Hg, at high temp. and pressure, ceramic component 1−50163
InSb, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
InSb solid and liquid, elec. cond. and Hall effect meas. technique 1−36704
Si ion-implanted, profile of radiation disturbed layers by spreading current probe 1−52164
Sn, conductivity measurement with trapezoidal AC mag. field 1−50171
Sn, meas. over wide temp. interval covering solid and liquid phases 1−16038
electrical conductivity of amorphous metals and alloys
see also dislocation scattering; electron density (metals); electron mean free path (metals); electron mobility (metals); electron relaxation time (metals); electronic conduction in metallic thin films; impurity scattering; point defect scattering; surface scattering
conference, Grenoble, France (July 80) 1−22943
disordered alloys, dynamical electron-phonon interaction and elec. cond. 1−20336
disordered alloys, elec. cond., 4.2 to 300K *(Russian)* 1−7578
disordered systems, hoppinc cond. theory 1−42732
electron-phonon coupling const., free-electron theory 1−30735
electronic structure, review 1−25619
metallic glass, electronic lifetime, perturbation calc. 1−25713
metallic glasses, electronic transport props., review *(Japanese)* 1−42738
metallic glasses, Lorenz number meas. 1−30702
metallic glasses, mag. and nonmag., thermoelectric power meas. 1−30727
thin wires, localisation, residual resistance 1−47527
transition metal based glassy ribbons, $(M_xM'_{1-x})_{75}P_{16}B_6Al_3$ (M,M′=Fe,Ni,Mn,Co), mag. and transport props. 1−7587
variational derivative calc. 1−30695
Ag-rare earth amorphous alloys, resist. and magnetoresist. meas. 1−30696
$Ag_{50}R_{50}$, R=Pr, Nd, Gd, Tb, Dy, Er, amorphous alloys, extraordinary Hall effect meas. 1−30722
Au-Si metastable alloy formation induced by ion-beam interface mixing 1−52160
$Be_{0.4}Ti_{0.5}Zr_{0.1}$, metallic glass, X-ray and neutron diffr. temp. depend., rel. to resist. 1−34241
$C_{40}Ti_{59}$, amorphous, quenched-in resist. rel. to atomic movements 1−34675
$Ce_{89}Al_{11}$, amorphous, mag. interactions, elec. transport props. and cryst. field effects 1−25903

electrical conductivity of amorphous metals and alloys continued
Co-B, amorphous, elec. resist., remnant crystallinity effects, theory 1−30701
Co_xSn_{1-x}, amorphous, elec. transport and stability 1−30698
$Cu_{50}Ti_{50}$, amorphous, electron radiation damage, elec. resist. meas. 1−34371
$Cu_{40}Zr_{60}$, $Cu_{60}Zr_{40}$, amorphous, electron radiation damage, elec. resist. meas. 1−34371
Er alloys, amorphous, mag. and elec. props. 1−25991
$(Fe,Ni,Co)_{90}Zr_{10}$, amorphous, Invar characts., thermal expansion, mag. props., and elec. resist. 1−7926
Fe-B-Mo amorphous alloy, high mag. field magnetisation, magnetoresistance 1−7593
Fe-Ni-P-B amorphous alloys, resist. and magnetoresist. meas., mag. contrib. to scatt. 1−30699
Fe-Ni-P-B-Cr amorphous alloy, high mag. field magnetisation, magnetoresistance 1−7593
α-FeAl, k-state heterogeneous SRO 1−25445
$Fe_{1-x}B_x$ amorphous films, elec. resist. meas. 1−30700
$Fe_{84}B_{16}$, metallic glasses, electrical resistivity and crystallisation 1−7576
$Fe_{84}B_{12}Si_3$, metallic glasses, electrical resistivity and crystallisation 1−7576
$Fe_{85}B_{14}Si_1$, noncrystallinity effect on phase transitions at high press., elec. resist. meas. 1−42531
$Fe_6Mo_{18}Ni_{76}$, spin glass transition at 7K 1−3192
$Fe_{40}Ni_{38}Mo_4B_{18}$ metallic glass, mag., elec. props. 1−3147
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, quenched-in resist. rel. to atomic movements 1−34675
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, struct. relax., positron annihilation study 1−47007
$Fe_xNi_{80-x}P_{14}B_6$, amorphous, spin-glass, elec. resist., negative magnetoresist. meas. 1−12098
$Fe_xNi_{80-x}P_{14}B_6$ amorphous alloys, resistivity, mag. contrib. determ. 1−30697
Fe_xSn_{1-x}, amorphous, elec. transport and stability 1−30698
FeW, μ-phase, amorphous, annealing behaviour 1−12766
$Fe_{95-x}W_xB_x$, metallic glass, mag. props. and thermal stability meas. 1−20071
Ga, amorphous, electron-phonon coupling const., free-electron theory 1−30735
Ga, amorphous, electron-phonon coupling constant, Eliashberg function 1−34444
Ga amorphous film, Hall effect and elec. resist., temp. depend. *(Russian)* 1−12097
La-Al(Au)(Ga)(Ge), amorphous, negative temp. coeff. of elec. resist. 1−7579
Mg-Zn, glassy, elec. resist. study 1−30705
$Mg_{70}Zn_{30}$ amorphous alloy, atomic and electronic struct., resist. and thermal props. 1−30085
MoCo, μ-phase, amorphous, annealing behaviour 1−12766
$Nb_{75}Ge_{25}$, amorphous thin films, supercond., resistivity, T_c after S ion irrad., annealing effect 1−42883
$Nb_{80}Si$, amorphous thin films, supercond., resistivity, T_c after S ion irrad., annealing effect 1−42883
Ni-P alloys, amorphous, chemically deposited and electrodeposited, struct. and electronic props. 1−2340
Ni-P amorphous alloys, chem. deposited and electrodeposited, struct. and crystn. obs. 1−25166
Ni-Si-B, amorphous, strain gauge characts., alloying addition effects 1−7577
Ni_xAg_{1-x} amorphous thin films, prepared by RF sputtering, resistivity and Hall effect, mag. props. *(French)* 1−30849
$Ni_{66}B_{34}$, amorphous, electron transport and kinetics of transform. 1−34236
$Ni_{60}Nb_{40}$, amorphous, electron radiation damage, elec. resist. meas. 1−34371
Ni_xSn_{1-x}, amorphous, elec. transport and stability 1−30698
Pd-Si amorphous films, ion implantation prep., elec. resist. meas. 1−34363
$Pd_{80}Si_{20}$, metallic glass, elec. resistance, irrad. induced defects 1−25690
Pt_2Si_3, ion beam induced metastable phase, elec. cond., order-disorder transform. 1−16275
$(R_{75}Au_{25})_{100-x}B_x$, (R=Pr,Gd,Tb,Er), elec. and mag. props. 1−3149
$Ti_{50}Be_{40}Zr_{10}$ glassy alloy, crystallisation, neutron irrad., resistivity meas. 1−2335
$U_{66}Fe_{34}(Co_{34})(Ni_{34})$, glasses, mag. susceptibility, resistance, magnetisation 1−3148

electrical conductivity of amorphous semiconductors and insulators
see also carrier density; carrier lifetime; carrier mean free path; carrier mobility; carrier relaxation time; dislocation scattering; electrical conductivity transitions; electronic conduction in insulating thin films; high field effects; hopping conduction; impurity scattering; minority carriers; negative resistance effects; photoconductivity; point defect scattering; small polaron conduction; surface scattering
AC hopping conductivity, appl. of rate equation formulation 1−7616
alkali metal oxide-V_2O_5-P_2O_5 semicond. glasses, electronic characts. and struct., ESR study 1−34928
carrier pulse propagation, anomalous 1−7614
cellulose acetate:I_2, pure and doped, current-voltage characts. 1−7626
chalcogenide glasses, AC conductivity and optical absorpt. 1−16286
chalcogenide glasses, gap states, review 1−16221
chalcogenide glasses, struct. and transport props. impurity and defect effects *(Slovak)* 1−15804
cryogenic insulating materials, thermal and elec. resist., loading effect 1−14139
disordered systems, hoppinc cond. theory 1−42732
nylon 6, elec. cond. meas. at high temp. 1−42566
oxide glasses, polaronic cond. theory 1−30744
phthalocyanine films, amorphous, metal-free, conductivity, temp. depend., X-ray diffr., thermal anal. 1−52569
polyacetylene and derivatives, semiconducting, chem. 1−52553
polyacrylonitrile fibres, elec. charact. of carbonization process *(German)* 1−2961
polyamides, hydrophilic, amorphous and crystn., elec. cond., water absorpt. effect *(Japanese)* 1−30746
polydiacetylene, model conjugated polymer, exptl. studies 1−20081
polyhydroquinone, semicond., AC cond., Meyer-Neldel rule 1−7611
polymer, review *(Japanese)* 1−20734
polymers, electrical conductive properties 1−12105
polystyrene, elec. props., physical ageing effects 1−21113

electrical conductivity of amorphous semiconductors and insulators continued
polytetrafluoroethylene:Sn film, conductivity 1−34816
p-quaterphenyl layer, partially oriented, dispersive carrier transport 1−47771
semiconductors, amorphous, pressure-induced conductivity transitions 1−34756
semiconductors, chemistry and physics, teaching approach 1−13966
semiconductors, chemistry and relevance to energy conversion 1−30060
semiconductors, field-effect conductance, density of localised states, anal. 1−42723
semiconductors, random barrier network, AC props. 1−42775
solar cells, electrical conductivity, analytical model 1−43770
TTT-o-chloranil amorphous films, DC and AC conductivity 1−2957
A_2Se_3:Cu(Ni,Mo), amorphous, RF cosputtered films, cond. temp. depend., optical absorpt., Fermi level shift 1−42781
Ag-As-Se glasses, low Ag conc. elec. cond. 1−38780
Al_xTe_{1-x}, glass, switching effect in strong electric field 1−3028
As, amorphous, elec. and optical props., review 1−47632
As-Ge-S(Se) systems, optical and elec. props. 1−3387
As-Se-Sb system, glass form. region and elec. props., devitrification characts. 1−30080
As_2S_3 amorphous films, electrical cond. 1−42784
As_2S_3, vapour-deposited, hole transport meas. 1−34702
As_2Se_3, carrier pulse propagation, anomalous 1−7614
As_2Se_3, glassy, metal-nonmetal transition obs. on addition of 3d elements 1−47715
$As_{20}Se_{20}Te_{20}$, switching and memory effects 1−12158
B:H, amorphous film, glow discharge deposited, resist. and doping props. 1−38778
Bi, amorphous film, elec. resist., temp. depend. meas. 1−30745
Bi_2S_3 thin film, chem. deposition, struct., and elec. props. 1−16700
C, amorphous film, phonon-assisted hopping cond. meas. *(French)* 1−47656
Cd_3As_2 amorphous degenerate thin film semiconductor, elec. props. 1−20720
$CdGeAs_2$ films, amorphous, electrical and optical properties 1−20747
$CdGeP_2$:Cu(In)(Mn)(Ni) glasses, cond., temp. depend. rel. to cryst. state cond. 1−42780
CdO-P_2O_5 glasses under high and low electric fields, elec. activation energy 1−38783
$(CuCr_2S_4)_x$-$(Ga_{2/3}Cr_2S_4)_{1-x}$, spin glass state destruction, metal-insulator transition, mag., elec. props. *(Russian)* 1−3209
GaSb film, amorphous-cryst. transform., elec. props. 1−34704
GaSe amorphous films, charge transport processes 1−47655
Ga_xTe_{1-x}, glass, switching effect, in strong electric field 1−3028
Ge amorphous thin films, sputtered and evaporated, DC cond. 1−12108
GeSe amorphous films, chem. modification, elec. props. 1−34713
GeSe, sputtered, amorphous films, elec. props. *(German)* 1−2986
GeSe:Fe_x amorphous films, 1−26293
Ge_xTe_{1-x}, glass, switching effect in strong electric field 1−3028
H incorporation, effects on electronic and struct. props., review 1−52067
Hg-Ge-Se-Te system, glass form., struct. and elec. cond. 1−30079
InAs films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
InAs films, electrical props. 1−20729
$In_{0.5}Ga_{0.5}Sb$ film, amorphous-cryst. transform., elec. props. 1−34704
InSb films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
InSb films, electrical props. 1−20729
InSb(As)(Te)(Se) film, amorphous-cryst. transform., elec. props. 1−34704
$LiPO_3$-$AlCl_3$, mixed glasses, elec. cond., struct. approach *(French)* 1−20451
$XNa_2O.(100-X)GeO_2$ glasses, elec. cond. meas. by thermally stimulated polarization current 1−30742
P, amorphous, elec. and optical props., review 1−47632
Se, carrier pulse propagation, anomalous 1−7614
$(Se_{32}Te_{32}As_4Ge_{32})_{100-x}Ni_x$, chalcogenide amorphous semicond., electrical cond. and optical absorpt. 1−20730
Si, amorphous, elec. cond. and ESR study 1−20744
Si, amorphous CVD film, elec. and optical props. and localised state density *(Japanese)* 1−20608
Si amorphous film, as-evaporated and annealed magnetoresistance meas. 1−52585
Si, amorphous film, CVD prep., rel. to electronic props. *(Japanese)* 1−43271
Si, amorphous films, RF sputtering in silane, IR spectra and elec. cond. 1−43259
Si film, ion implantation and H profiling, p-n junction form. 1−52156
Si film, RF sputtered in Ar-SiH_4 mixtures, optical and elec. characts. *(Korean)* 1−12652
a-Si, RF-sputtered, solar cells, doping effects of group-III and -V elements on conductivity 1−4191
a-Si:B(P) film, adsorption effects on ESR and elec. cond. 1−21050
Si:F, amorphous, RF sputtering prep., elec. and optical props. 1−53090
Si:H, amorphous, determination of the density of gap states: field effect and surface adsorption 1−30613
Si:H, amorphous, elec. and optical props., book contrib. 1−38816
Si:H, amorphous, electron Hall mobility, 200 to 550K 1−30767
Si:H, amorphous, electron transport, drift mobility and junction capacitance 1−30784
Si:H, amorphous, RF sputtered, electron transport, photoelect. props. 1−4193
Si:H, amorphous evaporated film prep. and props. 1−43275
Si:H, amorphous solar cells, photoconductivity and transport 1−32029
Si:H, amorphous thin films, chemical modification 1−32047
Si:H, F, As, amorphous, thermoelec. power and elec. cond. meas. 1−47691
Si:H, F films, amorphous, RF glow-discharge prep., dark cond. and photocond. props. 1−34595
Si:H, gap states, review 1−16221
Si:H, P, amorphous films, plasma deposited, crystn., doping efficiency, elec. cond. 1−47393
α-Si:H, quantum well model 1−7510
Si:H amorphous films, glow-discharge deposition, prep. conditions and characterisation, review 1−30589
Si:H films, amorphous, cond. band transport, struct. inhomogeneity effect 1−52561
Si:H films, amorphous, glow discharge prep., elec. props. 1−26392
Si:P films, amorphous, low press. CVD growth, ESR, and elec. props. 1−52449
Si:P(B) amorphous films, ion implanted, elec. cond. meas. 1−52671

electrical conductivity of amorphous semiconductors and insulators continued
Si-F,B sputtered films, amorphous, doping effect on cond., p-n junction form. 1−52562
Si-Te-As-Ge amorphous films, RF sputtering, props. rel. to deposition conditions 1−43262
SiH_x, amorphous solar cells, short-circuit current, effect of carrier generation and collection 1−32027
Si_3N_4-CVD, DC-elec. cond. *(Japanese)* 1−25735
SiO_2, amorphous, geminate recomb. of γ-ray excited electron-hole pairs 1−2982
Si_xTe_{1-x}, glass, switching effect, in strong electric field 1−3028
Ta_2O_5 amorphous film, hopping transport 1−20889
$TaSi_2$ films, DC sputtering prep., struct. and elec. props., oxidation behaviour 1−47406
Te_xSe_{1-x} amorphous films, DC cond., 100 to 330K 1−2969
V_2O_5-$GeO_2(TeO_2)(PbO)(BaO)(As_2O_3)$ glasses, elec. props. and struct. 1−30743
V_2O_5-P_2O_5-optical absorption, electrical cond. and thermo EMF study 1−25748
WO_3-$Al(PO_3)_3$-SiO_2 and WO_3-P_2O_5-SiO_2 system glasses, reduced forms, elec. cond. and struct. role 1−47654
Y-Si-Al oxynitride glass-ceramics, elec. props., X-ray diffr. and electron microprobe study 1−2954
Y_2O_3-AlN-SiO_2, elect. characts. 1−38776

electrical conductivity of crystalline metals and alloys
see also dislocation scattering; electron density (metals); electron mean free path (metals); electron mobility (metals); electron relaxation time (metals); electronic conduction in metallic thin films; impurity scattering; point defect scattering; surface scattering
A-15 intermetallic compounds, residual resistivity features 1−12092
alkali metals, electron-electron scatt., correl. between high temp. and low temp. data 1−42767
alloy, elec. resist. during phase separation 1−20702
alloys, density of states and cond., Monte Carlo technique 1−20604
anisotropic crystal, magnetoconductivity tensor, d.c. method meas. 1−2943
antiferromagnetic metals with paramag. impurities, cond., Green's functions calc. *(Russian)* 1−52544
binary alloys with short range order, elec. resistance in CPA 1−47611
certification of standard samples of electrical conductivity 1−44873
CPA calculation of electrical resistance of metals with vacancies *(Russian)* 1−30714
Cu-Pd-Ag dental alloys, age-hardening characts., X-ray diffr., elec. resist and hardness meas. *(Japanese)* 1−3757
dilute alloy, dopant-vacancy interactions *(French)* 1−2500
dilute alloys, cluster model anisotropic electron lifetimes 1−34697
disordered alloy, resist. calc. and temp. depend., Debye model and saturation *(Chinese)* 1−47601
ferromagnetic metals, elec., thermal, and thermoelec. props. near Curie temp. *(Russian)* 1−30724
Kondo problem, appl. of point-contact spectroscopy 1−34774
metal polycrystalline films, thermoelectric power and temp. coeff. of resist., transport parameters 1−25693
metallic systems, two and three dimensional, elec. cond. *(Russian)* 1−2937
metals, anomalous skin conditions, nonlinear effects, review 1−7652
metals, disordered two-dimensional system, conductivity, Hall effect 1−52545
metals, phonon limited resist., anal. of Debye-Waller factor and multiphonon series contribs. 1−34682
metals, thermoelectromagnetic waves, low-freq. EM wave propagation *(Russian)* 1−42737
microcontacts, containing mag. impurities, elec. cond. *(Russian)* 1−20857
noble metals, elec. resist. and electron-phonon interactions, pseudopot. method *(Russian)* 1−2950
nonsimple metals, electron pairing centre contrib. to normal state resist. and supercond. 1−12227
phonon density of states and electron-phonon interaction 1−11828
pyrite type compounds, $d\gamma^1$ band config., electron correlation and band width, elec. and mag. props. 1−16423
rare earth alloys, RCo_2 (R=Tb, Dy, Ho, Er, Y), transport props. rel. to mag. ordering transition 1−42747
rare earth alloys, transport properties, anomalies in temp. derivative 1−25700
stainless steel, low C, AISI 304L, thermophysical meas. above 1400K, transient technique 1−30413
steel, austenitic stainless, low-temperature ultrasonic treatment, effect on props. 1−48346
steel, eutectoid, deform. during pearlitic transform. under tensile stress 1−21445
steel, stainless, electrical props., resistivity, hysteresis, magnetisation, EM shielding, temp. depend. 1−3220
substitutional alloy, resist. calc. and temp. depend., electron-phonon resist. *(Chinese)* 1−47602
Tb crystal, para-antiferromag. and antiferromag. transition, elec. resist. meas. *(Portuguese)* 1−25940
transition metals, HCP, transport and thermophysical props., 300 to 3000K, carrier mean free path influence 1−2940
Zircaloy-2, phase transform., kinetic aspects 1−53170
Ag, electroresist. recovery after hardening and straining at 4.2K *(Russian)* 1−21600
Ag-Zn, vacancy enhancement of diffusion after quenching and during irrad. 1−7369
Al alloy D16T, dimpled sheets, eddy-current monitoring of mech. parameters 1−31809
Al alloys, binary, annealed, resistivity model 1−30718
Al contact layers, vacuum deposition, resistance, resistivity and thermal ageing coeffs. *(Polish)* 1−21353
Al dilute alloys, elec. resist. calc. using electron-phonon mean free paths 1−20707
Al, electrical resistivity, effect of annealing on temp. depend. 1−34674
Al, electrical resistivity meas. from 4.2K down to supercond. transition temp. 1−42743
Al, pure, elec. resist., effect of high deform. 1−16913
Al, surface scatt., deviation from Mathiessen's rule 1−12088
Al, vacancies characteristics, elec. resist. temp. coeffs. 1−2431
Al-Cu (0.2−3.5 wt.%), vacancies characteristics, elec. resist. temp. coeffs. 1−2431
Al-Cu solid soln. alloy microstructure, segregation, thermal and elec. cond. *(Japanese)* 1−48347

electrical conductivity of crystalline metals and alloys continued
Al-Fe (0.02 wt.%), vacancies characteristics, elec. resist. temp. coeffs. 1−2431
Al-Li(1.7 wt.%), low temp. ageing, elec. resist. meas. *(Japanese)* 1−26508
Al-Zn, growth kinetics of GP zones and α'_R-precipitates, XSAS and resist. meas. 1−26472
Al-Zn-Mg (4.5, 2.5 at.%) η'-phase form., short preageing influence, TEM, XSAS, resist. and hardness meas. 1−21449
Al-Zn-Mg alloy, resist. increase during isothermal ageing rel. to precipitate growth 1−20701
Al-Zn-Mg-Cu, 7075, effect of ageing on props. 1−48402
Au, electrical resist., low temp., electron-phonon contrib. 1−7582
Au, vacancy formation volume, elec. resistance, press. effects 1−20196
Au-Ag/steel sliding couples, running props., fundamental aspects and technological implications 1 solubility concept 1−26636
Au-Co, galvanomagnetic effects in solid solution and precipitate phases 1−7591
Au-Ni, weak ferromagnetism and elec. props. 1−42981
Be, magnetic field influence on the electron-phonon relax. time *(Russian)* 1−42494
Be-Cu anisotropic crystals, impurity elec. resistivity *(Russian)* 1−47603
Bi, anomalous skin conditions, nonlinear effects, review 1−7652
Bi, resistance increase on deformation at low temp. *(Russian)* 1−30795
Cd, HCP, anisotropic resist. under press. 1−25696
Cd hexagonal metals, plastic deformation 1−43410
Ce intermetallics, cubic, mag. susceptibility, elec. resist., cryst. field excitations, neutron spectroscopy 1−47865
CeAg, evidence for Anderson lattice behaviour under press., Curie temp. and resist. meas. 1−38935
CeB_6, electrical cond. and magnetoresistance 1−20703
$CeCu_2Si_2$, mag. susceptibility and kinetic parameters *(Russian)* 1−30927
$Ce_x(La_{0.76}Y_{0.24})_{1-x}As(Sb)(Bi)$, elec. resistivity investigations 1−20706
$Ce(Pd_xAg_{1-x})_3$, mixed valence, cryst. elec. fields and Kondo effect 1−20672
$CeSn_3$, valence fluctuation, mag., elec., and thermal meas., 1.4 to 300K 1−25874
$CeSn_{3-x}In_x$, Kondo effect in presence of cryst. elec. fields, resistivity and thermal expansion 1−25722
Cr, Peltier heating effect on elec. cond. near Neel temp. 1−25708
Cr, thermal hysteresis absence near Neel transition, elec. resist. and Young's modulus meas. 1−12288
Cr-Al, dil., antiferromag., mag. struct. between incommensurate and commensurate phases, elec. resist. and mag. susceptibility meas. 1−12269
Cr-Al antiferromagnetic solutions, negative magnetoresist. 1−25706
Cr-Co, dil., resistivity anomaly, Neel temp., rel to conc., press. 1−38760
Cr-Ge alloys, dil., antiferromagnetism and elec. resist. 1−25697
Cr-Os, order changes in magnetic transform., elec. cond., heat capacity *(Russian)* 1−3177
Cr-Pd, dil., elec. resist. and antiferromagnetism, 77 to 700K 1−7583
Cr-Re system, phase diagram for mag. transitions, elec. resist. study *(Russian)* 1−52782
Cr-transition metal alloys, linear expansion coeffs. and elec. resist., triple points in mag. phase diagrams 1−2665
Cs, harmonic phonons and phonon-limited resist. from first-principle pseudopots. 1−7272
Cu, compressed, in contact with Fe, thermoelectric effect 1−7595
Cu, compressed powder, elec. cond., influence of ageing and elec. field strength 1−43545
Cu, electrical resist., low temp., electron-phonon contrib. 1−7582
Cu, two-dimensionally coupled fine particles, lnT depend. 1−12089
Cu/Sn(Pb) (15 wt.%) powder mixture, resist. meas. during inductive liq. phase sintering *(German)* 1−3657
Cu-Ag-Au, elec. resist. and electron-phonon interactions, pseudopot. method *(Russian)* 1−2950
Cu-Al (6-17 at.%), residual elec. resist., effect of low temp. plastic deform. and subsequent annealing *(Russian)* 1−8442
Cu-Al-Ni, martensitic transform. and ageing effect *(Japanese)* 1−26458
Cu-Fe alloy, dil., resist. and Hall effect, 4.2 to 77.3K spin glass behaviour *(Russian)* 1−30946
Cu-Fe EFTEC 4S alloy for electronic uses, mech. and chem. props. *(Japanese)* 1−26405
Cu-Mn (Fe)(Co), spin glass, Hall effect, elec. cond., mag. susceptibility *(Russian)* 1−47612
Cu-Pd-Ag alloys, age-hardening characts., X-ray diffr., elec. resist. and hardness meas. *(Japanese)* 1−3756
Cu-Ti polycryst. alloys, (1.6 at.%), mechanical and elec. meas. 1−43416
β-Cu-Zn, γ irradiated, order-disorder transform. and elec. resist. *(Russian)* 1−38405
Cu_{55}-Ni_{45} alloy, high temp. elec. resist. behaviour 1−30717
Cu_3Au, influence of atomic order-disorder transitions on thermopower and elec. resist. 1−16278
$Cu_{0.83}Pd_{0.17}$, influence of atomic order-disorder transitions on thermopower and elec. resist. 1−16278
CuSn bronze matrix for supercond. composites, mech. props. and elec. resist., 4.2K 1−8368
$DyAl_2$, electrical resistivity anisotropy in ferromagnetic range 1−30720
Dy_5Ge_3, elec. and mag. props. 1−20704
Er-H solid solutions, mag. transitions, elec. resist. meas., 4.2 to 100K 1−7833
Er_5Ge_3, elec. and mag. props. 1−20704
$Er_xY_{1-x}Cu$, antiferromagnetic ordering, resistivity and sp. ht. 1−25699
Fe, powder, heating 50 to 400°C, elec. cond. and strength changes 1−53218
Fe, sintered, Fe_3P addition effect on mag. props. and struct. 1−52805
Fe, specific heat and temp. coeff. of elec. resist. near Curie point *(Russian)* 1−25945
Fe-Co-W alloys, semihard mag. props. *(Japanese)* 1−26637
Fe-Cr-Ni system, elec. and galvanomag. props., 4.2 to 10K *(Russian)* 1−2942
Fe-Mn-Cr alloys, band struct. near Fermi level, elec. resist., thermo-EMF and mag. susceptibility meas. *(Russian)* 1−30622
Fe-Ni, surface magnetism, chemisorption of gases influence 1−34583
Fe-Ni-Ta-(Co), martensite kinetics 1−3738
Fe-Ni(Si), specific heat and temp. coeff. of elec. resist. near Curie point *(Russian)* 1−25945
Fe-Si-Al, mag. props. in high-freq. region 1−7882
FeCo, elec. resist., order depend. determ. 1−47606
FeCo, high-temp. phase transition, kinetic props. 1−30382
$Fe_{82-x}Ni_xCr_{18}$ ($10 \leq x \leq 36$) system alloys, elec. props. at low temps. *(Russian)* 1−16276
$Fe_{0.5}Ti_{0.5}$, solubility and diffusivity of $H_2(D_2)$ at low conc. 1−20390

electrical conductivity of crystalline metals and alloys continued
Ga electrical conductivity, steady-state, vol. nonlinear effect, 8-20K *(Russian)* 1−20697
Ga, resistivity, thermal cond. and ultrasound vel. in temp. range 300 to 1000K 1−52541
$(Gd,Y)_4Co_3$, magnetic and transport props. 1−25898
Gd, US propag. rate anisotropy, 80 to 700K, rel. to elec. cond. anisotropy *(Russian)* 1−11816
GdCd, magnetically ordered, elec. resistivity and thermal props. 1−30721
GdCd single cryst., ferromag., transport props., critical behaviour 1−25702
$Gd(Co_xNi_{1-x})$ $(0 \leq x \leq 0.3)$, transport and mag. props. 1−25701
Gd_5Ge_3, elec. and mag. props. 1−20704
$Gd_{70}Y_{30}$, double ferromagnetism, susceptibility, elec. resist., and sp. ht. meas. 1−3153
Hf, thermophysical properties rel. to conduction electron mean free path 1−2941
Hg melting line determ. by elec. resistance method, up to 1200 MPa 1−34461
Ho_5Ge_3, elec. and mag. props. 1−20704
In and In-Tl alloy, resistivity, thermal cond. and ultrasound vel. in temp. range 300 to 1000K 1−52541
K, elec. resist. at low temp., phonon drag, meas. 1−47605
K, electrical resistivity, phonon limited, Debye-Waller factor and multi-phonon contribs. 1−34683
K-Cs alloy, phase diagram, crystalline phase investigation 1−39312
K-Rb, elec. resist., inelastic impurity scatt. obs. 1−30719
$(La,Pr)B_6$, dil., cryst. field ground-state splitting effect on resist. 1−25707
$La_{1-x}Pr_xSn_3$, transport props. at low temps., Kondo effect 1−42741
Li alloys, dil., elec. resist. and thermoelectricity 1−38759
MO_xO_y, electrical cond. and magnetoresist. investigation 1−38821
Mg binary alloys, elec. cond., deviations from Matthiessen's rule, heat treatment effects 1−47604
Mg, HCP, anisotropic resist. under press. 1−25696
Mg, recovery stages after neutron irradiation at low temp. 1−52182
Mn, amorphous, possibility of mag. order, elec. and galvanomagnetic props. *(Russian)* 1−30713
Mn hexagonal metals, plastic deformation 1−43410
Mn-Cu, electrical resistivity determ., temp. and pressure depend. 1−12090
Mn-Rh, anomalous behaviour of magnetisation and elec. resist. temp. depend. *(Russian)* 1−52543
Na, electrical resistivity, phonon limited, Debye-Waller factor and multi-phonon contribs. 1−34683
Nb:H foil, H absorpt. and its effect on elec. props. 1−2932
Nb-Sn, superconducting upper crit. field, maximisation, role of disorder 1−47822
Nb_3Ge, Labbe-Barisic-Friedel theory confirmation, transition temp., elec. cond. 1−38880
Ni, compressed powder, elec. cond. 1−47609
Ni, thermal conductivity and Lorentz number, press. effects 1−52542
Ni-Cu (41.4 wt.%), elec. resistivity depend. on SRO 1−47610
Ni-Cu system alloys, irradiated, high-temp. annealing, elec. cond. depend. *(Russian)* 1−35288
Ni-Mn, dil., thermal and elec. cond. in ferro-paramagnetic transition region 1−16442
Ni-Si, electrical resistivity meas., near mag. phase transition, Curie temp., concs. depend. 1−7830
$Ni\text{-}Si(Cr)(Mn)(Ga)$ cast microconductors, elec. props. 1−47608
$NiAl_xFe_{2-x}O_4$, $0 \leq x \leq 1$, props. *(Russian)* 1−52803
NiTi, high-temp. phase transition, kinetic props. 1−30382
Pb, electrical resistivity, supercond., press. and temp. depend., use as resistive press. monitor 1−47607
Pb manometer, resistivity for press. determ., 1 to 300K 1−28005
Pb powders, chemically preconditioned, sintering props., elec. resist. 1−21388
$Pb_{1-x}Ag_xMo_6S_8$, struct., elec. and supercond. props. 1−42884
$Pb_{1-x}Bi_xMo_6S_8$, struct., elec. and supercond. props. 1−42884
$Pb_{1-x}In_xMo_6S_8$, struct., elec. and supercond. props. 1−42884
Pd-Ag/steel sliding couples, running props., fundamental aspects and technological implications 1 solubility concept 1−26636
PdMn, dil., ferromag. phase, AC susceptibility and elec. resist. 1−47866
$Pd_2MnSb(Sn)(In)$, Heusler alloy, electrical resistance meas. 1−2934
$Pd_{1-y}Ni_yD_x$, normal state resist. and supercond., electron-phonon scatt. contrib. 1−30861
$PrAl_2$, electrical resistivity anisotropy in ferromagnetic range 1−30720
PrB_6, low temp. phase transitions and mag. struct. 1−38936
Pr_3Tl, electrical resistivity, induced moment ferromag. near threshold 1−25721
Pt, resistivity, temp. depend., solid state and cyrophysics expts. 1−49905
Pt-Cr, elec. transport props., influence of atomic order-disorder transform. 1−34680
Pt_2Si_3, ion beam induced metastable phase, elec. cond., order-disorder transform. 1−16275
Rb, harmonic phonons and phonon-limited resist. from first-principle pseudopots. 1−7272
Sc-H alloys, elec. resist., 295 to 4.2K 1−30716
Sc-Ti, sp. heat capacity meas. in temp. range 4.2-12K 1−52540
Sm_4Bi_3, mixed valent, phase transition at 2.7K revealed by sp. ht. meas. 1−25432
Sm_4Bi_3, thermoelectric behaviour at high press. 1−38802
Sn, conductivity measurement with trapezoidal AC mag. field 1−50171
Sn, electrical resistivity, supercond., press. and temp. depend., use as resistive press. monitor 1−47607
Sn, polymorphic phase transitions, resistivity, thermal cond. and ultrasound speed 1−16038
$TaS_{2-x}Se_x$(IT), elec. and mag. props. of Anderson localised states 1−47714
Tb_5Ge_3, elec. and mag. props. 1−20704
TbZn, transport properties, anomalies in temp. derivative 1−25700
TbZn(Gd), mag. ordered, elec. resistivity and thermal props. 1−30721
Ti, recovery stages after neutron irradiation at low temp. 1−52182
Ti, thermophysical properties rel. to conduction electron mean free path 1−2941
Ti-Cr(Mn)(Fe), activation cond. in alloys with negative resistance temp. coeffs. *(Russian)* 1−2938
Ti-V (5-10 at.%), omega forming system, high pressure studies 1−38449
Ti-W film, magnetron-sputtered 1−12003
Tl and Tl-Sn alloy, resistivity, thermal cond. and ultrasound vel. in temp. range 300 to 1000K 1−52541
α-TmH(D), electrical resistivity, ordered mag. struct. 1−20700
electrical conductivity of crystalline metals and alloys continued
$TmH_x(D_x)$, solid solution, electron irradiated, low temp. elec. resist. 1−34679
$U(Co_xNi_{1-x})_2$, ferromagnetism onset 1−47887
UMn_2, elec. cond. meas. 1−7585
UPd_3, transport props., lattice consts., susceptibility and sp. ht. 1−25698
V, phonon electrical resist., 15 to 293K *(Russian)* 1−25691
V_3Ge, electrical cond., electron-phonon interactions *(Russian)* 1−12093
$V_3Ge_{1-x}Al_x$, electrical resistance meas., impurity Al effects *(Russian)* 1−12093
$VH_x(D_x)$, phase transforms., resistiometric and DSC study 1−30377
$V_{1-x}Si_x(Pd_x)(Al_x)$, minimum of elec. resist., 5 to 30K *(Russian)* 1−25692
W, electrical resistance meas., surface electron scatt. role *(Russian)* 1−12094
W, lattice and electronic thermal cond. at low temp. 1−12091
Y_4Co_3, magnetic and transport props. 1−12271
Y_4Co_3, magnetism and supercond., AC susceptibility and elec. resist. meas. 1−25897
YNi_3, very weak itinerant ferromagnetism, neutron diffr. expts. 1−25884
Yb_4Bi_3, thermoelectric behaviour at high press. 1−38802
Zn, electron irradiated, defects study by X-ray scatt., lattice parameter and elec. resist. meas. *(German)* 1−7210
Zn, electron scattering by edge and screw dislocations 1−2952
Zn, HCP, anisotropic resist. under press. 1−25696
Zn, hexagonal metals, plastic deformation 1−43410
Zn single cryst., microcontact spectra, effect of dislocations in basal and pyramidal slip systems *(Russian)* 1−30715
Zn-Al (1.1 wt.%) superplastic alloy, elec. resistivity meas. rel. to annealing 1−43419
Zr, recovery of elec. resist. and yield stress after attenuating deform. and annealing *(Russian)* 1−31527
Zr, recovery stages after neutron irradiation at low temp. 1−52182
Zr, thermophysical properties rel. to conduction electron mean free path 1−2941

electrical conductivity of crystalline semiconductors and insulators
see also carrier density; carrier lifetime; carrier mean free path; carrier mobility; carrier relaxation time; dislocation scattering; electronic conduction in crystalline semiconductor thin films; electronic conduction in insulating thin films; high field effects; hopping conduction; impurity scattering; minority carriers; negative resistance effects; photoconductivity; point defect scattering; small polaron conduction; surface scattering
1/f noise current, phonon fluctuation model 1−20835
alkaline earth cerates, prep., technical characts. and elec. props. 1−16748
allotropic phase transitions, resistivity calcs. 1−16037
alumino-silicate coatings on vitroceramic fuel elements, permeability 1−18748
ambipolar semiconductor, thermal drift instability of electron-hole gas 1−42779
anthracene crystals, doped, two carrier mobilities, transient electroluminesc. obs. 1−20728
anthracene isologues, single crysts., SCL currents and injection phenomena, γ-irrad. effects *(French)* 1−25736
biopolymers, conduction mechanism 1−47649
ceramics, RF heating and melting, instability phenomena 1−7649
cobalt phthalocyanine, and derivatives, thermoelectrical props., influence of gases 1−2995
compound semiconductors, electron transport, book 1−32813
current-voltage characts. in presence of trapping centres with distrib. energies *(German)* 1−7170
cyclotriphosphazene crystal, elect. resistivity dielec. const. and loss 1−20724
degenerate semiconductors and semimetals, quais-local levels, role in quantum oscills., electrical cond. and Hall meas. 1−38794
dicalcium barium pripionate, electrical cond., ferroelectric to paraelectric phase transform. 1−25730
dielectrics, transient single-injection currents at fast trapping, numerical anal. 1−52573
doped semiconductor, cond. behaviour near metal-insulator transition 1−12030
durene, single crysts., SCL currents and injection phenomena, γ-irrad. effects *(French)* 1−25736
electron-hole plasma resistivity, Fermi surface anisotropy influence 1−20739
electronic struct. and transport props. 1−47460
graphite:B, polycrystalline, elec. cond. and Hall coeff. 1−34724
graphite, POCO, thermophysical properties meas., room temp. to 2400K 1−20481
graphite intercalation compounds, elec. cond. 1−47643
Hall effect in polycrystalline and powdered semiconductors, review 1−30768
inhomogeneous semiconds., cond. in alternating electric field 1−30750
n-InSb, heavily doped and compensated, electron transport, 4.2-300K 1−34707
mica, electrophysical characts., ionising radiation effect 1−7605
nitrobenzoic acids, semiconductive props., adsorpt. effects 1−12109
octadecane, liq. and solid phases, elec. cond. mechanism, electrolytic purification process 1−7674
n-octadecane, pure crystal, elec. cond. props., defects role 1−7675
organic semiconductors, review, book contrib. 1−47658
PAN, halogen-doped, stabilised, elec. cond. meas. 1−25733
polar semiconductors, nonlinear conductivity, Thornber-Feynman theory 1−47667
trans-polyacetylene, semiconducting, AC cond. 1−16289
polyacetylene film, trifluoromethanesulphonic acid doped, elec. cond. meas. 1−25777
polyamides, hydrophilic, amorphous and crystn., elec. cond., water absorpt. effect *(Japanese)* 1−30746
polyene semicond., compensation effect, electrical cond. 1−25729
polyphenylene: AsF_5, highly conducting cryst., oligomers solid state synthesis 1−11697
pressure effects on elec. props. of semiconductors and semimetals 1−30739
pyrochlores, $R_2Mo_2O_7$, elec. props. 1−20782
quartz based porcelain dosimeter, fast neutron flux-meas. 1−47117
random barrier network, DC cond., theory 1−30738
rare earth borides, RB_{66}, elec. cond., Hall effect, thermoelec. power meas. 1−30751
rare earth cpd., $R_xHF_{1-x}O_2$, MHD generator appl. 1−26842
rare earth cpds., $RScO_3$ (R=La, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Y), prep., elec. resistance and dielec. const. 1−39289

electrical conductivity of crystalline semiconductors and insulators continued
rare earth magnetic semiconductors, review, book contrib. 1−47657
semiconductor, ballistic electron transport in nonparabolic band 1−20717
semiconductor, transit resonance, mag. field influence, inelastic carrier scattering 1−2966
semiconductor physics, new developments, conf., Szeged, Hungary (Jul. 1979) 1−27671
semiconductor variband structure, carrier redistribution on elec. current passage *(Russian)* 1−30757
semiconductor with superlattice, EM wave influence on elec. cond. 1−12120
semiconductors, compensated, nonlinear transient process theory 1−34720
semiconductors, EMF development in inhomogeneous mag. field 1−20735
semiconductors, polaron transport and light absorpt. 1−25650
sodium acetylacetonate, elec. and spectral props., gamma irrad. effects 1−47639
spreading resistance correction factors, continuum formulation 1−20718
TCNQ salt, HMTTF-TCNQF$_4$, phys. props. rel. to those of HMTTF-TCNQ 1−25734
TCNQ salt, NMe 4MePy-(TCNQ)$_2$, elec. props., one-electron semicond. model 1−25732
Teflon, electron irrad. induced cond. 1−7634
ternary $A_3^{I}B_5^{III}C_9^{VI}$ semiconductor compounds, electrical, photoelectric and optical investigations 1−34747
transition metal sulphides, atomic-vol. deviations and occurrence of semicond. props. 1−34703
transition metal trichalcogenides, structure, band props., resistivity and charge density waves 1−42764
wire, semiconductor, ultrafine struct., size-quantized electron scatt. suppression and high-mobility effect 1−47636
$AgAlS_2$, $AgGaS_2$, $AgAl_5S_8$, Ag_9AlS_6 and Ag_9GaS_6, silver ionic and electronic cond. 1−38820
AgI, phase diagram, elec. resistance meas., phase transform 1−12726
$AgNiSe_2(Te_2)$, electrical conductivity, Hall coeff. and thermo-EMF 1−20768
$(Ag_{x/2}Pb_{1-x}Sb_{x/2})Te$, absorpt. edge, Hall effect 1−16580
Ag_3SBr superionic conductor, ionic cond. and thermoelectric power 1−38583
n-$Al_xGa_{1-x}As$ graded-gap crysts., electron redistrib. effect on conductance, Hall e.m.f. obs. 1−16309
n-$Al_xGa_{1-x}As$, Hall coeff., resistivity temp. anomaly 1−42794
$Al_xGa_{1-x}As$:Be LPE layers, doping characts., elec. props. 1−15914
AlN-Y_2O_3, electro-insulating ceramics prep. by sintering 1−21402
Al_2O_3 based porcelain dosimeter, fast neutron flux-meas. 1−47117
Al_2O_3, electrical cond., enthalpy and heat of fusion determ. in temp. range 1570-3100K 1−52315
Al_2O_3, electrical props., influence of impurities and sintering atm. *(German)* 1−35404
Al_2O_3, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
Al_2O_3-Cu, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
β-Al_2O_3-Na_2O, Na^+ tracer diffusion coeff. and spin-lattice relax. meas., H_2O absorpt. processes, thermal anal., cond. 1−7970
BC:Si, Seebeck coeff. and elec. cond. 1−52588
$Ba(NO_3)_2$, struct. change with temp., DC resist. and dielec. const. meas. 1−7323
$BaRh_6O_{12}$, thick-film resistors, with small temp. coeff. of resist. 1−38771
$Ba_{0.55}Sr_{0.50}Nb_2O_6$ solid solns., elec. cond. to 1100°C, electron and ionic components, thermo-EMF 1−38818
$BaTiO_3$, ceramic, cond. depend., cathodoluminescence 1−35103
$Bi_{12}GeO_{20}$:Al(B), dark cond. and photocond., doping effect 1−30782
$Bi_{1-x}Sb_x$, magnetic freezeout study in region of direct and inverted spectra 1−25745
$Bi_{0.5}Sb_{1.5}Te_3$, solid solution, growth in direction of principal crystallographic axis 1−16679
Bi_2Se_3-InTe, solid neutrons, range of existence, elec. cond., thermo-EMF, and thermal cond. meas. 1−30741
Bi_2Te_3-InS, thermoelectric props. of Bi_2Te_3-based solid solutions, phase diagram 1−34730
$(Bi_2Te_3)_{1-x}$-$(La_2Te_3)_x$ solid solns., electrophys., temp. and conc. depend. 1−38775
$Bi_2(Te_{1-x}S_x)_3$ thin cleaved crysts., cond. and carrier conc. obs. in localisation region 1−7618
$Bi_2(Te_{1-x}S_x)_3$ thin cleaved crysts., variable range hopping in localisation region 1−7619
CC CdF_2, electronic cond. and optical props., review *(Polish)* 1−52565
Ca_2GeO_4, shock compression, elec. conductivity meas., phase transition 1−38822
$CdCr_2Se_4$ single crysts. elec. and mag. props., nonstoichiometry effects 1−2967
$Cd_xHg_{1-x}Te$, Hall effect and elec. cond. *(Russian)* 1−2993
$Cd_xHg_{1-x}Te$ nonequilibrium carrier lifetime meas. by photoconduction relaxation 1−47670
$Cd_xHg_{1-x}Te$ semimetallic alloys, transport coeff. calc. by variational method, 14 to 300K 1−20740
CdO:S, defect struct., elec. and diffusion props. 1−30748
Cd_3P_2:Cu, and undoped, influence of press. on elec. props. 1−38772
CdS, excitonic solid, press. quenching, anomalous mag. and elec. behaviour 1−30327
CdS, piezoelectric bound surface acoustoelectric potential *(Russian)* 1−30790
CdSe, electrical cond., large-scale pot. fluctuations effect 1−20742
CdSe:Ag^+, electrical and photoelectric properties 1−20821
CdTe crystal growth from vapour phase 1−39229
n-CdTe, elec. cond. at low temps. 1−52564
CdTe:Cl elec. cond., thermal activation energy and deep level obs. 1−7624
CdTe:P, heat treated under component vapour press., electrical props. 1−39352
$Cd_{1-x}Zn_xS$ thin films for solar cells, dielectric response (0.4 to 250 μm) as a function of struct. and comp. 1−13133
$Ce_4[Fe(CN)_6].4H_2O$, resistivity, temp. variation 1−38774
CeO_2:Y_2O_3, nonstoichiometric, electronic cond. 1−2959
$(CeO_2)_{0.7}(ZrO_2)_{0.2}$:$Ta_2O_5$, electronic cond., temp. depend. *(French)* 1−38773
CoO undoped crysts., elec. props. 1−30747
$CoSiF_6.6H_2O$, dielec. props. near struct. phase transition temp., temp. and freq. depend. 1−31080
$Cr_{1-x}Mn_xSi_2$, temperature dependence of electrical resistivity and thermoelectric power *(Ukrainian)* 1−38800

electrical conductivity of crystalline semiconductors and insulators continued
CrO_3, dielectric constant, dielectric loss, electrical cond. 1−21109
Cr_2O_3, dielectric constant, dielectric loss, electrical cond. 1−21109
CsBr, dissociation due to electron bombardment *(Russian)* 1−4086
CsI-TlI solid soln., point defect and transport parameters 1−20749
Cu quaternary chalcogenides, Cu_2ABX_4 (A=Zn, Mn, Fe, Co; B=Si, Ge, Sn; X=S,Se), elec. mag. and EPR studies 1−34868
Cu-C (graphite), hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
CuCl, electrical resistance at high press., optical microscopy and X-ray diffr. 1−34701
Cu_2O, physico-chemical props. at high temps. 1−42777
$CuPbAsS_3$, anomalies in electrophysical props. 1−20822
$Cu_{2-x}Se$ resistivity, thermoelectric power, thermal field influence 1−7648
$Cu_2Te_{1-x}S_x(Se_x)$, conductivity, Hall coeff., thermoelectric power, rel. to phase transformations 1−38803
Eu-Sn-Se system, interaction over Eu_2Se_3-$SnSe_2$ cross section, elec. cond. of complex phases 1−53161
Eu_xNbO_3, $EuMANb_5O_{15}$ (M=Ba, Eu, Sr; A=Na, K), elec. and mag. props. *(French)* 1−20725
$Eu_{1-x}Nd_xO_{1-x}N_x$, magnetic and elec. props 1−25913
EuO, resistivity decrease due to ferromag. reson, carrier energy relax. time 1−12123
$EuO_{1-\delta}$, nonstoichiometric, IR reflection spectra, charge carrier props. 1−21209
Eu_3S_4, inhomogeneous mixed-valence system, transport and mag. props. model 1−7564
$Eu_{0.5}TaO_3$, $EuMATa_5O_{15}$ (M=Ba, Sr; A=Na, K), elec. and mag. props. *(French)* 1−20725
Fe_{1-y}, semicond. props. at high temps. 1−7620
α-Fe_2O_3, elec. resist. under ultrahigh static press. 1−16322
$Fe_3O_{4-x}F_x$, Anderson localisation of charge carriers in high temp.phase, resist. and thermopower meas. 1−12154
Fe_2P, pressure induced mag. transition 1−30941
FeS_2, marcasite, elec. cond. and band gap 1−25728
GaAs, conductance oscillations in two-dimens. transport in impurity band 1−7631
n-GaAs, cyclotron-resonance-induced cond., carrier mobility and relax. time 1−3263
GaAs, electron transport props. at high elec. field 1−7629
GaAs grain boundaries, band bending and passivation studies 1−34650
n-GaAs, heavily doped and compensated, electron transport, 4.2-300K 1−12112
GaAs, ion-implanted, struct. and elec. profile meas. 1−11779
GaAs surface charging during adsorpt. of various molecules 1−7454
GaAs:Ga, Ge, dual implantation, Hall mobility and elec. resist. 1−38394
GaAs:Ge, As, dual implantation, amphoteric activity, Hall effect and elec. resist. 1−38395
GaAs:Te(Sn)(Cr), fast neutron irrad. effects on props. 1−25331
$Ga_xIn_{1-x}As$ layers, MBE, As_4 stabilization of InP substrates 1−3633
GaN, CVD of layer at low temp., elec. cond. 1−31359
GaP:N crystal, prep., N_2 solubility and resistivity 1−38392
GaP:N donor centres, compensation 1−38743
GaSb:Se,Te, conduction band minima, elec. props., hydrostatic press. effects meas. 1−30631
$GaSe_xTe_{1-x}$:Sn, residual photocond. and current-voltage characts. 1−20811
$Gd_2(MoO_4)_3$, electrical transport, 650 to 1075K 1−25725
Ge, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
Ge, compensated, elec. transient processes 1−38786
Ge, heavily doped and compensated, elec. cond., degree and method of doping effects 1−30749
Ge heavily doped compensated, metal-insulator transition 1−34628
Ge, radiation defect annealing, photoluminescence study 1−20262
Ge, warm carrier cond. freq. depend. 1−2997
Ge:Ag(Li), impurity effects in crystn., elec. and struct. props. 1−34365
Ge:As, electrical resist. and carrier conc., polycrystallinity effect 1−7610
n-Ge:As, heavily doped, compensated, elec. cond. 1−20743
Ge:Cu(Sb), impurity energy level press. depend., elec. props. 1−20661
Ge:Hg, neutral impurity scatt., hole mobility 1−2963
Ge:Sb, heavily doped, resist. and Hall maxima in metallic range, degenerate electron gas model 1−47683
Ge:Sb, impurity cond., elec., thermal, and mag. props. 1−47641
Ge:Sb single crystal growth by Stepanov method, impurity distrib., resist. meas. 1−2359
GeTE-MnTe-PbTe, physicochemical props., in GeTe-based solid solution region 1−16022
GeTe, homogeneity region 1−20411
GeTe:Cu, rhombohedral and cubic, kinetic effects 1−38789
GeTe-Bi_2Te_3-Sb_2Te_3 system, elec. resist. and thermoelec. props. 1−47692
GeTe-MnTe system solid solns., physicochem. investig. and electrophys. props., stoichiometry deviation influence 1−47226
n-$HgCr_{1.9}In_{0.1}Se_4$, elec. cond., magnetoresist., and Hall effect meas. 1−20726
Hg_2SiO_4-Fe_2SiO_4, olivenes, electrical cond. meas. 1−20738
I_2, electrical resistance at high press. and low temp. 1−34700
In_2O_3 transparent conducting films fabrication using vacuum deposition *(Korean)* 1−31355
InP, ion implanted, elec. charact., implant temp. effect 1−7196
n-InP, thermal cond., thermoelectromotive force and elec. cond. meas., electron irradiation effect *(Russian)* 1−38407
InP, thermal oxidation, oxide film props., MOS diode props. 1−7740
InP:C(Si)(Ge)(Sn), elec. characts. 1−12113
InP:Cr, S ion implantation, sheet resistance, carrier density 1−2477
InSb, bulk and surface cond. in intense mag. field at low temp. 1−34717
InSb, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
InSb, EMF development in inhomogeneous mag. field 1−20735
N-InSb, elec. resist. and magnetoresist., anomalous temp. depend. below 100 mK 1−47682
InSb, elec. resist. inhomogeneity depend. on dopant conc. 1−20741
p-InSb, n^+-layer form. by ion bombard. and laser irrad. 1−21312
InSb, narrow-gap, electronic props. of n-channel inversion layers 1−47752
p-InSb, phonon induced intersubband resonance in inversion layer 1−47750
InSb solid and liquid, elec. cond. and Hall effect meas. technique 1−36704
$In_2Se_{2.93}Cl_{0.06}$, mag. and transport props., low temp. elec. cond. transition 1−12153
KCl, dissociation due to electron bombardment *(Russian)* 1−4086

electrical conductivity of crystalline semiconductors and insulators continued
$KNbO_3$ crysts., elec. cond. and dielec. props., impurity effects 1−52904
$KNbO_3$, growth and electrophysical props. 1−34971
K_xWO_3, normal-state transport and supercond. props. 1−52566
$LaCrO_3$, synthesis conditions influence on elec. props. 1−2955
(LaO)AgS layer compound, synthesis and ionic cond. *(French)* 1−38587
La_2S_4-La_2S_3 system, supercond. and normal state props., lattice instability effects 1−38882
$La_{1-x}Sr_xFe_{1-y}Co_yO_3$ series, electrode for O_2 evolution, struct. and elec. cond. 1−31867
$(La_{1-x}Sr_x)MnO_3$ $(0.1 \leq x \leq 0.5)$, water adsorption effect, elec. resist. *(Japanese)* 1−42639
$LaTiO_3$, magnetic and transport props. 1−25870
$La_4Ti_3O_{12}$, 12-layered cpd., prep., elec. and dielec. props. 1−34972
$Li_xFe_{3-x}O_4$, volatilisation of Li during sintering 1−35207
$LiInSe_2$, single cryst. growth and characterisation 1−12647
$Li_{0.464}Na_{0.036}Fe_{2.5}O_4$, volatilisation of Li during sintering 1−35207
$LiNbO_3$, small-polaron semicond., expt. Hall effect data 1−34726
$Li_{x/8}Si_{6-3x/4}Al_{5x/8}O_xN_{8-x}$, $x<5$, elect. characts. 1−38776
MO_xO_y, electrical cond. and magnetoresist. investigation 1−38821
$MgAl_{0.2}Cr_xFe_{1.8-x}O_4$ $(0 \leq x \leq 0.6)$, Cr effect on mag. and elec. props. 1−7190
MgO, atomic C, elec. cond. study 1−20733
MgO, hot pressed, elec. conductivity, depend. on porosity 1−12111
MgO, hot pressed, heat treatment effect on elec. cond. 1−53306
MgO single crysts., electronic conductivity 1−38777
MgO:Fe(Cr)(Ni)(Li), single cryst., elec. cond. at elevated temps. 1−42778
MgO:Li, oxidised at high temp., current-voltage characts. 1−2960
$MgSiO_3$-$FeSiO_3$ pyroxenes, elec. conductivity under thermodynamically controlled conditions 1−44177
Mg_2SiO_4, shock compression, elec. conductivity meas. 1−38822
Mg_2SiO_4-Fe_2SiO_4 olivines, elec. conductivity under thermodynamically controlled conditions 1−44177
$Mn_{1-x}S$:Cr(Ti)(V), elect. cond. isothermal var. *(French)* 1−7607
MnZn ferrite, In doped, DC resist. meas. 1−34710
$Mo_{1-x}W_xSe_2$ solid solutions, electrical and thermoelectrical props., temp. depend. 1−42802
NH_4Br, elec. cond., vacancy migration 1−7606
NH_4Cl, surface, point defect form., NH_3 and H_2O atms. effects, rel. to cond. 1−2439
NaCl, dissociation due to electron bombardment *(Russian)* 1−4086
NaCl, metallic modification, superconductivity at high press. 1−34823
$Na_5GdSi_4O_{12}$, dense, highly conductive nasicon, prep. and charact. 1−31394
$NaNbO_3$, elec. props. meas., high press. effects, small polaron hopping theory 1−16288
$NaNbO_3$, growth and electrophysical props. 1−34971
Na_2O-Al_2O_3-TiO_2, conductivity of reduced solid solutions 1−20732
$Na_xTa_yW_{1-y}O_3$ bronzes, elec. cond. and thermoelec. power, metal-nonmetal transition 1−12156
$Na_{0.33}V_2O_5$, thermoelectric power 1−38804
NbN(C) single cryst. growth, RF floating zone process, elec. and struct. props. 1−31342
$NbSe_3$, structure, band props., resistivity and charge density waves 1−42764
$NdCrO_3$, elec. cond. and Sebeck coeff. meas. 1−2994
$(Nd_xGd_{1-x})_{3-y}S_4$, electrical resistivity, mag. ordering effects 1−25747
Ni ferrites, elec. cond. meas. 1−20736
$Ni_{1-y}Co_yS_2$, electronic struct. and transport props. 1−47460
NiO-Cr_2O_3 solid solns., reequilibrium kinetics 1−3956
PbI_2, band gap determination, elec. cond. temp. depend. 1−7519
PbI_2 polytypic crystals, electrical transport charact. 1−25731
$PbMoO_4$ crystals, p-conductivity and lattice disorder 1−20731
$Pb(NO_3)_2$, struct. change with temp., DC resist. and dielec. const. meas. 1−7323
PbO, props. for electrophotography 1−18321
$Pb_xRh_yO_{15}$, thick-film resistors, with small temp. coeff. of resist. 1−38771
$PbSnF_4$, influence of press. on elec. props. *(French)* 1−2965
$Pb_{0.82}Sn_{0.18}Te$, anisotropic current carrier scatt. *(Russian)* 1−7621
$Pb_{1-x}Sn_xTe$:In $(0 \leq 0.2)$, LPE layers, electron conc. control by In doping 1−25309
n-PbTe film, anomalous increase in thermoelectric power, Hall effect 1−20888
PbTe, sintering effect on elec. props. 1−16746
PbTe:Ag_2Te, p-type pressed material, thermoelectric properties 1−42801
PbTe-In_2Te_3 system, phase comp., homogeneity region, electrophys. props. 1−42512
PbTe;In, slow relaxation of elec. resistance 1−20746
$Pt(NH_3)_{10}Cl_{10}(HSO_4)_4$ partially oxidised salt, elec. and thermal props. 1−42831
PuO_2, near-stoichiometric, elec. cond. anomaly, 950-1100°C 1−20727
β-Sb_2O_4, single cryst. prep., dielec. characts. and cond., ferroelec. and struct. transition absence 1−53063
Sb_2Te_3, single crystal, growth in direction of principal crystallographic axis 1−16679
Sb_2Te_3-Ga_2Te_3 system solid solns., thermal cond. and electrophys. props., 300-800K, complex valence band obs. 1−47308
Sc_2O_3, electrical cond., enthalpy and heat of fusion determ. in temp. range 1570-3100K 1−52315
Si BSF solar cells, series resistance and maximum power, expt. determ. 1−8718
Si, Czochralski crystals, annealed at 800°C, oxygen-related donors, spectral study 1−26255
Si, electrical resistance up to 500 kbar and down to 2.7K 1−30737
Si, electron-phonon interaction, photolumin. and transport phenomena 1−42493
Si, graded electron conc. non-linear elec. effect 1−34718
Si, ion implanted, scanning-electron and pulsed-laser annealed, struct. and elec. props. 1−42401
Si, ion projective ranges, resistance method 1−38416
Si ion-implanted, high dose rate, nonuniformity of sheet resist. following thermal anneal 1−52166
Si ion-implanted, profile of radiation disturbed layers by spreading current probe 1−52164
Si, low-frequency grain-boundary capacitance 1−30736
Si, quality characterisation techniques *(German)* 1−34708
Si, rapid-quenched polycrystalline ribbon for solar cell appls. 1−4181
Si, resistivity changes at grain boundaries 1−47647
Si, resistivity meas., influence of O_2 1−2979

electrical conductivity of crystalline semiconductors and insulators continued
Si, resistivity variation detection using liquid rectifying contacts, laser scanning technique 1−12138
Si, ribbons produced by Stepanov method, struct. and electrophysical props. 1−30113
n-Si, thin plate, elec. transport, calc. 1−47644
Si:As,Ar, ion implanted, interf. in diffusion, backscatt., elec. meas., and TEM obs. 1−2484
Si:B, impurity conc. meas. by SIMS 1−47109
Si:B, ion implanted, Hall effect and resist. meas. 1−2990
Si:B, ion implanted, sheet resist. calc. as function of surface ion dose *(German)* 1−2968
Si:B, resistivity/dopant-density relationship 1−20769
Si:B(P)(As), ion implanted, laser annealing effects on elec. props. 1−2485
n-Si:Cu(Ag)(Au), impurity states, solid solution precipitation, γ-irrad. effects 1−42718
Si:Li, polycryst., electrolytic doping, effect on elec. props. 1−47099
Si:Mn solid solution precipitation elec. props. 1−20405
Si:Mo, solar cells and crysts., impact of Mo, DLTS meas. 1−13130
Si:Na, neutron activation determ. of Na content 1−21809
Si:P, impurity cond., elec., thermal, and mag. props. 1−47641
Si:P, ion implanted Hall effect, electrical cond. 1−2487
Si:P, localised electron non-ohmic conductivity, Raman and IR spectra 1−2975
Si:P, polarisation catastrophe, elec. cond. study 1−25769
Si:P, resist. distrib. after light ion bombardment, annealing effects 1−7613
Si:P, resistance profile after irrad. by light ion beam 1−7612
Si:P, variable range hopping, surface conduction, very low temps. 1−34711
Si:P ion implanted, laser annealed, furnace annealing behaviour 1−2480
Si:P resistivity rel. to dopant density obs. 1−12107
Si-on-sapphire, time-resolved cond. and refl. during laser annealing 1−52563
SiC ion implantation doped p-n junctions, struct. and props. 1−30813
SiC(6H), electron mobility impurity conc. *(Russian)* 1−47687
Si_2FeO_3F, prep., struct., and props., Mossbauer resonance spectra *(French)* 1−52112
Si_3N_4-CVD. DC-elec. cond. *(Japanese)* 1−25735
$Sm_xCe_{1-x}B_6$ solid solns., mag. and elec. props., temp. and comp. depend., carrier types 1−47841
SmO, elec. cond., thermoelectric power, mag. susceptibility 1−34731
SmS, semiconducting, electronic transport props., hydrostatic press. effect 1−12130
Sm_3S_4, inhomogeneous mixed-valence system, transport and mag. props. model 1−7564
p-$(SnTe)_{0.1}(PbSe)_{0.9}$ epitaxial layers, elec. props., band struct. *(Russian)* 1−38782
$Sr(NO_3)_2$, struct. change with temp., DC resist. and dielec. const. meas. 1−7323
$SrTiO_3$, ceramic, cond. depend. cathodoluminescence 1−35103
1T-TaS_2, Hall effect, magnetoresistance, thermoelectric power 1−47685
TaS_3, non-ohmic electrical cond. in low-temp. semicond. regime 1−12119
$TaS_{2-x}Se_x$(1T), elec. and mag. props. of Anderson localised states 1−47714
$Tb_2(MoO_4)_3$, electrical transport, 650 to 1075K 1−25725
Te clusters in NiNaX zeolite, current instability threshold 1−2978
TiC-C, 300 to 2000K C phase content up to 40 vol.% 1−16282
TiO, non-stoichiometric ceramics, physical props. *(Japanese)* 1−20415
TiO_2, ceramic, cond. depend. cathodoluminescence 1−35103
TiO_2, ion implantation effects, optical, elec. cond., and Rutherford backscatt. meas. 1−7217
Ti_4O_7, $(Ti_{1-x}V_x)_4O_7$, order-disorder transition of Ti^{3+}-Ti^{3+} pairs, elec. resist., sp. ht., mag. susceptibility, and struct. studies 1−11715
TiS_3, one-dimens. semicond., resist. meas., temp. depend., Peierls transition 1−7677
$Tl_2Cr_2O_7$, synthesis at high press. in oxidation atmosphere 1−35227
$TlInX_2$-$TlRX_2$ (X=Se,Te), R=(Nd,Pr) systems, electrophys. and X-ray investigs., comp. depend. 1−52482
$Tl_2Mn_2O_7$, synthesis at high press. in oxidation atmosphere 1−35227
$Tm_{1-x}Eu_xSe$, valence mixing, mag., elec., and optical props. 1−42726
$TmSe_{1-x}Te_x$, valence mixing, mag., elec., and mech. props. 1−42726
U_3As_4, cubic, ferromag. anisotropy and elec. resistivity 1−47690
UAsS, positron annihilation study of electronic struct. 1−8155
UN, neutron irradiation effect on mag. ordering 1−47884
UO_2, determ. of elect. cond. change when heated through melt 1−10482
UO_2, elec. resist. of solid, 1000 to 3100K 1−42774
UO_2 fuel, temp. profiles under direct electric heating conditions 1−42590
U_3P_4, cubic, ferromag. anisotropy and elec. resistivity 1−47690
US single cryst., elec. conductivity and Hall effect 1−47689
$USb_2(P_2)$, positron annihilation study of electronic struct. 1−8155
$V_xCr_{1-x}S_4$, electrical and magnetic properties 1−52755
VO_2:Ti,Al,Cr, crysts., elec. threshold switching mechanism, expt. 1−20829
V_2O_5:W^{6+}, monophasic, elec. props. 1−7608
VP_4, high press. synthesis 1−35204
V_5Te_8, mag. susceptibility, elec. resist., Neel temp., meas. 1−20963
WO_{3-x}, crystalline, conduction bipolarons, EPR obs. 1−34636
WS_2 crystals, p-type semicond. behaviour, resist., thermoelec. ahd Hall effect meas. 1−34706
$Y_2Cr_2O_7$, synthesis at high press. in oxidation atmosphere 1−35227
$Y_{1-x}M_xCrO_3$, (M=Ca, Mg) and $YCr_{1-x}Mg_xO_3$, prep., elec. and thermal props. 1−16745
$Y_2Mn_2O_7$ pyrochlores, elec. props. 1−20782
$Y_2Mn_2O_7$, synthesis at high press. in oxidation atmosphere 1−35227
Yb_2O_3, ionic transport number, O partial press. function *(French)* 1−7372
$ZnGeF_6.6H_2O$, ferroelastic transition, permittivity US wave, elec. cond. and IR absorpt. meas. 1−30297
$ZnGeP_2$, cond. type inversion under heat treatment 1−20748
ZnO, polycrystalline powder, nonlinear percolation cond. 1−52575
ZnO-Bi_2O_3 ceramic, sintering and varistor characts. 1−3675
ZnS:In, low resist. n-type layers obtained by ion implantation 1−47106
ZnS:Mn, Cu, Cl thin films, elec. props., electroluminesc., switching 1−39159
ZnS:P, ion implanted, p-type cond. 1−47105
ZnSe, cryst. growth from soln., using In-Zn solvents 1−3593
ZnSe, elec. cond. under plastic deform., dislocation motion effects 1−52567
ZnSe, elec. props. meas. 1−20750
ZnSe-Si(-GaAs) p-n heterojunction solar cells, photoelect. props. 1−8717
$ZnSiP_2$(:Ga) crystals grown from non-stoichiometric melt, elec. and optical props., orient. depend. 1−34705

electrical conductivity of crystalline semiconductors and insulators continued
n-ZnTe, diffusion of Al, cond. and lum. characts. of junction, impurity levels *(Japanese)* 1−20470
ZrC-C, 300 to 2000K, C phase content up to 40 vol.% 1−16282
ZrO_2-Y_2O_3 (11.83 wt.%), electron conductivity and phys. props. 1−7604

electrical conductivity of electrolytic liquids
see also electrochemical analysis; electrolytic ion mobility; Wien effect
2.4 MHz US effect on cond. of metal nitrate and sulphate aq. electrolytes 1−38569
alkali halide, molten, elec. cond. at high press., press. effects separation using PVT data 1−38570
alkali halide electrolytes, nonaq. solns., thermodynamic props., vapour press. osmometry obs. *(Japanese)* 1−7356
aqueous electrolyte solns., density, viscosity and electrolytic cond. *(Japanese)* 1−52212
bolaform electrolytes, nonaq. solns., thermodynamic props., vapour press. osmometry obs. *(Japanese)* 1−7356
critical mixture, conducting binary, elec. field effect 1−16019
dielectric liquid in cylindrical annulus subject to unipolar charge injection, linear instability 1−42102
electrolytic conductivity data analysis using a programmable calculator 1−20435
ethanol-iodine in soln., charge transfer complexes, transference number 1−47270
hall effect in electrolytic solutions of variable concentrations *(French)* 1−25474
ion exchange resin, suspension in water, relative permittivity, elec. cond., high freq. dielec. relax. 1−43712
isobutyric acid-H_2O mixture near its critical point, DC electrical cond. fluctuations meas. 1−16077
methanol-iodine in soln., charge transfer complexes, transference number 1−47270
molten salts single and multi-component systems, elec. cond., density, viscosity and surface tension data 1−50104
octadecane, liq. and solid phases, elec. cond. mechanism, electrolytic purification process 1−7674
organic strong acids, electrochem. props. rel. to use as fuel cell electrolytes 1−35541
seawater, elec. cond. measurement probe 1−54276
seawater, standard batch comparisons 1−54093
tetraalkylammonium salt electrolytes, nonaq. solns., thermodynamic props., vapour press. osmometry obs. *(Japanese)* 1−7356
water, trace O_2 determ. using Tl method *(German)* 1−8637
$AlBr_3$-KBr melt, specific and molar elec. cond., Br dissolution effects 1−52325
$BaO-SiO_2-Al_2O_3$ melt, elec. cond., 1350 to 1550°C *(Japanese)* 1−47267
$Ca(NO_3)_2.4.05H_2O$-$Ni(NO_3)_2.5.75H_2O$, molten, soln. props., cond., viscosity, density, refr. index, and surface tension meas. 1−20438
$Cd(NO_3)_2.4.12H_2O$-$Ni(NO_3)_2.5.71H_2O$, molten, soln. props., cond., viscosity, density, refr. index, and surface tension meas. 1−20438
Cu/copper formate/Cu aqueous thermogalvanic cells application for low grade heat conversion to electricity 1−53636
H_2O, shocked, elec. conductivity 1−38572
KNO_3, molten salts, density, surface tension, viscosity and elec. conduct., reference standards 1−50103
NaCl, molten salts, density, surface tension, viscosity and elec. conduct., reference standards 1−50103
$NaNO_3$ in 1-propanol-H_2O system, ion assoc. conductance 1−30432
$Na_2O-SiO_2-Al_2O_3$ melt, elec. cond., 1350 to 1550°C *(Japanese)* 1−47267
$ZnCl_2$-LiCl liquid mixtures, electrical cond. determ. between 320 and 450°C 1−20434
$Zn(NO_3)_2.xH_2O$, molten, soln. props., temp. depend. 1−20510

electrical conductivity of gases
see also space-charge-limited conduction
air in nuclear burst, electrical conductivity 1−34036
excited gas-metallic state transition 1−34037
CO polar gas *(German)* 1−51902
CO+Xe(Kr)(Ar), electron cond., drift velocity, cross sections, Boltzmann eqn. calcs. 1−38046
H_2O vapour, electric charge transport mechanism *(German)* 1−51902
Hg vapour, meas. at high temp. and pressure, ceramic component 1−50163
Hg vapour, nearly saturated, pre-breakdown elec. conductivity 1−15579
N_2+Ar, electron cond., drift velocity, cross sections, Boltzmann eqn. calcs. 1−38046
NH_3 polar gas, electric charge transport mechanism *(German)* 1−51902
NH_3, shocked, elec. conductivity 1−38572
NO polar gas, electric charge transport mechanism *(German)* 1−51902

electrical conductivity of liquids
see also electrical conductivity of electrolytic liquids
alkali metal-Au alloy, density of states and cond. calc., metal-nonmetal transition 1−25689
alloy, liq. binary, density of states theory inc. local atomic configs. 1−25605
binary alloys, liq., struct. and elec. resist., pseudopot. calc. 1−25142
2,2-diphenyl-1-picrylhydrazyl-I_2, complex, chemical stability, vapour pressure data, elec. cond. 1−21759
EBBA (A), temp. dependences of elec. cond. 1−2325
liquid crystals characts., expt. techniques *(Rumanian)* 1−34219
MBBA, temp. dependences of elec. cond. 1−2325
metal, conf., Grenoble, France (July 80) 1−22943
metal, liquid, cooperative ionic motion 1−25475
metallic systems, disordered, coeff. of elec. cond. 1−7581
metals, Hall effect, skew scatt. contrib., theory 1−30694
metals, liq., transport props., calc. 1−30695
metals, liquid, conductivity, Ward identity and effective medium approx. 1−7580
metals, liquid and amorphous, electronic structure, review 1−25619
metals, non-simple, transport props., theories 1−30693
metals, non-transition, transport coeff. calc. from effective interatomic pot. 1−30692
naphthalene-I_2, complex, chem. stability, solidus-liquidus curve, elec. cond. 1−21759
NLC film, electrical cond., diffusion and mobility of charge carriers *(Russian)* 1−30434
noble metals, elec. resist. and electron-phonon interactions, pseudopot. method *(Russian)* 1−2950
pitch mesophase, nonlinear elec. resistivity 1−52574
seawater, elec. cond. measurement probe 1−54276
seawater, standard batch comparisons 1−54093

electrical conductivity of liquids continued
transition metals, HCP, transport and thermophysical props., 300 to 3000K, carrier mean free path influence 1−2940
transition metals, transport props., effective medium approx. 1−30704
Ag, liq., dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
Al, liq., elec. resist. and thermoelec. power calc. 1−42488
Al_2O_3, electrical cond., enthalpy and heat of fusion determ. in temp. range 1570-3100K 1−52315
Au, dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
Bi, elec. resist. anomaly at high press. and temp., melting curve form 1−20721
Bi-$BiBr_3$ mixture, molten, press. effect on elec. cond. and US vel. near miscibility gap, metal-nonmetal transition 1−25772
Cs fluid, thermodynamic and elec. props., metal-nonmetal transition region 1−25774
Cu, dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
Cu-Sn (22.5 at.%), liq., elec. resist. and thermopower, pseudopot. determ. 1−30711
Fe, elec. resist. and temp. derivative 1−30703
Fe-V melt, composition effect on elec. resistance *(Russian)* 1−30712
Ga, liq., struct. and elec. resist., 303-573K 1−30031
Ga liquid struct., temp. depend. 1−38257
Ga, resistivity between 303K and 573K, struct. factor meas. 1−30039
Ge-Sb, elec. resist. and thermoelec. power 1−30706
H_2O, surface EM waves, attenuation and depth 1−34735
Hg and dilute amalgams, elec. and thermodynamic props. behaviour at high press. and temp., metal-nonmetal transition 1−25773
Hg, expanded, metal-nonmetal-dense plasma transition at high.temp. and press., thermopower obs. 1−25776
Hg, meas. at high temp. and pressure, ceramic component 1−50163
Hg melting line determ. by elec. resistance method, up to 1200 MPa 1−34461
Hg-In amalgams, thermodynamic and electron transport props. in metal-nonmetal transition range 1−25770
In-rare earth, dil., residual resist. of rare earth solutes and mag. susceptibility meas. 1−30707
InSb solid and liquid, elec. cond. and Hall effect meas. technique 1−36704
K, liq., electron-electron scatt. and transport props. 1−47600
K, Lorenz function, thermal cond., elec. resist., and thermoelec. power meas. 1−30710
Li-Cd(In)(Sn)(Pb), ^{7}Li Knight shift and elec. resist. meas. 1−31047
Li-NH_3 solution, electronic transport mechanism 1−25727
Li-Na, liq., thermoelec. power over entire conc. range 1−38764
Li-Pb, electronic transport, self-consistent pseudopot. theory 1−30709
Li-Pb(Sn), liq., ^{7}Li Knight shift, elec. cond. and spin-lattice relax. time 1−7962
$Li_{22}Si_5(Ge_5)$ solutions in liq. Li, elec. resist., solubility, and chemistry 1−30708
Mg-Zn, elec. resist. study 1−30705
Na_2O-GeO_2 melts, physical props. *(Japanese)* 1−25353
Pb-Sb, elec. resist. and thermoelec. power 1−30706
$PbO-B_2O_3-Fe_2O_3$ solution for garnet LPE growth, ionic equilibria, elec. cond. meas. 1−7064
PbS(Se)(Te), liq., elec., thermal, mag. and physio-chem. props. 1−20722
Pt, elec. resist. and temp. derivative 1−30703
Rb, thermodynamic and elec. props., metal-nonmetal transition region 1−25774
Sb, resist. and thermoelec. power 1−20696
Sc_2O_3, electrical cond., enthalpy and heat of fusion determ. in temp. range 1570-3100K 1−52315
Se, cond. in semicond.-metal transition region at high temp. and press. 1−25775
Sn-rare earth, dil., residual resist. of rare earth solutes and mag. susceptibility meas. 1−30707
Te alloys, dil. liq., electronic behaviour, elec. cond. and mag. susceptibility meas. 1−20695
Te-Se mixture, press. induced semicond.-metal transition obs. 1−25771
$TeSe_{20}$, supercooled liq., crystn. kinetics, DTA and DC cond. obs. 1−2331
UO_2, determ. of elect. cond. change when heated through melt 1−10482

electrical conductivity of one-dimensional systems *see one-dimensional conductivity*

electrical conductivity of plasmas *see plasma transport processes*

electrical conductivity of solids
see also electrical conductivity of amorphous metals and alloys; electrical conductivity of amorphous semiconductors and insulators; electrical conductivity of crystalline metals and alloys; electrical conductivity of crystalline semiconductors and insulators; electronic conduction in crystalline semiconductor thin films; electronic conduction in insulating thin films; electronic conduction in metallic thin films; ionic conduction in solids; recovery; superconductivity
Anderson localisation problem in $d \leq 2$ dimensions, diagrammatic self-consistent treatment 1−25664
Boltzmann electron gas, AC cond., disordered solid model 1−2930
Co complex, cis-$(Co(en)_2(Im)Cl)Cl_2$ where Im=imidazole or substituted imidazole, ^{1}H and ^{13}C NMR and IR spectra 1−52852
composite, effect of anisotropy on percolative cond., expt. model 1−12084
composites, resist., dielec. gaps effect on conductance 1−38824
conducting wire, electrothermal instability, homogeneous and inhomogeneous stationary states 1−42733
conducting/insulating grain mixture, percolation behaviour, dimensionality effects 1−12160
deformable lattice, transport theory of one-dimens. diffusion 1−36588
disordered electron system, two-particle spectral function and AC cond. 1−20693
disordered solids, dynamical props., digital computer simulation, book contrib. 1−38488
disordered systems, low freq. cond. in range of validity of Mott law 1−25686
electron gas, disordered, noninteracting, two-dimensional, conductivity, power law localisation 1−52506
exponent theory of the Hall effect and conductivity anisotropy near the percolation threshold 1−2931
glass science, conf., Los Angeles, CA, USA (July 1980) 1−27653
glass spheres, transport props., percolation effect *(French)* 1−34672
graphite, intercalation by NO_2^+ ion attack 1−39620

electrical conductivity of solids continued
graphite compounds, fluorine containing, thermal stability and elec. conductivity 1−8547
graphite intercalation compounds with KHg and RbHg, struct. and electronic props. 1−38769
graphite intercalation compounds with $NO_2BF_4(PF_6)(SbF_6)$, elec. resistivity and X-ray spacings 1−38768
graphite intercalation cpds., $K_xNa_{1-x}Cy$ ($0.45<x<1$), synthesis and resistivity 1−8248
graphite-Ne intercalation cpd., conductivity reduction, tight binding calc. 1−47628
graphite/epoxy laminates, elec. cond. and EM shielding characts. 1−20841
heterogeneous system, filled, thermal and electrical cond. determ. 1−12159
inhomogeneous medium in mag. field, cond. calc. using R-function method, boundary-value problem 1−25687
intermediate valence compounds, electrical resistivity due to electron-phonon scatt. 1−25683
layer, elec. cond., electron-phonon coupling tight-binding calc. 1−2948
magnetic systems, electrical resistivity, crit. behaviour 1−12086
manganin wire, resist. meas. up to 60 kbar, using cubic-anvil type press. apparatus 1−44948
metal, disordered, quantum diffusion and divergent fluctuations 1−47599
metallic oxide films, prep. using superhigh-freq. plasma, elec. cond. control *(Russian)* 1−43273
phthalocyanine, metal-free, transition metal impurities effect, trap density, elec. and photocond. props. 1−7656
polycrystalline thin films, longitudinal magnetoresistance, analytical expressions 1−16384
polymer, C black filled, elec. cond. calc. using three-dimens. struct. model 1−20716
polyvinylidene fluoride, X-ray induced currents, TSC, discharge currents, space charge 1−43062
pyrographite-Li, synthesis, conductivity, struct. and chem. composition 1−47627
random elastic scatterer cond., localisation scaling theory 1−20692
rare earth hydrides, mag. and elec. props. 1−25894
residual resistance, quantum scattering and free energy 1−12083
resin filled with conducting metal particles, thermal and electrical cond. determ. 1−12159
semiconductor physics, conference, Kyoto, Japan (Sept. 1980) 1−44693
semiconductors, nonlinear electron transport, conference, Urbino, Italy (July 79) 1−13926
semiconductors, quantum transport theory 1−16284
semiconductors, semiclassical Boltzmann transport theory 1−16283
semiconductors, transport phenomena, time-of-flight technique 1−16295
solar cell semiconductor materials, elec. and optical characterisation 1−35661
solid-state reaction kinetics investig. by elec. cond. method 1−35525
square random resistor lattice, percolative cond., renormalisation-group approach 1−50076
strongly disordered two-dimens., systems, elec. cond. size depend., Anderson model calc. 1−42736
thick film dielectric composite, AC conduction 1−52557
two dimensional systems with macroscopic inhomogeneities, elec. cond. *(Russian)* 1−12087
two-dimensional macroscopically anisotropic systems, percolation 1−25682
wires, thin, elec. props. meas., randomness and localisation effects 1−47577
Ag powder, ultrafine, sintering, necking stage 1−48298
$Ag/CaF_2/Al$ thin film struct., AC conduction 1−47758
Al powder, ultrafine, sintering, necking stage 1−48298
$Al/CaF_2/Al$ thin film struct., AC conduction 1−47758
$Al\text{-}SiO/B_2O_3\text{-}Au$ thin film struct., AC measurements *(French)* 1−52662
Au powder, ultrafine, sintering, necking stage 1−48298
C film, prep. by laser evap., elec. and opt. characteris. *(Japanese)* 1−31364
$C_7(HSO_3F)_x(SbF_5)_{1-x}$, formation and elec. resistivity 1−39621
C_3N graphite intercalation cpd., residual N effect on electronic props. 1−47629
Co_3O_4 decomposition press. determ. from elec. conductivity meas. 1−43656
Cu powder, ultrafine, sintering, necking stage 1−48298
I, electrical resistance up to 500 kbar and down to 2.7K 1−30737
NH_4NO_3, pyroelectric and dielec. behaviour at II-I phase transition 1−52899
$NbSe_3$, Frohlich conductor, freq. pulling and heterodyning obs. in voltage spectrum 1−42837
$NbSe_3$, nonlinear cond. and noise due to CDW depinning 1−47720
Pb-Ge system, critical currents and pinning forces 1−52735
S, electrical resistance up to 500 kbar and down to 2.7K 1−30737
Sb, purity criterion, electrical resistance, temp. depend. 1−16274
Se, electrical resistance up to 500 kbar and down to 2.7K 1−30737
$TaSe_2(2H)$, obs. of 112K CDW transition, elec. resist. meas. 1−2894
Te, electrical resistance up to 500 kbar and down to 2.7K 1−30737
V-SiO, cermet thin film, elec. props. *(French)* 1−52664
ZnO-Sn composite, power-law currents and role of traps 1−30753
$ZnSe+G_2Se_3$ solid-state reaction, elec. cond. method obs. of kinetics 1−35525
ZrC-C system, CVD prepared, elec. resist., and temp. depend. 1−47759

electrical conductivity transitions
see also metal-insulator transition
alkalimetal-graphite intercalation compounds, electrical resist. and X-ray charact. 1−34755
amoprhous semiconductor threshold switching, interpretation based on decay-time data 1−7678
amorphous thin films, electric switching and memory phenomenon, transition mechanism 1−7672
Anderson localisation and non-Ohmic effects, scaling argument for conductance 1−47574
anthracene thin film preparation, switching phenomenon, metal-insulator transition 1−7671
bis(dimethyltetrathiofulvalene)tetrafluoroborate, one-dimens. cond., dielec. props., meas. 1−52886
bis(tetramethyltetrathiofulvalene)tetrafluoroborate, one-dimens. cond., dielec. props., meas. 1−52886
current filamentary specimens, LF fluctuations, charact. freq. of oscillations in dimens., thermal switching 1−16323
polyacetylene, doped, semiconducting props. 1−52167

electrical conductivity transitions continued
polyacetylene film, trifluoromethanesulphonic acid doped, elec. cond. meas. 1−25777
polyacetylene semiconductor props. demonstration 1−42771
polymeric films, shock induced electrical switching 1−34757
semiconductors, amorphous, pressure-induced conductivity transitions 1−34756
TCNQ salt, TMTSF-DMTCNQ, band-to-hopping cond. transition 1−42835
Ag-thermosetting polyester composites, DC elec. cond. 1−30791
Ag_3SBr superionic conductor, ionic cond. and thermoelectric power 1−38583
$\alpha\text{-}AgSbS_2$, phase transition induced by external elec. field 1−47230
Al_2O_3 MIM struct., RF sputtered, voltage-controlled negative resist. and switching characts. 1−3076
Al_xTe_{1-x}, glass, switching effect in strong electric field 1−3028
Ar-La solid mixture, metal-nonmetal transition 1−38723
As-Te-Si glassy films, switching delay time influence 1−7679
As_2S_3:Ag, amorphous film, high speed memory, reliability, expt. 1−20831
As_2Se_3, glassy, metal-nonmetal transition obs. on addition of 3d elements 1−47715
$As_{20}Se_{20}Te_{20}$, switching and memory effects 1−12158
BP, high press. induced elec. resist. transition obs. 1−42834
Bi, resistance increase on deformation at low temp. *(Russian)* 1−30795
$Bi_{1-x}Sb_x$, dielec. props. at semicond.-semimetal transition 1−26112
Br_2, tetragonal and A1-type cryst. modifications prod. by vapour quenching, semicond. and metallic behaviour 1−43263
$C_{24}Rb$, graphite intercalation compound, phase transitions 1−38534
CaF, undoped and YF_3 doped, transition to superionic state, impurity effect 1−38819
Ca_2GeO_4, shock compression, elec. conductivity meas., phase transition 1−38822
$Cd_{1-x}Mn_xSe$, EPR and photoconductivity spectra, spin depend. cond. electron scatt. 1−7667
CdS, excitonic solid, press.-quenching, anomalous mag. and elec. behaviour 1−30327
CsC_{24} intercalation cpd., mag. susceptibility transitions 1−38904
Eu_3S_4, inhomogeneous mixed-valence system, transport and mag. props. model 1−7564
Fe-Ni-S solid soln. as analogue of outer core, elec. cond. *(German)* 1−44101
FeCo, elec. resist., order depend. determ. 1−47606
$Fe_2Cr_2S_4$, metal-semicond. transition, high temp. ferromagnetism *(Russian)* 1−34630
$\alpha\text{-}Fe_2O_3$, elec. resist. under ultrahigh static press. 1−16322
GaAs:Cr, current induced transition from high to low resistivity state 1−20828
GaAs:Cr, temperature and compensation dependence of threshold voltage for switching effect 1−20751
GaAs-Yb junctions, tunnelling props. under press. semimetal-semicond. transition 1−7733
GaP, homogeneous stress at high press., metallic phase transition 1−34421
GaSe metal-semicond.-metal struct., phototrigger effect 1−3020
$GaSe_xTe_{1-x}$:Sn, residual photocond. and current-voltage characts. 1−20811
Ga_xTe_{1-x}, glass, switching effect, in strong electric field 1−3028
Ge, amorphous, filamentation of current, sample geometry influence 1−3027
Ge heavily doped compensated, metal-insulator transition 1−34628
Ge-Te glassy film, current instability develop. in switching with delay 1−20833
Ge-Te glassy films, switching delay time influence 1−7679
GeO_2 films, in MIM struct., elec. props., electrolum., and electron emission 1−38874
Ge_xTe_{1-x}, glass, switching effect in strong electric field 1−3028
$Hg_{1-x}Mn_xTe$, EPR and photoconductivity spectra, spin depend. cond. electron scatt. 1−7667
InAs-GaSb heterojunction superlattices, electronic props., fabrication and characts. 1−7720
InAs-GaSb superlattices, semiconductor-semimetal transition 1−52609
InAs-GaSb superlattice, IR magnetoabsorption and luminescence study 1−52920
n-InSb, doped, mag. freeze-out and metal-nonmetal transition 1−47716
InSb solid and liquid, elec. cond. and Hall effect meas. technique 1−36704
InSe metal-semicond.-metal struct., phototrigger effect 1−3020
$In_2Se_{2.93}Cl_{0.06}$, mag. and transport props., low temp. elec. cond. transition 1−12153
KC_{24} intercalation cpd., mag. susceptibility transitions 1−38904
K_2Cs, electronic transition, X-ray scatt. and elec. resist. meas. 1−7676
$LaTiO_3$, magnetic and transport props. 1−25870
Li-Cd(In)(Sn)(Pb), liq., ^7Li Knight shift and elec. resist. meas. 1−31047
MO_xO_y, electrical cond. and magnetoresist. investigation 1−38821
$\beta\text{-}Na_xV_2O_5$, cryst. struct., elec. and mag. props. 1−12274
Nb:H foil, H absorpt. and its effect on elec. props. 1−2932
$NbSe_3$, electron diffraction, superlattice spots appearance rel. to conductivity decrease, Peierls transitions 1−38360
Ni complex, $NH_4Ni[S_2C_2(CN)_2]_2.H_2O$, cryst. struct., elec., mag., and optical props. 1−25719
NiS, metal, semimetal and magnetic phase transitions, interaction between correlated electronic bands 1−7838
$Pt(NH_3)_{10}Cl_{10}(HSO_4)_4$ partially oxidised salt, elec. and thermal props. 1−42831
PuO_2, near-stoichiometric, elec. cond. anomaly, 950-1100°C 1−20727
RbC_{24} intercalation cpd., mag. susceptibility transitions 1−38904
S, electrical props. at very high press. and low temp., supercond. transitions 1−12221
Se, electrical props. at very high press. and low temp., supercond. transitions 1−12221
Si MIS device switching mechanism 1−3069
Si, polycrystalline $n\text{-}p^+$ structures, switching theory 1−34752
Si:Au, laser activated, picosecond switching of multi-kilovolt DC bias at low temp. 1−12141
Si-Te glassy films, switching delay time influence 1−7679
Si-Te(-As) glassy film, current instability develop. in switching with delay 1−20833
Si_xTe_{1-x}, glass, switching effect, in strong electric field 1−3028
$Si_{11}Te_{85}As_4$ glassy energy dissipation in switching 1−3026
$Si_{12}Te_{48}As_{30}Ge_{10}$ glassy film, current instability develop. in switching with delay 1−20833

electrical conductivity transitions continued
Sm_4Bi_3, pressure-temp. behaviour of electronic transitions 1−25778
Sm_1S_4, inhomogeneous mixed-valence system, transport and mag. props. model 1−7564
$(Sn_xEu_{1-x})_1Mo_6S_8$, high press. semicond.-supercond. transition 1−42881
$SrCl_2$, undoped and Gd doped, transition to superionic state, impurity effect 1−38819
$(Sr_{1-x}La_x)TiO_3$, insulator-semiconductor-metal transitions, 4.2K to room temp. *(Japanese)* 1−38817
$Sr(Ti_{1-x}V_x)O_3$, insulator-semiconductor-metal transitions, 4.2K to room temp. *(Japanese)* 1−38817
TaS_3, electron diffraction, superlattice spots appearance rel. to conductivity decrease, Peierls transitions 1−38360
$TaS_{2-x}Se_x$(1T), elec. and mag. props. of Anderson localised states 1−47714
$TaSe_2$(2H), obs. of 112K CDW transition, elec. resist. meas. 1−2894
$1T\text{-}Ta_{1-x}Ti_xS_2$, metal-nonmetal transition 1−47472
Te clusters in NiNaX zeolite, current instability threshold 1−2978
Te, electrical props. at very high press. and low temp., supercond. transitions 1−12221
Ti-TiO_2-Au three layer thin film structure, elec. conduction props. 1−20880
TiS_3, one-dimens. semicond., resist. meas., temp. depend., Peierls transition 1−7677
$TlInSe_2$, single cryst., switching and memory effect 1−20830
$TlInTe_2$-$TlRTe_2$ (R=Nd, Ce, Eu), current-voltage characteristics, switching effect 1−7673
$Tl_2SeAs_2Te_3$, glassy, current inhomogeneities and develop. of thermal switching 1−20832
$Tm_{1-x}Eu_xSe$, valence mixing, mag., elec., and optical props. 1−42726
$TmSe_{1-x}Te_x$, valence mixing, mag., elec., and mech. props. 1−42726
$V_xCr_{3-x}S_4$, electrical and magnetic properties 1−52755
VO_2 film, elec. cond. temp. depend., semicond.-metal transition region, cryst. state role 1−16387
VO_x, switching props. rel. to geometrical dimensions 1−3029
VO_2:Ti,Al,Cr, crysts., elec. threshold switching mechanism, expt. 1−20829
ZnS:Mn, Cu, Cl thin films, elec. props., electroluminesc., switching 1−39159

electrical contacts
see also contact potential; contact resistance; ohmic contacts; point contacts
angular position encoder using airtight EM contacts 1−44882
information theory approach for conductivity 1−38839
LV contact microstructure, effect of breaking arc *(French)* 1−15676
metallic microcontacts, containing mag. impurities, elec. cond. *(Russian)* 1−20857
precious metal contact members, unevenness influence on corrosion *(German)* 1−31746
relays, electromechanical, contacts activation by organic outgassing products as function of temp. *(French)* 1−19993
Al contacts, nearly ideal, on heat-cleaned MBE GaAs surfaces, Schottky barrier props. 1−47733
Au electrodeposits, thick, soft and hard, microstructural characterisation 1−43529
Cu alloy strip, high strength bronze for contacts, terminals, and connectors 1−43531
Cu slipring contact elemental surface composition rel. to temp., AES examination in ultrahigh vacuum system 1−47349
Cu-Ni-Al-Si (5,5,1 wt.%), alloy 644, high performance, stress relax. behaviour at 200°C 1−43403
Ni-Si contacts, electron beam heated, electrophys. characts. *(Russian)* 1−42859
Pd electrical contact plating evaluation 1−43530
Ru as 1−13015
Si-Pt_xSi shallow contacts, codeposited Pt_2Si and $Pt_{1.2}Si$, struct., Schottky barrier height 1−12188
Sn-Pb system as contact finish, evaluation 1−43642

electrical double layers *see electrochemistry; liquid theory*

electrical engineering applications of computing *see electrical engineering computing*

electrical engineering computing
see also computerised control; computerised instrumentation; electric machine analysis computing; power system analysis computing; power system CAD
corona space charge and V/I characts. computation using equipotential charge shells 1−20016
eddy current calculations with program EDDYNET, incorporating loop currents and quadrilateral mesh 1−6425
electron accelerators FXR, 15 to 20 MeV, design using computer modelling 1−28754
Laplace field problems with periodic boundaries, integral point-matching method appl. 1−10884
three-dimensional EM fields, computer solns., conf., London, England (Nov. 1980) 1−22957
three-dimensional magnetostatic computations, PADDY program package, mesh description 1−24320

electrical fault location *see fault location*

electrical faults
see also accidents; discharges (electric); electric distortion; fault currents; fault location; flashover; insulation; losses; overvoltage; protection; testing; transients
personnel protection from electric shocks, protective measures and effects of current passage through body 1−39906
power arcs dynamics study in co-axial electrode geometry 1−15686

electrical forming *see electroforming*

electrical insulation *see insulation*

electrical noise *see noise*

electrical power systems *see power systems*

electrical properties of substances
see also dielectric properties of substances; discharges (electric); electrical conductivity; flexoelectricity; thermoelectricity
No entries

electrical resistance measurement *see electric resistance measurement*

electrical transport processes *see electrical conductivity*

electricity
see also atmospheric electricity; electric charge; electric current; electrical properties of substances; electromagnetism; terrestrial electricity
No entries

electricity supply industry
electric utilities future energy sources 1−53522
environmental influences exercised within overall economic system *(German)* 1−4229
flue gas desulphurisation systems, costs variation anal. 1−4603
fuel cell attractiveness for electric utilities 1−21872
gas discharges, uses and problems in electricity supply industry 1−46934
investment in USA and Europe for 1980-1990 *(French)* 1−8647
Mod 2 windmill, electricity generating costs 1−53536
nuclear electricity generating costs in UK 1−53569
oil to coal switch for elec. utilities, President Reagan faces energy challenge with new programmes 1−26805
renewable energy sources use, fuel saving contributors to electricity grid systems 1−53535
residential photovoltaic systems 1−53618

electro-optical devices
see also electrochromic devices; liquid crystal devices; optical modulation
A/D convertor, electrooptic, comparatorless 1−1721
acousto/electro-optic technology review 1−19409
anisotropic dielectric cylinder, electrostatic field 1−24316
atomic-resolution electron microscopic image processing by Pockels readout optical modulators 1−24492
bistable devices, switching energy reduction 1−19407
bistable devices for optical communication, optical regenerative oscill. and monostable pulse 1−11175
bistable optical devices, absorptive, dispersive and hybrid types *(Japanese)* 1−37541
bistable optical devices with nonlinear feedback *(Chinese)* 1−6603
cells, with nematic liq. crysts. with doped electrodes, elec. props. 1−46991
coherent system for character recognition 1−33633
communication via electro-optic modulation of white light 1−46588
display devices, book 1−22962
double pole double throw electro-optic switch with N-type electrode 1−11182
dye tagged macromols. and particles, electro-fluorescent light valve mechanism 1−41530
electro-optic modulator based on electrohydrodynamic effects 1−11084
electro-optics/laser international conference, Brighton, England (March 1980) 1−40601
feedback in optical systems, image processing and bistability, review 1−1619
filters, tuning of dye laser output freq. 1−46389
focusing device for flight simulator laser visual system 1−41819
glass laser, Q-switching oscillator, TEM_{00} mode, for pulse characts. improvements *(Korean)* 1−1604
high-speed optical modulator, picosecond optical pulse sampling technique for response meas. 1−51609
high-speed photographic appls. 1−367
hybrid bistable devices at 10.6 μm 1−46545
hybrid bistable optical devices, integrated versions for signal processing, review 1−1620
hybrid bistable optical devices, time-varying operation 1−29373
hybrid optical/digital image processor 1−24365
integrated directional coupler switch, remote controlled 1−46593
integrated optic frequency shifter modulator 1−37631
integrated optical multivibrators using electrooptically controlled bistable optical devices 1−46592
interference filter with electro-optical tuning *(German)* 1−6641
large-aperture Stark modulated retroreflector at 10.8 μm 1−41824
Lissajous figure for cryst. electrooptic coeffs. meas. 1−8042
Mach-Zehnder waveguide modulation, design and performance 1−33832
microwave frequency parameters of electro-optic crysts. 1−12477
modulator principles and applications to lasers 1−46549
modulators, use in A/D convertors 1−24485
nonlinear electro-optic oscillator using integrated Mach-Zehnder interferometer for optical communication systems 1−11176
optical digital computing, survey 1−15083
orthogonal functions, high-speed display using electro-optic light modulators 1−15259
phase measurement appl. to surface profiling and displacement sensing 1−40751
polarisation division switch, electrically controlled, multimode fibre appls. 1−6680
prism deflector, linear phase shift electrodes 1−6682
prism-type thin-film electrooptic deflectors 1−51605
quadrupole deflector, distrib. of refr. index gradient 1−33794
reliefographic light modulator with gelatinous carrier *(Russian)* 1−29385
shutter, for narrow-band laser output, phase effects 1−46410
shutter for ring laser, radiation dynamics during Q-switching 1−51515
spatial light modulator MTF, exposure-induced charge distrib. effects 1−24489
spatial light modulator with internal feedback, bistable props. 1−51607
spatial light modulator with internal feedback, multistability in optical transmittance 1−51608
Stark cell devices for CO_2 lasers 1−41714
step-index optical fibre high-speed core dia. meas. 1−19434
switch/modulators, speed meas. by picosecond optical sampling technique 1−15257
thermoplastic light modulator and optical processor 1−24487
X-ray topographic image detectors and image quality factors 1−40920
$Bi_{12}Si(Ge)O_{20}$-dielectric struct., image characts. during electron beam irrad. 1−42869
$Bi_{12}SiO_{20}$ 2×2 optical switch for multimode fibre closed-loop data-bus systems 1−11177
CdTe electro-optic crystals for broadband modulation of CO_2 lasers 1−41757
GaAs electro-optic directional coupler integrated with detector, bistable operation 1−37630
KD_2PO_4 crysts for use in TITUS optical relay tube 1−19420
KH_2PO_4 crystals, tandem type modulator as optical freq. translator 1−33795
$LiNbO_3$ waveguide electro-optic Bragg deflectors, high deflection efficiency, low insertion loss 1−11080
$LiNbO_3$ Bragg deflectors, low-insertion loss and multiple-beam capability for optical waveguide light deflection 1−37594
$LiNbO_3$ fast crystal deflector, design considerations and appls. 1−29380
$LiNbO_3$ microchannel spatial light modulator 1−24488
$LiNbO_3$ travelling-wave optical waveguide intensity modulator up to 18 GHz 1−33798

electro-optical devices continued
$LiNbO_3$:Ti in-diffused optical waveguide TE-TM mode splitter, expt. and theoretical results 1−11071
$LiNbO_3$:Ti interferometric waveguide electro-optical A/D convertor 1−24486
$LiNbO_3$:Ti wavelength TE to TM mode convertor with low drive voltage 1−11183
$LiTaO_3$, electrooptic switch for Q-factor modulation of Nd^{3+}:YAG laser 1−37520
$LiTaO_3$ microchannel spatial light modulator 1−24488
Nd:glass laser, passive mode locking with slow Q switching 1−24439
Nd:phosphate glass laser, electrooptic actively mode-locked, feedback stabilised 1−1584
ZnO thin film, guided electro-optical interaction 1−19417

electro-optical effects
see also electroabsorption; electrochromism; electroluminescence; electroreflectance; Kerr electro-optical effect; photorefractive effect; Pockels effect; Stark effect
4-alkyl-1-(4′-cyanophenyl)-cyclohexane compounds, synthetic method of preparation and electro-optic properties *(Chinese)* 1−46996
p-n-alkyloxybenzoic acid homologues, threshold and electro-optical charcts., EHD instabilities 1−30049
ammonium oxalate, crystalline modifications, Raman and IR spectra *(Russian)* 1−43129
bistable light reflection by electro-optically driven interface 1−46422
cells, with nematic liq. crysts. with doped electrodes, elec. props. 1−46991
chiral smectic C liq. crysts., linear electrooptic effect 1−30051
cholesteric binary mixtures, electro-optical props. 1−8041
cholesteric liquid cryst., CB-15 in nematic E8, elec. field induced changes in selective refl. band 1−31128
cholesteric liquid crystals, rotatory power and electric field effects 1−3360
controllable transparency for image contouring *(Russian)* 1−51378
discotic mesophase, electro-optical effects, dielec. and EHD instabilities 1−46990
disperse system, electrooptical phenomena, light attenuation by arbitrarily oriented spheroid 1−33619
disperse system, electrooptical phenomena optical mechanisms, light modulation in Π_1 field 1−29213
ferroelectrics, oxygen-octahedral, electrooptic and nonlinear optical, review 1−52900
N-hydrocarbon, solids, electro-optical param. from Raman spectra of stretch oriented polyethylene($-d_n$) 1−26186
interference filter with electro-optical tuning *(German)* 1−6641
lattice dynamics, morphic effects, book contrib. 1−38482
liquid crystal materials for display devices 1−38280
liquid crysts, optical, mech. and elec. props. rel. to mol. ordering, book contrib. 1−38271
Lissajous figure for cryst. electrooptic coeffs. meas. 1−8042
macromolecules, quasielastic light scattering in electric field electrophoretic mobility and apparent charge *(French)* 1−39116
MBBA twist cells, bidimensional texture obs. 1−15794
metal-dielectric-semiconductor-dielectric-semiconductor structure, semiconductor voltage drop, time depend. 1−42870
microwave frequency parameters of electro-optic crysts. 1−12477
nematic liquid crysts., optical charcts., elastic consts. 1−38277
optics in four dimensions, conf., Ensenada, Mexico (Aug. 1980) 1−40589
paratellurite, optically active cryst., polarisation plane rotation at impurities 1−26164
phosphor, photoexcited, computer simulation of effects accompanying elec. field applic. 1−16609
photosensitive electrooptic media, diffr. and dynamic props. 1−46257
ruby, nonradiative resonance energy transfer, absence of Anderson transition 1−31187
semiconductor, electro-optical anisotropy due to electron heating by submillimetre waves 1−31129
semiconductor, layer-inhomogeneous, light transmission in free-carrier absorpt. band, current influence 1−3371
semiconductor, nonpolar, two-dimens. plasma, charge carrier excitations, reson. inelastic light scatt. 1−12517
SHG, high average power, review, book contrib. 1−11049
single-mode laser intracavity coupling modulation 1−46406
surface flashover, electro-optical meas. 1−7013
water droplet, backscattered radiance, elec. field effect 1−6457
$BaMnF_4$, Brillouin and Raman study of phonons, commensurate-incommensurate transform. 1−43109
$Ba_{0.3}Sl_{0.7}Nb_2O_6$, ferroelec., photoelectret state investig. 1−43063
$Ba_{0.5}Sr_{0.5}Nb_2O_6$ thin film, dielec. nonlinearity, dielec. const. and electrooptical props. meas. 1−26127
$BaTiO_3$, electrooptic effect mechanism 1−26170
$BaTiO_3$, optical props., phase transition effects, tight-binding energy band calcs. 1−39059
$Bi_{12}Si(Ge)O_{20}$-dielectric struct., image charcts. during electron beam irrad. 1−42869
CO_3^{2-}, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031
CdS holographic grating recording, coherent optical beam dynamic conversion mechanisms 1−33639
ClO_4^-, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031
$Cs(D_xH_{1-x})_2AsO_4$, dispersion of refractive indices and electrooptical coeffs. 1−3372
CsH_2AsO_4, electrooptical props. near Curie point 1−12476
GaP-CdS-CdSe-Ni heterostructures, surface electron states and surface charge, optical memory effects 1−47741
He-Ne laser output, RF elec. field effect, freq. depend. 1−46294
InGaAsP BH laser emitting at 1.3 μm, CW electrooptical props. 1−46346
InP, linear electro-optical coeff. meas. 1−21170
InSb, Q-switch spin-flip Raman laser action, pulsed electric field conditions 1−15200
$KNbO_3$, hologram form., energy exchange between writing beams in external elec. field 1−6527
$KTa_{1-x}Nb_xO_3$, cubic phase, photorefractive effects rel. to quadratic electro-optic mechanisms, holographic meas. 1−19288
$KTiOPO_4$, Raman and electrooptic props. 1−35020
$LiIO_3$, electron quadratic nonlinearity tensor, Raman light scatt. meas. *(Russian)* 1−21175
$LiNbO_3$ crystals, optical damage effect reduction 1−12475
$LiNbO_3$, electro-optic and crystallographic props. 1−3368

electro-optical effects continued
$LiNbO_3$, electro-optic crystals, wavefronts conjugation via degenerate four-wave mixing 1−19385
$LiNbO_3$, Raman scatt. relation to electro-optical effects 1−12508
$LiTaO_3$ crystals, optical damage effect reduction 1−12475
$LiTaO_3$, electro-optic crystals, wavefronts conjugation via degenerate four-wave mixing 1−19385
NO_3^-, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031
PLZT 6/65/35 ceramics, domain wall motion, optical method 1−26148
PLZT polycrystalline solid solns., birefringence mechanism in longitudinal electrooptical effect conds. *(Russian)* 1−48032
PO_4^{3}, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031
$PbMg_{1/3}Nb_{2/3}O_3$, ferroelec., photoelectret state investig. 1−43063
n-PbTe, degenerate, modulation, of fundamental absorption by free carrier heating 1−48092
RbBr:Ag^+, reorientation behaviour of ⟨110⟩ off-centre defects, temp. depend., electrooptical meas. 1−2581
SO_4^{2-}, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031
SrO:Co^{2+}, off-centre substitutional defects, absorpt and EPR spectra, elec. field effect 1−3245
ZnS cubic crystals, microwave modulation of light, 0.4-12 μm band 1−29383

electroabsorption
GaAs, electroabsorption at high illumination intensities 1−43098
Si film, amorphous, electroabsorption spectra 1−21171
ZnSe, electroabsorption study, field depend. 1−48036

electroacoustic effects *see acoustoelectric effects*

electroacoustic generators *see acoustic generators*

electrocaloric effects *see pyroelectricity*

electrocardiogram *see electrocardiography*

electrocardiography
see also bioelectric potentials; biomagnetism; cardiology
activation and recovery times rel. to transmembrane action pot. durations 1−32278
ambulatory physiological surveillance equipment, long term 1−22144
arrhythmia, quantitative diagnosis by the serial scatter diagrams of RF-interval *(Japanese)* 1−35900
arrhythmia bedside monitor, microprocessor based 1−17516
arrhythmia monitor IGB.MAC2, closed loop evaluation 1−17517
arrhythmias, investigation of indices derived from R-R interval values 1−17515
assembly-line factory workers, monitoring of respiratory and heart rate 1−13339
biomedical microprocessor-based complex waveform generator 1−32293
body surface mapping during exercise in coronary heart disease diagnosis *(German)* 1−40021
body surface maps, automated classification 1−17519
body surface potential mapping in treadmill testing, appl. to coronary artery disease 1−32304
cardiokymograph, stabilisation and charcts. *(Japanese)* 1−35910
corrected (orthogonal) ECG, use in early diagnosis of cardiac effects of hypertension 1−22158
cylindrical coordinator system 1−32302
data compression by prediction or interpolation and entropy encoding 1−22148
distortions caused by instruments for ambulatory ECG recording 1−22145
dynamic CRT display for 24 hour ECG anal., representation based on contour method, microprocessor-based system 1−53925
fetal heart rate variability, statistical modelling 1−9049
finite element analysis *(Japanese)* 1−4305
fluctuations in heart-rate assessment, review, book contrib. 1−32273
foetal, enhancement using digital filters 1−53917
foetal heart rate variations, evaluation using spectral anal. techniques 1−13343
forward problem, new methods applicable to solns. 1−32276
gated computerised tomography, stop-action heart imaging method 1−53868
HF, forward and inverse problems in correl. with heart dipole 1−32270
hospital department equipping, review 1−17507
intrinsic components, interpretation of changes produced by leads 1−22154
inverse problem, regularisation methods appl. 1−9052
magnetocardiogram, human, computer simulation 1−8887
maps, isochrone or isopot., computerised construction 1−32277
measuring system, non-invasive 1−17513
microcomputers in arrhythmia monitoring 1−9047
microprocessors and microprocessor systems appl. *(Bulgarian)* 1−9053
monitor, microprocessor-based, for ambulatory patients 1−17514
monitor, ROM based 1−13335
myocardial damage, noninvasive detect. using phase-invariant signature algorithm technique 1−35912
nuclear medicine, ECG synchronised system for γ-camera cardiac studies 1−9001
PVC classification, simple stable linear discriminant model 1−32282
QRS complex, optimal filter 1−32285
rate variability, pitfalls etc. book contrib. 1−32274
rhythm anal. computerised method *(Russian)* 1−40019
signal analysis of heart-rate variability, book contrib. 1−32272
software routine for reproducible processing 1−4379
T-wave, review of origin 1−39905
testing electrodes, on-line 1−40022
torso potentials related to epicardial pots., feasibility of using spherical approximations 1−32084
vacuum extractor cup for fetal EEG and ECG recording during delivery 1−4375
vectorcardiographic lead systems, simulation study of torso inhomogeneity effects 1−32279
vectors, statistical treatment 1−13346
ventricular phantom for ECG-gated equilibrium studies 1−17478

electrocataphoresis *see electrophoresis*

electrochemical analysis
see also electrochemistry; polarography; voltammetry (chemical analysis)
cetyltrimethylammonium bromide, double-layer capacitance-pot. curves, computerised determ. using Kalousek type waveforms 1−48693

electrochemical analysis continued
chloroaluminate melt spectroelectrochem. exam. using transparent electrodes 1−8629
electrode design for ammonia and carbon dioxide 1−13053
gas mixture components, electrolytic production methods *(Polish)* 1−43672
2-hydroxypropanoate complexes, stability const. and thermodynamic props., polarographic determ. using computer controlled system 1−48758
industrial analytical instruments *(Spanish)* 1−8633
internal reflection spectroscopic system, rapid scan 1−45033
ion selective electrode, for intracellular Mg^{2+} activity obs. 1−53493
ion selective FET chemical sensor, design and applic. *(Japanese)* 1−21819
lead (II) propanoate, stability const. and thermodynamic props., polarographic determ. using computer controlled system 1−48758
natural water and industrial effluent chronopotentiometry for heavy metals 1−32077
photographic super-additive developing action of hydroquinone with 1-phenyl-3-pyrazolidone, electrochem. anal. *(Russian)* 1−23345
piezoelectric crystal detector, anal. chem. appls. 1−53504
potentiometric stripping anal. using microcomputer system 1−48755
solar mirrors, corrosion resistance and electrochem. eval. 1−12913
steel, mild, temp. effect on pitting corrosion in de-aerated $NaHCo_3$-Cl solns. 1−16941
streaming potential technique, microcomputer appls. 1−53506
Ba, titration, double-layer capacitance-pot. curves, computerised determ. using Kalousek type waveforms 1−48693
δ-$(Bi_2O_3)_{1-x}(Y_2O_3)_x$, thermogalvanic power and fast ion cond., appl. to O_2 gauge 1−34513
Cu/copper formate/Cu aqueous thermogalvanic cells application for low grade heat conversion to electricity 1−53636
O_2 determ. using ZrO_2 solid electrolyte detector, characts. 1−21811
O_2, in water, trace determ. using Tl method *(German)* 1−8637
O_2 meas. probes, based on ionic conductivity of ZrO_2 *(Spanish)* 1−48770
Pd, pure and alloyed, diffusivity of H, electrochem. method 1−30473
Sn tungstate conversion coating, deposition, surface anal. 1−12933
$SrCl_2$-based solid electrolyte cell, utilisation as O_2 gauge 1−35594
Ti-TiO_2-Pt structure, selective H_2 detector 1−35586
ZnO, silverless photographic development, electrochemical anal. *(Russian)* 1−23351
ZrO_2 stabilised cell, control of very low O_2 partial press. 1−35595

electrochemical batteries *see cells (electric)*

electrochemical electrodes
see also electrochemistry
anodic and cathodic catalysts. activation of membranes and diaphragms, for H_2 prod. 1−43675
bioelectric measuring systems, prominence of the electrode 1−17534
ceramic electrode for photoelectrolytic decomp. of water 1−17221
chloroaluminate melt spectroelectrochem. exam. using transparent electrodes 1−8629
electrocatalysts having electrochem. selectivity, low cost and low overvoltage for electrolytic H_2 production in H_2SO_4 1−43679
graphite electrode, interaction with $Na_2O.2B_2O_3$ molten glass under elec. field *(Japanese)* 1−3974
graphite fibre-bromine intercalation compound electrodes for conc. cell *(Japanese)* 1−21866
heat-sterilisable pH glass electrodes and Clark-type D_2 sensors 1−32331
internal reflection spectroscopic system, rapid scan 1−45033
ion selective electrode, for intracellular Mg^{2+} activity obs. 1−53493
ion selective FET chemical sensor, design and applic. *(Japanese)* 1−21819
MnO_2 O_2-selective anode coating for seawater electrolysis 1−8769
pasted battery electrode, expanded metal grid selection 1−17191
pH glass electrode behaviour in strongly acid and nonaqueous solns. 1−31871
photoelectrode, polycryst. thin film, painted with semiconductor slurry for photoelectrochem. solar cells 1−21888
photoelectrolytic electrodes, inorganic materials 1−39809
polypyrrole: BF_4 film, on Pt, organic electrode material, props. 1−53431
reference electrode, for aq. PO_4^{3-} solns. up to 300°C 1−39646
semiconductor, electron transfer reactions of excited Ru tris-bipyridyl complexes 1−39618
semiconductor electrode-metallic ion soln., photoelectrochemical imaging system, photoelectrochromic characts. 1−4099
surface studied by XPS 1−35551
0_2 reference electrodes, appl. in glass melts 1−21739
Ag deposition on Pt electrode, by pulsating current method, formation mechanism 1−43674
Ag single cryst. electrode surface studied by surface plasmon excitation 1−34642
Al-Li electrode, secondary, in $LiClO_4$-propylene carbonate, Li cycling efficiency determ. 1−21869
Au single cryst. electrode surface studied by surface plasmon excitation 1−34642
CdS electrodes, amorphous thin film and polycryst., electrolum. props., photoelectrochemical cell appl. 1−17220
CdS:Te electrode in NaS electrolyte, laser induced photoelectrochem., time resolved luminesc. 1−31865
n-CdSe photoanode stabilisation in nonaq. $Fe(CN)_6^{3-/4-}$ electrolytes 1−35542
Co electrodes, interaction with $Na_2O.2B_2O_3$ molten glass under elec. field *(Japanese)* 1−3974
CoO:Li, semiconductor props., electrochem. meas. 1−47742
Cr electrodes, interaction with $Na_2O.2B_2O_3$ molten glass under elec. field *(Japanese)* 1−3974
Cu, adsorbed cyanide complexes, surface enhanced Raman scatt. and cyclic voltammetry meas. 1−35056
Cu anodic and cathodic behaviour in acidic $CuSO_4$ soln. rel. to I^- conc. *(Japanese)* 1−48694
Cu anodic dissolution, anode potential oscillation obs. 1−7336
Cu electrodes, impedance studies of benzotriazole inhibitive effect on corrosion in NaCl medium 1−43569
CuI electrode, chlorophyll coated, for solar photovoltaic cell 1−43762
Cu(II), ion selective electrode, XPS 1−42617
Fe electrode, interaction with molten $Na_2O.2B_2O$ glass under elec. field *(Japanese)* 1−3973
Fe mixed electrodes, individual contributions of overpotentials 1−17060
Fe polycrystalline electrode impedance at 298K, obs. 1−8576
Fe, scratched electrode, anion effects in aqn. soln. 1−48565
Fe-Zn composite electrochemical materials with SiO_2 dispersoid *(Russian)* 1−48302
α-Fe_2O_3 photoanodes, photoelectrochem. props. 1−21734

electrochemical electrodes continued
p-GaAs, semiconductor electrode in photoelectrochem. in aq. soln. 1−7728
GaP single crystal electrodes, anodic photodissolution in aqueous media, dislocation effects 1−13144
Hf, electrode, barrier oxide film, nature 1−26655
$LaCrO_3$-TiO_2 electrodes, photoelectrochem. response 1−32034
$LaRhO_3$-TiO_2 electrodes, photoelectrochem. response 1−32034
$La_{1-x}Sr_xFe_{1-y}Co_yO_3$ series, electrode for O_2 evolution, struct. and elec. cond. 1−31867
$LaVaO_3$-TiO_2 electrodes, photoelectrochem. response 1−32034
Li electrode, secondary, in $LiClO_4$-propylene carbonate, Li cycling efficiency determ. 1−21869
Li-$(CF)_n$ organic electrolyte batteries, discharge characts. of graphite fluoride cathode 1−35638
$MgTi_2O_5$:$Mn^{2+}(Fe^{2+})(Co^{2+})(Ni^{2+})$ photoanodes coloration, solar energy appl. 1−31169
MnO_2 porous electrodes during discharge, nonlinear simulation of current distribution and potential profile 1−53432
Mo oxide cathodes in secondary Li cells 1−32008
Mo_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
$MoS_2(Se_2)$-electrolyte, photoelectrochem. props., photocurrents, carrier diffusion, optical transitions 1−34788
$MoSe_2(S_2)$ electrode in apriotic solvents, photochem. reactions and inversion layer formation 1−13019
Na_xCoO_2, electrochemical intercalation, battery material *(French)* 1−31375
Na_2O-Al_2O_3-SiO_2 glass surface layers, elec. resistance in NaCl and KCl solns. 1−17072
$Nb_{1.1}S_2$, cathode material for rechargeable Na cell 1−35641
Ni electrode, interaction with molten $Na_2O.2B_2O$ glass under elec. field *(Japanese)* 1−3973
Ni-Cd sealed cells, electrode temp. behaviour with an excess of electrolyte 1−53574
$Ni_{0.2}Co_{0.8}LaO_3$ anodic electrocatalyst for H_2 production by H_2O electrolysis 1−43676
$NiCo_2O_4$ anodes, optimization of gas evolving teflon bonded electrodes for H_2 prod. appls. 1−39650
$NiCo_2S_4$ cathodes, optimization of gas evolving teflon bonded electrodes for H_2 prod. appls. 1−39650
NiO long life electrodes for NiH_2 cells 1−53603
O_2, Pt/ZrO_2 interface, steady-state DC polarisation characts. 1−34504
Pb, electrodes in sulphate electrolytes, electrode preparation effects on discriminant curve cyclic voltammograms 1−48816
Pb electrodes in sulphate electrolytes, kinetics 1−48817
Pb/acid batteries, porous PbO_2 electrodes behaviour, solid/porous electrode interphase effects 1−53576
PbO_2 electrode-acid batteries, macrohomogeneous model 1−39761
Pd-(alloys), electrodes, mol. H2 diffusion overpotential and local cell H_2 transfer processes 1−39647
Pt electrode, Cu electrodeposition, effect of pulsating current on surface roughness and porosity 1−43673
Pt electrode, interaction with molten $Na_2O.2B_2O$ glass under elec. field *(Japanese)* 1−3973
Pt electrode reduction of molten alkali metal nitrates, cation effects 1−8578
Pt paste electrodes on $(CeO_2)_{0.9}(Gd_2O_3)_{0.1}$, diffusion-limited charge transport 1−48827
Se trigonal film electrode photoelectrochem. props. and applications 1−8729
p-Si electrode, photoelectrochem., effects of inversion layer 1−4097
p-Si, semicond. electrode, illuminated, photoreduction, Fermi level pinning 1−7729
n-$SrTiO_3$ electrode, I-V characts. in aq. KOH, anomalous behaviour 1−16358
$SrTiO_3$ photoelectrodes, subband gap response meas. 1−48867
n-TiO_2 electrode, I-V characts. in aq. KOH, anomalous behaviour 1−16358
TiO_2 electrodes, effectiveness and stability in H_2O photoelectrochem. oxidation 1−13145
n-TiO_2 electrodes, photoreduction, rel. to energy conversion 1−39653
TiO_2 photoelectrodes, subband gap response meas. 1−48867
TiO_2, undoped and Co doped, photoanode, photoelectrochem. props., visible light response meas. 1−26753
n−TiO_2:Al electrodes, behaviour in photoassisted oxidation of water 1−20801
TiO_2:Ni(Cr)(Zn), polycryst. electrode, photoelectrochem. props., photoelectrolysis of water, dopant effects 1−8575
n-TiO_2/liquid junction cells, electrode photooxidation, time-resolved coulostatic flash studies 1−35662
TiO_2(:Fe) anode for photoelectrolysis of H_2O 1−26754
TiS_2, cathode material for rechargeable Na cell 1−35641
VS_2, cathode material for rechargeable Na cell 1−35641
W electrodes, interaction with $Na_2O.2B_2O_3$ molten glass under elec. field *(Japanese)* 1−3974
W_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
WSe_2 electrode in apriotic solvents, photochem. reactions and inversion layer formation 1−13019
WSe_2-electrolyte, photoelectrochem. props., photocurrents, carrier diffusion, optical transitions 1−34788
Zn porous electrode, discharge failure modes 1−17068
Zn porous electrode, transient and failure anal. 1−17067
Zn soluble electrode with almost unlimited cycle life for alkaline batteries *(German)* 1−8701
ZnO ceramic semiconducting electrodes, dye sensitisation for photoelectrochemical conversion 1−35664
ZrO_2 electrode, stabilised, O^{2-} titrations in molten NaCl 1−31894

electrochemical machining *see electrolytic machining*

electrochemical polishing *see electrolytic polishing*

electrochemistry
see also Debye-Huckel theory; electrical conductivity of electrolytic liquids; electrochemical analysis; electrochemical electrodes; electrolysis; electrolytic devices; electrophoresis
additive-free hard Au plating for electronics appls., chemical aspects 1−8246
adsorption phenomena in electrochemistry 1−35548
anaerobic transfer electrochemical cell, XPS of metal oxidation 1−48576
anodisation of Pb in H_2SO_4 solutions containing Sb species 1−35543

electrochemistry continued
batteries, positive plates, formation from pure Pb, mechanism examination by cyclic voltammetry 1—53577
battery active masses electronic conductivity, limiting factor 1—8697
by detection and anal. of electrochem. noise 1—39531
cellulose nitrate films, electrochemical etching using 50 Hz HV supply 1—23975
cetyltrimethylammonium bromide, double-layer capacitance-pot. curves, computerised determ. using Kalousek type waveforms 1—48693
chlorophyll a monolayer assembly, photoelectrochem. studies, quantum efficiency of photocurrent generation 1—39657
corrosion, electrochemical theory, achievements 1—39502
crevice corrosion testing, electrochem. methods 1—31774
discharges effects on electrolytes 1—17110
double layer, stat. theory, series expansion in powers of density 1—21731
electrical double layer, Born-Green-Yvon eqn. 1—43671
electrical double layers, surface charge densities, Monte Carlo studies 1—35537
electrical double-layer interaction energy for two cylinders 1—39694
electrode resistance monitoring, immersed double layer 1—35545
electrode surface, plasmon polariton spectroscopy, review 1—34763
electrode surface studied by XPS 1—35551
electrode-electrolyte interface, double layer and adsorpt., nonlocal electrostatic approach, review 1—34769
electrode-electrolyte interface, IR specular reflectance spectroscopy 1—35045
electrodes, double-layer capacitance-pot. curves, computerised determ. using Kalousek type waveforms 1—48693
electrodynamics of electrochem. systems, appl. to IR and optical transitions in systems containing impurities 1—35549
electrokinetic data near isoelectric point, interpretation by thermodynamic approach 1—48698
electroless metal deposition on nonconductors, photochem. selective activation, review 1—17075
electrolytic membranes, product separation, energy carriers by plasmachemical methods 1—29931
energy storage, methods and devices, review *(German)* 1—35713
Esin-Markov effect on energetically nonuniform surfaces 1—52645
graphite, highly oriented pyrolytic, intercalation and deintercalation with Li 1—48291
hydrogen embrittlement, electrochemical aspects of H_2/metal interactions 1—43477
ion and dipole mixture near charged wall, pot. difference, capacitance, mean spherical approx. 1—48695
ion diffusion, imperfections, electrochem. technique 1—25502
ionic polarization and the calculaton of standard electrode potentials of elements 1—31869
Leclanche cells, impedance at various discharge states and state-of-charge indication by impedance method 1—35636
lutetium diphthalocyanine films, anodic reaction boundary propag., gaseous environment effects 1—35407
membrane, dynamic colloidal, form. and functioning 1—48726
memory, application to short-circuit memory in electrochromic displays 1—21736
metal/solid electrolyte interface impedance 1—42571
metallocenes, electrolyte properties for photoelectrochemical cells, review 1—48868
metals, electrochemical treatment and accompanying processes, opt. holography obs. *(Russian)* 1—43623
metals, fatigue electrochemical detection 1—43629
Na-S battery, improved rechargeability 1—39762
nuclear fuel, electrochem. separation in liquid metal-salt systems 1—23839
oxide films on metals and semiconductors, macrodefect detect. by electrochem. method 1—21656
oxide-electrolyte interface, equilib. props., transition layer model 1—17070
Pb-acid batteries, macrohomogenous model 1—39761
primary cells, Li/SO_2Cl_2 system, discharge behaviour 1—8698
pyrylium cations, substituted, electronic struct., solvation and counterion perturbations, bonding, electrochemical props. 1—10638
Raman scattering, surface enhanced, very low freq., involving surface-adsorbed molecules 1—35050
rare earth cpd., $R_xHF_{1-x}O_2$, MHD generator appl. 1—26842
reactions, inhibition by surface-active agents 1—35553
redox systems, rapid scan internal reflection spectroscopic system 1—45033
silicate glass network, pH depend. and electrochemical interpretation of dissolution rate 1—21609
solid-electrolyte interfaces, nontraditional approaches, review 1—34575
steel, C, carbochromized and chromosiliconised, electrochem. and anticorrosion props. 1—26678
steel, C, stress corrosion cracking, electrochem. factor 1—31751
steel, corrosion resistance and stationary potential, nonmetallic inclusions effect 1—3990
steel, high-speed, potentiostatic test method 1—48607
steel, mild, electrochem. behaviour in boiling NaOH soln. under heat transfer *(Japanese)* 1—43601
steel, stainless, corrosion resistance in NaCl solution 1—26680
steel bars in reinforced concrete, corrosion studied by electrochemical impedance meas. *(French)* 1—39508
steel piles, in seawater, electrochem. nature of corrosion 1—35416
steels, stress corrosion cracking, assessment of possibility during acid cleaning 1—31715
steels, stress corrosion cracking in acetate solns., predictability from potentiodynamic polarisation curves 1—31716
surface plasmons as probe for electrochem. interface 1—35550
suspension, electrocoagulation, external elec. field effect on ionic-electrostatic interaction forces 1—26773
transistor using solid electrolyte 1—4098
Zircaloy-2, oxidation and polarisation meas. in molten nitrite and nitrates at 573K 1—35421
Zr, oxidation and polarisation meas. in molten nitrite and nitrates at 573K 1—35421
0_2 reference electrodes, appl. in glass melts 1—21739
Ag, electrochemical recovery from photographic fixing solutions *(Russian)* 1—28098
AgI-electrolyte interface, equilib. props., transition layer model 1—17070
Ag_2S, solid state chem. and electrochem., review 1—31870
Al anodic dissolution in alkaline solutions, influence of electrolyte additives 1—8702
Al corona corrosion in air, electrochemical interaction between electrical coronas and metal surfaces obs. 1—21651
electrochemistry continued
Al, corrosion, chem. nature, dissolution mechanism of Al_2O_3 and Al powder in various electrolytes 1—35420
Al, electrodeposition, industrial feasibility of process 1—35194
Al, laser-modified surface, electrochem. and corrosion behaviour 1—21650
Al passive film breakdown in H_3BO_3-$Na_2B_4O_7$ by detection and anal. of electrochem. noise 1—39531
Al-Cu-Mg alloy D16, corrosion cracking in chloride soln., polarisation effect 1—26676
Au, anodic dissolution in aq. alkaline cyanide solns. at low overpotentials 1—17066
Ba, titration, double-layer capacitance-pot. curves, computerised determ. using Kalousek type waveforms 1—48693
CO adsorbed on Pt electrode, potentiodynamic electro-oxidation, anodic current peaks 1—21732
n-CdTe, photoelectrochemical props., photocorrosion reaction 1—17074
Co (II) in presence of thiopyrimidines, catalytic polarographic prewaves 1—48733
Co, electrochemical behaviour in bicarbonate and borate electrolytes 1—48553
Cr-Cr_2O_3 electrodeposits, electrochemistry, review 1—48700
Cu/copper formate/Cu aqueous thermogalvanic cells application for low grade heat conversion to electricity 1—53636
$CuInS_2/S_n^{2-}$ system, photoelectrochemistry 1—43785
Fe mixed electrodes, individual contributions of overpotentials 1—17060
Fe/Ni alloy foil electroforming, anode material effects 1—48697
Fe-oxide-borate-glass melt, anodic processes 1—17071
Fe-Zn, electrochemical study of intermetallic phase thermodynamics *(German)* 1—48322
Fe-Zn (-Si), electrochemical study of intermetallic phase form. kinetics *(German)* 1—43315
H_2 production, hybrid electrochem./thermochem. process using S cycle 1—53699
H_2/halogen fuel cell model systems heat rejection and thermal efficiency 1—48828
H_2O, decomposition, thermodynamic criteria of thermoelectrochemical cycles *(Russian)* 1—53419
$LaNi_5H_x$ fuel cell, appl. in vehicular propulsion 1—21874
Li/TiS_2 cell with LiSCN electrolyte 1—35643
$LiClO_4$/dioxolane electrolyte, inherent explosion hazard 1—17069
Mg/air primary cell for long-life appls. 1—48813
MnO_2 porous electrodes during discharge, nonlinear simulation of current distribution and potential profile 1—53432
Mo, corrosion resistance mechanism 1—53347
MoS_3, amorphous, struct. study rel. to electrochem. behaviour 1—30061
$MoSe_2$:I_2-electrolyte junction, photoinduced layer phenomenon 1—52652
Na_2O-Al_2O_3-SiO_2 glass surface layers, elec. resistance in NaCl and KCl solns. 1—17072
$Na_2O.2B_2O$ molten glass, interaction with Pt(Ni)(Fe) electrodes under elec. field *(Japanese)* 1—3973
$Na_2O.2B_2O_3$ molten glass, interaction with elec. cond. materials under elec. field *(Japanese)* 1—3974
Nb in aq. electrolytes under open-circuit conditions, electrochem. behaviour of thin oxide films formed on surface 1—26650
Ni, corrosion resistance mechanism 1—53347
Ni, dissolution in aq. ammonical soln., kinetics study *(Chinese)* 1—47237
Ni, F solubility and diffusivity, electrochem. meas. 1—2698
Ni in H_2SO_4 soln., optical props. of substrate and oxide film, ellipsoreflectometry meas. 1—35004
Ni/0.5 N H_2SO_4 interface, potentiodynamic potential/current pfofiles, electrode process mechanism 1—17061
Ni-Cd cells in single cycle appls., electrolyte additive effects on $Cd(OH)_2$ crystal growth during discharged storage 1—35642
Ni-Cd sealed cells, electrode temp. behaviour with an excess of electrolyte 1—53574
Ni-Mo, corrosion resistance mechanism 1—53347
Pb electrodes in sulphate electrolytes, electrode preparation effects on discriminant curve cyclic voltammograms 1—48816
Pb electrodes in sulphate electrolytes, kinetics 1—48817
Pb/acid batteries, porous PbO_2 electrodes behaviour, solid/porous electrode interphase effects 1—53576
Pb/acid battery positive plate form., zone processes 1—21870
Pb-acid battery positive plates, influence of PbO_2 active mass on corrosion rate of spines 1—53575
Pb-$Pb(BF_4)_2$ accumulator, recycling problems 1—35639
PbO_2:Sb, effects of doping on props. 1—16207
Pt catalyst, Cu poisoning, voltammetric study *(French)* 1—31906
Pt electrode reduction of molten alkali metal nitrates, cation effects 1—8578
$SOCl_2$ solutions, cyclic voltammetry and spectroscopy studies 1—35540
Si, autoepitaxy by chloride method, electroadsorptive and electrocatalytic activity 1—11988
SnO_2, corrosion, by fused borax, effect of electric field 1—8463
Sr-Sn-Al-Pb alloy, corrosion in H_2SO_4 1—21627
Ta-Nb alloys, anodic props., comp., effects, ellipsometric obs. 1—53356
Te, liq., thermodynamics of O, electrochem. meas. 1—3698
Ti-Al-Mo-V, current transients obs. during stress corrosion cracking in molten LiCl-KCl 1—48571
Ti-Al-(Mo), AT3, AT6 and VT14 alloys, corrosion cracking resist. 1—53350
W activated cathode, erosion dynamics *(Russian)* 1—3964
WS_3, amorphous, struct. study rel. to electrochem. behaviour 1—30061
Zn, elec. double layer struct. on (0001) face 1—53433
Zn in corrosion in KOH solution, effects of additives 1—53320
Zn, stress corrosion cracking, electrochem. factor 1—31751
Zn-electrolyte interface, electrochem. oxidation, electron states, photocurrent study 1—35546
$ZnCl_2$ battery, H_2 evolution and Zn nodular growth 1—31866

electrochromic devices
display devices, book 1—22962
electrochemical memory, application to short-circuit memory in electrochromic displays 1—21736
IrO_x anodic film cells with fluoride electrolytes, electrochromism obs. 1—48033
WO_3 electrochromic display devices, book contrib. 1—26172
WO_3-liq. electrolyte electrochromic cell, coloration and bleaching kinetics, effect of metallic overlayers 1—48035

electrochromism
[CC] WO_3 amorphous films, electronic struct. and electrochromic props., XPS study 1—3579

electrochromism continued
cholesteric voltage controlled circular dichroism cells, field induced twist profiles 1−26171
graphite, highly oriented pyrolytic, intercalation and deintercalation with Li 1−48291
semiconductor electrode-metallic ion soln., photoelectrochemical imaging system, photoelectrochromic characts. 1−4099
Ir-IrO_2 electrode, faradaic processes 1−17064
IrO_2 electrochromism, temp. depend. 1−39065
Li_2O-P_2O_5-TiO_2 (WO_3)(MnO_3) glass, electrochromic effect 1−16550
MoO_3, amorphous films, electron diffusion and electrochromism 1−48034
V_2O_5 single cryst., surface conductivity charge with electrochromism 1−38835
WO_3 amorphous film, fundamental absorpt. edge, annealing and electrolytic coloration effects 1−35105
WO_3, amorphous films, optical, EPR and H content meas. before and after coloration 1−8043
WO_3 film, reproducibility of coloration processes 1−34347
WO_3 films, electrochromic, microstruct. and degradation 1−47239
WO_3, principle of electrochromism, book contrib. 1−26172
electrodeposited coatings *see electrodeposits*
electrodeposited films *see electrodeposits*
electrodeposited layers *see electrodeposits*
electrodeposition
see also electrodeposits; electroplating
amorphous electrodeposited alloy films, Barkhausen noise 1−21012
catalytic films, on Ni, deposition conditions 1−43676
heat pumps, electrically driven, for heating and cooling in electrodeposition processes *(German)* 1−35691
metallopolymer coatings, cathodic deposition 1−17063
metals, electrocrystallisation, book contrib. 1−38695
Permalloy film, electrode supply mode effect on chem. comp. gradient 1−3644
pulsating current metal electrodeposition, effect of current on surface roughness and porosity of deposits 1−43673
spark alloying spherical surfaces, mechanised, kinematic features *(Russian)* 1−43592
ternary alloy electrodeposition, developments (1972-1978) 1−8247
Ag, anomalously intense Raman scatt. during adsorption on electrodes 1−39100
Ag deposition on Pt electrode, by pulsating current method, formation mechanism 1−43674
Al electrodeposition in organic electrolytes, kinetics and mechanism 1−53112
Al, industrial feasibility of process 1−35194
Au, anomalously intense Raman scatt. during adsorption on electrodes 1−39100
Au coatings, impurity incorporation during neutral electrolyte deposition 1−38687
Au, electroless plating on III-V cpd. crystals 1−16705
CdSe film preparation for solar photoelectrochemical cells 1−43786
CdSe films, electrodeposition from selenosulphite soln. 1−31370
CdTe, electrodeposition in fused salt solutions 1−31372
Co-W coatings, produced from Co plating electrolyte and Na_2WO_4 electrolytes, struct. *(Russian)* 1−12929
Cu anodic and cathodic behaviour in acidic $CuSO_4$ soln. rel. to I^- conc. *(Japanese)* 1−48694
Cu, anomalously intense Raman scatt. during adsorption on electrodes 1−39100
Cu electrocrystn., on single cryst. of Cu(110) plane, sulphanilamide effect 1−48283
Cu electrodeposition, on Cu(100) plane and polycrystn. Cu substrate, sulphanilamide effect 1−43283
Cu electrodeposition, on Pt electrode, pulsating current effect on surface roughness and porosity 1−43673
Fe-group ion penetration into Si, fracturing of Si 1−26397
Gd, preparation by Gd_2O_3 electrolysis, deposition morphology and chemical purity 1−35219
^{181}Hf electrodeposition from urea-oxalate aq. bath 1−48699
InP films, electrodeposition 1−35190
Li, anodic dissolution efficiency, effect of anions 1−53571
Li cycling efficiency determ. in $LiClO_4$-propylene carbonate using Li, Al substrates 1−21869
Ni 1−53360
Ni electrodeposited on Fe powders, investigation of effect of process parameters 1−21639
Pb adsorption on Ag substrate during deposition 1−30571
Pb monolayer and bulk deposition on Ag (111), ultrahigh vacuum and electrochem. cell 1−20594
Si, electrowinning from K_2SiF_6-molten fluoride system 1−21369
Ti, electrocrystallisation, effect of conc. and average valence of Ti subchlorides *(Chinese)* 1−53429
electrodeposits
see also electroplated coatings
organophosphorus coatings on C fibres, prevention of C fibre release from polymer composites 1−8447
polymer layer, protective, on electrodeposited selectively absorbing surface in solar collector 1−35230
polypyrrole film, photoelectrochem. generated, as protection for n-GaAs photoanodes 1−21735
pulsating current metal electrodeposition, effect of current on surface roughness and porosity of deposits 1−43673
ternary alloy electrodeposition, developments (1972-1978) 1−8247
Ag overlayers, bulk plasmon excitation in electrorefl. spectra 1−3520
Al electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
Au deposits, hard, electroplated additive free, inclusions obs. 1−52448
Au, electrodeposit, porosity 1−53361
Au electrodeposit surface quality control, Auger Electron Spectroscopy appl. 1−8579
Au electrodeposited film, thermal cond. meas. technique 1−32984
Au, thick, soft and hard, microstructural characterisation 1−43529
Co-P electrodeposited amorphous alloy, mag. anisotropy 1−30935
Co_3O_4 coating, solar selective, for high temp. solar collector 1−13177
Cr-Cr_2O_3 electrodeposits, electrochemistry, review 1−48700
Cr-Mo black, solar selective, stable absorber 1−48907
Cr_2O_3-Cr black chrome, electrodeposited selective solar absorber film, oxidation 1−12996
Cr_2O_3-Cr black chrome nuclei electrodeposits on Ni film, TEM study of selective solar absorber microstruct. 1−11994
electrodeposits continued
Cu-based composite materials, fracture laws and singularities *(Russian)* 1−3885
Cu-Cd alloys, struct. obtained electrolytically on single cryst., Cu cathodes 1−30598
$KCo(Au(CN)_2)_3$, piezoelectric electrodeposition component, crystal struct., lattice const. determ. 1−25209
Mo electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
Ni black coatings for solar photothermal conversion, low cost electroless, prep., emittance and absorptance 1−32046
Ni, low temperature recrystallisation kinetics 1−43365
Ni-Fe, electrodeposited, film comp. and deposition efficiency, plating parameters effect 1−48281
Ni-P alloys, amorphous, chemically deposited and electrodeposited, struct. and electronic props. 1−2340
Ni-P amorphous alloys, chem. deposited and electrodeposited, struct. and crystn. obs. 1−25166
Ni-P films, amorphous, crystallised phosphide phases, electron diffr. and TEM study 1−52068
Ni_3P deformed amorphous electrodeposits, high resolution electron microscope obs. 1−11677
PbO_2 electrodeposition on Pt, photocurrent spectroscopy, reduction 1−34814
W electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
WC electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
ZnO overgrowths, electrodeposited, nucleation and growth characts. 1−11993

electrodes
see also anodes; cathodes; electrochemical electrodes; microelectrodes; welding electrodes
Ag/KCl pyridine electrode, Raman spectra, depend. on Ag pot. and pyridine concen., adsorpt., desorpt. 1−17059
air ionisation biopotential electrode 1−27016
arc furnace crack damaged graphite electrodes, current distrib. and its effects *(German)* 1−3883
design for ammonia and carbon dioxide 1−13053
double pole double throw electro-optic switch with N-type electrode 1−11182
double-layer capacitance-pot. curves, computerised determ. using Kalousek type waveforms 1−48693
ECG electrodes on-line testing 1−40022
electroactive C paste, polarisation curves, anomalous peaks 1−53434
field and potential in the vicinity of sheer edges of the electrodes *(Croatian)* 1−46197
gas desorption from electrodes and elec. breakdown in vacuum 1−43702
glass melt, effect of siting of electrodes on convection 1−9985
glass-glass and glass-metal, of ozonizer, prebreakdown phenomena obs. 1−15703
HV rod-type electrodes with spherical tip, elec. field calc. 1−1433
impregnated graphite, polarisation curves, anomalous peaks 1−53434
interfacial electron transfer induced by light absorpt. 1−34765
metal vapour arc column, high current between seperating electrodes 1−34143
MHD generator, flow of combustible products containing an additive, electrode arcs theory 1−15669
MHD generator electrodes in arc discharge mode, voltage-current characteristics 1−15668
MHD generator oil fired, materials for high performance channels 1−17224
photoelectrodes from region of TiO homogeneity used water to study H_2O photolysis *(Russian)* 1−39655
photoemission from metal electrode into electrolyte soln., review 1−35151
piezoceramic cylinder with disconnected electrodes, bound oscillations *(Russian)* 1−39038
plane, of positive glow corona, current density obs. 1−15706
plate electrodes for laser-enhanced ionisation spectrometry, evaluation 1−50214
polyacetylene and derivatives, semiconducting, chem. 1−52553
polymer solutions, electrodiffusion anemometry 1−15516
pulsed field production using capacitively coupled electrodes 1−23267
rare earth cpd., $R_xHF_{1-x}O_2$, MHD generator appl. 1−26842
spark gap electrode erosion data, experimental demonstration 1−25110
steel spherical electrode HV stability in ultra high vacuum, obs. 1−5332
telluric observation electrodes, Pb-$PbCl_2$ type 1−40215
TSC, boundary conditions on contacts, blocking and unblocking electrodes 1−21120
vacuum arc, high current between hollow cylindrical Cu electrodes in radial mag. field 1−34147
wire proportional chamber electrode US cleaning apparatus 1−37058
Ag, adsorbed N-containing cpds., Raman spectra, voltage depend. of surface-molecule line 1−35051
Ag electrode, adsorbed $Ag(CN)_x$, Raman spectra correlations with voltammograms 1−34578
Ag electrode, adsorbed pyridine, surface plasmon enhanced Raman scatt. freq. and angular resonance 1−35053
Ag electrode, dielectric surface excess, solid-electrolyte interface anisotropy 1−34771
Ag electrode, in halide solns., anodic photocurrents 1−16312
Ag electrode, surface enhanced light scatt., background and CN stretch vibr. 1−35046
Ag electrode, surface enhanced Raman spectrosc. of pyridine, overtones 1−52932
Ag electrodes, halide ions (air) organic impurities adsorption, surface enhanced Raman spectra 1−48056
Ag electrodes, surface layer of C, form. and diff. of hydrocarbons, Raman obs. 1−28976
Ag, polarisation curves, anomalous peaks 1−53434
Ag surface enhanced Raman spectrosc. of pyridine, surface complex form. 1−52931
Ag(Au)(Cu) electrodes, pyridine ion or tetraalkylammonium ion adsorpt., reson. Raman scatt. 1−39100
Al electrde quartz crystals, microprocessor control anodisation 1−16938
Au electrode, adsorbed pyridine, surface plasmon enhanced Raman scatt. freq. and angular resonance 1−35053
Au electrode, dielectric surface excess, solid-electrolyte interface anisotropy 1−34771

electrodes continued
C electrode chamber, Au extraction from chambered electrode in Cl stream, spectrochem. anal. 1−4134
CdS-CdTe solar cells, development of screen-printable electrode material for CdS 1−8714
Cu, adsorption of pyridine, surface enhanced Raman scatt. 1−12484
Cu electrode, adsorbed pyridine, surface plasmon enhanced Raman scatt. freq. and angular resonance 1−35053
Cu electrode surface effect on initial arc movement 1−34168
Ga electrodes, photocurrents in NO_3 solns. 1−43689
In-Ga eutectic electrodes, photocurrents in NO_3 solns. 1−43689
$(La,M)CoO_3$, (M=Ba,Sr), semiconductor electrodes, anodic O_2 evolution 1−16361
LiAl-FeS cells, electrode current collection, new approach 1−48822
Mo, carbide and boride coated by direct electron beam vaporisation, emission-adsorpt. props. 1−35450
Mo low press. arc electrodes, erosion in self-generating discharge regime *(Russian)* 1−2264
Pt platinised electrodes, adsorpt. of methanol, surface prep. technique effects 1−52435
SF_6 impulse and AC breakdown, polished and rough electrodes coating influence 1−19995
Ti electrode covered with Pt doped passive film, redox reactions 1−39624
TiO_2 electrode, chemically modified, surface states 1−34764
W electrodes, high current activated, surface Auger spectroscopy 1−31944
W-Th electrode, diffusion depletion time, in arc burning, temp. depend. 1−42581

electrodynamics
see also electron beams; electron optics; electron tubes; ion beams; ion optics; ion sources; quantum electrodynamics
axial anomalies by dimensional reduction 1−40947
boundary conditions in electrodynamics of moving media 1−34046
t-butyl chloride and its solid soln. in tetramethylsilane, rotator phases, zero-Thz spectroscopy 1−33461
canonical formalism, gauge-independent for nonrelativistic electrodynamics 1−36517
canonical transformation in neoclassical radiation theory, book contrib. 1−14033
channelled charged particles, interaction with light 1−25346
charge field formulation, book contrib. 1−14034
charged Brownian particle stochastic dynamics in Coulomb field 1−33608
charged particle dynamics, ball on turntable analogue, teaching 1−27723
charged particle moving in parallel to joint of semiplanes with isotropic and anisotropic cond., radiation *(Russian)* 1−1468
charged-particle stream configurations, variational principle for EM field 1−6440
classical and quantum theories of radiation, book contrib. 1−14030
conducting shells, near-surface induction heating electrodynamics eqns. *(Ukrainian)* 1−29525
diode, pinched electron beam, finite temperature relativistic fluid theory 1−41547
dipolar solute molecules in nondipolar rotator phase benzene and tetramethylsilane, zero-THz spectroscopy 1−33461
dipole field, bound states and electronic spectra 1−19251
dipole magnet, particle motion in fringing fields, second order approx. calc. 1−6438
disperse medium, isotropic, electrodynamics *(Russian)* 1−51345
dual-symmetric formulation of macroscopic electrodynamics 1−49956
Earnshaw's theorem and the stability of matter 1−39
electrochemical system, electrodynamics, appl. to IR and optical transitions in systems containing impurities 1−35549
electromagnetic fields excited by neutrons in air 1−37395
electron classical system, two dimens., electrodynamic props., SCF approx. 1−24942
electron interaction with pump fields, superluminal electron velocities 1−10900
electron moving in Redmond field, self-resonance 1−51352
electron size in classical and quantum theory *(Hungarian)* 1−23456
electron-electron scattering, in presence of laser field 1−15060
electron-positron system, rotating fields and particle-like states, review 1−46172
electrons in EM plane wave field, optically induced band structure 1−6439
electrons suspended above surfaces of cryogenic dielectrics, review 1−20509
EM pulse response, numeric Huygen's source scheme in finite difference program to illum. scattering bodies 1−33601
energy and momentum conservation for electron interactions with EM radiation 1−10898
energy balance of charged particles beams, kinetic power theorem 1−15059
energy exchange between free electrons and EM field 1−10899
free electron laser, dynamics of electron beam in combined guide and pump magnetic fields 1−29247
free electron laser, two-element, electron rebunching and radiation gain 1−10967
gauge principle, equations for scalar and vector fields *(Russian)* 1−9849
Helmholtz resonator, Q and cross-section optimisation 1−41545
Helmholtz resonators in electrodynamics strongly coupled circular cylinders 1−19247
interaction of long orbiting metal wire with ionospheric plasma 1−32580
ionosphere electrodynamics, wave and particle phenomena induced by Space Shuttle metallic tether 1−4745
laser fusion targets levitation and transport 1−19926
laser-electron beam backscattering, intensity effect anal. 1−33610
magneton, charged, rectilinear motion in external EM fields 1−41548
Maxwell's equation, rel. to inhomogeneous medium, problem and soln. 1−27705
mechanical forces torques associated with EM waves 1−1467
metal interfaces, electrodynamic boundary conditions 1−30798
moving media electrodynamics, tetradic method 1−9851
non-linear oscillator, radiative corrections 1−19252
particle acceleration by an intense solitary electromagnetic pulse 1−27799
particle scattering, laser-assisted, quasistatic-field approximation 1−24337
pentachloronitrobenzene, rotator phases, zero-Thz spectroscopy 1−33461
power transformer, electrodynamic forces acting on current-carrying circuit in vicinity of ferromagnetic cylinder *(Russian)* 1−33596
quasistatic boundary-value problem in electrodynamics, iterative soln. 1−18053

electrodynamics continued
radiation theory and QED, book 1−13946
relativistic effects, continuous media, review 1−18186
relativistic equations for particles with spin moving in external fields 1−23415
retarded fields and point particles, review 1−9850
rotational electrodynamics and relativistic covariance 1−453
spinning particle with radiation damping exact solutions of motion eqns. 1−46203
spontaneous radiation emission, unified view, book contrib. 1−14031
stimulated EM shock radiation, arbitrary angle between electron vel. and field direction 1−10902
stochastic electrodynamics, review, book contrib. 1−14032
time-symmetric, approximately relativistic particle interactions and radiation 1−23029
time-symmetric electrodynamics, classical 1−5118
two-level atom, extension of Einstein's model to relativistic frequencies 1−19042
vibration generator *(German)* 1−46688
wave equations, two-potential formulation and multiple representations 1−19253
white dwarfs, elec. field of chemically inhomogeneous star rel. to electrically driven mass loss 1−44551
X-ray relativistic free-electron frequency upconverter 1−15061
Ag surface, interfacial light scatt. and electrodynamics due to roughness 1−35108
H atom problem, existence of const. stationary soln. in stochastic electrodynamics 1−23043

electrodynamometers *see dynamometers*

electroencephalograms *see electroencephalography*

electroencephalography
see also bioelectric potentials; biomagnetism; brain
alpha rhythm, normative spectral data in male adults 1−27012
alpha rhythm representation model 1−4381
amplitude histograph, quantitative indices 1−32284
analysis system of the National Cooperative Dialysis Study 1−22147
anethetised patients, microprocessor monitoring of EEG 1−22156
auditory signal detection, slow wave and P300 correln. 1−32134
automated analysis with microcomputers 1−49146
background activity, changes rel. to age 1−26890
biofeedback effects at 40 Hz, maintenance and generalisation 1−4253
central problem and factor anal. 1−21974
conference, Atlanta, USA (Oct. 1978) 1−13908
conference, Monaco (June 1978) 1−17927
conference, Mont Gabriel, Canada (Mar. 1979) 1−13910
conference, Paris, France (Mar. 1978) 1−13907
conference, Pecs, Hungary (Jan. 1978) 1−13906
conference, Stockholm, Sweden (Dec. 1980) 1−13909
continuous observations at night and in daytime, normal subjects 1−26887
cortical excitability rhythm 1−4255
delta rhythm topography during sleep, system for study 1−27014
depth spike activity related to sleep state and seizure activity in temporal lobe epilepsy 1−26888
devices for nervous system exam. 1−17512
drug-induced changes in the dog, spectral quantification 1−32115
drug-induced sleep patterns, parsimonious global quantification 1−32290
EMC test procedure using human subjects and simulated electronic patients 1−27023
epileptic seizures, dimensionality estimation 1−32281
feature extraction methods for syntactic EEG analysis 1−32288
frequency spectra changes in cats produced by sedative-hypnotics and neuroleptics 1−17377
higher cortical functions, EEG correlates, review 1−39903
hippocampal, spectral props. rel. to behaviour in man 1−49138
interictal epileptiform discharges, discriminating characts. and clinical correls. 1−21998
light stimuli modulated with subject's α-rhythm, induced EEG changes 1−4267
M-wave and CNV, squirrel monkey, generality of cue modality and reward 1−4266
mental activity and the EEG, task and workload related effects 1−43860
microprocessor system for EEG anal. *(Bulgarian)* 1−13330
modelling and decomposition 1−32114
multichannel, coupled composite source model 1−4382
nocturnal sleep, severely mentally retarded children, abnormal EEG patterns 1−17374
olfactory system EEG, freq. anal. in cat, rabbit and rat 1−32150
pattern recognition of EEG waves during hypoxia 1−32291
person recognition from EEG spectral patterns using a computer 1−4374
photoparoxysmal responses of some Cape Peninsula ethnic groups 1−48988
respiration-linked 'limbic spindles', vibration artifact 1−17508
segmentation of signal, morphological descriptors *(French)* 1−40017
sleep research, pattern recognition appl. 1−53923
source derivation in clinical routine EEG 1−49137
spike and wake activity, high-speed automatic anal. 1−4373
theta rhythm, periodic appearance in frontal midline area during mental task performance 1−17375
time dependencies, study of origins, expt. support of theory 1−53776
time dependencies, study of origins, theoretical basis 1−53775
time domain analysed, use with cardiovascular parameters for anaesthetic levels monitoring 1−35897
TV sensitivity of epileptic patients, effects of ambient lighting 1−49139
vacuum extractor cup for fetal EEG and ECG recording during delivery 1−4375
waveform detection method 1−32289

electroendosmosis *see electrophoresis*

electroerosive machining *see spark machining*

electrofluidynamics *see electrohydrodynamics*

electrofluorescence *see electroluminescence*

electroforming
Fe/Ni alloy foil, anode material effects 1−48697
GeO_2 films, in MIM struct., elec. props., electrolum., and electron emission 1−38874

electrogasdynamics *see electrohydrodynamics*

electrohydrodynamics
p-n-alkyloxybenzoic acid homologues, threshold and electro-optical characts., EHD instabilities 1−30049

electrohydrodynamics continued
asymmetric fluid flow in a hemispherical container induced by electromagnetic forces, appl. to welding 1−24895
coalescing disperse system, kinetic equation, convection and turbulent interdiffusion 1−51848
collapsing hydromagnetic configuration, electric counterpart of Ferraro's theorem 1−44803
cylinder-plane electrode system, convective conductivity 1−2093
dielectric emulsion, weakly dispersed, particle dynamics in nonuniform electric field 1−6902
dielectric liquid in cylindrical annulus subject to unipolar charge injection, linear instability 1−42102
dielectric suspensions, weakly conducting, internal rotation in hydrodynamics 1−51875
discotic mesophase, electro-optical effects, dielec. and EHD instabilities 1−46990
dispersed media two phase flow in elec. field 1−24891
electron and ion sources, electric field near anode 1−977
electrorheological effect and applications 1−38018
flow through cold impurity traps, transport processes, EM mixing effect 1−11401
instability growth, inertial and equilib. shear retardation 1−19833
instability of weakly conducting fluid between cylindrical electrodes, unipolar injection 1−2094
liquid droplet oscillation, extended Rayleigh theory for viscosity and external elec. field effects 1−51834
liquid-crystal electro-optic modulator based on electrohydrodynamic effects 1−11084
nematic liq. crysts., instability in elec. field at reduced temps. 1−2325
nematics, distortion waves and phase slippage 1−52058
pentane-acetone mixture, mass exchange during film rectification, elec. field effect *(Russian)* 1−42099
polar-liquid column under unipolar-ion injection, nonlinear oscills. 1−33970
polarisable disperse and multicomponent media in EM field, model construction 1−24888
Rayleigh's electrified water drops, stability calcs. 1−42082
segregation mechanisms of liq. and solid phases in metallurgy *(French)* 1−42098
sphere-plane electrode system, convective conductivity 1−2093
suspension of spheres, electroviscous effect 1−34018
thermoelectrohydrodynamic flow due to Joule heating in dielectric liquid 1−51876
two-phase horizontal pipe flow regime transitions in elec. field 1−19792
unipolar electrophoretic flow, mass transfer and dissipation 1−24889
viscous fluid between two coaxial circular cylinders, EHD problem 1−6896
weakly conducting liquids, stability in EHD, spherical concentric electrodes 1−2088
weakly conductive liquid, EHD instability, weak injection effects 1−15553
Cu particle suspension, particle diffusion 1−19793
H_2, catalytic combustion in the diffusion controlled regime, corona discharge augmentation 1−29654

electrojets
see also ionosphere
auroral, index used to find geomag. activity, correl with LF radiowave fading 1−9310
auroral electrojet, currents closing field aligned currents, Pedersen cond. interpretation 1−22584
auroral electrojet, irregularity phase vels., aspect angle depend. 1−40252
auroral electrojet activity index, rel. to midlatit. thermospheric winds and temps. 1−17714
counter-electrojet phenomena during afternoon, mechanism 1−44359
equatorial, equivalent and S_q current systems, map 1−4689
equatorial counterelectrojet in Indian zone near noon, Z-vars. 1−13632
equatorial electrojet field diurnal variations rel. to geomag. activity 1−54306
equatorial electrojet strength variations due to planetary waves 1−54308
equatorial mag. field features from POGO satellites 1−32577
ionisation irregularities near electrojet edge, fading obs. study 1−44360
substorm enhanced, relative position of Pi 2 pulsation 1−54331

electrokinetic effects
see also electrodynamics; electrophoresis
chemotronic transducers, principles, design and appls. *(Polish)* 1−40780
electrophoretic and diffusiophoretic drift, noninertial, of particles in nonuniform alternating elec.fields 1−17062
polyoxyethylene, adsorpt. on SiO_2, electrokinetic pot. and surface charge effects 1−39649
suspension, particle deposition onto rotating disc under transient conditions, nonstationary transport eqn. soln. 1−35581
two-phase horizontal pipe flow regime transitions in elec. field 1−19792

electroluminescence
see also phosphors
alkali metal halides, electroluminescence mechanism of α emission 1−21278
anthracene crystals, doped, two carrier mobilities, transient electroluminesc. obs. 1−20728
LED, book contrib. 1−26278
organic polymers, in strong elec. fields, current and luminesc. oscills. 1−25742
phosphor, photoexcited, computer simulation of effects accompanying elec. field applic. 1−16609
rare earth metals: ZnO electroluminors, photo and electroluminesc. at liq. N_2 temp. 1−39135
tunnel junction, light emission, role of fast surface polariton, theory 1−38826
Al-Al_2O_3-Au thin film structs., IR emission under DC bias *(French)* 1−48169
Al-SiO_xN_y-Al system, hot electron emission into vac. and electrolum. 1−31317
Al-SiO-Au thin film structs., IR emission under DC bias *(French)* 1−48169
Al_2O_3, impurity doped, thin film, electrolum. 1−8136
$BaTiO_3$, ferroelectric, electrolum. emission during polarisation reversal 1−26276
CC CdF_2, electronic cond. and optical props., review *(Polish)* 1−52565
$(Ca_xSr_{1-x})S$:Cu, Nd, electroluminophor, luminesc. meas. 1−52998
$CdF_2:R^{3+}$ (R=rare earth), electrolum. 1−26279
$Ga_{1-x}Al_xAs/GaAs$ DH LED, abrupt high temp. degradation 1−21256
GaAs, degenerate, emission near absorpt. edge 1−21259

electroluminescence continued
GaAs electroluminescent structs., DH and variable gap, nonradiative current component increase due to defect form. 1−19343
GaAs-(Al,Ga)As laser diodes, luminesc. during degradation 1−41704
$GaAs\text{-}Ga_{1-y}Al_yAs\text{-}Ga_{1-x}Al_xAs$, n^+-i-n heterostruct., optical emitter degradation 1−7716
GaN n-i structure, luminescence props. 1−21277
GaP and GaAs amorphous film/crystal sputtered junctions for electroluminescent diodes 1−16608
GaP:N, radiative combination at NN_1 isoelectronic centre 1−3496
GeO_2 films, in MIM struct., elec. props., electrolum., and electron emission 1−38874
InAs-InSb solid solution heteroepitaxial layer structs., photoelec. and electrolum. characts. 1−25590
$n\text{-}InP\text{-}n\text{-}Ga_{1-x}In_xAs_{1-y}P_y\text{-}p\text{-}Ga_{1-x}In_xAs_{1-y}P_y$ emitting diodes, stability study 1−34779
InSe-GaSe heterojunctions, elec. props. in darkness 1−20865
Si avalanche-plasma light emitter, physical anal. 1−48167
Si MOSFET, emission spectra from subbands in inversion layers 1−12585
Si:H, amorphous, elec. and optical props., book contrib. 1−38816
SiC(6H), prebreakdown electroluminescence spectra 1−35099
$SnO_x/ZnS/Cu_xS/ZnS$:Mn(Sm)/Al electrolum. thin film struct., spectral props. 1−52999
SrS:Cu, Yb, phosphors, photo- and electro-luminesc. 1−3476
ZnO electroluminophores, photo- and electroluminesc., grinding effect 1−52996
ZnO, preparation by burning Zn in O_2, photo- and electroluminescent properties 1−8263
ZnO:La, brightness waves of electroluminescence 1−52997
ZnO:Sm, Cu(Ag), electrolum. and photolum. 1−43183
ZnO:Sm, phosphors, electrolum. and photolum. 1−43183
ZnO:Sm (:Sm, Ag) (:Sm, Cu) phosphors, photo and electroluminescence spectra obs. 1−16593
ZnS thin-film electroluminescent layers, production and electrical props. *(German)* 1−26277
ZnS:Cu,Nd,Cl, thin film, direct current electrolum. and Nd luminescence centres 1−3495
ZnS:Mn, AC thin film electrolum., memory effect, Mn distrib. effect 1−21276
ZnS:Mn, Cu, Cl thin films, elec. props., electroluminesc., switching 1−39159
ZnS:Mn, Cu powder phosphors, time resolved DC electrolum. studies 1−43184
ZnS:Mn thin film electroluminescent devices, luminesc. props. and cryst. struct., effect of Cl 1−48168
ZnS(Se), ion alloying method for defect struct. control and phosphor activation, luminesc. characts. 1−12548
ZnSe-ZnS:Mn thin films, bright DC electroluminescence 1−3494
n-ZnTe, diffusion of Al, cond. and lum. characts. of junction, impurity levels *(Japanese)* 1−20470

electrolysis
see also anodisation; electrical conductivity of electrolytic liquids; electrodeposition; electroforming; electrolytic dissociation; electrolytic ion mobility; electrolytic machining; electrolytic polishing
chronopotentiometric electrode waves, math. anal. 1−21740
dissolution potential, thermodynamic theory and tests of theory 1−17094
electrodes, mol. H_2 diffusion overpotential and local cell H_2 transfer processes 1−39647
four-electrode meas. of conductivity of solutions, circuit for temp. compensation *(Bulgarian)* 1−50154
haemodialysis, urea removal by intermittent pot. reversal electrolysis 1−32306
heavy water recovery from combined electrolytic and non-electrolytic H_2 streams 1−43670
HYFIRE: fusion-high temperature electrolysis system, for H_2 production 1−50944
ice in astronomical bodies, volumetric electrolysis rel. to fate of planet Phaethon 1−54410
Koelsch's radical, reduction in nonaq. aprotic solvents, electrode wave anal. method 1−21740
photoelectrolytic electrodes, inorganic materials 1−39809
polarisation curves, anomalous peaks 1−53434
PTFE diaphragm for H_2 prod. by alkaline water electrolysis 1−39651
pulsed current conditions, simultaneous discharge of two reacting species 1−31868
quartz, sweeping and Q meas. at elevated temps. 1−4100
rotating disc electrode waves, math. anal. 1−21740
seawater, MnO_2 O_2-selective anode coating 1−8769
selective Zn precipitation process, for water balance and Mg control in electrolytic Zn plants 1−4101
solid electrolyte electrolyser with Nafion-type membranes for electrolytic H_2 production 1−43822
steam power stations, electrolytic defluoridation of the transport waters in a circulating-water system *(Russian)* 1−13016
thermomechanical solar power generation 1−26854
water, aqueous electrolysis, thermodynamics 1−17093
water, photoelectrolytic decomposition at semicond. TiO_2 anodes, models 1−17065
$CO_2+1/2\ O_2$ reaction on NiO electrodes, reaction kinetics and order 1−48738
CdS photoanodes in cysteine solutions 1−47743
Cu, dendrites and single crystals, electrolytic method for growth in gel 1−20596
Cu, galvanic electrolysis using negative suspension electrode system 1−8580
Cu powder production by electrolysis, control criterion 1−53138
Fe whiskers, single cryst., electrocrystn. 1−35215
Fe-Mn-Zn system based ferritic raw material, electrochem. prep. synthesis conditions influence on mag. characts. 1−39287
FeTi-H, props. and appl. for H_2 generation and storage 1−21936
H_2 electrolytic production and its pot. utilization for ship propulsion 1−17323
H_2 production, alkaline water electrolysis cells based on inorganic-membrane-electrolyte technology 1−39844
H_2 production, application of electrocatalysis to the electrolysis of water at high temperature and high current density 1−39848
H_2 production, design of electrolytic cells for the production of large hydrogen quantities at medium pressure 1−39846

electrolysis continued
H_2 production, diaphragms and membranes for water electrolysis *(Italian)* 1−39849
H_2 production, effect of electrode overvoltage and cell ohmic drop 1−39845
H_2 production, efficiency of water dissociation to time-resolved hydrogen and oxygen pulses, through non-equilibrium processes on catalyst surfaces 1−39837
H_2 production, electrolytic cell for SO_2 anodic oxidation 1−39840
H_2 production, water electrolysis at high pressure and medium temperature 1−39847
H_2 production, water electrolysis at 30 bar pressure and 200°C 1−43819
H_2, production by water electrolysis, EEC R and D program 1−39843
H_2 production by water electrolysis, capital cost estimates and process efficiencies 1−53697
H_2 production in H_2SO_4 solns., electrocatalysts having electrochem. selectivity, low cost and low overvoltage 1−43679
H_2O, alkaline electrolysis for H_2 prod., EEC R and D programme 1−43813
H_2O, effect of gas bubble behaviour on energy efficiency 1−43677
H_2O, for H_2 prod., anodic and cathodic catalysts. activation of membranes and diaphragms 1−43675
H_2O, for H_2 prod., conf., Brussels, Belgium, Feb. 1980 1−36459
H_2O, for H_2 production, $NiCoLaO_3$ anodic electrocatalyst 1−43676
H_2O, for H_2 production *(Spanish)* 1−43816
H_2O, H_2 production using solar water electrolysis plant, modelling and control strategy 1−8774
H_2O, high temp., ZrO_2/Y_2O_3 thin film solid electrolyte prep. on porous support struct. 1−43678
H_2O photoelectrolysis using polycryst. TiO_2 electrodes, Ni, Cr and Zn doped 1−8575
H_2O, polymer solid electrolytes, optimal structure *(Italian)* 1−43680
H_2O, vapour, low temp., oxide electrolytes, proton and electron conductivity 1−42574
H_2O vapour electrolysis at 850°C, charact. of 50 cm^2 plane electrochem. cell *(French)* 1−43820
H_2O vapour electrolysis at high temp., stabilised ZrO_2 solid electrolyte cell 1−43821
H_2O, with solid polymer electrolyte, advances in O_2 evolution catalysis 1−43669
Ir-IrO_2 electrode, faradaic processes 1−17064
KNO_3-$Ca(NO_3)_2$ melt, NO_3^- cathodic reduction 1−35552
Li/$SOCl_2$ primary cell, chem. reactions, oxidation, voltammetry and electrolysis 1−21867
Li-H, props. and appl. for H_2 generation and storage 1−21936
$LuRhO_4$, photoelectrochem. props. in electrolytic cell 1−35547
Na/S battery, behaviour of S_x^{2-} species in molten $Na_2S_{4.66}$ 1−48696
Na_2O borate glass, ion migration study, O^{2-} transport 1−21733
Ni-Cr-Fe-Ti-Al (14.7, 8.9, 2.25, 1.1 wt.%), γ' determ. by non-aq. electrolyte-potentiostatic method *(Japanese)* 1−31417
PbO_2 on Ti composite anodes, corrosion rates during electrolysis 1−39478
Pd and Pd alloys, absorption and separation of H isotopes 1−21767
Pd-(alloys), electrodes, mol. H2 diffusion overpotential and local cell H_2 transfer processes 1−39647
Si:Li, polycryst., electrolytic doping, effect on elec. props. 1−47099
TiO_2(:Fe) anode for photoelectrolysis of H_2O 1−26754
ZrO_2 electrode, stabilised, O^{2-} titrations in molten NaCl 1−31894

electrolytes
for solid electrolytes see superionic conducting materials
see also electrolysis; superionic conducting materials
additives, effect of Al anodic dissolution in alkaline solns. 1−8702
alkali halide electrolytes, nonaq. solns., thermodynamic props., vapour press. osmometry obs. *(Japanese)* 1−7356
aqueous electrolyte solns., density, viscosity and electrolytic cond. *(Japanese)* 1−52212
aqueous solutions model, ionic assoc. 1−8574
aromatic hydrocarbons, for Al electrodeposition, kinetics and mechanism 1−53112
bolaform electrolytes, nonaq. solns., thermodynamic props., vapour press. osmometry obs. *(Japanese)* 1−7356
ceramic, fabrication, energy conversion simulation systems appl. 1−17194
charged hard spheres, HNC study 1−35538
concentrated electrolytes, thermodynamics, long-range forces effects 1−53435
diffusion through cellophane membranes, US effect 1−39687
dissolved, interaction with formamide, effect on liquid struct., Raman obs. 1−48073
double layer, stat. theory, series expansion in powers of density 1−21731
dye solns., luminesc. spectral props., electrolyte effects 1−46334
electrical double layer, grand canonical ensemble Monte Carlo method 1−26752
electrical double layer, statistical mechanics, stress tensor and contact conditions 1−46965
electrode-electrolyte interface, double layer and adsorpt., nonlocal electrostatic approach, review 1−34769
electrode-electrolyte interface, IR specular reflectance spectroscopy 1−35045
electrophoretic and diffusiophoretic drift, noninertial, of particles in nonuniform alternating elec.fields 1−17062
EM energy losses under action of HF field, inductance cell method 1−50152
glass melts, O_2 reference electrodes 1−21739
Hamaker constant of solid bodies immersed in electrolyte soln., calc. from secondary pot. well depth 1−47734
hard spheres fluid, double layer struct. at charged surfaces 1−7709
ion distribution in electrolyte solutions and plasmas 1−21737
ion-dipole hard sphere, electric double layer capacitance, mean field approx. 1−31108
ion-dipole mixtures, double layer struct. at charged surfaces 1−7709
liquid and solid, charge density and order-parameter waves near critical point 1−2591
lithium tetramethylborate-dioxolane electrolyte for Li/TiS_2 rechargeable cells 1−48814
maleic acid+ethyl vinyl ether, quasielastic light scattering in electric field electrophoretic mobility and apparent charge *(French)* 1−39116
metal-electrolyte interface, lattice gas model 1−34797
metallocenes, electrolyte properties for photoelectrochemical cells, review 1−48868
methanesulphonic acid, electrochem. props. rel. to use as fuel cell electrolytes 1−35541
nonuniform, Stillinger- Lovett condition 1−42272
order parameter and charge density waves near critical points *(Russian)* 1−34639
organic strong acids, electrochem. props. rel. to use as fuel cell electrolytes 1−35541
phase equilibria for highly unsymmetrical plasmas and electrolytes 1−11589
PMA, quasielastic light scattering in electric field electrophoretic mobility and apparent charge *(French)* 1−39116
polar liquids, nonlocal ion screening, solvent description in electrolyte theory 1−52883
polyelectrolyte, salt free soln., small ion tracer diffusion 1−21730
polymer solid electrolytes, optimal structure for H_2O electrolysis *(Italian)* 1−43680
precious metal recovery from used electrolytes *(Bulgarian)* 1−13014
solid electrolyte electrolyser with Nafion-type membranes for electrolytic H_2 production 1−43822
solid-electrolyte interface, ellipsometry, review 1−33037
solid-electrolyte interfaces, conf., Snowmass, CO, USA (Sept. 1979) 1−32797
solid-electrolyte interfaces, nontraditional approaches, review 1−34575
solution and molecular liquid thermodynamic parameters from IR spectroscopy 1−29524
solutions, cationic mobilities, dielect. const. effect, Eigen mechanism 1−35536
solutions, NMR meas. of internal mag. field gradients caused by presence of electric field 1−16492
spherical double layer interaction 1−35539
steady-state convective diffusion in thin spherical layers 1−51779
structure at charged surfaces, primitive model 1−47731
sulphate, Pb electrode kinetics 1−48817
sulphate, Pb electrode preparation effects on discriminant curve cyclic voltammograms 1−48816
tetraalkylammonium salt electrolytes, nonaq. solns., thermodynamic props., vapour press. osmometry obs. *(Japanese)* 1−7356
water-$LiNO_3$ and water-NH_4NO_3 solns., conc., vapour press. meas. using dew-point method 1−53460
$CaCl_2$ aq. soln., permeability estimated from electrochemical data from cation exchange membrane system 1−43705
$Ca(NO_3)_2$ in aqueous and non-aqueous solns., US vel. and density meas. 1−25375
Cd plating, cyan-free electrolytes *(Bulgarian)* 1−53430
Cs salts, molten, fusion electrolysis for H_2 prod. 1−35715
Cu acidic bath development, low metal ion ionisation *(Hungarian)* 1−35535
Cu-H_2SO_4 boundary, in situ photoemission spectra study, adsorpt. effects 1−35149
$Fe(CN)_6^{3-/4-}$ nonaqueous electrolytes, stabilisation of n-CdSe photoanodes 1−35542
KCl solutions, osmotic and activity coeff. at 25°C 1−13036
Li/SO_2 cells, alternate organic electrolytes for improved safety 1−17188
Li/TiS_2 cell with LiSCN electrolyte 1−35643
LiAlO_2 sintered electrolyte testing in molten carbonate fuel cells 1−4172
LiClO_4/dioxolane electrolyte, inherent explosion hazard 1−17069
LiSCN-containing battery electrolyte, thermal decomp., safety aspects 1−31846
Mg/SO_2Cl_2 seawater battery 1−48812
Na/S batteries, wetting properties of molten S electrolyte 1−35644
NaBr+tetraethylammonium bromide mixed electrolyte solns., thermodynamic props. 1−39668
NaCl aq. soln., permeability estimated from electrochemical data from cation exchange membrane system 1−43705
NaCl, Gibbs energy of transfer from D_2O to H_2O, meas. 1−21758
$NaNO_3$ in 1-propanol-H_2O system, ion assoc. conductance 1−30432
$NaNO_3$ solution, electrolyte for electrochem. treatment of Fe *(Russian)* 1−39518
Ni electrolytic solution, Co, Cu, Fe, Pb and Zn determ. using flame-atomic absorpt. photometry *(Chinese)* 1−48767
Ni-Cd cells in single cycle appls., electrolyte additive effects on $Cd(OH)_2$ crystal growth during discharged storage 1−35642
Ni-Cd sealed cells, electrode temp. behaviour with an excess of electrolyte 1−53574
Ru complex electrolytes for electroplating Ru electrical contact material 1−13015
Si surface, adsorption of metals from aq. electrolytes, capacity, photocapacity and current pot. of interface *(Russian)* 1−2830
Ta anodic oxide films, elec. characts. influence of electrolytes 1−52665
$ZnBr_2$ electrolytic solutions, OH stretching mode region Raman spectra 1−1243
ZrO_2, stabilized solid electrolyte cell for H_2O vapour electrolysis at high temp. 1−43821
ZrO_2/Y_2O_3 thin film solid electrolyte prep. on porous support struct., for high temp. electrolysis 1−43678
ZrO_2-Y_2O_3 (11.83 wt.%), electron conductivity and phys. props. 1−7604

electrolytes, solid *see superionic conducting materials*

electrolytic capacitors
electrophysical properties of liquids and measurement using capacitive cell 1−18251
nominal value meas., approx. indication, LED display 1−33007

electrolytic conductivity of liquids *see electrical conductivity of electrolytic liquids*

electrolytic deposition *see electrodeposition*

electrolytic devices
solid electrolyte electrolyser with Nafion-type membranes for electrolytic H_2 production 1−43822
H_2O vapour electrolysis at 850°C, charact. of 50 cm^2 plane electrochem. cell *(French)* 1−43820

electrolytic dissociation
see also electrolytic ions
limiting degree, theory 1−39648
standard gas mixture components, electrolytic production methods *(Polish)* 1−43672
water, photoelectrolytic decomposition at ceramic electrodes 1−17221
Gd_2O_3 in molten LiF-GaF_3, for electrowinning of Gd 1−26409
H_2, electrolytic production of low-deuterium H_2 in large quantities 1−32056
H_2, energy source, prod. by fusion electrolysis 1−35715

electrolytic dissociation continued
H_2 recovery and purification using solid polymer electrolyte electrolysis cell 1−32054
H_2, secondary energy carrier generation and storage, phys.-chem. problems *(German)* 1−35714
electrolytic ion mobility
see also electrophoresis
glass, alkali metal ion transport no. and mobility 1−42572
macromolecules, quasielastic light scattering in electric field electrophoretic mobility and apparent charge *(French)* 1−39116
solutions, cationic mobilities, dielect. const. effect, Eigen mechanism 1−35536
electrolytic ions
see also electrical conductivity of electrolytic liquids; electrolytic dissociation; electrolytic ion mobility
superoxide ion reaction with 2-phenylenediamine, obs. 1−13017
Cu anodic and cathodic behaviour in acidic $CuSO_4$ soln. rel. to I^- conc. *(Japanese)* 1−48694
electrolytic machining
see also electrolytic polishing
alloys, anodic soln. mechanism *(Russian)* 1−43585
mechanoelectrochemical metalworking in polymer-containing media 1−3992
semiconductor wafers, preparation by electrolytic etching for electron microscopy 1−247
electrolytic polishing
see also electrolytic machining
bimetals, electrochemical method for revealing transition zone microstructure 1−39569
brass single-phase alloys, electropolishing in phosphoric acid 1−16977
deformation free electrolytic etching of thin specimens 1−40769
electrochemical size treatment, conditions influence on smoothing speed *(Russian)* 1−43551
metallic composites, electrochemical method for revealing transition zone microstructure 1−39569
steel, austenitic, electrochemical polishing and etching in same electrolyte *(German)* 1−8486
steel, austenitic stainless, electropolishing, effect of Cu 1−21642
steel, stainless, pulsed high-power electrochem. treatment *(Russian)* 1−43594
steel austenitic stainless, surface characterisation after various treatments 1−35452
TEM specimen prep. by electrolytic polishing *(Chinese)* 1−50274
Cr, pulsed high-power electrochem. treatment *(Russian)* 1−43594
Cr-Ni, pulsed high-power electrochem. treatment *(Russian)* 1−43594
Fe, Armco, pulsed high-power electrochem. treatment *(Russian)* 1−43594
Fe, surface roughness smoothing mechanism in passivating electrolyte *(Russian)* 1−39518
Gd, passivation by electtopolishing, Auger depth profile anal. 1−31736
Mg alloys, electropolishing for TEM 1−48634
Ni, pulsed high-power electrochem. treatment *(Russian)* 1−43594
$Pb_{1-x}Sn_xTe$ cut crystals, disordered layer depth rel. to surface treatment 1−42391
electromagnetic absorption *see electromagnetic wave absorption*
electromagnetic compatibility
analysis using models 1−17455
EEG EMC test procedure using human subjects and simulated electronic patients 1−27023
EM penetration into small apertures, modelling considerations 1−33600
nuclear and space radiation effects, IEEE conference, Ithaca, New York, USA, July 1980 1−34368
Satellite Power System Microwave Power Transmission System environmental effects 1−53707
system-generated EM pulse space-charge boundary layer, plasma effects 1−34081
electromagnetic corrections
"electromagnetic corrections" is distinguished in use from "radiative corrections" by application to elementary particle and nuclear interactions
see also radiative corrections
charged hyperon β-decay, β-energy spectrum, general form radiative corrections 1−554
flavour changing semileptonic transitions, weak quark couplings from gluon corrections 1−33164
Higgs meson radiatively induced mass, higher order calc. in SU(5) 1−10223
neutrino induced neutral current phenomena, radiative corrections in $SU(2)_L \times U(1)$ theory 1−36865
QCD vacuum instability, radiative corrections, asymptotic freedom *(Russian)* 1−40971
scalar boson, quantum flavour dynamical mass calc. 1−14364
SU(2)→U(1) spontaneous symm. breaking, vector. boson mass operator in mag. field *(Russian)* 1−50333
$e^+e^- \rightarrow \gamma(\mu^+\mu^-)(e^+e^-)$, radiative corrections, QED processes in polarised beams *(Russian)* 1−10185
$e^+e^- \rightarrow q\bar{q}$ jet broad-backward asymmetry, parton model, gluon EM corrections 1−33193
$ep \rightarrow ep$, momentum transfer range $m_e^2 \ll -t \ll m_p^2$ EM correction, up to second order in 2 1−14396
$\gamma\gamma \rightarrow X$, without e^- tagging, double equivalent photon approx. including radiative corrections 1−45381
l(l̄)N, deep inelastic scatt., P-odd asymmetry radiative corrections for pol. l(l̄) *(Russian)* 1−5627
lp scatt., nonperturbative method for struct. function radiative correction 1−565
l^2p scatt., large nonperturbative effects for small x_E, QED radiative corrections 1−33186
n-p mass difference, QCD calc., radiative contrib. 1−45281
p electromagnetic form factor, asymptotic behaviour, pion-exchange, ladder approx. 1−14389
ψ states, leptonic width radiative corrections, duality, van Royen-Weisskopf relativistic corrections 1−50417
Υ states, leptonic width radiative corrections, duality, van Royen-Weisskopf relativistic corrections 1−50417
$W \rightarrow c\bar{s}$, EM corrections in Weinberg-Salam model 1−14395
$^2H(e,e')$, nuclear parity violation, Weinberg-Salam theory test 1−45497
electromagnetic decays
$1^{--} \rightarrow 0^{-+}\gamma$ decays and hyperon mag. moments, asymptotic SU(3) sum rules 1−45284
electromagnetic decays continued
charmed hadrons, flavour changing radiative decays, short and long distance effects 1−563
charmonium decays, configuration mixing effects 1−28298
hyperon nonleptonic decay, unified phenomenological approach 1−36861
L=1 meson decay into $\gamma\pi$, $\gamma\rho$, $\gamma\gamma$, VMD and single quark transition, A, B, f_0 1−50439
meson decay inelastic and finite width effects on ρ-meson propagator 1−10220
neutrino radiative lifetimes for masses 10-100 eV/c^2, astrophysical constraints 1−36176
off-shell suppression, two body radiative decays in vector dominance model, ρ, K^*, ω, Φ 1−5624
P-wave quarkonium decays, strong QCD corrections 1−547
p-positronium decay into $\gamma\gamma$, radiative corrections 1−24290
pseudoscalar and vector meson radiative decays, form factors *(Russian)* 1−5626
pseudoscalar meson, EM decay, nonlocal quark model *(Russian)* 1−50418
strange hadrons, flavour changing radiative decays, short and long distance effects 1−563
T baryonia, L=1, $J^{PC}=1^{--}$, EM decay widths in QCD 1−33185
e^+e^-, annihilation, SPEAR Mark II results, $\psi'(3684)$ radiative decay, inclusive baryon prod. 1−10242
$\eta \rightarrow \gamma\gamma \rightarrow \mu^+\mu^-$, observ. in $\pi^-p \rightarrow \mu^+\mu^-n$, 25 and 33 GeV/c 1−23503
$\eta \rightarrow \mu^+\mu^-\gamma$, branching ratio and EM form factor *(Russian)* 1−10221
$\eta' \rightarrow \mu^+\mu^-\gamma$, branching ratio and η' form factor *(Russian)* 1−10222
η_b' and η_c', decay widths and masses of excited pseudoscalar states 1−50438
η_c' and η_b', decay widths and masses of excited pseudoscalar states 1−50438
F^{*+} radiative widths from effective quark mass 1−14386
$K \rightarrow \gamma l\nu$, electroweak anomaly, current algebra 1−33176
$K_L^0 \rightarrow \pi^+\pi^-\gamma$ branching ratio, relativistic quark model calc. 1−14370
$K^{*-}(890) \rightarrow K^-\gamma$, radiative decay probabilities 1−28320
$K^{*-} \rightarrow K^-\gamma$ EM transition rates, Coulomb dissoc. 1−45290
$P \rightarrow \gamma\gamma$, regularisation in vector meson dominance model, PCAC anomaly 1−18486
$\pi \rightarrow \gamma\gamma$, QCD aspects 1−14259
$\pi^0 \rightarrow 2\gamma$, quark colour, flavour and charge constraints 1−5625
$\pi^0 \rightarrow e^+e^-\gamma$, Dalitz decay branching ratio 1−45293
$\psi(3095)$ EM decay, η, $\eta'(958)$, f(1270) and E(1420) final states 1−45270
$\psi(3095) \rightarrow \gamma X$, inclusive direct photon prod., momentum distrib. 1−45292
$\psi \rightarrow \eta_c(2980)\gamma$ hadronic final state signals 1−45291
$\psi \rightarrow \eta(\eta')\gamma$, U(1) problem in QCD large N limit, CP violation, effective lagrangian approach 1−18475
$\psi \rightarrow \gamma E(1420)$, radiative transition, branching fraction 1−18485
$\psi \rightarrow \gamma$ + glueball, decay width calc. 1−45240
$\psi'(3684) \rightarrow \gamma\eta_c(2980)$, SPEAR obs. 1−18482
$\psi' \rightarrow \eta_c\gamma$, η_c candidate state at mass=2978±9 MeV obs. 1−18483
$\rho \rightarrow \pi^-\gamma$, EM transition rates, Coulomb dissoc. 1−45290
$\rho^- \rightarrow \pi^-\gamma$, inelastic and finite width effects on ρ-meson propagator 1−10220
$\Sigma^+ \rightarrow p\gamma$, asymmetry parameter and branching ratio 1−14394
Υ, radiative and other two-body decays, tests of QCD 1−23473
Υ,Υ' radiative processes, off shell suppressions, extended vector dominance scheme 1−564
$\Upsilon(9.46) \rightarrow gg$, studied in hadron production by e^+e^- annihilation at 9.4 to 9.5 GeV 1−10234
$V \rightarrow H\gamma$, heavy onium decay, one-loop gluon corrections for semiweak decays 1−18484
W, radiative decomposition, mag. moment *(Russian)* 1−40999
$\Xi \rightarrow \Sigma\gamma$, weak gamma decays and the nonleptonic weak Hamiltonian 1−50425
Z^0, radiative and Higgs decay into heavy quark bound state, rates, enhancement 1−10219
D^{*+}, D^{*0} radiative widths from effective quark mass 1−14386
e^+e^-, charmonium results from Crystal Ball, ψ, ψ' X(2820) and $\chi(3455)$ prod. and decay 1−10207
electromagnetic energy *see electromagnetic waves*
electromagnetic field theory
see also electromagnetic waves; electromagnetism
analyticity of scattered fields in Fresnel and Fraunhofer regions 1−1460
boundary integral equation method for a Neumann boundary problem for force-free fields 1−27797
Casimir effect in two dimensions 1−37390
charge coupled to EM field, nonrelativistic approx., canonical transform. method appl. 1−32860
circular conducting cylinder, near field calcs. radiated by infinitely long slot 1−6427
Clebsch representations and energy-momentum of the classical electromagnetic and gravitational fields 1−18052
coherence phenomena, different approaches in physics 1−40660
concentric line with helical inner conductor, EM fields, phase consts, wave impedance 1−6428
diffusion of field in nonhomogeneous material, investigation using geometrical optics 1−10890
dissipative or conductive media, temporal and spatial behaviour of EM fields 1−41541
dual-symmetric formulation of macroscopic electrodynamics 1−49956
electric multipole transitions, role of EM field potential gauge 1−19043
EM Bianchi cosmologies 1−36441
EM radiations in closed surface interior, vectorial integral equations *(French)* 1−81
EM theory, removal of acceleration terms from two-body Lagrangian to order c^{-4} 1−32859
energy current theory, modified version 1−19234
external magnetic field changes, vibrs. at double mains freq. anal. 1−19239
Faraday and Einstein's interpretation of EM field theory 1−18004
field fluctuations in a two-phase random medium 1−5119
heat transfer due to fluctuating EM field *(Russian)* 1−33875
Helmholtz harmonics, vector solutions, addition theorem 1−27798
Helmholtz resonators in electrodynamics strongly coupled circular cylinders 1−19247
Kerr metric, perturbations, Maxwell and Dirac eqns. soln., black holes 1−18108
Lagrangian to order c^{-4} for two charged bodies 1−36516
Maxwell equations, field constraints on discontinuous solns., special relativity theory 1−41534

electromagnetic field theory continued
metal surface, electrodynamics, appl. to spectroscopy of adsorbed molecules 1−25783
momentum, canonical, measurable in any gauge 1−5120
moving media electrodynamics, tetradic method 1−9851
multipole field anal. and calc. 1−6443
nearfield scatt. by dielectric slabs and hollow wedges 1−1439
noninertially moving optically active media, EM wave propagation *(Russian)* 1−32846
relativity, special, 6-D, new EM fields 1−40650
review of EM field theorems 1−24323
stable EM fields calc. *(German)* 1−18114
stochastic quantisation of Maxwell field 1−44773
tachyons, imaginary mass system associated with EM fields, helicity representation of Lorentz group 1−5099
three-dimensional EM fields, transient anal. using nodal eqns. 1−19240
three-dimensional unitary space, representation and anal. using sphere 1−10889
TM and TE electromagnetic beams in free space 1−37389

electromagnetic fields
active quenching of EM waves 1−10891
approximate calc. of EM field radiated by H-plane sectorial horn in dielectric med. *(Russian)* 1−37385
atoms, three-level, bichromatic field interaction, reson. fluoresc. spectra 1−19048
boundary conditions in electrodynamics of moving media 1−34046
charged-particle stream configurations, variational principle appl. 1−6440
circular coils separated by nonferrous metal sheet, transfer impedance calc. 1−24324
concave circular cylindrical perfectly conducting segment, high-freq. surface EM fields, dipole excitation 1−29178
continuous media interacting with EM field, model construction 1−24310
cosmology, singularity of homogeneous models with EM fields 1−54673
curved optical fibre, relation between transverse and longit. EM field components 1−41849
cylinder and layer in infinite medium, fluctuation EM field, thermal Green's functions 1−15054
dielectric heating, EM waves in industrial HF ovens, model simulation of periodic structure *(French)* 1−24322
Earth, Cauchy integral analogues for separation and continuation of EM fields within conducting matter 1−22206
Earth EM sounding, appl. of special functions for investigation of nonstationary EM fields 1−40062
effects on humans and safety limits *(German)* 1−13288
electromagnetic field from inductive radiators, topographical study 1−33599
electron moving in Redmond field, self-resonance 1−51352
EM field effect on crack tip and propagation 1−19648
impedance boundary surface, necessary and sufficient conditions 1−41535
magnetotelluric field assoc. with geomag. pulsations, local struct. 1−13390
molecules, weakly bound system, intense EM field effect 1−14969
multipole systems, working region calc. *(Russian)* 1−44964
nonlinear, 3-dimensional, computation using finite elements based on Galerkin procedure 1−10888
operational representation for field intensity components *(Russian)* 1−33597
point charge moving between two parallel plates, EM field *(Russian)* 1−1436
point charge radiation, moving along axis of circular opening, in planar shield 1−15058
pulsars, corotating-plasma soln. for EM field produced by mag. oblique rotator 1−54537
pumped-storage power station, synchronous machine, asynchronous starting, electromagnetic, thermal and mechanical quantities computation 1−37384
quantum optics, electric dipole interaction 1−24378
quasi-stationary and static electromagnetic fields calculations in planolaminar media *(Russian)* 1−1438
redundancy and superfluity 1−27707
scattered radiation fields, surface waves excitation, by rough surfaces of arbitrary slope 1−1451
singularity in integral equations of 3-dimens. EM field, subtraction 1−24325
sources and biological effects, protective health measures and regulations *(Portuguese)* 1−49065
static angular momentum, observability 1−23028
three-dimensional EM field calcs. using finite element discretisation, software development 1−24328
three-dimensional EM field problem soln. using finite element methods 1−24329
three-dimensional EM field problems, contribution of numerical anal. to solns. 1−24331
three-dimensional EM fields, computer solns., conf., London, England (Nov. 1980) 1−22957
toroidal resonator, with conducting separating wall, influence of energy dissipation and geometry 1−1452
transformer type eddy current transducer, parameter effect on struct. and charact. of electromagnetic meas. devices 1−35490
two parallel conductors carrying identical AC, skin effect *(Polish)* 1−29168
water movement in limitless sea, EM field study 1−22196
waveguide structures with dielec. discontinuities, excitation by charged particle beam, electromag. field calc. 1−23923
Ni, electromagnetic-acoustic conversion, tension effect 1−35486

electromagnetic induction
see also inductance
coil interaction with conductive body in alternating mag. field, reaction element influence *(Russian)* 1−15052
coil moving with respect to long wire, induced electromotance calc. *(Polish)* 1−29169
Earth, Cauchy integral analogues for separation and continuation of EM fields within conducting matter 1−22206
Earth, EM methods in applied geophysics 1−22519
Earth, geomagnetic inductive response function determ. in Scandinavia from magnetometer array data 1−35934
Earth, nonstationary EM fields investigation using special functions 1−40062
Earth, short period induction field at Zo-Se, China, rel. to upper mantle elec. cond. *(Chinese)* 1−53967

electromagnetic induction continued
Earth, time depend. of EM transfer functions and assoc. with tectonic activity 1−22240
in Earth and Moon, EM induction workshop, (Murnau, Germany, 1978 September 7 to 13) 1−17928
Earth EM sounding, use of type EVIP-601 apparatus for pulse methods of exploration *(Russian)* 1−27270
Earth EM sounding with mag. field generation, possible use of superconductive magnetometer 1−44346
Earth induced polarisation, negative anomalies explanation *(Rumanian)* 1−44107
Earth interior, magnetotelluric inverse problem, soln. from incomplete data 1−13392
Earth lower crust and uppermost mantle, geomag. sounding of elec. cond. anomalies 1−22204
Earth mantle, operation problem solving method 1−22197
electric fields fundamental role 1−41536
electromagnetic field from inductive radiators, topographical study 1−33599
history 1−5065
infinite wire, current induced by vertical and horizontal elec. dipoles above dissipative earth 1−29170
magnetic fields, displacement currents and nonstationary current distrib. *(Portuguese)* 1−33598
magnetic induction meter for weak nonuniform mag. fields, 0.0005 to 0.025 T 1−23278
magnetospheres, induced, of comets and Venus, laboratory simulation 1−49554
magnetotelluric sounding, direction anal. of pulse variations 1−53985
magnetovariational sounding of layered Earth in auroral zone, modeling of source 1−22210
Moon, electrical cond. investigations using EM induction model 1−22698
multicoil induction focusing probes, radial charact. in anisotropic medium 1−40232
ocean, hydrodynamics rel. to EM induction and inferences on constitution of Earth 1−22323
oceans, EM induction rel. to inferences on constitution of Earth 1−22323
ore bodies, area data interpretation, transitional process method 1−44342
pendulum, electrical, using mag. induction for demonstrations 1−27733
pulse generator, thyristorised, for high intensity magnetic fields generation *(Rumanian)* 1−33592
river water, flow rate meas. by EM technique 1−32548
skin-effect transients on thin plate due to arbitrarily moving flexible current carrying spatial loop *(German)* 1−24321
solid body surface induction beneath polepiece of electromagnet with rod core 1−37386
steel bar quenching region depth determ. using self induction coefficient of coil wound round bar *(Portuguese)* 1−44950
structural steel welded joint cracking resist. improvement by electromagnetic stirring 1−34409
thin-wire antenna coupling with neighboring biological body 1−22058
world ocean, EM induction review 1−22207
Fe-Si, anisotropic electrical steel, mag. losses as function of induction amplitude 1−7883
Fe-Si (~4 wt.%), magnetostriction rel. to magnetisation processes in alternating mag. field 1−7923
Fe-Si-Al, mag. props. in high-freq. region 1−7882
FeC_xB_{16-x} amorphous alloy, core loss meas. 1−12360
Ni, electromagnetic-acoustic conversion, tension effect 1−35486

electromagnetic interference
see also radiofrequency interference
corona discharges from water droplets to overhead conductor, audible noise and EM radiation obs. 1−15326
dielectric slab waveguide, mode conversions of steps, interference patterns 1−29406
graphite/epoxy laminates, elec. cond. and EM shielding charact. 1−20841
refractive index measurement of dielec. sheet at MM wave freqs., quasioptical method using waveguide 1−29407

electromagnetic lenses *see magnetic lenses*

electromagnetic oscillations
see also cavity resonators; lasers; masers; ring lasers
maser, molecular beam, with disk resonator, elliptical oscillation obs. 1−41652
radiation from oscillating plate condenser *(German)* 1−41542

electromagnetic radiation *see electromagnetic waves*

electromagnetic theory of light
No entries

electromagnetic wave absorption
see also electromagnetic wave propagation in plasma; gamma-ray absorption; light absorption; spectra; X-ray absorption
atmosphere, meas. of absorpt. in range 5 to 17 cm^{-1} and its temp. depend. 1−27229
atmosphere, sky emission meas. for rain attenuation using microwave radiometer at 11 GHz 1−13517
atmosphere, study of VLF attenuation as function of azimuth using atmospherics 1−13520
atmosphere millimetre-wave attenuation, improved correction 1−4776
auroral radiowave absorption rel. to electron density fluctuations in lower ionosphere 1−22587
Bloch electrons in external fields, study by evolution operator 1−12078
coatings, enamelled and flame-sprayed, characterisation and microwave reflectivity 1−43510
EM-energy deposition in inhomogeneous block model of man 1−26936
ionosphere, electron collision freq., A1 radiowave absorption meas. of F-region 1−22586
ionosphere, lower, propag. losses of VLF waves at low latits. 1−13629
ionosphere, radiowave absorption, anomalous latitudinal var. 1−40265
ionosphere, relaxation of anomalous absorption of a test wave in artificial inhomogeneities 1−49448
ionosphere A1 absorption, meas. rel. to model electron-density profile for noontime equatorial lower ionosphere 1−13628
IR conductance cell for investigating adsorbed gas phase species on solids 1−40816
magnetoplasma, intense EM beams absorpt. 1−22674
man, energy deposition calcs. for realistic model, comment 1−4322
metals, surface EM wave absorpt. by random boundary inhomogeneities *(Russian)* 1−29195
microwave absorption cell, helicoidal guide, as passive freq. standard *(French)* 1−27936

electromagnetic wave absorption continued
microwave thermal emission of rain calc. 1−44237
multilayer dielectric, toothed array, resonant absorpt. of electrically polarised wave 1−34997
one-dimensional randomly inhomogeneous medium, wave intensity fluctuations, absorption effect and transport eqns. 1−33603
radiowave satellite transmission, wave propagation problems survey at frequencies above 11 GHz *(German)* 1−24333
rain, microwave attenuation meas. rel. to large drops in radar bright band region 1−22444
RF power absorption in spheroidal human and animal phantoms exposed dipole source near field 1−53816
RF pulse technique, use in automatic system for measuring ionospheric absorption 1−32551
rough surface, multiple scatt., effect on energy division *(French)* 1−29171
solar impulsive flares, free-free and gyroresonance absorpt. rel. to microwave spectra 1−44518
sounds produced by the localized absorption of pulsed microwave energy 1−15358
statistical props. of field transmitted through random screen in absorbing medium 1−46200
troposphere propagation props. for radio links transmission medium 1−17644
GaAS, Bloch electrons in external fields, study by evolution operator 1−12078
H_2O, surface EM waves, attenuation and depth 1−34735
W, HF EM wave nonlinear absorpt. *(Russian)* 1−2998

electromagnetic wave attenuation *see electromagnetic wave absorption; electromagnetic wave scattering*

electromagnetic wave diffraction
see also electromagnetic wave propagation in plasma; gamma-ray diffraction; light diffraction; X-ray diffraction
approximate soln. of problem of diffraction by bounded strip grating 1−46201
arbitrary ray optical EM field diffraction by smooth convex surface, uniform GTD anal. 1−1446
circular aperture, Gaussian beam boundary diffr. wave, asymptotic representation 1−29186
conducting plane slit, low freq. scatt. 1−29190
convex body, diffr. computation 1−19248
coupled scalar wave theory 1−51346
cylindrical perturbation in plane surface, Rayleigh hypothesis theory of diffraction 1−1458
edge diffraction, comparison of two leading uniform theories 1−29191
field scattered on small spheroid placed in conducting half-space 1−33607
focusing of two-dimensional waves 1−37387
forward scattering by long thin bodies 1−51794
Fresnel diffraction by periodic grating, linear map on torus quantisation 1−18080
generalised reflection method in electromagnetism 1−24332
H-polarised wave on open cylindrical surface, diffraction problem solving, numerical methods 1−15056
Helmholtz resonator, Q and cross-section optimisation 1−41545
inductive grid in diffr. anomaly region, theory and expt. and appl. 1−8694
Jupiter decametric radio emission dynamic spectrum, radio source diffraction model 1−49564
metals, surface EM wave absorpt. by random boundary inhomogeneities *(Russian)* 1−29195
perfectly-conducting wedge, uniform geometrical theory of diffr., high-freq. soln. 1−6435
plane waves, by infinitely long black screens *(German)* 1−1441
point charge radiation, moving along axis of circular opening, in planar shield 1−15058
point EM source on perfectly conducting finite cylinder, high-freq. radiation, geometrical theory of diffr. appl. 1−29177
reflecting lattices excitation by plane wave in autocollimation mode 1−33606
resonant scatterer system, EM interaction investigation 1−29194
right-angled dielectric wedge, edge diffraction 1−19244
right-angled wedge with soft conditions on one face, EM diffr. 1−51349
semiconductors, acousto-optical analog of the Borman effect *(Russian)* 1−3366
semiuniform asymptotic expansions of the diffraction integral 1−1455
small apertures, dimensionless mag. polarisabilities 1−1448
spherically curved surface edges, canonical problems of geometrical theory of diffr. treatment 1−6436
strip, mixed boundary conditions 1−29185
in transient regime by conducting and dielectric obstacles, integral eqn. anal. *(French)* 1−1465
volume hologram as sinusoidal grating 1−1525

electromagnetic wave diffusion *see electromagnetic wave scattering*

electromagnetic wave interference
see also atmospherics; electromagnetic wave interferometers; electromagnetic wave interferometry; electromagnetic wave propagation in plasma; light interference; Moire fringes
atmospheric radio interference, particular distribution function of a random variable 1−18160
synchrotron radiation interference, angular particle spread dispersion *(Russian)* 1−10896

electromagnetic wave interferometers
see also electromagnetic wave interferometry; light interferometers
Fabry-Perot, plasma diagnostics appls. 1−15651
homodyne submillimeter interferometer with movable measuring arm for meas. electron conc. 1−2233
Jodrell Bank radio-linked interferometer network, description and obs. 1−17766
microwave, hyperbolic metallic lens for plasma diagnostics 1−51990
microwave interferometer, real time, 115 GHz, for electron density meas. in large plasma devices 1−19980
nonlinear, incoherently driven, statistical props. 1−340
polarising Michelson interferometer for FT IR, circular dichroism and reflectance ellipsometric IR spectrosc. 1−50194
radio interferometer, 17 GHz, at Nobeyama Solar Radio Observatory, recent development and initial results 1−4773
radio interferometer, correlation-type, fluctuation sensitivity 1−9368
Very Large Array, construction and performance characts. 1−49509
Very Large Array, planned modifications for solar observations 1−4774
X-ray interferometer of Czochralski Si, lattice deform. from moire pattern and refl. topographs 1−29976

electromagnetic wave interferometry
see also light interferometry; Moire fringes
astronomical speckle and intensity interferometry, thermal radiation field spatial covariance 1−40357
cosmic microwave background, interferometric limits on very small-scale fluctuations 1−9740
Crimea-Pushchino radiointerferometer, main parameters *(Russian)* 1−17893
χ Draconis, spectroscopic/astrometric binary star, speckle interferometry 1−9569
perfect crystal X-ray and neutron interferometry 1−36782
QSO 0957+561 A, B, double quasar, MTRLI obs. at 408 MHz 1−17905
radio aperture synthesis, closure phases method 1−54393
radio interferometer data, adaptive calibration 1−54382
radio sources, mapping using Jodrell Bank radio-linked interferometer network 1−17766
radioastronomy, a general discussion 1−32630
radioastronomy, aperture synthesis using a radio telescope in space 1−44442
solar observations with Very Large Array, planned modifications to instrument 1−4774
solar radio bursts, interferometric obs. at 35 GHz 1−4871
spark diagnostics, impulse, diagnostics 1−15739
SS 433, VLBI obs. at 3.6 and 13 cm. 1−54503
supersonic jet from conical nozzle, specific heat ratios effects, interferometric obs. 1−24864
synchrotron 'white beam' X-ray interferometry, temp. distrib. caused by beam heating 1−10052
tropospheric microwave propagation, X-band diagnostic system for arrival angles and multipath delay, interferometry and freq. sweeping 1−4574
turbulent media, EM propag. review 1−19245
VLBI, optimisation of measurement programmes *(Russian)* 1−13700
X-ray interferograms, fine struct., three-block L-L-L type interferometer with defocusing 1−52025

electromagnetic wave propagation
see also atmospheric electromagnetic wave propagation; atmospheric light propagation; backscatter; electromagnetic wave absorption; electromagnetic wave diffraction; electromagnetic wave interference; electromagnetic wave propagation in plasma; electromagnetic wave reflection; electromagnetic wave refraction; electromagnetic wave scattering; guided electromagnetic wave propagation; light propagation; radiowave propagation
anomalies in periodic layered medium *(French)* 1−23024
asymmetrical strip lines, normal wave current distribution calculation 1−6430
concave circular cylindrical perfectly conducting segment, high-freq. surface EM fields, dipole excitation 1−29178
conducting crystal, surface-emitted EM wave excitation 1−25816
conference, Munich, Germany (Aug. 1980) 1−17
cylindrical region, EM wave propagation, rate of energy transport 1−27790
dielectric half-space, vector EM beam propagation representation 1−1457
dielectric materials with nonlinearly varying parameters, general VKB method appl. 1−15057
dissipative or conductive media, temporal and spatial behaviour of EM fields 1−41541
EM penetration into small apertures, modelling considerations 1−33600
evolution law of a weak discontinuity crossing a non characteristic shock in a nonlinear dielectric medium 1−10893
H-polarised wave on open cylindrical surface, diffraction problem solving, numerical methods 1−15056
Helmholtz equation, 2-D, lower bound to eigenvalues 1−24334
homogeneous periodically layered media, propag. of plane harmonic waves perpendicular to layer *(French)* 1−18031
inhomogeneous wave tracking, asymptotic theory 1−1459
isotropic medium with one-dimens. inhomogeneities in permitt. and permeab., variational theory 1−29172
Josephson junctions, series array, use of EM waves to obtain coherence 1−47799
magnetogyrotropic media effective parameters, EM wave propag. 1−37393
Maxwell equations, field constraints on discontinuous solns., special relativity theory 1−41534
mechanical forces torques 1−1467
metals, thermoelectromagnetic waves, low-freq. EM wave propagation *(Russian)* 1−42737
modified radiative transfer theory for two layer random media, EM wave scatt. 1−10892
moment method solns. (Galerkin's method), nonconvergence results 1−6437
multilevel system, coherent sideband generation during EM propag., Maxwell and Schrodinger eqn. solns. 1−51427
mutual intensity function propag., transport theory in multiple scattering medium 1−29192
noninertially moving optically active media, EM wave propagation *(Russian)* 1−32846
nonlinear inhomogeneous media, EM wave propagation *(Russian)* 1−11042
nonlinear media, appl. of Riemann method 1−41546
nonlinear random waves in nondispersive media, space-time characts. 1−33605
nonoriented mesophase nematics, increased transparency to ordinary waves *(Russian)* 1−42297
one-dimensional randomly inhomogeneous medium, wave intensity fluctuations, absorption effect and transport eqns. 1−33603
radio sources, extragalactic, EM beams collimation 1−36420
randomly inhomogeneous transparent media, frozen turbulence hypothesis, method for testing 1−37392
resonant scatterer system, EM interaction investigation 1−29194
semiconductors with superlattice, EM waves cross modulation 1−20787
time-domain singularity expansion for soln. of EM interaction, matrix difference eqn. anal. 1−1466
transmission through narrow slots in thick conducting screens, slot equiv. cct. model 1−1445
turbulent media, EM propag. review 1−19245
two-phase composite medium, calc. of complex dielectric permittivity 1−19250
unidimensional propagation of transient signals through homogeneous layered and discontinuous iterative media *(French)* 1−18030

electromagnetic wave propagation in plasma
see also ionospheric electromagnetic wave propagation; light propagation in plasma; magnetospheric electromagnetic wave propagation
absorption and scatt. of radiation by laser produced plasma *(Russian)* 1−42141
absorption coefficients, of hot magnetised plasma accreted by degenerate star with strong mag. field 1−22834
absorption of intense EM beams in magnetoplasma, appl. to extragalactic radio sources 1−22674
aerosol plasma, radiowave propagation, variable electric field influences 1−2174
Alfven-ion-cyclotron instability in mirror machines 1−29870
AM and FM signal distortion character, plasma inhomogeneity effect 1−38111
axial electron density, wave power distributions, surface microwave propagation in column 1−34083
axially symmetrical plasma waveguide immersed in strong mag. field, dispersion characts. 1−34087
boundary of fast moving magnetised plasma, Doppler freq. shift of EM wave *(Japanese)* 1−46890
bounded magnetoplasma, intermediate freq. waves, cutoff freqs. 1−42177
bragg scattering of EM waves from ion-beam mode wave packets 1−38110
centre-fed antiphase circular arc antenna, radiation characteristics in warm plasma 1−42180
Coulomb collisions, dielec. const. in strong EM field 1−42178
cyclotron interaction in uniform mag. field 1−24982
cyclotron plasma absorpt. in astronomical X-ray source, quantum effects 1−22673
cyclotron second harmonic damping nonlinear resonance 1−15619
density fluctuations, wave scattering, non-uniform plasma, spectra *(Russian)* 1−24938
DIVA plasma, metal impurity injection with Q-switched laser beam 1−25046
double degenerate four-wave mixing in plasma *(Chinese)* 1−46889
electrokinetic parameters, in N_2 plasma, electron scatt., bremsstrahlung continuum investig. *(Russian)* 1−38067
electron cyclotron preionization and heating in JIPP T-II torus, microwave absorption 1−46902
electron cyclotron resonance of electromagnetic oscillations propagating across an inhomogeneous magnetic field, absorpt. and refl. coeff. *(Russian)* 1−38107
EM instability criterion for arbitrary propag. direction *(Chinese)* 1−51933
energy flux of a signal in a moving magnetized plasma *(Russian)* 1−38108
excitation and propag. of waves, plasma optical thickness in stellarators *(Russian)* 1−25019
fast high density z-pinch diagnostics by laser 1−7003
fundamental plasma emission, theory rel. to solar metre wave radio bursts 1−9466
glow discharge, EM millimetre wave radiation, bremsstrahlung stimulated emission 1−24381
high-frequency Fresnel drag in moving magneto-active plasma, theory 1−22675
ion motion influence on inverse Faraday effect 1−51921
Langmuir solitons, plasma UHF radiation spectrum discreteness *(Russian)* 1−6971
laser interaction, collisions, nonlinear forces 1−29836
laser radiation propagating in magnetoplasma, filamentation instability 1−2187
laser-dense plasma interactions, absorpt., scatt. and energy transport, review 1−29894
laser-produced plasmas, optical ray retracing in stimulated Brillouin backscatter 1−15620
Lorentz-covariant eikonal method in MHD 1−51927
low-density plasma, reabsorpt. of emitted radiation, mag. field effect 1−24980
lower hybrid range frequency heating in JFT-2 Tokamak 1−11575
lower hybrid wave heating in JFT-2 Tokamak, numerical simulation 1−51963
magnetised plasma, curved space-time, high freq. EM propagation 1−29880
magnetised plasma, wave scattering, electron temp., collection optics 1−29854
Mandelshtam-Brillouin scattering, laser plasma, geometric optics approx. calcs. *(Russian)* 1−24937
microwave heating and parametric excitation, turbulence spectrum of waves with anomalous dispersion 1−34079
microwave propag. in plasma, magneto-cond. 1−34082
mirror machine, parametric instabilities 1−51932
moving simple media, geom. optics formulation, far field approximations 1−42179
multiple Brillouin modes in laser-plasma backscatter expts. 1−37552
neutral gas, high freq. breakdown by ions, processes in mag. traps *(Russian)* 1−24920
nonlinear high-frequency EM wave interaction with plasma *(Japanese)* 1−2196
nonlinear phenomena in plasma associated with relativistic motion of plasma electron in high-freq. fields *(Russian)* 1−38109
parametric instabilities in a magnetized and collisional plasma 1−42149
parametric instability and Langmuir wave excitation, emission line broadening and shift 1−34074
parametric instability control in bounded plasma, beam mechanism *(Russian)* 1−2191
plane EM wave scatt. off spherically confined cold plasma 1−51924
plasma heating, conversion to plasma waves 1−19914
plasma science conference, Madison, WI, USA (19-21 May) 1−13930
ponderomotive force in variable EM field 1−15614
quasi-static mag. field generation by intense EM wave in plasma *(Russian)* 1−46893
radiation intensity and temperature of asymmetrical plasmas *(German)* 1−15644
radiation transport, temp. profile calcs. 1−38193
radiowave propag. and scatt. in plasma, metal-air lens and waveguide construction *(Russian)* 1−24979
radiowave scatt. from spatially random fluctuations of electron density in anisotropic plasma 1−19906
reabsorption of the line radiation of a plasma 1−19879
reentry plasma electron density and profile meas. using microwaves antenna *(Chinese)* 1−25002
electromagnetic wave propagation in plasma continued
reflection and reemission by forming EM reson. struct. of a density profile *(German)* 1−11564
reflection by density gradients in magnetised plasma 1−40282
reflexion processes in isotropic plasma, integral formulae 1−34084
refractive index for rays in magneto-ionic theory, eqn. for homogeneous magnetoplasma 1−24976
relativistic electron-positron plasma, cyclotron instability, positron beam and EM wave effects *(Russian)* 1−49701
relativistic plasma, EM wave reflection and absorpt. at oblique incidence 1−2228
relativistically strong EM beams, nonlinear propagation 1−2197
resonance cones, EM interference patterns in plasma antenna 1−15621
resonance effects in plasma with helical structure mag. field 1−19907
reverse Faraday effect in an inhomogeneous plasma *(Russian)* 1−51957
self-trapping, role in EM collimation in extragalactic radio sources 1−36420
in shearing plasma, mag. field effects rel. to pulsar microstruct. periods 1−54536
stability of strong linearly polarized electromagnetic waves in dense plasmas 1−27371
stimulated thermal scattering in plasmas 1−29881
supersonic breakup, EM wave field self-limiting effect *(Russian)* 1−11565
surface admittance tensor of electromagnetic fields at the surface of a magneto-plasma *(German)* 1−29879
system-generated EM pulse space-charge boundary layer, plasma effects 1−34081
Tokamaks, current generation with low-frequency waves 1−38090
transformation in beam-plasma system 1−51958
vibration spectra, longitudinal, resonance, line width 1−19908
wave conversion in inhomogeneous plasma, heating in toroidal traps *(Russian)* 1−2198
wave polarisation in material media, teaching 1−9804
waveguide, parallel plate, with one boundary corrugated, EM wave propag. 1−29882
waveguide with moving plasma cluster, radiowave refl. 1−38112
whistler waves self-focusing in radial inhomogeneous plasma 1−15618
Al plasma, K-shell excitation broadband photocoupling effect 1−15606
Ar, transient absorption, cross section, comparison with ab initio calcs. 1−42181
C plasma, dielectronic satellite transitions, excitation rate, density depend. 1−51956
H plasma, EM wave interaction in plasma background 1−24977
Ne, transient absorption, cross section, comparison with ab initio calcs. 1−42181

electromagnetic wave reflection
see also electromagnetic wave propagation in plasma; light reflection; X-ray reflection
AM and FM signal distortion character, plasma inhomogeneity effect 1−38111
auroral backscatter, evidence for specular components from anal. of 42 MHz fading 1−27335
coatings, enamelled and flame-sprayed, characterisation and microwave reflectivity 1−43510
coherent reflection by field layer in nonlinear medium, theory 1−29325
cylindrical perturbation in plane surface, Rayleigh hypothesis theory of diffraction 1−1458
D-region, auroral, partial refl. results explained in terms of acoustic waves 1−27334
Earth surface, UV reflectance meas. from airborne platform 1−49272
imperfectly periodic layered media, EM wave refl., theory 1−10894
inhomogeneous EM wave reflection at interface-absorbing medium interface 1−6429
ionosphere, D-region partial reflection expt., full polarization meas. 1−40264
ionosphere, effect of wavelike electron density disturbances 1−22588
ionosphere, VLF signal reflection meas. 1−13640
lightning, radar echoes props. 1−44254
modulated periodic slab, vector coupled-mode eqns. 1−29187
N echoes, in equatorial region 1−32571
nonlinear inhomogeneous media, EM wave propagation *(Russian)* 1−11042
reflection coefficient in terms of small parameter 1−33602
rough surface, multiple scatt., effect on energy division *(French)* 1−29171
strehl number degradation by large-scale systematic surface deviations 1−6459
thermosphere over Saskatoon, partially reflected radiowave meas. of internal gravity waves 1−40241
vacuum-superradiating medium interface, Rayleigh superscattering of EM waves *(Russian)* 1−11048
Venus, radar refl. props. and surface relief from surveys at 39 cm wavelength 1−13717
VLF waves propagation at low latits., effects of lower ionosphere on refl. coeffs. 1−13629

electromagnetic wave refraction
see also electromagnetic wave propagation in plasma; light refraction
absorbing medium-transparent medium boundary, refracted field characts. calcs. 1−15055
atmosphere, refr. index struct. parameter sounding as indicator of microwave propag. characts. 1−13518
homogeneous magnetoplasma, refr. index for rays in magneto-ionic theory 1−24976
inhomogeneous EM wave reflection at interface-absorbing medium interface 1−6429
moving dielectric sheet, refractive interaction and resonance patterns 1−24335
moving magneto-active plasma, high-freq. transverse Fresnel drag anal. 1−22675
radio and optical wave refr. in surface-layer propag. links, expt. investigation 1−36040
troposphere propagation props. for radio links transmission medium 1−17644
troposphere refr. index fluctuations, limitation of phase meas. of source coordinates in astronomy 1−9384
vacuum-superradiating medium interface, Rayleigh superscattering of EM waves *(Russian)* 1−11048

electromagnetic wave scattering
see also backscatter; electromagnetic wave propagation in plasma; gamma-ray scattering; light scattering; X-ray scattering
adsorbed molecules on rough surfaces, enhanced Raman scatt., Mie, Rayleigh and Raman scatt. cross sections 1−6267
analyticity of scattered fields in Fresnel and Fraunhofer regions 1−1460
atmosphere radar scattering rel. to winds and turbulence meas., comparison of techniques 1−27299
backscatter from Gaussian-distributed rough surface, perfectly conducting, shadowing function incorporation into anal. 1−29184
cladded optical fibre, eikonal approx. for EM wave scatt. 1−19463
conducting body surface scatt. problems elec. field integral formulation, method of moments pulse expansion 1−1444
conducting cylinders, EM scattering 1−46202
conducting cylinders of finite length *(German)* 1−41540
conference, Munich, Germany (Aug. 1980) 1−17
cross polarised backscatter from half space random medium, second order renormalisation theory 1−29189
dielectric fibres, TM wave scatt., iterative and eikonal solutions 1−15278
dielectric solids, surface space time integral eqn. anal. for smooth Gaussian pulse 1−1464
discrete sparse lossy dielec. scatterers (leaves), backscatt. coeff. 1−51374
eccentrically dielectric coated infinite metallic cylinder, EM wave scatt. 1−1453
EHF attenuation and cross-polarization due to rain at 34.8, 82 GHz, effect of incoherent scatt. 1−27231
EM pulse response, numeric Huygen's source scheme in finite difference program to illum. scattering bodies 1−33601
exact inverse scattering theory 1−51350
extinction cross-section meas. on single falling water drops at 100 GHz using open resonators 1−36021
finned circular cylinder illuminated by plane wave, backscattered field, uniform GTD anal. 1−6434
forced coherent scattering by relativistic beam of oscillators 1−29193
Gaussian beam scattering by perfectly conducting cylinder, theory and expt. 1−19249
gravitational scattering of electromagnetic radiation 1−144
helical coil, circular cross section, Rayleigh-Debye theory 1−1443
inhomogeneous dielectric media with axially symmetric and cylindrical geometry, geometric-optics approx. 1−10895
inhomogeneous fixed obstacles with zero conductivity 1−1462
inhomogeneous surface, randomly statistical, stationary area determ. 1−34562
integral equation for EM scattering from dielectric cylinder 1−37394
inverse scatt., low freq., far-field meas. 1−6426
inverse scattering method in EM optics, appl. to diffr. gratings 1−41571
inverse scattering problems in optics, book 1−49889
ionosphere, scattering by inhomogeneities produced by acoustic-gravity waves 1−27341
ionosphere, stimulated thermal scattering in plasmas 1−29881
ionosphere auroral backscatter, results on 42 MHz fading 1−27335
ionospheric oblique propag., wave scatt. in SW range 1−22617
leaf canopy, EM wave backscatt. coeff. calc. 1−51374
lossy dielectric slab, transient response expansion, singularity expansion method 1−6433
microwave depolarisation on scattering from rough surface 1−4499
microwaves by raindrops, anal. by finite element method 1−32554
modified radiative transfer theory for two layer random media, EM wave scatt. 1−10892
moment method solns. (Galerkin's method), nonconvergence results 1−6437
moving boundary, perfectly conducting flat plate, plane EM wave scatt., one-dimens. case 1−29175
multiple-wave scattering in one-dimensional randomly inhomogeneous medium, non-stationary problems 1−33604
mutual intensity function propag., transport theory in multiple scattering medium 1−29192
nearfield scatt. by dielectric slabs and hollow wedges 1−1439
non-Gaussian random surfaces, shadowing properties, backscatter function 1−29174
non-spherical non-isotropic particles, extinction signatures, microwave analogue meas. 1−6458
non-spherical shape particles, microwave scatt. meas. 1−6432
nonlinearly loaded aperture, Volterra-series method for prediction of scatt. 1−29179
penetrable elliptic cylinder 1−46606
perfectly conducting periodic surfaces with trapezoidal height profile, TE and TM polarisation 1−41544
plane EM wave scatt. from inhomogeneous and anisotropic conducting dielec. surfaces, vector stochastic variational principles 1−29173
plane wave far-field scattering by thin circular metallic disc, eigenfunction soln. 1−1449
plane wave scatt. by grating of continuous and discontinuous conducting wires, moment method anal. *(French)* 1−19242
plane wave TM scatt. by perfectly conducting strip or strip grating, edge mode in basic theory 1−29180
point dipole approx. for scatt. from two identical pseudospheres, phase matrices 1−6431
polarisation utilisation in EM inverse scattering, radar target imaging problem, book contrib. 1−51351
polarised EM waves scattered by spatially inhomogeneous object *(Russian)* 1−1456
pulsar pulses scattered by turbulent interstellar phase screen, fluctuation struct. 1−13793
pulse scattering from curved thin wires, anal. using finite element method 1−1463
quasi-plane waves, use in radiation and scatt. problems 1−18039
quasistatic EM field diffusion into spheroids 1−51344
radar scattering from bare ground, soil moisture effects 1−32480
radio image of objects preparation 1−33638
radio-auroral scattering at two closely spaced frequencies 1−9311
radiowave propag. and scatt. in plasma, metal-air lens and waveguide construction *(Russian)* 1−24979
raindrop size distrib., remote sensing using microwave scatt. meas., propagation system development 1−4668
random rough surface, probabilistic scatt. theory 1−29188
relativistic electron beam, saturation of EM wave stimulated scatt. in mag. field 1−33611
relativistic electron packet, EM pulse stimulated scatt. 1−51354
resonance scattering of EM radiation by macroscopic bodies 1−19246
resonant scatterer system, EM interaction investigation 1−29194

electromagnetic wave scattering continued
rotating cylinder, perfectly conducting surface, relativistic soln., point-matching method, Doppler effect 1−29176
rotating dielectric sphere, depolarisation of backscattered signal and low freq. limit 1−1447
single particle resonant scattering, microwave analogue techniques 1−6455
singularity expansion method rel. to mathematical theory of EM wave scatt. 1−29181
solar corona, type I radio emission scatt. rel. to inhomogeneous struct., results of STEREO-I expt. 1−4896
spheroidal scalar and vector wave functions, translational addition theorems 1−18047
structural information encoding by zeros of entire functions 1−1461
surface waves excitation, by rough surfaces of arbitrary slope 1−1451
thin-wire scatterer, SEM parameters calc. from transient response 1−29182
Thomson scattering by relativistic plasma near Eddington limit, radiation force and Compton rocket effect 1−54361
three-dimensional moving objects, Fourier anal. 1−41538
three-dimensional moving objects, Fourier anal. 1−41539
time-domain singularity expansion for soln. of EM interaction, matrix difference eqn. anal. 1−1466
waveguide with moving plasma cluster, radiowave refl. 1−38112
wide scatterers, integral eqn. formulations 1−51347
Wiener-Hopf problems, factorisation of matrices 1−29183

electromagnetic wave transmission
see also light transmission
troposphere, microwave transmission coupled mode theory for range dependent model 1−9196

electromagnetic waves
see also bremsstrahlung; Cherenkov radiation; electromagnetic field theory; electromagnetism; gamma-rays; heat radiation; light; microwaves; solar radiofrequency radiation; sunlight; synchrotron radiation; transition radiation; undulator radiation; whistlers; X-rays
Abbe's theory, school expt. confirmation and wave phenomena 1−5058
active quenching of EM waves 1−10891
asynchronous electron beam excitation of EM waves 1−33612
channelling, Kumakhov radiation, comparison with other types of radiation 1−52203
conference, Munich, Germany (Aug. 1980) 1−17
electromagnetic radiation, book 1−9786
graded optical fibres, light propag., modal approach 1−1706
magnetotelluric field assoc. with geomag. pulsations, Earth surface waves struct. 1−13390
momentum equations and EM wave energy 1−46199
non-linear oscillator, radiative corrections 1−19252
partially correlated current distrib., EM radiation coherence and polarisation 1−1454
radiation protection methods *(Croatian)* 1−35891
superheterodyne amplification in electron beams 1−24349
surface wave/atom interaction with momentum exchange 1−1186
surface waves along dielectric media, Raman spectroscopy appl. *(French)* 1−19243
T-metric radio signals detection, theory 1−54354
toroidal resonator, with conducting separating wall, influence of energy dissipation and geometry 1−1452

electromagnetism
see also electric fields; electrodynamics; electromagnetic field theory; electromagnetic induction; electromagnetic oscillations; electromagnetic waves; magnetic fields; magnetism
Abraham force, μ-factor expt., comment 1−19238
basis for electromagnetism (relativity) in ballistic theory of light 1−32843
bivector approach 1−40661
dielectric sphere clusters, IR absorpt. spectrum, general soln. of Maxwell eqns. 1−26207
dipole radiation in cassette film, teaching 1−40631
Duffin-Kemmer-Petiau field, photon as zero mass limit, Maxwells eqns. 1−5117
electric field outside current carrying wire, teaching 1−32818
electromagnetic properties of coal mine strata 1−35935
free electron laser, coupled Maxwell and Boltzmann eqns., coherent transient effects 1−10957
free electron laser, Maxwell's equations driven by single-particle currents 1−10964
geometry of wave electromagnetics 1−41562
Helmholtz equation, exterior Dirichlet problem, inverse scatt. problem for LF acoustic waves 1−51648
historical eval. of Maxwell's work 1−40640
laboratory instruction evaluation 1−36480
matrix tensor of gravitation, electromagnetism and Yang-Mills fields unified matrix theory 1−5205
Maxwell's eqns. for lightguides, exact numerical soln. 1−11093
Maxwell equations, EM theory of gratings, book 1−44728
momentum conservation and the vector potential of moving charges 1−5046
optics in four dimensions, conf., Ensenada, Mexico (Aug. 1980) 1−40589
phenomenological EM force density 1−46190
QED, semiclassical representation using nonlinear Maxwell's eqn. 1−28249
quantum optics, electric dipole interaction 1−24377
quantum optics, electric dipole interaction 1−24378
reciprocity theorem, generalised, EM optics in moving media 1−41563
scattering by spheroids, approximate and exact prediction method comparison 1−1440
SI system of units, basic terms and values *(Croatian)* 1−14091
Vlasov-Maxwell eqns. in one dimens., Cauchy and boundary-value problems 1−19864

electromagnets
see also coils; superconducting magnets
20 T stationary-field water-cooled electromagnet design 1−44962
controlled thermonuclear fusion reactor options with magnetic confinement 1−41226
cryostats, novel electromagnet design for use in Hall effect studies on Ge specimens 1−14126
current stabilizer for high-resistance magnets for EPR and NMR spectrometers 1−44972
design for undulators and free electron lasers 1−18261
high field pulsed electromagnet system for use with optical multichannel analyser 1−10000

electromagnets continued
levitation correction device for weighing method of atomatic Czochralski cryst. growth 1−21340
multipole systems, working region calc. *(Russian)* 1−44964
plunger, field calc. using parasitic gap conductivity method *(Russian)* 1−40825
Rapid Cycling Synchrotron (RCS) single stage kicker magnet 1−28762

electromechanical effects
energy conversion in piezoceramic bars 1−19539
equivalent electromechanical and electroacoustic ccts. for spherical solid and liquid layers 1−20323
ferroelectric materials, 3-D dynamic electromechanical constitutive relations 1−16537
interdigital transducers, anal. of shallow bulk acoustic wave excitation 1−15356
metal crystals, strengthening by electroplastic deformation 1−3993
polyvinylidene fluoride, orientation under electric field, X-ray study 1−42328
reinforced plastics, composite, oriented, internal electrostatic field 1−21131
solid dielectric permittivity meas. by ponderomotive force in capacitor field 1−28025
GaAs, strain-electrical phenomena in degenerate p-n junctions and Schottky barrier diodes 1−25798
LiF, electric charge motion under simple slip conditions 1−3047
$Pb(Hf_{1-x}Zr_x)_{1-x}Ti_xO_3$, stress-forced ferroelec.-antiferroelec. transition, electromech. energy conversion 1−21137
Zn crystals, strengthening by electroplastic deformation 1−3993

electromechanical filters
magnetoelastic materials and their appl. survey *(German)* 1−31008
pipe resonator CW filter 1−19537

electrometers
see also charge measurement
MIS photocapacitor/LED electrometric voltage modulator 1−28027
organic solid, DC conductivity meas. assembly 1−33001
surface potentiometers electrophotographic researches using electrostatic induction *(Japanese)* 1−33071
torsional moment torquemeter for use in range 10^{-9}-10^{-10} Nm, quadrant electrometer appl. *(German)* 1−252
variable voltage reference source modification for const. current I-V meas. 1−36703

electrometry *see electrometers*

electromigration
liquid alloy, binary, electromigration under configuration-dependent driving forces 1−7362
metallization system for electromigration improvement 1−16102
metals, impurity electromigration, phonon drag effect *(German)* 1−42582
quartz, powder, elec. cond. 1−30474
quartz, sputtered, quality test 1−21655
thin film conductor, grain boundary and vacancy diffusion model for electromigration induced damage 1−16100
thin films, diffusion processes 1−30486
two-component system, interstitial diffusion thermodynamics and kinetics 1−7392
Al and Al:Si, thin film conductors, influence of SiO_2 layer passivation on electromigration *(Slovak)* 1−25490
Al sputtered films, electromigration behaviour 1−47280
Al-Cu (0.5 wt.%) thin film, electromigration, texture and grain struct. effects 1−34502
Al-Cu strip, electromigration damage, constant DC stressing, TEM obs. 1−52337
Al-Si (2%) alloy films, magnetron-sputtered, electromigration and ohmic contact props. 1−34501
Al-SiO_2 interface, solid state reaction, XPS and TEM study 1−47391
Fe, mass transfer during electrohydrodynamic pulse treatment 1−2673
Mo, surface diffusion of atoms, anisotropy of self-diffusion and thermoelec. diffusion 1−30531
Na-K, liq., electromigration under configuration-dependent driving forces 1−7362
Nb, surface diffusion of atoms, anisotropy of self-diffusion and thermoelec. diffusion 1−30531
Si, electromigration of liq. metal inclusions 1−42578
Si:Ga, electromigration of liq. inclusions 1−42577
Ta, H electromigration 1−47301
Ti:H(D), electromigration, concentration and phase change effect 1−42579
$UO_{2.03}$, encapsulated in metal, thermo- and electrotransport meas. 1−11901
W, electromigration phenomenon *(Chinese)* 1−52330
W, surface diffusion of atoms, anisotropy of self-diffusion and thermoelec. diffusion 1−30531

electromotive force *see electric potential*

electron absorption
see also beta-ray absorption
density and energy radial and transverse distrib. 1−47116
high-current hollow electron beam spectrometer 1−1000
high-current relativistic electron beam, interaction with matter 1−28834
silicone elastomer for mammary prothesis, radiation transmission study 1−20260
Al, relativistic electron absorpt., energy spectrum distrib. 1−42424

electron accelerators
see also betatrons; electron ring accelerators; microtrons
2.5 GeV electron linac injector for KEK Photon Factory, accelerator struct., beam transport system 1−23872
2.5 GeV electron storage ring construction at KEK-PF 1−23881
10 μs high-current electron accelerator construction and characteristics 1−970
electron storage ring, optimisation as synchrotron radiation source 1−23887
ETA, safety in design and operation 1−37029
ETA/ATA pulse power overview 1−28751
European Synchrotron Radiation Facility, feasibility study 1−23886
FXR, 15 to 20 MeV, design using computer modelling 1−28754
HELIOS, Harwell electron linear accelerator 1−6059
high-current, bremsstrahlung spectrum modelling 1−51356
intense electron beam, collective acceleration by autoacceleration process 1−41261
lasers, inert gas halide, versatile 0.5 TW electron beam facility for power conditioning studies 1−29292

electron accelerators continued
linac, picosecond range single-bunch acceleration and detection 1−28748
linear, meas. of charged particle beam intensity using noise-immune system 1−44955
linear high power accelerator LIU-10 1−18931
optically isolated electronic trigger system for subnanosecond time scale meas. 1−973
Photon Factory, Japanese, construction status report *(Japanese)* 1−50996
Photon Factory 2.5 GeV injector electron linac, construction 1−23873
quark models of hadrons, experimental evidence *(Dutch)* 1−10148
recirculating electron accelerator, regenerative beam breakup optimal control 1−10572
relativistic electron beam accelerators, gold foil calorimeter with fast rise time 1−14119
RF resonant cavity design for supercond. multicell linear electron accel. 1−37030
S-band linac, for picosecond pulse radiolysis, time jitter improvement 1−28749
standing-wave accelerator struct., beam loading effects 1−50999
synchrotron, RF acceleration, beam loading effect on capture efficiency 1−18932
Versatile Electron Beam Accelerator, laser-triggered switch modification 1−23879
U-target, Hg cooled, neutron prod. at GELINA 1−37039

electron affinity
atomic anion, resonance states, electron affinities and ionisation pot., calc. using coordinate rot. of electron propagator 1−6182
benzoquinonechlorimides electron acceptors, charge transfer spectra 1−46115
diamond (111) 1×1 surface valence band structure, band bending and band gap states 1−16334
electron correlation, Coulomb hole, HF functions calcs. 1−41506
ethylene, ionisation pot., electron affinity, excitation energy, multiconfig. MBPT calcs. 1−51135
ethylenes, halogen substituted, negative ion form., electron affinities, transmission spectra 1−37180
ionic and covalent states, configuration interaction Coulomb field, point potentials calcs. 1−24047
molecular anion, resonance states, electron affinities and ionisation pot., calc. using coordinate rot. of electron propagator 1−6182
molecule, electron propagator calcs. 1−37368
molecule, energy calc., HAM/4 method based upon Slater's shielding concept, electron affinities 1−10655
prediction, using 1/Z expansion theory 1−46148
transition metal negative ions, binding energies and struct. 1−45915
Al, electron affinities, PES 1−46149
B, electron affinities, PES 1−46149
Be, resonance states, electron affinities and ionisation pot., calc. using coordinate rot. of electron propagator 1−6182
BeO, dipole moments, polarisability and electron affinity, MBPT calcs. 1−33387
Bi electron affinity, PES 1−46149
C_2^- auutodecking resonances, photodetachment spectroscopy, vibr. levels, rot. anal. 1−24195
CN, electron affinity, electron propagator calcs. 1−37368
GaAs (110) surfaces, electron affinity and ionisation energy, temp. depend. 1−38838
GaAs, photocathode, electron spin polarisation meas. 1−48223
H_2, ionisation pot., electron affinity, excitation energy, multiconfig. MBPT calcs. 1−51135
H_2O, ionisation pot., electron affinity, excitation energy, multiconfig. MBPT calcs. 1−51135
LiF, dipole moments, polarisability and electron affinity, MBPT calcs. 1−33387
MgO epitaxial films, low energy electron reflection and electron affinity 1−16198
NH_2, electron affinity, electron propagator calcs. 1−37368
NH_3, proton affinity, ab initio MO, STO, SCF and CI calc. 1−45824
PH_2, electron propagator calcs. 1−37368
Pb, electron affinity, PES 1−46149
PtF_6, heats of charge-exchange reactions, mol. negative ion equilib., effusion method obs. 1−24240
Si-SiC heterojunction, elec. and photoelectric props. 1−42854

electron annihilation *see electron-positron interactions*

electron attachment
chloroethene, electron attachment, rate consts., cross sections, swarm unfolding method 1−37346
trans-1,2-dichloroethene, electron attachment, rate consts., cross sections, swarm unfolding method 1−37346
electronegative gases, electron detachment study 1−15580
excited molecules, dissoc. attachment 1−37348
gaseous dielectrics, electron swarm data relevant to HV insulation 1−6920
gaseous dielectrics, unitary and multicomponent 1−7030
hydrocarbons, electron impact ionisation, attachment cross-sections *(German)* 1−1389
ion+polyatomic molecule, charge exchange anal., reaction mechanism, rate const., electron attachment 1−26738
positive column, low-press., Schottky theory 1−38182
tetrachloroethene, electron attachment, rate consts., cross sections, swarm unfolding method 1−37346
Br_2, electron impact, total ionisation and electron attachment cross sections, negative ion pair form 1−33570
CO_2-N_2-He plasma, electron drift vels., attachment and ionisation rates 1−38156
H^-, photodetachment and radiative attachment involving $2p^{23}P^e$ state, rate coeffs. 1−49493
HCl, dissociative attachment rates, rate consts. 1−37345
HCl, electron transport, attachment and ionisation, arrival time spectra 1−37344
H(1s)+Cs, H^- form., ang. distrib., differential electron attachment and elastic scatt. cross sections 1−41459
$HgBr_2$, in gas mixtures, electron transport coeffs. electron swarm technique meas. 1−37342
$HgBr_2$, ionisation, dissociative attachment, cross sections, appl. to lasers 1−37341
O_2, CO, thermal electron attachment to O_2, van der Waals mols., rate consts. 1−41500
O_2, metastable, dissociative electron attachment, resonant states obs. 1−33569

electron attachment continued
O_2, N_2, thermal electron attachment to O_2, van der Waals molecules, rate consts. 1−41500
O_2, pure and mixtures, thermal electron attachment, rate consts., radiolysis and microwave cond. 1−41500
O_2-hydrocarbon mixtures, thermal electron attachment, van der Waals mols. effect 1−35556
$(O_2)_2$, thermal electron attachment to O_2, van der Waals molecules, rate consts. 1−41500
SF_6 binary mixtures, discharge parameters meas. 1−15578
SF_6-N_2, thermal electron attachment, rate coeff. meas. 1−37343

electron avalanches
alkali halide ionic dielectric, laser radiation breakdown, electron avalanche ionization 1−8001
discharge in cathode region, electron and ion behaviour study by Monte Carlo techniques 1−15719
electronegative gases or gas mixtures, surface defect effect on breakdown evaluation 1−19994
gases, ionisation, electron avalanches, Townsend' coeff., Monte Carlo calcs. 1−38188
overvoltage breakdown at high gas pressure, energy distrib. funct., fast and slow electrons 1−38044
plasma stage in avalanche during spark breakdown of gases 1−24922
runaway electrons, intense beam generation 1−34038
scintillation pulses in riseline discrimination imaging proportional counter for X-ray astronomy 1−9377
Ar-Ne inverse Penning mixture, breakdown by Nd laser pulse 1−42125
CO_2 laser, TEA, kinetic modelling 1−15147
Na vapour, ionisation by intense laser light, electron temp. and density meas. 1−15576
SF_6 at high press. in uniform-field gaps with anode mounted projection, prebreakdown phenomena 1−15714

electron beam absorption *see electron absorption*

electron beam applications
see also electron beam deposition; electron beam lithography; electron beam machining; electron beam welding; radiation therapy
dosimetry, using pulsed emission from relativistic electron beam 1−24348
dye vapours pumped by relativistic electron beam, fluorescence spectra and fragment emission 1−19332
excimer laser system, compact electron beam pumped 1−41745
industrial uses review 1−23875
magnetosphere research, appl. of artificial electron beams 1−36160
MBE, multi-hearth source, UHV-compatible, with programmed EM power supply 1−270
rarefied gasdynamics, electron beam diagnostic method, resolution 1−15064
semiconductor, crystal growth and impurity incorporation by transient laser and electron beam heating 1−53087
semiconductor laser pumped by electron beam, carrier migration influence on threshold characts. 1−33695
thermoplastic film development stabilisation in electron beam recording 1−41642
Au-Ge/Pt ohmic contacts to Ga As by pulsed electron beams and furnace heating 1−7731
CO_2 CW electron-beam-controlled laser with cooled active mixture 1−6578
CO_2 CW electron-beam-controlled laser, output power, active-medium characts. influence 1−33655
CO_2 electron-beam-controlled laser, pumping with max. efficiency of electron beam utilisation 1−46290
CO_2 high-power laser amplifiers, plasma instability 1−46288
CO_2 laser, electron beam controlled, H_2O vap. effects 1−41660
CO_2 repetitively pulsed laser, mean power output in excess of 30 kW 1−46380
CO_2 vibrational-transition laser emissions in low temp. supersonic flow excited by pulsed electron beam stabilised discharge 1−46286
CO_2-N_2-He-CO electric discharge convection lasers, thermal and ionic instabilities 1−46288
D identification in water under natural conditions, electron tubes appl. *(Russian)* 1−27278
DF laser, electron-beam-initiated, energy parameters 1−33672
DF-CO_2 laser, electron-beam-initiated, energy parameters 1−33672
GaAs-AlAs multilayer heterostruct. laser electron beam transversely pumped 1−33684
HF laser, electron-beam-initiated, energy parameters 1−33672
KrF electron-beam pumped laser, oscillator performance and energy extraction 1−29262
Kr_2F, electron-beam pumped, excimer laser emission at 430 nm 1−37462
NO removal, electron beam irrad. of H_2O-O_2-N_2 mixtures, SO_2 effect 1−4230
NO_2 formation, electron beam irrad. of H_2O-O_2-N_2 mixtures, SO_2 effect 1−4230
Si, meas. of lifetime and diffusion constant of minority carriers by phase shift technique in EBIC 1−42789

electron beam deposition
antireflection coatings, achromatic, for materials with refractive indices of 1.46-1.8 1−24475
conductive thin films, evaporation deposition geometry influence on adhesion 1−35178
oxide films, obliquely deposited, columnar topography and liq. cryst. alignment, SEM study 1−25155
thin film thickness distrib. with rotating inclinable target holders of calotte type *(Hungarian)* 1−48262
Al_2O_3 antireflection coating layer props. obtained by electron-beam evaporation in vac. 1−37568
Co-Cr-Al-Y(-Ni)(-Si) superalloy overlay coating, hot-corrosion-resistant, for gas turbine engines 1−31760
Cu level stability, in metal deposition 1−39240
Fe/Cu, microlaminate condensates, struct. and props. determ. 1−16721
Gd-Fe amorphous films, electron beam deposited, uniformity of mag. props. 1−47918
In_2O_3 transparent conducting films fabrication using vacuum deposition *(Korean)* 1−31355
In_2Te_3 thin films, optimum substrate temp. for electron beam evaporation prep. and elec. props. 1−42656
MgO film, dielectric props. obs., for three vacuum deposition systems 1−16525
Nb_2C coatings, direct electron-beam vaporised, emission-adsorpt. props. in Ba-containing stream 1−35450
Nb_3Ge, A15 supercond. film prep. by reactive evaporation 1−12663

electron beam deposition continued
Nb_3Si epitaxial growth by electron beam evap. 1−53091
Ni/Cu, microlaminate condensates, struct. and props. determ. 1−16721
Si:H, amorphous evaporated film prep. and props. 1−43275
Si/SiO_2 reflector, mirror coating for AlGaAs TJS laser 1−15250
TiB_2 coatings, direct electron-beam vaporised, emission-adsorpt. props. in Ba-containing stream 1−35450
TiC, coatings on pyrolytic C, by electron beam induced C/Ti interdiffusion, characterisation 1−25584
$TiC_{0.72}$ coatings, direct electron-beam vaporised, emission-adsorpt. props. in Ba-containing stream 1−35450
TiN_x coating, synthesis by activated reactive evaporation 1−16698
Yb_2O_3 films, electron beam evaporated, dielec. props. 1−3332
ZnS films on glass substrates, condensation and stability 1−30578

electron beam effects
see also beta-ray effects; cathodochromism; cathodoluminescence; electron impact; plasma-beam interactions
adsorbed layers, electron-stimulated desorption imaging using cylindrical mirror analyser 1−30556
aggregate colour centres for optical memories, prod. by ion implantation, X-ray, γ and electron irrad. 1−42380
air, radiated EM field produced 1−33609
annealing, devices and applications *(Japanese)* 1−48199
austenitic stainless steel, cold swelling, effects of Si and Ti, HV electron microscope investig. *(Japanese)* 1−38409
bacterial DNA-membrane complexes, stimulation of DNA synthesis after low doses of ionising radiation 1−13289
bone marrow lymphocytes, X-ray and electron irrad., chromosome aberrations rel. to lethal injury 1−8927
carbon tetrachloride, electron beam irrad., absence of polymer film formation *(Russian)* 1−48684
Chlamydomonas reinhardi, rapid repair of ionising radiation injury 1−17460
degradation theory, recent developments 1−46848
diamond, aggregation of N impurities including platelet formation 1−43345
diamond, channelled electrons, γ-spectra, energy depend. 1−2547
diamond, semiconducting, electron irradiated, photoenhancement of photocond. 1−42816
diamond, type IIa, electron irrad., vacancy and optical meas. 1−2511
dielectric barriers, electron beam effects 1−15930
dielectric gases, environmental effect aspects 1−15687
DNA double-strand breaks, formation and repair in superinfecting phage λ, electron irrad., E coli hosts 1−22079
dry etch rate control of photoresist by E-beam exposure 1−53315
E. coli DNA, influence of membrane fluidity on radiation induced changes 1−22070
energy losses on welding in forevacuum *(Russian)* 1−16635
ethylene propylene, fluorinated, electron irradiated, thermal depolarisation current study 1−34977
FCC metal, radiation-enhanced self-diffusion 1−52340
α-Fe, vacancy migration, self-diffusion, review 1−20191
filament internal structure target damage analysis 1−15066
fluorite, synthetic, absorption spectra, radiation effects 1−25266
G 1−20292
graphite, pyrolytic, electron irradiated, thermal cond., phonon-interstitial scatt. 1−25512
graphite 2239, equation of state study using relativistic electron beam 1−2588
graphite plasma wall, D and He release by pulsed electron and furnace heating 1−25325
halide salts dissociation by electron beams 1−4055
HVEM, electron beam-specimen-environment interactions 1−2516
HVEM, in-situ, appl. to plasticity and materials research, conf., Halle, Germany (Apr. 79) 1−9
HVEM, in-situ expts., role of radiation-induced processes 1−2514
HVEM in-situ studies, of deform., optimum conditions 1−391
ionosphere E_3-layer, aircraft-borne TV obs. of electron beam injection effects 1−22591
liquids, radiation-acoustic effects, data anal. 1−30281
living spores, interaction with electron beams 1−43906
lymphocytes, human G_O, recovery kinetics of chromosome aberrations 1−43922
metal barriers, electron beam effects 1−15930
metallic film, electron beam exposed, temp. distrib. 1−16271
metals, channel form. mechanism *(Russian)* 1−38406
metals, cubic, electron irrad., average atomic-displacement energies 1−38408
metals, physical parameter autooscillation during electron beam irrad. *(Russian)* 1−47113
metals, trajectory simulation using Monte Carlo calcs., low energy transport *(French)* 1−15931
microprocessor chip failure following γ, X-ray and electron irrad. 1−2508
MOS structure, electron irrad. influence on Hall mobility of holes in inversion layers 1−3072
multilayer slab absorber, electron depth-dose distrib. determ., algorithm 1−42440
nucleotides, cyclic, reduction in levels in brain after high dose of ionising radiation 1−4339
optical fibres, transient response to pulsed radiation 1−33813
optical glass, crown, flint, electric breakdown due to shock wave 1−26123
organic crystalline substance, electron-beam radiation damage, specimen thickness effect 1−15932
organic solid insulators, low-energy electrons inelastic interactions, formulae for mean free paths and stopping distances 1−35136
organic solids, electron beam induced damage, implications for analytical EM 1−25329
patients, induced radioactivity from betatron irrad. 1−32191
photochemical hole burning memories, controlled spatial distributions of colour centres 1−51583
plasma-electron beam interaction, microwave emission 1−19912
plasmas, electron and laser beam intensive irrad., irreversible effects 1−42422
polyacetylene films, IR spectra, oxidative and radiative stability 1−16620
polyethylene adipate, irrad., cation-electron pair recomb. by long-range tunnelling, isothermal luminesc. study 1−31206
polyethylene terephthalate, irrad., cation-electron pair recomb. by long-range tunnelling, isothermal luminesc. study 1−31206
polymer dielectric surface discharges: dependence on incident electron flux 1−34985

electron beam effects continued
polymer impregnated concrete, electron radiation induced polymerization effect on mech. props. 1−43307
polymers, irradiated, physical props. 1−7209
purple membrane, Halobacterium halobium, radiation damage at low temp. 1−32211
PVC films, electron beam irradiated, Cl loss, EDAX anal. 1−30282
quartz, electron irradiated, thermal cond., two level systems related to point defects 1−34699
quartz, irradiated, glassy low temp. props. 1−15936
α-quartz, point defects and radiation damage processes 1−15934
quartz, swept Premium-Q, radiation effects 1−15927
quartz, synthetic, electron irrad., optical absorpt. of Al associated hole centre 1−16587
quartz, synthetic, radiation-induced interstitial ion mobility 1−16098
quartz, synthetic, resonator, Na acoustic loss depend. on electron irrad. and electrodiffusion 1−2565
quartz resonators and oscillators, radiation effect 1−15927
range-energy relations of intense beams 1−42442
relativistic, scattered by atomic row, radiative energy loss, orientational depend. 1−38420
relativistic electron beams, use for matter compression 1−30326
skin, high dose-rate dependence of early reaction, mouse leg obs. 1−8916
solar cell degradation, theory of recombination-enhanced processes 1−13140
stainless steel, D and He release by pulsed electron and furnace heating 1−25325
steel, austenitic stainless, electron irrad., void swelling behaviour 1−15929
steel, austenitic stainless, types SS316 and EP838, softening due to electron irrad. *(Russian)* 1−16800
steel, tool M2, electron beam and laser melting, comparative study 1−3976
Teflon, electron irrad. induced cond. 1−7634
Teflon edge breakdowns, due to electron beam, characts. 1−34984
thermal shock generation in solids irradiated by intense pulsed relativistic electron beam 1−38460
trajectory simulation by Monte Carlo method, conf., Bagneux, France (Oct. 1979) 1−13914
trajectory simulation using Monte Carlo calcs., slowing down of 100 MeV to 30 keV electrons *(French)* 1−20285
uridine-5′-phosphate single crysts., C_4-centred radical in ribose moiety 1−43686
vinyl copolymers, Cl-containng, radiation degradation behaviour, search for improved electron-beam resists. 1−47115
void nucleation and growth by radiation, formulation of problem 1−20181
void nucleation and growth under electron irradiation 1−15888
wide band gap semiconductor, deep level capture cross section determ. by electron beam 1−3052
zeolites, stability under electron irradiation rel. to heavy cations imaging in silicates 1−36076
Zircaloy-2, electron irrad. damage study using HVEM 1−42423
Ag-Zn, vacancy enhancement of diffusion after quenching and during irrad. 1−7369
Al, electron penetration and induced secondary emission, Monte Carlo simulation *(French)* 1−16631
Al, HVEM radiation damage, effects of environmental gas 1−2517
Al, point defect absorption mechanisms by grain and twin boundaries 1−20240
Al:In, simple interstitial configurations at ^{111}In impurities 1−25261
Al-Mg foils, role of environmental conditions on irradiation damage in HVEM 1−2515
Al-Si, irradiation-induced precipitation in high voltage electron microscope 1−52178
β''-Al_2O_3, irradiation induced defects, examined by 1 MW high-resoln. electron microscopy 1−34369
$AlPO_4$, radiation effects, EPR and ENDOR study 1−15933
B coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
B thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
Be_2SiO_4, thermoluminescence and exoemission from surface layers *(Russian)* 1−21283
$Bi_{12}Si(Ge)O_{20}$-dielectric struct., image characts. during electron beam irrad. 1−42869
$Bi_{12}SiO_{20}(GeO_{20})$ electro-optic semicond. crysts., information recording with electron beams, surface effects 1−29384
$Ca(OH)_2$, electron irrad. prod. O_2^- centre, ESR, ENDOR, optical absorpt., and Raman study 1−11789
Cd, electron irradiated, defects study by X-ray scatt., lattice parameter and elec. resist. meas. *(German)* 1−7210
CdS, electron stimulated adsorption of O_2, surface activation and preferential binding, AES and PS study 1−2820
CdS surfaces, electron beam stimulated changes in composition and electrical props. 1−25327
$CdSnAs_2$, crystal defects from electron irradiation, effect on cond. 1−25326
CdTe, irrad. induced defects, photoluminesc. study 1−8112
CsBr, dissociation due to electron bombardment *(Russian)* 1−4086
Cu, point defect absorption mechanisms by grain and twin boundaries 1−20240
Cu, shock waves excited by intense relativistic electron beam *(Russian)* 1−52229
Cu-Ag (2 at.%), radiation-induced segregation near grain boundaries and voids, direct obs. 1−16789
Cu-Ag(In)(Ni), very dil., electron irrad., interstitial trapping by impurities 1−52179
Cu-Al (13.43 wt.%) alloy, electron irradiated, climb mechanism of dissociated dislocations 1−11764
Cu-Fe (2 at.%), radiation-induced segregation near grain boundaries and voids, direct obs. 1−16789
$Cu_{50}Ti_{50}$, amorphous, electron radiation damage, elec. resist. meas. 1−34371
$Cu_{40}Zr_{60}$, $Cu_{50}Zr_{40}$, amorphous, electron radiation damage, elec. resist. meas. 1−34371
Fe alloys, solid solution hardening and softening in single crysts., 4.2-300K 1−26488
α-Fe, C-charged, electron irrad., mag. relax. after annealing above stage III 1−21016
Fe, irradiated or deformed, internal friction peaks α and β_1 1−20313
Fe-B metallic glasses irradiations at 20K, thermal and collision effects 1−34370
electron beam effects continued
Fe-Cr, in AES and SEM 1−20266
Fe-Ni, dil., mag. relax. and aftereffect, low temp., after electron beam irrad. 1−7956
Fe-Ni, phase diagram, Mossbauer anal. 1−31424
GaAs anodic oxide films, 1.5 to 6 eV cathodoluminescence obs. 1−16611
GaAs, diffusion of Se, electron-pulsed, form. of n^+ regions 1−7187
GaAs, dislocation glide enhancement by electron beam irrad. 1−52141
GaAs, electron irradiation induced defects, annealing study 1−2426
GaAs, heavily doped epitaxial layers, pulse electron beam annealing effects 1−15928
GaAs:Cr, electron beam irrad., EPR meas. 1−38978
p-GaAs:Cr, Zn, electron irrad., EPR spectra 1−43000
GaAs:Te electron-beam pumped CW laser 1−37512
$GaAs_{1-x}P_x$, ion implanted, annealing by swept line electron beam, luminescence study 1−3453
$GaAs_{1-x}P_x$:Te epitaxial layer, radiation defect features 1−42379
GaP, electron irradiation, optical absorption and photocond. meas. 1−38812
GaP:Cr, electron beam irrad., EPR meas. 1−38978
GaP:Mn(Cu), electron-bombarded, ESR study 1−31023
Ge, divacancy prod. and annealing, electron beam irrad., orientation depend. determ. 1−47081
Ge:Au, fast electron irrad., defect formation, annealing 1−20265
H_2, electron degradation theory, recent developments 1−46848
H_2-SF_6 lasers, discharge-pumped, electron beam preirradiation effect 1−15161
HF compact laser using SF_6-H_2 mixture, long-lived electron beam preirradiation effect 1−24412
Hg, electron irrad., defect prod. and recovery 1−52180
Ho, mirror properties by penetration of electrons and positrons 1−25349
n-InP, thermal cond., thermoelectromotive force and elec. cond. meas., electron irradiation effect *(Russian)* 1−38407
InP:Cr, electron beam irrad., EPR meas. 1−38978
InP(100 surface), electron stimulated oxidation, Auger spectra 1−8169
KBr, electron pulse induced transient defects, annealing, 400 to 700K 1−2437
KBr, Frenkel defect accumulation efficiency, temp. depend. meas. 1−20198
KCl, channeling radiation of 4.9 MeV electrons 1−25340
KCl, dissociation due to electron bombardment *(Russian)* 1−4086
KCl, electron irradiated, polarisation effect in positron annihilation obs. 1−12598
KCl, radiation induced emission of F_2 centres 1−31175
KCl, self-trapped excitons, evolution of Frenkel pairs from excited states 1−35077
KCl, thermal and photothermal conversion of colour centres after high-dose electron irrad. *(Russian)* 1−16588
KI, defect induced, electron range variation 1−42437
Kr plasma production by pulsed electron beam, excitation processes 1−19910
LiF, TLD, radiation-induced colour centres at high absorbed dose rates 1−944
$LiIO_3$, influence of EM irrad. on optical props. *(Russian)* 1−21249
$MgAl_2O_4$-metal contact, photoemission, photocond., irrad. effects, band struct. 1−3017
MgO, effect of $V^- \rightleftharpoons V^-$ transform. on positron annihilation lifetime spectra 1−3530
N_2, electron-beam ionization discharge, negative differential conductivity 1−34178
NaCl, dissociation due to electron bombardment *(Russian)* 1−4086
NaCl, electron irrad. induced M-centre prod. at and above 15°C 1−2513
NaCl, radiation induced F-centre diffusion process 1−38599
NaCl, synthetic and natural rock salt, electron irrad. induced F-centre and colloid form. 1−2512
Na_2O-SiO_2 glass film, Na migration, AES study 1−21302
Nb, electron-stimulated desorption of H^+, expt. 1−16184
Nb single crysts., softening and hardening effect by interstitial atoms 1−21499
Nb_3Ge, Labbe-Barisic-Friedel theory confirmation, transition temp., elec. cond. 1−38880
Nd, mirror properties by penetration of electrons and positrons 1−25349
Ni-Si, low-flux rad. induced precipitation 1−43339
Ni-Si contacts, electron beam heated, electrophys. characts. *(Russian)* 1−42859
Ni-Ti (12 at.%) age-hardened system with modulated struct., electron irrad., void form., dislocation climb interpret. 1−42425
$Ni_{75}B_{17}Si_8$, amorphous alloy S, thermal stability, electron irradiation effects, HVEM study 1−25170
$Ni_{75}B_{15}Si_8C_2$, amorphous alloy S, thermal stability, electron irradiation effects, HVEM study 1−25170
$Ni_{60}Nb_{40}$, amorphous, electron radiation damage, elec. resist. meas. 1−34371
^{63}Ni, radiation-enhanced self-diffusion 1−52340
O_2, discharge, electron beam controlled, kinetics of charged species, metastable species and ozone *(French)* 1−29934
Pt, adsorption of CO, electron stimulated desorption study 1−38653
Pt, adsorption of H_2, thermally induced state conversion, electron stimulated desorption study 1−20567
RbCl, self-trapped excitons, evolution Frenkel pairs from excited states 1−35077
Si, channeling radiation of 4.9 MeV electrons 1−25340
Si, channelled 1.2 GeV electrons, γ-emission 1−2546
Si curved crystalline target, electron beam deflection obs. 1−34384
Si diffused solar cells, bias-dependent electron radiation damage 1−13143
Si, dislocation-free, anomalous X-ray transmission after electron irrad. 1−47114
n-Si, electron and laser beam intensive irrad., irreversible effects 1−42422
Si, electron beam irrad., defect form. 1−20264
Si floating zone melting, gravity influence on thermocapillary convection 1−3615
Si, in AES and SEM 1−20266
Si, ion implanted, scanning-electron and pulsed-laser annealed, struct. and elec. props. 1−42401
Si, ion implanted, thermoelastic stress anal. of pulsed electron beam recrystallisation 1−7251
Si ion implanted layers, high-speed scanning electron beam annealing 1−20269
Si p-n junctions, props., medium energy electrons influence *(Russian)* 1−7715
Si, quasi-adiabatic heating, electron incidence angle influence 1−52191

electron beam effects continued
Si, radiative energy loss spectra of 31 GeV electrons *(Russian)* 1−25348
Si solar cells, degradation, carrier lifetime and mobility changes due to electron and proton bombardment 1−13138
Si:As, amorphous, phase transitions prod. by pulsed electron irrad. 1−30364
Si:As, ion implanted, scanned electron beam annealing 1−42402
Si:As(P), ion implanted, impurity-vacancy cluster interaction, ionisation enhancement 1−2501
Si:B, electron irrad., interstitial B, negative-U system, DLTS obs. 1−2913
Si:In, U_2 photoluminesc. line, evidence for complex isoelectronic centre 1−26257
Si-SiO_2 interface, defect generation during electron beam lithography *(Japanese)* 1−38854
SiO_2:P film, P conc., AES study, electron and ion beam effects 1−34366
Sm_2O_2S films, crystallographic struct. after electron beam annealing *(French)* 1−11989
α-Sn, n-type, acceptor resonances and electrically active point defects, galvanomagnetic and thermoelec. meas. 1−34657
Te-Se-Cd rectifying struct., deep carrier traps 1−7635
Ti coating modification by scanned electron and laser beams 1−20268
TiB_2 coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
TiB_2 thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
TiC coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
TiC plasma wall, D and He release by pulsed electron and furnace heating 1−25325
TiC thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
$TmH_x(D_x)$, solid solution, electron irradiated, low temp. elec. resist. 1−34679
W (110), electron-stimulated desorption of O, excitation mechanism and binding sites of O^+-yielding species 1−47377
W, single cryst., ultrarelativistic electron interaction, orientational-ionisational effect 1−25328
W:C surface interaction with O_2, electron stimulated desorpt. study 1−21763
Xe plasma production by pulsed electron beam, excitation processes 1−19910
Y, mirror properties by penetration of electrons and positrons 1−25349
Yb, mirror properties by penetration of electrons and positrons 1−25349
Zn, electron irradiated, defects study by X-ray scatt., lattice parameter and elec. resist. meas. *(German)* 1−7210
ZnO:Cu, electron irrad., ESR obs. of new Cu centres, electron configs. *(German)* 1−26029
Zr, electron irrad. damage study using HVEM 1−42423

electron beam impact *see electron impact*

electron beam lithography
holograms, computer generated, for aspheric testing 1−19299
projector design, zoom achromate and alignment technique, book contrib. 1−400
SAW interdigital transducers with 0.4 μm linewidth, scanning electron beam lithography 1−24641
variably-shaped electron beam system, beam shape and profile evaluation, book contrib. 1−401
wire, semiconductor, ultrafine struct., size-quantized electron scatt. suppression and high-mobility effect 1−47636
X-ray, present status 1−28150
CdTe optical directional coupler fabrication by electron beam lithography and ion etching 1−29408
Si-SiO_2 interface, defect generation during electron beam lithography *(Japanese)* 1−38854

electron beam machining
exposure system, hydraulic positioning stage *(Japanese)* 1−5440

electron beam welding
Armco-Fe electron beam welding, vapour-gas separation speed *(Russian)* 1−16033
Nitronic 33 electron beam welded, mech. props. rel. to N loss, chem. anal. 1−26782
Ti (VT20) alloy, improving the properties of welded joints by local heat treatment with electron beam 1−48401

electron beams
see also electron impact; electron optics; Schwarz-Hora effect
acceleration, high efficiency reversible transformer 1−28776
acceleration by Langmuir flare turbulence in solar flares 1−13748
acoustic dosimetry of intense electron beams 1−23865
angular distribution analyser for relativistic electron beam 1−37038
Boersch effect theory 1−19255
Cerenkov and anomalous Doppler effects in the relaxation of an electron beam 1−38120
coherent radiation generation by relativistic electron beam in undulator 1−1470
contemporary problems in the physics of high-power electron and ion beams 1−1480
cooling, friction coeff. and diffusion tensor 1−10904
current density measurement using Faraday cylinder 1−50165
cylindrical, mag. press. acceleration by pulse generators for relativistic electron beams 1−2211
deflection observed in Si curved crystalline target 1−34384
deflection review, book contrib. 1−33616
diocotron instability of a relativistic coaxial multi-ring hollow electron beam 1−51360
diode plasma interactions with high current electron beam, collective losses 1−2204
distorted spots in electrostatic crossed deflection beam systems, correction 1−33078
electronics and electron physics advances, book 1−32810
electrostatic energy analyses, for electron microscope 1−403
EM wave emission by electron beams in free space 1−33613
EM wave excitation by asynchronous electron beams 1−33612
EM waves, superheterodyne amplification in electron beams 1−24349
equilibrium state of electron beam, Bennet distribution *(Russian)* 1−25052
free electron laser, dynamics of electron beam in combined guide and pump magnetic fields 1−29247
free electron laser, LV visible output, beam heating constraints 1−10972
free electron laser, trapped particle dynamics and efficiency optimisation 1−1540

electron beams continued
free electron laser electron beam parameters under strong saturation conditions *(Russian)* 1−10956
fresnel diffraction of elastic and inelastic scattered electrons by semi-transparent specimens *(French)* 1−19254
HF waves impressed on intense relativistic electron beam, structure determ. 1−1478
high current microsecond beam propag. in vacuum channels with metal and dielect. walls 1−24351
high-current, energy flux density determ. 1−51019
high-current hollow electron beam spectrometer 1−1000
high-current relativistic electron beam, interaction with matter 1−28834
high-energy electron beam generation with large cross-section, review 1−36769
high-modulation electron beams in storage rings 1−10561
instability region limit meas. 1−1474
intense annular relativistic electron beam generation in foilless diodes 1−10563
linear induction accelerator, high-current, long-pulse, design and performance of NBS prototype module 1−10553
low-current-density microsecond electron beam diodes 1−6061
magnetic deflection aberration, third order, generalized formula, in-line gun raster patterns analysis *(Chinese)* 1−46205
magnetron, particle motion anal. in non-adiabatic approx. 1−37397
microtron, race-track, single-cavity, 8 MeV 1−28758
polarised high energy electron beam prod. using proton synchrotron *(Russian)* 1−6072
printed electron beam in diode, finite temperature relativistic fluid theory 1−41547
pulsed electron beam spectrometry by energy release in homogeneous material 1−999
relativistic, conversion to ion beam in vicinity of inertial confinement fusion target 1−6060
relativistic, high-current, formed by coaxial gun with mag. insulation, struct. 1−23367
relativistic, hollow beams, azimuthal asymmetries 1−1477
relativistic, nonlinear dynamics in spatially bounded plasma 1−25004
relativistic, saturation of stimulated coherent scatt. of EM waves in mag. field 1−33611
relativistic electron beam, large amplitude cyclotron wave prod. for collective ion 1−46920
relativistic electron beam, transverse resistive wall instability 1−51017
relativistic electron beam and active mol. (maser) medium, resonant interactions 1−10954
relativistic electron beam erosion, steady-state treatment, pinch point 1−29204
relativistic electron beam generator for excitation of short wavelength lasers 1−24426
relativistic electron beam in ondulator, generation of coherent radiation 1−10570
relativistic electron beam in periodic cylindrical waveguide, stability, hydrodynamic theory 1−24345
relativistic electron beam injection into neutral gas, upper boundary of electron energy distrib. in radial flux near anode 1−33615
relativistic electron beam instability above metal surface 1−24350
relativistic electron beams, excitation of plasma-filled rippled-boundary resonators 1−24985
relativistic electron packet, EM pulse stimulated scatt. 1−51354
relativistic electron rings, high-charge train super-klystron compression 1−10555
relativistic high-current VHF plasma electronics 1−1481
resonance cone of electron beam in non-Maxwellian plasma 1−2203
rotating relativistic electron beam, equilib. and propag., plasma heating 1−2210
runaway electrons, intense beam generation 1−34038
scattering, electron-electron, in presence of laser field 1−15060
sheet electron beam, electrostatic gun electrodes synthesising 1−33614
slow positron, brightness enhancement 1−1473
solar millimetre wave burst assoc. with flare, 1978 September 22, evidence for accelerated electron beams 1−36242
source coherence and brightness, emission and energy broadening 1−37398
storage ring operation of free electron laser oscillators 1−1538
structure using hydrodynamic model, thermal velocity effect *(Ukrainian)* 1−15063
TEM and STEM electron beam coherence and image formation 1−36775
transverse electron beam oscill. swinging in accumulator *(Russian)* 1−989
undulator emission of optical frequencies 1−29200
waveguide structures with dielec. discontinuities, excitation by charged particle beam, electromag. field calc. 1−23923
Al, relativistic electron absorpt., energy spectrum distrib. 1−42424

electron capture
see also charge exchange; electron attachment
atom+ion collision, asymmetric, electron capture, semiclassical impulse approx. calcs. 1−10837
atom+ion collisions, electron capture from K-shells 1−15001
bacterial photosynthesis, primary event dynamics 1−48702
t-butyl radical, heat of form., dissoc. electron capture meas. 1−4118
C foil, Cl ion beam impact, radiative electron capture 1−24236
charge transfer in heavy-ion collisions at relativistic velocities, electron capture 1−19181
hydrogenlike ion+bare ion, electron capture, second Born approx. calcs. 1−1361
imidazole-barbital cocryst. complex, free radical ESR-ENDOR study 1−12405
ion+ion, electron charge exchange cross section, incident ion charge effect 1−51288
light nuclei, K-shell electron capture, numerical calcs. 1−19179
modulated ion beam-electron beam nonlinear interaction, electron capture condition investigation 1−15623
PTFE, high-energy electron emission from film adhesive contact disruption 1−16670
relativistic energy, nonorthogonality of at. wavefunctions 1−6377
star core implosion, electron capture as trigger, chem. comp. var. in a presupernova model 1−40463
stellar interiors of 8-12 $M_\odot$ stars electron 1−54535
Z_P/Z_T expansion correction for electron capture 1−46111
Ar^{q+}+Ar, charge changing collisions, single electron-capture cross sections determ. 1−19167
Be isoelectronic series, dielectronic recomb. rate coeff. 1−24245

electron capture continued
$C^{4+}+He \rightarrow C^{2+}+He^{2+}$, two electron capture, asymptotic Landau-Herring method 1−1346
CH_3 radicals, fragmentation energy, ion beam expt. 1−37322
CdS:Cu, C-centre electron capture cross-section 1−7559
$Cs+H(H^+)(H^-)$, single electron capture and loss, 0.1-2.0 keV 1−6374
$Cs+He^+$, single electron capture cross section for He^+ 1−33553
D_2+N^{q+} collisions, charge exchange cross sections *(French)* 1−51284
D_2+O^{q+} collisions, charge exchange cross sections *(French)* 1−51284
$Dy_6Mn_{23}(-H_{23})$, mag. ordering, absorbed H effect 1−20970
^{55}Fe, electron capture decay, Mn Kα X-ray obs. 1−15005
GaAs, electron capture at B-centre, radiative mechanism contribution 1−16299
H, positron inelastic scatt., electron capture, distorted-wave Born approx. 1−1385
H^0, electron capture, sample cross section data obtained using Cs vapour target of novel design 1−10849
H^+, electron capture, sample cross section data obtained using Cs vapour target of novel design 1−10849
$H+Ar^{18+}$, electron capture, classical model 1−6375
$H+C^{5+}(N^{5+})(O^{6+})$, electron capture and ionisation cross-sections calcs. 1−46108
H+fast stripped ion, ionisation, CTC peak asymmetry 1−46107
H+H ionising collisions, electron exchange effect 1−29108
$H+H^+$, collisions at high energies, charge exchange, electron capture theories 1−46071
$H+H(H^+)$, H(2s) form. cross-section calcs. 1−1322
$H+He^{2+}(H^+)$, electron capture, Eikonal theory 1−46097
$H+He^{2+}(Li^{3+})(Be^{4+})(B^{5+})$, electron capture cross-sections, at. wavefunctions calcs. 1−10836
H+highly stripped ions, electron capture, classical model 1−6375
H^++C-foil collisions, charge transfer to continuum and high Rydberg states 1−24233
H^++H, electron capture, H arbitrary excited state prod. 1−1344
$H^+ + H_2(N_2)(O_2)$, H(2s) form., absolute cross-sections determ. 1−6378
$H^+ + He^+$, ionisation cross-sections, charge depend. calcs. 1−1357
$H^+ + He^+(Li^{2+})(Be^{3+})(C^{5+})$, electron capture collisions, continuum distorted wave approx. 1−1345
H^++He(Ne)(Ar), H(2s) form., absolute cross-sections determ. 1−6378
H_3O radical, fragmentation energy, ion beam expt. 1−37322
$He+H^+(He^{q+})(O^{q+})(Au^{q+})$ collisions, single and double electron loss 1−15017
He+O(Au) highly charged ion, single electron capture cross section 1−46113
He^{2+}+H, ionisation cross-sections, charge depend. calcs. 1−1357
$He^{2+} + He^+(Li^{2+})(Be^{3+})$, electron capture collisions, continuum distorted wave approx. 1−1345
$He^{2+} + He \rightarrow He + He^{2+}$, two electron capture, asymptotic Landau-Herring method 1−1346
$K+He^+$, single electron capture cross sections for He^+ ions 1−33553
Li^{3+}+H, electron capture 1−24244
N_2+heavy ion, few-electron states prod. by selective electron capture 1−51285
NH_4 radical, fragmentation energy, ion beam expt. 1−37322
$Na+He^+$, single electron capture cross sections for He^+ ions 1−33553
Ne ions+$He(H_2)(Xe)$, autoionising states formed by electron capture, energy spectra, excited states lifetime 1−24218
Ne isoelectronic series, dielectronic recomb. rate coeff. 1−24245
Ne^{10+} trapped at very low energies, electron-capture cross sections meas. 1−33555
Ne+heavy ion, few-electron states prod. by selective electron capture 1−51285
$O+H^+$, charge exchange, interatomic pot. curves and coupling fine structure, excitation process 1−10835
$Rb+He^+$, single electron capture cross section for He^+ 1−33553
Ru complex, tris-bipyridyl ruthenium(II), dicarbonyl substituted, visible spectra 1−14908
SF_6+heavy ion, few-electron states prod. by selective electron capture 1−51285
SO_2Cl_2, dissoc. electron capture, reactions and energy distrib. 1−6372
SO_2ClF, dissoc. electron capture, reactions and energy distrib. 1−6372
SO_2F_2, dissoc. electron capture, reactions and energy distrib. 1−6372
$Tb_6Mn_{23}(-H_{23})$ mag. ordering, absorbed H effect 1−20970
^{145}Tb isotope identified from X-ray and γ-ray spectra of daughter nucleus formed by electron capture and β-decay 1−45464
Th_7Fe_3Hx, magnetic props. 1−20956

electron capture, nuclear *see nuclear electron capture*

electron density
see also carrier density; current density; electron density (metals); plasma density
γ Cassiopeiae, Be star, envelope electron density and temp. from spectrophotometric scanner obs. 1−36290
choline ester model systems, electrostatic pots. and deformation densities, ab initio calcs. 1−14815
D-region, electron loss coeffs. at 80 km, positive ion model 1−13638
D-region of nighttime ionosphere, O allotrope concs. and electron density 1−40260
De-region, electron densities obs. by incoherent scatter radar during auroral absorpt. spike events 1−27333
E_s-layer, high latit., electron density meas. rel. to form. 1−27336
E-region, h_{max} diurnal variation, from 2.2 MHz absorpt. obs. 1−54310
EAS electron density spectrum *(Chinese)* 1−49465
equatorial anomaly, low latitude propag. of whistlers 1−17722
F_2-layer, electron density stratification near equator and radiocommunication implications 1−4679
in galaxies with spectra of giant H II regions, electron densities from spectral line fluxes 1−13845
graphite, bulk and basal plane electronic densities, ab initio and SCF calc. 1−6143
graphite, prismatic surface electronic density, ab initio and SCF calc. 1−6144
IC 4997, young planetary nebula, electron temp. and density from UV spectrum 1−13838
ionosphere, columnar electron contents, seasonal vars. above Havana 1−40261
ionosphere, density fluctuations rel. to auroral radiowave absorption 1−22587
ionosphere, equatorial and high latitude scintillations 1−49453
ionosphere, equatorial F-layer irregularities, airborne studies 1−13631
electron density continued
ionosphere, lower, equatorial, noontime model electron density profile 1−13628
ionosphere, meas. using SIRIO VHF beacon in Graz and Landau/Harz 1−22571
ionosphere, nighttime TEC enhancements above Arecibo rel. to VHF scintillations 1−4697
ionosphere, solar eclipse induced changes 1−49443
ionosphere, valley above E-region max., deduction from O- and X-component group paths 1−4681
ionosphere, wavelike disturbances, effect on Doppler shift of reflected signals 1−22588
ionosphere electron content, harmonic anal. of ATS-6 obs. at Lancaster 1−49451
ionosphere irregularities, satellite beacon studies 1−49450
ionosphere nighttime electron density, ionisation by corpuscular streams 1−27329
lower ionosphere, electron collection by blunt probes 1−17752
magnetosphere equatorial region, during solar minimum, VLF obs. 1−4706
microwave interferometer, real time, 115 GHz, for electron density meas. in large plasma devices 1−19980
natural water systems, pH and pe in situ meas. 1−40207
nebulae, derivation of electron density and temp. from forbidden S II and O II line intensity ratios 1−27594
one-particle densities and n-particle ensembles, one-to-one mapping 1−23104
plasma density determ. from phase measurements, Abel inversion problem 1−2148
polyelectronic atoms, HTOs and STOs, minimum basis functions, SCF calcs. 1−14807
positive column, low-press., electron attachment, Schottky theory 1−38182
pressure dependence of electron density at nucleus for elements K-Ra inclusive 1−33428
Saturn ionosphere, electron density profile from Pioneer 11 radio occultation 1−40401
Sharpless 106, bipolar nebula, electron density from emission line spectrum 1−27586
solar flare, 1973 December 17, electron density, in dense compact kernel from XUV obs. 1−49590
solar wind, electron density distrib. from solar radio bursts hectometric and kilometric obs. 1−4897
spark diagnostics, impulse, using two-wavelength interferometry 1−15739
Ar arc plasma, line intensity jump, population electron densities, Saha-Boltzmann relation 1−19991
Ar-Hg mixtures, RF H discharges characts. obs. 1−15740
CO_2 discharge transversal laser, wire-triggered, electron conc. and temp. *(Rumanian)* 1−15148
CO_2 laser gas discharge, recombination coeff. meas. 1−46281
CO_2 laser medisum, volumetric photo-preionisation meas. by VUV radiation 1−15152
Cl_2, electron density calcs. using SCF Xalpha MO method 1−19029
H II regions, electron densities from obs. of O III, O I and N III IR fine struct. lines 1−17888
H sparks, laser triggered, H_β emission line, electron densities stark broadening meas. 1−38178
H-negative charge system, diatomic interactions, binding/antibinding anal. 1−37286
HHe^{2+}, binding and antibinding contributions, electron density in chemical bonding 1−24285
H_2O, Hermitian orbitals, unitarily invariant decomp., electron density graphs 1−24022
HeH^{2+}, binding and antibinding contributions, electron density in chemical bonding 1−24285
N_2, N_2-Ar mixtures, afterglow, following microwave excitation, electron, ion density enhancement 1−2265
Na vapour, ionisation by intense laser light, electron temp. and density meas. 1−15576
^{237}Np compounds, Mossbauer isomer shifts and electron densities of Np ions 1−47993
SF_6 high current discharge study 1−15699
Si_2, electron density calcs. using SCF Xalpha MO method 1−19029
SiO_2, surface cluster, adsorption and surface reaction, quantum chem. calcs. *(German)* 1−53474

electron density (crystallography) *see crystallography*

electron density (metals)
face depend. surface energy 1−47361
metal surface lattice relaxation, adiabatic variational calcs. 1−7269
metals, surface dipole barrier, bulk electron density 1−30809
redistribution and density in elemental metals 1−38699
Al, cubic metal, vacancy point defect, electric field gradient theory 1−47588
Pt film, very thin, mean free path and conductance electron density, size effect determ., surface effects 1−38868

electron density of states *see electronic density of states*

electron density of states (condensed matter) *see electronic density of states*

electron detachment
atoms, photoionisation and photodetachment, interference effects, in homogeneous elec. field *(Russian)* 1−33438
electronegative gases, electron detachment study 1−15580
gaseous dielectrics, elec. field-induced electron detachment rate from mononegative ions calc. 1−11494
gaseous dielectrics, electron swarm data relevant to HV insulation 1−6920
$D+H^-$, electron detachment and charge exchange, differential cross-sections meas. 1−10834
H^-, electron loss, sample cross section data obtained using Cs vapour target of novel design 1−10849
H^-, photodetachment and radiative attachment involving $2p^2 {}^3P^e$ state, rate coeffs. 1−49493
He^-, $^4P^0$ state photodetachment cross sections calcs. 1−24091
He^-, photodetachment cross sections, autodetached electron energy meas. 1−19062
$K^- + h\nu \rightarrow K^* + e^-$, electron photodetachment, fluoresc. and fine-structure 1−1190

electron detection and measurement
angular distribution analyser for relativistic electron beam 1−37038
Cherenkov counter, lead glass, 194-element array, γ-ray and photon energies in $K_L{}^0$ decay 1−28803

electron detection and measurement continued
detection efficiency degradation by conversion and multiplication noise 1−41280
dosimeter calibration in fields with electron energies of 3-10 MeV, reference installation 1−23860
dosimetry calcs. for thermoluminesc. detectors using Monte Carlo method 1−18925
exoelectron detection by delayed pulses in organic-quenched Geiger-Muller counter 1−14211
K-Auger electrons, absolute meas. method employing a liquid scintillator 1−23992
micro-channelplates, absolute quantum efficiencies for 8 to 28 keV electrons 1−384
microchannel plates, single particle registration 1−45775
MWPC for positron imaging in nuclear medicine 1−28790
positron tomograph with 2.4 mm resolution, design features 1−1040
proportional chamber positron camera for medical imaging 1−14732
rocket borne detection of MHz freq. bunching in auroral ionosphere 1−27306
Rutherford Lab. MWPC positron camera 1−14731
secondary emission coefficient measurement 1−45079
toroidal integrating backscatter electron detector 1−45777
trapping and thermalization of positrons for geonium spectroscopy 1−37074
traveling-wave electron detector in form of coaxial cable section 1−1016
weak electron beam detection, appl. of $CdS_xSe_{1-x}n^+$-n junction photoresistor 1−37075
LiF, TLD, radiation-induced colour centres at high absorbed dose rates 1−944

electron device manufacture
see also electron tube manufacture; integrated circuit manufacture; semiconductor device manufacture
ceramics, metallization for electronic components by magnetron-plasmatron coating 1−12653

electron device noise
analogue fibre optic systems, effect of laser noise 1−15281
avalanche, diode, noise and nonlinear effects 1−7682
bipolar, transistors, X-ray effects on conduction mechanisms and LF noise 1−7683
C-CDs, 1/f noise, astrophysics appl. S/N ratio maximisation 1−9372
detection efficiency degradation by conversion and multiplication noise 1−41280
diode laser, single-mode, phase noise meas. 1−46341
electronics and electron physics advances, book 1−32810
ferromagnetic film sensor elements in inductance variation magnetometer, noise reduction 1−307
flicker noise theory in terms of island charge fluctuations 1−25779
Josephson junction, ideal shunted, intrinsic current noise characteristics, computer simulation 1−42913
Josephson junction, low-probability punchthrough 1−52708
Josephson junction, noise phenomena 1−30884
laser diode specification for broadband linear transmission systems *(German)* 1−19339
maser amplifier, autocorrelation function for thermal noise 1−46271
maser amplifier, total noise, population inversion 1−46273
optical communication technique, photodetectors charact. *(German)* 1−41875
p-n junctions, DLTS to measure current transients 1−25796
photodiodes noise limitations on receiver units *(German)* 1−19472
semiconducting components, unipolar, Monte Carlo techniques to hot carrier diffusion noise calc. 1−7684
semiconductor laser amplifier noise and error rate performance in PCM-IM optical transmission system 1−15283
semiconductor laser diodes coupled to short optical fibres, noise charact. 1−15265
semiconductor-metal boundaries charact. 1−20869
SOS MOSFETs LF excess noise 1−52672
SQUID magnetometers advances 1−5344
staring mosaic sensor system design 1−24516
superconductor-insulator-superconductor junction, subharmonically pumped mixing with gain 1−52709
V-groove laser noise and distortion, metering equipment for linearity meas. *(German)* 1−19344
AlGaAs laser amplifiers, noise charact. 1−33682
GaAs Schottky gate FET, noise spectrum described by time const. distrib. 1−7681
GaInAsP/InP low-dark-current avalanche photodetector, noise charact., avalanche multiplication 1−33053
Ge photodiodes noise *(German)* 1−19448
HgCdTe/CCD self-scanned detector array thermal imaging system 1−24513
InGaAsP photodiodes noise *(German)* 1−19448
Si resistors, low freq. elec. noise, temp. depend. 1−47719

electron device testing
see also electron tube testing; integrated circuit testing; semiconductor device testing
fault analysis using scanning electron microsocpy, Auger effect, electron probe analysis 1−53391
H passive masers, design construction and testing 1−19312
Si solar cells for space appls., types K6-3/4, and K7, qualification testing 1−39791

electron diffraction
see also electron diffraction crystallography; electron diffraction examination of materials; gas phase electron diffraction; high energy electron diffraction; low energy electron diffraction
No entries

electron diffraction crystallography
see also crystal atomic structure; Debye-Waller factors; electron diffraction examination of materials
BCC metal clusters, very small, electron diffr. halos *(French)* 1−2295
characteristic loss energy selected electron diffr. patterns for site symm. determ. 1−7049
complex or disordered crystals, electron-microscopic structure image simulation 1−15769
convergent-beam electron diffr., and shadow imaging, coherent interference 1−46959
critical-voltage effect, in convergent-beam high-voltage electron diffr. 1−2294
diffraction pattern automatic indexing primitive solution criterion *(Chinese)* 1−2293

electron diffraction crystallography continued
distorted crystal, dynamic scatt. by bent reflecting planes *(Russian)* 1−7041
Electron Microscopy Society of America Annual Meeting, San Francisco, CA, USA (Aug. 1980) 1−40602
energy loss, electron diffr. patterns for site symmetry determination electron diffraction crystallography 1−15761
Kikuchi bands, high angle, bandwidths and backscattered electrons role 1−30006
lattice imaging, lamellar structures, determ. of order-disorder parameters *(French)* 1−38386
MBE system design considerations 1−3626
microcrystallography at high spatial resolution using electron backscattering patterns in field emission gun SEM 1−33079
multiple scattering in MEED, short-wavelength approx. 1−25126
order-disorder phenomena, X-ray, neutron and electron scattering methods *(French)* 1−38318
radial distrib. calc., from known bonding topologies, compute program, RADMOR 1−7039
rocking beam and rocking cryst. electron diffr., analogies between CTEM-STEM 1−20035
surface topography, book contrib. 1−47348
texture determination, inverse pole figures method 1−16996
Si(111) surface, multiple scattering in MEED, short-wavelength approx. 1−25126
V_2O_3, many-beam lattice images calculated at 100 kV and 1000 kV 1−15765

electron diffraction examination of materials
see also gas phase electron diffraction; high energy electron diffraction; low energy electron diffraction; reflection high energy electron diffraction
bisacetylacetonato beryllium, gas phase, mol. struct., electron diffr. 1−6387
anthracene, triclinic phase, electron diffr., struct., dynamics, IR and Raman active vibr., thermodynamic props. 1−47072
bromoacetyl bromide 1−1404
bromoacetyl chloride, mol. struct. and conformation, gas phase electron diffr. 1−1404
cellulose IV_{II} single crysts., prep. and props. 1−15812
chloromethyldichlorophosphine, struct., electron diffr. study, rot. isomerism 1−6404
crystal defect profile determination, electron backscatt. technique 1−30009
cycloheptene oxide, gas, mol. struct., electron diffr. investig. 1−6382
cyclohexanone, mol. struct., gas phase electron diffr., microwave rot. const. 1−24256
cyclohexene oxide, gas, mol. struct., electron diffr. investig. 1−6382
cyclopentene oxide, gas, mol. struct., electron diffr. investig. 1−6382
dichlorodimethylsilane, geometry, electron diffr. study 1−33574
dimethylamide acid, mol. struct., electron diffraction study 1−33573
DNA, electron diffr. from single crysts. 1−13214
feldspar, labradorite Ca/Na positions derived from high-resoln. electron microscopy and optical diffr. 1−47046
foil thickness meas. from convergent beam diffr. patterns 1−50101
gem-difluorocyclopropyltrichlorosilane, struct. by electron diffr. 1−6400
graphite, lattice struct. and micromorphology relations, electron diffr. and electron microscopy studies *(German)* 1−34285
graphite film, elliptic electron diffr. patterns, turbostratic disorder 1−52452
graphite intercalated with K, island growth and orientational locking 1−16788
graphite-alkali metal compounds, intercalate layer struct. 1−34329
Hastelloy alloy S, order-strengthening 1−16815
liquid, Faraday cage system for centring rot. sector system and radiation intensity meas. 1−14214
methanesulphonic acid, mol. struct., electron diffraction study 1−33573
methyl formate in gas phase, mol. struct. determ. by electron diffr., bond lengths and angles determ. 1−24257
organic compounds as C emitter generators for field desorpt. mass spectrometry 1−50262
orthopyroxene, lunar and terrestrial, Guinier-Preston zones, composition, struct. and stability 1−22704
plastics, rubber toughened, glassy component, plastic deform. mechanism, microdomain struct. and related props. 1−34253
polydiacetylene lamellar crysts., deform., TEM and electron diffr. study 1−20301
polydiacetylene single crystals, struct. and morphology 1−38304
polyoxymethylene, epitaxial morphologies on (001) mica substrate 1−38682
purple membrane, Halobacterium halobium, radiation damage at low temp. 1−32211
rare earth fluorides RF_2-RF_3, anion-excess fluorite-related superstruct. phases 1−25236
seleno difluoride, mol. struct. and rot. consts., electron diffr. 1−1405
semiconductor materials, multicomponent, struct., microdiffr. anal. method 1−15762
silyl formate, gas phase mol. struct., electron diffr. 1−1402
sodium dodecylsulphate, mol. motions in solid-solid transition at 283K 1−30213
star sapphire, identification of precipitate 1−11871
steel, 21Cr-14Mn, grain-boundary precipitation and fracture behaviour 1−48502
steel, AISI 4340, retained austenite at the prior austenite grain boundaries 1−21491
steel, austenitic, Cr-Ni(12,13 wt.%), irradiation induced phase transformations and orientation rel. 1−35254
steel, austenitic stainless, needle-like, intergranular phase formed in temp. interval 975-1095 *(Czech)* 1−12748
steel, austenitic stainless, orientation of fracture surfaces produced by stress corrosion cracking and H_2 embrittlement 1−16876
steel, austenitic stainless, stress corrosion cracking in acidified NaCl soln. 1−43574
steel, Cr-Ni (25, 20 wt.%), ferrite precipitation after cold rolling and ageing 1−12750
steel, stainless, 18-8, oxide film, amorphous, short range struct., electron diffr. study 1−31739
steel, stainless, phase obs. and anal. by nonaqueous electrolyte-potentiostatic etching method *(Japanese)* 1−48616
steel whiskers, polycrystn., of very high strength, dispersion mechanism 1−21464

electron diffraction examination of materials continued
tetraethynyltin, mol. struct., gas phase electron diffr. 1−1401
thiocarbonyl difluoride, mol. struct. and rot. consts., electron diffr. 1−1405
thiocarbonylbromide, mol. struct., electron diffr. 1−1406
2-thiophenesulphonyl chloride, conformation and geometry, electron diffr. 1−1403
triethynyltin iodide, mol. struct., gas phase electron diffr. 1−1401
VC+Ni cermets, with controlled C-to-metal ratio, prep. and props. 1−8264
wollastonite structure ($CaSiO_3$), replacement of Ca by Sr, electron microscope study 1−30249
Ag film with $Bi_{1-x}Sb_x$, Sb overlayers, annealing behaviour, material exchange by diffusion 1−34809
Ag nucleation on PET substrate 1−12002
Ag thin films, stripped from substrate, structural changes, TEM 1−38689
$Ag_{19}I_5P_2O_7$, solid electrolyte, thin film prep. and charact. 1−8231
Ag_xNbS_2, order study by electron diffr. 1−30008
Ag_2Se low temp. phases, band struct. 1−34624
Al-Cu-Mg, type 2024 alloy, analytical study of microconstituents 1−26786
Al-Ti alloys, long-period antiphase domain structs., electron diffr. study 1−25290
Al-Zn-Mg (5, 2 wt.%), plastic instability in stretch forming *(French)* 1−3772
AlN, microscopic identification using EPMA, X-ray and electron diffr. *(Chinese)* 1−52111
Al_2O_3, grain boundary struct., electron diffr. and microscopy study 1−38382
Al_2O_3, laser-melted, ultra-rapid quenching 1−26510
Al_2O_3-SiO_2, laser-melted, ultra-rapid quenching 1−26510
Al_2O_3-Y_2O_3, laser-melted, ultra-rapid quenching 1−26510
Au (111) crystallites, surface reconstruction, Moire fringes, diffr. spots 1−25541
Au and Mo/Au ion-plated layers on stainless steel, friction props. in vacuum at elevated temps. 1−12878
Au deposits, hard, electroplated additive free, inclusions obs. 1−52448
Au thin films, stripped from substrate, structural changes, TEM 1−38689
Au-Mn(20.7 wt.%), 2D antiphase struct. of $Au_{31}Mn_9$, high-voltage-high resoln. electron microscopy determ. 1−15834
Au-Si metastable alloy formation induced by ion-beam interface mixing 1−52160
AuCu-Zn, irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
AuCu(II), irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
B_2O_3-PbO-Fe_2O_3 glasses, influence of equilibration time on phys. props. 1−26091
$Ba_{1-x}Cr_2Se_{4-x}$, thin sections prepared by microtomy, structure imaging of tunnel structs. 1−42270
$Ba_4R_3F_{17}$, R=Pr, Nd, Gd, Dy, cryst. struct., electron diffr. study 1−20145
C films, deposited from plasma of RF gas discharge 1−26395
CaF_2-YF_3, anion-excess fluorite-related superstruct. phases 1−25236
CaO-MgO, laser-melted, ultra-rapid quenching 1−26510
CdS(Se)(Te) epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
CdSe thin film photoelectrodes, increase in solar energy conversion efficiency after annealing, struct. study 1−48870
CdTe, photovoltaic films, two types of texture 1−3784
Cr/C films, reactive ion plated, microhardness and struct. 1−53263
Cu, critical-voltage effect, in convergent-beam high-voltage electron diffr. 1−2294
Cu thin films, stripped from substrate, structural changes, TEM 1−38689
Cu-Al, critical-voltage effect, in convergent-beam high-voltage electron diffr. 1−2294
Cu-Al (30.8 to 40.9 wt.%). γ-phase, long-period superstruct. 1−30015
$Eu_{1-x}Cr_2Se_{4-x}$, thin sections prepared by microtomy, structure imaging of tunnel structs. 1−42270
Fe, Armco, microalloyed, recrystn. at critical degrees of deform., grain boundaries condition effect 1−43363
Fe, rust film, amorphous, short range struct., electron diffr. study 1−31739
Fe-B amorphous alloys, annealed, metastable Fe_4B phase, electron diffr. and microscopy study 1−38287
Fe-B sputtered amorphous film, crystn. and atomic-scale struct. 1−11681
Fe-Ni-Cr thin foils, precipitation behaviour 1−26475
ε-$Fe_3(C,N)$, formed by glow discharge, microstruct. study 1−39331
α-Fe_2O_3, synthetic hematite, crystallite size distrib. shape effects, X-ray line profile anal. 1−20414
Fe_3O_4, magnetite, epitaxial growth on NaCl substrate by reactive evaporation 1−2836
FeTi, activation for H absorption, electron microscopic study 1−4124
GaAs oxide layers, surface and interface roughness and morphology determ. 1−30532
Ge_xSe_{1-x} glass films, Ag photodoping, electron diffr. study 1−15911
GeTe thin layer, short-range order struct., electron diffr. study 1−20579
InAs films, amorphous and crystalline, electrical props. 1−20729
InN films, phys. props. 1−50436
InSb films, amorphous and crystalline, electrical props. 1−20729
$(Mg,Fe)_2Fe^{3+}BO_5$, ludwigite, defect structs., TEM study 1−38379
$(Mg,Mn)_{1.77}(Mn,Al,Fe)_{1.11}BO_5$, pinakiolite, defect structs., TEM study 1−38379
$(Mg,Mn)_{1.85}(Mn^{3+},Fe^{3+})BO_5$, orthopinakiolite, defect structs., TEM study 1−38379
$(Mg,Mn)_{1.97}Mn_{0.78}{}^{3+}Fe_{0.19}{}^{3+}BO_5$, takeuchiite, defect structs., TEM study 1−38379
$MgAl_2O_4$, laser-melted, ultra-rapid quenching 1−26510
MgO single-crystal surface, electron microscope obs. of at. steps, dark and bright-field techniques 1−20535
MgO-Al_2O_3, laser-melted, ultra-rapid quenching 1−26510
Mn-Zn ferrite single crysts., mech. polishing effect on mag. props. 1−8443
MnSe films, struct. and growth, electron diffr. obs. 1−30579
MnTe films, struct. and growth, electron diffr. obs. 1−30579
Nb-H system, phase transitions in nonstoichiometric hydride phases 1−20103
$NbSe_3$, electron diffraction, superlattice spots appearance rel. to conductivity decrease, Peierls transitions 1−38360
Nd film, electrical resist changes due to reaction with H and air 1−42871

electron diffraction examination of materials continued
Ni, thin films, stripped from substrate, structural changes, TEM 1−38689
Ni-Al-Mo (12.7, 21.6 wt.%), directionally solidified eutectic composite, microstructural studies 1−3724
Ni-Al(-Ti)(-Cr), ageing accompanied by γ′-phase precipitation, struct. form. during slow cooling *(Russian)* 1−12763
Ni-Cr-Fe-Ti-Al (14.7, 8.9, 2.25, 1.1 wt.%), γ′ determ. by non-aq. electrolyte-potentiostatic method *(Japanese)* 1−31417
Ni-Fe-Cr-Nb alloy, γ″ phase, electron diffr. study *(Chinese)* 1−38327
Ni-Mo base alloy, precipitation of NiMo, effect on tensile and corrosion props. 1−12747
Ni-Mo-Fe (29, 4 wt.%), high temp. corrosion in mixed HCl-H_2O vapour atm. 1−12919
Ni-P, electroless deposited, microstruct. and fatigue props. 1−53282
Ni-P electrodeposited films, amorphous, crystallised phosphide phases, electron diffr. and TEM study 1−52068
Ni-Si, ageing accompanied by γ′-phase precipitation, struct. form. during slow cooling *(Russian)* 1−12763
β′-NiAl quenched alloy, w-like diffraction effects 1−2291
NiO single crysts., early stages of reduction, TEM study 1−12994
γ′-Ni_3Si, ion-bombardment-induced disordering 1−30284
NiZn ferrite substrate, surface quality improvement and meas. 1−8448
Pb island films, melting and crystn. 1−25594
Pb-Ge system, metastable solid solution form. and decomp. 1−21418
$(Pb_{1-x}Sb_x)_{1-y}Au_y$, metallic galsses, amorphous phase separation and supercond props. 1−42313
$Pb_3(VO_4)_2$, ferroelastic, domain boundary props. during phase transforms., electron diffr. and microscopy obs. 1−8302
Pd/W (110) system, LEED, AES, work function and TDS meas., ISS and SIMS meas. 1−31927
$PdCl_2/SnCl_2$ mixed catalysts for electroless plating, TEM and electron diffr. study 1−31369
Pr film, electrical resist changes due to reaction with H and air 1−42871
SF_6, CW IR laser irradiation, excitation, electron diffraction anal. 1−29046
Se adsorbed on Ni (001), normal-emission photoelectron diffr., analogy with EXAFS 1−42636
Se film, amorphous, crystn. in electrostatic field, morphology 1−47398
Si amorphous film on Si single cryst., inelastic electron refl. anisotropy determ. 1−3547
Si, struct. of grain boundaries, electron diffr. and microscopy studies 1−52151
Si:P(As), crystal pot. investigated by convergent beam electron diffr. technique, doping influence 1−7198
Si-Cr thin film struct., amorphous Si, interdiffusion, compound form. 1−42640
SiC, pressure-less sintered, polytypes of plate-like grains *(Japanese)* 1−16727
SiC synthesis, in C implanted Si, RBS, IR and diffr. anal. 1−31393
β-SiC whiskers, vapour phase growth with fluorosilicate melt *(Japanese)* 1−20598
β-Si_3N_4, space group 1−30119
$SmCo_5$, amorphous sputtered films, crystn., mag. and struct. changes 1−16459
$Sm_{0.5}M_{0.5}Co_5$ (M=Ce 50%, La 20%, Nd 10%, Pr 10% etc.), amorphous sputtered films, crystn., mag. and struct. changes 1−16459
SnS_2, layered crystal, epitaxial intergrowth 1−31365
$SnTaS_2$, layered crystal, epitaxial intergrowth 1−31365
SnTe:Kr(Xe) films, ion implantation effect on struct. and elec. props., recrystn. process 1−7194
$Sn_{0.30}WO_3$, cryst. struct., X-ray anal. and electron diffr. *(French)* 1−15875
TaS_3, electron diffraction, superlattice spots appearance rel. to conductivity decrease, Peierls transitions 1−38360
Ti-Al-V (6, 4 wt.%), abraded, surface struct., TEM and X-ray diffr. study 1−11967
Ti-Nb (40 and 47 wt.%) alloys, quenched and aged, transform. struct. obs. *(French)* 1−16812
Ti-V-Si (30, 0.1 at.%), precip. and struct. of Si-rich phases, influence on mech. props. 1−8309
TiC, solar slective absorber, reactively sputtered, struct. 1−11992
TiNi cold worked, psuedoelastic behaviour, cryst. struct. and microstruct. 1−2395
TiO_x ceramic antireflection coatings for Si solar cells 1−17211
TiS_3, one-dimens. semicond., resist. meas., temp. depend., Peierls transition 1−7677
Ti_5Si_3, solar slective absorber, reactively sputtered, struct. 1−11992
$Ti_{1-x}V_xSe_2$, electron diffr. and IR study 1−12504
$(Ti_{1-m}X_m)_2S(C_{1-n}N_n)$, carbosulphide phase in alloy steels and superalloys *(Chinese)* 1−39340
V-N (0 to 25 at.%), solid solubility, V_8N and V_4N twinned phase form., domain struct. 1−38383
VO_2, polycrystalline films, electron diffr. to control phase composition 1−34601
VO_x, defect struct., comparison between X-ray and electron diffr. 1−15754
V_2O_3, many-beam lattice images calculated at 100 kV and 1000 kV 1−15765
V_2O_3, polycrystalline films, electron diffr. to control phase composition 1−34601
V_3O_5, polycrystalline films, electron diffr. to control phase composition 1−34601
WO_x particle formation, by evaporation of WO_3, electron microscopic study 1−30013
Xe island film blocks, RMS atomic displacement *(Russian)* 1−42479
ZnS epitaxial layer on Ge substrate, cryst. struct. 1−42649
ZnS(Se)(Te) epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
Zr, pure, polymorphic phase transform., α→ω, at atmos. press. 1−53175
Zr-Nb (2.5 wt.%), nuclear reactor pressure tubing, TEM obs. of hydrides 1−45596

electron-electron double resonance *see ELDOR*

electron-electron interactions
see also electron-electron scattering
X-ray emission following electron Landau level collisional excitation, neutron star appl. 1−49505

electron-electron scattering
see also electron-electron interactions
No entries

electron emission
see also cathodes; electron field emission; exoelectron emission; photoemission; secondary electron emission; spin polarised electron emission; thermionic electron emission; work function
discontinuous metal film, homogeneous struct., elec. cond. and electron emission 1−52668
metal, stimulated electron emission kinetics, plastic deform. rate effect *(Russian)* 1−16672
solids, electron emission described by quasicontinuous energy loss model based on electron-phonon interaction 1−21306
Al, anodised, oxide layer, electron and acoustic emission during coating fracture 1−12872

electron energy bands *see band structure*

electron energy loss spectra
acquisition, storage display and processing system, TEM conjunction 1−23198
adsorbate vibrations, inelastic electron scatt., many-body theory 1−12610
backscattering, oblique incidence, backscattering coefficient, Monte Carlo calc. 1−6119
band structure, EELS determ. of band shapes, theory 1−47426
trans-1,3-butadiene, valence and Rydberg transitions, electron impact study 1−15022
CdTe(Se), surface, clean and with adsorbed O_2, EELS, AES and LEED study 1−7687
chlorofluoroethylene, excitation by threshold electron-impact spectroscopy, reson. processes, vibronic struct. 1−19196
trans-dienes, anomalous V_1←N vibr. band intensity, EELS 1−24105
1,1-difluoroethylene, excitation by threshold electron-impact spectroscopy, reson. processes, vibronic struct. 1−19196
electron beam energy losses on welding in forevacuum *(Russian)* 1−16635
ethylene, excitation by threshold electron-impact spectroscopy, reson. processes, vibronic struct. 1−19196
free molecules, basic principles and exptl. methods 1−4132
graphite-$FeCl_3$ intercalation cpd., stage I and stage II, low freq. plasmon spectra 1−47522
graphite-K intercalation cpd., electron energy loss studies rel. to pristine graphite 1−48208
hexamethylphosphoric triamide, liq., optical, dielec. and energy loss functions between 2 and 25 eV 1−43088
HVEM, trajectory simulation using Monte Carlo calcs. *(French)* 1−20286
intercalation compounds with AsF_5, $FeCl_3$, B, electron energy loss spectroscopy 1−48207
K-shell ionisation cross-sections, for use in microanal. 1−31946
light element energy-loss microanalysis, instrumentation and software 1−17142
Monte Carlo simulation, conf., Bagneux, France (Oct. 1979) 1−13914
organic solid insulators, low-energy electrons inelastic interactions, formulae for mean free paths and stopping distances 1−35136
post specimen optics in energy loss spectrometry, mag. sector spectrometer interfaced to CTEM/STEM 1−14217
pyridine, chemisorption on Ag(111), phase transformation, vibr. configs., electron loss and photoelectron obs. 1−29033
rare earth metal, fine structure of soft X-ray APS and electron energy loss spectra 1−53016
rare earth metals, electronic struct., binding energies, anal. 1−25626
relativistic plasma, electron energy loss, covariant Fokker-Planck formalism 1−6999
second-derivative energy loss spectra, spurious struct. 1−21305
semiconductors, band struct. information from EELS meas. 1−48201
silicate glasses, electron loss spectra 1−31248
surface analysis technique, industrial appl. *(French)* 1−31250
TEM inelastic electron scatt. characterisation and three-dimensional mapping 1−38214
thin film chemical microanal., EELS distortion problems, diagnosis and elimination 1−17141
water, electron distrib. by high-energy electron scatt. 1−1365
Ag, sorption of $O(O_2)$, on (110) surface, electron energy loss vibr. spectra 1−30548
Al, in HVEM, trajectory simulation using Monte Carlo calcs. *(French)* 1−20286
Al, Kramers-Kronig anal. of optical data, self-consistency and sum-rule tests 1−8034
Al surface interaction of O_2, secondary electron spectroscopy and EELS study 1−48206
Ar, autoionising states, electron impact excitation energy loss obs. 1−19190
Au, core-valence transitions, relativistic tight-binding calc. 1−7513
Au-Si amorphous interface struct., AES and EELS study 1−30575
C, electron energy loss straggling calcs. 1−39199
C, electron energy states, Auger, energy loss and X-ray spectroscopies 1−12167
C layers, on Ag, surface enhanced Raman scatt. and EELS 1−16559
CO, adsorbed on Cu (100), collective vibr. mode, inelastic electron scatt. study 1−16637
CO adsorbed on Ni (111), mol. vibr., slow electron inelastic scatt. study 1−15024
CO chemisorption of metal catalysts, EELS study 1−25551
CS_2, spin and symm. forbidden transitions, EELS 1−29125
$CdBr_2(Cl_2)(I_2)$, dielec. function and energy bands, EELS determ. 1−47464
CdI_2, band struct. information from EELS meas. 1−48201
CdSe surface oxidation, electron energy loss spectroscopic obs. 1−16925
CdTe surface oxidation, electron energy loss spectroscopic obs. 1−16925
Cl_2, inner-shell excited states, electron impact excitation electron energy loss obs. 1−24269
Cr (110) surface, clean and H covered, electron energy loss spectra 1−16638
Cr, film, energy loss spectra, optically forbidden 3s subshell excitations 1−21308
Cu (111), adsorbed Na and Cs monolayers, clean and O_2-exposed, electronic struct., EELS, AES, UPS, and work function meas. 1−42841
Cu, adsorption of CO, EELS study 1−35137
Er, clean and under H_2 and O_2 exposure, EELS study 1−48204
Fe film, energy loss spectra, optically forbidden 3s subshell excitations 1−21308
GaAs (110), adsorption of Al, angle-resolved photoemission study 1−39222
GaAs (110), cond. band surface plasmons in EELS 1−48202
GaAs {100} MBE layers, surface crystallography, electronic props., and chem. reactivity, stoichiometry effects 1−7439

electron energy loss spectra continued
GaAs surface, Al reactions 1−42651
H chemisorbed on W (001) surface, vibrational modes 1−20564
H^-+Kr, collisional electron loss, electron energy spectra 1−46105
H_2 adsorbed on Ta(Pt)(Si) surfaces, EELS detection 1−25561
H_2^++Ar(Ne)(Kr), collisional electron loss, electron energy spectra 1−46105
HF desorption effects, chemical reactivity, electron scattering, electron energy-loss obs. 1−19182
He^++Kr, collisional electron loss, electron energy spectra 1−46105
InP epitaxial layers, growth control by plasmon excitation electron losses 1−16203
InP(100 surface), electron stimulated oxidation, Auger spectra 1−8169
KI, defect induced, electron range variation 1−42437
$LaCoO_3$, chemisorption of O_2, XPS, UPS and EELS study 1−12630
$LiNbO_3$, annealed and ion sputtered surfaces, EELS 1−39198
MgO, surface and bulk electronic struct., energy-depend. EELS study 1−26323
MoS_2, electronic excitation anisotropy, low-energy angle-resolved EELS study *(French)* 1−12611
Na_xWO_3(100), single crystal surfaces, high-energy-electron-loss spectra 1−48203
Ne ions+$He(H_2)$(Xe), autoionising states formed by electron capture, energy spectra, excited states lifetime 1−24218
Ni (100), clean and H covered, EELS and secondary electron emission spectroscopies 1−3549
Ni (111), chemisorption model of acetylene and ethylene, UPS and EELS data anal. 1−47381
Ni (111) surface, dynamical motion of atoms, continued fraction method 1−25549
Ni, chemisorption of CO on clean and carbided surface, vibr. EELS study 1−38655
Ni film, energy loss spectra, optically forbidden 3s subshell excitations 1−21308
Ni(100), electron energy loss spectra study of alkali metal adsorption 1−42637
O_2, electron impact spectroscopy for energy losses in range 6.5 to 10.5 eV, oscillator strengths determ. 1−24271
Pd, adsorption of CO, LEED, UPS, EELS, and work function meas. 1−7457
Pt (110), adsorption of NO, EELS, LEED, AES, and thermal desorption study 1−38661
Pt (111), adsorbed CO, EELS intensity ang. distrib. 1−48205
Pt (111), chemisorbed states of NH_3, EELS and thermal desorption spectra study 1−8175
Pt (111), chemisorption model of acetylene and ethylene, UPS and EELS data anal. 1−47381
Pt (111), chemisorption of NH_3, EELS study, electron scatt. mechanism 1−12615
Pt (111), interaction with methanol, decomp. reaction 1−39684
Pt, adsorption of gases and deposits on single cryst. faces, charact. electron energy loss spectra *(French)* 1−52419
Pt, core-valence transitions, relativistic tight-binding calc. 1−7513
Ru (001), co-adsorption of NO and H_2, adsite symm. and vibr. struct. 1−30550
Si (111), adsorbed Ag, electronic. struct., EELS meas. and band struct. calc. 1−7699
Si (111), oxidation enhancement by very thin predeposited Au layers, AES and EELS study 1−48548
Si, quasi-adiabatic heating, electron incidence angle influence 1−52191
Si, radiative energy loss spectra of 31 GeV electrons *(Russian)* 1−25348
Si/Ni (Au) interface formation, interdiffusion, metallisation 1−52364
Si-SiO_2 interface electronic struct., EELS study 1−42866
Ti film, energy loss spectra, optically forbidden 3s subshell excitations 1−21308
TiCx, optical absorptance and reflectance, 0.1 to 30 eV 1−26232
TiO_2 (100), surface optical phonons, EELS obs. 1−42622
W (110), adsorption of O_2, EELS, AES, LEED, and work function meas. 1−12614
WO_3(100), single crystal surfaces, high-energy-electron-loss spectra 1−48203
$WS_2(Se_2)$ dichalcogenides, electronic energy states, electron energy loss spectra 1−38706
YVO_4, excited electronic states, EELS and XPS study 1−26322
ZnO clean surfaces, quantised accumulation layers, EELS obs., coupled phonon-plasmon modes 1−12613
ZnSe surface oxidation, electron energy loss spectroscopic obs. 1−16925
ZnTe (110) surface, vacuum cleaved, electronic struct. before and after O_2 exposure, electron spectroscopy 1−52625
ZnTe surface oxidation, electron energy loss and photoemission spectroscopic obs. 1−16925

electron energy states (condensed matter)
see also band structure; band theory models and calculation methods; deep levels; defect electron energy states; dopplerons; electron energy states of amorphous solids; electron energy states of liquid metals; electron energy states of liquid semiconductors; electron gas; electron traps; electronic density of states; exchange interactions (electron); excitons; Fermi level; Fermi surface; field interactions (condensed matter); helicons; hole traps; impurity electron states; Landau levels; localised electron states; magnetic breakdown; magnons; metal-insulator transition; metal theory; plasmons; polar semiconductors; polarons; positron states; ripplons; spin-orbit interactions; spin-phonon interactions; surface electron states; triplet state
actinides and 4f materials, conference, Zurich, Switzerland (Apr. 1980) 1−44701
Bloch electrons in magnetic field, reduction to one dimension 1−27895
conference, Madras, India (Dec. 1979) 1−27665
dichalcogenide anions, electronic struct. 1−12075
dielectric materials, multicomponent, prototypes prediction using entropy of electron density 1−42665
dipnictide anions, electronic struct. 1−12075
disordered materials, multiple scatt. of scalar waves, theory 1−25601
disordered materials, multiple scatt. theory 1−30608
multipole potential calcs., localised charge distribution 1−47421
quantum particles in two incommensurate periodic pots., quasiclassical theory 1−47423
relaxation of elementary excitations, conf., Susono-shi, Japan (Oct. 1979) 1−32804
self-trapped excitations in condensed matter physics 1−2852

electron energy states (condensed matter) continued
single-particle probability density and density matrix in momentum states, var. calcs. 1−25602
total energy within Kohn-Sham formalism, self-consistency condition 1−12056

electron energy states of amorphous solids
see also Anderson model
alkali metal oxide-V_2O_5-P_2O_5 semicond. glasses, electronic characts. and struct., ESR study 1−34928
amorphous metals, electronic structure, multiple scatt. approach 1−20611
amorphous semiconductor, Anderson negative-U model of excitations and metastability 1−47575
amorphous semiconductor, chemical bond approach to atomic and electronic struct. *(Japanese)* 1−42680
amorphous semiconductors, struct. and electronic props., review, book contrib. 1−47441
[CC] WO_3 amorphous films, electronic struct. and electrochromic props., XPS study 1−3579
chalcogenide glasses, gap states, review 1−16221
chalcogenides, valence states, thermally and photoinduced changes, UPS study 1−52471
disordered materials, electronic states, field theory formalism 1−47569
disordered one-dimensional systems, relativistic electronic states 1−52475
energy gaps in glassy materials, existence arguments eval. 1−12021
glass, oxyanion units, optical basicity, SCF CNDO calc. 1−2333
glassy, d-band splitting, UPS and XPS study 1−12636
hydrocarbon polymer, electronic struct., virtual cryst. approx. 1−20613
metal, amorphous, electronic structure, review 1−25619
metal, conf., Grenoble, France (July 80) 1−22943
metals, electronic structure, embedded mol. cluster approach 1−30619
metals, supercond., review 1−30862
polyacetylene, doped, semiconducting props. 1−52167
polyacetylene, effect of symmetry lowering on band struct. 1−16220
polyacetylene, undoped, effect of disorder on electronic struct. 1−20610
polyene, ab initio crystal orbital studies 1−19229
polyethylene, band structure calc., non-empirical atomic potentials 1−19231
polymer system, energy spectrum evaluation using frontier MO's of unit cell 1−7509
polymers, band structure calculations, group theory 1−20612
polymers, correlation, interaction between polymers 1−20650
polymers, density functional formalism and correlation 1−20649
polymers, disordered systems, electronic structure, calc. methods 1−19232
polymers, electronic materials, review 1−3002
polymers, ground state calc., ab initio techniques 1−19225
polymers, ground state props., quantum mechanical studies, state of art 1−19233
polymers, infinite model, multipole expansion in tight-binding Hartree Fock calcs. 1−34614
polymers, non-empirical atomic potentials, ground state calc. 1−19231
polymers, pairing, gap equations and instabilities 1−19230
polymers, quantum theory, conf., Namur, Belgium (Feb. 1979) 1−17938
polymers, valence energy band structure, XPS study 1−21329
polymethineimine, ab initio crystal orbital studies 1−19229
polypropylene, band structure calc., non-empirical atomic potentials 1−19231
polyyne, ab initio crystal orbital studies 1−19229
semiconductor, disordered, Wannier excitons, single-site theory 1−12036
semiconductor, H incorporation, effects on electronic and struct. props., review 1−52067
semiconductors, chemistry and physics, teaching approach 1−13966
semiconductors, disordered, interband absorpt. spectra, CPA calc. 1−52474
semiconductors, field-effect conductance, density of localised states, anal. 1−42723
semiconductors, review 1−30615
surface photovoltage, band-bending and surface states 1−16338
topologically disordered systems, excitation spectra calc. 1−42724
transition metal alloys, amorphous, d electronic spectrum rel. to alloy struct., calc. 1−30617
transition metals, bulk and surface electronic struct., calc. 1−30618
As-Se amorphous system, struct. and energy levels, UPS, Raman spectra and photocond. study 1−47440
As_xSe_{100-x} amorphous, valence band states, UPS determ. 1−12624
Au-Ge, amorphous evaporated films, stability, optical props., electronic struct. 1−31213
Co-P, thin film, optical props., electronic struct., short-range order 1−31212
Co-P, X-ray spectra and XPS, electron distrib. determ. 1−31234
Cu-Ti, glassy, d-band splitting, UPS and XPS study 1−12636
$Cu_{60}Zr_{40}$, amorphous and cryst., low temp. electronic props. and specific heat 1−30620
Fe-B amorphous alloy, correl. between atomic and electronic struct. 1−30084
Fe-P amorphous alloy, struct. model, vibr. spectra and electronic states 1−25179
$Fe_{40}Ni_{40}B_{20}(P_{20})$, amorphous alloys, local electronic struct., cluster model 1−47578
Ge, dangling bonds during laser irrad. 1−12060
Ge-Si alloys, electronic and optical props., effect of short range order 1−34615
$GeSe_2$ glassy films, optical spectra and electronic struct. 1−48115
$La_{80-x}Sm_xAu_{20}$, amorphous, Sm surface mixed-valence state, UPS study 1−30799
$Mg_{70}Zn_{30}$ amorphous alloy, atomic and electronic struct., resist. and thermal props. 1−30085
Mo, metallic glass, band struct., superconductivity 1−25621
$Mo_{48}Ru_{32}B_{20}$, $Mo_{40}Ru_{40}P_{20}$, amorphous, photoemission and electronic struct. 1−8193
Nb, metallic glass, band struct., superconductivity 1−25621
Ni-Nb(Ta), glassy, d-band splitting, UPS and XPS study 1−12636
Ni-P, thin film, optical props., electronic struct., short-range order 1−31212
Ni-P, unoccupied Ni density of states, X-ray absorpt. and emission spectra 1−31229
Ni-P, X-ray spectra and XPS, electron distrib. determ. 1−31234
Ni-P-B, amorphous and cryst., electronic struct. from photoemission, NMR and sp. ht. 1−25620
PbO-SiO_2 glasses, electronic struct. and resonant covalence 1−30616

electron energy states of amorphous solids continued
Pd-Si(-Cu), amorphous and cryst., electronic props., positron annihilation study *(Russian)* 1−43210
Se, electronic structure in solid and liq. state by γ-ray Compton scatt. 1−31223
Se, glassy, XPS under Ar ion bombard. 1−3564
Se:Li,Cl, amorphous, gap states, carrier traps, time-of-flight study 1−52472
$(Se_{32}Te_{32}As_8Ge_{32})_{100-x}Ni_x$, chalcogenide amorphous semicond., electrical cond. and optical absorpt. 1−20730
Si, amorphous, electronic struct., effect of different kinds of disorder, calc. 1−52473
Si, amorphous CVD film, elec. and optical props. and localised state density *(Japanese)* 1−20608
Si, dangling bonds during laser irrad. 1−12060
Si:H, amorphous, Compton profile meas. 1−21288
Si:H, amorphous, gap states and recomb. processes *(Japanese)* 1−43175
Si:H, amorphous thin film, band-bending, photoluminesc. study 1−52984
Si:H, gap states, review 1−16221
Si:H, gap states, TSC and optically stimulated current meas. 1−52577
a-Si:H, quantum well model 1−7510
Si:H amorphous films, glow-discharge deposition, prep. conditions and characterisation, review 1−30589
a-Si:H Schottky barrier diode, band struct., conductance-capacitance freq. depend. 1−7704
a-Si-based alloys, localised state distrib. meas. using field effect technique 1−30682
Tc, metallic glass, band struct., superconductivity 1−25621
$WS_2(Se_2)$ dichalcogenides, electronic energy states, electron energy loss spectra 1−38706

electron energy states of glassy solids *see electron energy states of amorphous solids*

electron energy states of liquid metals
alkali metal-Au alloy, density of states and cond. calc., metal-nonmetal transition 1−25689
alloy, binary, density of states theory inc. local atomic configs. 1−25605
conference, Grenoble, France (July 80) 1−22943
electron Green's function, electron state density 1−16219
electronic structure, review 1−25619
embedded molecular cluster approach 1−30619
liquid alloy, structural disorder theory, band struct. 1−46987
liquid metals, electronic structure, multiple scatt. approach 1−20611
muffin tin model, effective medium approx. calc. 1−30614
Ag, liq., dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
Au, dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
Co-Si, liq., entropy of mixing, electronic contrib. 1−30398
CsAu liquid alloy, structural disorder theory, band struct. 1−46987
Cu, dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
$Cu_{100-x}Si_x$, liq., partial densities of states, soft X-ray spectroscopy study 1−30612
Fe-Si, entropy of mixing, electronic contrib. 1−30398
Hg, expanded, pseudogap in density of states and anomalous dispersion 1−25618
Li-Pb, electronic transport, self-consistent pseudopot. theory 1−30709
Li-Pb, low energy photoemission spectra meas. 1−31312
Ni, electron momentum distrib., positron annihilation meas. 1−31225
Ni, ion implantation of ^{58}Co for positron annihilation Doppler broadening meas. 1−32968
Ni-Si, entropy of mixing, electronic contrib. 1−30398
$Pd_{100-x}Si_x$, liq., partial densities of states, soft X-ray spectroscopy study 1−30612
Si, partial density of states, X-ray emission band meas. 1−8162

electron energy states of liquid semiconductors
Ge, electronic structure in solid and liq. state by γ-ray Compton scatt. 1−31223
Se, electronic structure in solid and liq. state by γ-ray Compton scatt. 1−31223
Se, liq., struct. and electronic transforms, ^{77}Se NMR study 1−12413

electron field emission
cathode, active layer-substrate interface, electron emission, Schottky effect 1−43238
conference, Albuquerque, NM, USA (July 1978) 1−17935
explosive, current instability mechanism 1−53060
gun development, energy spread and fluctuations meas., book contrib. 1−402
low-current-density microsecond electron beam diodes 1−6061
metal dielectric metal system, current voltage characteristics 1−20879
metal-plasma-metal cathode with large emitting surface 1−31318
photo-field emission calc., of semiconductor cathodes 1−3580
PTFE, high-energy electron emission from film adhesive contact disruption 1−16670
relativistic electron beam energy distrib. 1−37451
resonance field emission from metal into a plasma 1−3581
source coherence and brightness, emission and energy broadening 1−37398
steel, stainless, electrode electric breakdown props. in ultra-high vacuum 1−48004
Al-SiO_xN_y-Al system, hot electron emission into vac. and electrolum. 1−31317
C adsorbed layers on W, field emission study 1−16667
C fibre field emitters, surface and crystallographic struct., field-ion and electron microscopy study *(Japanese)* 1−39226
CdS:Ni, field-emission cathode, deep capture centre effects on emissivity 1−3583
Ge, field-emission props., O adsorption influence 1−3582
Ge photocathode, field-emission and spectral characts., adsorption phenomena effect 1−12621
GeO_2 films, in MIM struct., elec. props., electrolum., and electron emission 1−38874
LaB_6 cathode, electron emission brightness 1−16669
MgO film, field enhanced secondary electron emission 1−21303
NaCl film, field enhanced secondary electron emission 1−21303
TaC, broad area composite cathode, energy spectra of field emitted electrons 1−39225
Ti electrode electric breakdown props. in ultra-high vacuum 1−48004
W (110), field emission, energy distrib. calc. 1−53058

electron field emission continued
W coadsorption of La and B, work functions and field emission patterns *(Japanese)* 1−52420
W, current density, temp. and mag. field depend. ponderomotive force model 1−43251
W emitter, current fluctuation in thermal field emission 1−16668
W, laser illuminated tip temp. rise, thermally enhanced field emission 1−8201
W, surface, clean and B covered, photo field emission spectroscopy, band struct. 1−21330
ZnO varistors, cond. mechanisms, noise, thermionic emission 1−2972

electron gas
see also cathode ray tubes; electron optics
Boltzmann electron gas, AC cond., disordered solid model 1−2930
charge carriers, inhomogeneously heated, nonstationary states 1−12117
classical system, two dimens., electrodynamic props., SCF approx. 1−24942
correlation energy, non-local approx. 1−47518
correlations, Fermi hypernetted chain calc. 1−2902
degenerate, optical absorpt. and emission via forbidden transitions 1−43086
dielectric function, Hartree-Fock ladder series approx. 1−7543
dielectric response of a one-dimensional electron gas 1−34640
disordered, noninteracting, two-dimensional, conductivity, power law localisation 1−52506
disordered, two-dimens., magnetoresistance and Hall effect 1−25685
exchange and correlation potentials for finite temperature quantum calculations at intermediate degeneracies 1−42708
exchange energy and specific heat, appl. of dielectric function 1−16242
exchange-correlation effects, self-consistent calcs. *(Russian)* 1−52515
Fermi gas, n-th response props. 1−30651
Fermi-Dirac distribution function for non-equilibrium gas in cross elec. and mag. fields 1−166
free electron gas, Landau diamag., teaching 1−27717
ground-state energy, hypernetted-chain Euler-Lagrange calc. 1−12050
highly degenerate, thermodynamic props,. calc. method *(Spanish)* 1−27867
inhomogeneous system, exchange-correl. pot. at finite pot. at finite temp. 1−18150
interacting electron gas dynamic spin susceptibility 1−7852
ionic crystals, electron-gas theory, many-body effects 1−47524
jellium metal surface, inhomogeneous electron gas, Hartree-Fock theory, surface energy and work functions 1−38827
jellium with point defects, electron density distrib., quadratic response theory 1−30661
liquid, two dimensional, self-diffusion 1−16240
local field correction and dynamical struct. factor of electron liqs. 1−2895
Lorentz gas, runaway effect 1−40731
low density phases, quantum Monte Carlo method 1−165
magnetic field induced phase transition, CDW 1−20646
magnetic semiconductors, gas-liquid phase transition in quasitwo-dimensional electron gas 1−3073
metal, crystalline and non-crystalline, electron state, Hume-Rothery to present 1−30650
metal surface, electrodynamics, appl. to spectroscopy of adsorbed molecules 1−25783
metals, diamagnetic shielding of impurities, muons, electron-gas theory 1−26106
metals, face depend. surface energy 1−47361
metals, nonsimple, electron pairing centre contrib. to normal state resist. and supercond. 1−12227
non-metallic solids, plasmon satellite struct. in PES 1−7544
non-simple cubic metals, Cauchy discrepancy 1−47035
nonequilibrium phonons in point contact between normal metals *(Russian)* 1−47806
nonuniform electron distrib., dynamic response 1−52505
piezoelectric degenerate semiconductor, transverse magnetoresistance depend. on nonparabolicity 1−7641
plasmon damping, mode coupling approx. calcs. 1−7548
plasmon effects, screening near metal surface 1−47520
positron, exact soln. of Kahana eqn. 1−47580
quadratic approach, local field corrections 1−25652
self-consistent screening theory in presence of strong mag. field 1−16245
self-interaction and interelectronic exchange in electron gas model for atom 1−29072
semiconducting solids, density functional formalism and correlation 1−20649
solid-state plasma degenerate electron gas in strong EM field, electron energy distrib. 1−20788
specific heat of electron gas of arbitrary dimensionality 1−32901
two dimensional, obs. of non-Ohmic Hall resist. at low temps. 1−38859
two-dimensional classical electron liq., collective props. 1−12051
two-dimensional electron layers and strong field mixing effects 1−12174
two-dimensional system electron props., conf., Lake Yamanaka, Japan (Sept. 1979) 1−5024
uniform, time-dependent Hartree-Fock dielec. function 1−7546
van Vleck ions interacting with electron gas, mag. props., theory 1−30899
Vlasov equation for electron gas in mag. field *(German)* 1−40709
Wigner function of a two-dimensional electron gas in a magnetic field 1−167
Be, electron-electron correlations, X-ray scatt. meas. 1−34641
GaAs, two-dimensional electron gas, lattice scatt. mobility 1−25723
GaAs/n-AlGaAs heterojunction interface, two-dimensional electron mobility 1−34775
GaAs-AlGaAs heterostructure superlattices, far IR emission of 2D electron gas 1−52941
GaAs-AlGaAs superlattice, Coulomb interactions, intersubband spectroscopy 1−7719
GaAs-AlGaAs superlattices, light scatt. spectra of electron gas 1−52960
Ge:Sb, heavily doped, resist. and Hall maxima in metallic range, degenerate electron gas model 1−47683
InP MOSFET, surface cond. and magnetoconductivity props. 1−52639
K, free electron liquid, freezing, Wigner crystn., struct. factor 1−42519
K, local spin density correlation energy functional, influence on cohesive energy 1−20644
Li, local spin density correlation energy functional, influence on cohesive energy 1−20644
Na, free electron liquid, freezing, Wigner crystn., struct. factor 1−42519
Na, local spin density correlation energy functional, influence on cohesive energy 1−20644

electron gas continued
Rb, local spin density correlation energy functional, influence on cohesive energy 1−20644
p-Si, ⟨100⟩ oriented, oscillatory electronic heat capacity in inversion layer in quantizing mag. field 1−52311
Si inversion layer, obs. of interaction and localisation effects in two dimensional electron gas 1−20844
Si inversion layers, exchange-correlation effects, valley occupancy phase transitions 1−52509
Si MOSFET, many-body enhancement of valley splitting at finite temp. 1−52656

electron guns
beam instability region limit meas. 1−1474
coaxial diode gun with mag. insulation, relativistic electron beam struct. 1−23367
field emission, energy spread and fluctuations meas., book contrib. 1−402
field emission gun system incorporating preaccelerator mag. lens, CTEM use 1−18334
multistage, for electron microscope 1−45080
sheet electron beam, electrostatic gun electrodes synthesising 1−33614
thermionic electron guns, high brightness, SEM appls. 1−14216
CO_2 repetitively pulsed laser, mean power output in excess of 30 kW 1−46380
LaB_6 cathodes, ⟨100⟩, ⟨110⟩ and ⟨111⟩ orientation, emission characts. 1−26354
LaB_6 single crystal electron gun for variably shaped electron beam optics 1−29203

electron-hole avalanches *see impact ionisation*

electron-hole drops
charge transfer crystal, organic, optical and photoelectric props. 1−30789
drag force due to Cherenkov emission of transverse acoustic waves 1−2884
heterostructure base, degenerate electron-hole plasma spatial distrib. 1−20789
rare earth metal hydrides, RH_x(R=La, Ce, Pr, Nd), metal-semiconductor transition, electronic band struct. model 1−20634
resistivity depend. on Fermi surface anisotropy 1−20739
semiconductor, electron-hole droplet instability, recomb. mechanism 1−47489
semiconductor, indirect band gap, electron-hole drop recomb. time, theory 1−12124
semiconductor physics, conference, Kyoto, Japan (Sept. 1980) 1−44693
semiconductor thin films, electron-hole liquid, ground state energy density depend. *(Russian)* 1−12040
semiconductor thin films, quantised, Wannier-Mott exciton decay on neutral impurity centre *(Russian)* 1−2875
semiconductors, correlation energy and excitation spectra of electron-hole systems 1−7531
semiconductors, dislocation interaction with electron-hole drops *(Russian)* 1−52500
semiconductors, electron-hole liquid, electron scatt. by impurity centres 1−38727
semiconductors, finite length samples, electron-hole plasma drift in mag. field 1−20790
semiconductors, indirect, metal-insulator transition in electron-hole system, calc. 1−16233
AlAs, electron-hole droplet condensation, crit. points and ground states 1−52493
CdS, exciton-plasmon interaction in nonequilibrium electron-hole plasma *(Russian)* 1−52496
$CdS_{1-x}Se_x$, emission by electron-hole droplets and electron-hole plasma 1−12556
CdS(Se)(Te), electron-hole liq., condensation energy. luminesc. study 1−20640
GaAs, dielectric function theory, gain spectra 1−16246
$GaAs_{1-x}P_x$, electron-hole liquid luminesc. 1−12574
GaP, electron-hole droplet condensation, crit. points and ground states 1−52493
Ge, ⟨111⟩ stressed, two-component electron-hole liq. phase separation, time resolved luminesc. spectra 1−34632
Ge, deformed, electron-hole liquid formation and props. 1−20639
Ge, electron-hole drop, far IR magneto-oscills. 1−48041
Ge, electron-hole drop drag by deform. pulse due to laser irrad. *(Russian)* 1−2973
Ge, electron-hole droplet and ballistic phonon imaging 1−16237
Ge, electron-hole droplet cloud, effect of phonon flux singularities 1−47491
Ge, electron-hole droplet interaction with dislocations, luminesc. obs. 1−12579
Ge, electron-hole droplets dragged by laser-induced deform. pulse 1−47492
Ge, electron-hole drops, free excitons, free carriers, magnetoplasma resonance study 1−20638
Ge, electron-hole drops, static friction mechanism 1−42698
Ge, metal-insulator transition in electron-hole system, calc. 1−16233
Ge, phonon wind, ballistic phonons in heat pulse, interaction with e-h liquid 1−16239
Ge:B, exciton condensation kinetics at high excitation levels *(Russian)* 1−30648
PbO, electron-hole liq., condensation energy. luminesc. study 1−20640
Si, biexciton form., photoluminesc. study 1−48145
Si, deformed, electron-hole liquid formation and props. 1−20639
Si, deformed, exchange correlation energy in electron-hole fluid *(Russian)* 1−7533
Si, electron-hole drop form., excitation threshold 1−2881
Si, electron-hole liq. condensation, scaling relations 1−47495
Si, insulator-metal transition of free excitons to electron-hole plasmas, luminesc. spectra 1−47490
Si, metal-insulator transition in electron-hole system, calc. 1−16233
Si, stressed uniaxially, electron-hole drop densities from photoluminesc. 1−42696
Si:P, four-particle radiative transitions of biexcitons and multiple bound excitons 1−31188
SiC, electron-hole droplet condensation, crit. points and ground states 1−52493
$Zn_xCd_{1-x}Se$, Bose condensed exciton phase *(Russian)* 1−30647
ZnO epitaxial layers, recomb. radiation kinetics 1−31194
ZnS, edge luminescence under strong photoluminescence conditions 1−16606
ZnSe, electron-hole liquid, luminescence spectra *(Russian)* 1−12584

electron-hole drops continued
ZnSe, light amplification in electron-hole drops 1−3438
ZnSe(Te)(O), electron-hole liq., condensation energy. luminesc. study 1−20640

electron-hole plasma *see solid-state plasma*

electron-hole recombination
see also carrier mobility
deformable lattice, electron, hole and exciton interactions with phonon and impurity fields, review 1−34635
degradation and luminesc., effect of intrinsic defects 1−21252
diamond, ion-implanted, cathodoluminesc. study 1−48172
n-Ge, galvanomagnetic recombination effect, temp.-depend. 1−42799
III-V compounds, deep levels, nonradiative recomb. and self-trapping, lattice phonon effects, review 1−47537
isochromat spectra, structure, electron-hole pair production 1−2855
LED, book contrib. 1−26278
ODMR, in semiconductors 1−31064
organic electrophotographic layers, photodischarge kinetics calc. 1−20824
p-n junction solar cells, diodes and transistors, lifetimes and recombination currents determ. 1−32016
pentacene, disordered, photocurrents, charge carrier mobility and recombination 1−42818
photoconductivity, transient, near surface of semi-infinite media, calc. 1−47706
semiconductor, Auger recombination cross section associated with deep traps 1−20761
semiconductor, Auger recombination rate calcs. 1−30764
semiconductor, capture, emission and recomb. at deep level via excited state 1−20760
semiconductor, indirect band gap, electron-hole drop recomb. time, theory 1−12124
semiconductor, nonequilibrium phonons in 3- and 2-dimensional charge transport 1−16269
semiconductor, photoexcited carriers, distrib. functions, instabilities, theory 1−20825
semiconductor device properties, surface recombination effect 1−7726
semiconductor wafer, contactless meas. of elec. props. *(Japanese)* 1−47673
semiconductors, optical detection of exciton resonances 1−47976
semiconductors, resonance excitation of carriers by intense light pulses *(Russian)* 1−42828
semimetals, nonlocal electron interaction effects in spontaneous current model *(Russian)* 1−42691
AgCl, recombination luminescence, two-photon spectra 1−8127
$Cd_{0.21}Hg_{0.79}Te$, generation-recomb. noise 1−20834
CdS, radiative recombination in the presence of screening of Coulomb interaction 1−12554
CdS, spray-pyrolised film, luminesc. decay, electron-hole recomb. 1−43202
CdSe, opticalgain spectrum, exciton-exciton interaction and electron-hole plasma recomb. 1−3437
CdSe, single crystal, photoelectric current noise, effect of contacts 1−20840
CdSe, time resolved luminescence spectra 1−8129
CdTe, undoped and P-doped, photoluminesc. and recomb. centres, heat treatment under component vapour press. 1−26258
GaAs, Auger recombination, impurity assisted 1−47676
n-GaAs, degenerate, quantum efficiency and radiative lifetime 1−43158
GaAs epitaxial layer, phonon optics, carrier relaxation and recombination 1−16390
GaAs, hot electron anal. from electron distrib. function 1−47663
GaAs, hot photoluminescence spectrum and polarisation 1−48147
GaAs, TSC spectra, differential anal., recomb. mechanism 1−12122
$GaAs_{0.62}P_{0.38}$, extended defect, DLTS, capacitance transient meas. 1−30672
GaP:N, radiative combination at NN_1 isoelectronic centre 1−3496
GaP:N,S, nonradiative recomb., emitted phonon detection by calorimetric absorpt. spectroscopy 1−47181
GaSb, Auger recombination, impurity assisted 1−47676
Ge, carrier mobility, effect of surface recombination rate in presence of mag. field 1−42800
Ge, electron-hole drops, free excitons, free carriers, magnetoplasma resonance study 1−20638
Ge, surface recombination in 10^{-8} torr vacuum, chemisorbed H_2O effects 1−30805
$Ge_{1-x}In_{x-y}P_y$, epitaxial struct., radiative recomb. emission intensity 1−8139
$Hg_{0.78}Cd_{0.22}Te$/CdTe planar IR photodiode, backside-illuminated 1−3080
$Hg_{1-x}Cd_xTe$, narrow band gap semiconductor, highly excited electronic states, picosecond IR spectra 1−52494
$Hg_{1-x}Cd_xTe$, trap levels and minority carrier lifetime, DLTS study 1−34658
HgTe zero gap semiconductor, nonequilibrium carrier recombination 1−38793
InSb, narrow band gap semiconductor, highly excited electronic states, picosecond IR spectra 1−52494
KCl:Mn, monochromatic thermolum., recomb. kinetics model 1−3500
KCl:$SnCl_2$, light and thermally stimulated recombination luminesc. 1−3465
PbTe, narrow band gap semiconductor, highly excited electronic states, picosecond IR spectra 1−52494
Si, amorphous hydrogenated, light-induced radiative recomb. centres, photolum. study 1−26251
n-Si, Auger recombination process, IR absorpt. meas. 1−21206
Si p^+-n-n^+ structure, current-voltage characts. at high current density, e-h scatt. 1−52650
Si, phonon assisted electron-hole Auger recombination 1−47671
Si, polycrystalline, recombination velocity at grain boundaries under optical illumination 1−30760
Si rectifiers, recombination centres in base regions, energy levels, capture coeffs. meas. *(German)* 1−52649
Si solar cell efficiency, effect of Zn impurity 1−53611
Si solar cells, heavily-doped n^+p junction, simplified model 1−43778
Si:B(Li)(P), bound multiexciton complexes, exciton capture and Auger recomb. rates 1−48146
Si:F,H, amorphous, photocond., recomb. mechanisms, influence on solar energy conversion 1−42814
Si:H, amorphous, gap states and recomb. processes *(Japanese)* 1−43175
Si:H, amorphous, nongeminate recomb. of photogenerated holes, meas. 1−7637
electron-hole recombination continued
Si:H, amorphous films, recombination, Auger effects and nongeminate recomb., luminesc. study 1−48162
Si:H, amorphous p-i-n drift type solar cell, germinate recomb. process, photovoltaic behaviour 1−53614
Si:H amorphous films, photocond., trapping and recombination 1−47710
Si:P, bound electron kinetics, elec. breakdown studies 1−47664
Si:P, bound multiexciton complex radiation lines in mag. field, polarisation and splitting 1−52993
Si:P, hydrogenated anorphous, dispersive transport and recomb. lifetime 1−38811
Si:P, resistance profile after irrad. by light ion beam 1−7612
SiO_2, amorphous, geminate recomb. of γ-ray excited electron-hole pairs 1−2982
Y_2O_3, Y_2O_2S, rare earth ion activated, electron-hole pair radiative recomb. mechanisms 1−48171
YVO_4, rare earth ion activated, electron-hole pair radiative recomb. mechanisms 1−48171
$ZnGeP_2$ p-n homodiode, photoelec. props. 1−3056
ZnS:Cu,Al phosphor, cathodolum. saturation and decay characts. 1−26280
$ZnS_{0.52}Se_{0.48}$, self-activated luminesc. and ODMR study 1−21260
ZnSe, ODMR, luminescence study of vacancy associated defects, recombination 1−26081
ZnTe, high excitation luminescence, two-photon Raman scatt. 1−26270

electron impact
see also atomic electron impact excitation; atomic electron impact ionisation; molecular electron impact dissociation; molecular electron impact excitation; molecular electron impact ionisation; secondary electron emission
absolute cross-sections determ. 1−37326
alkali halides, electron induced sputtering 1−53022
backscattering by free films, semiinfinite layers, anal. 1−26325
backscattering on solid surface, trajectory simulation using Monte Carlo calcs., spatial distrib. *(French)* 1−16636
collision statistics, elastic and inelastic refl. from solids 1−53027
desorption, electron stimulated, optical radiation from excited atoms and molecules 1−33420
diatomic molecule, static interaction potential 1−6380
electrical discharge lasers, electron ionisation rates 1−37480
electron beam surface activation, inelastically reflected electron effectiveness *(Russian)* 1−16629
graphite 2239, equation of state study using relativistic electron beam 1−2588
ion emission from metal surfaces *(Polish)* 1−3548
ionosphere, electrons collision freqs. and transport props. 1−13630
metal surface, positron impact, positronium form. and positron emission, theory 1−12612
molecular collisions, fate of electrons with energies less than 100 eV 1−46143
plasmas, electron impact broadening and shift of spectral lines, quantum scattering theory 1−6928
PMMA, electron penetration, Monte Carlo methods 1−42438
slow-electron scatt. in solids 1−31241
spherical surface, fast electron inelastic scatt. 1−53025
surface unoccupied bands, study using bremsstrahlung from accelerated electrons, theory 1−8174
X-ray, intensity dependence on angle of incidence of electrons on bulk targets 1−39186
Ag surface, obs. of surface and volume plasmons in electron-photon emission 1−38739
Al, electron penetration, Monte Carlo methods 1−42438
Al-Cu-Al three layer system, electron backscatt. 1−35135
Be thin film, elastically reflected electrons, detachment depth, energy depend. determ. 1−53026
Co, Auger spectra identification due to ion and electron impact 1−3553
Cr, Auger spectra identification due to ion and electron impact 1−3553
CsBr, dissociation due to electron bombardment *(Russian)* 1−4086
Cu monocrystal, backscattering electron emission, angular distrib. anisotropy meas. 1−21307
Fe, Auger spectra identification due to ion and electron impact 1−3553
InP(100 surface), electron stimulated oxidation, Auger spectra 1−8169
KCl, dissociation due to electron bombardment *(Russian)* 1−4086
MgF_2 surface, low-energy electron impact dynamic effects 1−8642
Mn, atomic and metallic, $L_{2,3}MM$ Auger electron spectra 1−37164
Mn, Auger spectra identification due to ion and electron impact 1−3553
NaCl, dissociation due to electron bombardment *(Russian)* 1−4086
Ni (110) surface, appearance of S induced by electron bombard., AES study 1−38633
Pt, adsorption of O_2, electron stimulated desorption study 1−47378
Si (111), slow electron contribution to inelastic reflection anisotropy 1−26326
W (110) surface, temp. depend. Auger electron emission 1−8170
W, electron-stimulated field desorption of multiply charged He and Ne ions 1−16671

electron interactions *see elastic scattering of electrons by atoms and molecules; electron attachment; electron beam effects; electron beams; electron-electron interactions; electron-electron scattering; electron impact; electron-nucleon interactions; electron-nucleon scattering; electron-nucleus reactions; electron-nucleus scattering; electron-positron interactions; electron-positron scattering; electron spectra; hadron electroproduction; neutrino-electron interactions; neutrino-electron scattering; secondary emission*

electron ionisation *see electron impact*

electron lenses
see also aberrations; electron microscopes; electron optics; electrostatic lenses; magnetic lenses
beam deflection review, book contrib. 1−33616
cathode lenses with spherically symmetric combined fields, electron optics 1−24346
deflective aberration calc. method for electron optical system with two deflectors and lens 1−6442
electron micrographs, high resolution, correction of artefacts 1−50281
lens aberrations effect, on lattice images of spinodally decomposed alloys 1−40904
magnetic periodic quadrupole focusing of high-intensity electron beams 1−15067
multipole type, variable magnitude optical aberration generation 1−46206
polar angle selection lens for UV photoemission spectroscopy 1−40899
STEM images, method for displaying defocus and astigmatism 1−45078
vector potential distribution, finite element method 1−15062

electron lifetime (metals) *see electron relaxation time (metals)*
electron lithography *see electron beam lithography*
electron mean free path (metals)
alloy, elec. resist. during phase separation 1−20702
amorphous and liquid metals, minimum metallic cond. and elec. props. 1−25688
film, monocryst., thermopower variations with cond., bulk electronic mean free path determ. 1−30841
free-electron materials, mean free paths of very-low energy electrons, exchange and correl. effects 1−12100
spin glass with nonmagnetic impurities, RKKY interaction 1−12337
transition metals, HCP, transport and thermophysical props., 300 to 3000K, carrier mean free path influence 1−2940
Al, surface plasmon excitation influence on inelastically scattered electron spectra peaks 1−26324
Al-Ag superconductor-metal point junction, cond. temp. depend. *(Russian)* 1−7790
Al-Cr(Mn)(Fe), dil., low-field Hall coeff. at 4.2K 1−7592
Al-oxide-Ag system, hot electron mean free path, light emission by surface plasmon excitation 1−25809
Co, electron mean free path, spin depend. 1−30729
Cu, electron mean free path between two inelastic collisions 1−34387
Fe, electron mean free path, spin depend. 1−30729
Hf, thermophysical properties rel. to conduction electron mean free path 1−2941
Nb film, single cryst., Ar implantation and vacuum annealing effect on supercond. props. *(Russian)* 1−30859
Nb_3Sn, supercond. flux lines, pinning by grain boundaries 1−42930
Ni, electron mean free path, spin depend. 1−30729
Pt film, very thin, mean free path and conductance electron density, size effect determ., surface effects 1−38868
Sn, white, thermopower sign, electron-phonon scatt., Fermi surface *(Russian)* 1−12099
Ti, thermophysical properties rel. to conduction electron mean free path 1−2941
W, electrical resistance meas., surface electron scatt. role *(Russian)* 1−12094
Zr, thermophysical properties rel. to conduction electron mean free path 1−2941
electron micrographs *see electron microscope examination of materials; electron microscopy*
electron microprobe analysers *see electron probe analysis*
electron microprobes *see electron probes*
electron microscope applications
see also electron microscope examination of materials; scanning electron microscope applications
integrated circuit investigation using electron reflection microscopy and digital image processing *(German)* 1−18336
local image transformation, biological electron microscopy appl. 1−53947
microprocessor chip testing 1−28137
electron microscope examination of materials
see also electron microscope applications; electron microscopy; scanning electron microscope examination of materials; scanning-transmission electron microscope examination of materials; transmission electron microscope examination of materials
alkali halide, radiolysis processes, high temp. irradiation *(Russian)* 1−48706
alloys, spinodally decomposed, electron microscope lens aberrations effect on lattice images 1−40904
amorphous and crystalline specimens, unified image processing 1−53940
austenitic stainless steel, cold swelling, effects of Si and Ti, HV electron microscope investig. *(Japanese)* 1−38409
bacillus subtilis, contractile phage sheath, negatively stained, low-dose electron image reconstruction 1−43850
bipolymers, electron microscope specimen prep. using high resolution metal coating, vacuum deposition 1−17541
block copolymer, mesomorphic structure, determ. techniques *(French)* 1−38261
α-brass, Hall-Petch rel. 1−3820
carbonaceous amorphous film high-resolution electron microscope image contrast obs. 1−15802
cellulose IV_{II} single crysts., prep. and props. 1−15812
cement pastes, analytical electron microscopy study 1−3706
complex or disordered crystals, electron-microscopic structure image simulation 1−15769
diamond, phonon scattering by N aggregates, aggregate size determ. 1−20337
dipalmitoyl phosphatidylcholine/water system, undulated phase, X-ray and electron microscopy study 1−7084
dislocation Burgers vector determ. by weak beam imaging in HVEM 1−20224
dislocation loops, halo contrast in electron microscopic images *(Russian)* 1−7176
dislocation loops, prismatic, electron microscopic contrast, free surface effects 1−7179
dislocations, core spreading in high angle boundaries 1−25279
electroplating on Al alloys, effect of alloying additions 1−21640
epoxy-water interactions 1−52427
Fe, dislocation patterns, leading to initiation of ductile fracture 1−30238
α-Fe, vacancy migration, self-diffusion, review 1−20191
feldspar, labradorite Ca/Na positions derived from high-resoln. electron microscopy and optical diffr. 1−47046
ferrite, spinel type, crystal orientation during solid-solid reaction 1−48653
foil thickness meas. from convergent beam diffr. patterns 1−50101
glass thin film optical waveguide, light scatt. reduction by CO_2 laser annealing 1−11087
graphite, lattice struct. and micromorphology relations, electron diffr. and electron microscopy studies *(German)* 1−34285
heavy cations imaging in silicates, stabilisation of zeolites under electron irradiation 1−36076
high-resolution electron microscopy in materials science, conference, Cambridge, England (Mar. 1979) 1−9763
histological image analysis, recent developments *(French)* 1−53924
IN100, Ni-base alloy, cyclic behaviour, macroscopic description of microstruct. changes induced by varying temp. 1−35341
Inconel X-750, temp. effect on fatigue-crack propag. 1−48469
insect cuticle, electron microscopy of fibril-matrix interactions 1−35793
ion-damaged, extended, interstitial chains and dislocation dipoles, electron microscopy study 1−47076
electron microscope examination of materials continued
kaolin minerals, IR spectra classif., mineralogical aspects of KAKINO kaolin *(Japanese)* 1−48087
lamellar structures, determ. of order-disorder parameters *(French)* 1−38386
metals, BCC, dislocation processes, HVEM 1−2448
metals and alloys, strength, conf., Aachen, Germany (Aug. 1979) 1−5030
minerals, internal struct., electron microscope investigation 1−11644
oxides oriented by dehydration reaction twinning electron particle size broadening, electron microscope obs. 1−30246
poly(ethylene terephthalate), isothermally crystallised, morphology and melting behaviour 1−16024
poly(ethylene terephthalate), melting and crystn. under pressure 1−52086
poly(styrene-b-isoprene) block copolymer, structural evolution with temp. 1−52210
polyethylene, low-density, model of partial crystn. and melting derived from SAXS and electron microscopy 1−15815
polymer adhesive joints, character of failure 1−48481
polymers, amorphous, electron microscopy and small angle X-ray scatt. 1−30095
polyvinylidene fluoride, crystal structure and morphology induced by mechanical and electrical stresses *(French)* 1−52091
protein molecules, negatively stained, fidelity of struct. representation 1−21983
PVC, grain morphology determ. by electron microscopy, depend. on prep. method *(German)* 1−21415
quartz, crack propagation in presence of H_2O, chemomech. weakening 1−22336
semiconductor, characterisation and props., review, book contrib. 1−47712
semiconductor materials, multicomponent, struct., microdiffr. anal. method 1−15762
silicates chain, periodicity faults, planar lattice faults, high resolution electron microscopy 1−20189
sintered and hot-pressed ceramic intergranular glassy phases and Si-SiO_2 interfaces, electron microscope obs. 1−16193
sital pyroceramic, surface layer optical property and struct. investigation, mech. finishing 1−1659
soil fabric, electron micrograph analysis using digital computer techniques 1−49423
soil structure, quantitative analysis using microscopy 1−49268
soils and clays, conf., Edinburgh, UK (Sept. 1979) 1−49265
steel, alloy, reverse martensitic transform. characts. and mech. props. 1−16773
steel, austenitic stainless, 30Kh12G23, deformation induced γ-α transform., phase and structural changes *(Russian)* 1−31455
steel, austenitic stainless, neutron irrad., the trapping at Ti-rich MC particles in type 316+Ti 1−25330
steel, C, abrasive wear and microstructure relationship 1−48529
steel, Cr-Mo, creep crack propagation, applicability of fracture mech. parameters *(Japanese)* 1−43483
steel, Cr-Ni (25, 20 wt.%), ferrite precipitation after cold rolling and ageing 1−12750
steel, fine structure, effect of retained Al in 12Kh1MF 1−16784
steel, low C alloy, strengthening by rolling at austenite-ferrite two phase regions 1−35283
steel, low-C, cast, electron fractographic anal. 1−43499
steel, maraging, decomposition invest. by positron annihilation method 1−16882
steel, Mn-Cr-V, precipitation hardening, struct. changes *(Czech)* 1−3758
steel, stainless, 304 and 310, phase transition role in hydrogen embrittlement 1−43333
steel, stainless, sigma phase defects, high high resolution axial lattice imaging 1−30248
steel, stainless 316L, microstructural evolution, during monotonic and/or cyclic uniaxial loading at room temp. 1−26577
steel, type 100Yu7, intermediate transform. of austenite *(Russian)* 1−31456
steels, quenched and tempered, mag. characts., correl. with thin-struct., and plasticity 1−31690
styrene-butadiene-styrene block copolymers, small-angle X-ray scatt. and electron microscopy 1−34250
styrene-hexylmethacrylate ultrathin film deposition by withdrawal method 1−31373
wollastonite structure ($CaSiO_3$), replacement of Ca by Sr, electron microscope study 1−30249
Zircaloy-2, electron irrad. damage study using HVEM 1−42423
Ag, dislocation patterns, leading to initiation of ductile fracture 1−30238
Ag powder, ultrafine, sintering, necking stage 1−48298
Ag, single cryst., in-situ HVEM study of fracture mechanism 1−3898
Ag-Mo bimetal epitaxial films, orientation relations at interface *(Russian)* 1−2831
Al, anodizing in molten eutectic alkali metal nitrates 1−53362
Al, dislocation struct. evolution during high press. creep 1−7180
Al, EELS in HVEM, trajectory simulation using Monte Carlo calcs. *(French)* 1−20286
Al, EM study of substruct. during creep 1−30237
Al, mobile dislocation density and velocity, during in situ creep in HVEM 1−53242
Al, point defect absorption mechanisms by grain and twin boundaries 1−20240
Al powder, ultrafine, sintering, necking stage 1−48298
Al, powders, spray-deposited on solid surface, electron microscopic exam. 1−21387
Al, single crysts., fatigue process, in-situ study by HVEM 1−3899
Al-Cu (45 at.%), rapidly solidified, vacancy ordered phases 1−26448
Al-Cu-Mg, type 2024 alloy, analytical study of microconstituents 1−26786
Al-Li, splat-quenched, alloy 2024, effect of Li on struct. and props. 1−8294
Al-Mg (0.3 wt.%), single crysts., discontinuous deform. depend. on orientation 1−8382
Al-Mg alloy, dislocation motion, deform. temp. depend., HVEM obs. 1−25276
Al-Mg foils, role of environmental conditions on irradiation damage in HVEM 1−2515
Al-Mg-Mn (5, 0.8 wt.%), duplex deform. substruct. form. during extrusion 1−31483
Al-Mg-(Zn), fracture toughness, intermetallic inclusions influence 1−53289
Al-Si, irradiation-induced precipitation in high voltage electron microscope 1−52178

electron microscope examination of materials continued
Al-Si based alloys, SAS1-50, microstruct. and dimensional stability, electron microscopy study *(Russian)* 1−30228
Al-Si-Ni, alloy SAS1-400, microstruct. and dimensional stability, electron microscopy study *(Russian)* 1−30228
Al-Si-(Cu) single crysts., large local rotations at 2nd phase particles 1−21546
α-Al_2O_3, derived by dehydration reaction twinning effect on particle size broadening electron microscope obs. 1−30246
β''-Al_2O_3, irradiation induced defects, examined by 1 MW high-resoln. electron microscopy 1−34369
Al_2SiO_5, kyanite, stacking faults and twins 1−34358
As sputtered amorphous film structure, high resolution electron microscope obs. 1−11676
Au powder, ultrafine, sintering, necking stage 1−48298
Au-Mn(20.7 wt.%), 2D antiphase struct. of $Au_{31}Mn_9$, high-voltage-high resoln. electron microscopy determ. 1−15834
Au-Ni bimetal epitaxial films, orientation relations at interface *(Russian)* 1−2831
Au-Sn-Al metallizations on GaAlAs LED, interfacial void struct. 1−16195
AuCu-Zn, irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
AuCu(II), irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
Au_4Mn ordering initial stages, high resolution electron microscope obs. 1−15768
Au_3Mn_2 ordering initial stages, high resolution electron microscope obs. 1−15768
BPO_4-$AlPO_4$-SiO_2 system of 1200°C 1−26435
$Ba_2Bi_4Ti_5O_{18}$, ferroelec. perovskite, high resoln. imaging 1−34209
$Ba_4Ti_{8-2x}Ga_{10+2x}O_{31}$, cryst. struct., electron microscopy 1−30147
Be, deformation zones influence on imbedded zones formation *(Russian)* 1−43422
Be, dislocation patterns, leading to initiation of ductile fracture 1−30238
Be, plastic flow, imbedded zone form., obs. during creep *(Russian)* 1−3826
Be, single cryst., in-situ HVEM study of fracture mechanism 1−3898
Be, struct. in superplastic deform. process, electron-microscopic examination *(Russian)* 1−16839
C amorphous films, 575 kV high-resolution electron microscope obs. 1−15800
C black, graphitised, direct obs. of tetrahedral bonding, by high resoln. electron microscopy 1−2391
C fibre field emitters, surface and crystallographic struct., field-ion and electron microscopy study *(Japanese)* 1−39226
CaO-Fe_2O_3-B_2O_3 glasses and glass-metal composites, prep., struct. and props. meas. 1−31414
CaO-Fe_2O_3-SiO_2 glasses and glass-metal composites, prep., struct. and props. meas. 1−31414
CdSe epitaxial layer, heat-treated, oxidation, electron spectroscopy 1−38684
$Co_{71.4}Fe_{4.6}Si_{9.6}B_{14.4}$ amorphous alloy, Lorentz electron microscopy 1−12339
Cr/Cu/Cr layered composite, near-boundary relax. of thermal stresses *(Russian)* 1−35298
Cu, dynamic recrystn. under tensile deform. *(Japanese)* 1−26494
Cu, point defect absorption mechanisms by grain and twin boundaries 1−20240
Cu powder, ultrafine, sintering, necking stage 1−48298
Cu-Al, double ribbons, geometry and props. 1−20242
Cu-Al, FCC alloy, Shockley partial dislocations, anisotropic elasticity and solute interaction effects 1−7178
Cu-Al (2 wt.%), fatigue process, in-situ study by HVEM 1−3899
Cu-Al (30.8 to 40.9 wt.%). γ-phase, long-period superstruct. 1−30015
α-Cu-Al single crysts., in-situ electron microscopy of twinning in deform. 1−31571
Cu-Co alloys, discontinuous precipitation 1−26461
Cu-Fe single cryst., deformed and annealed, struct. changes of Fe particles 1−43459
Cu-Ni-Fe (26, 8 wt.%), precipitation, study by electron microscopy, X-ray diffr. and hardness meas. *(Japanese)* 1−3745
Cu-Si (4 at.%), helical dislocations in low stacking fault energy FCC alloy 1−11759
Cu-Zn(10 wt.%), cold-rolled, microstruct. and texture 1−53204
Cu_{55}-Ni_{45} alloy, high temp. elec. resist. behaviour 1−30717
CuPt, quenched alloys, SRO comparison by dark-field electron microscopy 1−15767
β-Cu_4Ti precipitates, dislocation structure and intrinsic disorder obs. 1−16781
$Cu_{60}Zr_{40}$ cold rolled amorphous alloy defects, electron microscope obs. 1−11678
$Cu_{60}Zr_{40}$, cold-rolling and subsequent annealing, X-ray diffr., DTA and EM study 1−3783
$Eu_{1-x}Cr_2Se_{4-x}$, thin sections prepared by microtomy, structure imaging of tunnel structs. 1−42270
Fe, Armco, microalloyed, recrystn. at critical degrees of deform., grain boundaries condition effect 1−43363
Fe, BCC, dislocation processes, HVEM 1−2448
Fe, pure, and Fe base alloys, nitride hardening 1−43355
α-Fe, single cryst., in-situ HVEM study of fracture mechanism 1−3898
Fe-B amorphous alloys, annealed, metastable Fe_4B phase, electron diffr. and microscopy study 1−38287
Fe-B amorphous alloys, crystn. *(Russian)* 1−47008
Fe-B sputtered amorphous film, crystn. and atomic-scale struct. 1−11681
Fe-C, BCC, dislocation processes, HVEM 1−2448
Fe-C alloys, softening of Fe by C and jerky motion of screw dislocations during in-situ expts. 1−30235
Fe-Co-W alloys, semihard mag. props. *(Japanese)* 1−26637
Fe-N system, precipitate nucleation on dislocations 1−3739
Fe-Si (3 wt.%), plastically deformed, dislocation struct. rel. to mag. anisotropy *(Russian)* 1−11750
Fe-Si (3 wt.%), small deform. effect on grain size and texture 1−8330
$Fe_{85}B_{15}$, crystn. study of amorphous alloy prepared by melt quenching from different temps. 1−11690
ε-$Fe_3(C,N)$, formed by glow discharge, microstruct. study 1−39331
α-Fe_2O_3, derived by dehydration reaction twinning effect on particle size broadening, electron microscope obs. 1−30246
Fe_2O_3, kinetics of reduction by H_2 and Co *(Korean)* 1−17025
α-Fe_2O_3, synthetic hematite, crystallite size distrib. shape effects, X-ray line profile anal. 1−20414
electron microscope examination of materials continued
Fe_3O_4-Fe_2TiO_4 system, natural, oxidation reactions and defects 1−3942
GaAs film, submicron growth defect form. in CVD 1−20591
$Gd_2(MoO_4)_3$, ferroelastic and ferroelectric, pol. reversal and field induced phase transform., electron microscopy 1−39049
Ge amorphous films, 575 kV high-resolution electron microscope obs. 1−15800
Ge, extinction contour in electron microscopic images 1−11643
Ge, profiled single-crystals exposed to pulsed CO_2 laser, surface damage 1−31242
InP:Ge_7 dislocation free cryst. growth 1−35167
InSb, extinction contour in electron microscopic images 1−11643
LiF single crysts., fatigue hardening in push-pull cyclic deform. 1−39409
$LiNbO_3$:Fe, composition inhomogeneities, defect types 1−38545
Li_2O-SrO-SiO_2 liq. phase separated glasses, tie-line direction and phase comp. determ. from electron microscope data 1−43325
Mg alloys, fatigue fracture in vacuum at room and low temperatures 1−31612
Mg-Al(0.8 wt.%), deformed in compression at elevated temps., dynamic recrystn. and texture 1−21544
MgO single crystal, dislocation stability at high temp. 1−25277
MgO single crysts., geometrical statistical parameters determ. of dislocation-point obstacle interaction from in-situ deform. in HVEM 1−30234
MgO single-crystal surface, electron microscope obs. of at. steps, dark and bright-field techniques 1−20535
MgO-Al_2O_3-SiO_2-TiO_2, TiO_2 role in glass ceramic form. 1−2339
MgO-SiO_2-H_2O system, hydrosilicates low pressure hydrothermal synthesis *(German)* 1−39285
$MnSiO_3$, rhodonite, ultrastruct., variation of chain configuration 1−15766
Mo, BCC, dislocation processes, HVEM 1−2448
Mo, single crysts., dynamic aspects of dislocation behaviour near low-angle boundary 1−2449
Mo, single crysts., free surface effect on dislocation mobility 1−2450
Mo-Nb, BCC, dislocation processes, HVEM 1−2448
MoO_3 crystals grown from vapour, white and black strap contrast obs. in X-ray magnified Laue images 1−47029
Nb, BCC, dislocation processes, HVEM 1−2448
Nb single crystals, superconducting, preparation and analysis of Nb_2N precipitates 1−42928
Nb-(W)-(Mo)-Zr-C, struct. transforms. after long-term tests 1−53176
Nb-Mo-Z, diffusional saturation with O_2, nonmetallic phase form., struct. state effect *(Russian)* 1−11905
Nb-Zr-C, diffusional saturation with O_2, nonmetallic phase form., struct. state effect *(Russian)* 1−11905
Nb_2O_5-WO_3 system, microstruct. study by high resolution microscopy *(German)* 1−34482
Ni base alloys, high temp., hot impact extrusion and subsequt processing 1−39351
Ni electrodeposit structure, plating variables effect 1−16210
Ni powders, spray-deposited on solid surface, electron microscopic exam. 1−21387
Ni-B, rapidly quenched, struct. obs. by X-ray diffr. and electron microscopy 1−47005
Ni-B amorphous alloys, initial stages of crystallization 1−20068
Ni-base alloys, transient creep 1−16865
Ni-base superalloy, evaluation of γ' particle spacing along dislocation 1−42392
Ni-base superalloys by powder metallurgy techniques, vacuum sintering and heat treatment 1−39269
Ni-Cr alloy, FCC, friction forces estimation, in-situ electron microscopy 1−30233
Ni-Cr-Al-W-Ti-Mo-Co, precipitation strengthened, microchem. heterogeneity and mech. props. 1−39343
Ni-Fe films, resonance oscills. in mag. structures, stroboscopic electron microscopic study *(German)* 1−30994
Ni-In (5.52 wt.%), FCC, supersaturated, cellular precipitation kinetics *(German)* 1−8316
Ni-Mo base alloy, precipitation of NiMo, effect on tensile and corrosion props. 1−12747
Ni-Si (3.7 wt.%), solidified struct., depend. on supercooling *(Russian)* 1−3719
Ni-Sn, supersaturated FCC alloy, cellular precipitation kinetics *(German)* 1−8317
$Ni_{71}B_{29}$, metastable, amorphous-cryst. phase transition *(French)* 1−52073
$Ni_{75}B_{17}Si_8$, amorphous alloy S, thermal stability, electron irradiation effects, HVEM study 1−25170
$Ni_{75}B_{15}Si_8C_2$, amorphous alloy S, thermal stability, electron irradiation effects, HVEM study 1−25170
Ni_3Fe, disordered, plastically deformed, dislocation struct. 1−11763
Ni_3Mn, temp. depend. of crit. shear stress *(Russian)* 1−43424
Ni_4Mo ordering initial stages, high resolution electron microscope obs. 1−15768
Ni_4Mo, quenched alloys, SRO comparison by dark-field electron microscopy 1−15767
Ni_3P deformed amorphous electrodeposits, high resolution electron microscope obs. 1−11677
$Pb_3(PO_4)_2$, ferroelastic phase, electron microscopy study of domain struct. 1−20238
$(Pb_{1-x}Sb_x)_{1-x}Au_x$ metallic galsses, amorphous phase separation and supercond props. 1−42313
PbTe(S)-Sb(NiSb), Bridgman method growth, eutectics morphology *(Russian)* 1−47027
$Pb_3(VO_4)_2$, ferroelastic, domain boundary props. during phase transforms., electron diffr. and microscopy obs. 1−8302
Sb_2Te_3 evaporated cleavage faces, surface decoration study 1−20227
Sb_xWO_3, structural intergrowth phenomena, X-ray diffr. and electron microscopy study 1−20150
Si (111), clean and Au deposited, reflection electron microscopy and RHEED study 1−2788
Si (111) surface, dislocations and atomic steps, image contrast in refl. electron microscopy 1−38635
Si amorphous films, 575 kV high-resolution electron microscope obs. 1−15800
Si, extinction contour in electron microscopic images 1−11643
Si, impurity decay, laser IR flaw detection 1−52128
Si, ion implanted, laser annealing, epitaxial regrowth 1−52450
Si, quality characterisation techniques *(German)* 1−34708
Si, struct. of grain boundaries, electron diffr. and microscopy studies 1−52151
Si, thermally activated dislocation sources 1−11753
SiC polytype intermediate transformation structure obs. 1−30124

electron microscope examination of materials continued
β-SiC whiskers, vapour phase growth with fluorosilicate melt *(Japanese)* 1−20598
TaS_2 single crysts., electron microscopy using weak beam technique 1−20138
ThO_2-UO_3 sol-gel process, role of U(VI) 1−28682
Ti alloys, microalloying, effect of Y, Gd, Dy, Zr, Hf and Re on mech. props. 1−16844
Ti-Al-Mo-Zr (6.7, 3, 1.7 wt.%), VT9, superplastic deform., improvement of mech. props. 1−16843
β-Ti-Mn (10.2 wt.%), slip, grain boundary nucleation 1−52145
Ti-V-(Si) BCC alloys, high temp. deform., 500-800°C 1−16862
$TiS_{1.62}$, $(2H)_2$=2C type superstructure, high-resolution electron microscopy 1−20149
U-Nb-Zr (7.5,2.5 wt.%), plastic deform. at low temp., identification of mechanisms 1−35336
U-V (0.2 wt.%), forged in α phase, struct. and mech. props. *(French)* 1−16801
V, BCC, rigid body translation, electron microscopy 1−25292
V, direct evidence for He bubble Brownian motion 1−11910
V-N (0 to 25 at.%), solid solubility, V_8N and V_4N twinned phase form., domain struct. 1−38383
V_2O_3, many-beam lattice images calculated at 100 kV and 1000 kV 1−15765
W-Mo bimetal epitaxial films, interphase boundary struct. *(Russian)* 1−11985
WC-Co compacts, sintering, influence of process variables, optical and electron microscopy study 1−3659
$W_xNb_{1-x}Se_2$, synthesis from elements, form. kinetics 1−48292
WO_3, reduced, crystallographic shear plane form. energy 1−25297
Zr based alloy, dispersion strengthened, nuclear reactor appl., mech. props. 1−43357
Zr, electron irrad. damage study using HVEM 1−42423
ZrO_2 particles, hydrolysed, ultrafine crystallite aggregates, thermal changes in texture 1−2365

electron microscopes
see also electron microscopy; field emission electron microscopes; scanning electron microscopes; scanning-transmission electron microscopes; transmission electron microscopes
colour commutator for electron microscope video monitor 1−18337
Corinth 275 modifications 1−387
diffraction with rocking beam and rocking cryst. methods, analogies between CTEM-STEM 1−20035
Electron Microscopy Society of America Annual Meeting, San Francisco, CA, USA (Aug. 1980) 1−40602
electrostatic energy analyses 1−403
filaments, polished tungsten, prep. 1−40901
fized beam electron microscope, dose-rate effect at low temps. due to object-heating 1−18335
high resoln. electron microscope, alignment procedure 1−28135
imaging techniques and high-resolution instruments 1−36776
lens aberrations effect, on lattice images of spinodally decomposed alloys 1−40904
matched freeze-fracture replication apparatus 1−386
metallography appl., survey, ancillaries 1−4019
mirror interference microscope for surface height profile and pot. difference meas. *(German)* 1−395
multistage electron gun 1−45080
Philips EM-200, automatic pumping corrosion for vacuum pump fluids 1−388
radial and spiral distortion, minimisation through use of triple pole-piece lens 1−40898
specimen stages, side entry, design 1−393
stereoscopic video monitor for an electron microscope 1−23371
straining stage, He-cooled, for AEI EM7 HVEM 1−394
straining stages, design principles 1−5441
TV-rate histogram equalisation processor 1−398

electron microscopy
see also electron microscope applications; electron microscope examination of materials; electron microscopes; field emission electron microscopy; metallography; scanning electron microscopy; scanning-transmission electron microscopy; specimen preparation; transmission electron microscopy
alignment procedure, of high resoln. electron microscope 1−28135
amorphous target, electron trajectory simulation using Monte Carlo calcs. *(French)* 1−15771
analytical electron microscopy, high-resolution 1−50284
annual review of physical chemistry (book) 1−9789
atomic images, digital processing 1−50282
atomic-resolution electron microscopic image processing by Pockels readout optical modulators 1−24492
bibliography of equipment, methods, appls., and related topics 1−36471
bibliography of equipment, methods, appls. and related topics 1−13952
biological objects, stained, phase and amplitude contrast in electron microscopy 1−44060
biomacromolecular structures using image processing of electron micrographs 1−43851
butvar B-98 thin support films, for electron microscope samples 1−44895
cathodoluminescence topography, fast electron energy dissipation and optical emission processes 1−43190
cell membrane particle diameters, computer meas. from electron micrographs 1−32327
cell organelle 3D display, stereometric study and automatic graphical reconstruct. 1−9065
colour conversion and its applications 1−23374
computer simulation of electron microscope images on 35 mm film 1−28132
conference, Melbourne, Australia, (Feb. 1980) 1−27655
convergent-beam electron diffr., and shadow imaging, coherent interference 1−46959
creep, basic processes, investigation in EM 1−2457
crystal deform., in-situ obs. of basic deform. and other dynamic processes 1−2447
crystal lattice images, quasi-periodic, high resolution electron micrographs *(French)* 1−52028
deformation, in-situ HVEM study, optimum conditions 1−391
development at Cavendish Laboratory, Cambridge, 1946-60 1−45075
digital image processing, Semper system 1−18342
dislocations and crystal growth 1−2377

electron microscopy continued
DNA electron micrographs, automated recognition of line structures 1−50287
dynamic straining expts., in HVEM, review 1−31579
EELS, HVEM, trajectory simulation using Monte Carlo calcs. *(French)* 1−20286
elastic scattering, total cross sections, energy range 1.2 to 3 MeV *(French)* 1−15770
electron beam-specimen-environment interactions, in HVEM 1−2516
Electron Microscopy Society of America Annual Meeting, San Francisco, CA, USA (Aug. 1980) 1−40602
fresnel diffraction of elastic and inelastic scattered electrons by semi-transparent specimens *(French)* 1−19254
high resolution, correction of artefacts 1−50281
high resolution electron microscopy of crystal defects and surfaces, book contrib. 1−10051
high resolution electron optical image calc. 1−19257
high voltage electron microscopy and related techniques, development at Cavendish Laboratory, Cambridge, 1946-79 1−49929
histological image analysis, recent developments *(French)* 1−53924
hollow-cone and axial bright field imaging techniques compared 1−14213
holographic layouts 1−37399
HV, advantages and disadvantages 1−40906
HV, thickness measurement of biological tissue 1−45083
HVEM, electron beam-specimen-environment interactions 1−2516
HVEM, high temp. in-situ expts., deform., irradiation and recrystn., instrumentation and appls. to materials science 1−392
HVEM, in-situ, appl. to plasticity and materials research, conf., Halle, Germany (Apr. 79) 1−9
HVEM, in-situ expts., role of radiation-induced processes 1−2514
HVEM radiation damage, effects of environmental gas 1−2517
image treatment, conf., Poitiers, France (June 1980) 1−49875
imaging processes and coherence in physics, workshop, Les Houches, France (March 79) 1−36456
in-situ experiments, in HVEM, methodical aspects 1−389
in-situ high voltage microscopy, conf., Saale, GDR (Apr. 1979) 1−22949
interferometry with a Siemens Elmiskop 102 for EM microfield meas. 1−36772
lattice defects, electron microscope diffr. contrast in two beam case 1−52029
lens aberrations effect, on lattice images of spinodally decomposed alloys 1−40904
lenticular sheet 3-D pictures and 3-D projections 1−14201
magnetic objective lenses with saturated polepieces, polepiece shape and lens operating mode choice 1−1476
method of identifying planes 1−48605
micro-channelplates, absolute quantum efficiencies for 8 to 28 keV electrons 1−384
microgrids fabrication process 1−36770
nonperiodic objects, electron micrograph restoration 1−40908
optical diffraction and spatial filtering of electron micrographs of biological materials 1−53949
optical filtration simple method for electron micrographs of periodic structures 1−19282
organic solids, electron beam induced damage, implications for analytical EM 1−25329
preparation of fragile protoplasts for electron microscopy 1−27033
radial and spiral distortion, minimisation through use of triple pole-piece lens 1−40898
reflection electron microscope and low-loss SEM, reciprocity 1−7054
regular biological objects, 3D image reconstruction technique 1−40034
sample preparation, beveled sections 1−45082
semiconductor wafers, preparation by electrolytic etching for electron microscopy 1−247
simulation, by Monte Carlo method, conf., Bagneux, France (Oct. 1979) 1−13914
single-ray electron microscopy, aureole dislocation contrast 1−30016
spherically and chromatically corrected electron microscope tests *(German)* 1−396
stereology, expt. clinical research illustrations 1−36771
structural analysis, appl. of image treatment 1−53942
top-bottom effect in crystal defect imaging 1−45081
ultra-high-vacuum, ion-sputtering gun for in-situ cryst. surface cleaning 1−10050
ultrahigh vacuum, for surface investigs. *(Japanese)* 1−20532
unified processing for periodic and non-periodic specimens 1−53940
Au atom clusters, on W and C amorphous films, image contrast computer simulation for high resoln. EM 1−30017
Cu alloys, laser irrad. effect on props. *(German)* 1−38404

electron mobility
see also carrier mobility; electron mobility (metals)
electron velocity distribs., position dependence 1−38047
ethane, liq., excess electron mobility 1−47633
ethene, gas, critical and liquid, electron mobility, cross section, temp. and density effects 1−51291
liquids, excess electrons transport behaviour, rel. to other props. 1−47634
methane, liq., excess electron mobility 1−47633
methane-Ar (^{4}He), shift velocity, pressure, diffusion coeff., swarm expts., electric field scaling law 1−51903
methane-Ar (He), electron drift velocity, electric field pressure 1−51904
neopentane, fluid, depend. of cond. band energy and electron mobility on density 1−51905
tetramethylsilane, fluid, depend. of cond. band energy and electron mobility on density 1−51905
CO_2, drift velocity of electrons, 193 to 573K 1−42123
H_2, thermal electron lateral diffusion coeff./mobility ratio at moderate E/N 1−7019
He, electron swarm parameters 1−29831
He, Liq., electron mobility in surface state 1−11930
^{3}He-^{4}He dilute mixture, surface electrons mobility *(Russian)* 1−2729
^{4}He, dense gas, second mobility edge for excess electrons, density and temp. determ. 1−24921
^{4}He, liq., surface, liq.-cryst. phase transition in system of localised electrons *(Russian)* 1−2730
^{4}He, liq., surface electrons mobility *(Russian)* 1−2729
N_2, thermal electron lateral diffusion coeff./mobility ratio at moderate E/N 1−7019
Ne, electron swarm parameters 1−29831

electron mobility (metals)
No entries

electron multipliers
channeltron, appl. to meas. of gaseous ^3H at low press. 1−6118
microchannel plate ion detectors 1−45071
microchannel plates, single particle registration 1−45775
microchannel-plate timing detector 1−1012
output signal amplifier 1−45794
Cu-Be alloy dynode surfaces, ESCA, AES and SEM analysis 1−7434

electron nuclear double resonance *see ENDOR*

electron-nucleon interactions
see also electron-nucleon scattering; electron-proton interactions
deep inelastic scatt., expt. review and QCD results 1−10227
deep inelastic scatt. processes of electrons on polarised nucleons *(Chinese)* 1−18489
gluon distributions and structure functions, QCD and deep inelastic scatt. data 1−28274
parity violating neutral current interactions, probed by Zeeman split $2S_{1/2}$ states in hydrogenic ions 1−41000
supernovae, kinetic equilib. of beta-processes in high-temp. superdense matter with strong mag. field 1−44431
eN, deep inelastic scatt., scale breaking in broken colour gauge theory 1−45298
$eN \rightarrow eN\pi$, mechanisms of P-invariance violation 1−41002
$e^-N \rightarrow e^-N\pi$, P-odd effects, polarisation anal. 1−45313
$e^-N \rightarrow hX$, quark model parameters, nuclear effects, two-body final states 1−45310
$e^-N \rightarrow \mu^-\gamma N'$ electron bremsstrahlung, P and lepton number invariance in nuclear Coulomb field *(Russian)* 1−28321

electron-nucleon scattering
see also electron-nucleon interactions; electron-proton scattering
deep inelastic, quark-parton model for high energy interactions 1−28283
eN elastic scatt., pol. e, P-odd asymmetry, Weinberg-Salam theory *(Russian)* 1−10225
eN elastic scatt., polarisation effects, gauge theory test, SU(2)×U(1), SU(3)×U(1) *(Russian)* 1−5629

electron-nucleus reactions
for inelastic electron-nucleus scattering, see "electron-nucleus scattering"
see also electron-nucleon interactions; nuclear electron capture
spectroscopy and physics of nuclear collisions *(Dutch)* 1−14517
(e,α), direct emission models 1−50572
(e,e′N), nuclear continuum, coincidence expts., direct and resonance reaction unified theory 1−10370
(e,e′X), deep inelastic scatt., A* resonance excitation, N* excitations 1−28466
^{12}C(e, e′p), p-shell proton momentum distribs. 1−28471
^{12}C(e,e′n), 0.3-1.2 GeV, cross sections and E1 transition role *(Russian)* 1−18645
^{12}C(e,p)′ 200 MeV, angular distribs., double differential cross sections 1−50585
$^{12}C(e,\pi^+)$, 195 MeV, ^{12}B low lying residual states and transition strength 1−23563
$^{12}C(e,\pi^+e')$, 200 MeV, DWBA calc., optical potential, giant resonances 1−50591
^{63}Cu(e,e′n), 0.3-1.2 GeV, cross sections and E1 transition role *(Russian)* 1−18645
^2H(e,eX), short range correlations, scaling phenomena *(Russian)* 1−36870
^2H(e,ep), threshold, singlet S state excitation, meson exchange current contribs. 1−45495
^2H(e,ep)n, pol. d and e, scatt. asymmetry and transversality condition 1−692
^3H electrodisintegration, Faddeev type formalism review, 2 and 3 body breakup 1−50584
^3He(e, e′p), quasi-free reaction, spectral functions from PWIA calc. 1−28470
^3He(e,e′X), highly inelastic scatt., impulse approx. anal. 1−50587
^4He(e,e′p), 0.97, 1.2 GeV, quasielastic scatt., cross sections from ep coincidences 1−50586
^He, A=3,4, electrodisintegration, Faddeev type formalism review, 2 and 3 body breakup 1−50584
^{24}Mg(e,f), fission modes, disintegration product coincidence meas. 1−14559
^{14}N(e,d), 18-29 MeV, pigmy and giant resonances, cluster model anal. 1−18618
^Ni(e,eα), A=58,60, 12-35 MeV, giant resonance α-decay and transitions *(Russian)* 1−5756
^{237}Np(e,f), 90-720 MeV, cross-section meas. *(Russian)* 1−41154
^{16}O(e, e′p), p-shell proton momentum distribs. 1−28471
^{28}Si(e,e′f), intermediate state, variational α-cluster model calcs., $^{12}C+^{16}O$ struct. 1−5811
^U(e,f), A=236, 238, E2 virtual photon spectra, DWBA calcs. 1−5812
^{236}U(e,f), electrofission yield and ang. distribs., E2 giant resonances and M1 component 1−10396
^{238}U giant quadrupole resonance, electro- and hadron-fission decay, stat. calc. 1−23695
^{238}U(e,f), 90-270 MeV, cross-section meas. *(Russian)* 1−41154

electron-nucleus scattering
see also electron-nucleon scattering
rotational nuclei, longitudinal and transverse form factors 1−18643
virtual photon spectrum from electron scatt. in distorted wave anal. 1−18607
(e,e,), charge distrib. in isotopes, isotones, and isobars, review 1−626
(e,e), aligned deformed nuclei, eikonal approx., elastic cross section 1−23644
(e,e), deformed nuclei, eikonal mag. scatt., diff. cross section, form factors 1−23645
(e,e), elastic and quasielastic cross sections, theory and data review 1−28468
(e,e), elastic scatt. cross section in light nuclei Coulomb fields, higher Born approx. corrections 1−28464
(e,e), large momentum transfer quasielastic scatt., nucleon prop. modification in nuclear matter 1−45445
(e,e), large q^2, exchange currents and form factors, optimal approx. 1−5772
(e,e), momentum, density distribs., coherent fluctuations model, function 1−10374
(e, e), nuclei with multipole moments, differential cross section, distorted wave anal. 1−23643
(e,e), quasi-free scatt., response function, meson exchange currents, Fermi gas model 1−33258
(e,e′), inclusive EM processes, final state interaction, optical pot. and DWBA 1−5773

electron-nucleus scattering continued
^{12}C(e,e′), 15.11 MeV state excitation, $\pi^{12}B^{12}C$ coupling constant, M1 form factor 1−18570
^{12}C(e,e′), quasielastic scatt., characteristic function anal., Fermi gas model 1−697
^{12}C(e,e) 27-87 MeV, absolute cross sections, charge radius 1−33215
^{40}Ca(e,e), cross-section, influence of pion condensation *(Chinese)* 1−18644
^{48}Ca(e, e′), pion condensation precritical phenomena, theoretical search 1−50520
^{59}Co(e,e), elastic mag. scatt., configuration mixing, RMS valence nucleon radius 1−50588
^{54}Fe, inelastic electron scattering, shell model calcs. 1−50589
^2H(e,e′), bag state inelastic prod., form factors and cross-sections 1−23648
^2H(e,e′), nuclear parity violation, Weinberg-Salam theory test 1−45497
^2H(e,e), P-odd effects in vector like theories 1−698
^2H(e,e)pol.e, polarisation transfer, charge and quadrupole form factors 1−41095
^{24}Mg(e,e′), 102-200 MeV, ^{24}Mg giant resonances 1−45485
^{93}Nb(e,e), elastic mag. scatt., configuration mixing, RMS valence nucleon radius 1−50588
^{60}Ni (e,e′), giant multipole resonance fine struct., microscopic shell model 1−50566
^Pb(e,e′), A=206, 207, high multipolarity electroexcitation, form factors, high spin state transitions 1−50547
^{87}Sr(e,e), elastic mag. scatt., configuration mixing, RMS valence nucleon radius 1−50588
^{181}Ta(e,e), ground state rot. band form factors, mag. current density 1−23646
^{49}Ti(e,e), elastic mag. scatt., configuration mixing, RMS valence nucleon radius 1−50588
^{90}Zr(e,e′), 24-66 MeV, mag. quad. strength strong fragmentation, levels, DWBA anal. 1−23589

electron optics
see also beta-ray spectrometers; electron beams; electrostatic lenses; ion optics; magnetic lenses; particle optics
analytical electron microscopy, high-resolution 1−50284
axisymmetrical system, potential near axis 1−41552
beam deflection review, book contrib. 1−33616
Boersch effect theory 1−19255
Cartesian 2-dimens. system, potential near axis 1−41552
cathode lenses with spherically symmetric combined fields, electron optics 1−24346
cylindrical mirror analyser, cylinders setting inaccuracy, influence on electron-optical parameters anal. 1−29202
deflection aberrations of multi-stage deflection systems 1−19256
deflective aberration calc. method for electron optical system with two deflectors and lens 1−6442
diffraction with rocking beam and rocking cryst. methods, analogies between CTEM-STEM 1−20035
electromagnetic focusing system, concentric, electron optics *(Czech)* 1−1479
electron holography, resolving power, electron microscope appls. 1−37399
electron microscopy conference, Melbourne, Australia, (Feb. 1980) 1−27655
electrostatic hemispherical analyser, with lens system, rel. transmission function of two scanning modes 1−46207
EM multipole field anal. and calc. 1−6443
fine particle system, mag. domain struct. obs. using electron holography *(Japanese)* 1−21015
free electron laser in storage ring, Monte Carlo anal. 1−19313
high resolution image calc. 1−19257
image of point source, accuracy in determ. of energy centre coords. 1−24344
interferometry with a Siemens Elmiskop 102 for EM microfield meas. 1−36772
magnetic deflection aberration, third order, generalized formula, in-line gun raster patterns analysis *(Chinese)* 1−46205
magnetic periodic quadrupole focusing of high-intensity electron beams 1−15067
micrographs, high resolution, correction of artefacts 1−50281
microscope image formation rel. to transfer functions 1−40907
numerical calc. method for potentials and trajectories in systems of cylindrical symmetry 1−1475
relativistic electron beam, transverse resistive wall instability, continuous external focusing 1−51017
resolution and illumination coherence in electron microscopy 1−36773
sextupole correctors, of spherical aberration 1−15065
source coherence and brightness, emission and energy broadening 1−37398
spherically and chromatically corrected electron microscope tests *(German)* 1−396
streak camera design, picosecond and femtosecond 1−18307
surface height profile and pot. difference meas., electron mirror interf. microscope *(German)* 1−395
LaB_6 single crystal electron gun for variably shaped electron beam optics 1−29203

electron pair annihilation *see electron-positron interactions*

electron pair production
Drell-Yan process, qq contribution, identical particle effects 1−30255
EM cascade physics 1−18491
EM cascade shower soln. by EGS code using Monte Carlo methods 1−18492
EM shower average props. calc. using Monte Carlo code AEGIS 1−18493
EM shower spread, pair production and multiple Coulomb scatt. influence 1−50440
muon-atom collisions, e^+e^- pair prod., energy spectrum *(Russian)* 1−41474
pair production in the field of atomic electrons 1−24101
parton model of nucleus in high-momentum frame 1−10226
photon circular polarisation, neutral current effect in bremstrahlung and pair prods. 1−14318
strong electric fields, tunnelling coeffs. 1−14280
$e^+e^- \rightarrow \mu^+\mu^-$ (e^+eend), weak neutral current strength limits 1−45254
$e^+e^- \rightarrow \mu^+\mu^-(e^+e^-)$ PETRA/PEP energies, electroweak theory implications 1−533
$\gamma\gamma \rightarrow e^+e^-$, from $e^+e^- \rightarrow e^+e^-X$, 15.5 GeV, gluon spin, colour and bremsstrahlung, jet evolution 1−45252

electron pair production continued
$\gamma\gamma \rightarrow e^+e^-(\mu^+\mu^-)(\pi^+\pi^-)$, cross sections and invariant mass distribution 1−14440
pp, 1 TeV, lepton prod., two-photon contribs. to e^+e^- prod. 1−18521
pp, 62.4 GeV, massive e^+e^- pair prod. 1−10286
$\bar{p}p \rightarrow e^+e^-$, virtual annihilation amplitude in $\bar{p}d \rightarrow e^+e^-n$ *(Russian)* 1−36876
pp→lepton pair+X, $\gamma^*q \rightarrow qq\bar{q}$ subprocess causing correction to longitudinal structure function 1−10154
πN 200 GeV, direct electron pair prod., prod. cross sections 1−45374
π^-p, 16 GeV/c, direct low mass e^+e^- continuum, resonance decay signal excess 1−18522
π^-p, 70 GeV/c, $h^\pm$, π^0 and electron pair prod., cross sections and multiplicities 1−36885
$\pi^-p \rightarrow e^+e^-n$, 164 MeV, nucleon and pion form factors *(Russian)* 1−45289
qq contribution to Drell-Yan process, identical particle effects 1−10255

electron pairs
see also electron pair production; positronium
inert gases, magnetised, ordered and disordered plasma structure obs. 1−7021
LiH, electronic energies, Bose particle representation 1−1051

electron paramagnetic resonance *see paramagnetic resonance*

electron-phonon interactions
see also phonon drag; strong-coupling superconductors; tunnelling spectra; tunnelling spectroscopy; Umklapp process
Al surface scatt., deviation from Mathiessen's rule 1−12088
alkali metals, electron-electron scatt., correl. between high temp. and low temp. data 1−42767
alloy, disordered, elec. resist. calc. and temp. depend., Debye model and saturation *(Chinese)* 1−47601
alloy, substitutional, elec. resist. calc. and temp. depend., electron-phonon resist. *(Chinese)* 1−47602
alloys, dilute, Seebeck coefficient, low-temp., impurity and phonon scatt., theory 1−2947
amorphous metal, electron-phonon coupling const., free-electron theory 1−30735
amorphous semiconductors, theory 1−30681
anisotropic polar crystal, polarons and Wannier excitons 1−2893
anisotropic superconductor with static impurity atoms transition temp. 1−25822
chalcogenide glasses, AC conductivity and optical absorpt. 1−16286
cyclotron resonance linewidth mag. field depend. for acoustic phonons 1−52846
d-band metals, phonons and superconducting transition temp., book contrib. 1−42887
deep levels, multiphoton capture of free electrons, adiabatic and nonadiabatic limits, theory 1−47539
deformable lattice, electron, hole and exciton interactions with phonon and impurity fields, review 1−34635
degenerate piezoelectric semiconductor, quantum effect on transverse magnetoresistance in strong mag. field 1−16304
diamond IR luminescence centre characts., electron-phonon interaction 1−43166
dihydroxyanthraquinone, phonon-selective low temp. photochem. in alcohol glasses 1−8581
dilute alloy, Seebeck coeff. at low temp., empty-core pseudopot. calc. 1−7596
dilute alloys, Seebeck coefficient, electron-phonon enhancement 1−30725
dilute alloys, thermoelectric effect theory, Debye phonons, impurity scatt. 1−20709
disordered alloys, dynamical electron-phonon interaction and elec. cond. 1−20336
electron localisation, kinetic equation in strong EM wave field 1−30677
EM wave influence on elec. cond. for struct. with superlattice 1−12120
ferroelectrics, bulk photovoltaic effect and charge carrier localisation 1−20797
ferromagnetic conduction electron homogeneous spin relax. *(Russian)* 1−38982
glasses, hole burning, softon-phonon scatt. and fast dephasing of impurity electronic transitions 1−16259
glassy semiconductors, theory 1−25665
graphite, lattice thermal conductivity 1−16121
group Vb metal hydrides, Jahn-Teller resonance states 1−20674
III-V semiconductor inversion layers, subband struct., electron-phonon interaction effect 1−12177
III-V semiconductors, shallow core exciton fine struct. and temp. depend., refl. meas. 1−30636
intermediate valence compounds, electrical resistivity due to electron-phonon scatt. 1−25683
intermediate valence compounds, theory, review 1−30685
Kane semiconductor, hot-electron thermoelectric power and thermomagnetic effects 1−20784
large polaron first order transition, variational calcs. 1−25649
layer, elec. cond., electron-phonon coupling tight-binding calc. 1−2948
line broadening in strong radiation field 1−38732
localised electron states, energy transfer from non-adiabatic to adiabatic hopping limits 1−25655
localised electron-phonon system, light scatt. theory, stationary and time-resolved emission spectra 1−35061
localised electron-phonon system, multiphonon nonradiative transition during lattice relax. 1−35097
localised electron-phonon system, new photon echo phenomenon 1−33775
luminescing activated crystals, phonon spectroscopy, review 1−12553
magnetic insulators, Jahn-Teller ions, polaron effects and exchange interaction *(Russian)* 1−7536
metal, lattice thermal conductivity, at low temps., phonon scatt. by charge carriers and peripheral phonons 1−25695
metal, phonon density of states and electron-phonon interaction 1−11828
metallic systems, two and three dimensional, elec. cond. *(Russian)* 1−2937
metals, electron-phonon interaction and supercond. 1−16402
metals, hot electrons at low temp. 1−30845
metals, one-dimensional, interchain coupling in linear conductors 1−42749
metals, point contact spectroscopy, review 1−20858
metals with vacancies, elec. resist. *(Russian)* 1−30714
mixed molecular crysts., stimulated emission at low temps. review 1−3436
mixed valence systems 1−2924
molecular chain, excess electron motion, collective excitations *(Russian)* 1−29158

electron-phonon interactions continued
naphthalene:β-halonaphthalene, X-traps, electron-phonon coupling in phosphoresc. heavy atom effect, charge-transfer interaction 1−31180
narrow band gap semiconductors, EM wave mutual amplification *(Russian)* 1−34736
narrow band gap semiconductors, ferroelectric transitions induced by electron-phonon interactions 1−48012
narrow band gap semiconductors, polarons, resonant and nonresonant 1−47508
narrow-band crystals, bipolarons and bipolaronic bands 1−47509
nitrates, electron-phonon interaction of NO_2^- impurity 1−25391
noble metals, elec. resist. and electron-phonon interactions, pseudopot. method *(Russian)* 1−2950
noble metals, electron-phonon scatt. rates from magnetoacoustic expts. 1−12017
nonequilibrium phonons in point contact between normal metals *(Russian)* 1−47806
one-dimensional conductors, transverse phonon instability 1−7599
one-dimensional disordered conductors, plateau regime of AC cond. 1−42755
one-dimensional system in Peierls PPP-model, electronic struct. 1−38720
organic conductors, quasi-one-dimens., neutron and X-ray irrad. effects, phonon-assisted hopping 1−38767
organic metals, elec. conductivity, theory 1−42759
organic one-dimensional conductors, fluctuating collective conductivity and single-particle conductivity 1−42760
piezoelectric degenerate semiconductor, transverse magnetoresistance depend. on nonparabolicity 1−7641
polar crystals, binding energy of D^- centres 1−42706
polar semiconductors, correlation effects in two-electron self-localised complexes 1−42719
polar semiconductors, subband structure of n-channel inversion layers 1−47729
polaron theory in weak magnetic fields, zero-point energy and diagmagnetic susceptibility calcs. 1−2891
polaron transport, Frohlich polaron Hamiltonian 1−30649
polyacetylene, soliton dynamics 1−52251
proximity effect thin sandwiches, s-wave elastic scatt. effects 1−42922
proximity tunnelling geometries, normal state modifications 1−30891
radiative and nonradive transition in crystals, electron phonon transition probabilities calc. 1−2580
rare earth superconducting compounds, phase diagram, fluctuation theory *(Russian)* 1−12238
ruby:Cr^{3+}, frequency depend., time-resolved phonon spectroscopy 1−34442
screening effect, sound waves, phason, one dimensional charge density wave 1−7538
semiconductor, bounded, phonon heating and drag action on Hall effect and transverse thermo-EMF 1−20780
semiconductor, carrier population inversion in field of intense EM wave 1−52579
semiconductor, cascade capture accompanied by optical phonon emission 1−20764
semiconductor, coupled nonequilibrium electron-lattice system, classical and quantum-mech. descriptions 1−16238
semiconductor, cyclotron reson. in intense microwave fields 1−47954
semiconductor, cyclotron resonance linewidth at low temp., acoustic phonon scatt. contrib., calc. 1−31031
semiconductor, degenerate, screened electron-phonon interaction 1−47507
semiconductor, disordered, impurity band optical absorpt., density of states, electron-phonon interaction 1−26241
semiconductor, disordered, interband optical absorpt. 1−31118
semiconductor, free carrier absorption in quantising mag. fields, nonpolar optical phonon scatt. 1−42793
semiconductor, hot electron galvanomagnetic phenomena under population inversion conditions, theory 1−52583
semiconductor, indirect band gap, electron-hole drop recomb. time, theory 1−12124
semiconductor, large lattice relax. processes 1−34662
semiconductor, nonequilibrium phonons in 3- and 2-dimensional charge transport 1−16269
semiconductor, nonlinear HF conductivity in quantising mag. fields 1−2999
semiconductor, nonpolar, two-dimens. plasma, charge carrier excitations, reson. inelastic light scatt. 1−12517
semiconductor, p-type cubic, acceptor ground state, US spectroscopy 1−16256
semiconductor, photoionisation of deep impurities interacting with phonons 1−2907
semiconductor, transit resonance, mag. field influence, inelastic carrier scattering 1−2966
semiconductor, wide-band-gap, nonlinear and hopping transport 1−12116
semiconductor exposed to strong elec. field, phonon instability 1−34443
semiconductor plasma instability due to strong elec. fields *(Russian)* 1−34737
semiconductor superlattice, near equilibrium mobility tensor, acoustic phonon scatt. 1−12110
semiconductor thin films, electro-size static current resonance *(Russian)* 1−42805
semiconductors, 1/f noise current, phonon fluctuation model 1−20835
semiconductors, acoustoelectromagnetic effect, influence of electron scatt. mechanisms 1−42830
semiconductors, degenerate-band case, exciton energies, exchange and polaron corrections 1−47498
semiconductors, higher-order electron-multiphonon scatt. processes 1−16285
semiconductors, hot electron population inversion, Hall currents 1−25740
semiconductors, hot photoexcited electrons, distrib. function in quantising mag. field 1−25739
semiconductors, nonlinear electron transport, conference, Urbino, Italy (July 79) 1−13926
semiconductors, nonlinear optical props. 1−41775
semiconductors, particle scatt. by ionisation and phonon emission, theory 1−47131
semiconductors, polar, nonequilib., coupled electron-hole plasma-phonon system, time evolution calc. 1−34733
semiconductors, polar, nonlinear conductivity, Thornber-Feynman theory 1−47667
semiconductors, polaron transport and light absorpt. 1−25650
semiconductors, quantum-limit magnetoresistance, piezoelec. phonon scatt. effects, theory 1−12129

electron-phonon interactions continued
semiconductors, resonance excitation of carriers by intense light pulses *(Russian)* 1−42828
semiconductors, scatt. quantum-mechanical theory and applications 1−15994
solid electron-avalanche breakdown theory 1−39193
solids, electron emission described by quasicontinuous energy loss model based on electron-phonon interaction 1−21306
spontaneous emission theory 1−7275
superconducting T_c-λ curve, different regions *(Chinese)* 1−52677
superconducting transition temp. eqn. linearisation 1−20896
superconductivity, phonon mediated pairing of electrons, electronic and excitonic mechanisms 1−52690
superconductor, paramagnon effect simulation by simple rescaling 1−34825
superconductor-normal metal film electron tunnelling, nonequilibrium phenomena *(Russian)* 1−3116
superconductors with paramagnetic impurities, gap anisotropy 1−42888
TCNQ salts, TTF-TCNQ and TSeF-TCNQ, phonon-scattering regime, band transport 1−7600
thermal boundary resistance in nonharmonic system 1−20549
transition metal dihalides, (Mn,Fe,Co,Ni), layered crysts., vibr. struct. of cryst. field spectra, IR absorpt. study 1−34668
tri(η-cyclopentadienylcobalt)-di-μ_3-thio-tricobalt, phase transform., lattice consts., superstructure reflections, X-ray scatt. 1−47228
TTF-TCNQ, charge density wave system, topological excitations 1−52507
TTF-TCNQ, electron-phonon coupling, electron relax. rate, ab initio calc. 1−30733
TTF-TCNQ, electron-phonon scatt. 1−42761
TTF-TCNQ, near IR and visible reflectance spectrum, temp. depend. 1−3415
two-dimensionally confined systems, electron-phonon interaction and magneto-optical anomalies 1−15993
two-electron systems, exchange splitting in polar media *(Russian)* 1−42731
Wannier exciton-phonon interaction, exciton polaron 1−7532
Ag, electron-phonon scatt. rate from magnetoacoustic expts. 1−16217
Ag, electron-phonon scatt. rate, point by point determ. 1−30339
Ag halide physics, recent developments 1−35071
Ag halides, negative differential conductivity in the case of electron scattering by optical phonons at low temperatures 1−52571
AgBr(Cl), binding energy of D^- centres 1−42706
Al dilute alloys, elec. resist. calc. using electron-phonon mean free paths 1−20707
Al double tunnel junctions, quasiparticle relax. times 1−42918
Al, electrical resistivity, effect of annealing on temp. depend. 1−34674
Al, electrical resistivity meas. from 4.2K down to supercond. transition temp. 1−42743
Al, pure, true low field Hall coeff. at low temps. 1−25703
Al-Si junctions, ballistic electron injection, phonon spectroscopy of Al 1−3061
AlEr dirty supercond. films, charge imbalance relax. in presence of pair-breaking interaction 1−38891
$Al_xGa_{1-x}As$, Raman spectra in strong and weak fields, phonon replicas 1−39082
AlH_x, electronic struct. rel. to supercond. 1−2863
As_2S_3 crystalline, press. effects on optical props. 1−21168
Au, electrical resist., low temp., electron-phonon contrib. 1−7582
Au, electron-phonon scatt. rate from magnetoacoustic expts. 1−16217
Be, magnetic field influence on the electron-phonon relax. time *(Russian)* 1−42494
C, amorphous film, phonon-assisted hopping cond. meas. *(French)* 1−47656
$CaF_2:Sm^{2+}$, phonon spectroscopy, fluoresc. obs. 1−12553
CdS, electron mobility, cluster formation and struct. changes, 300 to 1200K 1−34712
CdSe, hot-electron cond. characts. calc., scatt. mechanisms 1−25737
$CeCu_2Si_2$, mag. susceptibility and kinetic parameters *(Russian)* 1−30927
CeH_x, electron-phonon interaction, composition depend. phonon anomaly 1−42485
Cr (001) surface reconstruction, electronic origin, d-band effects 1−47343
Cs halides, exciton relaxed state stability 1−30643
Cs halides, reson. Raman scatt. from F-centre 1−3403
Cs, harmonic phonons and phonon-limited resist. from first-principle pseudopots. 1−7272
Cu, electrical resist., low temp., electron-phonon contrib. 1−7582
Cu, electron-phonon scatt. rate from magnetoacoustic expts. 1−16217
Cu point contacts current-voltage characts. 5 to 300K 1−3048
Cu, pure and defect-containing, low field Hall coeff., 4.2 to 77K 1−7590
Cu-Ag-Au, elec. resist. and electron-phonon interactions, pseudopot. method *(Russian)* 1−2950
Cu-Al, lattice thermal cond., phonon scatt. by dislocations 1−52249
CuNi(Fe)alloys, electron-phonon interaction, Point-contact spectroscopy 1−11829
Cu_2O single cryst., exciton absorpt. spectra, hydrostatic press. effect 1−42702
$CuPbAsS_3$, anomalies in electrophysical props. 1−20822
$Er_{1-x}Ho_xRh_4B_4$, supercond. phase diagram, fluctuation theory *(Russian)* 1−12238
$Fe_{1-x}Mn_xCl_2$, Raman scatt. from magnons and phonons 1−48070
Fe_3O_4, molecular polarons and valence fluctuations near Verwey transition 1−12046
Fe_3O_4, Verwey transition, electron correl. theory 1−12033
Ga, amorphous, electron-phonon coupling const., free-electron theory 1−30735
Ga, amorphous, electron-phonon coupling constant, Eliashberg function 1−34444
GaAs, Auger recombination, impurity assisted 1−47676
p-GaAs, carrier drag by photons, spectral characts. meas., scatt. mechanisms 1−30781
n-GaAs epitaxial film, photoactive surface electron states 1−38833
GaAs epitaxial layer, phonon optics, carrier relaxation and recombination 1−16390
GaAs, heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
GaAs, hot electron anal. from electron distrib. function 1−47663
n-GaAs, hot electron phenomena, population inversion, calc. for polar optical phonon scatt. 1−30755
GaAs, hot photoluminescence spectrum and polarisation 1−48147
GaAs, two-dimensional electron gas, lattice scatt. mobility 1−25723
GaAs:Cr, phonon-assisted electron tunnel emission from Cr level 1−47548
electron-phonon interactions continued
$GaAs-Al_{1-x}Ga_xAs$ superlattices and quantum wells, two-dimens. confined carriers, electron-phonon coupling, reson. magneto-phonon effect 1−7725
$GaAs-Al_xGa_{1-x}As$ multi-quantum well struct., radiative recombination from quantum states 1−52990
GaAs(P) with transition metal II and III series impurity ions, internal radiative transitions, photoluminesc. study 1−48138
$GaAs_{1-x}P_x$ 1−39082
$Ga_xIn_{1-x}P$, Raman spectra in strong and weak fields, phonon replicas 1−39082
n-GaP:S(Te), radiative recombination, photoconductivity 1−21272
GaSb, Auger recombination, impurity assisted 1−47676
Ge, dangling bonds during laser irrad. 1−12060
Ge, direct gap semicond., direct gap, temp. depend., pseudopot. calc. 1−47470
Ge, electron-hole droplet cloud, effect of phonon flux singularities 1−47491
Ge, heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
p-Ge, hot electron phenomena, population inversion, calc. for deform. optical phonon scatt. 1−30755
n-Ge, lightly doped, chemical shift and donor-electron radius 1−34656
Ge, phonon wind, ballistic phonons in heat pulse, interaction with e-h liquid 1−16239
Ge:Cu(Sb), impurity energy level press. depend., elec. props. 1−20661
Ge:Ga, lightly doped, US hole-burning of acceptors 1−15964
Ge:P(As)(Sb), electron phonon interaction in intermediate conc. region 1−2579
H_2, metallic, supercond., crit. temp. and electron-phonon spectral density calc. 1−20904
H_2, metallic, superconducting transition temp. and electron-phonon coupling const. *(Chinese)* 1−52676
Hg, de Haas-van Alphen effect, influence of electron-phonon interaction 1−25612
In, thermal conductivity changes near critical temp. 1−20916
In-Sn alloy, superconducting tunnelling spectra, α-β transform at press. *(Russian)* 1−47803
InAs, resonance Raman scatt. near E_1 edge 1−39094
InAs/oxide interface inversion layer electron scatt. by polar interface phonons 1−16376
$In_{0.53}Ga_{0.47}As$, photoexcited, hot carrier relaxation 1−3449
$In_{1-x}Ga_xP:Zn$, hole transport props., Hall mobility 1−47686
$In_{1-x}Mg_x$, electron-phonon interaction, phase transition *(Russian)* 1−42495
K halides, shallow core exciton fine struct. and temp. depend., refl. meas. 1−30636
K, thermal resistivity from Bardeen's electron-phonon matrix 1−16270
KCl(Br), inelastic interaction of slow electrons with surfaces 1−25127
La, FCC, electronic struct. and supercond. under press., linearised APW calc. 1−7514
La-Zn (22 at.%), amorphous and cryst., supercond. props. meas. 1−30893
$La_{70}Cu_{30}$, amorphous supercond. thermal cond. meas. 1−47798
LaH_2, electronic struct., APW method 1−38715
$La_{1-x}S_4$, supercond. props., mag. susceptibility, sp. ht., and X-ray diffr. meas. 1−7768
Mg_2Ni, Debye temp., nucl. reson. scatt. of gamma rays study 1−52252
$Mg_2NiH_4(D_4)$, Debye temp., nucl. reson. scatt. of gamma rays study 1−52252
MgO (001) surface, thermally irreversible reconstruction, rel. to electron-phonon interactions, electronic struct. 1−20529
Mo (001) surface reconstruction, electronic origin, d-band effects 1−47343
Mo, metallic glass, band struct., superconductivity 1−25621
Mo, microcontact tunnelling spectroscopy, electron-phonon interactions *(Russian)* 1−47805
N_2O, solid, luminescence stimulated by low energy electrons 1−26281
Na, thermal resistivity from Bardeen's electron-phonon matrix 1−16270
NaCl, inelastic interaction of slow electrons with surfaces 1−25127
Nb, band struct. calcs., short range order influence on elec. props. 1−25628
Nb, electron-phonon interaction, anisotropy, tight-binding calc. 1−52503
Nb, metallic glass, band struct., superconductivity 1−25621
Nb, supercond., electron-phonon coupling, press. effect, tunnelling study *(Russian)* 1−20921
Nb, superconducting transition temp. and electron-phonon coupling const. *(Chinese)* 1−52676
Nb, thermal conductivity max., supercond. suppression using mag. field 1−38761
Nb-Rh(Ir), amorphous, supercond. props. 1−30869
Nb-Zr system, electron-phonon coupling, proximity electron tunnelling spectroscopy 1−12239
$NbSe_3$, elec. cond. Frohlich mode motion, one-dimensional model 1−42750
NbTaMo, NbTa(v), electron-phonon coupling and crit. temp. 1−3085
Np, Kondo effect, resist. theory 1−34698
Pb, electrical resistivity, supercond., press. and temp. depend., use as resistive press. monitor 1−47607
Pb, electron-phonon interactions under high press. rel. to supercond. props., meas. 1−42895
Pb film, supercond., transient responses to ps. laser pulses, quasiparticle relax. time meas. 1−38895
Pb, superconducting transition temp. and electron-phonon coupling const. *(Chinese)* 1−52676
Pb-In, electron-phonon interactions under high press. rel. to supercond. props., meas. 1−42895
Pd, Fermi surface and many-body enhancement 1−42676
$Pd_{1-y}Ni_yD_x$, normal state resist. and supercond., electron-phonon scatt. contrib. 1−30861
Pt, resistivity, temp. depend., solid state and cyrophysics expts. 1−49905
PtH, band struct. calcs. possible high temp. supercond. 1−7511
Pu, Kondo effect, resist. theory 1−34698
Rb, harmonic phonons and phonon-limited resist. from first-principle pseudopots. 1−7272
Rb, thermal resistivity from Bardeen's electron-phonon matrix 1−16270
$(SN)_x$, inhomogeneous cond., resistor-network model and expt., mech. damage effects 1−47622
Si (111) 2×1 reconstructed surface, electronic states and electron-phonon coupling 1−52636
Si (111)-SiO_2 MOS system, surface supercond. of inversion layer electrons 1−20912
Si, dangling bonds during laser irrad. 1−12060

electron-phonon interactions continued
Si, heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
Si inversion layer, quantised, electron mobility due to phonon scatt. 1−34799
Si, photolumin. and transport phenomena 1−42493
Si surface, electron-phonon interaction 1−42623
Si:O,H, amorphous, plasma deposited, luminesc. props. 1−21265
Si/SiO_2 interface inversion layer electron scatt. by polar interface phonons 1−16376
n^+-Si-Al point contacts, ballistic electron injection, phonon spectroscopy and impurity-enhanced inelastic scatt. 1−3060
$Si-SiO_2$, MOSFET, lattice scatt. mobility of n-inversion layers at low temp. 1−7752
$Si-SiO_2$ inversion layer, many-body effects and electron mobility, room temp. 1−7693
$Si-SiO_2$ MOSFET, n-channel, electron-phonon interact. in inversion layers at low temp. 1−7751
$Si-SiO_2$ MOSFET, Na^+ contaminated, scatt. in inversion layer, temp. depend. 1−7750
$Si-SiO_2$-Al MOSFET, ballistic electron injection, phonon and sub-band spectroscopy of Si inversion layers 1−3068
SiC:B, acceptor photoionisation spectrum 1−43146
SiO_2 amorphous layers, secondary electron emission temp. depend., LO phonon interaction 1−21304
SmS, semicond., polarised Raman spectra rel. to $Sm_{0.75}Y_{0.25}S$ 1−48080
$Sm_{0.75}Y_{0.25}S$, mixed valent, polarised Raman spectra, rel. to SmS, YS and TiN 1−48080
Sn, electrical resistivity, supercond., press. and temp. depend., use as resistive press. monitor 1−47607
β-Sn, superconducting, phonon lifetime meas., heat pulse propag. technique 1−42901
Sn, white, thermopower sign, electron-phonon scatt., Fermi surface *(Russian)* 1−12099
Ta, microcontact tunnelling spectroscopy, electron-phonon interactions *(Russian)* 1−47805
Ta, supercond., electron-phonon coupling, press. effect, tunnelling study *(Russian)* 1−20921
Ta-Rh(Ir), amorphous, supercond. props. 1−30869
TaMo, electron-phonon coupling and crit. temp. 1−3085
Tc, metallic glass, band struct., superconductivity 1−25621
Tc, short range order influence on elec. props. 1−25628
TiN, supercond., polarised Raman spectra, rel. to $Sm_{0.75}Y_{0.25}S$ 1−48080
$TiSe_2$(1T), lattice instability, electron lattice interaction, band struct. calc. 1−7517
U, Kondo effect, resist. theory 1−34698
V, phonon electrical resist., 15 to 293K *(Russian)* 1−25691
V_3Ge, electrical cond., electron-phonon interactions *(Russian)* 1−12093
$V_3Ge_{1-x}Al_x$, electrical resistance meas., impurity Al effects *(Russian)* 1−12093
VMo(Ta), electron-phonon coupling and crit. temp. 1−3085
VO_2, metal-insulator ferroelastic transition, electron correlations and electron-lattice interactions 1−30633
VO_2, optical prop. and elec. struct. temp. depend. 1−12527
W (001) surface, reconstruction, electronic origin, d-band effects 1−47343
W, microcontact tunnelling spectroscopy, electron-phonon interactions *(Russian)* 1−47805
YS, supercond., polarised Raman spectra, rel. to $Sm_{0.75}Y_{0.25}S$ 1−48080
Zn single cryst., microcontact spectra, effect of dislocations in basal and pyramidal slip systems *(Russian)* 1−30715
ZnO surface, quantized accumulation layer, electron mobility, phonon scatt. 1−30804
ZnS, Stark ladder reson., DC photocurrent under high elec. field 1−47703
n-ZnSe polar cryst., carrier mobility calcs. 1−38792
ZnTe, selective excitation of donor-acceptor pairs, excitation and relax. processes 1−48136
Zr, superconductivity enhancement after H(D) implantation 1−20899
$Zr_{1-x}Cu_x$, supercond. metallic glass, thermal cond. and specific heat, low energy excitations 1−30878

electron-positron inclusive interactions
annihilation, charged multiplicities, scale breaking quark and gluon fragmentation functions 1−10232
annihilation, charmonium, charmed meson spectroscopy, bottomonium decay, review 1−10235
annihilation, jet cross sections, order α_s^2 correction 1−23509
annihilation, LEP energies, QCD event simulation, Monte Carlo program 1−28333
annihilation, multi-jet events 1−23511
annihilation, PETRA energies, jets, τ leptons and 2γ event separation 1−10236
annihilation, QCD multi-jet contrib. effects, average multiplicity 1−574
annihilation, QCD tests, jets, gluonium, Higgs bosons and unconfined quarks 1−10237
annihilation, quark-parton model for high energy interactions 1−28283
annihilation, second order QCD contributions to thrust and spherocity 1−573
annihilation, SPEAR Mark II results, ψ′(3684) radiative decay, inclusive baryon prod. 1−10242
annihilation duality, dual model, c and b quark mass calc. 1−14405
charmed hadron EM props., SU(4) sum rules, e^+e^- annihilations and mass splittings *(Russian)* 1−5637
conference on field theory and strong interactions, Schladming, Austria (Feb. 1980) 1−17925
conference on high energy physics, Geneva, Switzerland, (June-July 1979) 1−5026
conference on particle physics, Manoa, HI, USA (Aug. 1979) 1−13929
deep inelastic scatt., conf. Erice, Italy, (Mar. 1980) 1−44713
e^+e^- →back-to-back jets, opposite side acollinearity distribs., soft gluon emission effects 1−50446
e^+e^- →$q_1\bar{q}_1q_2\bar{q}_2$, heavy flavour bound states, QCD calc. 1−23508
energy-energy correlations in e^+e^- annihilation into hadrons 1−45331
Feynman diagrams, multiloop, evaluation, Gegenbauer polynomial x-space technique QCD, $\sigma_{tot}(e^+e^-\to h)$ calc., QED appl. 1−10072
hadron production, 3-jet events, angular asymmetries due to gluon bremsstrahlung off quarks 1−5641
hadron production, total cross-section for 9.4 to 9.5 GeV 1−10234
instantons, physical significance 1−33112

electron-positron inclusive interactions continued
International seminar on quantum chromodynamics, Jaca, Spain (June 1980) 1−13904
jet angular distribution, qq̄g-initiated three-jet events 1−5642
jet production, influence of quark masses on cross-sections and angular asymmetries 1−14402
lepton spectra, from possible heavy spinless hadron decay, SU(2)×U(1) model 1−10231
multihadronic annihilation, Adone results, R values, multiplicities, ρ″(1600) and ρ′(1250) 1−10241
multijet structure in quantum chromodynamics 1−499
pair annihilation effects in multiquark spectroscopy, QCD test, gluon props. 1−28286
QCD tests in hadronic final states, non-perturbative effects, weak interaction phenomena 1−50453
e+e⁻→jets, thrust distrib. $O(\alpha_s^2)$ corrections, comments, coupling const. 1−50448
e^+e^-, 1-2 GeV, below ψ resonance, results review 1−10238
e^+e^-, 13-27.4 GeV, PLUTO results, QED cut off, hadronic cross section, γγ collisions 1−10240
e^+e^-, DD̄, D*D̄, D̄*D and D*D̄*, prod. and ang. distribs. at 4.028 GeV resonance 1−33195
e^+e^-, Ψ, Ψ′ masses, high precision meas. of mass difference 1−14381
e^+e^-→ hadrons, jet anal., simple collinear qq̄ jet deviation 1−14406
e^+e^-→ quarkonium, models *(Russian)* 1−50449
e^+e^-→3 jets, perturbative calc. of jet struct., parton process corrections 1−50445
e^+e^-→4 jets, cross sections, QCD non-Abelian nature 1−28334
e^+e^- annihilation, 27-35 GeV, fractional charge and heavy stable particle search 1−18500
e^+e^- annihilation, baryon and vector meson polarisation in quark jets, fragmentation functions 1−18501
e^+e^- annihilation, conventional multijet events, transverse momentum variable 1−45334
e^+e^- annihilation, event shape parameter calc. in QCD 1−486
e^+e^- annihilation, hadron jet prod., PETRA recent results 1−18496
e^+e^- annihilation, QQ̄ prod. total cross section, duality 1−18497
e^+e^- annihilation, quark form factors and leading double logarithms in QCD 1−45221
e^+e^- annihilation, Sterman-Weinberg jets, renormalisation group approach, QCD calcs. 1−14403
e^+e^- annihilation, Sterman-Weinberg jets, ang. distrib. in QCD 1−45328
e^+e^- annihilation, transverse beam pol., flavour separation in QQ̄, SU(2)×U(1) model anal. 1−18498
e^+e^- annihilation, Υ′(1001) resonance parameters, mass difference and total widths 1−50447
e^+e^- annihilation, Υ(9.46) total width and leptonic branching ratio 1−33175
e^+e^- annihilation, Z^0 asymmetries in jets, quark fragmentation model test 1−45332
e^+e^- annihilation at Υ(4S), inclusive cross section enhancement, B meson prod. 1−33191
e^+e^- annihilation at Υ(4S), inclusive cross section enhancement, B meson prod. and decay 1−33192
e^+e^- annihilations, <36.6 GeV, sequential heavy lepton search 1−50411
e^+e^- average charged particle multiplicities from qq interaction multiplicity 1−23526
e^+e^-→bb excited states, B meson mass 1−45324
e^+e^-→charmed mesons, decay, branching ratios 1−45322
e^+e^-→e^+X, DASP detector results at 4.0-5.2 GeV 1−28335
e^+e^-→$e^+e^-X_s$, 15.5 GeV, gluon spin, colour and bremsstrahlung, jet evolution 1−45252
e^+e^-→e^+e^-X, photon structure functions, QCD calcs. and possible meas. 1−10216
e^+e^-→e^+e^-X, pseudoscalar glueball production 1−14377
e^+e^-→η′γ large energy reactions, η′-meson form factor, QCD calcs. *(Russian)* 1−41003
e^+e^-→gluon jets, EM and weak production in high energy region 1−5638
e^+e^-→gluon jets 1−33165
e^+e^-→γX, cosmic gamma-ray prod. mechanisms 1−45256
e^+e^-→γ(π^0)X, structure functions, π^0 and γ prod. process relation *(Russian)* 1−10233
e^+e^-→h, gluon effects, expt. evidence for QCD predictions 1−23507
e^+e^-→h, perturbative QCD appl. in large momentum transfer interactions 1−14357
e^+e^-→h, quark scatt. off non-perturbative gluonic fields, cross section, coupling consts., QCD calc. 1−18499
e^+e^-→h jets, perturbative QCD, experimental verification 1−28336
e^+e^-→hX, energy-momentum distrib., QCD calc., gluon distrib. approx. 1−18502
e^+e^-→HX, heavy charged Higgs particle prod. at very high eneriges 1−45333
e^+e^-→hX, QCD, perturbative, beyond leading order, appls. 1−14358
e^+e^-→hX, singlet struct. function, QCD beyond leading order, space-and time-like cut vertices 1−28332
e^+e^-→hadron, gluon bremsstrahlung coupling const., single particle spectra, rel. to QCD 1−45327
e^+e^-→hadrons, 10 GeV, Υ prod. and decay 1−50451
e^+e^-→hadrons, 13-27.4 GeV, hadronic final state, possible QCD effects 1−10239
e^+e^-→hadrons, 1.45 to 1.80 GeV, total cross-section, observed excitations of ρ(1550), Ω and φ mesons 1−36868
e^+e^-→hadrons, 1.6-2.2 GeV, DM1 results, pp̄ prod. cross sections, π, K, baryonium prod. 1−10243
e^+e^-→hadrons, 27.4 GeV, prod. threshold, R value, thrust and spherocity 1−14407
e^+e^-→hadrons, 9-32 GeV, charged particle multiplicity distrib., energy depend. 1−5636
e^+e^-→hadrons, 9.4 to 10.6 GeV, Υ enhancements 1−45325
e^+e^-→hadrons, cross-section, QCD prediction 1−50452
e^+e^-→hadrons, QCD massive quark model and geometrohadrodynamics 1−45245
e^+e^-→hadrons, QCD validation, three-jet events, strong interaction coupling const. 1−45326
e^+e^-→hadrons, search for new flavour quark, fractionally charged particles 1−50443
e^+e^-→hadrons+X, inclusive muon production at c.m. energies 12 to 31.6 GeV 1−14404
e^+e^-→hhX, QCD, perturbative, beyond leading order, appls. 1−14358
e^+e^-→hx, hadron prodn., ψ, τ, γ, jets, QCD calcs. 1−14408

electron-positron inclusive interactions continued
e^+e^-→hx, QCD predictions, experimental verification and PETRA 1−14363
e^+e^-→jets, gluon jets, QCD multijet struct. and perturbative QCD tests 1−18495
e^+e^-→jets, initial state radiation, photon emission and ang. distribs. 1−50444
e^+e^-→$K^\pm$X, inclusive spectra, DASP detector results at 4.0-5.2 GeV 1−28335
e^+e^-→Λ(Λ̄), 4.5 to 6 GeV 1−50450
e^+e^-→$\mu^+\mu^-$, hadron prodn., ψ, τ, γ, jets, QCD calcs. 1−14408
e^+e^-→$\mu^+\mu^-$,$\tau^+\tau^-$, 12 to 36.7, heavy lepton and muon scalar partner searches 1−28309
e^+e^-→$\mu^+\mu^-$ (e^+eend), weak neutral current strength limits 1−45254
e^+e^-→$\mu^+\mu^-$ neutral current effects in toponium region 1−531
e^+e^-→μX, 33 to 35.8 GeV, prompt muon obs. 1−45253
e^+e^-→μμ(ττ), 9.4-31.6 GeV, prod. cross sections, QED calc., new heavy lepton search 1−50412
e^+e^-→$\bar{\nu}_\mu X^+\nu_\mu X^-$, differential cross section, contributions of weak interactions 1−5614
e^+e^- one particle annihilation, parton density beyond leading order, QCD calcs. 1−14324
e^+e^-→p(p̄), 4.5 to 6 GeV 1−50450
e^+e^-→qq̄ in QCD vacuum, q-vacuum scatt. model 1−10158
e^+e^-→qq̄ jet broad-backward asymmetry, parton model, gluon EM corrections 1−33193
e^+e^-→qq̄g, evidence for spin-1 gluon 1−23510
e^+e^-→qq̄g, three jet cross section, gluon spin test 1−33194
e^+e^-→qq̄g hadronisation, quark and gluon jet comparison 1−5639
e^+e^-→qq̄gg jets, perturbative QCD, experimental verification 1−28336
e^+e^-→qq̄qq̄ jets, perturbative QCD, experimental verification 1−28336
e^+e^-→$\bar{T}X$, leptonic width, branching ratio 1−45323
e^+e^-→W^+W^-→qq̄μν̄$_\mu$, Weinberg-Salam model framework 1−10184
e^+e^-, charmonium results from Crystal Ball, ψ, ψ′ X(2820) and χ(3455) prod. and decay 1−10207

electron-positron interactions
see also electron-positron inclusive interactions; electron-positron scattering; positron annihilation in liquids and solids
heavy lepton, spin 3/2, effects of alignment in production and decay *(Russian)* 1−23497
particle physics in 1979 *(Polish)* 1−532
points on annihilation lifetime spectrometer, influence of geometry on resolution 1−991
e^+e^-, two photon processes, Higgs boson prod. rates 1−18533
e^+e^-→4π, ρ′(1250) meson production *(Russian)* 1−577
e^+e^-→4π$^\pm$, ρ′(1600) parameters from current algebra calc., A_1 resonance 1−576
e^+e^-→$e^+e^-(\mu^+\mu^-)$, QED tests at PETRA 1−10187
e^+e^-→$e^+e^-\gamma^*\gamma^*$, double tagged two photon reactions, cross sections 1−18532
e^+e^-→$e^+e^-\pi^+\pi^-$, C-even and C-odd contrib., interference, γγ cross section 1−5640
e^+e^-→$\gamma(\mu^+\mu^-)(e^+e^-)$, radiative corrections, QED processes in polarised beams *(Russian)* 1−10185
e^+e^-→$K_S^0K_L^0$, 1.4 to 2.18 GeV, K^+, K^0 form factors 1−45330
e^+e^-→K^+K^-, 1400 to 2060 MeV, cross section and kaon form factors 1−45329
e^+e^-→$\mu^+\mu^-$, cross-section, QCD prediction 1−50452
e^+e^-→$\mu^+\mu^-(e^+e^-)$ PETRA/PEP energies, electroweak theory implications 1−533
e^+e^-→$\mu^+\mu^-(\gamma)$, anal. expressions for distribs. 1−33170
e^+e^-→$\mu^+\mu^-(\tau^+\tau^-)$, weak neutral current coupling constant, electroweak anal. 1−534
e^+e^-→$\pi^+\pi^-\pi^+\pi^-$, 1.42-2.2 GeV, ρ′(1600) resonance parameters and cross section 1−575
e^+e^-→W^+W^-, same helicity e^- and e^+, gauge theories and sum rules 1−18463
e^+e^-→$W^+W^-(Z^0Z^0)(Z^0H^0)$, vector boson density matrix from Weinberg-Salam model *(Russian)* 1−36872
γγ→$\rho^0\rho^0$, cross-section 1−23527
τ heavy lepton prod. from e^+e^-, review 1−10186

electron-positron scattering
see also electron-positron interactions
e^+e^-→e^+e^-, Bhabha scatt., 13 and 17 GeV, QED test 1−50452
e^+e^-→$e^+e^-(\mu^+\mu^-)$, QED tests at PETRA 1−10187
e^+e^-→$\gamma(\mu^+\mu^-)(e^+e^-)$, radiative corrections, QED processes in polarised beams *(Russian)* 1−10185

electron probe analysers *see electron probe analysis*

electron probe analysis
anodic, oxide layers, coloured, anodised, microanalytical exam. 1−21813
biological fluid electron microprobe analysis, standard soln. choice and calibration curve linearity 1−4401
cathodoluminescence electron microprobe, bibliography 1−17966
desorption, electron stimulated, ion angular distribution meas. 1−50285
Electron Microscopy Society of America Annual Meeting, San Francisco, CA, USA (Aug. 1980) 1−40602
fault analysis in electron devices, materials appl. 1−53391
film/substrate system, X-ray depth distrib., electron trajectory simulation by Monte Carlo calcs. *(French)* 1−21814
glass, corrosion, surface and solution analytical techniques 1−16930
glass, flat, trace element effects on microstruct., prod. conditions depend. 1−30077
hydrated solns., frozen thin films, determ. of detection limits and calibration constants for EDAX 1−31947
IC testing *(German)* 1−45086
light element energy-loss microanalysis, instrumentation and software 1−17142
local orientation determination with SEM 1−31782
microparticle quantitative analysis by electron beam wavelength and energy dispersive systems 1−5283
Monte Carlo electron trajectory simulation for particle analysis 1−4143
Monte Carlo simulation, conf., Bagneux, France (Oct. 1979) 1−13914
nonconducting substances, quantitative X-ray spectral microanalysis 1−48763
oxides, calc. of α correction factors *(Chinese)* 1−53503
particle characterisation, conference, Ann Arbor, MI, USA (June 78) 1−14
quantitative, data handling and correcting program *(Chinese)* 1−39697
quantitative analysis procedure for single particles 1−4142

electron probe analysis continued
scanning Auger microprobe interfaced to minicomputer system for control of spectrum acquisition and display 1−21828
solar mirror degradation due to corrosion, study using SEM, electron microprobe, AES and X-ray photoelectron spectroscopy 1−21847
steel, alloy, C migration in welded joint *(Chinese)* 1−52336
steel, austenitic type 304, high-temp. water effect, oxide formation 1−8470
steel, ferritic, C and N transfer during exposure to Na environment 1−42561
steel, low alloy, secondary ion microanalysis 1−21683
steel, Ni-Cr, grain boundary strength, effect of Sb, Sn and P 1−53267
steel, V, commercial, sulphides types 1−3746
T-10 Tokamak, stainless steel limiter, changes in surface during use 1−42214
tetrataenite, ordered FeNi meteoritic mineral, identification 1−17797
thin film chemical microanal., EELS distortion problems, diagnosis and elimination 1−17141
thin films, thickness meas. by electron probe microanal. 1−27912
X-ray, intensity dependence on angle of incidence of electrons on bulk targets 1−39186
X-ray depth distribution, electron trajectory simulation by Monte Carlo calc. *(French)* 1−17138
X-ray emission, electron scatt. simulation using Monte Carlo calcs. 1−17137
X-ray optical system theory for electron microprobe devices 1−40918
Ag-Cd(-Sn) alloys, precip. behaviour of oxides during internal oxidation *(Japanese)* 1−26471
Al bronze sliding on KE961 steel, role of Al segregation in wear under boundary lubrication 1−43535
Al film, interactions with thermally grown SiO_2, electron microprobe Auger spectra obs. *(Japanese)* 1−31936
Al-Cu-Mg, type 2024 alloy, analytical study of microconstituents 1−26786
AlN, microscopic identification using EPMA, X-ray and electron diffr. *(Chinese)* 1−52111
Al_2O_3 coating on Hastelloy X, carburization resistance 1−30594
B-4d(5d) transition metal solid solns., unit cell dimensions, electron microprobe anal. 1−38347
B-As(Ge)(Se) solid solns., unit cell dimensions, electron microprobe anal. 1−38347
Be-Cr alloys, struct. and mech. props. 1−16758
1.8CaO.SiO_2/(M-Cr-Al-Y) thermal barrier coating (M=Ni, Co), hot corrosion behaviour 1−31710
16CaO.84($Zr_{1-x}Hf_x$)O_2 system, cation interdiffusion 1−34521
CdSe epitaxial layer, heat-treated, oxidation, electron spectroscopy 1−38684
(Ce-La-Nd-Pr-Fe)$_2Co_{17}$, equilibrium relations among mag. phases 1−26427
Co, high-temp. corrosion in SO_2 1−43571
Co-Sm-Cu alloys, directional solidification path and phase diagram 1−35246
Cu-Nb_3Sn, in situ, superconducting props., influence of Ga additions *(Japanese)* 1−42894
$ErAl_xGa_{2-x}$, lattice consts. and phases, X-ray diffr. and microprobe anal. 1−20128
Fe/Cu, microlaminate condensates, struct. and props. determ. 1−16721
Fe-Cr (13(18) wt.%), Na_2SO_4-coatings effect on oxidation and corrosion behaviour 1−16943
Fe-Ni-C duplex alloys, powder metallurgical prep., mech. props. 1−3660
$Ga_{1-x}In_xP$ ($0 \le x \le 0.10$), epitaxial layers, precise chem. comp. by electron probe anal. *(French)* 1−35587
$Ga_{1-x}In_xP$:N LPE layer, scanning cathodolum. using EPMA with band filters 1−43189
GdCo film, RF sputtered, spatial uniformity, O distrib. influence 1−12364
InGaAs VPE, suppression of InP substrate thermal damage and PH_3 contamination 1−48277
InP-InGaAsP heterojunction laser, emission polarization, internal strain effect 1−51483
$LiNbO_3$:Fe, composition inhomogeneities, defect types 1−38545
14MgO.86($Zr_{1-x}Hf_x$)O_2 system, cation interdiffusion 1−34521
Na_2O-B_2O_3-SiO_2-MoO_2, phase-separated glass, STEM anal. 1−31935
Na_2O-CaO-SiO_2 glasses, Sn diffusion between transformation and softening points 1−20466
Na_2O-Li_2O-Al_2O_3-SiO_2 glass, striae effect on strength 1−25444
Na_2O-Rb_2O-SiO_2, ion exchange between glass melts 1−20436
Nb-Cr (9.5 at.%), oxidation in temp. range 900-1100°C at 100-760 torr O_2 1−39521
Nb-Ga-Mn system, phase equilib. at 900°C, X-ray diffr. and electron microprobe study 1−31423
Nb-Zr (5 at.%), Zr depletion profiles after high temp. vac. annealing 1−8331
$NdAl_xGa_{2-x}$, $0 \le x \le 2$, lattice consts. and phases, X-ray diffr. and microprobe anal. 1−20128
Ni/Cu, microlaminate condensates, struct. and props. determ. 1−16721
Ni-Co-Cr-Al-Y plasma-sprayed coating, coating-substrate interdiffusion 1−30489
Ni-Cr-Si (20, 3 wt.%), containing small addition of Ce, high-temp. oxidation 1−26681
Ni-Cr(20 wt.%), high temp. oxidation, effect of Si content 1−53364
$Pb_{1-x}Sn_xTe$/PbTe, Sn diffusion investigations 1−42585
Si:F,H amorphous film, F atom behaviour to 900°C, gas evolution and IR absorpt. 1−48670
Si-Al_2O_3 high temperature coating for superalloys 1−31758
Si_3N_4, hot-pressed with Y_2O_3 and Al_2O_3 addition, oxidation behaviour 1−21619
Sm(Co,Cu,Fe,M)$_z$ magnets, M=Ti, Zr, Z=6.8, 7.25, microprobe and TEM study 1−52304
$TaSi_2$ films, DC sputtering prep., struct. and elec. props., oxidation behaviour 1−47406
Th-Cd system, phase relations determ. 1−53157
ThO_2, large single cryst. growth from melt using cold-crucible technique 1−35165
Ti/Pt/Au beam lead metallisation system, Pt penetration in Si 1−31351
Ti-Nb (4.32 wt.%), gaseous pretreatment and oxide sintering effect on oxidation 1−35434
TiC, coatings on pyrolytic C, by electron beam induced C/Ti interdiffusion, characterisation 1−25584
TiC, solar slective absorber, reactively sputtered, struct. 1−11992
Ti_5Si_3, solar slective absorber, reactively sputtered, struct. 1−11992

electron probe analysis continued
UO_2, large single cryst. growth from melt using cold-crucible technique 1−35165
Y-Si-Al oxynitride glass-ceramics, elec. props., X-ray diffr. and electron microprobe study 1−2954
Zr-C composite cathodes, surface layers study using electron probe X-ray microanal. 1−30530
ZrO_2-Y_2O_3/(M-Cr-Al-Y) thermal barrier coating (M=Ni, Co), hot corrosion behaviour 1−31710

electron probe microanalysis *see electron probe analysis*

electron probe microscopy *see electron probe analysis*

electron probes
see also electron probe analysis
microprobe technology and its appls. *(Japanese)* 1−5439

electron-proton interactions
see also electron-proton scattering
partons, bosonic, charged, effects on ep deep inelastic scattering *(Chinese)* 1−18490
resonance electroprod., inclusive cross section at large scatt. angles 1−28328
resonance electroproduction, longitudinal and transverse cross section 1−45302
X-ray emission following electron Landau level collisional excitation, neutron star appl. 1−49505
ep, 1-16 GeV^2, deep inelastic electroprod. jets, quark transverse momentum 1−10229
ep, inclusive hadron prod., quark parton model for deep inelastic reactions 1−568
ep→eppX, two photon correlation function 1−45296
op→eX; weak boson propagator, neutral current force range 1−45197

electron-proton scattering
see also electron-proton interactions
momentum transfer range $m_e^2 \ll -t \ll m_p^2$ EM correction, up to second order in 2 1−14396
ep resonance region scatt., long. pol. e and p, spin depend. and asymmetry meas. 1−28323
lp scatt., nonperturbative method for struct. function radiative correction 1−565

electron radiation
asynchronous electron beam excitation of EM waves 1−33612
bremsstrahlung in dipole potential *(Russian)* 1−10897
channelled charged particle radiation in deformed crystals 1−52205
EM wave emission by electron beams in free space 1−33613
energy and momentum conservation for electron interactions with EM radiation 1−10898
energy exchange between free electrons and EM field 1−10899
laser-electron beam backscattering, intensity effect anal. 1−33610
nonlinear oscillator, influence of radiative friction on induced radiation *(Russian)* 1−51358
relativistic synchrotron radiation in medium, implications for stimulated EM shock radiation 1−10901
stimulated EM shock radiation, arbitrary angle between electron vel. and field direction 1−10902
superluminal electron velocities, interaction of electrons and pump fields 1−10900
X-ray relativistic free-electron frequency upconverter 1−15061

electron relaxation time (metals)
Kondo problem, appl. of point-contact spectroscopy 1−34774
metallic glass, electronic lifetime, perturbation calc. 1−25713
one-dimensional metals, electron relax. time and thermopower calc. 1−30731
self-energy for extended states, effect on relax. time near mobility edge, theory 1−42735
FeCo, elec. resist., order depend. determ. 1−47606
K-Na(Rb), dil., Bloch election scatt. by impurities in relaxed lattices 1−42768
K-Na(Rb), dil., cluster model electron lifetimes 1−7597
Sn, current carrier relaxation times, magnetoacoustic meas. *(Russian)* 1−25712

electron ring accelerators
design, construction and running of synchrotrons and storage ring which accelerates protons and electrons 1−50995
electron-ion rings, mean square dimensions 1−23898
energy balance of charged particles beams, kinetic power theorem 1−15059
PETRA, 19 GeV storage accelerator ring *(German)* 1−37028
relativistic charged particle beams, automatic control of unstable fast processes *(Russian)* 1−979
relativistic electron rings, high-charge train super-klystron compression 1−10555
storage ring, radiative spin polarisation, matrix formalism 1−51004
superconducting cavity for TRISTAN, 500 MHz, surface treatment, Q-value and accelerating gradient 1−41262

electron scattering *see elastic scattering of electrons by atoms and molecules; electron beam effects; electron beams; electron-electron interactions; electron-electron scattering; electron impact; electron-nucleon interactions; electron-nucleon scattering; electron-nucleus reactions; electron-nucleus scattering; electron-positron interactions; electron-positron scattering; electron spectra; hadron electroproduction; neutrino-electron interactions; neutrino-electron scattering; secondary emission*

electron solvation *see solvation*

electron spectra
see also Auger effect; conversion electron spectra; electron energy loss spectra; electron impact; electron spectroscopy; photoelectron spectra
amorphous semiconductors, struct. and electronic props., review, book contrib. 1−47441
atom, Z=72-83, core level binding energies 1−33557
atom ionisation by fast charged particles, K-shell electron spectra 1−46067
butyne, spherically averaged momentum densities by Fourier analysis 1−41431
electrostatic analyser of electron energy spectra of pulsed plasma dispersing in vacuum 1−383
ethane, and hindered rotamers, electron binding and relax. energies 1−37255
ethylene, and hindered rotamers, electron binding and relax. energies 1−37255
internal atomic shell autoionisation by β-decay *(Russian)* 1−41354

electron spectra continued
neutron star envelopes degenerate layers, electron-ion scatt. rel. to thermal and electrical cond. 1−44548
Saturn magnetosphere, energetic particle obs. by (Pioneer 11) 1−40397
Saturn magnetosphere, energy spectra of trapped radiations and absorpt. by satellites and rings 1−40391
Saturn magnetosphere, evidence for nearly monoenergetic electron spectrum at Mimas 1−40389
white dwarfs degenerate cores, electron-ion scatt. rel. to thermal and electrical cond. 1−44548
Al, surface plasmon excitation influence on inelastically scattered electron spectra peaks 1−26324
Ba I and Ba II, autoionising and Auger levels, electron impact excitation, ejected-electron spectrum 1−24261
$H_2^+ + He^+ \rightarrow H_2 + He$, 0.8 MeV/N, electron spectra 1−10818
HCl, valence orbitals, momentum distrib., ionisation pot., binding energy spectra 1−6317
HF, valence orbitals, momentum distrib., ionisation pot., binding energy spectra 1−6317
He autoionising states, electron impact excitation, post collision interaction, semiclassical and shake-down models 1−24259
$He + He(He^+)$, collision symmetry, electron spectra produced by autoionisation 1−6381
$Kr^{n+} + Kr$, continuous electron spectra prod., mol. autoionisation, MO determ. 1−41469
$Kr^{n+} + Kr$, continuous electron spectra, direct coupling with continuum 1−41470
$Mg^+ + Ne$, electron autoionisation, cross sections, spectra 1−41464
Na+He, differential cross sections, kinetic energy, optical pot., Penning electron spectra 1−10780
Ne, autoionising and excited states, scattered-electron spectra 1−29117
$Ne^{n+} + Ne$, continuous electron spectra, direct coupling with continuum 1−41470
Pd crysts., quasi-relativistic approx. in electron spectra calcs. by Green's function method *(Russian)* 1−34671
Pt crysts., quasi-relativistic approx. in electron spectra calcs. by Green's function method *(Russian)* 1−34671
Rh crysts., quasi-relativistic approx. in electron spectra calcs. by Green's function method *(Russian)* 1−34671

electron spectrometers
see also beta-ray spectrometers
2-D angular correlation spectrometer for positron studies 1−50229
AES, quantitative, modulating the spectrometer 1−5446
cylindrical mirror analyser, cylinders setting inaccuracy, influence on electron-optical parameters anal. 1−29202
cylindrical mirror analyser, transmission function, appl. to surface spectra *(French)* 1−33080
differential photoelectronic spectrometer with a retarding grid 1−18331
digital inelastic electron tunnelling spectrometer 1−50286
electronograph spherical grid fabrication method 1−50277
electrostatic energy analyses, for electron microscope 1−403
electrostatic hemispherical analyser, with lens system, rel. transmission function of two scanning modes 1−46207
high-current hollow electron beam spectrometer 1−1000
inelastic electron tunnelling spectrometer for investigation of benzenedicarboxylic acid isomers 1−29069
magic-angle, mag. characts. meas. 1−51029
magnetic, electron to positron conversion coeff. meas. 1−10586
pair spectrometer for Leale photon beam, design 1−23936
photoelectron spectrometer, sensitivity and electron scatter 1−14212
scanning Auger microscope and high resolution spectroscopy combined system 1−28127
transmission efficiency in FRR and FAT modes of electron spectrometer 1−40902
UV photoelectron spectrometer, modification, comments 1−18333
UV photoelectron spectrometer, modification 1−18332
Si(Li) electron spectometer with superconducting magnet transporters 1−23937

electron spectroscopy
see also electron spectra; photoelectron spectroscopy
aberration-corrected electron spectrometer design for the TEM 1−5443
biphenyl, mol. reorientation on evap. films surface, Penning ionis. electron spectrosc. obs. 1−2354
EELS, surface analysis technique, industrial appl. *(French)* 1−31250
energy calibration, reference electron binding energies re-determ. 1−28128
energy loss spectroscopy of free molecules, basic principles and exptl. methods 1−4132
ESCA spectra, computer-aided meas. system *(Japanese)* 1−26778
ESCA spectrum automatic interpretation by knowledge-driven method 1−31959
ESR spectroscopy collection and anal. by KRS 4200 minicomputer system 1−40896
Faraday cage system for centring rot. sector system and radiation intensity meas. in liq. electron diffr. 1−14214
half-life measurement by electron-electron delayed coincidence spectroscopy *(Portuguese)* 1−23600
hard coatings produced by CVD on steel, ESCA investig. *(German)* 1−21831
magnetic single cryst. surface, Bragg reflection, isochromat spectroscopy, polarisation detectors 1−18954
modulation voltage generator for lock-in meas. of electron energy distribs. *(German)* 1−40895
polymer surface and interface anal. methods, review 1−20534
pulsed electron beam spectrometry by energy release in homogeneous material 1−999
total current spectroscopy study of growth of thin metal and semicond. surface layers 1−7492
Au electrodeposit surface quality control, Auger Electron Spectroscopy appl. 1−8579
MgF_2 surface, low-energy electron impact dynamic effects 1−8642
N, inner-core energy levels, semiempirical studies, ESCA shifts studied by SCC-MO method 1−6154
$Si_xN_yH_z$ film, plasma activated, analysis by AES and ESCA 1−13054
Ti and alloys, surface treatments, ESCA study *(Japanese)* 1−8472
Xe, direct counting by reson. ionisation spectroscopy 1−10049

electron spin
No entries

electron spin-lattice relaxation
acridine, mol. cryst. matrix, excited triplet state, transient ESR nutation signals 1−7934
alkali metal halides, triplet self-trapped exciton, electron spin-lattice relaxation 1−3298
amorphous semiconductors, ESR line breadth and spin relax., appl. of master eqn. approach 1−198
emerald, spin-lattice relaxation of Cr^{3+} ions 1−12395
ferroelectrics, electron spin-spin and spin-lattice relaxation times, anomalous behaviour 1−21035
ferromagnets, amorphous, longitudinal spin fluctuations, relax. times 1−30931
fluorene:pyrene-d_{10}, photoexcited triplet state, spin-lattice relaxation rate 1−31011
fluorene-pyrene-d_{10} mixed organic cryst. system, triplet state energy transfer 1−47929
liquids, electric spin relaxation, non-resonance paramagnetic absorpt. method *(Russian)* 1−31010
1,4-naphthosemiquinone radicals, CIDEP and kinetics during photoreduction 1−13022
paramagnetic spin relaxation due to spin-spin and spin-phonon interactions 1−3287
9,10-phenanthrenequinone-fluorene soln., CIDNP, free radical effects 1−14935
phenoxy radicals in soln., longitudinal spin-lattice relax., CIDEP 1−29004
proteins 2Fe-2S, spin-lattice relax. meas. from broadening of EPR spectrum 1−22171
radical pairs, CIDNP, high field, electron spin exchange relaxation effects 1−14935
semiquinone radicals in soln., longitudinal spin-lattice relax., CIDEP 1−29004
sodium triacetylacetonate dioxane, temp. depend. statistical theory of cross relax. for Ni^{2+} ions 1−3239
spectral diffusion, spin-spin and spin-lattice relax. rates 1−41409
TMMC, one-dimensional system, electron spin-lattice relax. 1−42996
transition metal complexes, nuclear spin and solvent induced electron spin relax., crystal field modulation 1−3236
β-Al_2O_3-Li_2O (K_2O)(Na_2O), prototype glass, electron spin relax. of irrad.-induced colour centre, disorder effects 1−16481
$CaWO_4$:Tb^{3+}, phase relaxation time, instantaneous and spin diffusion 1−3256
CrK alum, electron spin-lattice relax., mag. field depend. 1−3251
CsH_2PO_4, ferroelectric phase transition, ESR study 1−12389
Cs_2NaYCl_6:Er^{3+}(Dy^{3+})(Yb^{3+}), relaxation data of lanthanides in matrix, orbit-lattice interaction model 1−38979
CuFe dilute alloy, NMR spin-lattice relaxation 1−26063
CuK double sulphate, electron spin-lattice relax., mag. field depend. 1−3251
EuO, critical spin fluctuations, ESR study 1−7860
Fe group salts, electron spin-lattice relax., mag. field depend. 1−3251
FeK alum, electron spin-lattice relax., mag. field depend. 1−3251
p-GaAs, conduction electron spin relax. 1−47978
p-GaAs:Zn, heavily doped, optically pumped electron spin relax. through virtual photon 1−35090
GaSb, conduction electron spin relax. 1−47978
H_2SO_4:Cu(Fe), phase relax. kinetics, electron spin-echo obs. 1−14946
^{3}He, liquid and solid, spin polarised, using Castaing-Nozieres effect and Pomeranchuk cooling 1−2745
$KMgF_3$:Cr^{3+}, spin-lattice relaxation of cubic centres 1−21043
$KZnF_3$:Cr^{3+}, spin-lattice relaxation of cubic centres 1−21043
La pnictides, Van Vleck orbit-lattice interactions 1−25679
Li-methylamine solution, CESR obs. of metal-nonmetal transition rel. to miscibility gap 1−26037
$NH_4Ce(SO_4)_2.4H_2O$:Gd^{3+}, EPR and IR spectra, phase transitions, spin-lattice relax. 1−34936
Na, in hexamethylphosphoramide solution, electronic relax. time meas., solvated electron interactions *(French)* 1−34922
Ni(II)-histidine complexes, field depend. ^{13}C spin-lattice relax., Solomon Bloembergen Morgan theories appl. 1−3246
Si amorphous film, spin-lattice relax. of localised states 1−34924
Si:Fe^+, Jahn-Teller centres, spin-phonon interactions, spin-lattice relax. 1−21042
$SrCl_2$:N_2 EPR of N_2^- centres 1−43008
TiO_2:Fe^{3+}, rutile, electron spin-lattice relax. time meas. 1−12388

electron spin polarisation
see also CIDEP; spin polarised electron emission
actinide 5f compounds, excitation spectrum, carrier conc. and temp. depend., CPA calc. 1−47469
actinide metals, band struct. and cohesive props. 1−47443
Auger electrons, spin polarisation 1−24093
electron gas, low density phases, quantum Monte Carlo method 1−165
electron impact, free-electron polarisation, optical meas. 1−19194
Fermi system, spin polarised, Cooper pairing 1−2743
ferromagnetic metal, plasmons, inelastic scatt. of polarised low-energy electrons 1−2901
heavy ion+heavy ion, electron spin polarisation in strong mag. field 1−46076
LEED, spin-polarised, theory and expt., appl. to W (001)(1×1) 1−46961
magnetic single cryst. surface, Bragg reflection, isochromat spectroscopy, polarisation detectors 1−18954
metal, localised moments, induced antiferromag. polarisation, Wolff model 1−16427
optically active molecules, electron scatt., spin-depend. features 1−1368
quantum system, spin polarized, conf., Aussois, France (April 1980) 1−8
quantum theorem of corresponding state 1−164
semiconductors, magnetic, conduction electron spin polarisation, spin transition 1−47890
storage ring, radiative spin polarisation, matrix formalism 1−51004
trapped ion polarisation and polarisation detection, method 1−10870
vacuum UV radiation physics, conf., Charlottesville, VA, USA (June 1980) 1−16
Au (110), surface reconstruction using spin-polarised LEED 1−38630
Co-SiO_2 granular films, mag. and transport props. 1−47888
Cs, photoionisation, quadrupole resonances, fine struct. electron spin polarisation 1−24088
D, spin polarised, ground-state props., method of correlated basis functions 1−2748
^{57}Fe spin polarised electrons, internal conversion coeff., rel. to electron density at nucleus 1−33241
H atoms, adsorption on ^{4}He liquid surface 1−2733

electron spin polarisation continued
H, spin aligned, ESR and NMR expts., 0.1 to 0.5K 1−6190
H, spin polarised, apparatus for study of thermal props. 1−269
H, spin polarised, Bose condensation 1−1078
H, spin polarised, Bose gas, stabilisation in mag. fields 0 to 10 T 1−1082
H, spin polarised, effective range theory and many-body perturbation theory 1−1080
H, spin polarised, magnetisation and density 1−1083
H, spin polarised, production and mag. confinement 1−1084
H, spin polarised, stability 1−1079
H, spin polarised, stability against recombination reactions 1−1317
H, spin polarised, two-dimensional, optimal HNC-Jastrow calcs. 1−1081
H, spin-stabilised, storage at 1K 1−1058
^{3}He, adsorbed, partially spin polarised, apparatus for study of thermal props. 1−269
^{3}He, liquid, spin polarised and unpolarised, ground state 1−2747
^{3}He, liquid, spin polarised and unpolarised, ground-state props., method of correlated basis functions 1−2748
^{3}He, liquid, spin polarised, ground state fluctuations 1−2749
^{3}He, liquid, spin polarised, spatial correlations 1−2750
^{3}He, liquid, spin polarised, surface nuclear spin-lattice relaxation times 1−2753
^{3}He, liquid and solid, spin polarised, using Castaing-Nozieres effect and Pomeranchuk cooling 1−2745
^{3}He solid, highly polarized, prod. in Pomeranchuk cell 1−2767
^{3}He, spin polarised, NMR aspects in high field at liq.-solid transition 1−2768
^{3}He, spin polarized, relaxation time, melting curve 1−2746
^{3}He-^{4}He liquid mixture, phase diagram near tricritical point 1−2759
^{3}He-^{4}He spin polarised quantum soln. 1−2758
Ni-NiO-Ni(Co)(Fe) ferromagnetic tunnelling junctions, spin-polarised electron tunnelling *(Japanese)* 1−12210
Pt (111) surface, LEED, spin polarisation, expt. and theory 1−15763
Pt(111), longitudinal spin polarisation and symm. in LEED 1−7051
W (100), polarised LEED study 1−47339

electron spin relaxation *see electron spin-lattice relaxation*

electron spin resonance *see paramagnetic resonance*

electron states, impurity *see impurity electron states*

electron states, surface *see surface electron states*

electron streams *see electron beams*

electron structure of solids (crystallography) *see crystallography*

electron structure of solids and liquids (energy structure) *see electron energy states (condensed matter)*

electron theory
see also Dirac equation; quantum electrodynamics
critical binding by nonstationary point dipole rotor 1−436
Dirac theory and its Melosh quantum-mechanical representation 1−45167
fragment ejection, unfavoured ang. distribs. 1−19202
Klein paradox in Dirac's eqn. for electron 1−28157
mass, relationship between physical constants 1−10110

electron theory of metals *see metal theory*

electron traps
see also colour centres; hole traps; impurity electron states
amorphous systems, diffusion-limited recomb. and relax., master eqn. approach 1−198
charge transfer crystal, organic, optical and photoelectric props. 1−30789
cobalt phthalocyanine:$^{57}CoCl_2$, space charge limited electron injection 1−53417
cobalt phthalocyanine:$^{57}CoCl_2$, thermal treatment and charge transfer interactions 1−53416
deep levels, multiphoton capture of free electrons, adiabatic and nonadiabatic limits, theory 1−47539
deformable lattice, electron, hole and exciton interactions with phonon and impurity fields, review 1−34635
dielectrics, transient single-injection currents at fast trapping, numerical anal. 1−52573
distribution in solid, finite defect chain of uniform curvature, model 1−16254
frozen media, electron trapping and transfer 1−52526
III-V compounds, deep levels, nonradiative recomb. and self-trapping, lattice phonon effects, review 1−47537
injection currents theory, in dielectrics with maximum filling of traps 1−16300
ionic crystals, luminesc., self-trapping excitons, holes, and electrons, review 1−12547
MAOS structure, charge distrib. meas. 1−34803
MNOS structures, thin oxide layer, discharging process by multiple tunnellings 1−38790
MOS devices, bulk trap density spatial depend. evaluation 1−16370
MOS structure, trapped electron discharges 1−42861
MOS structures under constant gate-current bias influence, quasistatic and nonequilibrium phenomena 1−20874
MOSFET, gate bias effect on hot electron trapping 1−12191
naphthalene:β-halonaphthalene, X-traps, electron-phonon coupling in phosphoresc. heavy atom effect, charge-transfer interaction 1−31180
narrow gap semiconductors, nonequilibrium carriers, changes in slow relax. and defects 1−34723
ODMR, in semiconductors 1−31064
phthalocyanine, metal-free, transition metal impurities effect, trap density, elec. and photocond. props. 1−7656
phthalocyanine films, amorphous, metal-free, conductivity, temp. depend., X-ray diffr., thermal anal. 1−52569
poly(styrene-allyl alcohol), electrothermographic characts. 1−45041
polydiacetylene toluene sulphonate, electron mobility 1−34721
polyethyleneterephthalate-metal sandwich, space-charge induced switching 1−38865
Poole-Frenkel effect, trap potential well determ., theory 1−12118
semiconductor, carrier population inversion in field of intense EM wave 1−52579
semiconductor, cascade capture accompanied by optical phonon emission 1−20764
semiconductor, disordered, physical interpretation of dispersive transport 1−42787
semiconductor, heavily doped, hopping conduction, radiative tunnel transition contrib. 1−20723
semiconductor, large lattice relax. processes 1−34662
semiconductor, nonequilibrium phonons in 3- and 2-dimensional charge transport 1−16269
semiconductor, phototransient curve, several kinds of traps 1−25757

electron traps continued
semiconductor, screening length rel. to lifetime and relax. 1−20762
semiconductor junction, deep levels, anal. of thermal and optical transients 1−12059
semiconductors, multiphonon-emission carrier capture cross section at deep centres 1−2985
semiconductors, strong lattice relax. at localised defects, review 1−47193
space charge accumulation, high-energy electron injection in high-resistivity materials 1−52581
wide band gap semiconductor, deep level capture cross section determ. by electron beam 1−3052
AgCl:Mn, optically detected mag. reson. study 1−52870
$Al_xGa_{1-x}As$ epitaxial layers, deep electron traps 1−30761
AlN:Mn^{4+}, plasma discharge, photo-excitation and surface excitation, luminesc. kinetics 1−31191
AlN/Si MIS struct., elec. characts., interface states 1−47747
As_2S_3, vapour-deposited, hole transport meas. 1−34702
Be_2SiO_4, thermoluminescence and exoemission from surface layers *(Russian)* 1−21283
$Bi_{12}Si(Ge)O_{20}$-dielectric struct., image characts. during electron beam irrad. deep level carrier traps 1−42869
$Bi_{12}SiO_{20}$, impurity levels, TSC meas. 1−25660
CdF_2:In, impurity-lattice relaxation, temp.-depend. decay of metastable state 1−30674
CdS MIS devices, trapping effects 1−47757
CdS/Cu_2S solar cells, repulsive traps 1−26836
CdS-GaAs heterojunctions, deep level defects study using transient capacitance spectroscopy 1−2921
CdSe thin film transistors, TSC spectra, electron traps, ageing mechanism 1−38863
$CdSe/As_2Se_3Tl_2$ thin layer system, photocapacitance effect 1−47711
CdTe film, polycrystalline, trapping levels, TSC and photocond. meas. 1−20885
CdTe films, electrodeposited, Schottky devices, electron traps obs. 1−34813
CdTe p-n junctions, impurity levels, elec. props. study *(Japanese)* 1−38840
GaAs, deep levels, EL2 and EL3, uniaxial stress dependence 1−2918
GaAs, electron capture at B centre, multiphonon process, calc. 1−16298
GaAs, electron capture at B-centre, radiative mechanism contribution 1−16299
GaAs epitaxial layers, physico-chemical origin of majority and minority carrier traps, Schottky barrier capacitance techniques 1−30763
GaAs MESFET, determ. of shallow defect levels using TSC in implant-layer/substrate junctions 1−30818
n-GaAs, Schottky barrier, proton bombarded, anal. of defect states by transient capacitance methods 1−30671
GaAs, TSC spectra, differential anal., recomb. mechanism 1−12122
n-GaAs:Cr, charge transfer induced by hydrostatic press., Hall effect meas. 1−47547
GaAs:Cr and undoped, energy structure parameters determ. by thermal effect of short light pulser *(Russian)* 1−52487
$GaAs_{0.62}P_{0.38}$, extended defect, DLTS, capacitance transient meas. 1−30672
GaP:N, decay kinetics of excitons and electron-hole plasma 1−3484
GaP:O, ODMR, two electron trap 1−31064
$Hg_{1-x}Cd_xTe$, admittance spectroscopy of deep levels 1−42713
$Hg_{1-x}Cd_xTe$, trap levels and minority carrier lifetime, DLTS study 1−34658
$In_{1-z}Ga_xAs_yP_{1-y}$-InP LPE and VPE layers, transport props., defects and device considerations 1−47766
InP:Fe, deep level spectroscopy 1−34649
$InSe_{1-x}S_x$, single crystal, current limited by space charges *(Russian)* 1−47660
KCl:$SnCl_2$, light and thermally stimulated recombination luminesc. 1−3465
$KTaO_3$:Ni(Fe), identification of photochromic absorption, optical and ESR meas. 1−26239
LiF:TiO_2, crystal excitation transfer mechanism to activator centres 1−35089
MgO:OH, Al, F, thermally stimulated luminescence, electron and hole traps 1−21282
MgO-Al_2O_3-SiO_2-TiO_2, TiO_2 role in glass ceramic form. 1−2339
S, orthorhombic, dark decay of positive surface pot. 1−52629
Se:Li,Cl, amorphous, gap states, carrier traps, time-of-flight study 1−52472
Si, defect contrast, characterisation by Schottky barrier charge collection using SEM-EBIC 1−20241
Si, energy structure parameters, determ. by thermal effect of short light pulses *(Russian)* 1−52487
Si film in SOS MOSFET, electron trap states 1−52672
Si, minority carrier traps, investigation using optical excitation *(German)* 1−38791
Si p-n junction, burst noise model, carrier trapping *(German)* 1−20837
p-Si, recomb. props. of O complexes after annealing and γ-ray irrad. 1−20765
Si rectifiers, recombination centres in base regions, energy levels, capture coeffs. meas. *(German)* 1−52649
Si:Fe p-n junction, deep level Fe ion dose depend. 1−16250
Si:H, amorphous, sputtered, effect of substrate temp. and deposition rate on photocond. 1−3012
Si:H, amorphous n-type, obs. of electron and hole traps by deep level transient spectroscopy 1−30668
Si:H,P films, amorphous, trap controlled dispersive transport by transient photoresponses 1−52601
Si:H amorphous films, photocond., trapping and recombination 1−47710
Si:P, hydrogenated anorphous, dispersive transport and recomb. lifetime 1−38811
Si-$LiNbO_3$ layer struct., transverse acoustoelec. effect meas. 1−25766
Si-SiO_2 MOS capacitors, oxide traps and interface states 1−42864
SiO_2 in SI-MIS, charge trapping, dark currents 1−7632
SiO_2 film on polycryst. Si, high-elec.-field generated traps, expt. 1−47669
Te:Cl, excited by α-particles, photons, elec. props. meas. 1−30765
TlInSe, impurity levels, elec. props. 1−20660
V_2O_5-P_2O_5-optical absorption, electrical cond. and thermo EMF study 1−25748
ZnO varistor, deep levels, effect on current-response characts. 1−47555
ZnO-Sn composite, power-law currents and role of traps 1−30753
ZnS:Sn luminophors, blue luminesc. study 1−21263
ZnSe, broad band emission, cathodolum., thermolum., transitions involving deep level centres *(French)* 1−53000
electron traps continued
ZnSe, doped with acceptor impurities, thermoluminescence, photoconductivity 1−43195
ZnSe-GaAs heterojunctions, DLTS study, majority carrier trap assignment 1−38745
Zn_2SiO_4:Mn phosphor, electron traps, photostimulated emission, phosphoresc. and photoluminesc. study 1−35084
ZnTe semiconductor crystal, carrier traps, admittance spectroscopy technique 1−12067
electron tube diodes *see diodes*
electron tube manufacture
gas panel backfill process, pump efficiency improvement 1−272
electron tube rectifiers *see rectifier tubes*
electron tube testing
glass-to-metal seal press. chamber testing 1−282
linear induction accelerator dielectric tube selection, coating resistance admissible inhomogeneity 1−37025
electron tubes
see also cold-cathode tubes; diodes; electron emission; microwave tubes; relativistic electron beam tubes; thermionic tubes; triodes; ultra-high frequency tubes; X-ray tubes
electrooptical devices for high-speed photography 1−367
electron tunnelling *see tunnelling*
electron valves *see electron tubes*
electron-wave tubes
see also klystrons; magnetrons; travelling-wave-tubes
cyclotron wave growth in helical slow wave structure, simulation 1−29867
gyrotron dispersion equation, general mode analysis 1−29243
electronegativity
after p and α reaction, Mossbauer spectra 1−3302
alkali metal halides, dielectric behaviour anal., electronegativity, effective charge 1−12446
alkaline earth dihalides, gaseous mols., bonding and spectroscopic props. 1−6240
alloys, s-p electronic materials, heat of formation 1−48721
benzene undistorted rings in diphenyl sulphide 1−29136
5-fluorouracil, oscill. strengths, polarisation, excitation energies, spectra, wave functions, CNDO and PPP calcs. 1−10661
free radicals, molecular orbital electronegativity, semiempirical CNDO LCAO MO calcs. 1−51121
hydrides, electron-rich, VSEPR model, ligands of low electronegativity 1−10673
inert gas atoms electronegativity 1−37351
metal hydrides, electronic struct., bonding and chemisorpt. for H_2 storage appls. 1−2807
methyl group anions, substituent effects on acidity 1−41307
nitroso compounds, PES, ab initio SCF-CI calcs. 1−10783
nucleic acid bases, oscill. strengths, polarisation, excitation energies, spectra, wave functions, CNDO and PPP calcs. 1−10661
rare earth-transition metal alloys, cryst. and amorphous, mag. props. 1−25895
CF_3SCF_3, geometry and internal rot., gas electron diffr. 1−29140
$ClSCF_3$, geometry and internal rot., gas electron diffr. 1−29140
$FSCF_3$, geometry and internal rot., gas electron diffr. 1−29140
Sb_2Te_3 ^{119}Sn defect, after p and α reaction, Mossbauer spectra 1−3302
SnTe, ^{119}Te defect, after p and α reaction, Mossbauer spectra 1−3302
electronic calculators
for calculator applications see under relevant applications e.g. engineering computing; natural sciences computing
BRT function, calc. with programmable pocket calculator 1−42900
calculator interfacing of a dynamic mechanical analyzer 1−39567
gamma-ray telescope spark chamber photographic data processing by desktop calculator 1−4777
physics, simulations using programmable pocket calculations 1−40620
electronic component manufacture *see electron device manufacture*
electronic conduction in crystalline semiconductor thin films
for electronic conduction in amorphous thin films, see "electrical conductivity of amorphous semiconductors and insulators"
see also electrical conductivity of amorphous semiconductors and insulators; electrical conductivity of crystalline semiconductors and insulators; electrical conductivity transitions
CdS, nonequilibrium cond., variation rel. to X-ray exposure 1−42822
metal oxide thin layer deposited on glass by Pyrosol process 1−53103
polycrystalline film, temp. depend. of intergrain barriers, resist. and Hall mobility 1−12213
semiconductor thin film nonlinear conductivity investigation 1−38787
substrate, InAs heteroepitaxial layer deposition using MBE, elec. and struct. props. 1−3081
p-terphenyl, polycryst. thin film, electronic transport meas. 1−7762
tetracene, polycryst. thin film, electronic transport meas. 1−7762
Ag_2Te, low temp. phase transition, electrophys. prop. and thermal expansion evidence 1−47397
Al-ZnTe-Al structure, thin film memory device characts. 1−30840
AlN, epitaxial layers, on α-Al_2O_3, prep. and props. 1−20578
Cd_3As_2 crystalline film, Shubnikov-de-Haas effect 1−52586
CdS film evaporated onto GaAS substrate, struct. and elec. props. 1−34597
CdS layers, polycrystalline, anomalous temperature dependence of dark current 1−20890
CdTe layers in Al-CdTe-Al thin-layer structures, elec. props. with DC voltages *(Slovak)* 1−3077
$CuInS_2$ epitaxial layers obtained by chemical vapour transport, growth and props. 1−30588
$CuInSe_2$ epitaxial layers, single-source evaporation prep., struct. and elec. props. 1−38690
$Cu_{2-x}Se$ films, vacuum evaporated, elec. props., appl. for solar cells 1−4205
$FeCr_2S_4$ film, elec. and galvanometric props. 1−38795
GaAS epitaxial films, galvanomag. props., low-resist. inclusion effects 1−25814
GaAs epitaxial film, surface elec. and struct. props., vacuum heating effects 1−47768
GaAs, epitaxial film growth by RF sputter deposition 1−31343
GaAs film, amorphous, MBE prep., elec. and optical props. 1−25585
GaAs, heavily doped epitaxial layers, pulse electron beam annealing effects 1−15928
GaAs:Fe, high-resistivity LPE layers, photocapacitance 1−39253
GaAs:Fe(Cr) high resistivity layers, LPE growth by impurity doping 1−39256

electronic conduction in crystalline semiconductor thin films continued
$GaAs_{1-x}P_x$ vacuum deposited film, X=0.3-0.9, successive evaporation method, characterisation 1−53095
$Ga_xIn_{1-x}P$:Si(Zn) LPE layers lattice-matched to GaAs, growth and elec. props. 1−21370
GaN film growth by reactive sputtering, elec. resist. meas. 1−31350
GaSb film, amorphous-cryst. transform., elec. props. 1−34704
$HfSi_2$ film on Si substrate, thermal oxidation meas. 1−16915
HgTe polycrystalline films, Hall coeff. and DC cond. meas. 1−38873
(In,Ga)(As,P), VPE growth, n- and p-type doping, photolum., mobility and electron diffusion lengths 1−48267
n-InAs epitaxial layers, carrier lifetime meas. 1−30856
InAs films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
InAs films, electrical props. 1−20729
$In_{1-x}Ga_xAs_yP_{1-y}$-InP LPE and VPE layers, transport props., defects and device considerations 1−47766
$In_{0.5}Ga_{0.5}Sb$ film, amorphous-cryst. transform., elec. props. 1−34704
InN films, phys. props. 1−50436
In_2O_3 film prep., elec. conductivity and optical transmission 1−52453
In_2O_3 films, in metal sandwich, field-dependent elec. cond. 1−20883
In_2O_3 films, thermally evaporated, struct., elec., and optical props. 1−47405
In_2O_3:Sn, thin film, post-oxidised, electrical props. 1−47769
In_2O_3:Sn film prep. by activated reactive evaporation, elec. resistivity and transmittance 1−16389
In_2O_3:Sn RF reactively sputtered films, elec. props. *(Japanese)* 1−20882
In_2O_3-SnO_2 conductive, transparent coating for thermal insulation *(French)* 1−39497
In_2O_3-SnO_2 layer deposition on glass substrate by spraying method 1−53089
In_2O_3-SnO_2 sprayed film, light transmission and resistivity optimisation 1−52456
n-InSb film, H_2 exposed, elec. transport props. 1−52673
InSb films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
InSb films, electrical props. 1−20729
InSb:H films, Hall coeff., carrier mobility rel. to impurity in-diffusion 1−38870
InSb(As)(Te)(Se) film, amorphous-cryst. transform., elec. props. 1−34704
MnO_2 layers, pyrolytic deposition in saturated water vapour atmosphere 1−21364
PbS film, photoconductivity temperature dependence obs. *(Rumanian)* 1−42812
$Pb_{0.93}Sn_{0.07}Se$ epitaxial film, band struct. 1−42689
$Pb_{1-x}Sn_xTe$ layers, LPE growth, struct., and elec. props. 1−47404
$Pb_{1-x}Sn_xTe$ layers on micasurface, Hall effect and cond., influence of air 1−30857
PbTe film, size effect, Hall mobility, thermopower 1−20887
$Se_{1-x}Te_x$ films, electrical and optical props. 1−48190
Si film, ion implanted, CW laser annealed, electrical props. 1−30851
Si, polycryst. sheet growth by ribbon against drop process, cryst. and elec. characts. 1−3640
Si, polycrystalline film, elec. props., mobility and dopant conc. relationship *(Chinese)* 1−30852
Si polycrystalline film, quantitative model 1−42876
Si polycrystalline films, elec. cond. anal. 1−2956
Si, semi-insulating polycryst. CO_2 CVD film, characts. 1−12214
Si:As polycryst. film, sheet resist. reduction by laser irrad., implantation dose and laser wavelength effects 1−52670
Si:B, polycrystalline, CVD-prepared, resistivity changes caused by thermal annealing 1−30854
Si:B film, on sapphire, ion implanted, Hall effect and resist. meas. 1−2990
Si:P(B)(As), dopant segregation, Hall and resist. meas. 1−38401
Si-Ni-Fe, RS-1004, resistive films, formation kinetics structure and elec. props. 1−25595
SnO_2 film, CVD and elec. props. 1−43268
SnO_2 films, pure and Sb doped, elec. props., annealing and O adsorption effects 1−7763
SnO_2, transparent cond. films, deposition, cond. and optical transmission 1−34812
SnO_2:F sprayed film, light transmission and resistivity optimisation 1−52456
SnO_2:Sb, electrical and optical props. 1−42874
SnO_2:Sb films, deposited by hydrolysis, elec., optical, and struct. props. 1−43284
SnO_2:Sb thin film, DC sputtering process characterization and problems 1−31344
SnTe:Kr(Xe) films, ion implantation effect on struct. and elec. props., recrystn. process 1−7194
Te, bulk monocryst. and film polycryst., photocond. thickness depend. 1−38808
VO_2, temp. depend., semicond.-metal transition region, cryst. state role 1−16387
WSi_2 thin films, resistivity and oxidation 1−16388
p-$ZnGeP_2$ film, synthesis and photoelec. props. 1−42875
n-$ZnGeP_2$ films, electrical and photoelectric props. 1−34815
ZnO, thick piezoelec. films, high rate deposition by reactive magnetron sputtering 1−16683
ZnSe epitaxial films on GaAs, cond. 1−38869

electronic conduction in insulating thin films
see also electrical conductivity of amorphous semiconductors and insulators; electrical conductivity of crystalline semiconductors and insulators
composite resistive films based on PbO-B_2O_3-SiO_2 and BaO-B_2O_3-SiO_2 sintered glass, electrical props. *(Slovak)* 1−53304
p-quaterphenyl oriented layers, space-charge-limited cond. obs. 1−12218
polyacetylene film, elec. cond. meas. during cis-trans isomerisation 1−25815
polyacetylene film, optical prop., electronic gap 1−48180
polyacetylene films, IR spectra, oxidative and radiative stability 1−16620
polyethylene, high density, charge carrier mobility meas., kinetic methods 1−7764
polyethylene, low-density, oxidised, TSC, localised states, hopping centres 1−21118
polyimide thin films, elec. breakdown strength, cond., adhesion determ. 1−20892
polyvinylcarbazole-2,4,7-trinitrofluorenone film, AC conductance *(Chinese)* 1−2953
Al_2O_3 anodic film, cond. props. 1−34817

electronic conduction in insulating thin films continued
Al_2O_3, film, electrical phenomena during mechanical impact *(Russian)* 1−47772
Bi_2O_3 thin film, elec. props. *(Japanese)* 1−30858
GeO_2 films, in MIM struct., elec. props., electrolum., and electron emission 1−38874
GeO_2 films in MIM structs., elec. cond. and current-voltage characts. 1−7758
MgO film, dielectric props. obs., for three vacuum deposition systems 1−16525
MgO, film, electrical phenomena during mechanical impact *(Russian)* 1−47772
MoO_3 films, vacuum deposited, dielec. and elec. props. 1−48007
$Pb_5Ge_3O_{11}$ film on Si substrate, preparation and props. 1−16204
SiN plasma deposited films, structural and elec. props. 1−16391
Si_3N_4, amorphous film in MNOS struct., carrier charge sign determ. 1−38861
Si_3N_4 films, elec. and mech. props. meas. 1−12217
SiO_2 evaporated film, dielec. susceptibility, low freq. dispersion, TSC 1−8002
SiO_2, film, electrical phenomena during mechanical impact *(Russian)* 1−47772
SiO_2 thin films, chemically grown on Si, phys. and elec. props. 1−48254
SiO_2 thin films, evaporated, TSC rel. to AC cond. 1−7998
TiN_x thin film, elec. and structural props. *(Polish)* 1−11991
Zn_2SiO_4:Mn phosphor, composite films on Si, growth and elec. props. 1−3082

electronic conduction in metallic thin films
see also discontinuous metallic thin films; electrical conductivity of amorphous metals and alloys; electrical conductivity of crystalline metals and alloys
discontinuous metal film, homogeneous struct., elec. cond. and electron emission 1−52668
discontinuous metal films, elec. cond. and current noise theory over wide temp. range 1−30842
disordered two-dimensional system, density of states and cond., electron correlations 1−52462
imperfections, contribution to thermoelectric power and conductivity 1−7584
macroscopic surface roughness effects, calc. 1−47762
metal, Fermi surface local geometry 1−12020
monocrystalline film, electronic transport parameters, two-dimens. model 1−47765
Nichrome-Al film deposition in low vac., temp. coeff. of resist. characts. 1−43264
strain gauge coeff. of infinitely thick polycrystallic metal films, three dimensional analytical expression 1−30844
superconductor-normal metal film electron tunnelling, nonequilibrium phenomena *(Russian)* 1−3116
thermoelectric power due to thickness-dependent scatt. 1−47620
Ag, elec. resistivity and strain sensitivity of continuous metallic films *(Japanese)* 1−16385
Ag film with $Bi_{1-x}Sb_x$, Sb overlayers, annealing behaviour, elec. resist. meas. 1−34809
Ag thin film resistivity, grain-boundary scatt. effect meas. 1−7759
Ag thin films, conductivity during coalescence, electric field effects on growth 1−30850
Ag-Ni(Au) island condensate, influence on substrate cond. *(Russian)* 1−34811
Al, asymptotic form of oxide growth, elec. cond. changes obs. 1−16974
Al film, Hall effect 1−47615
Al film, vacuum deposition, vacuum ambience effects 1−16211
Al, granular, metal-insulator transition obs. 1−34627
Al thin film resistivity, grain-boundary scatt. effect meas. 1−7759
Al-Cu-Si film, electromigration behaviour, surface struct. 1−2933
Al-Si(Cu), film, electromigration behaviour, surface struct. 1−2933
Au, elec. resistivity and strain sensitivity of continuous metallic films *(Japanese)* 1−16385
Au film, transient temp. meas., elec. resist. method 1−37777
Au/Cr bifilm, heat treated, elec. resist. increase rel. to interdiffusion 1−7394
Cd film, Hall effect 1−47615
Cr thin film, elec. cond. and cond. temp. depend. 1−2936
Cu film, two-dimens. localisation, resist. meas., 1 to 20K 1−47763
Cu thin film resistivity, grain-boundary scatt. effect meas. 1−7759
$Fe_{1-x}B_x$ amorphous films, elec. resist. meas. 1−30700
Mn film, temp. coeff. of resist. 1−3079
Mn thin films, elec. resistance variation with thickness 1−2935
Mo thin films on oxidised Si wafers, 7059 glass plates, MOSFET appl. 1−30847
Mo-Si cosputtered coatings on thermal SiO_2 substrate, formation, elec. cond. 1−16685
NaTl compounds, thin films, evaluation by elec. resist. meas. *(Japanese)* 1−30846
Nb film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532
Nb films, ion irrad. influence on elec. and superconducting props. 1−20894
Nb_3Ge film, superconducting transition, homogeneity investig. 1−52681
Nb_3Ge film deposited on Nb_3Ir and Al_2O_3, supercond. transition temp. and phase rel. 1−52680
Nd film, electrical resist changes due to reaction with H and air 1−42871
Ni thin film resistivity, grain-boundary scatt. effect meas. 1−7759
Ni-Au island condensate, influence on substrate cond. *(Russian)* 1−34811
Pb-Bi thin film struct., low temp. reactions 1−34523
Pd evaporated films, temperature coeff. of resist. and thermoelec. power, thickness effect 1−30848
Pd film, dynamic cond. anomalies, mag. phase transition obs. 1−30843
Pd-H films, pressure-conc. isotherms and resist. props. 1−20554
Pd-Si amorphous films, ion implantation prep., elec. resist. meas. 1−34363
Pr film, electrical resist changes due to reaction with H and air 1−42871
Pt, mean free path and conductance electron density, size effect determ., surface effects 1−38868
Pt, oscillations of elec. cond. with film thickness 1−7760
Pt very thin films, size quantisation of electronic states 1−12212
SnAu(Cu) film, liquid-like struct., elec. resistivity 1−25596
Ta film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532

electronic conduction in metallic thin films continued
Te, vacuum deposited film, elec. resist., annealing effect 1−47760
Ti film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532
V superconducting foil, critical current, O_2 gas treatment 1−52737
Y thin film, vacuum deposited, in situ elec. resist. meas. 1−12211
Y, thin film, vacuum deposited, in situ temp. coeff. of resist. meas. 1−20881
Yb film, electrical resistivity and temp. coeff. of resistance 1−47764

electronic density of states
A-15 intermetallic compounds, residual resistivity features 1−12092
actinide metallic cpds., intermediate valence model and mag. props. 1−47840
actinide metals, band struct. and cohesive props. 1−47443
alkali metal-Au alloy, liq., density of states and cond. calc., metal-nonmetal transition 1−25689
alloy, binary electron states density, short-range order effect *(Russian)* 1−12008
alloy, liq. binary, density of states theory inc. local atomic configs. 1−25605
alloy thin film, substitutionally disordered, electronic struct., CPA calc. 1−16386
alloys, density of states and cond., Monte Carlo technique 1−20604
alloys, disordered interstitial, band struct., single-site CPA calc. 1−16222
alloys, narrow-band, electron density of states, cluster-Bethe-lattice method 1−12010
alloys disordered, optical cond. calcs. 1−35001
amorphous semiconductors, electronic struct., review 1−30615
amorphous semiconductors, struct. and electronic props., review, book contrib. 1−47441
Anderson localised states, diagonal and off-diagonal correlation effects 1−47573
binary alloys, with short-range order, enthalpy of formation *(Russian)* 1−31890
binary crystals with diagonal disorder, quadratic approx. appl. 1−34608
chemisorbed atom, density of electronic states 1−25787
diamond (111), clean and Ga-chemisorbed, electronic struct. 1−12166
dirty superconductors, tunnelling, effect of microwave radiation 1−25838
disordered alloy, one-dimens., free energy and moments of density of states 1−30422
disordered binary system, ten-fold degenerate d-electron correlation, metal-nonmetal transition 1−34848
disordered materials, electronic states, field theory formalism 1−47569
disordered solids, dynamical props., digital computer simulation, book contrib. 1−38488
disordered systems, hoppinc cond. theory 1−42732
disordered two-dimensional system, density of states and cond., electron correlations 1−52462
doped semiconductor, hopping and delocalisation, electron-electron interactions effect, Coulomb gap 1−47651
doped semiconductor, metal-insulator transition, cluster model approach 1−47478
EELS determ. of electron energy band shapes, theory 1−47426
FCC metal, grain boundary model, electronic struct. calc. 1−2919
ferro and antiferroelectrics, specific heat, low temp., lattice dynamics 1−7351
ferromagnetic metal, chemisorption of H_2, Anderson-Newns Hamiltonian 1−7473
ferromagnetic semiconductors, electron level density *(Russian)* 1−12011
Friedel sum rule, generalised 1−52463
Gilat-Raubenheimer method for k-space integration 1−20601
graphite lamellar compounds, high-field ^{13}C NMR and in-plane localized density of states model 1−38992
Hubbard mode, structurally disordered, density of states calcs. 1−47420
intercalation compounds with AsF_5, $FeCl_3$, B, electron energy loss spectroscopy 1−48207
intermediate valence compounds, two-band model 1−7565
intermediate valence systems, local Fermi liq. theory 1−7563
isochromat spectra, structure, electron-hole pair production 1−2855
Kondo alloy-supercond. thin film sandwich, proximity effect, theory 1−12240
Li intercalated graphite, electronic props. of various stages 1−2859
liquid alloy, structural disorder theory, band struct. 1−46987
localised states, treatment on lattice instantons basis 1−12058
magnetic superconductor, density of states, tunnelling characts., appl. to supercond. spin glass 1−42890
metal, liquid, electronic density of states, effective medium approach 1−25606
metal films, quantum magnetosize effect *(Russian)* 1−42872
metals, amorphous and liq., electronic structure, embedded mol. cluster approach 1−30619
metals, liquid, muffin tin model, effective medium approx. calc. 1−30614
MOS structures, interface state density calcs., effect of errors in semicond. consts. 1−38862
perovskite type oxides, XPS, semi-empirical calcs. 1−38718
cis-polyacetylene, extended Huckel band struct. calcs. 1−7518
polyacetylene, undoped, effect of disorder on electronic struct. 1−20610
polyene, ab initio crystal orbital studies 1−19229
polymers, correlation, interaction between polymers 1−20650
polymers, quantum theory, conf., Namur, Belgium (Feb. 1979) 1−17938
polymethineimine, ab initio crystal orbital studies 1−19229
polyyne, ab initio crystal orbital studies 1−19229
rare earth magnetic semiconductors, review, book contrib. 1−47657
rare earth metals, 4f and valence band density of states, XPS and bremsstrahlung isochromat spectroscopy study 1−34606
rare earth metals, 4f states, fractional parentage theory appl. to bremsstrahlung isochromat spectroscopy 1−30611
semicondcutors, disordered, interband absorpt. spectra, CPA calc. 1−52474
semiconductor, disordered, δ-correlated random field, interband optical absorpt. 1−12471
semiconductor, disordered, impurity band optical absorpt., density of states, electron-phonon interaction 1−26241
semiconductor, effective density of states in cond. and valence bands, arbitrary band struct. 1−12009
semiconductor, lightly doped, impurity band struct., review 1−20658
semiconductor impurity band density of states, disordered Hubbard model 1−30665
semiconductor surfaces and interfaces, and defects, electronic struct., review 1−30802

electronic density of states continued
semiconductor thin films, virtual surface states, surface Green function calcs. 1−42840
semiconductor with superlattice in mag. field, quantum oscillations 1−20778
semiconductors, amorphous, field-effect conductance, density of localised states, anal. 1−42723
semiconductors, dislocation states spectrum *(Russian)* 1−7561
semiconductors, doped, single-particle energy levels below metal-nonmetal transition 1−47566
semiconductors, electronic struct. and dielec. props., universal tight-binding calc. 1−42671
semiconductors, surface and bulk props., pseudopot. theory, review 1−47429
spin glass, Heisenberg, off-diagonal disorder, dynamical and thermal props., theory 1−12316
spin-glass superconductors, mag. fine struct. in supercond. tunnelling 1−30888
sputtered atoms spectral ionisation probability, correlation with electron density of states 1−31278
superconducting proximity effect sandwiches, compound geometrical resonances, theory 1−3114
superconductor, mag. impurity atom effect on props., band calc. 1−12222
tight-binding bands, theory of phys. props. and competing processes 1−25610
topologically disordered system lattice model, Anderson's transition 1−2594
topologically disordered systems, excitation spectra calc. 1−42724
transition metal alloys, 3d, electron energy spectra, combined interpolation scheme 1−52478
transition metal alloys, amorphous, d electronic spectrum rel. to alloy struct., calc. 1−30617
transition metal alloys, cluster model, SRO coherent potential approx. 1−2862
transition metal binary alloys, short-range order, effect of Fermi level position *(Russian)* 1−7502
transition metals, amorphous, bulk and surface electronic struct., calc. 1−30618
transition metals and alloys, localisation of electron states, XPS calc. *(Russian)* 1−3565
Ag (100), surface electronic struct., self-consistent local orbital method 1−25784
Ag, electronic struct. of mag. impurities, first principles calc. 1−34653
Ag_xPd_{1-x}, electronic struct., KKR-CPA calcs. 1−25623
Al, X-ray excited KLV Auger spectra, screening effects 1−8191
$Al_2Au(Cu)$, electronic struct., multiple scatt. Xα cluster method with k-depend. boundary conditions 1−42681
AlFe(Co)(Ni), APW band struct., densities of states, complex dielec. function 1−7501
AlH_x, electronic struct. rel. to supercond. 1−2863
AlN/Si MIS struct., elec. characts., interface states 1−47747
Al_2O_3 surface, H_2O doped, photon-stimulated desorption by core level excitation, density of states and extended fine structs. 1−38664
Al(111) film, electronic struct. and surface states, self-consistent linearised APW method 1−47727
Au, energy linearised scheme, relativistic band struct. calc. 1−20607
$BaPb_{1-x}Bi_xO_3$ superconducting oxide, new supercond. region, electron transport props. *(Japanese)* 1−38875
BeO surface, H_2O doped, photon-stimulated desorption by core level excitation, density of states and extended fine structs. 1−38664
Ce, isostructural γ-α transition, self-consistent linearised APW energy band calc. 1−42682
Cs, expanded liquid and dense vapour, electronic correl. and metal-nonmetal transition 1−25633
CsAu liquid alloy, structural disorder theory, band struct. 1−46987
CsCl-type alloys, effects of SRO and LRO on electronic struct. 1−2865
Cu, electronic struct., multiple scatt. Xα cluster method with k-depend. boundary conditions 1−42681
Cu, electronic struct. of mag. impurities, first principles calc. 1−34653
Cu, energy linearised scheme, relativistic band struct. calc. 1−20607
Cu, X-ray emission line $K\beta_{2,5}$, deep-band probe, fine struct. 1−8165
Cu-Mn, anomalous vol. expansion and magnetovolume effect, electronic struct. calc. 1−26001
Cu-Ni, electronic surface density of states, surface segregation 1−7686
$Cu_{1.8}Mo_6S_8$, electronic props. of Chevrel phases, positron angular correlation study 1−31226
$Cu_{100-x}Si_x$, liq., partial densities of states, soft X-ray spectroscopy study 1−30612
$Cu_{60}Zr_{40}$, amorphous and cryst., low temp. electronic props. and specific heat 1−30620
energy linearised scheme, relativistic band struct. calc. 1−20607
EuO(S), s-f model, CPA calcs. with Coulomb repulsion, density of states 1−42670
Fe alloys, electronic structure from positron annihilation 1−12022
Fe_3O_4, Verwey transition, electron correl. theory 1−12033
GaAs, chemisorption of Al on (110) surface, adsorption mechanisms and bond calcs. *(Chinese)* 1−47364
n-GaAs MOS system, interface states density and dynamic props., photocapacitance and deep level transient spectra 1−12209
Ge-GaAs(110) segregated overlayer system, electronic struct., tight binding calc. 1−52628
Ge-Si alloys, electronic and optical props., effect of short range order 1−34615
$Ge_{1-x}Au_x$, amorphous, metal-insulator transition, electron tunnelling meas. 1−42692
GeSe:Fe, amorphous films, 1−26293
Hf, isochromat and SXAPS meas. 1−43221
HfC_x, LCAO-CPA studies of C vacancies 1−2856
HfH_x, electronic struct., FCC-FCT lattice distortion, photoelectron spectra study 1−48233
Hg, expanded, pseudogap in density of states and anomalous dispersion 1−25618
InSb, effective density of states in cond. and valence bands, arbitrary band struct. 1−12009
Ir, energy linearised scheme, relativistic band struct. calc. 1−20607
$KHgC_4(C_8)$ intercalation cpd., synthesis and low temp. sp. ht. 1−38554
$KNbO_3$, electronic struct. rel. to ferroelec. phase transitions 1−34626
La monopnictides, electronic struct. 1−20605
LaH_2, LaH_3, electronic struct., APW method 1−38715
$LaNi_{5-x}Al_x$ (Pt_x), heat capacity, hydrogenation, influence of lattice and electronic factors 1−20418

electronic density of states continued
$La_{1-x}Th_xNi_5$, heat capacity, hydrogenation, influence of lattice and electronic factors 1−20418
LiC_{12} lamellar cpd., sp. ht. and mag. susceptibility 1−42550
$LiNbO_3$, EELS, conduction band density of states deduced 1−39198
Mg, X-ray excited KLV Auger spectra, screening effects 1−8191
Mo (100), surface electron energy spectrum by positron annihilation method 1−25788
Mo, metallic glass, band struct., superconductivity 1−25621
$Mo_6S_8(Se_8)$, electronic props. of Chevrel phases, positron angular correlation study 1−31226
Na, X-ray excited KLV Auger spectra, screening effects 1−8191
Nb, band struct. calcs., short range order influence on elec. props. 1−25628
Nb, metallic glass, band struct., superconductivity 1−25621
Nb-N non-metallic disordered alloys, hopping processes for cond. *(French)* 1−52560
NbC, LCAO-CPA studies of C vacancies 1−2856
$NbSe_3$, mag. susceptibility 1−30907
Ni, stacking faults, electronic struct. 1−2915
Ni surface with Cu overlayer, electron density of states, calc. 1−47723
Ni-Cu, electronic struct. theory 1−20618
Ni-H, electronic struct. of interstitial H by cluster-in-condensed-matter technique 1−20653
Ni-P, amorphous, unoccupied Ni density of states, X-ray absorpt. and emission spectra 1−31229
NiS, metal, semimetal and magnetic phase transitions, interaction between correlated electronic bands 1−7838
$PbMo_6S_8$, electronic props. of Chevrel phases, positron angular correlation study 1−31226
Pd, Knight shift and band struct. calcs. 1−26061
Pd-Ru-H, band struct. characts., mag. susceptibility, electronic sp. ht. and Mossbauer isomer shifts 1−20614
Pd-Si interface reactive Schottky barrier formation obs. 1−16366
Pd-SiO_2-Si MIS devices, gas effects on interface state spectrum 1−38864
PdH, band struct., APW calc. 1−38717
$Pd_{100-x}Si_x$, liq., partial densities of states, soft X-ray spectroscopy study 1−30612
Pd_2Si, chemical bonding and electronic struct., UPS and AES study 1−26366
PtH, band struct. calcs. possible high temp. supercond. 1−7511
Rb, expanded liquid and dense vapour, electronic correl. and metal-nonmetal transition 1−25633
Ru (0001), electronic struct. of carbidic and graphitic overlayers 1−52637
$(SN)_x$, (SN-H)$_x$, density of states of valence band, CPA calc. 1−20613
Sb, quantum oscillations of vel. of sound, power spectrum anal. 1−47438
Se, glassy, XPS under Ar ion bombard. 1−3564
Se, trigonal, energy spectrum, press. depend. 1−2866
Si (111), adsorbed Ag, electronic. struct., EELS meas. and band struct. calc. 1−7699
Si, (111) unreconstructed surface, vacancy electron states 1−7560
Si (111)-Au(Ag)(Ni), interface, localised state density, Schottky diode interface states 1−52654
Si, amorphous, electronic struct., effect of different kinds of disorder, calc. 1−52473
Si, amorphous CVD film, elec. and optical props. and localised state density *(Japanese)* 1−20608
Si, amorphous film, CVD prep., rel. to electronic props. *(Japanese)* 1−43271
Si amorphous p-n junction, current-voltage characts. 1−3051
Si, cleaved, (111) surface, density of states from AES 1−34760
Si, liquid, partial density of states, X-ray emission band meas. 1−8162
Si, X-ray excited KLV Auger spectra, screening effects 1−8191
Si:F, H, amorphous, MIS solar cells, high-efficiency, theory and expt. 1−43782
Si:H, amorphous, determination of the density of gap states: field effect and surface adsorption 1−30613
Si:H, density of states, CPA calc. 1−47425
a-Si:H, determination of states distrib. using MIS tunnel junctions 1−20609
Si:H, F, As, amorphous, thermoelec. power and elec. cond. meas. 1−47691
a-Si:H Schottky barrier diode, band struct., conductance-capacitance freq. depend. 1−7704
Si/SiO_2 interface, Auger lineshape calc., chemisorbed O effects 1−43226
a-Si-based alloys, localised state distrib. meas. using field effect technique 1−30682
Si-SiO_2 system, interface-state density determ., single freq. approx. method 1−7688
Si-SiO_2 system, tight-binding calcs. 1−38853
SiO_2 surface, H_2O doped, photon-stimulated desorption by core level excitation, density of states and extended fine structs. 1−38664
SiO_2, vitreous, low-energy excitations, thermal relax. 1−47009
Si(111), electronic struct., angle-resolved photoemission study 1−8195
Ta, isochromat and SXAPS meas. 1−43221
TaC_x, LCAO-CPA studies of C vacancies 1−2856
Ta_2O_5 amorphous film, hopping transport 1−20889
$TaSe_3$, mag. susceptibility 1−30907
Tc, metallic glass, band struct., superconductivity 1−25621
Tc, short range order influence on elec. props. 1−25628
Te alloys, dil. liq., electronic behaviour, elec. cond. and mag. susceptibility meas. 1−20695
Te, trigonal, self consistent electronic spectrum, press. depend. of energy spectrum 1−12025
$Th_7Ni_3H_x$, magnetic props. 1−20956
Ti-Mn-H, magnetic susceptibility and magnetization meas. 1−20964
$TiBe_2$, self-consistent band calc., magnetism and supercond. 1−12023
TiC, valence band struct., photoelectron spectra study 1−3571
TiC_xN_{1-x}, solid solution, distrib. of density of electron states 1−52464
TiH_x, electronic struct., FCC-FCT lattice distortion, photoelectron spectra study 1−48233
TiLi, energy band structure and wave functions *(Ukrainian)* 1−25622
TiN, valence band struct., photoelectron spectra study 1−3571
TiNi, cubic to rhombohedral phase transform. mechanism *(Russian)* 1−26449
TiO(C), energetic-vacancy stabilisation mechanisms 1−2914
TiRu, energy band struct. calc. *(Russian)* 1−20615
TiTc, energy band struct. calc. *(Russian)* 1−20615
$Ti_xV_{1-x}C$, solid solution, distrib. of density of electron states 1−52464
TlBr(Cl), self consistent ground state and optical props. 1−47454

electronic density of states continued
α-U, electronic levels, occupied and empty, XPS and bremsstrahlung isochromat spectroscopy study 1−48227
U monochalcogenides and monopnictides, cond. and valence band states, spin polarised photoemission study 1−47468
UAl_2, electronic struct., photoemission study 1−48230
$UAs(S)(O_2)$, electronic levels, occupied and empty, XPS and bremsstrahlung isochromat spectroscopy study 1−48227
UAs(S)(Sb)(Se)(Te), optical spectroscopy, electronic struct. 1−48114
UCo_2, electronic struct., photoemission study 1−48230
UTe, ferromagnet, electronic struct., cluster MS calc. 1−47467
$U_xTh_{1-x}As(Sb)$, electronic struct., relativistic KKR-ATA calc. 1−47424
V-Fe, electronic structure from positron annihilation 1−12022
V-Fe-H, band struct. characts., mag. susceptibility, electronic sp. ht. and Mossbauer isomer shifts 1−20614
V_3Ge, electrical cond., electron-phonon interactions *(Russian)* 1−12093
$V_3Ge_{1-x}Al_x$, electrical resistance meas., impurity Al effects *(Russian)* 1−12093
W, isochromat and SXAPS meas. 1−43221
YAl_2, self-consistent band calc., magnetism and supercond. 1−12023
YH_x, location and diffusion of H, electronic density of states, NMR study 1−7967
YSb, electronic struct. 1−20605
ZnO, surface electron struct. of polar and nonpolar surfaces 1−16336
ZrH_x, electronic struct., FCC-FCT lattice distortion, photoelectron spectra study 1−48233
ZrV_2, self-consistent band calc., magnetism and supercond. 1−12023
$ZrZn_2$, self-consistent band calc., magnetism and supercond. 1−12023

electronic density of states of amorphous solids *see electron energy states of amorphous solids*

electronic density of states of liquid semiconductors *see electron energy states of liquid semiconductors*

electronic desk calculators *see electronic calculators*

electronic engineering computing
see also circuit layout CAD; computerised instrumentation
EM penetration into small apertures, modelling considerations 1−33600
ion implantation dose uniformity, computer program 1−52165
SF_6-N_2 mixtures, breakdown process between parallel plates 1−15717

electronic equipment manufacture
ferrite manufacturing, control technology 1−53150
panel meters, custom built 1−5300
Space Telescope solar array blankets, manufacturing methods 1−39781

electronic equipment testing
CAMAC precise nanosecond pulse generator 1−40763
ECG electrodes on-line testing 1−40022
specially shaped signal design and application 1−27962
taped random vibration analysis of components 1−24585
taped random vibration technique 1−24584

electronic music
see also musical acoustics; musical instruments
analogue electroacoustic music techniques used by Japanese expt. composers, review 1−24612
audio-frequency generators for electronic musical instruments *(German)* 1−29483
endogeneous automated music, 'chronochroma' compositional language, digital sound synthesis program 1−24613
organ, electronic synthesis and factors in physiological and psychological acoustics *(Hungarian)* 1−6726
organs, musical note formation and treatment *(Spanish)* 1−33859
organs, TDM keying system 1−24614
piano, pedal control cct., filters and preamplifier, construction details *(Dutch)* 1−6727

electronic structure, atomic *see atomic structure*

electronic structure, molecular *see molecular electronic states*

electronic switching systems
programmed control circuit for telephone communication using one type of transistor *(Italian)* 1−23208

electronics applications of computing *see electronic engineering computing*

electrons
see also beta-rays; cosmic ray electrons; positrons
charged nonlinear scalar field, electron as soliton 1−5468
g-factor, meas. 1−10213
magnetic moment, anomalous analytical calculations by computer 1−14223
magnetic spin moment anomalies for electron and proton in two-level vacuum polarisation unified model 1−28253
mass, relationship between physical constants 1−10110
mass, smallness of masses of first generation fermions and Cabibbo angle in SU(2)×U(1) gauge model 1−10122
mass splitting of charged leptons, correspondence principle condition on Reissner-Nordstrom soln. 1−10118
on-shell electron form factor, high energy behaviour 1−14388
proton electron mass ratio, direct determ. using cyclotron freqs. 1−557
relativistic electrons in moving Newtonian fluid, transport equations 1−19873
research into nature of electron at University of Kent *(Italian)* 1−10290
Saturn magnetosphere, obs. of energetic charged particle absorpt. signature of Mimas 1−40389
Saturn magnetosphere, sources and sinks of energetic electrons and protons 1−40387
solar corona, trapped electrons emission rel. to moving type IV burst quasi-periodic short term modulation 1−36243
solar flares electrons streaming and escape limits in thermal models for hard X-ray emission 1−49584
unified field model of the free, localized electron and proton state 1−33135

electrooptics *see electro-optical effects*

electroosmosis *see osmosis*

electrophoresis
see also electrophoretic coating techniques
cell electrophoretic, mobility meas. with computer-controlled electrophoresis microscope 1−53948
colloidal particle deposition on electrode in alternating elec. field, aperiodic electrophoretic drift 1−53482
continuous-tone image recording using electrophoresis 1−10037
display devices, book 1−22962
HV free flow electrophoresis, use for cell separation 1−17532

electrophoresis continued
isotachophoresis systems involving single or multiple counterions, separation of macromols. 1—13363
laser Doppler cytopherometer for meas. of biparticle electrophoretic mobility 1—44058
macromolecules, quasielastic light scattering in electric field electrophoretic mobility and apparent charge *(French)* 1—39116
mitochondria and submitochondrial particles, surface charge density change on energisation 1—39898
noninertial drift, in nonuniform alternating elec. fields 1—17062
steel, stainless, monodispersed haematite particle interactions, depend. on pH, flow rate, temp. and additives 1—35580
unipolar electrophoretic flow, mass transfer and dissipation 1—24889
ThO_2 membrane, electroosmosis and electrophoresis 1—21738
ThO_2-UO_3 sol-gel process, role of U(VI) 1—28682

electrophoretic coating techniques
metallopolymer, cathodic deposition 1—17063
optical mask appl. 1—8243
CdS/Cu_2 S thin film solar cell fabrication using electrophoretic deposition 1—4199

electrophoretic coatings
No entries

electrophotography
AC corotron/moving dielec. interaction, model calcs. 1—20023
amorphous chalcogenide/PCK photoreceptors with extended spectral response *(Japanese)* 1—33069
anomalous photovoltaic effect in ferro and piezoelectric semiconductors and its application for optical storage by holography *(Japanese)* 1—46260
charge relief and print stability of latent images formed in two-layer photoconductor-dielectric systems *(Russian)* 1—40887
continuous-tone image recording using electrophoresis 1—10037
dry developed electrostatic images, light-aided transfer 1—50248
electrographic materials, sensitometry *(Czech)* 1—14195
electrometers for electrophotographic researches using electrostatic induction *(Japanese)* 1—33071
electrophotographic transparent films evaluated for wideband digital data recording 1—45052
electrostatic image forming, in photosemiconducting layers 1—20823
electrothermographic charact. of polymers, humidity and ambient temp. effects 1—18322
laser beam recorder for continuous-tone transparent electrophotography 1—45053
latent voltage image development studies by contact potential different *(Japanese)* 1—33068
magnetic brush developer, cond. mechanism 1—45050
magnetic brush development of toner, model 1—18319
organic electrophotographic layer for obtaining multi-colour images *(Russian)* 1—23358
organic electrophotographic layers, photodischarge kinetics calc. 1—20824
photosensitivity of double layered photoreceptors, effect of ionisation potential of carrier transport materials 1—18320
poly(styrene-allyl alcohol), electrothermographic charact. 1—45041
poly-N-epoxypropyl carbazole electrophotographic layers, discharge mechanism in darkness 1—12150
poly-N-epoxypropylcarbazole, doped with naphthoquinone derivatives electrophotographic sensitivity and photoconductivity *(Russian)* 1—48707
poly-N-epoxypropylcarbazole electrophotographic layers, longit. photocurrent kinetics 1—16316
poly-N-epoxypropylcarbazole-based photothermoplastic films, electrophotographic charact. *(Russian)* 1—23360
poly-N-vinyl carbazole, doped with naphthoquinone derivatives electrophotographic sensitivity and photoconductivity *(Russian)* 1—48707
poly-N-vinyl carbazole photosensitisation with Rhodamine 6 G for use in PAPE imaging processes 1—10044
polystyrene, pure and doped, electrothermographic behaviour 1—14199
polyxylidene sensitized layers, electrophotographic sensitivity spectral distrib. *(German)* 1—5423
posi-overlay process for copier-printer 1—18318
relief image by electrophotography and applics. *(Japanese)* 1—18312
spectral sensitivity of photoconductors used in electrophotography 1—28087
thermoplastic recording layers, electric field form. and deformation, model investigation *(German)* 1—10036
thermoplastic recording material, electrostatic field form., model investigation *(German)* 1—5424
transient photoconductivity techniques and related problems *(Japanese)* 1—45046
vibration recorder with closed toner system and automatic annotation 1—36645
xerographic and persistent internal polarisation (PIP), Michler's ketone binder layer appl. 1—18324
CdSe thin films, prep., elec. and electrophotographic props. 1—34743
HgS:CdS-polystyrene binder layers, charact. 1—18323
PbO, props. 1—18321
Se, amorphous, electrophotographic layers 1—40886
Se electrophotographic layer, photodischarge during scanning exposure *(Russian)* 1—28104
Se, freshly sputtered layer, stabilisation of electrophotographic parameters 1—42823
Si:H, amorphous, photoelectronic props. study using xerographic discharge techniques 1—34742
Si:H amorphous thin film, photoreceptor for electrophotography 1—34744
ZnO electrophotographic layer, change of local electron states during adsorption of sensitizer molecules *(Russian)* 1—23357
ZnO photoreceptor for He-Ne laser, xerography appl. 1—24468
ZnO-resin photo-receptor layer binder functionality *(Japanese)* 1—33070

electrophotoluminescence *see electroluminescence; photoluminescence*

electrophysiology *see bioelectric phenomena*

electroplated coatings
Au electroplate surface, Co-hardened, SIMS anal. 1—47336
Co-W coatings, produced from Co plating electrolyte and Na_2WO_4 electrolytes, struct. *(Russian)* 1—12929
Cr, coating on steel, thick-layer, fretting corrosion resist. 1—31752
Cr high-speed electroplating on Cu or Fe from dilute acid soln. 1—8244
Cr-Cr_2O_3, black electroplated solar selective coatings, spectral reflectance 1—17268
Cuelectroplated on ABS plastic, adhesion strength and fatigue damage 1—39442

electroplated coatings continued
Ni, black, solar collector selective coatings, photothermal perform. 1—21912
Ni electrodeposit structure, plating variables effect 1—16210
Ni plated Fe single crysts., surface film softening 1—16982
Ni-Co alloy electrodeposition, surfactants effect 1—16706

electroplating
additive-free hard Au plating for electronics appls., chemical aspects 1—8246
deposition on Al alloys, effect of alloying additions 1—21640
electroplating plant effluent treatment system for metal recovery and waste water purification *(German)* 1—17035
high speed plating, air pressure flow system 1—48284
processes, effect of lower temps. 1—26647
pulse plating, influence of electric double layer charge and discharge 1—35544
replica method, fabrication of oddly shaped concave mirrors 1—41893
US field investigation 1—21615
Ag, electroplated, contact metallisation systems for solar cells 1—32020
C fibres, PAN based, elastic moduli, charact. 1—39357
CN^- ion in effluents, kinetic method for anal. 1—4137
Cd plating, cyan-free electrolytes *(Bulgarian)* 1—53430
Cr high-speed electroplating on Cu or Fe from dilute acid soln. 1—8244
Cu bright plating, kinetics of levelling 1—43609
Cu, electroless plating kinetics, rate law for formaldehyde-EDTA baths 1—31368
Cu, electroplated, contact metallisation systems for solar cells 1—32020
Ni-B amorphous-like alloy film, electroless plating deposition using DMAB reducing agent, crystallization and magnetic props. *(Japanese)* 1—47006
Ni-Co alloy electrodeposition, surfactants effect 1—16706
Pb electroplated collimator for gamma-ray imaging 1—35909
Pd electrical contact plating evaluation 1—43530
$PdCl_2/SnCl_2$ mixed catalysts for electroless plating, TEM and electron diffr. study 1—31369
Ru as electrical contact material 1—13015
Sb-Co alloys, electrodeposition 1—39254
n-Si/Ni-P, ohmic contact form. by electroless plating, contact resist. variation with P conc. 1—30821
Ti-(Pd), corrosion in electroplating, Pd effect *(German)* 1—43596
Zn, electrodeposition from alkaline electrolytes, action of quaternary pyridinium additions 1—21616

electropolishing *see electrolytic polishing*

electroreflectance
Ag electroreflectance in dissoln. region 1—35016
Ag overlayers, bulk plasmon excitation in electrorefl. spectra 1—3520
Au, electroreflectance at interface with electrolyte, anisotropy 1—35017
Au with submonolayer Ag deposits, Raman intensity enhanced from adsorbed pyridine and cyanide 1—35049
Cu crystal faces, electroreflectance, polarisation and cryst. struct. effects 1—3370
$Ga_{1-x}Al_xAs$-GaAs interface strain characterisation by electrolyte electroreflectance 1—16349
n-GaAs electrolyte electroreflectance spectra and space-charge region obs. 1—16359
GaAs semiconductor-oxide-electrolyte interface 1—34801
GaSb, energy gap temp. depend., electroreflectance spectra 1—48037
Ge, electroreflectance spectra, influence of quantisation in sub-surface region *(Russian)* 1—3369
$(InAS)_{1-x}(CdTe)_x$, E_1 and $E_1+\Delta_1$ transition energies, comp. depend., electrorefl. spectra 1—21173
$In_{1-x}Ga_xAs$-$GaSb_{1-y}As_y$ superlattices, electroreflectance, band struct. 1—52916
InGaAsP, energy band struct., virtual cryst. model and electrorefl. spectra 1—2871
InGaAsP LPE layers, electrorefl. meas. band edge energy and spin-orbit splitting 1—48053
$In_{1-x}Ga_xAs_yP_{1-y}$, electroreflectance study 1—21172
In_2O_3 films, thermally evaporated, struct., elec., and optical props. 1—47405
KH_2PO_4, electroreflectance spectra 1—12474
Pb, electroreflectance spectrum, interband contrib. 1—52917
Si:F,H glow-discharge films, amorphous, electronic and vibr. props., electrolyte electrorefl. and Raman spectra 1—53006
VO_2, optical prop. and elec. struct. temp. depend. 1—12527
ZnSe, bound excitons, investigation by electroabsorption method 1—21174

electrospark machining *see spark machining*

electrostatic accelerators
see also Van de Graaff accelerators
EGP-10 M 10 MeV electrostatic proton accelerator energy calibration method 1—971
fusion reactor ignition, launching 0.1 g projectiles to hypervelocities 1—889
ion buncher with pulsed distributed electric field 1—978
lasers, inert gas halide, versatile 0.5 TW electron beam facility for power conditioning studies 1—29292
Particle Beam Fusion Accelerator (PBFA II) preliminary design 1—28753
PBFA-I, design, construction and efficiency and cost effectiveness 1—28752
radioisotope dating using accelerators, Australian Quaternary and environmental research 1—17690
tandem, ultrasensitive mass spectrometry appl. 1—23361
tandem generator heavy-ion trajectories and acceleration improvements 1—37026

electrostatic coating techniques
paint sprayer, comparison between electrostatic and aerodynamic forces 1—21344
painting, ignition hazards, review 1—20015

electrostatic coatings
metal surface protective plastic power coating in electrostatic field *(Rumanian)* 1—31731

electrostatic devices
see also capacitors; dielectric devices; electrostatic accelerators; electrostatic lenses; electrostatic precipitators
aerospace instrumentation for material science sample positioning in Spacelab 1—36157
dry developed electrostatic images, light-aided transfer 1—50248
elastomer storage device for optical signal processing 1—46245
laser fusion targets levitation and transport 1—19926

electrostatic devices continued
mirrors, improved focusing and energy resolution 1−24340
spray atomisers, modelling of electrostatic spray plumes 1−21728
spray painting, ignition hazards, review 1−20015
voltmeter realisations with various sensitivities *(Rumanian)* 1−40811
DT ice pellet injection system 1−19925

electrostatic fields *see electric fields*

electrostatic lenses
see also aberrations; focusing; particle beams
crossed deflection, correction of distorted electron beam spots 1−33078
Einzel lens, independent focal props. 1−51359
electron beam, high-intensity, mag. periodic quadrupole focusing 1−15067
electron beam deflection review, book contrib. 1−33616
EM multipole field anal. and calc. 1−6443
hemispherical analyser, with lens system, rel. transmission function of two scanning modes 1−46207
meridional flux focusing in difference field 1−1472

electrostatic microphones *see microphones*

electrostatic precipitation *see electrostatic precipitators; precipitation (physical chemistry)*

electrostatic precipitators
analysis instrumentation, conf., Baton Rouge, LA, USA (Apr. 1980) 1−27682
clean-up system, particulates and mists removal 1−28038
laser Doppler techniques for sizing particulate pollutants and therapeutic aerosols 1−43841
radiotracer measurement of particle deposition and reentrainment 1−39691
voltage effect on operation *(Czech)* 1−13200

electrostatics
see also electrets; electric charge; electric fields; electrostatic devices; static electrification; triboelectricity
biological systems, electrostatic forces in muscle and cylindrical gel systems 1−8792
charge inversion in cylindrical electrophorus 1−13979
charged drops, elec. pot., elec. field and surface charge density calc. *(French)* 1−44274
charged powders in axisymmetric containers electrostatic fields and potentials calc. using finite-element method 1−24312
charging of bodies with corner points in external electrostatic fields 1−24314
circular cylinders, array, electrostatic and optical reson. calc. 1−19235
cometary dust tails, grains electrostatic disruption rel. to origin of striae 1−44496
conductive spherical shell, point charges, field intensity 1−49907
corona performance meas. 1−50162
dielectric cylinder, electrostatic capacity calc., electronic transducer math. model *(Russian)* 1−48018
dielectric with spherical inclusions, elec. pot. distrib. 1−24318
disperse system, static electricity, neutralisation mechanism 1−48747
B-DNA reactive sites, electrostatic pot. screening by MG^{2+} 1−51330
droplets, electrostatically sprayed, vel. meas. by holographic technique 1−41636
electric field far from charge and dipole 1−46193
electrographic liquid developers electrokinetic props. research 1−24868
electrons suspended above surfaces of cryogenic dielectrics, review 1−20509
electrostatic electrification of mineral products during bubbling of gases *(German)* 1−33589
fly ash tribo-charge state characterisation using charge-analyzing probe 1−24866
graphite, acceptor intercalated, band struct. model and electrostatic effects in stages 3 and 4 1−38703
gravitational and Maxwell fields in general scalar tensor theory 1−27840
ignition hazards with flammable liquids 1−24311
insulating surfaces, corona discharges and electrostatics *(French)* 1−42235
ionic solids, binding, electrostatic force meas. apparatus 1−49917
Leidenfrost boiling, of saline soln. drops, discovery and examination of charge-carrying particles 1−1807
Leidenfrost boiling, of saline soln. drops., elec. props. of Leidenfrost drops 1−1808
myoglobin electrostatic stabilisation, sperm whale and harbour seal obs. 1−8793
nonperiodic SAW transducers, charge distrib. anal. using circuit model 1−24638
particle control electrostatics in gas-insulated apparatus 1−20003
patient treatment in hyperbaric chambers, electrostatic charge control for fire prevention 1−27025
periodic atomic film, total electrostatic energy 1−47419
Poisson's equation with point source of unit intensity, singularity and positioning constants 1−51338
reaction system, static charge reduction using glow discharge 1−39695
rotationally cylindrical systems axial and boundary potentials *(French)* 1−51337
small bubble formation by using strong nonuniform electric field 1−24867
spherical cap, electrostatic potential 1−51343
two-dimensional anisotropic regions mapping theory, comments 1−19237

electrostriction
see also piezoelectric materials; piezoelectricity
AC dilatometer, piezoelectricity and electrostriction direct meas. 1−14104
green functions for some problems of electroelasticity 1−31091
lipid membranes, double-layer, electrostriction with simultaneous imposition of two alternating voltages 1−53465
metal-semiconductor contact, electromechanical conversion, freq. response, depletion depth and energy levels 1−16527
nonpiezoelectric solids, microwave-freq. sound, parametric excitation using electrostrictive nonlinearity 1−41907
polyvinylidene fluoride, piezoelectric and ferroelectric properties 1−52906
$BaZrO_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
$(K_{3/4}Bi_{1/4})(Zn_{1/6}Nb_{5/6})O_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
K_2CoF_4, antiferromag., dielec. const. near Neel temp. 1−7992
Nb oxide, anodic, electrostriction, conflict with macroscopic theory 1−34989
$0.9\text{-}Pb(Mg_{1/3}Nb_{2/3})O_3{:}0.1PbTiO_3$ monolithic multilayer electromech. transducers, for optical appl. 1−23202
$Pb(Mg_{1/3}Nb_{2/3})O_3\text{-}PbTiO_3$ (10 mol.%), inverse hysteresis of field induced elastic deform. 1−12457

electrostriction continued
$Pb(Mg_{1/3}Pb_{2/3})O_3$ ceramics, ferroelec., electrostrictive coeffs. meas. 1−21130
$Pb(Sc_{1/2}Ta_{1/2})O_3$, relaxor and normal ferroelec., dielec. props., press. depend. 1−8009
$SrTiO_3\text{-}Bi_{2/3}TiO_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
Ta oxide, anodic, electrostriction, conflict with macroscopic theory 1−34989
W oxide, anodic, electrostriction, conflict with macroscopic theory 1−34989
YIG, electrostriction and magnetoelec. effect 1−31005

electrosynchronisation *see synchronisation*

electroviscous effect
see also colloids; viscosity
No entries

element origin
see also cosmic ray origin; cosmology
early Universe, implications for nucleosynthesis of heavy right-handed neutrinos 1−54360
galactic disc, age-metallicity relation and star form. history in solar neighbourhood 1−44630
Galaxy chemical enrichment, evidence from metal abundances in globular clusters and old open clusters 1−36357
Galaxy chemical evolution, results from space vels. and CN anomalies of GK-type stars in +15° selected area zones 1−40460
LMC chemical evolution, one-zone model for globular clusters metal abundances 1−36360
primordial nucleosynthesis, consistency of standard model 1−44685
primordial nucleosynthesis, role of anomalous neutrino interactions 1−54672
He production and primordial magnetic field rel. to non-zero neutrino rest mass 1−49504

element relative abundance
see also isotope relative abundance
aerosols, atmospheric, method of comparing trace elements enrichment at remote locations 1−27228
Antarctic snow near surface, heavy metal enrichment, abundance interpretation 1−22372
Antarctic snows trace metal content vars. since 1880s, influence of global pollution and volcanic eruptions 1−44220
B 272, isolated extragalactic H II region, abundance and temp. anal. 1−40557
baslats, homogeneous, from East Pacific Rise, major element comps. rel. to steady state magma reservoirs 1−27151
3C 120, galaxy, O and He abundances in surrounding nebulosity 1−44642
ζ Capricorni, Ba star, s-process elements abundances and C/O ratio from spectrum anal. 1−44561
Cassiopeia A, explosive nucleosynthesis calcs. for chemical abundances of fast-moving knots 1−49762
Cretaceous-Tertiary boundary meteorite impact, sediment chemistry record 1−32442
Cretaceous-Tertiary species extinction, element abundance and asteroid impact? 1−9157
Cygnus Loop supernova remnant, evidence for depleted interstellar abundances from filament emission line spectrum 1−27584
Cygnus Loop supernova remnant, H, N, O and S abundances from optical spectra calc. 1−36372
depletions and far-UV extinction in interstellar clouds 1−32733
dwarf galaxies, stochastic self-propagating star form. model rel. to metallicity 1−44624
enstatite meteorites, trace element losses during thermal metamorphism rel. to parent body origin and evolution 1−54432
G292.0+1.8, supernova remnant, Mg/Si ratio from X-ray line emission obs. 1−4959
G-type dwarf stars near Sun heavy element abundances from galactic gas contraction 1−4980
galactic disc, age-metallicity relation and star form. history in solar neighbourhood 1−44630
galaxies, emission line dwarfs, O, Ne, He abundances, H I mass determ. 1−49788
galaxies with spectra of giant H II regions, He, O, N, Ne and S abundances 1−13845
β Geminorum (Pollux), element abundances from spectroscopic anal. rel. to Sun 1−32700
globular cluster systems in galaxies, metal abundances and metallicity gradients 1−36361
brightest globular clusters assoc. with NGC 5128, metallicities from spectrosc. 1−40535
globular clusters in LMC, mean metal abundance of halo clusters 1−36360
heavy elements in red giant stars in NGC 5139 (omega Centauri) 1−44559
HR 6127, Ap star, vel., atm. parameters, comp., microturbulence, from visible spectra anal. 1−40488
IC 4296, elliptical galaxy, spectral line strengths radial profiles 1−27613
IC 4997, young planetary nebula, C and O abundances from UV spectrum 1−13838
interstellar dense clouds, metal depletion rel. to Si chemistry 1−13827
interstellar gas at large distances from galactic plane, comp. from UV absorpt. spectra 1−54575
interstellar matter, Mg and (Fe, Si) phase separation 1−9631
interstellar medium in Magellanic Clouds, chemical comp./epoch relation rel. to star clusters classification 1−9584
interstellar medium on γ Cassiopeiae line of sight, O I and Ar I abundances meas. 1−44604
interstellar metal depletions, rel. to evolution of refractory interstellar grains in solar neighbourhood 1−4948
interstellar Na abundance, implications of Na I D-line emission obs. in Comet West 1−27419
K648, halo planetary nebula in M15, abundances from visible photoelec. spectrophotometry obs. 1−4971
K-type giant stars, abundances of chemical elements 1−44564
light elements, present day abundance form primeval nucleosynthesis, cosmological implications *(Polish)* 1−49869
light REE depletion of Proterozoic upper mantle beneath New Mexico 1−54032
Luna 24 ferrobasalt, element abundances rel. to origin as low Mg primary melt 1−49545

element relative abundance continued
M3, M13, globular clusters, chemical abundances in red giant stars 1−44597
M67, old open cluster, metal abundances in red giants and comparison with M71 and (NGC 2420) 1−44552
M71, globular cluster, metal abundances in red giants and comparison with M67 and (NGC 2420) 1−44552
M82, S/H ratio determ. from forbidden S III 18.7 μm emission line obs. 1−49810
Markaryan 534 (NGC 7679), electron parameters, luminosity and abundances, visible obs. *(Russian)* 1−22899
metal abundance of Galaxy rel. to nucleosynthesis rates 1−32692
metal abundance range in Draco dwarf galaxy 1−22886
metal abundance scale in globular clusters, implications for galactic halo He abundance 1−44634
metal composition in Indian continental shelf sediments 1−17582
metals in soil and slag heaps, Heidelberg mining district *(German)* 1−32060
midocean ridge lava and chem., Ninetyeast Ridge, Indian Ocean 1−13430
N/H in main sequence B-type stars, non LTE model atm. calcs. 1−36286
NGC 1068, Seyfert galaxy, heavy elements enrichment in nucleus from spectrophotometric obs. 1−49816
NGC 2420, old open cluster, metal abundances in red giants and comparison with M67 and (M71) 1−44552
NGC 4472, NGC 5813, elliptical galaxies, spectral line strengths radial profiles 1−27613
NGC 6720 (Ring Nebula), S and Ar abundances and ionisation struct. 1−9611
NGC 6752, globular cluster, chemical abundances in red giant stars 1−44597
nova ejecta, CNO nuclei abundances rel. to hydrodynamics of thermonuclear runaway 1−49688
PKS 0528-50, QSO, absorpt. lines systems redshifts and ion abundances 1−9713
plagiogranites from oceanic crust, rare earth elements abundances and comparison with ophiolites 1−44185
planetary nebula NGC 6572, C/O and Mg abundance from UV obs. 1−36380
planetary nebulae, He, O and Ne abundance technique 1−32526
planetary nebulae, model, effect of charge exchange between H and O^{2+} 1−13825
rare earth elements in aerosols from Osaka area, Japan 1−36018
REE and TH abundances in sedimentary rocks and continental crust 1−49237
Riga Gulf sediments, elemental distribs. *(Russian)* 1−13449
seawater Ra-Ba-SiO_2 composition of Pacific, two-dimens. circulation model 1−9177
sediment heavy metal composition, in Gulf of Kutch, Indian Ocean 1−17581
sedimentary rock, trapped noble gas composition 1−49238
sediments of Cochin backwaters, Kerala, S. India, C/N ratio rel. to pollution 1−53717
SMC planetary nebulae, abundances from spectral line intensities, UV and visible obs. 1−44638
spinel peridotite xenoliths in Ethiopia, REE abundances 1−49239
stars, intermediate mass, surface comps. evolution during advanced evolutionary stages 1−49608
stellar composition, He and metals abundance vars. among young star clusters and associations 1−36272
Sun, Fe abundance reduced to Kurucz-Peytreman oscillator strengths scale *(Russian)* 1−49594
supernova remnants, young, possible nonuniform abundances rel. to Type I supernova model 1−9612
trace element distrib. from ion probe anal. 1−36230
workshop on cosmic abundances, Livorno, Italy (October 1979) *(Italian)* 1−5020
C in Nova Herculis 1934 ejecta spectral data 1−17845
CNO/He ratio in magnetosphere outer zone low altitude regions 1−40273
Ca abundance in GD 401 (=Gr 451), DB He white dwarf 1−49643
Cd, concs. and aquatic chemistry in heavy metal contaminated lake 1−13193
Fe abundance in rich galaxy clusters from protogalactic evolution model 1−13865
Fe/H in Hyades star cluster 1−22850
Fe/H ratio in late type supergiants throughout galactic disc 1−36273
Fe-peak abundances in nuclei of galaxies M 31, M 81 and M 94 1−22876
H II regions abundance determ. using two empirical methods, critical anal. 1−40354
H II regions ionisation fronts effect of He and trace elements abundances on struct. 1−32742
He, abundance vars. among young star clusters and associations 1−36272
He, evidence for abundance differences across Galaxy from globular cluster luminosity functions 1−36364
He fraction in Saturn atmosphere, estimate from Pioneer 11 radio occultation 1−40401
He/H/Ne/O in interstellar medium, enrichment by planetary nebulae 1−54599
He^+/H^+ in DR 21 H II region, effect of press. broadening 1−27626
Hg-Mn stars, effect of oscillator strengths of Zr, Sr and Y 1−37145
Li abundance in red giants giving solar neighbourhood stellar birthrate 1−13758
Li in flare stars by a non-LTE method, visible spectra 1−54519
Mg abundance in GD 401 (=Gr 451), DB He white dwarf 1−49643
Mo in solar photosphere 1−44532
N/O in H II regions, abundance ratio from obs. of O III, O I and N III IR fine struct. lines 1−17888
^{14}N abundance in Wolf-Rayet stars, constraint on form. theory 1−49674
Ne cosmic abundance determ., effects of multiply charged ions charge transfer with H 1−32615
Pb in air over Antwerp, Belgium 1−35729
Pt-group elements in magmatic sulphide ores 1−32410
Pu, fallout radionuclide, in Pacific Ocean 1−9180
Rn in groundwater from Sungpan-Pingwu earthquake (1976) *(Chinese)* 1−4430
Rn in underground water in landslide zone, Narao district, Nagano Prefecture 1−9182
S/H, abundance ratio determ. in gaseous nebulae 1−44606
Sc abundance in photosphere from visible synthetic profile calcs. 1−44531
element relative abundance continued
Si, solar and meteoritic abundance 1−54442
Th abundance in continental crust and sedimentary rocks 1−49237
Th-HF-Ta diagram for identical of igneous rock crustal contamination 1−13417
Xe/Ar, rare gas evidence of mantle-crust material interaction 1−17570
Y in solar photosphere 1−44532
Zn, concs. and aquatic chemistry in heavy metal contaminated lake 1−13193

elemental semiconductors
amorphous, H incorporation, effects on electronic and struct. props., review 1−52067
core-level binding shifts, Born-Haber cycle 1−47037
crystal growth at the Research Institute for Technical Physics 1−8206
crystal growth by sputtering review book contrib. 1−48260
diamond:Fe, in-beam implantation, Mossbauer effect study 1−16507
diamond, average band gap 1−7516
diamond, channelling radiation from relativistic positrons 1−7222
diamond, electron radiation spectra, orientation depend. struct. *(Russian)* 1−2542
diamond, GR defect, high-resolution luminesc.-excitation spectra 1−39140
diamond, hot electron phenomena, microscopic models 1−47662
diamond, hot-hole transport theory and expt. 1−16296
diamond, laser modulated absorpt., photoconductivity 1−26238
diamond, LCAO calcs. in solid state, parameteristation 1−12014
diamond, self-consistent electronic struct. LMTO-ASA calcs. 1−20621
diamond, semiconducting, electron irradiated, photoenhancement of photocond. 1−42816
diamond, synthetic, doped with B during synthesis, S-type current voltage characteristics 1−20766
diamond, synthetic films, H occurrence, IR spectroscopy 1−8080
diamond (100) surface reconstruction, dimer bond form., cluster calc. 1−52408
diamond (111) 1×1 surface valence band structure, band bending and band gap states 1−16334
diamond (111) Schottky barrier and electronic surface props. 1−16333
diamond (111) surface reconstruction modelled by small clusters, MINDO/3 calc. 1−52405
diamond-Al(Au), Schottky barriers, photoelectron spectra meas. 1−30808
electrode, photoelectrochem., effects of inversion layer 1−4097
n-Ge, galvanomagnetic recombination effect, temp.-depend. 1−42799
GE (110), photoelectron diffr. effects., XPS angular distribs. 1−53050
graphite, band structure calc., cellular method 1−52480
graphite, freeze-out effect and longitudinal magnetoresist. in quantum limit 1−47679
ion implanted with ^{119}Sn, isomer shift study 1−16509
ion-damaged, extended, interstitial chains and dislocation dipoles, electron microscopy study 1−47076
light transmittance, intermediate layer effect 1−7742
metal-Si Schottky barrier tunnel junctions, tunnelling, proton irrad. effects 1−47732
metal-Si solar cells, barrier height determ. under illumination and fill-factor calc. 1−21881
NMR in impurity bands, metal-nonmetal transition region 1−47959
photon degradation, dissociation of defect pairs 1−13135
reconstructed surface, atomic geometry, surface states 1−52401
n-Si, acceptors induced by plastic deform. 1−12062
Si, Czochralski crystal growth, heterogeneous impurity incorporation, lateral microscopic growth model 1−38312
solubility and diffusion coeff. in Pb, appl. to LPE growth of Ge on GaAs 1−11864
SOS, ion-microprobe mass anal. appl. to ion implantation 1−25299
SOS films, ion implantation damaged, picosecond photocond., carrier lifetime 1−42809
SOS structure, 20 Å layers, stimulated Raman scatt. study 1−15216
surface, model impurities sorption during chemical polishing 1−53324
Al-polycrystalline Si-SiO_2, threshold voltage increase and charge distrib. at SiO_2-Si interface *(Russian)* 1−3066
Al-Si interface structure in Schottky-barrier diodes *(Russian)* 1−3064
Al-Si junctions, ballistic electron injection, phonon spectroscopy of Al 1−3061
Al-Si_3N_4-Si, interface charge beneath laser-annealed insulators 1−3070
Al-SiO_2-Si, interface charge beneath laser-annealed insulators 1−3070
Al-SiO_2-Si:P Schottky barrier diodes, electron transport, fabrication 1−7707
Al-SiO_2-p-Si MIS solar cells current mechanism 1−21880
AlN/Si MIS struct., elec. characts., interface states 1−47747
As, amorphous, elec. and optical props., review 1−47632
Au-cermet-Si contacts, elec. characts. meas. 1−7744
Au-n-Si Schottky barrier height, Si grain size effect 1−38836
Au-Si amorphous interface struct., AES and EELS study 1−30575
Au-SiO_2-Si capacitor, dipole layers at metal-SiO_2 interface 1−3067
B:H, amorphous film, glow discharge deposited, resist. and doping props. 1−38778
B:H amorphous films, optical band gap, substrate temp. effect, solar cell appls. 1−48182
C, amorphous film, phonon-assisted hopping cond. meas. *(French)* 1−47656
C-Ge(Si):B, double layer struct., implanted ion distrib. backscattering meas. 1−7201
CdS-Si heterojunction solar cells, photovoltaic props. meas. 1−8704
$CoSi_2$-Si, heterostruct. growth by MBE 1−16692
Cr-Si thin film interactions, silicide phase form., Rutherford backscatt. obs. 1−38679
Ge (001) surface, 2×1 reconstruction, LEED spectra, dimer models 1−38631
Ge (100) surfaces, atomic steps, RHEED study 1−11964
Ge (111) surface reconstruction origins and mechanisms 1−16329
Ge, (111) surface struct. after pulsed laser annealing 1−7433
Ge, (111) stressed, two-component electron-hole liq. phase separation, time resolved luminesc. spectra 1−34632
Ge, absorption edge in direct transition region after fast neutron bombardment 1−30283
p-Ge, absorption saturation around 10.6 μm, temporal and spectral characts., theory 1−46460
Ge, amorphous, filamentation of current, sample geometry influence 1−3027
Ge, amorphous, negative differential resistance, geometry effects 1−47668
Ge, amorphous, neutron diffr. study 1−30069
Ge, amorphous, pure and hydrogenated, for IR absorption 1−12502

elemental semiconductors continued
Ge amorphous thin films, sputtered and evaporated, DC cond. 1−12108
Ge, amorphous/metal system, short range order modelling and bonding 1−25169
Ge, amplified phase-conjugate reflection through degenerate four-wave mixing at 10.6 μm 1−41767
Ge, artificial epitaxy (diataxy) on amorphous quartz substrates 1−7482
Ge autoepitaxial layers, deformation elimination by B and Ga doping 1−30256
Ge, average band gap 1−7516
Ge, axial dechannelling, diffusion calc. 1−52199
Ge, ballistic phonon imaging, heat-pulse method 1−34439
Ge bicrystal, partial secondary dislocations in grain boundaries, periodic network case 1−42396
Ge bicrystal, partial secondary dislocations in grain boundaries, reactions between external dislocations and boundary 1−42397
Ge, bound exciton level fine struct. in multiexciton complexes *(Russian)* 1−2878
Ge, carrier mobility, effect of surface recombination rate in presence of mag. field 1−42800
Ge, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
n-Ge, cascade capture of nonequilibrium carriers 1−2988
Ge, chemisorption of Cl on (111) surface, adsorbed site determ. *(Chinese)* 1−47363
Ge clean surface, electrical conductivity, Hall mobility 1−52640
Ge, compensated, elec. transient processes 1−38786
p-Ge, components of the even photoelectromagnetic effect 1−42820
Ge, constricted segments on faulted dipoles 1−2452
Ge, core-exciton shifts, XPS spectra 1−16235
Ge crysts. evolution of dislocation path distrib. *(Russian)* 1−34350
Ge, Czochralski crystal growth, heterogeneous impurity incorporation, lateral microscopic growth model 1−38312
Ge, dangling bonds during laser irrad. 1−12060
Ge, deformed, electron-hole liquid formation and props. 1−20639
Ge, deformed, shallow dislocation states, thermal treatment effects 1−52522
Ge, dielectric function expansion into elementary parts, intrinsic absorpt. spectra 1−16578
Ge diffusion of Cu stimulated by H atom recombination at low temp. 1−38603
Ge, direct gap semicond., direct gap, temp. depend., pseudopot. calc. 1−47470
Ge, divacancy prod. and annealing, electron beam irrad., orientation depend. determ. 1−47081
Ge, doped, far-IR and photocond. obs. of impurity bands 1−48126
Ge, dynamic deform. and Debye-Waller factors, 1-1000K 1−16004
Ge, elastic uniaxially strained, band gap collapse 1−42684
Ge, electron and phonon spectra, press. depend. 1−34607
Ge, electron mobilities from linearised Poisson eqn. for impurity-ion pot. 1−2964
Ge, electron-hole drop, far IR magneto-oscills. 1−48041
Ge, electron-hole drop drag by deform. pulse due to laser irrad. *(Russian)* 1−2973
Ge electron-hole drop recomb. time, theory 1−12124
Ge, electron-hole droplet and ballistic phonon imaging 1−16237
Ge, electron-hole droplet cloud, effect of phonon flux singularities 1−47491
Ge, electron-hole droplet interaction with dislocations, luminesc. obs. 1−12579
Ge, electron-hole droplets dragged by laser-induced deform. pulse 1−47492
Ge, electron-hole drops, free excitons, free carriers, magnetoplasma resonance study 1−20638
Ge, electron-hole drops, static friction mechanism 1−42698
Ge, electron-hole plasma resistivity, Fermi surface anisotropy influence 1−20739
Ge, electron-hole system outside droplet formation region, thermodynamical props. 1−26264
Ge, electronic charge densities, pseudopot. method 1−47465
Ge, electronic structure in solid and liq. state by γ-ray Compton scatt. 1−31223
Ge, electroreflectance spectra, influence of quantisation in sub-surface region *(Russian)* 1−3369
Ge, energy parameter estimates of defect complexes 1−42720
Ge, excited hole state of donor bound excitons and parity selection rule 1−3457
Ge excitonic binding, free carrier screening, spectroscopic search 1−3416
Ge, extinction contour in electron microscopic images 1−11643
Ge, field-emission props., O adsorption influence 1−3582
Ge film deposition on Si, by ion cluster beams 1−12659
Ge, forbidden-reflection method for absorption coefficient measurement in many-wave X-ray diffraction in single crystals 1−52026
Ge, forward-travelling phase-conjugate wave generation at 1.06 μm 1−6608
Ge, Hall effect studies in liquid N_2 cryostat, novel electromagnet design 1−14126
Ge, heat conductivity in low temp. range, internal boundary scattering 1−2716
Ge heavily doped, hopping conduction, radiative tunnel transition contrib. 1−20723
Ge, heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
Ge, heavily doped, negative magnetoresist. 1−47681
Ge, heavily doped and compensated, elec. cond., degree and method of doping effects 1−30749
Ge heavily doped compensated, metal-insulator transition 1−34628
Ge, high-intensity picosecond photoexcitation techniques 1−15234
p-Ge, hot electron phenomena, population inversion, calc. for deform. optical phonon scatt. 1−30755
Ge, hot electron phenomena, microscopic models 1−47662
Ge, hot-hole transport theory and expt. 1−16296
Ge, IR absorpt. spectroscopy developments 1−48067
Ge, impurities and excitons, far IR spectroscopy *(Japanese)* 1−3447
Ge, impurity optical absorpt. and photoionisation spectra *(Russian)* 1−43150
Ge, intensity distrib. among reflexes of six-wave X-ray scatt., reflection, fine struct. *(Russian)* 1−7129
Ge, interband Faraday rot. at L-point 1−26173
Ge, ion bombard., secondary ion and electron emissions, relax. effect 1−53034

elemental semiconductors continued
Ge, laser induced damage, optical heating 1−15925
Ge lens performance improvement for use in thermal IR 8-13 μm waveband 1−6632
p-Ge, light hole band nonparabolicity, extrinsic photocond. meas. 1−47701
n-Ge, lightly doped, chemical shift and donor-electron radius 1−34656
Ge, liq., double hard sphere model 1−30040
Ge, melt growth, Mg-O reactions for reduced O conc. 1−31336
Ge, metal-insulator transition in electron-hole system, calc. 1−16233
Ge n^+np avalanche photodiode, low-noise, performance in 0.8 to 1.5 μm region 1−45006
Ge noncrystalline, liquid-liquid phase transitions, metal-insulator transition 1−7316
p-Ge nondegenerate magnetoplasma, ATR spectrum due to surface polaritons, temp. depend., 8 mm region 1−16552
Ge, nonintrinsic, magnetoconcentration and other galvanomag. effects 1−20770
Ge, nonlinear optical absorption and ultrafast carrier relaxation physics 1−15211
Ge, p-n junction, avalanche and field emission breakdown, SHG 1−3049
Ge p-n junction, lifetime of minority charge carriers and X-ray effects, struct. defects form. 1−16357
Ge, p-n junction, secondary breakdown, current channelling, effect of external reactances on channelling stability 1−20867
Ge, phonon wind, ballistic phonons in heat pulse, interaction with e-h liquid 1−16239
Ge, photoacoustic spectra in strong absorption region 1−47174
Ge photocathode, field-emission and spectral charact., adsorption phenomena effect 1−12621
Ge, photodielectric effect obs., acceptor excited states *(Russian)* 1−20804
Ge photodiodes noise *(German)* 1−19448
Ge, photomagnetoelectric effect, least-squares fitting, semiconductor parameters determ. 1−52604
Ge, piezoreflectance study of E_1 and E_2 transitions, deform. potentials 1−3365
Ge, poly-epi simultaneous deposition, on oxide-Si, reproducible technique 1−8236
Ge, profiled single-crystals exposed to pulsed CO_2 laser, surface damage 1−31242
Ge, proton irrad., damaged surface obs. using backscatt. *(Japanese)* 1−20528
Ge, radiation defect annealing, photoluminescence study 1−20262
Ge radiation detector operating stability improvement 1−1014
Ge, refractive index and its wavelength and temp. derivatives 1−9778
Ge Renninger peak intensities in forbidden (222) reflection *(Russian)* 1−2287
Ge, self-consistent electronic struct. LMTO-ASA calcs. 1−20621
Ge, shallow acceptor spectra, even parity excited states, central cell effects, calc. 1−47533
Ge, shallow acceptors, photoionisation, cross section calc. 1−35078
Ge, shallow donors, valley-orbit splitting of 1s states, mag. field depend. 1−47581
Ge, solid phase epitaxial growth, review, book contrib. 1−47415
Ge, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
Ge substrate, ZnS epitaxial layer cryst. struct. 1−42649
Ge substrate for GaAs/AlGaAs MBE heteroface solar cell, high efficiency 1−48834
Ge, superconductivity at high press. 1−30635
Ge surface interaction with S vapour, mol. processes, etching, sulphide film form. 1−38669
Ge, surface recombination in 10^{-8} torr vacuum, chemisorbed H_2O effects 1−30805
Ge surface self-diffusion and struct. determ. by LEED refl. intensity profiles 1−25542
Ge thin films, laser annealed, Raman scatt. for diagnostics 1−21285
Ge, two-component electron-hole liq. in ⟨110⟩ stressed crysts., calc. 1−47514
Ge, two-photon absorption, band effects 1−1624
Ge, US absorpt., γ-irrad. effect 1−25382
Ge, US absorption, amplitude and orientation depend. 1−25381
Ge, ultra-pure, physics, review 1−52518
Ge, ultrapure, detector array for quantitating 3D distrib. of a radionuclide 1−13317
Ge, ultrapure, shallow O-H donor complex, photocond., stress effects, H tunnelling 1−2912
Ge, undoped, low temp. lattice thermal cond., boundary scattering 1−47309
Ge, warm carrier cond. freq. depend. 1−2997
Ge:(B,Ga), lattice deformation 1−30256
Ge:Ag(Li), impurity effects in crystn., elec. and struct. props. 1−34365
Ge:As, electrical resist. and carrier conc., polycrystallinity effect 1−7610
n-Ge:As, heavily doped, compensated, elec. cond. 1−20743
Ge:As(Bi)(P), even parity excited donor states from bound exciton two-electron transitions 1−48143
n-Ge:As(P), neutron irrad., ESR study 1−26015
Ge:As(Sb), far IR donor absorpt. and photocond., saturation 1−52970
Ge:Au, fast electron irrad., defect formation, annealing 1−20265
Ge:B, exciton condensation kinetics at high excitation levels *(Russian)* 1−30648
Ge:B, ion implanted, disturbed surface layer struct., X-ray diffr. study 1−20247
Ge:B, mag. field depend. of far IR photothermal cond. spectra 1−3008
Ge:B(P), ion implanted, lattice location of impurity ions after laser annealing 1−11778
n-Ge:Cu, elec. cond. and anomalous magnetoresist. near semicond.-metal transition 1−25744
Ge:Cu, internal friction in dislocation cores 1−25371
Ge:Cu(Sb), impurity energy level press. depend., elec. props. 1−20661
Ge:D^-, isolated D^- states and D^- complexes long-wavelength photocond. study 1−47535
Ge:Fe, in-beam implantation, Mossbauer effect study 1−16507
Ge:Fe, in-beam implantation, in external mag. field, Mossbauer spectra study 1−16508
Ge:Ga, lightly doped, US hole-burning of acceptors 1−15964
p-Ge:Ga, resonant recombination of photo-excited light holes *(Russian)* 1−34750
Ge:Hg, neutral impurity scatt., hole mobility 1−2963
Ge:In, quenched shallow acceptor ionisation energy 1−2910
Ge:In^+ (Sb^+), radiogenic Sn impurity defects 1−38365

elemental semiconductors continued
Ge:Li, thermal conductivity down to 0.06K, internal strain effect 1−16120
Ge:P, electronic thermoelec., power, 1-5K 1−38801
Ge:P, phonon cond. correction term 1−52240
Ge:P(As)(Sb), electron phonon interaction in intermediate conc. region 1−2579
Ge:Sb, ballistic heat-pulse attenuation, mag. field depend. 1−16443
Ge:Sb, compressed, acoustic wave attenuation, mag. field effect 1−34751
Ge:Sb, heavily doped, resist. and Hall maxima in metallic range, degenerate electron gas model 1−47683
Ge:Sb, impurity cond., elec., thermal, and mag. props. 1−47641
Ge:Sb, very shallow photoconduction, trapping centres 1−12149
Ge:Sb single crystal growth by Stepanov method, impurity distrib., resist. meas. 1−2359
n-Ge:Sb(As), thermal phonon scatt., mag. field and uniaxial stress effects 1−15985
Ge:Sn, Mossbauer spectra of Sn impurity atoms 1−52875
Ge/GaAs/CuBr heterojunction interface energy band discontinuity transitivity test 1−16346
Ge-electrolyte surface barrier height, ferrocene group addition effects 1−34790
Ge-GaAs (110) heterojunction, overlayer systems for ARUPS interface study 1−42852
Ge-GaAs heterojunction avalanche transit diodes, recombination props., elec. characts. 1−38847
Ge-GaAs interface, Al interlayer-controlled diffusion, XPS study 1−38600
Ge-GaAs polar (100) interface, electronic and struct. props., total energy, calc. 1−52647
Ge-GaAs(110) segregated overlayer system, electronic struct., tight binding calc. 1−52628
Ge-Mo wire structure, LPE 1−53113
Ge-ZnS dichroic dielectric IR mirror 1−41808
Ge(111) surface structure, c-2×8 unit cell 1−47340
I, amorphous semiconductor, onefold-coordinated, Raman spectra 1−35036
n-In_2O_3-p-Si heterojunction solar cells 1−4206
InP:Si, ion implanted, elec. charact., implant temp. effect 1−7196
$In_{2-x}Sn_xO_3$/Si solar cells, short circuit current 1−8707
$In_{2-x}Sn_xO_{3-y}$-SiO_x-Si solar cells, automated steady-state admittance spectroscopy for surface studies 1−26832
$LiNbO_3$-Ge, piezoelectric-semicond. layer system, SAW generation 1−25547
$LiNbO_3$-Si layered struct., acoustic-electron interaction *(Russian)* 1−2795
Ni-Si boundary, Ni_2Si to NiSi transform., Xe marker study 1−52442
Ni-Si Schottky-barrier diode, barrier height reduction by thin doped surface layer 1−7708
$NiSi_2$-Si, heterostruct. growth by MBE 1−16692
P, amorphous, elec. and optical props., review 1−47632
P, black, band struct., cryst. energies, and press. induced struct. transforms 1−47449
Pb-Si:Sb Schottky junction, localised states in reserved region, tunnelling study 1−42860
Pd-Ge-n-GaAs as-deposited contacts study 1−7735
Pd-Si, amorphous and cryst., silicide form. at interface, Raman scatt., and Rutherford backscatt. study 1−52441
Pd-SiO_2-Si MIS devices, gas effects on interface state spectrum 1−38864
Se, amorphous, acoustic and acousto-optic props. 1−26168
Se, amorphous, electrophotographic layers 1−40886
Se, amorphous, photoreceptors, residual pot. 1−43942
Se, amorphous film, thermal crystn. 1−47000
Se amorphous films, structural relax. towards enthalpic equilib., DTA *(French)* 1−42658
Se, band structure, overlap reduced semiempirical tight binding method 1−47430
Se, carrier pulse propagation, anomalous 1−7614
Se, electronic structure in solid and liq. state by γ-ray Compton scatt. 1−31223
Se film, amorphous, crystn. in electrostatic field, morphology 1−47398
Se, freshly sputtered layer, stabilisation of electrophotographic parameters 1−42823
Se, glassy, XPS under Ar ion bombard. 1−3564
Se, liq., cond. in semicond.-metal transition region at high temp. and press. 1−25775
Se, liq., expanded, ^{77}Se NMR obs. of metal-nonmetal transition 1−26056
Se, liq., pure and I doped, surface tension and heat expansion, temp. depend. *(French)* 1−25533
Se, liq., struct. and electronic transforms, ^{77}Se NMR study 1−12413
Se, magnetic susceptibility, 800 to 1200K, temp. depend. 1−34853
Se, monoclinic and triclinic, second order Raman scatt. 1−48063
Se, particle migration microfilm, elec. props., photographic sensitivity 1−3005
Se sputtering, charged particle flux, technological condition effects, mol. beam ionis. degree 1−16650
Se, trigonal, energy spectrum, press. depend. 1−2866
Se, vitreous, viscoelastic and plastic behaviour near glass transition 1−35297
Se:Li,Cl, amorphous, gap states, carrier traps, time-of-flight study 1−52472
Se/As-Se-Te/Se/poly-N-vinylcarbazole struct., photoinjection barriers meas. 1−42851
Se-based photoconductors for electrophotography spectral sensitivity 1−28087
Si, (001), LEED and workfunction changes during H chemisorption 1−38632
Si (001) MOSFET, cyclotron reson. of electron inversion layers 1−3264
Si (001) reconstructed surface, multilayer distortions, effect of H_2 adsorption, ion scatt. study 1−34559
Si (100), oxidation, effects of trichloroethane on stacking fault generation and annihilation 1−38388
Si (100), surface dimer struct., cluster calc. 1−7440
Si (100) inversion layer, phonon-limited electron mobility 1−38834
Si (100) inversion layers, cyclotron reson. lineshape under uniaxial stress 1−12207
Si (100) MOSFET, inverted surfaces, valley splitting, magneto-quantum oscillations 1−12199
Si (100) surface, atomically cleaned low temp. annealed, residual damage 1−7213
n-Si, (100) surface, electronic properties, surface treatment effects *(French)* 1−7701
elemental semiconductors continued
Si (100) surface reconstruction 1−30529
Si (100) surface reconstruction, dimer bond form., cluster calc. 1−52408
Si (100)-SiO_2 MOS inversion layers, supercond. transition temp., plasmon effect 1−20898
Si (100)N channel inversion layers, carrier concentration and mobility 1−7639
Si (111), adsorbed Ag, electronic. struct., EELS meas. and band struct. calc. 1−7699
Si (111), adsorption and initial film growth of Bi, first adlayer struct. effect on sticking coeff. 1−47386
Si (111), adsorption sites and relative stabilities of 3×1 and √3 phases of Ag 1−7471
Si (111), charge transfer reactions, review 1−30574
Si (111), clean and Au deposited, reflection electron microscopy and RHEED study 1−2788
Si (111), oxidation enhancement by very thin predeposited Au layers, AES and EELS study 1−48548
Si (111), slow electron contribution to inelastic reflection anisotropy 1−26326
Si (111) 2×1 reconstructed surface, electronic states and electron-phonon coupling 1−52636
Si (111) 7×7 surface struct., persistence under aid exposure, RHEED study 1−11963
Si (111) and (100) surfaces, core-level excitations, geometry-depend., photoemission spectra 1−3567
Si (111) cleaved faces, non-equilibrium surface state props., surface photovoltage meas. 1−7669
Si (111) cleaved stepped surfaces, conversion temp. 1−2782
Si (111) inversion layer, exchange-correlation effects, strain-enhanced valley-occupancy phase transition 1−47728
Si (111) reconstructed surface, PES from surface states 1−52620
Si (111) surface, chemisorption of HCl, UV PES study 1−11981
Si (111) surface, dislocations and atomic steps, image contrast in refl. electron microscopy 1−38635
Si (111) surface, laser annealed, buckling reconstruction, photoemission, low energy electron diffr. 1−48200
Si (111) surface, positive secondary ion emission relax. meas. 1−26352
Si (111) surface reconstruction origins and mechanisms 1−16329
Si (111) surface reconstruction modelled by small clusters, MINDO/3 calc. 1−52405
Si_x (111) surface struct. after pulsed laser annealing 1−7433
Si (111) surface with Pd monolayer, electronic struct., self-consistent pseudopotential method 1−25782
p-Si (111) surfaces, cleavage steps, electronic and struct. props., work function meas. 1−7711
Si_x (111) unreconstructed surface, vacancy electron states 1−7560
Si (111) with Al, Ag, Ni overlayers, electronic struct. PES study 1−52619
Si (111)-Au(Ag)(Ni), interface, localised state density, Schottky diode interface states 1−52654
Si (111)-Pd interface, chem. processes at liq. N_2 temp., angle-integrated photoelectron spectra obs. 1−31304
Si (111)-Pd(Pt) interfaces, electron states, cooling effect, AES and photoemission study 1−12634
Si (111)-Pt(Ni)(Pd) interface UV photoemission study of electronic props. 1−53047
Si (111)-SiO_2 MOS system, surface supercond. of inversion layer electrons 1−20912
Si (111)-SiO_2 MOS system, surface supercond., supercond. gap eqn. in weak coupling approx. 1−38886
Si (111)-(7×7) surface, atomic displacements, ion scatt. study 1−30536
Si (111)2×1, core-level binding energy shifts due to surface reconstruction, photoemission spectra 1−16659
Si (111)(6×1)-Ag surface structure, RHEED patterns, missing superlattice spots 1−2789
p-Si, ⟨100⟩ oriented, oscillatory electronic heat capacity in inversion layer in quantizing mag. field 1−52311
Si, acceptor diffusion from surface oxide sources, limiting solubility and reaction schemes 1−47238
Si, ambipolar diffusion coeff. with electron-hole scatt. 1−42788
Si amorphous, clean, absence of band-gap surface states 1−47725
Si, amorphous, elec. cond. and ESR study 1−20744
Si, amorphous, electronic struct., effect of different kinds of disorder, calc. 1−52473
Si, amorphous, epitaxial growth on (100) Si, channelling, TEM, SIMS studies 1−38677
Si, amorphous, film, surface phonon attenuation, Brillouin scatt. meas. 1−30346
Si, amorphous, glow discharge, for passivation layers, prep. 1−35188
Si, amorphous, heterojunctions, spectral and electrical measurements 1−38845
Si, amorphous, hydrogenated films deposited by ion-beam sputtering 1−43261
Si, amorphous, pure and hydrogenated, for IR absorption 1−12502
Si, amorphous, solar cells, recent advances, review 1−32026
Si, amorphous, solar cells, integrated cell module 1−48841
Si, amorphous CVD film, elec. and optical props. and localised state density *(Japanese)* 1−20608
Si amorphous film, as-evaporated and annealed magnetoresistance meas. 1−52585
Si, amorphous film, CVD prep., rel. to electronic props. *(Japanese)* 1−43271
Si, amorphous film, glow discharge prep. and props. *(Japanese)* 1−43276
Si amorphous film, prep. by reactive sputtering and props. *(Japanese)* 1−43260
Si amorphous film, spin-lattice relax. of localised states 1−34924
Si, amorphous film deposited on GaAs, SHG in in-plane waveguide 1−19387
Si amorphous film on Si single cryst., inelastic electron refl. anisotropy determ. 1−3547
Si, amorphous films, RF sputtering in silane, IR spectra and elec. cond. 1−43259
Si, amorphous glow-discharge films, internal stresses and thermal expansion coeff. 1−42661
Si, amorphous hydrogenated, light-induced radiative recomb. centres, photolum. study 1−26251
Si, amorphous junction devices, injected carrier lifetime 1−52648
Si amorphous layers, laser annealed, ordinary Raman spectroscopy 1−43132

elemental semiconductors continued
Si, amorphous MIS solar cells, energy cost anal. of fabrication and efficiency 1−17203
Si amorphous p-n junction, current-voltage characts. 1−3051
Si, amorphous RF sputtered films photoinduced effects 1−42827
Si amorphous Schottky barrier solar cell, minority carrier diffusion length, anal. 1−13126
Si, amorphous solar cells, efficiency anal. 1−32028
Si, amorphous thin film form. in low press. multipole DC discharge 1−16703
Si amorphous thin films, H content from IR spectra and (α,α), 25 MeV ang. distrib. 1−39127
Si and BP multilayer epitaxial growth on Si substrates 1−3630
Si and Si-SiO_2, proton damage range determ., bevel method 1−11798
n-Si, annealing influence on dislocation source density 1−20228
p-Si, anodic etching of defects 1−16918
Si anodic oxidation, calibration, doping profile determ. 1−48550
Si, anodic oxidation, mobile ion detection 1−16922
Si, artificial epitaxy (diataxy) on amorphous quartz substrates 1−7482
Si atomically clean surface prep. by pulsed laser irrad. 1−8456
n-Si, Auger recombination process, IR absorpt. meas. 1−21206
Si, autoepitaxy by chloride method, electroadsorptive and electrocatalytic activity 1−11988
Si avalanche-plasma light emitter, physical anal. 1−48167
Si, average band gap 1−7516
Si, axial dechannelling, diffusion calc. 1−52199
Si BSF solar cells, series resistance and maximum power, expt. determ. 1−8718
Si, band struct., non-muffin-tin APW calc. 1−47451
Si, band struct. self-consistent calcs., Compton profiles, X-ray struct. factors 1−38711
Si, biexciton form., photoluminesc. study 1−48145
Si, bombarded by O_2^+, steady state sputter yield, depend. on angle of incidence 1−21318
Si, bond charge vibr. temp. depend. 1−30132
Si, bond charges, X-ray determ. 1−25194
Si, Bragg refl., temp. depend., dislocation density effect 1−7182
Si, bulk, materials technology advances, review 1−43257
A-Si, CVD coatings, H^+ implantation, effect on photoconductive response and doping efficiency 1−4192
Si CVD film, polycryst., on SiO_2, lateral epitaxial growth by scanning CW Ar laser annealing 1−52451
Si, CVD from SiH_2Cl_2-H_2-N_2-HCl system, rate-determining reactions and surface species 1−3632
Si, CVD from SiH_4-H_2-N_2 system, rate determining reactions and surface species 1−53097
Si CVD nucleation on SiO_2 and Si_3N_4 substrates in SiH_2Cl_2-H_2-N_2 system 1−12665
Si, CVD polycryst. films on (100) Si, epitaxial alignment 1−16197
Si CVD polycryst. layers for solar cell appls., depsotion and props. 1−4179
Si, carrier diffusion under lattice temp. and carrier conc. gradients 1−42786
Si, cascade damage, simulations 1−34383
Si cells, nonequilibrium carrier diffusion length, photon and beta ray energy conversion 1−35658
Si, channelled 1.2 GeV electrons, γ-emission 1−2546
Si, channelled-ion implantation, theory, method and effects *(Japanese)* 1−15915
Si characterisation by SIMS 1−31955
Si, characteristic states of μ^+-meson muonium in longitudinal mag. field *(Russian)* 1−16518
Si, charge carrier transfer anisotropy in inversion layers *(Russian)* 1−2984
Si, charge exchange with clean surface, Si^+ Auger type charact. rel. meas. 1−26351
Si, chemical sputtering under Ar ion bombard. in XeF_2 mol. beam 1−48213
Si, chemisorption of Cl on (111) surface, adsorbed site determ. *(Chinese)* 1−47363
Si, cleaved, (111) surface, density of states from AES 1−34760
Si, coherent bremsstrahlung from relativistic channelled positrons 1−7221
Si concentrator solar cells, effects of design and process variation 1−43777
Si, conference, Wurzburg, West Germany (Oct. 1979) 1−44702
Si containing p-n junctions, EMF induced by pulsed thermal fields 1−16306
Si, core-exciton shifts, XPS spectra 1−16235
Si crystal, channelled ion energy loss, charge state depend., meas. 1−38418
Si, crystal defects, EBIC contrast anal. 1−20220
Si crystal growth, material performance for construction and contact 1−8219
Si, crystal growth from melt, nonrotational striations, invest. by etching and microscopic obs. 1−2373
Si crystal growth from melt, O_2 concentration control, by magnetically induced melt rotation 1−48249
Si, crystal growth from melt, swirling motion in rotationally symmetric flow, conservative differencing 1−52096
Si crystal multiple Czochralski growth from single crucible, solar cell appl. 1−3606
Si crystal surface, damaged layer thickness determ. by X-ray section topograph method 1−20523
Si crystallites, growth mechanism on metal-coated graphite substrate, obs. 1−47399
Si crystals, O-striation and thermally induced microdefect 1−25298
Si, Cu decoarated dislocations, IR and X-ray obs. of Cu extraction 1−25275
Si, current instability at high temp. thermal breakdown 1−20755
Si, Czochralski crystal, intrinsic gettering using microdefects, double preannealing technique 1−15886
Si Czochralski crystal pulling process for controlling O_2 content 1−48248
Si, Czochralski crystals, annealed at 800°C, oxygen-related donors, spectral study 1−26255
Si, Czochralski crystals, oxygen-related donors, Hall effect and photoluminesc. study 1−26256
Si, Czochralski grown, annealed, rod-like defects, self-interstitial nature, model 1−20243
Si, Czochralski grown cryst. struct., effect of growth rate, dia. and impurity conc. 1−3611
Si, D^+ bombarded, vol. expansion and O incorporation 1−25302

elemental semiconductors continued
Si, DC reactive sputtering in Ar-H_2, glow discharge mass spectrometry 1−43258
Si, damaged covered with metal film, laser annealing, test for epitaxial growth from melt 1−35125
Si, dangling bonds during laser irrad. 1−12060
Si, deep impurities and defects, Green's function methods, review 1−47541
Si, defect contrast, characterisation by Schottky barrier charge collection using SEM-EBIC 1−20241
Si, defect formation mechanism during heat treatment *(Chinese)* 1−25272
Si, deform. at high temps. and strain rates 1−26563
Si, deformed, electron-hole liquid formation and props. 1−20639
Si, deformed, exchange correlation energy in electron-hole fluid *(Russian)* 1−7533
Si deformed crystal dislocation recovery during annealing *(Russian)* 1−48376
Si, diamagnetic susceptibility, temp. depend. *(Rumanian)* 1−16424
Si, dielectric function expansion into elementary parts, intrinsic absorpt. spectra 1−16578
Si diffused solar cells, bias-dependent electron radiation damage 1−13143
Si, diffusion distribution of ionised impurities, microscopic obs. *(Chinese)* 1−52346
Si, diffusion of Au, kick-out mechanism 1−20472
Si, diffusion of Au, mechanism and kinetics 1−25501
Si, diffusion of B, Al_2O_3 masking props. *(Russian)* 1−11913
Si, diffusion of B and P, oxidation enhanced 1−20458
Si, diffusion of Na, surface impurity layer form. 1−20474
Si, diffusion of Sb, dislocation and vacancy generation 1−47295
Si diode dosimeter with memory, CMOS digital counter 1−9029
Si, direct anodisation at extemely low substrate temp. by O plasma *(Japanese)* 1−31702
Si, dislocation-free, anomalous X-ray transmission after electron irrad. 1−47114
Si, disordered, laser beam annealing theory 1−26315
Si, divacancies and quadrivacancies, positron lifetime and Doppler broadening meas. 1−39178
Si, donors, new type, photolum. anal. 1−47556
Si, doped crystals, influence of heat treatment on elec. props. 1−38798
Si, doping profiles simulation *(French)* 1−20469
Si doping using phosphosilicate glass diffusion source 1−34362
Si, dynamic deform. and Debye-Waller factors, 1-1000K 1−16004
Si, E-centre type defect reorientation and migration 1−2706
Si EFG ribbon crystal growth for terrestrial solar arrays 1−3613
Si, electrical defects introduced by sputtering and sputter etching 1−30820
Si, electrical resistance up to 500 kbar and down to 2.7K 1−30737
Si, electromigration of liq. metal inclusions 1−42578
Si, electron beam irrad., defect form. 1−20264
Si, electron blocking effect in channelling 1−7220
Si, electron mobilities from linearised Poisson eqn. for impurity-ion pot. 1−2964
Si, electron radiation spectra, orientation depend. struct. *(Russian)* 1−2542
Si, electron struct. at high press., struct. transition 1−2867
Si, electron warming, effect of mag. field on lag 1−20757
Si, electron-hole drop form., excitation threshold 1−2881
Si, electron-hole liq. condensation, scaling relations 1−47495
Si, electron-hole liquid, electron scatt. by impurity centres 1−38727
Si, electron-phonon interaction, photolumin. and transport phenomena 1−42493
Si, electronic states at line defects 1−20655
Si, electronically excited, valence band photoemission study 1−48220
Si, electrowinning from K_2SiF_6-molten fluoride system 1−21369
Si, energy band associated with dangling bonds, HF capacitance meas. 1−2916
Si, energy structure parameters, determ. by thermal effect of short light pulses *(Russian)* 1−52487
Si, epitaxial autodoping, flow effects 1−7489
Si, epitaxial growth in mixed flow mode 1−39243
Si epitaxial layer growth by CVD 1−8233
Si epitaxial layers, determ. of dopant concentration profile by constant current non-eqn. MOS characteristics *(Chinese)* 1−30260
Si epitaxial layers, electron velocity in high elec. fields 1−34714
Si epitaxial layers, on sapphire, crystallographic disorientation 1−2841
Si epitaxial solar cells, low temp. fabrication by ion-plating deposition 1−3635
Si epitaxial solar cells, fabrication conditions for high efficiency 1−4185
Si, etching and film form. in bromotrifluoromethane plasmas 1−31696
Si, etching by F atoms, chemiluminescence study 1−16615
Si, exciton dynamical props., far IR laser magnetoabsorpt. study 1−48040
Si, exciton-exciton elastic scatt. cross section 1−38729
Si, excitons, biexcitons, and free carriers, kinetic props., luminesc. 1−47488
Si, extinction contour in electron microscopic images 1−11643
Si film, amorphous, electroabsorption spectra 1−21171
Si film, amorphous, ion implantation and H profiling, p-n junction form. 1−52156
Si film, amorphous, optical constants determ. by analytical methods 1−53007
Si film, amorphous, RF sputtered in Ar-SiH_4 mixtures, optical and elec. characts. *(Korean)* 1−12652
Si film, growth kinetics and doping, computer simulation 1−20592
Si film, ion implanted, CW laser annealed, electrical props. 1−30851
Si film, polycryst., thickness meas., interference method 1−5277
Si film deposited in solid phase epitaxy, growth conditions 1−47402
Si film in SOS MOSFET, electron trap states 1−52672
Si film on Mo substrate, SiO_2 effectiveness for preventing Si-metal reactions 1−16202
Si film on sapphire, MOS structure, electron surface mobility,. strain effects 1−42867
Si films, amorphous, deposited at low pressure, ellipsometry application for determ. of refractive index, absorption index and thickness 1−40836
Si films, low-press. CVD, optical props. meas., 3.0 to 6.0 eV 1−48178
Si, float zone grown single cryst., impurity striations and dislocation loop series *(Chinese)* 1−20211
Si, float-zone crystal, 90° twin growth 1−34356
Si floating zone melting, gravity influence on thermocapillary convection 1−3615
Si, gas plasma etching in planar type reactor, RF freq. effect on material selectivity 1−53319

elemental semiconductors continued
Si, glide 60° partial, struct. and energy levels 1−11747
Si, graded electron conc. non-linear elec. effect 1−34718
Si graphoepitaxy using strip-heater oven 1−7485
n-Si, γ-irrad., electrically active interstitial defects 1−2510
Si, HF dielec. props., nearly free electron approx., two plasmon band model 1−38736
Si, heat pulse propag., obs. of fine splitting in transverse mode group velocities 1−2718
Si, heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
Si heavily doped, self consistent screening length calc. 1−2983
Si heavy metal gettering, in Czochralski grown wafers 1−271
Si heterojunction solar cell degradation life tests of SiO_2/n-Si and ITO/p-Si solar cells 1−4189
n-Si, hot carrier 1/f noise 1−52613
Si, hot electron phenomena, microscopic models 1−47662
Si, hot-hole transport theory and expt. 1−16296
a-Si, hydrogenated, band-to-band luminescence 1−8130
a-Si, hydrogenated, luminescence decay intensity depend. 1−8131
Si hydrogenation by electrolytic method 1−38397
Si, IR absorpt. spectroscopy developments 1−48067
Si, IR spectroscopy of quasi-two-dimensional space charge layers 1−48065
Si, impurity and defect energy levels, book contrib. 1−38748
Si, impurity decay, laser IR flaw detection 1−52128
Si, impurity diffusion, role of self-interstitials 1−38593
Si, impurity level ionisation energy determ. 1−34660
n-Si, impurity-phonon resonances, low temp. photo- and magneto-transport 1−30788
Si, insulator-metal transition of free excitons to electron-hole plasmas, luminesc. spectra 1−47490
Si interdigited back-contact solar cell, two-dimensional anal. 1−35655
Si, interstitial transition metal impurities, electronic struct., Xα calc. 1−47565
Si, intersubband-cyclotron combined resonance in a surface space-charge layer 1−52845
Si inversion layer, obs. of interaction and localisation effects in two dimensional electron gas 1−20844
Si inversion layer, quantised, electron mobility due to phonon scatt. 1−34799
Si inversion layer MOSFET, far IR emission from plasma oscills. 1−8076
Si inversion layers, exchange-correlation effects, valley occupancy phase transitions 1−52509
Si inversion layers, intervalley electron-electron coupling effect on cyclotron reson. lineshape 1−12206
Si inversion layers, intersubband spectroscopy, many-body and impurity effects 1−12506
Si inversion layers, valley degeneracy and intersubband spectroscopy 1−48068
n-Si inversion layers, valley splitting and valley degeneracy factors 1−52479
Si, ion enhanced gas-surface reactions, kinetic model for etching mechanism 1−48549
Si, ion implantaion effect on optical props. 1−12472
Si, ion implantation, book contrib. 1−47107
Si, ion implanted, disorder prod. and amorphisation 1−52188
Si, ion implanted, laser annealing, epitaxial regrowth 1−52450
Si, ion implanted, ps. pulsed laser annealing, dynamic behaviour 1−52158
Si, ion implanted, scanning-electron and pulsed-laser annealed, struct. and elec. props. 1−42401
Si, ion implanted, thermoelastic stress anal. of pulsed electron beam recrystallisation 1−7251
Si, ion projective ranges, resistance method 1−38416
Si, ion-enhanced gas-surface chem., incident ion mass depend. 1−48736
Si ion-implanted, high dose rate, nonuniformity of sheet resist. following thermal anneal 1−52166
Si, ion-implanted, laser-induced solid phase epitaxial crystn. obs. by optical refl. 1−52446
Si, ion-implanted, lattice damage annealing, photoluminesc. study 1−11776
Si ion-implanted, profile of radiation disturbed layers by spreading current probe 1−52164
Si ion-implanted wafers, α-quartz formation by pulsed laser irrad. 1−7203
Si, irradiated, uniaxial stress meas. on 0.97 eV line 1−31127
Si, laser damage zones, mosaic struct. charcts. obs. 1−26316
Si, laser induced damage, optical heating 1−15925
Si, laser-induced desorption of O 1−35126
Si layers, photoacoustic effect in laser annealing 1−20318
Si, liq., double hard sphere model 1−30040
Si, longitudinal diffusion coefficient and mobility of hot electrons 1−30754
Si, low-frequency grain-boundary capacitance 1−30736
Si low-temperature epitaxy by plasma-assisted CVD *(French)* 1−12005
Si, MDS (p-n-p-...)structures, photosensitivity spectra 1−42825
Si MIS device switching mechanism 1−3069
Si MISS, disordered two-dimensional system, conductivity, Hall effect 1−52545
Si MNOS currents at const. oxide field, temp. depend., hole trapping 1−38852
Si MOS inversion layer, at low densities, Anderson localisation 1−30830
Si MOS inversion layers, negative magnetoresistance 1−52657
Si MOS solar cells, efficiency improvement due to surface states and oxide charges 1−4183
n-Si MOS structures, interface state density calcs., effect of errors in semicond. consts. 1−38862
Si, MOS structures in nonequilib. state with carrier depletion of semicond. surface, method for investigation 1−30836
Si MOSFET, crit. temps. for obs. of valley-splitting 1−7746
Si MOSFET, emission spectra from subbands in inversion layers 1−12585
Si MOSFET, magnetic breakdown in tipped superlattice 1−52467
Si MOSFET, many-body enhancement of valley splitting at finite temp. 1−52656
Si MOSFET inversion layers, high mag. field expts., valley degeneracy 1−7756
Si MOSFET inversion layers, high-index surfaces, far-IR investigations 1−12208
Si MOSFET on sapphire and spinel, magnetocond. oscillations, (100) inversion layer obs. 1−12205

elemental semiconductors continued
Si, macroscopic inhomogeneity imaging by SEM-EBIC at Schottky barriers 1−20850
Si, magnetic flux compression by shock-induced metallic transition propagation 1−44961
Si, many-exciton and exciton-impurity complexes, spectral study 1−12552
Si, meas. of lifetime and diffusion constant of minority carriers by phase shift technique in EBIC 1−42789
Si, mechanical props. of heat treated Czochralski grown cryst. 1−35303
Si, metal-insulator transition in electron-hole system, calc. 1−16233
Si, metallurgical-grade, diffused solar cells, impurity gettering 1−4180
Si, minority carrier diffusion length meas. method 1−42790
Si, minority carrier traps, investigation using optical excitation *(German)* 1−38791
Si, monocryst., deformation at high temp., stages I and II *(French)* 1−26567
Si, multigrained, impurity segregation to grain boundaries, SIMS and AES study 1−30405
Si, muonic, quantum mechanical example, teaching 1−22975
Si n^+-p junction solar cells, lifetime, gap shrinkage, excesses minority carrier charge *(Chinese)* 1−32012
Si, nitridation, N_2 press. effect 1−39496
Si noncrystalline, liquid-liquid phase transitions, metal-insulator transition 1−7316
Si, nonradiative states and defects, photoacoustic meas. with ZnO transducer 1−3459
Si, nucleation and growth, by CVD 1−3631
Si, nucleation-controlled overgrowth from Al-Si liq. film on SiO_2 1−39251
Si on sapphire, epitaxial layer, recrystn. after CW laser irrad., implanted film rel. to CVD 1−38678
Si on sapphire films, low-temperature CVD growth, using Au ultra-thin layer 1−8235
Si, optical quality, IR refr. index meas., 400-4000 cm^{-1} 1−34999
Si, orientational population of quantum states for fast electrons in planar channeling 1−42441
Si oxidation in fluoride solns., H evolution mechanism 1−8453
Si, oxidation kinetics, role of water 1−16921
Si, oxide film growth by anodization in O plasma, appl. to fabrication of devices and ICs 1−12915
Si, oxide prep. in CW and pulse microwave plasma, elec. props. comparison 1−21610
Si p^+-n diodes, DLTS to measure current transients 1−25796
Si p^+-n structures, inversion region study using scanning optical microscope 1−30815
Si p^+-n-n^+ structure, current-voltage charcts. at high current density, e-h scatt. 1−52650
Si p^+-π-p^+ planar device, hot hole flicker noise at 78K 1−20836
Si p-i-n diodes, optical absorption of hole electron plasma 1−12136
Si p-n functions, props., medium energy electrons influence *(Russian)* 1−7715
Si p-n junction, abrasion gettering effect on swirl defects 1−15892
Si, p-n junction, avalanche and field emission breakdown, SHG 1−3049
Si p-n junction, burst noise model, carrier trapping *(German)* 1−20837
Si p-n junction, lifetime of minority charge carriers and X-ray effects, struct. defects form. 1−16357
Si p-n junction, photoelec. effect due to intraband optical heating of carriers 1−20805
Si p-n junction solar cell fabrication using glow discharge ion implantation doping 1−32031
Si PIN photodiode arrays, hybridised multichannel optical receivers 1−5400
Si, penetration of Pt, in Ti/Pt/Au beam lead metallisation systems 1−31351
Si, phonon assisted electron-hole Auger recombination 1−47671
Si, phonon boundary scatt. contrib. to lattice thermal cond. 1−47310
Si, phonon spectrum, quantum mech. force calcs. 1−52246
Si, phonons, Raman scatt. cross-sections 1−26201
Si, photoacoustic spectra in strong absorption region 1−47174
n-Si, photocapacitance study in γ-irrad. Schottky diodes 1−42819
Si photodetector, high-speed, lateral, fabricated over etched interdigital mesa 1−40848
Si photodiodes, spectral response self-calibration and interpolation 1−18293
Si, photoemission yield under two-quantum excitation 1−39218
Si, photoluminescence after laser annealing, dislocation effects 1−48128
Si photovoltaic cell, antirefl. coating and p-n junction form. by dopant diffusion 1−34360
Si photovoltaic cells for thermophotovoltaic energy convertors 1−43776
Si photovoltaic solar concentrator cells, carrier lifetime meas. by small-signal open-cct. decay method 1−53615
Si, piezoresistance and resistivity eigenvalues *(German)* 1−25724
Si, planar particles blocking dips in single cryst. *(Chinese)* 1−20281
Si, plasma etching, chem. processes, plasma emission spectrum anal. 1−43563
Si, plasma etching using SF_6 1−48538
Si pn junction solar cell fabrication by liquid phase epitaxy 1−4184
Si, poly-epi simultaneous deposition, on oxide-Si, reproducible technique 1−8236
Si, polycryst., grain size effects on Hall measurements 1−12126
Si, polycryst., planar plasma etching 1−31705
Si, polycryst. gate, low press. CVD on thin oxide, stability, elec. props. 1−34798
Si polycryst. layers obtained by pyrolytic decomp. of SiN_4, model *(Slovak)* 1−12664
Si polycryst. MIS- and SIS-structured solar cells, efficiency, stability and fabrication 1−4202
Si, polycryst. sheet growth by ribbon against drop process, cryst. and elec. charcts. 1−3640
Si, polycrystalline, damage-free polishing technique 1−48540
Si, polycrystalline, oxide film, high-elec.-field generated traps, expt. 1−47669
Si, polycrystalline, photocond. and absorption coeff. after plasma hydrogen annealing 1−38809
Si, polycrystalline, plasma etch rate acceleration caused by alkaline residues 1−48537
Si, polycrystalline, recombination velocity at grain boundaries under optical illumination 1−30760
Si, polycrystalline, solar cells, crystallographic structure effects on elec. props. 1−43779

elemental semiconductors continued
Si, polycrystalline, transient photoconductivity obs. using variable light source and detect. electronics 1−12146
Si, polycrystalline film, elec. props., mobility and dopant conc. relationship *(Chinese)* 1−30852
Si polycrystalline film, electronic conduction model 1−42876
Si, polycrystalline film deposited by chem. transport in plasma, optical spectra, XPS and other props. 1−39168
Si polycrystalline films, elec. cond. anal. 1−2956
Si, polycrystalline n-p^+ structures, switching theory 1−34752
Si polycrystalline solar cells, effect of reduction in grain boundary recombination states 1−4203
Si preparation by Na reduction by SiF_4 1−48289
Si processed wafer, test parameter inhomogeneities resulting from microdefects 1−25795
Si profiled crystal growth, die material effect on props. 1−31333
Si, proton-induced X-ray emission study of generation impurities 1−52168
n-Si, pulsed CO_2 laser annealing, free carrier absorpt., theory 1−39191
Si, pulsed laser-annealed, solid solubilities of B, Al, Ga, P, As and Sb dopants 1−11865
Si, quality characterisation techniques *(German)* 1−34708
Si, quasi-adiabatic heating, electron incidence angle influence 1−52191
a-Si, RF-sputtered, solar cells, doping effects of group-III and -V elements on conductivity 1−4191
Si, range of 50 to 1000 eV electrons, Auger line intensity meas. 1−30285
Si, rapid-quenched polycrystalline ribbon for solar cell appls. 1−4181
Si, reactive ion implantation of O_2^+ and N_2^+, surface layer comp., electron spectroscopy 1−52162
p-Si, recomb. props. of O complexes after annealing and γ-ray irrad. 1−20765
Si reconstructed (111)-7×7 surface, electronic struct., Xα-calcs. 1−52621
Si rectifiers, recombination centres in base regions, energy levels, capture coeffs. meas. *(German)* 1−52649
Si, refractive index and its wavelength and temp. derivatives 1−9778
Si, resistivity changes at grain boundaries 1−47647
Si resistivity meas., influence of O_2 on annealing 1−2979
Si, resistivity variation detection using liquid rectifying contacts, laser scanning technique 1−12138
Si resistors, low freq. elec. noise, temp. depend. 1−47719
Si ribbon crystals, 4-in. wide, growth for solar cell appls. 1−3612
Si, ribbon formation by rapid quenching *(Japanese)* 1−26514
Si ribbon growth, by inverted Stepanov process using BN die, characterisation 1−3601
Si ribbon growth by dentritic web process 1−3602
Si ribbon growth by Stepanov method, thermal component 1−53079
Si ribbon production by Stepanov method, expt. growth equipment 1−31334
Si, ribbon production from melt by Stepanov method, use in photoconvertors 1−31335
Si ribbon solar cells, effect of short wavelength illum. on bulk minority carrier diffusion length 1−35656
Si ribbon structure, growth conditions effect 1−30114
Si ribbon-to-ribbon crystal growth, dendritic struct., photovoltaic efficiency 1−3603
Si ribbons grown by capillary action shaping, struct. and elec. characterisation of defects 1−2357
Si ribbons grown by EFG, imperfections and impurities 1−2358
Si, ribbons grown by Stepanov method, twinning 1−30115
Si, ribbons produced by Stepanov method, struct. and electrophysical props. 1−30113
Si Schottky barrier solar cells, photon degradation, effect on I-V characts. 1−13141
Si, self-consistent electronic struct. LMTO-ASA calcs. 1−20621
Si semi-insulating film, H content, IR and Rutherford backscattering spectra 1−3378
Si, semi-insulating polycrystalline CO_2 CVD films characts. 1−12214
Si, semi-insulating polycryst. deposition, model based on IR spectroscopic anal. 1−20580
p-Si, semicond. electrode, illuminated, photoreduction, Fermi level pinning 1−7729
Si semiconductor laser annealing *(Hungarian)* 1−31243
Si semicrystalline solar cells, characterisation of thermally-diffused and ion-implanted cells 1−17200
Si, shallow acceptor spectra, even parity excited states, central cell effects, calc. 1−47533
n-Si, shallow donor polarisability, stress-induced shifts 1−47536
Si, shallow impurity anal. by low temp. Fourier transform IR spectroscopy 1−12536
Si, sheet, supported growth from melt on ceramic substrate 1−3639
Si single cryst., struct. under high press. and temp. conditions, X-ray and electron microscopy methods 1−30409
Si single cryst. solar cells, physico-chem. problems, operation and manufacture 1−39768
Si single neutral vacancy and vacancy-interstitial pair form. energies 1−47079
Si single-crystal film growth on SiO_2 insulating layers, lateral epitaxy by seeded solidification 1−48286
Si, Slater-Koster parameterisation and ideal-vacancy calc. 1−12024
Si, slip dislocation formation during CW laser annealing 1−47085
Si solar cell efficiency, effect of Zn impurity 1−53611
Si solar cell fabrication, BSF with fire through contacts printed on AR coating 1−4188
Si, solar cell fabrication by ion implantation and laser annealing 1−4186
Si solar cell for concentrator systems, design, fabrication and performance 1−35647
Si solar cell performance degradation by areal inhomogeneity 1−8724
Si solar cell performance calc. using energy band-gap narrowing models 1−39767
Si solar cell photon degradation: its discovery and early experimental evidence 1−13136
Si solar cells, back-surface-field, fill factor degradation due to loss of base conductivity modulation 1−53609
Si solar cells, degradation, carrier lifetime and mobility changes due to electron and proton bombardment 1−13138
Si solar cells, grain boundary and interface investigations using AES and complementary surface anal. techniques 1−21884
Si solar cells, heavily-doped n^+p junction, simplified model 1−43778
Si solar cells, $In_{2-x}Sn_xO_{3-y}$ transparent conducting coatings and 'figure of merit' 1−48843
Si solar cells, inclusion of degeneracy in anal. of heavily doped regions, Fermi-Dirac integrals of order 1/2 1−43772

elemental semiconductors continued
Si solar cells, MISIM structure *(Slovak)* 1−4196
Si solar cells, n^+pp^+ type, back-surface-field, optimum bulk layer thickness and fabrication 1−4207
Si solar cells, screen printing process for metallisation 1−32011
Si solar cells, temp. effects 1−8725
Si solar cells, thin-film polycrystalline semicond. p-n junction, efficiency calc. 1−13118
Si solar cells, using polycrystalline Si with controlled Ti additions, props. obs. 1−32015
Si solar cells fabrication, polycrystalline, high efficiency, continuous plasma deposition and laser recrystallisation 1−13122
Si solar selective absorbers, textured thin film, prep. by reactive ion etching 1−17239
Si, solid phase epitaxial growth, review, book contrib. 1−47415
Si, sputtering and secondary ion yield for O ion bombard., incidence angle depend. 1−31295
Si, stacking faults, oxidation induced, SEM obs. 1−25295
Si, stacking faults, SEM electron-beam induced current images 1−47096
Si, stacking-fault nucleation, inhibition effect of trichloroethane oxidation 1−42400
Si, stopping power for 80 to 300 keV protons, planar/random ratio, backscatt. meas. 1−20287
Si, stress apparatus for single cryst. X-ray diffr. 1−28006
Si, stressed uniaxially, electron-hole drop densities from photoluminesc. 1−42696
Si, struct. of grain boundaries, electron diffr. and microscopy studies 1−52151
Si, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
Si, structure of kinks on 90° partial, strained-bond model for dislocation motion 1−7171
Si, substitutional donors and core excitons, shallow-deep instability 1−47560
Si substrate, plasma techniques appl. *(Italian)* 1−35187
Si substrate for CVD phosphosilicate glass film, stress temp. depend. 1−2660
Si substrate for $Pb_5Ge_3O_{11}$ film, preparation and film props. 1−16204
Si substrate for phosphosilicate glass film, SiOH and SiH groups 1−16199
Si, substrate for $TiSi_2$ film, oxidation processes 1−38676
Si, substrate wafers, lattice curvature, X-ray diffr. 1−42660
Si, superconductivity at high press. 1−30635
Si surface, (111), In mol. beam deposition, growth, superstructs., elec. cond. 1−16208
Si surface, (111), Te-stabilised, struct. anal., LEED study 1−2787
Si surface, adsorption of metals from aq. electrolytes, capacity, photocapacity and current pot. of interface *(Russian)* 1−2830
Si surface, electron-phonon interaction 1−42623
Si surface, low-energy ion bombardment, radiation damage, XPS study 1−31266
Si surface, photoconductivity spin depend. resonance 1−34740
Si surface barrier particle detector, attempt to restrict active area 1−45780
Si surface barrier particle detector, active area investigation 1−45781
Si, surface latent scratch and swirl detection by scanned surface photoresponse 1−4014
Si surface preparation by Q-switched laser in ultrahigh vacuum 1−8455
Si surface reconstruction, chemical pseudopotential theory 1−52402
Si surfaces, heat transfer 1−7455
Si terrestrial solar cells, efficiency and material requirement interactions 1−39772
Si, thermally activated dislocation sources 1−11753
Si thin crystals preparation, large-area self-supporting, etching method 1−2840
Si thin epitaxial structures, meas. of doping profiles 1−20252
Si thin film, ion beam sputtered, impurity content determ. 1−25588
n-Si, thin plate, elec. transport, calc. 1−47644
Si, thin single crysts., elastically deformed, containing dislocation loops, X-ray scattering *(Russian)* 1−20219
Si, Toricelli growth of elongated crystals, in tubular and sheet form 1−48250
Si transistor, hot electron diffusion across base 1−34780
Si tunnelling MOS structures, investigation of current transport 1−30837
Si, twisted, dislocation networks, TEM study 1−20225
Si, twisted, dislocation network form. mechanism, weak-beam TEM anal. 1−20226
Si, two-component electron-hole liq. in ⟨110⟩ stressed crysts., calc. 1−47514
Si, US absorpt., γ-irrad. effect 1−25382
Si, undercutting monitoring technique in plasma etching 1−8462
Si, uniaxially stressed, dense electron-hole system and exciton-plasma transform 1−52495
Si, vacancy states, theory. Anderson negative U model 1−47540
Si wafer, grown by Czochralski, zone-floating methods, dislocation generation on polished surface 1−20217
Si wafer C content determ., apparatus and method 1−5364
Si wafer characterisation by visible light scatt. and interference *(Japanese)* 1−48627
Si wafer IR spectrum, interstitial O_2 determ., using internal calibration 1−26779
Si wafer polishing, lapping machine with soft carriers 1−8449
Si wafers, electrically active defect study with SEM 1−25802
Si wafers coating, modular equipment for sputtering *(Hungarian)* 1−31345
Si wafers testing by IR radiation, interference effects suppression by doping with As 1−7188
Si whisker, amorphous, emitter prep. for mass spectrometer *(Japanese)* 1−18327
Si whiskers, time-of-flight atom probe anal. 1−53059
Si, X-ray excited KLV Auger spectra, screening effects 1−8191
Si, X-ray scattering factors meas. from fine struct. of Laue case rocking curves 1−7044
Si, X-ray specular refl. in K-absorpt. edge anomalous dispersion region 1−31236
Si Zener diode, breakdown voltage calc. and meas. *(Rumanian)* 1−34716
Si:Al(B)(Ga)(In)(Tl), acceptor bound excitons in mag. and uniaxial stress fields 1−47484
Si:As, amorphous, phase transitions prod. by pulsed electron irrad. 1−30364

elemental semiconductors continued
Si:As, epitaxial CVD, enthalpies of doping element incorporation 1−20589
Si:As, front and back surface annealing, scanned CW CO_2-laser irradiation 1−2475
Si:As, implantation damage and annealing effect, amorphous layer form., ellipsometric obs. *(Chinese)* 1−20244
Si:As, implanted, interaction of mech. stress with residual defects 1−11774
Si:As, ion implanted, CO_2 laser induced annealing and diffusion 1−52159
Si:As, ion implanted, scanned electron beam annealing 1−42402
Si:As,Ar, ion implanted, interf. in diffusion, backscatt., elec. meas., and TEM obs. 1−2484
Si:As (B), implant diffusion enhancement by low-temp. heat treatment 1−11908
Si:As polycryst. film, sheet resist. reduction by laser irrad., implantation dose and laser wavelength effects 1−52670
Si:As polycryst. films, As segregation to grain boundaries 1−20387
Si:As wafer surfaces testing, As doping inhomogeneities visualisation and determination 1−7199
Si:As(B)(As,B), ion-induced impurity displacement, effect of Fermi level 1−11795
Si:As(B)(P)(Sb), ion range and damage distrib., Boltzmann transport equation 1−42439
Si:As(P), diffusion mechanism, vacancy generation 1−47296
Si:As(P), ion implanted, impurity-vacancy cluster interaction, ionisation enhancement 1−2501
Si:As(P) laser induced diffusion, doping profiles 1−42575
Si:As(Sb)(P), ion implantation, temp. determ. by IR reflection coeff. meas. 1−14179
Si:Au, amorphous, metal-insulator transition, review 1−47480
Si:Au, Gd, Czochralski growth, optical nuclear polarisation and NMR study of Au cluster formation 1−2492
Si:Au, laser activated, picosecond switching of multi-kilovolt DC bias at low temp. 1−12141
Si:Au, thermal carrier generation, Au energy level determ. 1−42785
Si:Au,P, nuclear polarisation, optical, in presence of deep impurity levels 1−21084
Si:Au double-injection diodes, deep centre occupancy, impurity photocond. anal. 1−20864
Si:Au p^+-n junctions, DLTS meas. and computer simulation 1−47554
Si:Au p^+n diodes, nature of Au-related defects 1−20656
Si:Au p-i-n diode with deep level, neg. resist. occurrence, criterion and expts. *(Japanese)* 1−20860
Si:B, B diffusion from doped oxide source into Si 1−39245
Si:B, deposition of B from BN diffusion source, vacancy statistics model 1−34361
Si:B, electron irrad., interstitial B, negative-U system, DLTS obs. 1−2913
Si:B, heavily doped, localised vibrations, Raman scatt. study 1−25392
Si:B, heavily doped, Raman spectra study of localized vibrs. 1−48061
Si:B, impurity conc. meas. by SIMS 1−47109
Si:B, ion implantation undermask edge, tilt angle and mask edge angle depend. 1−38402
Si:B, ion implanted, amorphous, UV irrad. effects during thermal annealing 1−30275
Si:B, ion implanted, Hall effect and resist. meas. 1−2990
Si:B, ion implanted, range parameter meas. 1−34364
Si:B, ion implanted, sheet resist. calc. as function of surface ion dose *(German)* 1−2968
Si:B, ion implanted, simulated influence of amorphous layer on B ion range 1−2548
Si:B, ion implanted and surface deposited B distrib., laser annealing effects, SIMS meas. 1−30267
Si:B, ion-implanted, B distrib. after laser annealing, SIMS depth profiling 1−15920
Si:B, ion-implanted, radiation annealing using halogen lamp 1−11773
Si:B, ion-implanted layers, annealing investigation using Hall current method 1−30772
Si:B, laser annealed, IR reflectivity and transmissivity 1−12487
Si:B, lightly doped, low temp. magneto-phonon cond. calc. 1−34527
Si:B, photoconductivity spectra, H^--like impurity state delocalisation *(Russian)* 1−3016
Si:B, polycrystalline, CVD-prepared, resistivity changes caused by thermal annealing 1−30854
Si:B, resistivity/dopant-density relationship 1−20769
Si:B,In, photoluminesc., relative impurity concs. exciton transfer 1−38399
Si:B amorphous, spectrally selective solar absorber, fabrication by glow-discharge 1−13172
Si:B autodoping during LPE 1−47101
Si:B diffusion source prep. room temp. CVD process 1−35181
Si:B doping profiles, diffused from BN sources, comparison of Thai's theory 1−11783
Si:B epitaxial layers, screw dislocations, X-ray topography, diffraction contrast 1−38371
Si:B film, on sapphire, ion implanted, Hall effect and resist. meas. 1−2990
Si:B(Li)(P), bound multiexciton complexes, exciton capture and Auger recomb. rates 1−48146
Si:B(P), amorphous CVD films, ESR study, doping effects on localised states 1−47931
Si:B(P), ion implanted, lattice location of impurity ions after laser annealing 1−11778
Si:B(P), polycrystalline thin film, effect of doping impurites on phys. properties 1−42409
Si:B(P) CVD amorphous films, heavily doped, ESR study 1−52828
a-Si:B(P) film, adsorption effects on ESR and elec. cond. 1−21050
Si:B(P)(As), ion implanted, laser annealing effects on elec. props. 1−2485
Si:B(Zn)(Al)(In), electronic eigenstates and optical lineshapes of impurities and vacancies 1−47552
Si:Cr Jahn-Teller centre, EPR spectrum, nonlinear press. effect *(Russian)* 1−7943
Si:Cr^+, spin-lattice relaxation, Debye temp. 1−26026
Si:Cu, energy levels and degeneracy ratios of impurity levels *(Japanese)* 1−2906
Si:Cu, ion implanted, depth profile meas. by ion-induced X-ray emission 1−2495
Si:Cu wafers, intrinsic rocking curve meas. by double crystal method *(Japanese)* 1−2629
n-Si:Cu(Ag)(Au), impurity states, solid solution precipitation, γ-irrad. effects 1−42718
elemental semiconductors continued
Si:D^-, isolated D^- states and D^- complexes long-wavelength photocond. study 1−47535
Si:F, amorphous, chem. bonding struct., IR absorpt. and XPS study 1−52942
Si:F, amorphous, RF sputtering prep., elec. and optical props. 1−53090
Si:F, H, amorphous, glow-discharge, electroreflectance and Raman scatt. studies 1−35044
Si:F, H, amorphous, MIS solar cells, high-efficiency, theory and expt. 1−43782
Si:F,H, amorphous, photocond., recomb. mechanisms, influence on solar energy conversion 1−42814
Si:F,H, carrier generation efficiency, photovoltaic devices 1−7662
Si:F,H amorphous films, bonding of F, IR spectra study 1−39095
Si:F,H amorphous films, IR and photoemission spectra 1−53005
Si:F,H glow-discharge films, amorphous, electronic and vibr. props., electrolyte electrorefl. and Raman spectra 1−53006
a-Si:F RF sputtered film, annealing props. 1−3622
Si:Fe, deep states, photoluminesc. study, Zeeman splitting 1−48137
Si:Fe p-n junction, deep level Fe ion dose depend. 1−16250
Si:Fe: in-beam implantation, Mossbauer effect study and channelling study 1−16507
Si:Fe^+, Jahn-Teller centres, spin-phonon interactions, spin-lattice relax. 1−21042
Si:Ga, diffusion, solid solubility, neutron activation anal. and SIMS meas. 1−38594
Si:Ga, electromigration of liq. inclusions 1−42577
Si:Ga,B, joint implantation, surface resistance 1−30255
Si:H, amorphous, compositional anisotropy and microstruct., electron microscopy, Raman and IR spectra study 1−52070
Si:H, amorphous, Compton profile meas. 1−21288
Si:H, amorphous, dehydrogenated, rehydrogenated, dark and photocond. changes 1−16310
Si:H, amorphous, derivation of low-energy optical absorption spectra from photocond. 1−3018
Si:H, amorphous, determination of the density of gap states: field effect and surface adsorption 1−30613
Si:H, amorphous, elec. and optical props., book contrib. 1−38816
Si:H, amorphous, electron Hall mobility, 200 to 550K 1−30767
Si:H, amorphous, electron transport, drift mobility and junction capacitance 1−30784
Si:H, amorphous, film-substrate and film-vacuum interfaces, field effect meas. 1−7622
Si:H, amorphous, gap states, review 1−16221
Si:H, amorphous, gap states, TSC and optically stimulated current meas. 1−52577
Si:H, amorphous, heteroface photovoltaic cells based on p-i-n junction structure 1−8711
Si:H, amorphous, internal elec. fields, luminesc. decay time meas. 1−52983
Si:H, amorphous, intrinsic and P-doped, surface photovoltage, band-bending and surface states 1−16338
Si:H, amorphous, nongeminate recomb. of photogenerated holes, meas. 1−7637
Si:H, amorphous, photoelectronic props. study using xerographic discharge techniques 1−34742
Si:H, amorphous, photogeneration, optical absorpt. and transport 1−7665
Si:H, amorphous, photoinduced optical absorpt. spectra 1−43145
Si:H, amorphous, photovoltaic cells and integrated cell module 1−8710
Si:H, amorphous, prep. from SiH_4 plasma 1−2232
Si:H, amorphous, pulsed ^1H NMR study 1−52856
Si:H, amorphous, RF sputtered, electron transport, photoelect. props. 1−4193
Si:H, amorphous, radiative recombination, high press. effect, photoluminesc. 1−48160
Si:H, amorphous, reactively sputtered, ^{29}Si NMR spectra study 1−52854
Si:H, amorphous, Schottky barrier solar cells, geminate recomb. effect on photovoltaic characts. 1−39766
Si:H, amorphous, solar cells, p-n junction, current collection mechanism obs., using spectral response analysis 1−43783
Si:H, amorphous, sputtered, effect of substrate temp. and deposition rate on photocond. 1−3012
Si:H, amorphous, struct., computer model 1−47003
Si:H, amorphous, struct. and lattice dynamic, random network model 1−52069
Si:H, amorphous, vidicon target of p-i-n struct., photocond. props. 1−42813
Si:H, amorphous evaporated film prep. and props. 1−43275
Si:H, amorphous film, luminesc. decay, surface and thickness effects 1−21251
Si:H, amorphous films, plasma-deposited, proton NMR studies 1−43025
Si:H, amorphous films, reactively sputtered, rare gas incorporation, XPS determ. 1−21346
Si:H, amorphous films, recombination, Auger effects and nongeminate recomb., luminesc. study 1−48162
Si:H, amorphous n-type, obs. of electron and hole traps by deep level transient spectroscopy 1−30668
Si:H, amorphous p-i-n drift type solar cell, germinate recomb. process, photovoltaic behaviour 1−53614
Si:H, amorphous plasma-deposited semiconductors, doping-precipitated morphology 1−47395
Si:H, amorphous solar cells, photoconductivity and transport 1−32029
Si:H, amorphous sputtered, optical props. in 0 to 13 eV photon energy range 1−31215
Si:H, amorphous thin film, band-bending, photoluminesc. study 1−52984
Si:H, amorphous thin films, chemical modification 1−32047
Si:H, crystalline and amorphous, bombardment-produced disorder and SiH bonds 1−34379
Si:H, density of states, CPA calc. 1−47425
a-Si:H, determination of states distrib. using MIS tunnel junctions 1−20609
Si:H, dopable, quasi-amorphous film prep. by ion beam deposition, struct. and props. 1−12671
Si:H, F, As, amorphous, thermoelec. power and elec. cond. meas. 1−47691
Si:H, F films, amorphous, RF glow-discharge prep., dark cond. and photocond. props. 1−34595
a-Si:H, gap state spectroscopy using two beam photoconductivity 1−38813
a-Si:H, glow discharge films for solar cells, photovoltaic props. 1−4195
Si:H, highly resistive films, acoustoelectric meas. 1−47713

elemental semiconductors continued
Si:H, P, amorphous films, plasma deposited, crystn., doping efficiency, elec. cond. 1−47393
Si:H, P film, nucleation of microcrystallites 1−47401
α-Si:H, quantum well model 1−7510
Si:H, reactively sputtered, amorphous, kinetic anal. of H evolution 1−34574
Si:H,P film, amorphous, P conc. determ. using AES 1−30262
Si:H,P films, amorphous, trap controlled dispersive transport by transient photoresponses 1−52601
Si:H amorphous film deposition, emission spectroscopy of glow-discharge and sputtering plasmas 1−29910
Si:H amorphous films, decomp. mechanism, IR spectra study 1−21720
Si:H amorphous films, glow-discharge deposition, prep. conditions and characterisation, review 1−30589
Si:H amorphous films, photocond., trapping and recombination 1−47710
Si:H amorphous Schottky barrier diodes, carrier transport model 1−8709
Si:H amorphous thin film, photoreceptor for electrophotography 1−34744
a-Si:H characterisation of glow discharge and sputtered deposited films for solar cells 1−4194
Si:H film, B doping technique using glow discharge 1−42406
Si:H films, amorphous, cond. band transport, struct. inhomogeneity effect 1−52561
Si:H films, amorphous, glow discharge prep., elec. props. 1−26392
Si:H RF sputtered films, amorphous, oscill. strengths of Si-H vibrs., charges induced by the He^+ ion bombard. 1−3517
a-Si:H Schottky barrier diode, band struct., conductance-capacitance freq. depend. 1−7704
Si:H sputtered films, amorphous, guided wave optical spectroscopy, absorpt. spectrun, 0.8 to 1.9 eV 1−53004
$Si:H_x$, amorphous, Schottky-barrier solar cells, carrier collection efficiency, diffusion model 1−48838
Si:He(Ne)(Ar)(Kr), noble gas-divacancy complexes, electron states, EHT calc. 1−30663
Si:In, U_2 photoluminesc. line, evidence for complex isoelectronic centre 1−26257
Si:In IR hybrid planes, interconnected to direct injection multiplexer 1−40858
Si:In segregation and trapping after laser-beam annealing, growth vel. depend. 1−38536
Si:In(B), exciton capture cross section, photoluminesc. 1−39153
Si:K, ion implanted, Hall effect, temp. depend. meas. 1−30770
n-Si:l, metastable high press. phase, X-ray diffr. obs. 1−2628
Si:Li, 1.045 eV vibronic band 1−3458
Si:Li, bond multiexciton luminesc. 1−8118
Si:Li, donor excitation spectrum, uniaxial stress effects, piezospectroscopy 1−48030
Si:Li, polycryst., electrolytic doping, effect on elec. props. 1−47099
n-Si:Mn, photocond., thermal quenching effect 1−20810
Si:Mn solid solution precipitation elec. props. 1−20405
Si:Mo, solar cells and crysts., impact of Mo, DLTS meas. 1−13130
Si:N amorphous film, elec. and optical props., doping influence 1−47767
$Si:N_2$, tight-binding model for deep impurity levels 1−42715
$Si:N_2^+$ implanted layer on p-Si, Corbino magnetoresist., lateral photovoltaic meas. 1−47738
Si:N(O), depth profiling by SIMS, background levels due to residual gases 1−31287
Si:Na, neutron activation determ. of Na content 1−21809
Si:O,H, amorphous, plasma deposited, luminesc. props. 1−21265
Si:O float-zone crysts., mech. strength 1−48420
$Si:O_2$ uniform impurity distrib., Czochralski growth 1−16680
Si:O(C), annealing of neutron flux defects, IR absorpt. spectra study 1−42430
Si:P, bound electron kinetics, elec. breakdown studies 1−47664
Si:P, bound multi-exciton complexes 1−47486
Si:P, bound multiexciton complex radiation lines in mag. field, polarisation and splitting 1−52993
Si:P, charge carrier interactions in multiparticle exciton-impurity complexes *(Russian)* 1−52497
Si:P, ESR and elec. activity, heat treatment effects 1−34926
Si:P, effects of dislocation on planar channelling of energetic H^+ and He^+ ions 1−38415
Si:P, elec. activity, ESR study, heat treatment effects 1−31015
Si:P, epitaxial CVD, P incorporation in Si-H-Cl-P system, temp. depend. 1−21359
Si:P, extended defects induced by ion implantation, depth profile anal. by ion channelling 1−2533
Si:P, four-particle radiative transitions of biexcitons and multiple bound excitons 1−31188
Si:P, Hall mobility, carrier hopping in impurity band 1−7644
Si:P, high frequency modulation spectroscopy of bound multiexciton complexes 1−48142
Si:P, impurity cond., elec., thermal, and mag. props. 1−47641
Si:P, ion implanted, furnace annealing, segregation, elec. props. meas. 1−15912
Si:P, ion implanted, quantitative Auger anal., chem. effects 1−20249
Si:P, ion implanted Hall effect, electrical cond. 1−2487
Si:P, ion-implanted, disordered layers, laser and thermal annealing, elec. props. 1−11780
Si:P, localised electron non-ohmic conductivity, Raman and IR spectra 1−2975
Si:P, mag. props., cluster model for amorphous antiferromagnetism 1−42973
Si:P, metal-nonmetal transition related data review 1−47474
n-Si:P, phonon scatt. during ballistic transmission of heat pulses 1−15986
Si:P, polarisation catastrophe, elec. cond. study 1−25769
Si:P, resist. distrib. after light ion bombardment, annealing effects 1−7613
Si:P, resistance profile after irrad. by light ion beam 1−7612
Si:P, sharp metal-insulator transition, zero temp. metallic cond. meas. 1−30793
Si:P, variable range hopping, surface conduction, very low temps. 1−34711
Si:P CVD films, amorphous, doping effects, light-induced ESR study 1−52827
Si:P films, amorphous, low press. CVD growth, ESR, and elec. props. 1−52449
Si:P hydrogenated amorphous film, photoconductivity thickness and spectral depend. 1−3007
Si:P ion implanted, laser annealed, furnace annealing behaviour 1−2480
Si:P ion implanted layers, damage profile determ. 1−2478

elemental semiconductors continued
Si:P resistivity rel. to dopant density obs. 1−12107
Si:P single crystals homogeneous doping using nuclear reaction, thermal neutron trapping in $_{14}{}^{30}Si$ nuclei 1−42410
$Si:P^+$, damage structs., Rutherford backscatt., TEM study 1−38393
Si:P(Ar) ion implanted, radiation damage and defect annealing investigated using Rutherford backscatt. and EPR meas. *(German)* 1−20245
Si:P(As), capture impurities by crystal growth from gas phase 1−7104
Si:P(As), crystal pot. investigated by convergent beam electron diffr. technique, doping influence 1−7198
Si:P(As)(Li)(Li,O), electronic excitation spectra of donors, linewidth study 1−52976
Si:P(B) amorphous films, ion implanted, elec. cond. meas. 1−52671
Si:P(B)(As), dopant segregation, Hall and resist. meas. 1−38401
Si:P(P,B), depth profiling by Cs^+ bombardment negative SIMS 1−30263
Si:Pb(As), ion implanted, near surface regrowth effects 1−38390
Si:Pt, extrinsic photoconductivity, temp. depend. 1−20795
Si:S, deep centres, thermal electron emission 1−7554
Si:S, deep level isotopic effect optical study 1−34648
Si:S(Se), deep donor levels, excited states meas. 1−47567
Si:S(Se), excited donor states determ. by junction space charge techniques 1−47545
Si:Se, B, optical excitation spectra 1−16590
Si:Se, deep energy level chemical identification 1−42714
$Si:SiO_2$, IR absorpt. spectra, LO band due to SiO_2 platelets 1−39124
Si:Sn, ion implanted, annealed, β-Sn precip., Mossbauer study 1−7341
Si:Sn, Mossbauer spectra of Sn impurity atoms 1−52875
Si:Sn, structural state of implanted ^{119}Sn atoms 1−52163
Si:Te(Ag), ion implanted, solute trapping by moving interface 1−30470
Si:Ti(Zr)(Hf), exchange impurity levels and photocond. 1−47709
Si:V, B, hole capture conc. at V centres, effect of B conc. 1−47672
Si:Yb, laser annealing after ion implantation 1−25308
n-Si/electrolyte photoelectrochemical system, surface charge and specific ion adsorption effects 1−42858
Si/GaP(110) interface and superlattice electronic struct. 1−52635
Si/Ni (Au) interface formation, interdiffusion, metallisation 1−52364
n-Si/Ni-P, ohmic contact form. by electroless plating, contact resist. variation with P conc. 1−30821
Si/Pt superstructures on Si (111) and (100), LEED, AES study 1−16194
Si/SiO_2 interface, Auger lineshape calc., chemisorbed O effects 1−43226
Si/SiO_2 interface inversion layer electron scatt. by polar interface phonons 1−16376
Si/SiO_2 system, SiO_2 viscoelastic behaviour during heat treatment, X-ray topography study 1−39362
Si-Al interface, PES and Auger studies 1−53046
n^+-Si-Al point contacts, ballistic electron injection, phonon spectroscopy and impurity-enhanced inelastic scatt. 1−3060
n-Si-Al Schottky barrier, recrystallised, charact. 1−38849
Si-B3 interstitial complex, spatial distrib. after H^+ ion implantation, EPR meas. 1−11743
Si-Cr thin film struct., amorphous Si, interdiffusion, compound form. 1−42640
Si-electrolyte, surface barrier height, ferrocene group addition effects 1−34790
Si-electrolyte interface, anodic dissolution and carrier conc. profiling 1−20868
Si-F,B sputtered films, amorphous, doping effect on cond., p-n junction form. 1−52562
Si-GaP heterojunction V-groove multijunction solar cells 1−53612
Si-Ge p-n heterojunctions, current-voltage charact. 1−52651
Si-Ge:Bi, double layer struct., implanted ion distrib. backscattering meas. 1−7201
Si-$LiNbO_3$ layer struct., transverse acoustoelec. effect meas. 1−25766
Si-Mo(Pd)(Ta) interface, implantation induced silicide form., SIMS study 1−30576
Si-O, amorphous, electronic struct. of O impurity atom., LCAO calc. 1−12064
Si-on-ceramic material for low cost solar cell fabrication 1−17209
Si-on-sapphire, time-resolved cond. and refl. during laser annealing 1−52563
Si-on-sapphire epitaxial layers, bulk traps by conductance DLTS 1−52519
Si-Pd medium power diodes, laser irrad. formed contacts 1−20870
Si-Pd Schottky contacts, comparison with InP and GaAs Schottky diodes 1−34795
n-Si-Pd_2Si contact interface, modification by ion implantation, I-V charcts. 1−7734
Si-Pt_xSi shallow contacts, codeposited Pt_2Si and $Pt_{1.2}Si$, struct., Schottky barrier height 1−12188
$Si-SO_2$ interface, admittance meas., localised electron states 1−38856
Si-SiC heterojunction, elec. and photoelectric props. 1−42854
$Si-SiO_2$, interface, evidence for SiO using surface soft X-ray absorpt. near edge spectroscopy 1−8159
$Si-SiO_2$, MOSFET, lattice scatt. mobility of n-inversion layers at low temp. 1−7752
$Si-SiO_2$ equivalent charges, electrophysical props. 1−30833
$Si-SiO_2$ interface, fully macroscopic description 1−42842
$Si-SiO_2$ interface, high temp. annealing effect on bulk lifetime spatial variation 1−7745
$Si-SiO_2$ interface, interaction induced transition at low densities in inversion layer 1−7755
$Si-SiO_2$ interface, localised states, review 1−30801
$Si-SiO_2$ interface, MeV ion backscatt. study 1−16647
$Si-SiO_2$ interface, morphological obs. 1−7480
$Si-SiO_2$ interface, one dimensional periodic struct. *(Russian)* 1−2786
$Si-SiO_2$ interface, polaron and bipolaron states in inversion layers 1−7694
$Si-SiO_2$ interface, quasi-two-dimensional electron systems in space charge layers 1−7747
$Si-SiO_2$ interface, quasi-two-dimens. impurity bands in inversion layers 1−47753
$Si-SiO_2$ interface, struct. and electronic props. of SiO_x region 1−20576
$Si-SiO_2$ interface electronic struct., EELS study 1−42866
$Si-SiO_2$ interface in weak inversion, electron mobility, percolation model for high oxide charge samples 1−7748
$Si-SiO_2$ interface state field generation in γ-irrad. MIS struct. *(Russian)* 1−3043
$Si-SiO_2$ interface states, annealing using Ar-ion-implant-damage-gettering 1−12165
$Si-SiO_2$ interface states, influence of acceptor or donor dopants 1−34800
$Si-SiO_2$ interface without gate, inherent characteristics 1−16368

elemental semiconductors continued
Si-SiO_2 interfaces, oxide uniformity determ. by XPS spectra intensity anal. 1−13061
Si-SiO_2 inversion layer, quasiparticle effective mass, ionic scatt. depend. 1−7691
Si-SiO_2 inversion layer, many-body effects and electron mobility, room temp. 1−7693
Si-SiO_2 inversion layer, cond. in two-dimens., effects of long range components of random pots. 1−7754
Si-SiO_2 inversion layer, plasmon dispersion, far-IR probe, review 1−12507
Si-SiO_2 inversion layers, elec. breakthroughs in vicinal planes, valley splittings 1−7695
Si-SiO_2 inversion layers, valley splitting and related phenomena, review 1−12170
Si-SiO_2 inversion layers, n-channel, electron energies calc. using self-consistent pot., valley splitting 1−12172
Si-SiO_2 MOS capacitor, (100) inversion layers, uniaxial stress effect on cyclotron reson. 1−12203
Si-SiO_2 MOS capacitors, oxide traps and interface states 1−42864
Si-SiO_2 MOS inversion layers, Hall cond. under strong mag. fields, Landau level width 1−12197
Si-SiO_2 MOS structure, (100) inversion layers, biaxial stress effect, mass bands shift, Shubnikov-de Haas spectrum 1−12204
Si-SiO_2 MOS system, electron transport in inversion layers at high mag. fields, substrate bias effect 1−12196
Si-SiO_2 MOS system, n-channel, interface effect on electronic struct., scatt. of Bloch waves 1−12171
Si-SiO_2 MOSFET, (111) surfaces, inversion layers with sixfold valley degeneracy 1−12201
Si-SiO_2 MOSFET, (110) and (111) surfaces, anomalous behaviour of electron transport 1−12202
Si-SiO_2 MOSFET, enhanced valley splitting in surface quantum states, temp. depend. 1−12173
Si-SiO_2 MOSFET, n-channel, Coulomb scatt. in band tail 1−7749
Si-SiO_2 MOSFET, n-channel, electron-phonon interact. in inversion layers at low temp. 1−7751
Si-SiO_2 MOSFET, Na^+ contaminated, scatt. in inversion layer, temp. depend. 1−7750
Si-SiO_2 MOSFET, non-metallic cond. at low temp., two-dimens. behaviour 1−7753
Si-SiO_2 MOSFET, Shubnikov-de Haas oscillations in (100) inversion layers, lineshape analysis, valley splitting 1−12200
Si-SiO_2 MOSFET, submm. laser cyclotron reson. of inversion layers at low electron densities 1−12194
Si-SiO_2 MOST, n-channel, quantum model for Shubnikov-de Haas oscillations 1−12198
Si-SiO_2 structure, defects introduced by sputter metallisation 1−30838
Si-SiO_2 system, interface-state density determ., single freq. approx. method 1−7688
Si-SiO_2 system electrophysical props. and oxide film growth correlation 1−25807
Si-SiO_2 system exposed to O_2 plasma, radiation damage, annealing effects 1−39490
Si-SiO_2 transition regions, phys. and chem. props., state-of-the-art 1−7479
Si-SiO_2-Al MOSFET, ballistic electron injection, phonon and sub-band spectroscopy of Si inversion layers 1−3068
Si-SiO_2-$In_{2-x}Sn_xO_{3-y}$ solar cell, barrier height lowering through interface states 1−43759
Si-SiO_2-electolyte ISFET, pH effects, interface states 1−7730
Si-SiO_x interface, chemical and electronic structs., XPS, UPS, and X-ray excited Auger spectra *(French)* 1−3578
Si-SiO_x-Si, polycryst. structure, elec. cond., oxidation temp. effects 1−34772
Si-siloxane interface in IGFET, fabrication, charcts. 1−7741
Si-TiN(TaN)-Al intermetallic, high temp. stable contact structs. 1−11984
Si_xGe_{1-x}-GaAs heterojunction avalanche transit diodes, recombination props., elec. charcts. 1−38847
a-SiH_x film, photoconductivity, optical absorpt. edge 1−30779
SiH(D)(F), amorphous, acoustic local mode, IR and Raman spectra meas. 1−12497
Si(III)-Au interface, evidence of intermixing at low temp. 1−20399
SiO-Ge-Al solar selective absorber produced by optical multilayer coatings *(Japanese)* 1−21899
SiO-Te evaporated MIS struct., interface state density determ. 1−20876
SiO_2:B-SiO_2-Si, two-step diffusion of B into Si by spin-on source *(Korean)* 1−25507
SiO_2-Si, chemically grown SiO_2 films, phys. and elec. props. 1−48254
Si(100) and (110), surface states and O_2 adsorption, reflectometric study 1−8095
Si(111) 2×1 cleaned surfaces, dangling-bond states, surface photovoltage and photocond. and LEED meas. 1−7668
Si(111) 7×7, $L_{2,3}$ VV Auger spectrum lineshape, changes induced by adsorption and ion bombardment 1−8171
Si(111) 7×7 surface, angle-resolved photoemission study 1−8196
Si(111), adsorption and desorpion of CO and O_2, ion scatt. spectroscopy study 1−8181
Si(111), bonding states during thermal oxidation, AES study 1−8172
Si(111), electronic struct., angle-resolved photoemission study 1−8195
Si(111) surface, multiple scattering in MEED, short-wavelength approx. 1−25126
Si(111) surfaces, atomic struct. 1−7438
Si(111)/SiO_2 interface, superconductivity mechanism 1−52685
Si(111)-Ge heterojunction interface, band discontinuity investigation 1−7689
a-Si:F, H glow discharge films, for solar cells, photovoltaic props. 1−4195
α-Sn, electronic charge densities, pseudopot. method 1−47465
α-Sn, n-type, acceptor resonances and electrically active point defects, galvanomagnetic and thermoelec. meas. 1−34657
Te, bulk monocryst. and film polycryst., photocond. thickness depend. 1−38808
Te clusters in NiNaX zeolite, current instability threshold 1−2978
Te film optical constants for data recording media 1−46475
Te, frequency stabilised CW source, 5 μm region, by doubling freqs. of CO_2 laser 1−37545
Te granular film, reson. absorpt. band in UV spectral region 1−43201
Te MOS structs., surface states 1−34767
Te, negative differential cond. at high electric fields 1−25738
Te, nuclear quadruple interaction, electronic props. 1−12082
Te surface, optical props. of quasi two-dimens. electron systems 1−12482
elemental semiconductors continued
Te, trigonal, relativistically corrected band edges at corner point H 1−47450
Te, trigonal, self consistent electronic spectrum, press. depend. of energy spectrum 1−12025
Te, trigonal, self-consistent electronic spectrum, charge and momentum density and compton profile 1−12026
Te-Se-Cd rectifying struct., deep carrier traps 1−7635

elementary particle coupling constants
axial gauge gluon propagator, gauge coupling constant IR props., colour confinement 1−5588
currents, commutators of second class axial currents with normal weak currents and consequences for particle decay 1−40948
fermion-antifermion system, Bethe-Salpeter eqn., coupling consts., abnormal solns. 1−14228
few body problems in nuclear and particle physics, conf., Sesimbra, Portugal (June 1980) 1−27668
large momentum transfer exclusive interactions, anomalous dimension corrections, QCD calc. 1−14346
photon structure function, perturbative, QCD calc., sensitivity to coupling const. definition 1−14391
QCD, definition of scale parameter Λ 1−50396
QCD, infrared structure, rel. to quark confinement, running coupling const. 1−28211
QCD improvements, complex coupling const. rel. to quark confinement 1−28201
quark confinement, gauge theories, duality transform., excitations, coupling consts. 1−18390
running coupling constant, Yang-Mills QCD, Ward identity-Dyson eqn. approach 1−18393
strained vacuum, UV compensation in relativistic local quantum field theory 1−28156
$SU_1(2)\times U(1)$ embedded in larger simple group coupling constant relations 1−14313
SU(5) grand unified theory, symm. breaking, first-order phase transformation 1−33143
weak to strong coupling transition in QCD 1−28285
Z(2) lattice gauge system, critical props. in strong coupling expansions 1−431
δ(980), possible signature for four quark nature 1−14336
$e+e^-\rightarrow$jets, thrust distrib. $O(\alpha_s^2)$ corrections, comments, coupling const. 1−50448
$e^+e^-\rightarrow$h, quark scatt. off non-perturbative gluonic fields, cross section, coupling consts., QCD calc. 1−18499
$e^+e^-\rightarrow$hadron, gluon bremsstrahlung coupling const., single particle spectra, rel. to QCD 1−45327
$e^+e^-\rightarrow$hadrons, QCD validation, three-jet events, strong interaction coupling const. 1−45326
$e^+e^-\rightarrow\mu^+\mu^-(\tau^+\tau^-)$, weak neutral current coupling constant, electroweak anal. 1−534
η_b' and η_c', decay widths and masses of excited pseudoscalar states 1−50438
η_c' and η_b', decay widths and masses of excited pseudoscalar states 1−50438
K^+N parametrs, scatt. length and coupling constants, $\bar{K}N$ multichannel anal. 1−50464
KNY coupling constant, extrapolation of $K^\pm p$ forward scatt. amplitude 1−41010
$lN\rightarrow lX$, structure functions, QCD tests 1−45311
NΣK coupling constant from dispersion anal. of regeneration amplitude 1−584
νe scatt., weak neutral current coupling constant, electroweak anal. 1−534
$\nu p\rightarrow\nu(\mu^-)X$, charged to neutral current ratio, coupling consts, Weinberg-Salam prediction 1−45266
p electromagnetic form factor, asymptotic behaviour, pion-exchange, ladder approx. 1−14389
$P\rightarrow\gamma\gamma$, regularisation in vector meson dominance model, PCAC anomaly 1−18486
πd scatt., low energy, method of evolution with respect to coupling constants *(Russian)* 1−10251
πΛΣ coupling constants from Adler constraints in soft pion limit 1−23514
πN strong coupling constant, internal state functions and internal equations of particles 1−28271
πΣΣ coupling constants from Adler constraints in soft pion limit 1−23514

elementary particle decay
see also electromagnetic decays; elementary particle coupling constants; hadron decay; lepton decay; leptonic decays; nonleptonic decays; semileptonic decays
axion decay into electron pair, partial decay rate 1−14438
currents, commutators of second class axial currents with normal weak currents and consequences for particle decay 1−40948
heavy quarkonium decay, colour confining parton model 1−5597
Higgs boson hadronic decay width, renormalisation group estimate in QCD 1−50477
instanton methods in quark confinement, U(1) problem, vacuum decay 1−28200
intermediate boson decay products, ang. distrib. *(Russian)* 1−41021
neutral heavy Higgs boson decay into weak vector boson+lepton pair 1−10135
simplified parent-child formalism for spin-0 and spin-$^1/_2$ parents 1−5613
spin 3/2 leptons, prod. and decay props., V±A currents 1−601
weak decay processes and the quantization of non-unitarizable representations of causal groups 1−5465
K^0-$\bar{K}^0$decay amplitude anal. in complex energy eigenstates model 1−50410
τ, semihadronic decay, chiral dynamics 1−5669
W_γ radiative decomposition, mag. moment *(Russian)* 1−40999
W^0 leptonic decay width, standard $SU(2)\times U(1)$ model calc. 1−50479

elementary particle electromagnetic interactions
see also Weinberg model
chiral symmetry breaking in strong interactions as mechanism in electroweak interactions *(Russian)* 1−36827
electromagnetic interactions beyond quantum electrodynamics, book contrib. 1−14288
gauge symmetry appl. 1−10091
quark mass corrections, EM and weak contributions in QCD 1−5595
structure of matter, unity of concepts, book contrib. 1−36488
topological theory of electric charge for hadrons and leptons 1−50350

elementary particle electromagnetic interactions continued
e^+e^-→gluon jets, EM and weak production in high energy region 1−5638
H, EM interactions and relativistic infinite component wave eqn. 1−45139

elementary particle gravitational interactions
see also supergravity
cosmological singularity, particle production 1−28264
macroscopic phenomenon, weakness of gravitational processes compared with hadronic strong processes 1−10133
neutrino trapping by strong gravitational field in compact object 1−23082
neutron system, stable with gravitational interactions only, ground state binding energy 1−33222

elementary particle inclusive interactions
see also electron-positron inclusive interactions; elementary particle large momentum transfer interactions; pion-proton inclusive interactions; proton-proton inclusive interactions
automodelity of inclusive spectrum in dual models *(Russian)* 1−40975
Centauro process at E>1000 TeV *(Norwegian)* 1−41019
central relativistic nuclear collisions, 4 GeV/N, multiplicity distribs. *(Russian)* 1−5664
charmed meson photoproduction quasipartonic contrib. *(Russian)* 1−41017
Drell-Yan amplitude for production of massive μ-pairs, analytic structure 1−23489
EAS γ-ray bundles in 10^{14} eV collisions, high tranverse momentum and multiplicity 1−22655
electron shower equations in non-homogeneous medium *(Chinese)* 1−45301
gluon jets, heavy flavour $q\bar{q}$ pair prodn., particle distribs. 1−18449
gluon spin determ. in linearly pol. photon expts, jet prod. *(Russian)* 1−5575
hadron+hadron, high transverse momentum cross-section, analogy with Drell-Yan mechanism 1−5657
hadron+hadron, large transverse momentum jets at small angles 1−45379
hadron+hadron, lepton pair production, QCD corrections to Drell-Yan mechanism 1−10145
hadron+hadron scattering, high-p_T, QCD corrections to qq scattering process 1−590
hadron jets, parton model, perturbative QCD model, review 1−14356
hadron photoproduction, large p_T, QCD tests, gluon jet prodn. 1−18487
hadron structure and specific features of the process of multiple generation at ultrahigh energies 1−5602
hadron-hadron interactions in heavy ion-nucleus reactions, fireball properties, particle prodn. at high temp. 1−18631
hadron-nucleus, ≥50 GeV, projectile independ. of normalised charged particle multiplicity, scaling 1−33207
hadronic cascades 1−18529
hadronic collisions, longitudinal meson spectra, in quark jets, scale breaking, energy depend. *(Russian)* 1−18526
hadronic collisions, particle prodn., gluon jets, perturbative QCD 1−18392
hadronic interactions of high energy cosmic-ray observed by emulsion chambers 1−14437
hadronic temperature via event horizons, linear pots. in inclusive thermal distribs. 1−14342
heavy lepton pair prod. in pionisation region, QCD predictions *(Russian)* 1−5605
high energy scatt., parton evolution as branching process, multiplicity distrib. 1−36845
high p_T hadron prod., trigger side associated momentum, hard scatt. model 1−10278
high p_T polarisation in inclusive interactions, $W^\pm$, Z^0 exchange, interference with gluon exchange 1−18528
inclusive π prod. at large p_T, higher twist term in perturbative QCD 1−45213
jet evolution equation, hard processes sensitive to infrared structure of QCD 1−597
jet identification for high-energy events containing arbitrary number of jets 1−23483
jet production and direct photon production in QCD 1−10153
jets, leading particles plus soft particles, multiparticle unitarity constraint 1−593
jets, parton, particle distrib. in central region, steepest descent method 1−522
jets, quark-parton model for high energy interactions 1−28283
large p_t triggered events, quantum number effects, jet charge correlation, parton fragments 1−10285
leading particle effect in high energy hadronic processes 1−14435
lepton+hadron, deep inelastic collisions, gluon jet production, Monte Carlo study 1−23504
lepton-nucleon interactions deep inelastic cross-section, structure function calc. 1−28326
Low equation, no-crossing approx. multiplicity of solns. 1−10086
low-p_T problem of hadron fragmentation, clustering and hadronisation of quarks 1−10152
many particle correlations in multiple production on nuclei, multiple scatt. models 1−10277
meson isolated inclusive prod., meson wave function determ. from cross section 1−14425
meson spectroscopy, conf., Brookhaven, NY, USA (April, 1980) 1−44689
multihadron production at small P_T and quark fragmentation model 1−14325
multihadron production in coherent and semi-coherent reactions on nuclei 1−10281
multiparticle systems, principal axis 1−45368
multiple production processes, a priori and unitary restrictions *(Russian)* 1−36852
one jet inclusive hadron-hadron cross sections, large QCD corrections 1−28353
particle production models, sampling high-energy multiparticle events from inclusive single-particle distributions 1−18452
QCD, inclusive and large momentum transfer processes, perturbative theory 1−14362
QCD, jet production and direct photon production 1−10153
QCD, perturbative, beyond leading order, appls. 1−14358
QCD calculable observables, heavy quark prod., inclusive cross section 1−500
QCD jets, confinement safe charge meas. 1−14353
quark dynamics of polarization in inclusive hadron production 1−50476

elementary particle inclusive interactions continued
quark jets, fast meson spectra, transverse motion effects, counting rules *(Russian)* 1−10273
quark jets, multiplicity and correlational distrib. *(Russian)* 1−14350
quarkonium models, factorisation of deep inelastic final state interactions 1−502
regge phenomenology of inclusive reactions 1−40976
resonance electroprod., inclusive cross section at large scatt. angles 1−28328
scaling validity up to 10^{20} eV, high energy cosmic ray composition 1−44399
semi-inclusive and inclusive processes, energy depend. in quark cascade jet model 1−45232
semi-inclusive momentum distributions in two-component model 1−527
single particle inclusive forward nucleon prod. from nucleon beam, absorbed Mueller-Regge model 1−45375
soft multihadron production from partonic structure and fragmentation functions 1−5599
soft processes, clustering and hadronisation of quarks 1−10152
subnuclear matter, abnormal state prod. in high multiplicity collisions 1−33160
total cross-section and multiplicity for multiple production of hadrons 1−23484
weak charged currents in high energy inclusive neutrino physics, review 1−10107
ed→eX, short range correlations, scaling phenomena *(Russian)* 1−36870
e^+e^-→$e^+e^-\gamma^*\gamma^*$, double tagged two photon reactions, cross sections 1−18532
$e^\pm\gamma$→$e^\pm X$, photon struct. function, QCD contrib., inelastic Compton background 1−14397
e^+h→e^-X, singlet struct. function, QCD beyond leading order, space-and time-like cut vertices 1−28332
ep, 1-16 GeV^2, deep inelastic electroprod. jets, quark transverse momentum 1−10229
ep, inclusive hadron prod., quark parton model for deep inelastic reactions 1−568
ep→epp$\bar{p}$, two photon correlation function 1−45296
γd→pX, 390 MeV, possible dibaryonic resonance at 2.23 GeV/c^2 1−33190
γd→pX, dibaryon resonance search in 2.23 GeV region 1−28331
γγ off shell collisions, jet prod., flavour singlet wave function Q^2 evolution, QCD 1−10140
γγ→X, two photon collision test for quark constituents of hadrons 1−50478
γγ→X, without e^- tagging, double equivalent photon approx. including radiative corrections 1−45381
γN→l^+l^-X, circularly polarised photons, parity-violating asymmetry 1−33188
γp→DX, prod. cross-sections 1−45316
γp→$F^\pm$X, 20-70 GeV, $F^\pm$ inclusive photoprod., hadronic decay, mass 1−50442
γp→γX, large p_T, parton transverse momentum effects, QCD calc. 1−14398
γp→$\mu^+\mu^-$X, photon structure functions, QCD calcs. and possible meas. 1−10216
γp→p$\bar{p}$+x, 40-70 GeV, p$\bar{p}$ final states 1−45361
γp→π^0X, large p_T, parton transverse momentum effects, QCD calc. 1−14398
γp→π^+X+opposite side jet, pol. γ, polarised gluon jet prod. from γq→qg, gluon spin 1−569
γp→$\rho'(\omega')(\phi')$X, heavy vector meson current status 1−23506
hh→DX, charm prod. cross-section 1−45363
hh→γγX, direct photon pair prod. as QCD check 1−28354
hh→LX, large transverse momenta, Ψ, Γ production, review 1−28360
KN→ψX, cross-sections and gluon distribs. 1−10279
$K^\pm$N, 39.5 GeV/c, on W, inclusive muon pair prod. in continuum region 1−14429
$\bar{K}$p→K$\pi^+\pi^-$, N, final state $q\bar{q}$ resonances 1−45358
Kp→p$\bar{p}$X, 13-18.5 GeV, p$\bar{p}$ final states 1−45361
Kp→Xp, 50 GeV, Kπ and Λp resonant final states 1−45360
K^-p, 10, 16, 116 GeV/c, hadron prod. behaviour, jet comparison with νN and e^+e^- 1−50472
K^-p, 11 GeV, strange meson resonance (K^{*-}'s) prod. 1−45359
K^-p, 32 GeV/c, 3π rapidity correlations, inclusive and semi-inclusive diff. cross sections *(Russian)* 1−10271
K^-p, 32 GeV/c, Λ prod., fragmentation, hypercharge annihilation and polarisation effects 1−595
K^-p, 32 GeV/c inclusive production of strangeness, S=±1 vector and tensor resonances 1−5668
K^-p→K^0X, 32 GeV/c, one, two or three strange particles (K^n or Λ) in final state 1−36892
K^-p→$\pi^\pm$X, inclusive π^+/π^- ratios, extended quark recombination model with valence quark annihilation 1−28358
K^+p, 32 GeV/c, inclusive $K^{*+}(892)$ and $K^{*0}(892)$ prod., total, semi-inclusive cross sections 1−5667
K^+p, 32 GeV/c, inclusive ρ^0 and φ prod., total and semi-inclusive cross sections 1−36886
K^+p→$\Delta^{++}X^0$, 70 GeV/c, inclusive cross-section, evidence for Pomeron exchange and absorptive pion exchange 1−41018
K^+p→K^0K^0X, 32 GeV, $K_s^0K_s^0\pi^+\pi^-$ state obs. at 1.97 GeV 1−599
K^+p→K^+_s(p)X^+, 32 GeV, inclusive single and double diffractive dissociations 1−5666
K^+p→px^+, 70 GeV/c, inclusive cross-section, evidence for Pomeron exchange and absorptive pion exchange 1−41018
K^+p→$\Pi^\pm$X, 70 GeV/c, cross-sections and inclusive momentum distribs. 1−45377
K^+p→$\bar{\Xi}^+(\Xi^-)$X, 32 GeV/c, production cross-sections 1−23525
$K^\pm$p, 32 GeV/c, inclusive hadronic fragmentation and quark counting rules, structure functions 1−28356
$K^\pm$p, 39.5 GeV/c, J/ψ prod., ψ/π cross section ratio, calence quark-antiquark fusion 1−28352
$K^\pm$p, 39.5 GeV/c on W, ψ prod. cross sections 1−14428
$K^\pm$p, low p_T hadronic reactions and inclusive resonance prod., quark-parton model, review 1−10283
$K^\pm$p→ηX, triple-Regge region 1−33203
K^+p→π^0X, triple-Regge region 1−33203
lN→lX, structure functions, QCD tests 1−45311
μN→(xμ)X, x=1-5, inelastic structure functions, ψ(3100), exotic multimuon final states 1−10228
μN→mesons, 50 to 300 GeV, multimuon final states 1−45321
μN→muons, 213 GeV, multimuon final states 1−45305

elementary particle inclusive interactions continued
$\mu N \rightarrow \mu X$, deep inelastic scatt., hadron struct. functions, QCD predictions 1−45306
$\mu N \rightarrow \mu X$, up to 270 GeV, nucleon struct. functions QCD predictions 1−45307
$\mu^- N \rightarrow \mu^- \mu^- \mu^+ X$ ($\mu^- \mu^\pm X$), 10.5 GeV, trimuon and dimuon cross sections, QED trident 1−45299
$\mu^+ N \rightarrow \mu^+ X$, 280 GeV, Q^2 distribs., struct. functions 1−45308
$\mu p \rightarrow \mu \mu^+ \mu^- X$, photon structure functions, QCD calcs. and possible meas. 1−10216
$N \rightarrow DX$, prod. cross-sections 1−45316
NN, D meson prod., charm search anals., differential cross sections 1−10282
NN, high energy, secondary particle multiplicity in nuclei, hydrodynamical theory *(Russian)* 1−10272
$NN \rightarrow \pi X$, 400 GeV, meson resonance role in cumulative prod. *(Russian)* 1−41016
ν deep inelastic scattering, nonsinglet structure functions, QCD predictions 1−10143
$\nu(\bar{\nu})N$, backward p prod., inclusive characts., nuclear scaling 1−33173
νd, charged current events, current and target quark jets gluon emission 1−18467
$\nu_\mu d \rightarrow \mu^- X$, >10 GeV, ν_μ and $\bar{\nu}_\mu$ charged current cross sections 1−18464
νN inclusive reactions, isoscalar target, neutral currents, CHARM collaboration results 1−10194
$\nu N \rightarrow \mu^- h^+ X$, higher-twist effects in QCD, longitudinal phase-space model 1−33172
$\nu N \rightarrow \mu^- \mu^- \mu^+ \mu^+ X$, heavy quark cascade mechanism in scale breaking model 1−536
$\bar{\nu} N \rightarrow \mu^+ pX$, deep inelastic, Amado-Woloshyn-Frankel and Blankenbeckler Schmidt models 1−18465
$\nu N \rightarrow \mu X$, 100 GeV, CERN WA18 experiment 1−45264
$\bar{\nu} N \rightarrow \nu X$, 100 GeV, CERN WA18 experiment 1−45264
$\nu N \rightarrow X$, parton model QCD 1−14369
$\bar{\nu}^\pm N \rightarrow \mu^+ X$, c and b prodn., charmed hadron final states, QCD calc. 1−18469
$\nu_\mu N \rightarrow \mu X$, 20-200 GeV, cross-sections, struct. functions, dimuon prodn. and strange particles 1−28312
$\bar{\nu}p$, deep inelastic scattering by polarised proton in quark-parton model 1−40982
νp charged current interactions, nonstrange resonance inclusive prod. 1−540
$\nu p \rightarrow \mu^- X$, 4-10 GeV, hadron jets, gluon fragmentation 1−45267
$\nu p \rightarrow \mu^- X$, quark singlet and gluon fragmentation functions, QCD anal. 1−14367
$\nu p \rightarrow \mu^- h^\pm X$, semi-inclusive cross section non-factorisation 1−36857
$\nu p \rightarrow \nu(\mu^-)X$, charged to neutral current ratio, coupling consts, Weinberg-Salam prediction 1−45266
$\nu_\mu p \rightarrow \mu^- h$, 20 GeV strange and charm particle production, multiplicities, jets 1−28310
$\nu_\mu p \rightarrow \mu^- h^\pm X$, u-quark fragmentation, inclusive cross section, scaling deviations 1−10190
$op \rightarrow eX$; weak boson propagator, neutral current force range 1−45197
$\bar{p}(p)N \rightarrow \mu^+ \mu^- X$, 150, 200 GeV, $\bar{p}$ structure function by Drell-Yan mechanism 1−14430
$\bar{p}d$, 100 GeV/c, charged particle multiplicity distrib. 1−10275
pn, 195 GeV/c, charge transfer and rapidity gap anal. 1−10274
pN, 200 GeV, jet secondary particles, four momentum transfer 1−45370
pN, 200-240 GeV, $\pi^\pm$, $K^\pm$, p, $\bar{p}$, d, $\bar{d}$ etc. prod., long lived particle search 1−10265
pN, 24 GeV in emulsion, p, π, d, t, emission characts., p_T and p_p distribs. 1−18517
pN, 240 GeV, charged baryon and antibaryon prod. in fragmentation region 1−10276
pN, 2.3-9.9 GeV/c, in C, Ta, multinucleon interactions, multiplicities and charge distrib. *(Russian)* 1−36875
pN, 400 GeV, prompt neutrino flux, D meson prod. cross section 1−14431
pN, 400 GeV, ρ, ψ prod., prompt single μ, $\mu^+\mu^-$ pair missing energy 1−10284
pN, 400 GeV/c, prompt ν prod. from D mesons 1−14432
pN, 50-400 GeV/c, inclusive two and three particle rapidity correlations 1−50473
pN, 67, 400 GeV, maximum rapidity gap distrib., diffractive dissociation, Pomeron exchange 1−33205
pN, high energy collisions in nuclei, mean charged multiplicities 1−10264
pN, in C,Ta, 2-10 GeV/c, π^- multiplicity distribs. *(Russian)* 1−18655
$\bar{p}N$, pN, 39.5 GeV/c, on W, inclusive muon pair prod. in continuum region 1−14429
$\bar{p}N$, pN, 39.5 GeV/c on W, ψ prod. cross sections 1−14428
$pN \rightarrow \bar{\Lambda}^0 X$, 28.5 GeV/c, $\bar{\Lambda}^0$ polarisation, $\bar{\Lambda}^0/\Lambda^0$ prod. comparison 1−14426
$\bar{p}N \rightarrow \mu^+ \mu^- X$, polarised $\bar{p}$ and N, differential cross sections and asymmetries *(Chinese)* 1−18489
$pN \rightarrow \mu\nu X$, dimuon continuum meas., sea quark distrib. 1−45373
$pN \rightarrow pX$, 6.8 GeV/c, leading p spectra and differential cross sections *(Russian)* 1−18507
$pN \rightarrow phX$, Al target, hadron matter lifetime 1−18530
$pN \rightarrow \pi^+ X$, 2.2-8.5 GeV/c, on C, Pu, inclusive meson yield at 162° *(Russian)* 1−598
$pN \rightarrow \pi X$, secondary charged pion multiplicity, additive quark-parton model *(Russian)* 1−45510
$pN \rightarrow \psi X$, cross-sections and gluon distribs. 1−10279
$pN \rightarrow TX$, cross-sections and gluon distribs. 1−10279
π^-d, 100 GeV/c, charged particle multiplicity distrib. 1−10275
π^-d, 21 GeV/c, double scatt. processes, multiplicity and rapidity 1−594
π^+d, 24 GeV/c, inclusive K_s^0, Λ and $\bar{\Lambda}$ prod., cross sections and polarisation 1−33206
πN, 200, 280 GeV, massive muon pair prod., π and N structure functions 1−10218
πN, 40 GeV/c, multipion system prod., transversal momentum depend. *(Russian)* 1−18525
πN, 50-400 GeV/c, inclusive two and three particle rapidity correlations 1−50473
πN, high energy collisions in nuclei, mean charged multiplicities 1−10264
πN 200 GeV, direct electron pair prod., prod. cross sections 1−45374
$\pi N \rightarrow \psi X$, cross-sections and gluon distribs. 1−10279
$\pi^- N$, 27, 40 GeV/c, inclusive prod. of $\mu^+\mu^-$, ψ, ρ^0, ω 1−45369
π N, 4 GeV/c, in C, multiple particle prod., inclusive characts., meson resonances *(Russian)* 1−36888
$\pi^- N$, 40 GeV/c, in ^{12}C, multinucleon interactions with prod. of two Λ hyperons *(Russian)* 1−36889

elementary particle inclusive interactions continued
$\pi^- N$, 43 GeV, ρ^0 and ω inclusive prod. on Be, differential cross section *(Russian)* 1−5663
π^-N, 50 GeV, maximum rapidity gap distrib., diffractive dissociation, Pomeron exchange 1−33205
π^-N, 50 GeV/c, in emulsion, γ and π^0 prod. 1−45365
π^-n, inclusive particle production at 21, 205, 360 GeV/c, quark recombination, review 1−45378
$\pi^- N \rightarrow \mu^+ \mu^-$ +hadrons, 50 GeV, charge states for ρ-ω, J/ψ *(Russian)* 1−45376
$\pi^- N \rightarrow \pi^+ X$, 50 GeV, energy and momentum charact. in pulsed mag. field 1−36887
$\pi^- N \rightarrow \pi^\pm X(K^+X)$, 1.5-5 GeV/c, on C, Cu, Pb, inclusive meson yield at 162° *(Russian)* 1−598
$\pi^- N \rightarrow \pi X$, secondary charged pion multiplicity, additive quark-parton model *(Russian)* 1−45510
π^+n, 195 GeV/c, charge transfer and rapidity gap anal. 1−10274
$\pi^\pm$N, 39.5 GeV/c, on W, inclusive muon pair prod. in continuum region 1−14429
$\pi^\pm$N, 39.5 GeV/c on W, ψ prod. cross sections 1−14428
πp scatt., high p_T hadronic interactions and jet struct., QCD 1−10280
$\pi^- p \rightarrow K^0 K^- K^- X$, 50 and 100 GeV/c, semi-inclusive, observ. of D and E mesons and three-kaon enhancements 1−10266
$\pi^- p \rightarrow K^0 K^\pm \pi^\mp X$, 50 and 100 GeV/c, semi-inclusive, observ. of D and E mesons and three-kaon enhancements 1−10266
$\pi^- \pi^- \rightarrow \pi^- X^-$, high energy 1−10263
$\pi^- \pi^- \rightarrow \pi^+ X^{---}$, high energy 1−10263
Pn→X, 400 GeV, two-particle rapidity correlations 1−18518

elementary particle interaction models
see also bootstrapping; composite models of hadrons; diffraction model; duality and dual models; peripheral models; statistical models; vector meson dominance model; Weinberg model
baryon-baryon potential in the nonrelativistic quark model 1−28303
charmonium, magic moments in QCD and pot. models 1−33154
deep inelastic scatt., altarelli-Parisi equation in the next-to-leading order 1−14387
deep inelastic scattering, polarisation asymmetry, charged gluon contrib. spin depend. 1−511
effective energy-momentum tensor for a vector collective mode 1−23487
f_V and f_{PS} QCD based pot. model estimates, D and F lifetimes 1−14376
few body problems in nuclear and particle physics, conf., Sesimbra, Portugal (June 1980) 1−27668
high energy EM cascades, 0.03-10 TeV, Landau-Pomeranchuk-Migdal effect *(Russian)* 1−10289
high p_T hadron prod., trigger side associated momentum, hard scatt. model 1−10278
many body system labelled by different channel states, asymptotic completeness *(Chinese)* 1−18613
mesons, non-self-conjugate, in potential model with vacuum polarisation corrections 1−10180
particle production models, sampling high-energy multiparticle events from inclusive single-particle distributions 1−18452
potential model with vacuum polarisation corrections, non-self-conjugate mesons 1−10180
reaction volume in hadronic collisions, thermodynamic model, strangeness prod. 1−18454
strongly interacting matter, percolation approach, transition from hadronic to quark matter 1−18440
T-matrix for the Mongan potential 1−45247
$N\bar{N}$, low energy, potential model calc. 1−28305
$N\bar{N}$ resonances, elastic widths in one-boson-exchange potential 1−28306
$N\bar{N}$ system, potential approach 1−28304
$\bar{p}p$ scatt., absorptive pot. model, imaginary part 1−50456
πd scatt., low energy, method of evolution with respect to coupling constants *(Russian)* 1−10251
$\pi^- p \rightarrow \pi^+ \pi^- \pi^0 n$, A_1 and H axial vector resonance prod., isobar model partial wave anal. 1−50460
π^+p scattering, Coulomb corrections, off-shell sensitivity in potential models 1−28344
$Q\bar{Q}$ systems, hadronic transitions and decays, potential models 1−45246

elementary particle interactions
see also cosmic ray effects and interactions; elementary particle coupling constants; elementary particle electromagnetic interactions; elementary particle gravitational interactions; elementary particle inclusive interactions; elementary particle large momentum transfer interactions; elementary particle scattering; elementary particle strong interactions; elementary particle weak interactions; hadron-deuteron interactions; hadron-hadron interactions; high-energy cosmic ray interactions; lepton-deuteron interactions; lepton-hadron interactions; lepton-lepton interactions; photon-deuteron interactions; photon-hadron interactions; photon-lepton interactions; photon-photon interactions; polarisation in elementary particle interactions; quantum field theory of interactions; unified field theories; vertex functions
deep inelastic, parton cross sections, unique asymptotic feedom predictions 1−28297
new long range forces between massive elementary particles *(Russian)* 1−10132
ultra-cold neutrons, interactions with surfaces, construction of sources 1−18935

elementary particle large momentum transfer interactions
see also elementary particle inclusive interactions
anomalous dimension quark counting at large transferred momenta in QCD 1−50389
form factors, scattering amplitudes, perturbative QCD calc. 1−14346
gluon spin test in large momentum lepton-pair production 1−14329
hadron+hadron, high transverse momentum cross-section, analogy with Drell-Yan mechanism 1−5657
hadron+hadron scattering, high-p_T, QCD corrections to qq scattering process 1−590
hadronic processes, large transverse momentum in symmetric group model, exlusive scattering 1−45350
high p_T hadron prod., trigger side associated momentum, hard scatt. model 1−10278
high p_T polarisation in inclusive interactions, $W^\pm$, Z^0 exchange, interference with gluon exchange 1−18528
inclusive π prod. at large p_T, higher twist term in perturbative QCD 1−45213
large ang. momentum hadron pair acoplanarity distrib., double log summing 1−14421

elementary particle large momentum transfer interactions continued
large p_T photoprod., gluon physics, anomalous photon structure function 1−18450
large p_t triggered events, quantum number effects, jet charge correlation, parton fragments 1−10285
QCD, inclusive and large momentum transfer processes, perturbative theory 1−14362
quantum chromodynamics, hadron production with large transverse momenta 1−28272
quark-parton model for high energy interactions 1−28283
$SU(2)_L \times SU(2)_R \times U(1)$ model, P invariance at large momentum transfer 1−28267
symmetric hadron pairs with large transverse momenta, production cross sections in QCD *(Russian)* 1−36850
two-reggeon-two particle amplitude at large momentum transfer 1−10179
$e^+e^- \rightarrow h$, perturbative QCD appl. in large momentum transfer interactions 1−14357
$K^-p \rightarrow \pi^+\Sigma^-$, cross-sections, all-angle behaviour and phenomenological hard strings 1−10258
pp, 70 GeV, $\pi^\pm$, $K^\pm$, p, $\bar{p}$ prod. cross sections, transverse momenta 0.5-2.2 GeV/c 1−596
pp, ISR energies, direct photon events, particle correlations and charge ratios 1−28355
$\bar{p}p$, large p_T effects, intermediate and Higgs bosons, narrow charmonium like resonances 1−10288
$pp \rightarrow \gamma X$, QCD anal., large p_T photon correlations, gluon structure function 1−18527
$\bar{p}p \rightarrow \Lambda X$, pol. $\bar{p}$ and Λ, p and Λ or p and $\bar{p}$, large p_T prod., QCD factorisation test 1−14427
$pp \rightarrow \mu^+\mu^+$, perturbative QCD appl. in large momentum transfer interactions 1−14357
$\bar{p}p \rightarrow \bar{p}p$, cross-sections, all-angle behaviour and phenomenological hard strings 1−10258
$pp \rightarrow \pi^0 X$, high-p_T production cross-section at CERN ISR 1−5665
πp scatt., high p_T hadronic interactions and jet struct., QCD 1−10280
$\pi^-\pi^-$, 1-2 GeV/c, high p_T pion prod. 1−18515

elementary particle mass
see also baryon mass; lepton mass; mass differences; mass formulae; meson mass
$\lambda\phi^{4-1}/_4\phi^2$-$\mu\phi$ two-dimensional field theory, mass spectrum 1−28159
baryon mag. moments from effective quark mass 1−14386
boson, mass, first-order chiral perturbation theory, leading nonanalytic corrections using QCD 1−14323
Cabibbo angle, mass matrices classification and calculability 1−45217
currents, commutators of second class axial currents with normal weak currents and consequences for particle decay 1−40948
fermion mass, first-order chiral perturbation theory, leading nonanalytic corrections using QCD 1−14323
fermion mass relation rescaling in unified theories 1−475
Higgs boson, mass, cosmological lower bound 1−18409
hypothetical and τ-lepton exponential mass spectra *(Russian)* 1−5612
internal state functions and internal equations of particles 1−28271
International seminar on quantum chromodynamics, Jaca, Spain (June 1980) 1−13904
light current quark masses from QCD Lagrangian 1−33163
Majorana and Dirac masses, neutrino oscillations and the number of charged leptons 1−5553
particle classification, charm, strangeness and colour 1−28288
photon, mass at low temperature 1−28255
primordial fermion mass matrix, quarks and leptons, masses and mixing angles 1−14332
QCD, EM quark mass shift problem, critical anal. 1−5568
QCD, hadronic interactions, renormalisation, quark mass, large-p_T behaviour 1−14261
$Qc\bar{Q}\bar{c}$ multiquark S-wave states, mass spectra, one-gluon exchange model 1−10144
quark mass corrections, EM and weak contributions in QCD 1−5595
quark mass formula from rishon graphical representation 1−493
quark mass parameters from Goldberger Treiman relations, chiral symmetry breaking 1−45186
quark masses from vector meson spectrum, VMD and quark model 1−10170
quarks, EM form factors in instanton fields 1−560
quarks, QCD mass calc., rel. to nonperturbative scale Λ 1−14364
scalar boson, quantum flavour dynamical mass calc. 1−14364
six quark model, mass and mixing angle predictions from infra-red fixed points, grand unification 1−28262
SO(10) grand unified theory, spontaneous symm. breaking intermediate mass scales 1−14311
SO(10) unifying group, t-quark mass, tree approx., Higgs fields *(Russian)* 1−5557
spherical bootstrap calc. using dual topology unitarisation, qqq baryon multiquark hadron mass 1−23486
strained vacuum, UV compensation in relativistic local quantum field theory 1−28156
SU_5 grand unified theory, proton lifetime, neutrino mass, quark mass 1−23461
t-quark mass upper bound from duality and unitarity, χ_b and υ masses 1−10169
unified field theories, mass generation 1−14364
F^{*+} radiative widths from effective quark mass 1−14386
ΛN, light quark mass differences and charge symmetry breaking, hypernuclear binding energy 1−18510
$\pi^+p \rightarrow \pi^+(\pi^0 p)$, $(\pi^+(\pi^+ n))$, 16 GeV/c πN, $\pi\pi N$ mass enhancements, diffraction dissociation 1−5655
$\psi' \rightarrow \psi\pi^0(\eta)$, decay rate ratio and quark masses from QCD lagrangian 1−548
t-quark mass from unified model sum rule 1−33149
W boson, mass and propagator, leptonic and hadronic corrections, form factors 1−14319
Z boson, mass and propagator, leptonic and hadronic corrections, form factors 1−14319
D^{*+}, D^{*0} radiative widths from effective quark mass 1−14386
$q\bar{q}$ systems, quark mass, Feynman-Hellmann theorem limits 1−14334

elementary particle scattering
see also bootstrapping; elementary particle interactions; hadron-deuteron scattering; hadron-hadron scattering; lepton-deuteron scattering; lepton-hadron scattering; lepton-lepton scattering; Mandelstam representation; photon-deuteron scattering; photon-hadron scattering; photon-lepton scattering; photon-photon scattering; polarisation in elementary particle scattering; Pomeranchuk poles and trajectories; quantum field theory of elastic scattering; Regge poles and trajectories; relativistic scattering theory; S-matrix theory
conformal invariant two-particle scattering processes, scaling law 1−36796
gauge theories, nonAbelian, factorisation, scattering amplitude zeros 1−14255
scattering length behaviour at asymptotically large momenta *(Russian)* 1−18462

elementary particle strong interactions
see also composite models of hadrons; duality and dual models; hadron classification schemes; peripheral models; quantum field theory of strong interactions
chiral symmetry breaking in strong interactions as mechanism in electroweak interactions *(Russian)* 1−36827
confinement, rel. to classical theory of gravitation 1−18129
electron and proton magnetic spin moment anomalies in two-level vacuum polarisation unified model 1−28253
hadron scattering, strong van der Waals force universality 1−50405
internal state functions and internal equations of particles 1−28271
particle physics in 1979 *(Polish)* 1−532
Pauli's principle under strong interactions, test, SU(2) spin symmetry 1−488
QCD test, Nth moment of deep inelastic structure function, bounds for the ratio of anomalous dimensions 1−18479
subnuclear physics, problems and fundamental concepts 1−28287

elementary particle symmetry
see also chiral symmetries; conservation laws; discrete symmetries; dynamical symmetry; helicity (elementary particles); isotopic spin (elementary particles); nonlinear symmetries; spontaneous symmetry breaking; SU_n theory; supersymmetry
σ-models, relations with various symmetries 1−40931
E_6 group model, composite μ and τ families, particle spectrum, symmetry breaking 1−10127
gauge theories, forces between elementary particles 1−440
global or localised symmetries, generalised group structure 1−28234
maximal local symmetry gauged from global symmetry 1−50346
U(4) gauge field theory, local inner symm., metric vector, mass spectrum physical fields 1−10084
unitary quantisation of SU(2m+1), Lie algebra, isospin type internal symmetry 1−18400

elementary particle theory
see also Bethe-Salpeter equation; complex angular momentum plane; current algebra; dispersion relations; electron theory; elementary particle interaction models; elementary particle symmetry; Feynman diagrams; form factors (elementary particles); group theoretical schemes; helicity (elementary particles); isotopic spin (elementary particles); Lee model; mass formulae; quantum field theory; S-matrix theory; scaling phenomena; structure functions; sum rules; vertex functions
antiparticle existence and particle statistics in massive quantum field theory 1−50306
cosmic asymmetry between matter and antimatter 1−49872
dynamical theory of subconstituents based on ternary algebras 1−5611
electrodynamical particle models 1−28246
exotic states, hierarchy on molecular onia 1−23488
fine structure constant 1−18461
function generator method, application to Su(N) and quasibosons *(French)* 1−462
gauge theories, forces between elementary particles 1−440
interacting particles, relativistic theory 1−28241
internal state functions and internal equations of particles 1−28271
lepton and quark families, quantised dynamical systems 1−10137
lepton spectrum, inhomogeneous difference equation 1−14379
linear groups in particles and gravity 1−5519
Low equation, no-crossing approx. multiplicity of solns. 1−10086
multiparticle systems, principal axis 1−45368
muon mass from internal state function 1−28308
postulated low mass dibaryons, expt. width constraint, $^3P_1$ and $^1S_0$ resonances 1−489
quark and lepton families, quantised dynamical systems 1−10137
simplified parent-child formalism for spin-0 and spin-$^1/_2$ parents 1−5613
twistor particle theory 1−36555
unified field model of the free, localized electron and proton state 1−33135

elementary particle weak interactions
see also neutral currents; quantum field theory of weak interactions; Weinberg model
baryon number nonconservation 1−10134
chiral symmetry breaking in strong interactions as mechanism in electroweak interactions *(Russian)* 1−36827
conference on high energy physics, Geneva, Switzerland, (June-July 1979) 1−5026
effective weak Hamiltonian, renormalisation group eqn. soln. with flavour symmetry breaking 1−484
electron and proton magnetic spin moment anomalies in two-level vacuum polarisation unified model 1−28253
electroweak symmetry breakdown, subgroup alignment in hypercolor theories 1−33140
gauge symmetry appl. 1−10091
gauge theories of weak interactions, book 1−17950
internal state functions and internal equations of particles 1−28271
lepton number nonconservation 1−10134
muon mass from internal state function 1−28308
neutron weak spin rotation, exotic nuclear physics, weak forces, resonances 1−14316
nonleptonic effective weak Hamiltonian and QCD corrections 1−40962
parity nonconserving neutron spin rot. in Sn isotopes 1−28235
quark mass corrections, EM and weak contributions in QCD 1−5595
radiative decays, weak, of strange and charmed hadrons 1−563
Riazuddin's weak interaction gauge model, comments on renormalisabiity 1−33105
structure of matter, unity of concepts, book contrib. 1−36488
$SU(2)_L \times SU(2)_R \times U(1)$ model, V-A hypothesis modification 1−28267
universality of weak interactions, lepton and quark structure 1−477
$e^+e^- \rightarrow$gluon jets, EM and weak production in high energy region 1−5638
$e^+e^- \rightarrow$hadrons, QCD tests in hadronic final states, non-perturbative effects, weak interaction phenomena 1−50453

elementary particle weak interactions continued
$e^+e^- \rightarrow \bar{p},X^+\nu,X^-$, differential cross section, contributions of weak interactions 1−5614
eN→eNπ, mechanisms of P-invariance violation 1−41002
elementary particles
see also bosons; charm particles; composite particles; cosmic rays; fermions; gamma-rays; hadrons; hypothetical particles; leptons; quantum field theory; strange particles
cosmology and elementary particles, review 1−40586
elements (chemical)
for specific metals and non-metals see appropriate chemical names
see also element origin; element relative abundance; periodic system of elements
chemical elements, heritage, natural and man made 1−2
transuranium elements, synthesis and discovery 1−10854
Z=1-100, photon cross-section and mass attenuation coeffs. 1−45909
$^{238}U(^{238}U, X)$, spontaneously fissioning superheavy element search 1−18666
Eliashberg strong-coupling model *see strong-coupling superconductors*
Elinvar
magnetoelastic materials and their appl. survey *(German)* 1−31008
Fe-Ni-Co, precip.-hardening, physicomech. props., Co effect 1−43397
ellipsometers
see also ellipsometry
automatic digital ellipsometer 1−44988
nulling precision of ellipsometers 1−40835
vacuum polarisation induced by magnetic field, detected by ellipsometer 1−40955
ellipsometry
see also ellipsometers; polarimetry
absorbing uniaxial crystals, optic axis and optical property determ., refl. perpendicular-incidence ellipsometry 1−5360
biaxial crystal, approximate soln. of ellipsometric eqns. 1−15071
corrosion processes, localised, ellipsometric approach 1−31718
electronics and electron physics advances, book 1−32810
glass surface coating, effect of SnO_2 film on wear resistance of long-chain aliphatic lubricants 1−53326
inhomogeneous dielectric surfaces, ellipsometric props., model calcs. 1−43084
interface ellipsometry, review 1−33037
methanol(-d_4), decomp. on Ni (100), IR spectra, thermal desorption, and LEED meas. 1−17108
oxide glasses, refr. index dispersion 1−3353
PMMA thin film, low energy electron inelastic scatt. mean free path, XPS meas. 1−31316
polarising Michelson interferometer for FT IR, circular dichroism and reflectance ellipsometric IR spectrosc. 1−50194
polystyrene, comb-branched, adsorption onto metal surface, ellipsometric study 1−2811
semiconductor, laser-annealed, defect identification and eval. techniques *(Japanese)* 1−20188
sital pyroceramic, surface layer optical property and struct. investigation, mech. finishing 1−1659
thickness meas. of oxide grown on Si wafer surfaces 1−7199
thin films, ellipsometric investigations, error effects, computer simulations 1−40837
thin films and surfaces, ellipsometric techniques of study, book contrib. 1−33038
Zircaloy, oxide thickness meas. by ellipsometry 1−5361
Zircaloy 2 and 4, optical props. by ellipsometry, 0.3131-3.39-μm wavelength range 1−8029
Zircaloy 2 oxide, optical props. by ellipsometry, 0.3131-3.39-μm wavelength range 1−8029
Zircaloy 4 oxide optical props. by ellipsometry, 0.3131-3.39-μm wavelength range 1−8029
Al/p-Si MIS solar cells, phys., struct., elec. and optical charact. 1−43758
CO, adsorption on Ni (110), IR ellipsometric spectroscopy study 1−8078
Cr film, ion-plated, ellipsometric study in visible spectral range 1−16621
Cr surface, passivated in acidic and neutral aqueous solns., ellipsometry and AES anal. 1−21625
$CuInSe_2$, refractive index, absorpt. index, ellipsometric meas. 1−8031
$CuInTe_2$, refractive index, absorpt. index, ellipsometric meas. 1−8031
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, oxidation kinetics, AES and ellipsometric obs. 1−35426
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, oxidation kinetics, AES and ellipsometric obs. 1−35426
GaAs (111) B epitaxial films, adsorption of Cs and Cs+O, ellipsometric obs., photocathode sensitivity 1−30547
InSb and electrochemically grown anodic oxide, optical props. meas. 1−48024
InSb dielectric function and surface microroughness, spectroscopic ellipsometry 1−16241
InSb, surface optical constants, ellipsometric obs. 1−31119
InSb-anodic oxide system, optical props. study by ellipsometry 1−26160
$LiTaO_3$, polished, waveguiding surface damage layer, multiple angle-of-incidence ellipsometry 1−37603
Nb, surface oxide film, ellipsometric anal. of changes during cathodic and anodic polarization *(Japanese)* 1−53341
Ni in H_2SO_4 soln., optical props. of substrate and oxide film, ellipso-reflectometry meas. 1−35004
Ni-base superalloy, surface film behaviour 1−53346
NiZn ferrite substrate, surface quality improvement and meas. 1−8448
Pb-In alloys, RF sputter oxidation, ellipsometric study 1−7777
PbI_2, dielectric and optical constants, spectroellipsometric study 1−26230
Si films, amorphous, deposited at low pressure, ellipsometry application for determ. of refractive index, absorption index and thickness 1−40836
Si films, low-press. CVD, optical props. meas., 3.0 to 6.0 eV 1−48178
Si, refractive index and ellipsometry, dispersion curve *(Chinese)* 1−31112
Si:As, implantation damage and annealing effect, amorphous layer form., ellipsometric obs. *(Chinese)* 1−20244
SiO_2 very thin film growth and characterisation 1−7490
SiO_2/TiO_2 optical interf. coatings prepared from colloidal solns. 1−37563
Ta-Nb alloys, anodic props., comp., effects, ellipsometric obs. 1−53356
Th, optical props. in range 0.5-25 eV 1−3518
elliptical polarisation *see polarisation*
elongation
see also deformation; thermal expansion
Al, tensile props., planar anisotropy *(Korean)* 1−12799
elongation continued
Astroloy, superalloy, grain boundary void nucleation mechanism 1−2468
α-brass, hardening mechanisms due to tension and combined torsion-tension deform. 1−53205
α-βbrass, microduplex, superplastic flow and cavitation behaviour during compressive deform. 1−16858
determination in tensile tests 1−8504
epoxide resin, cured with poly(carboxylic) acids having different functionalities, fatigue behaviour *(Japanese)* 1−39433
glass fibre reinforced plastics, mech. props. under low temp. conditions 1−8370
mech. props. 1−48509
medial collateral ligament, artificial, design and fixation 1−49161
metals, flat samples, elongation and true stresses at failure determ. 1−53374
poly(2,6-dimethyl-1,4 phenylene oxide) blends, compatibility and tensile properties 1−12826
poly(p-phenyleneterephthalamide), effect of anisotropy in wet spinning on tensile props. 1−48441
polybutadiene, glass bead filled model elastomer, tear and tensile strength 1−43435
1,2-polybutadiene, in uniaxial extension, deform. and strength props. 1−43428
polycarbonate films, effect of corrosive agents and temp. on physiomech. props. 1−26646
polyisoprene networks, labelled, fluorescence polarisation meas. of orientation 1−38307
polypropylene-low density polyethylene blends, mech. props. 1−39441
PVC melts, extensibility, influence of acrylic processing aids 1−34390
rod, cylindrical, ductile failure via a homogeneous strain field 1−6830
rubber-fibre composites, tensile strength and ultimate elongation 1−43427
steel, austenitic stainless, plastic zone obs., −196°-950°C, using recrystn. technique 1−39368
steel, dual phase, prod. and formability *(French)* 1−3775
steel, influence of deform. rate on tensile behaviour *(French)* 1−35325
steel, low C, ductility improvement by warm rolling and annealing 1−53238
steel, low-alloyed Mo, with P-additions up to 1 wt.% and dual phase microstruct., mech. props. 1−48450
steel, low-C sheet, formability improving by interstitial C content and temp. control 1−26513
steel, Mo-Mn-Cr, weldable, heat treatment optimisation 1−48382
steel, type 316, creep/fatigue props. at 625°C 1−39369
steel, ultrahigh C, superplastic props., influence of dil. alloying additions of Cr, Ti, Si and P 1−16856
steel 12Kh1MF, long-time strength eval. using short-time mech. charact. 1−39391
steels, high Mn, sinter-forged, mech. props. *(Japanese)* 1−31536
2,4-toluene diisocyanate based polyether polyurethanes and polyurethaneureas, struct.-props. comparison 1−15819
vulcanizate, pure gum rubber, long-time creep representation 1−39377
Al alloy, strain rate sensitive, hot tensile deform., growth and linkage of holes 1−39406
Al-Mg, elev. temp. behaviour *(French)* 1−3797
Al-Mg, type 5052, 5154 and 5083, deform. and fracture 1−8387
Al-Mg alloy 2024, tensile props., planar anisotropy *(Korean)* 1−12799
Al-Mg-Zn, cast, comp. optimisation 1−3849
Al-Mg-Zn, fully annealed, stretcher strain marks and stress corrosion *(French)* 1−3773
Al-Si alloy SS 4245, hypoeutectic, casting effect on mech. props. *(Swedish)* 1−3870
Al-Zn-Mg-Cu (5.2, 2.5, 1.5 wt.%), stress corrosion cracking susceptibility, effect of loading direction and environment 1−39503
Cu, durability under neck-forming conditions 1−3859
Fe, Armco, fracture, liq. Pb effect 1−31613
Fe, ferritic, strain hardening, axisymmetric vs. plane strain elongation 1−21483
Fe-Cr alloys, dissolved H effect on plastic deform. *(Japanese)* 1−31535
Fe-Cr-Co-V-(Ti), hard magnets, U and V-Ti additions effect on mag. and mech. props. 1−52798
Fe-Cr-Mo amorphous alloys, H embrittlement, effect of corrosion resistance and metalloid additives 1−53257
Fe-Cu alloys, high density, sintered from composite powder, mech. props. 1−3668
Fe-Sn-Mn alloys, sintered, mech. props. 1−53131
Nb-Zr-C (1, 0.1 wt.%), mech. props., effect of temperature and strain rate 1−12824
Nb-Zr-C in contact with molten Li, effect on props. and struct. 1−53246
(Ni,Cr)-Cr_7C_3, two-phase alloys, dendritic, tensile elongation, microstruct. aspects 1−21549
α-β-Ni-Ag, microduplex, superplastic flow and cavitation behaviour during compressive deform. 1−16858
Ni-Cr-Al-W-Mo-Ti-C-B, mech. props. depend. on deform. temp. and rate 1−35334
Ni-Cr-Al-W-Ti-Mo-Co, precipitation strengthened, microchem. heterogeneity and mech. props. 1−39343
Ti-Al-V (6, 4 wt.%), superplastic, factors affecting ductility 1−16855
V-Zr-C, long-term high-temp. ageing effect on strength 1−31507
WC based composites, wear resist. improvement by heat treatment 1−35398
Zn-Al-Cu-Mg (3.5-4.5, 0.75-1.25, 0.03-0.08 wt.%), castings, mech. props. 1−43506
Zr_3Al-based, fast neutron irrad., effect on props. 1−20271
ZrC, dense, struct. segregation phenomena 1−35225
e.m. waves *see electromagnetic waves*
embrittlement
see also ductile-brittle transition; hydrogen embrittlement; liquid metal embrittlement
amorphous alloys, metal-metalloid, struct. relaxation, DSC study *(Japanese)* 1−43396
metals, high temp. He embrittlement, model based on grain boundary cavity nucleation and growth 1−15949
steel, 12%Cr martensitic stainless, role of Mo in P-induced temper embrittlement 1−43500
steel, critical fracture stress model for prediction of static and dynamic fracture toughness *(Czech)* 1−48484
steel, embrittlement by H_2S gas 1−53281
steel, intergranular fracture due to irreversible temper embrittlement in 50KhG *(Russian)* 1−3886

embrittlement continued
steel, low alloy, temper embrittled, anomalous sputtering effects in AES grain boundary anal. 1−16790
steel, Ni-Cr, grain boundary strength, effect of Sb, Sn and P 1−53267
steel, Ni-Ti, maraging, notch toughness, effect of ageing *(Japanese)* 1−8420
steel, pressure vessel, weld simulation heat-treated specimens, TEM invest. rel. to stress-relief cracking 1−35384
steel, steam turbine bolt material, embrittlement and relax., struct. and stress influence *(French)* 1−48495
steel, structural, dynamic bearing capacity, influence of neutron irrad. *(Czech)* 1−47118
steels, low-alloy ferritic, compositional effects on reheat cracking 1−39438
steels, microalloyed, types StE36 and St52-3, embrittlement phenomena, effect on welding behaviour *(German)* 1−43472
Al-Zn-Mg (5.5, 2.5 wt.%), moisture, grain size, heat treatment effects on surface oxide, AES obs. 1−26653
Fe-Ti-C, ion implantation of Sb, diffusion and trapping 1−7195
$Fe_{100-x-y}B_xP_y(C_y)(Si_y)(Ge_y)$ glasses, microhardness, embrittlement and crystn. temps., comp. depend. 1−35354
$Fe_{100-x-y}P_xC_y(Si_y)(Ge_y)$ glasses, microhardness, embrittlement and crystn. temps., comp. depend. 1−35354
Ni, electronic effects of S, grain boundary embrittlement 1−20654
Ni-Cr-Mo-V rotor steel, temper embrittlement, role of Mn 1−8404
$(NiSi_{0.2})_3(Mo_{0.25}W_{0.15}Cr_{0.4})_3C$, intergranular embrittlement caused by precipitation 1−26594
Ta-W(-Hf), ignition after prolonged high temp. oxidation, stress generation and mech. prop. interaction 1−16970

e.m.c. *see electromagnetic compatibility*

emergency power generators *see standby generators*

emergency power supply
accumulators, Rb-acid and NiCd *(Italian)* 1−35640

e.m.f. *see electric potential*

emission nebulae *see nebulae*

emission spectra *see spectra*

emissivity
see also brightness
ceramics, oxides, and carbides, in liq. and solid state spectral refl. and emissivity meas. 1−20431
cloud of spherical particles, emissivity, particle size and refractive index effect 1−41583
coating, low emissivity, for improving insulation props. of double glazing units 1−51576
composite microscopic particles, emissivity spectra 1−47265
diffuse cavities, multiple refl. numerical calc. 1−37775
emissometer for meas. of temp. depend. total hemispherical emittance of flat selective surfaces 1−27971
gas layer, inhomogeneous, selective radiation transfer calc. 1−2164
greenhouse glasses with selective transmission of photosynthesis active radiation, thermal and optical props. 1−29363
isothermal diffuse cylindrical-inner-cone cavity, radiant emission characts. 1−15369
multi-colour radiation inversion, calculational results 1−40786
particle edges and asperities rel. to enhanced absorpt., IR emittance meas. 1−10927
plant canopy, thermal IR exitance model 1−49061
polymer film, emissivity and transparency, temp. depend. 1−11890
polymer layer, protective, on electrodeposited selectively absorbing surface in solar collector 1−35230
quartz glasses, KI and KV, IR spectral absorpt. coeff. in upper temp. limit 1−12495
radiant emittance, four definitions from classical and wave theory 1−11055
refractory antisolar and thermally insulating thin films for simple glazings 1−51577
salts, molten, IR emission spectra and struct. 1−7361
slot, vertical, natural convection, wall conduction, radiation effects, finite difference anal. 1−6863
solar absorber spectrally selective coating absorptance, emittance and durability 1−4214
solar type III radio burst emissivity, comparison with solar plasma oscills. obs. 1−4737
spectrophotometer, IKS-22, for spectral emissivity coeff. of materials meas. 1−36747
stainless steel, low C, AISI 304L, thermophysical meas. above 1400K, transient technique 1−30413
steel manufacture, simultaneous measurement of temp. and emissivity, online system 1−23239
true temp. radiation pyrometry problems and solns. 1−27985
water, polluted, microwave emissivity determ. 1−36680
Al-Cu(Ni) eutectic alloys, selective absorbers for solar photothermal conversion 1−32045
Al_2O_3 composite particle coated with C layer, emissivity spectra 1−47265
Al_2O_3, polycrystalline, spectral emittance 1−42558
Co_3O_4 coating, solar selective, for high temp. solar collector 1−13177
Cr_2O_3-Cr black chrome, electrodeposited selective solar absorber film, oxidation 1−12996
In_2O_3 highly doped transparent heat-reflecting coating 1−52322
In_2O_3-SnO_2 conductive, transparent coating for thermal insulation *(French)* 1−39497
NaF thin films, thermal emission spectra meas., high temp. phonon anharmonicity 1−20432
Ni black coatings for solar photothermal conversion, low cost electroless, prep., emittance and absorptance 1−32046
SnO_2 highly doped transparent heat-reflecting coating 1−52322
W selectively emissive refractory metal surfaces 1−47266
Zr, integral emittance during high-temp. heating and oxidation *(Russian)* 1−16073
Zr surface, emissivity during nonstationary high-temp. Ar flow, spectral distrib. *(Russian)* 1−16072

emitrons *see television camera tubes*

emitter-coupled logic
see also logic circuits
signal delay unit with cable section and key cascade 1−1030

employees *see personnel*

employment
see also personnel
No entries

emulsions
see also nuclear track emulsions; photographic emulsions
dielectric emulsion, weakly dispersed, particle dynamics in nonuniform electric field 1−6902
distance distrib. functions, using SAXS obtained with Bonse-Hart instrument, indirect transform method 1−29971
ethyl acrylate methyl methacrylate emulsion film, emulsifier free with asymmetrical struct. *(Japanese)* 1−8625
microemulsions, Fourier transform NMR self-diffusion meas. 1−21784
oil-water surfactant mixtures, interfacial tensions, three phase systems 1−30519
styrene, emulsion polymerisation, kinetics, chain transfer agent effects 1−48687
water in oil concentrated microemulsions, dynamic light scatt. expts. 1−29212
water-oil microemulsion diffusion, light scatt. study 1−13044
AgBr emulsions, sulphur-sensitised, 60°C and 85% RH *(French)* 1−26772
AgBr-AgCl emulsions, sulphur-sensitised, 60°C and 85% RH *(French)* 1−26772
AgCl emulsions, sulphur-sensitised, 60°C and 85% RH *(French)* 1−26772
An tetraphenylporphyrin sensitised redox processes in microemulsions studied by laser photolysis 1−17073

emulsions (nuclear track) *see nuclear track emulsions*

emulsoids *see emulsions*

encapsulation
see also packaging
evaporated films, laser line interface and volume absorption by water 1−31219
hot isostatic pressing as an alternative to forging 1−35213
modular 10 W, 20 W and 40 W solar cell panels and applications 1−43765
polybutadien-urethane resin for encapsulation of electronic parts, thermal shock characts. *(Japanese)* 1−26639
solar cell modules modification to maximise solar energy collection 1−26835
AlGaAs laser diode, hermetically encapsulated 1−37506
$UO_{2.03}$, encapsulated in metal, thermo- and electrotransport meas. 1−11901

encoding
see also codes; decoding
16-mm clear-print sound-film time-code transfer machine and associated editing table 1−50258
angular position encoder using airtight EM contacts 1−44882
automatic interferogram analysis system 1−19292
colour coding in incoherent spatial filtering 1−51399
colour encoding of video signals in SEM 1−23383
colour information, temporal coding 1−4281
communication via electro-optic modulation of white light 1−46588
computer generated holograms for aspheric testing 1−19299
computer-generated holography and optical testing 1−6518
computer-generated holography and optical testing 1−15120
cross-talk effect control with pulse-width modulated pictures on orthogonal carriers 1−19273
depth information pseudocolour encoding using Talbot effect 1−41601
dispersive pupil holographic anal. in space-time optics 1−41560
gamma-ray tomography by coded aperture imaging 1−43996
image colour encoding, high-speed recording system 1−5417
image formation and scatt., structural information encoding by zeros of entire functions 1−1461
inverse scattering problem soln., fast zero location from two measurements 1−10913
machine-readable digital data encoding within human-readable imagery 1−46247
multiwire proportional chamber encoder 1−1036
neuronal encoder two-phase adaptation model 1−8845
optical field analytic props., optical phase conjugation study 1−41777
optical Fourier transform processor for very large array radiotelescope, encoding-depend. errors 1−54387
optical numerical computer based on residue number system, design concept 1−51599
optical processing architectures, wavelength diversity 1−51400
optical processing for the encoding of information in inverse problems 1−41603
optics in four dimensions, conf., Ensenada, Mexico (Aug. 1980) 1−40589
particle detection in drift chamber, using amplifier-shaper circuit 1−51062
principal-components analysis for low-redundancy encoding of speech spectra 1−51666
scanning technique for coherent processors 1−37415
SEM, video signal colour coding 1−399
tomography, longitudinal, high resolution, information coding anal. *(French)* 1−23395
wavelength coding for white-light holography 1−37445
white light pseudocolour encoding technique for spatial freq. and density encodings 1−6488
white light transmission and processing of images, wavelength multiplexing for integral operations 1−51398

ENDOR
L-alanine: Cu(II), ^{14}N nucl. quadrupole interaction, ENDOR obs. 1−10764
alanine radicals, ENDOR spectra, ang. independent relax. rate, role of nuclear spin diffusion 1−43036
alkoxy radicals, γ H^+ hyperfine coupling 1−4106
antiferromagnetic semiconductor, CESR and ENDOR, effect of s-d exchange interaction 1−52843
biologically significant solids, irradiated, ESR and ENDOR studies, review 1−26949
diphenyl-h_{10} in diphenyl-d_{10} single crystals, triplet-state, EPR, ENDOR, mol. config., spin distrib. 1−42993
ENDOR with circularly polarised RF fields, theory appl. 1−44974
imidazole-barbital cocryst. complex, free radical ESR-ENDOR study 1−12405
malonate-d, anion radical in single cryst., α-D quadrupole tensor, ENDOR 1−43037
methyl radicals in lithium acetate dihydrate, ENDOR spectra, ang. independent relax. rate, role of nuclear spin diffusion 1−43036
modulation ENDOR in single crysts. 1−52868
nuclear spin decoupling, ENDOR spectrosc. 1−10002
primary electron acceptors in plant photosynthesis 1−53757
quartz, double electron-nuclear resonance of E′-centres 1−31062

ENDOR continued
solids, point defect study by ENDOR induced ESR 1−3261
structural anal., using double electron-nucleus resonance 1−30012
zinc acetate, X-ray irrad. effects, ESR-ENDOR study 1−34942
β-Al_2O_3-Na_2O, ENDOR study of defects 1−3294
$AlPO_4$, radiation effects, EPR and ENDOR study 1−15933
CaF_2:Gd^{3+}, $Li^+(Na^+)(K^+)(Rb^+)(Cs^+)$, zero-field splitting of $4f^7$ state 1−20676
CaO:Li, $[F_{Li}]^0$ centre, EPR and ENDOR study 1−38980
$Ca(OH)_2$, electron irrad. prod. O_2^- centre, ESR, ENDOR, optical absorpt., and Raman study 1−11789
Co complex, N,N′-ethylenebis(acetylacetonatiminato)Co II, electronic struct., EPR and ENDOR study 1−38976
$CsCdF_3$:$Mn^{2+}(Ni^{2+})(Cr^{3+})(Co^{2+})$, spin Hamiltonian, transferred hyperfine interaction ENDOR spectra 1−52867
$(Cu,Zn)Cs_2(SO_4)_2.6(H,D)_2O$, study of cross-relax. by ENDOR 1−3296
$(Cu,Zn)Cs_2(SO_4)_2.6H_2O$, study of cross-relax. by pulsed ENDOR 1−3295
Cu(II)bis-(diethyl-dithiocarbamato):Zn(II) bis-(diethyl-dithiocarbamato), ^1H ENDOR spectra, ESR linewidth 1−16502
Fe-Ni-Co thin film, relaxation processes under electron-nuclear resonance conditions 1−12428
GaP:Mn, hyperfine interactions of Ga neighbours around Mn^{2+}, ENDOR study 1−12427
KCl:Sr^{2+}, ENDOR and ESR study of atomic H on cation sites 1−16503
$KMgF_3$, ENDOR and EPR study of cubic Fe^{3+} centres 1−43003
K_3NaAlF_6:$Fe^{3+}(Cr^{3+})$, ENDOR determ. of covalency 1−47973
LiF, F-centres, modulation ENDOR in single crysts. 1−52868
ND_3SO_3, struct. study by ENDOR-detected NMR, bond angles, neutron diffr. data 1−39008
$(NH_4)_2Mg(SO_4)_2.6H_2O$:Cu^{2+}, ENDOR spectrosc., nucl. spin decoupling 1−10002
$VO(H_2O)_5^{2+}$ in solid solution, proton ENDOR spectra, binding site, electronic and geometric struct., hyperfine splitting 1−3293
energies, molecular dissociation *see molecular dissociation energies*
energy, binding *see binding energy*
energy, lattice *see lattice energy*
energy, surface *see surface energy*
energy bands *see band structure*
energy bands, electron *see band structure*
energy control *see power control*
energy conversion, direct *see direct energy conversion*
energy gap
see also superconducting energy gap
alkali metal halides, dielectric behaviour anal., electronegativity, effective charge 1−12446
azulene and derivatives, energy gap, radiationless transition rate depend. 1−19127
covalent insulator, self-energy corrections, first principles calc. 1−47448
diamond (111) 1×1 surface valence band structure, band bending and band gap states 1−16334
direct-gap crystal, two-photon absorption models 1−37543
ferromagnet, linear, Ising-Heisenberg model, excitation spectrum, low-temp. thermodynamics 1−3196
n-$GaAs_{1-x}P_x$, Schottky-barrier photodiodes with energy gap gradient, spectral characteristics, photocurrent 1−3011
glassy materials, energy gaps existence arguments eval. 1−12021
heterojunctions in thermal equilibrium, extrinsic and intrinsic heterojunctions theory 1−3055
Hubbard model, renormalisation group study 1−25603
III-V mixed semiconductors, energy band struct. and lattice const. chart 1−24420
III-V semiconductor variable-gap struct., absorpt. edge profile 1−39174
III-V semiconductors, electronic struct. using simple orbitals 1−20629
insulator, wide band gap, laser-induced breakdown, freq. and focal volume dependence obs. 1−39195
magnetic emiconductor, variation of energy gap, Green's function techniques 1−52483
metals, one-dimensional, interchain coupling in linear conductors 1−42749
optical coatings, high band gap oxides, for 0.25 and 1.06 μm fusion lasers 1−19395
polyacetylene, effect of symmetry lowering on band struct. 1−16220
polyacetylene film, optical prop., electronic gap 1−48180
polyacetylene p-$(CH)_x$:n-CdS heterojunctions, semicond. props. 1−2981
polymer system, energy spectrum evaluation using frontier MO's of unit cell 1−7509
polymers, density functional formalism and correlation 1−20649
polymers, pairing, gap equations and instabilities 1−19230
semiconducting solids, density functional formalism and correlation 1−20649
semiconductor, depleted layer spectroscopy 1−30670
semiconductor, nonpolar, two-dimens. plasma, charge carrier excitations, reson. inelastic light scatt. 1−12517
semiconductor, quasiparticle spectrum, GW approach, many-body effects 1−12052
semiconductor, variable gap, parameters, photolum. determ. 1−35092
semiconductor heterojunctions, energy-band profile and interface pot. step 1−7698
semiconductor-insulator and MIS struct., image force influence on band gap 1−7739
semiconductors, average band gap, dielectric const. 1−7521
semiconductors, average band gap 1−7516
semiconductors, parametric interactions under high-power EM radiation fields, generalised quantum distrib. functions 1−1641
semiconductors, relation with US vel. 1−15316
semiconductors, resonance excitation of carriers by intense light pulses *(Russian)* 1−42828
solids, band-gap opening and optical absorption under laser irrad. 1−15212
ternary $A_3^{I}B_5^{III}C_9^{VI}$ semiconductor compounds, electrical, photoelectric and optical investigations 1−34747
valence-fluctuation system, variational ground states and mag. responses 1−47583
wide band gap semiconductor, deep level capture cross section determ. by electron beam 1−3052
A_2Se_3:Cu(Ni,Mo), amorphous, RF cosputtered films, cond. temp. depend., optical absorpt., Fermi level shift 1−42781
Ag, liq., dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107

energy gap continued
$AgGaTe_2$, band gap from optical absorption study 1−38713
$(Ag_{x/2}Pb_{1-x}Sb_{x/2})Te$, absorpt. edge, Hall effect 1−16580
AlGaAs variable gap heterostructure, solar cell design 1−21883
AlN, epitaxial layers, on α-Al_2O_3, prep. and props. 1−20578
$Al(OH)_3$, proton cond., band model 1−47288
As_2S_3, optical energy gap and Raman spectrum under high press. 1−35060
As_2Se_3, glassy, metal-nonmetal transition obs. on addition of 3d elements 1−47715
Au, liq., dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
Au-Al periodic structs., electronic struct., nearly-free-electron model 1−47446
Au-$Ga_{1-x}Al_xAs$(GaAs) variable-gap structs., photoelec. props., 77 to 370K 1−20812
B:H amorphous films, optical band gap, substrate temp. effect, solar cell appls. 1−48182
Bi, mag. susceptibility, 90 to 540K, temp. depend. 1−25866
$Bi_{1-x}Sb_x$, dielec. props. at semicond.-semimetal transition 1−26112
$Bi_{1-x}Sb_x$, energy gap, temp. depend. 1−20625
Bi_2Te_3, band struct. changes on hydrostatic compression *(Russian)* 1−34625
CaF_2, electronic band struct., SCF LCAO calcs. 1−20628
$Ca(OH)_2$, proton cond., band model 1−47288
$CdCr_2S_4(Se_4)$, electronic band struct., discrete variational $X\alpha$ calc. 1−2869
$CdCr_2Se_4$, ferromag. semicond., fundamental gap, photoluminesc. determ. 1−43169
Cd_3P_2:Cu, and undoped, influence of press. on elec. props. 1−38772
CdS:Cu sintered layer, prep. and spectral sensitivity 1−53118
Cu, liq., dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
CuBr, Debye-Waller effect on forbidden gap 1−20626
CuBr, temp. depend. of spin-orbit coupling and energy gap, reflectivity spectrum 1−38757
CuCl, Debye-Waller effect on forbidden gap 1−20626
CuCl, diamagnetic anomaly model, energy bands, defect and impurity levels 1−20633
CuCl, press.-induced phase transitions and absorpt. edge shifts 1−2619
n-$CuInSe_2$, photocond., band gap determ. 1−20807
Cu_2O single cryst., exciton absorpt. spectra, hydrostatic press. effect 1−42702
$CuPbAsS_3$, anomalies in electrophysical props. 1−20822
$FeNbO_4$, prep. and photoelectronic props. 1−34741
FeS_2, marcasite, elec. cond. and band gap 1−25728
$Ga_{1-x}Al_xAs$:Ge, Te p-n struct., variable-gap selective photocells 1−42855
GaAs, heavily doped, photoluminesc., hydrostatic press. depend. 1−48134
GaAs, parametric interactions under high-power EM radiation fields, instability anal. 1−1642
GaAs:Zn, heavily doped, photoluminesc., temp. and hole conc. depend. 1−3479
$GaAs_{1-x}P_x$ vacuum deposited film, X=0.3-0.9, successive evaporation method, characterisation 1−53095
GaAsSbP variable-gap struct., absorpt. edge profile 1−39174
$Ga_xIn_{1-x}As_{1-y}P_y$/InP heterostructures, thickness depend. of lattice parameter and band gap 1−52115
$Ga_xIn_{1-x}As_yP_{1-y}$:Zn, valence band spin-orbit splitting 1−47459
GaP, resonance Raman scatt. at the indirect gap 1−52937
GaP-Au Schottky barrier, photoresponse obs. of oxidised surfaces, subband gap energy region 1−34793
GaP-InP-GaAs-InAs solid solns., energy band spectra and band gap depend. on comp. 1−20630
GaS(Se), layered crysts., electronic spectrum, press. effects, optical absorpt. and photoluminesc. meas. 1−52915
GaSb, temp. depend., electroreflectance spectra 1−48037
GaSe crystals, optical props. of band edge exciton, 10K 1−35002
$Gd(MoO_4)_3$, improper ferroelec., optical props. meas. 1−21230
Ge, direct gap semicond., direct gap, temp. depend., pseudopot. calc. 1−47470
Ge, elastic uniaxially strained, band gap collapse 1−42684
Ge excitonic binding, free carrier screening, spectroscopic search 1−3416
Ge-Si alloys, electronic and optical props., effect of short range order 1−34615
$Ge_{1-x}Au_x$, amorphous, metal-insulator transition, electron tunnelling meas. 1−42692
^3He, superfluid, gap solns., perturbed, mag. susceptibility calc. 1−34537
Hg, expanded, pseudogap in density of states and anomalous dispersion 1−25618
$Hg_{1-x}Cd_xTe$, narrow band-gap semicond., mag. susceptibility meas. *(Russian)* 1−42944
InAs/GaSb(110) lattice-matched interface intrinsic and extrinsic states 1−16352
InAs-GaSb semimetallic superlattices, far IR magnetoabsorpt. and cyclotron reson. 1−31131
InGaAsP, composition, refr. index and lattice mismatch 1−11990
InGaAsP LPE layers, electrorefl. meas. band edge energy and spin-orbit splitting 1−48053
InGaAsP layer lattice-matched to InP, contact with AuZn, comp. depend. 1−3063
In_2O_3 films, thermally evaporated, struct., elec., and optical props. 1−47405
InP, optical transmission, luminesc. and Raman spectra under hydrostatic press. 1−35007
InSb, interband Faraday rotation, intensity induced 1−52919
InSe, layered crysts., electronic spectrum, press. effects, optical absorpt. and photoluminesc. meas. 1−52915
$In_{2-x}Sn_xO_{3-y}$ film, effect of ambient atmos. in annealing 1−2850
$LiInSe_2$, single cryst. growth and characterisation 1−12647
$MgAl_2O_4$-metal contact, photoemission, photocond., irrad. effects, band struct. 1−3017
MgF_2, self-consistent energy band struct. calc. using LCAO method 1−16228
MgO (001) surface, thermally irreversible reconstruction, rel. to electron-phonon interactions, electronic struct. 1−20529
$Mg(OH)_2$, proton cond., band model 1−47288
$MoS_2(Se_2)$-electrolyte, photoelectrochem. props., photocurrents, carrier diffusion, optical transitions 1−34788
Pb:Au, superconducting, US energy gap meas. 1−42904
$Pb_{1-x}Cd_xTe$, composition versus lattice constant and band gap *(French)* 1−2870

energy gap continued
$Pb_{1-x}Ge_xTe$, refr. index and opt. energy gap, anomalies of temp. coeffs. at ferroelec. transition 1−26163
PbI_2, band gap determination, elec. cond. temp. depend. 1−7519
PbI_2 polytypic crystals, electrical transport charact. 1−25731
PbO_2 electrodeposition on Pt, photocurrent spectroscopy, reduction 1−34814
PbS(Se)(Te), liq., elec., thermal, mag. and physio-chem. props. 1−20722
PbSe, dec levels in band gap created by intrinsic point defects 1−47551
$PbSe_{1-x}S_x$:Tl, impurity band position and width, elec. and optical props. 1−20659
$Pb_{1-x}Sn_xSe$ solid solution, optical and elec. props. *(Russian)* 1−3419
$Pb_{1-x}Sn_xTe$, local states of Te vacancies, Hall effect *(Russian)* 1−2922
$Pb_{1-x}Sn_xTe$, narrow band-gap semicond., mag. susceptibility meas. *(Russian)* 1−42944
$Pb_{1-x}Sn_xTe_{1-y}Se_y$ solid solutions, IR spectra, band gap *(Russian)* 1−21214
$(PtCl)Cl_2.(H_2O)_2$, Wolffram's red, resonance Raman scatt., lattice relax. 1−48064
$Pt(NH_3)_{10}Cl_{10}(HSO_4)_4$ partially oxidised salt, elec. and thermal props. 1−42831
PuO_2, near-stoichiometric, elec. cond. anomaly, 950-1100°C 1−20727
Sb-As_2Se_3-Si MIS struct., potential diagram investigation 1−20878
Si amorphous, clean, absence of band-gap surface states 1−47725
Si, energy structure parameters, determ. by thermal effect of short light pulses *(Russian)* 1−52487
Si MOSFET inversion layers, high-index surfaces, far IR study 1−12208
a-Si, RF-sputtered, solar cells, doping effects of group-III and -V elements on conductivity 1−4191
Si:H, amorphous, determination of the density of gap states: field effect and surface adsorption 1−30613
Si:H, density of states, CPA calc. 1−47425
α-Si:H, quantum well model 1−7510
Si:P, disordered metal, elec. cond. cusp 1−42832
Si:P films, amorphous, low press. CVD growth, ESR, and elec. props. 1−52449
Si-C amorphous alloy film, deposited by glow discharge decomp., white photoluminesc. 1−12538
Si-SiO_2 inversion layers, elec. breakthroughs in vicinal planes, valley splittings 1−7695
SiO_2, crystalline and amorphous, photolum. from E band centres 1−3461
Sm chalcogenides, electronic transitions, compression charact., optical band gap disappearance 1−38721
Ti_2O_3, origin of 400K metal-insulator transition 1−52488
$TiS_2(Se_2)$, converged p/d gap calcs. 1−42685
$Tm_{1-x}Eu_xSe$, valence mixing, mag., elec., and optical props. 1−42726
$TmSe_{1-x}Te_x$, valence mixing, mag., elec., and mech. props. 1−42726
UAs(S)(Sb)(Se)(Te), optical spectroscopy, electronic struct. 1−48114
UO_2, cohesive props., equation of state, lattice parameters, LMTO calc. 1−20109
UO_2, molten, electron band gap calcs. 1−34613
$(V_{1-x}Cr_x)_2O_3$, metal-insulator transition and antiferromag. ordering, elec. resist. and Seebeck coeff. meas. 1−12157
VO_2, optical prop. and elec. struct. temp. depend. 1−12527
VO_2, photoconductivity spectrum, band gap derivation 1−25762
V_2O_5, energy band structure, theory 1−2868
WO_3 amorphous film, fundamental absorpt. edge, annealing and electrolytic coloration effects 1−35105
WSe_2-electrolyte, photoelectrochem. props., photocurrents, carrier diffusion, optical transitions 1−34788
YbS thin-films, reflection, absorption, photocond., and photo-EMF spectra 1−3521
ZnS_xSe_{1-x} cubic film epitaxial growth on CaF_2 by vapour phase transport 1−8237

energy gap, superconducting *see superconducting energy gap*

energy level crossing
see also Hanle effect
alkali atom, Rydberg states, Stark struct., atomic core influence 1−6202
avoided crossings, Hamiltonian system, eigenvalues, quantum perturbation theory 1−46033
chaotic motion, quantum avoided crossing, classical perturbation theory 1−45822
electronic lability in orbitally (near) degenerate molecules 1−51084
Hanle effect for two-level system in strong EM field *(Russian)* 1−51172
metalloporphyrins in polymeric media, high pressure luminesc. studies 1−41419
methane ion, triply degenerate ground-state geometries, non-crossing rule 1−29131
multidimensional systems, semiclassical quantisation 1−37162
optogalvanic detection, RF optical double resonance and level crossing spectrosc. 1−1187
thiouracils, triplet state, phosphoresc., optically detected mag. reson., vibronic struct. 1−46002
time-resolved level anticrossing experiment theory 1−19060
two-level atom ensemble, mag. reson., interference of degenerate quasienergy states 1−33412
Ba, excitation, level crossing resonances, optical Hanle effect 1−51171
H, approximate dynamical symm. in uniform mag. field 1−1168
N+Ar*, electronic energy transfer 1−1340
NO, emission spectrum, quartet-doublet interactions, electron impact and anticrossing expt., rot. levels 1−6252
OPF_3, symmetric top, avoided crossing mol. beam elec. reson. spectrosc. 1−45986
TlBr, photodissociation curve crossing 1−6327

energy level transitions, atomic *see atomic spectra*

energy level transitions, molecular *see molecular spectra*

energy level transitions, nuclear *see nuclear energy level transitions*

energy levels *see energy states*

energy levels, atomic *see atomic structure*

energy levels, molecular *see molecular energy levels*

energy levels, nuclear *see nuclear energy levels*

energy levels in solids and liquids *see electron energy states (condensed matter)*

energy loss of particles
see also channelling; electron energy loss spectra; radiation effects
acoustic dosimetry of intense electron beams 1−23865
adjusted ionisation potentials, calc. 1−18912
alpha particles stopping cross-sections of water vapour and liquid for 0.3-5.5 MeV particles 1−41286

energy loss of particles continued
alpha-particle stopping cross-sections of various gases, energy region 0.2 to 5.5 MeV 1−10612
amorphous monatomic materials, total and net displacement functions 1−20284
amorphous target, range relation estimates for ion implantation *(Chinese)* 1−42403
atoms, $Z=1<38$, oscill. strength moments, stopping powers, inelastic scatt. cross-sections 1−24227
Blunck-Leisegang energy loss straggling distribution 1−6113
cathodoluminescence topography, fast electron energy dissipation and optical emission processes 1−43190
channeled charged particles, relativistic, scattered by atomic row, radiative energy loss, orientational depend. 1−38420
channelled charged particles, interaction with light 1−25346
charged particle identification, energy resolution of non-total absorption detectors 1−51033
charged particles, narrow beam, model for diffusion 1−20291
convoy electrons from solids in coincidence with emergent projectile charge state 1−47124
damped heavy-ion collisions, primary mass and charge distribs., calc. 1−50619
electron beam, intense, range-energy relations 1−42442
electron diffr. patterns for site symmetry determination 1−15761
electron mean free path, energy depend. 1−20293
electron slowing down, E_e=100 MeV to 30 keV, simulation using Monte Carlo calcs. *(French)* 1−20285
electrons, absorption in matter, density and energy radial and transverse distrib. 1−47116
fast electrons, asymptotic transform. of elastic collision 1−34386
fast heavy ions in N, electron loss, Born sum rules 1−19166
fast molecular ion interactions with matter 1−47134
fission fragments, range determination method in gases 1−23995
gas, stopping power meas. for low energy heavy charged particles *(Japanese)* 1−18988
heavy ion identification system using gas proportional counter telescope *(Japanese)* 1−51058
heavy ion nuclear stopping power, thickness depend., calc. 1−20283
heavy ions, low vel., channelling stopping-power oscills. calc. 1−20290
heavy ions in metals, electronic stopping theory 1−3560
heavy ions in solids, 2.5-100 MeV/nucleon, range and stopping tables 1−5034
high-current relativistic electron beam, interaction with matter 1−28834
HV electron microscopy, advantages and disadvantages 1−40906
ice, erosion by fast light ions, linear and nonlinear processes 1−15937
ion collection in presence of sputtering, range shortening, knock-on and diffusion, Monte Carlo calc. 1−52197
ion collisions in solids, keV energy ions, inelastic loss approx. 1−47123
ion range calcs., appl. of Pade approx., direct operational method 1−52198
ion range distributions, influence of electronic straggling 1−52193
ion slowing down approx. to Boltzmann eqn., appl. to energy deposition and ion implantation 1−52196
ions, energetic, range distrib. in matter 1−25343
ions, fully stripped, energy-loss straggling discrepancies 1−6116
MARS-TR 440, energy loss, stopping power, straggling energies and angles, calc. program *(German)* 1−10614
metal, electron trajectory, Monte Carlo simulation *(French)* 1−15931
metal surface, positron impact, positronium form. and positron emission, theory 1−12612
metallic thin foils, thickness measurement, optical and nucl. methods, comparison 1−44885
molecular gases and noncrystalline solids, particle penetration statistics 1−47133
molecule organic, Li projectile stopping cross sections meas., bonding influence 1−24222
Monte Carlo damage simulation using game theory 1−15938
multilayer slab absorber, electron depth-dose distrib. determ., algorithm 1−42440
multiple scattering and energy straggling of heavy ions in solid targets 1−37081
muons, slow negative, range and spectral density meas. 1−51069
neutron dosimetry at E_n=14.5 MeV, uncertainty of kerma factors 1−6057
neutrons with energies below 30 MeV, kerma factors 1−14570
organic insulators, electron mean free paths after irrad. 1−20292
organic liquids, electronic stopping cross sections for 200-840 keV Li ions 1−25342
organic liquids and vapours, range-energy relations and stopping powers for α-particles 1−11796
particle backscattering spectra, shape anal. by convolution 1−28831
polystyrene, mean excitation energy calc. from proton stopping power 1−11797
proportional wire chambers, controlled drift space for ionisation loss meas. 1−45779
protons, 40-200 keV, stopping powers of a tissue-equivalent gas 1−8899
pulsed electron beam spectrometry by energy release in homogeneous material 1−999
relativistic ionising particles, energy loss meas. by primary cluster counting, computer simulation 1−10608
secondary electron emission anisotropy, rel. to charact. energy losses in single cryst. 1−26321
semiconductor, ion implantation, review, book contrib. 1−47107
semiconductors, particle scatt. by ionisation and phonon emission, theory 1−47131
solids, low energy projectiles, depth and lateral range, Monte Carlo study, Thomas-Fermi and HF calcs. 1−34382
spherical surface, fast electron inelastic scatt. 1−53025
sputtering yield calculations, Yudin's approx. of nucl. stopping power 1−39200
stopping power ratio for small cavity sizes, modified energy deposition model 1−52194
track fitting, Runge-Kutta method, energy loss effect 1−28832
ultrarelativistic particles, ionisation loss in matter, radiative corrections *(Russian)* 1−47132
wide conical gamma radiation beams, build-up factors calc. by Monte Carlo method 1−6114
z_1 oscillations in low energy heavy ion ranges 1−28824
α in Al, Si, Ni, Ge, Se, Y, Ag, Au, corrections to Bethe-Bloch theory 1−24000
α-particle slowing in thermonuclear plasma 1−51979

energy loss of particles continued
α-particles from Am, energy straggling in Al foils 1−18981
Ag, positrons and electrons, relative transmission 1−47130
Ag, secondary electron emission under proton bombardment 1−43230
AgCl, collision damage processes due to energetic heavy ions, optical absorpt. and EPR study 1−2534
Al, electron penetration, Monte Carlo methods 1−42438
Al, electron penetration and induced secondary emission, Monte Carlo simulation *(French)* 1−16631
Al foil, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
Al, ion implanted, radiation disorder and lattice location, channelling and Rutherford backscatt. meas. 1−52161
Al, positrons and electrons, relative transmission 1−47130
Al, relativistic electron absorpt., energy spectrum distrib. 1−42424
Al, secondary electron emission under proton bombardment 1−43230
Al, stopping power of matter for alpha particles at extreme relativistic energies 1−18989
Ar, electrons average energy loss factor, transport equations 1−11523
Ar film, range and energy loss of 0.1 to 3 keV electrons 1−20289
Ar, relativistic ion beams, higher-order corrections to stopping power 1−25344
As, electron mean free path, energy depend., ESCA obs. 1−20293
Au foil, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
Au, neutron beam (n,2n) recoils, transverse range meas. 1−7211
Au, secondary electron emission under proton bombardment 1−43230
Be, positrons and electrons, relative transmission 1−47130
C foil, alpha-recoil and fission fragment induced desorption of secondary ions 1−31294
C foil, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
CaF_2:Mn, TLD, TL response and range of heavy charged particles, LET dependence 1−947
$CaSO_4$:Dy, thermoluminescence depend. on stopping power 1−26285
Cs foil, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
Cu, electron mean free path, energy depend., ESCA obs. 1−20293
Cu, electron mean free path between two inelastic collisions 1−34387
Cu, positrons and electrons, relative transmission 1−47130
Cu, secondary electron emission under proton bombardment 1−43230
Cu, stopping power of matter for alpha particles at extreme relativistic energies 1−18989
DyD_2, cryst. elec. fields, neutron energy loss spectra study 1−34669
ErD_2, cryst. elec. fields, neutron energy loss spectra study 1−34669
Fe, relativistic ion beams, higher-order corrections to stopping power 1−25344
Ga, electron mean free path, energy depend., ESCA obs. 1−20293
Ge, electron mean free path, energy depend., ESCA obs. 1−20293
Ge(Li) γ-ray detectors, attenuation factors, expt. and calc. values 1−23973
$H^+ + O_2$, H^+ loss function, appl. to atmosphere 1−51281
He, electrons average energy loss factor, transport equations 1−11523
^{4}He ions, in Ti, Ni, Ag, Au, stopping power values 1−28826
^{4}He ions in Be, C, Al, Si, stopping power values 1−28825
^{4}He ions in solids, energy loss meas. 1−37082
Ho, mirror properties by penetration of electrons and positrons 1−25349
HoD_2, cryst. elec. fields, neutron energy loss spectra study 1−34669
KCl, positive ion bombard., particle track effects 1−52187
Kr film, range and energy loss of 0.1 to 3 keV electrons 1−20289
LiF:Mg, Ti, TLD, TL response and range of heavy charged particles, LET dependence 1−947
Mg, electron mean free path, energy depend., ESCA obs. 1−20293
Mo, trapping of N due to defects generated by 50-400 keV H^+ and He^+ ions 1−47110
N_2 film, range and energy loss of 0.1 to 3 keV electrons 1−20289
Nd, mirror properties by penetration of electrons and positrons 1−25349
Ne, electrons average energy loss factor, transport equations 1−11523
Ne, relativistic ion beams, higher-order corrections to stopping power 1−25344
^{20}Ne ions, energy deposition in tissue in nm regions 1−22059
O_2, α-particle range-energy relations and stopping powers, gaseous phase 1−11796
O_2 film, range and energy loss of 0.1 to 3 keV electrons 1−20289
PMMA, electron penetration, Monte Carlo methods 1−42438
Pb, positrons and electrons, relative transmission 1−47130
Pb, stopping power of matter for alpha particles at extreme relativistic energies 1−18989
Si and Si-SiO_2, proton damage range determ., bevel method 1−11798
Si crystal, channelled ion energy loss, charge state depend., meas. 1−38418
Si, ion projective ranges, resistance method 1−38416
Si, planar particles blocking dips in single cryst. *(Chinese)* 1−20281
Si, range of 50 to 1000 eV electrons, Auger line intensity meas. 1−30285
Si, stopping power for 80 to 300 keV protons, planar/random ratio, backscatt. meas. 1−20287
Si:As(B)(P)(Sb), ion range and damage distrib., Boltzmann transport equation 1−42439
Si:B, ion implanted, simulated influence of amorphous layer on B ion range 1−2548
Si-surface barrier detector time of flight telescope, very heavy ion identification 1−6076
TbD_2, cryst. elec. fields, neutron energy loss spectra study 1−34669
W (100), entrance probability and range of He^+ ions, thermal desorption spectrometry study 1−52201
W, single cryst., ultrarelativistic electron interaction, orientational-ionisational effect 1−25328
Xe film, range and energy loss of 0.1 to 3 keV electrons 1−20289
Y, mirror properties by penetration of electrons and positrons 1−25349
Yb, mirror properties by penetration of electrons and positrons 1−25349
Zn, electron mean free path, energy depend., ESCA obs. 1−20293

energy measurement *see power measurement*

energy-range relations *see energy loss of particles*

energy resources
see also fuel; geothermal power; hydrogen economy; solar energy concentrators; solar power; wind power
alternative energy systems, alloy microstructural design, information system *(Japanese)* 1−39861
alternative energy technologies and developing country needs 1−43751
alternatives, economic assessment 1−35609

energy resources continued
annual review of energy, book 1−36468
aquifer storage of chilled water for air conditioning, economics 1−53693
SE.Asia, endemic energy resource shortages, economics and future research 1−26803
Asia and Pacific region, energy resources, existing and alternative sources 1−39705
Australian crust struct. and mineral deposits, conf., April 1980, Australia 1−40128
biogas production methods from manure *(German)* 1−13178
biomass, kelp farm project at California 1−35607
biomass, review of R and D 1−39834
biomass biological conversion to liquid fuels, methods and economics 1−53683
biomass thermochem. conversion in clean fuels and chem. feedstock, US DOE R and D 1−35668
Caribbean energy developments 1−53525
causal energy models for the formulation of energy research, development and demonstration strategy 1−35623
ceramics in energy production and conversion systems, conf., Saint Vincent, Italy (May 1979) 1−13927
coal gasification underground, remote EM sounding method applicability 1−9281
commercialisation of new energy technologies, socioeconomic impact 1−21873
community energy management and integrated utility systems 1−31996
comparative risks from different energy sources, study methods evolution 1−26824
CONAES Report on energy in transition 1985-2010, conclusions *(German)* 1−17144
conference, UMR-DNR, Rolla, MO, USA October 1979 1−32805
conservation, thermodynamic aspects 1−17178
conservation alternatives for residential buildings 1−35596
conservation in the petrochemical industry, second law anal. of catalyic reforming 1−17087
conservation projects, economic assessment, calc. of discounted payback period 1−43752
conservation versus substitution treated by a multiperiod LP-model 1−39717
consumption modelling, estimation of sectoral demand models for the Belgian economy. Analysis of substitution possibility and forecast for the year 1985 1−35626
conversion systems, second law anal. of efficiency 1−17299
crude oil demands and costs and importance of nuclear energy and coal gasification and liquefaction *(German)* 1−13072
Czechoslovakia, energy resources and their utilisation *(Czech)* 1−32001
development and utilisation, financing risks assessment *(French)* 1−8653
development projects, financing *(French)* 1−8655
dynamic net energy analysis of some UK energy options 1−39715
earthquake tectonic energy mechanical-electrical transformations *(Russian)* 1−39833
Eastern European Countries, capital requirements for development in fuel and energy sectors *(French)* 1−8650
economic perspective of UK low energy strategies 1−53568
economics of energy prices: doubts and uncertainty *(French)* 1−8652
economy/energy models, mathematical programming framework 1−39721
education in schools *(French)* 1−27695
electric power generation using low temperature geothermal resources and wood residues 1−48798
electric utilities future energy sources 1−53522
electricity substitution for imported oil in Canada, assessment 1−26829
energy consumption and resources, industrialised countries capital requirements *(French)* 1−8649
energy economy, research, development and innovation *(Hungarian)* 1−48779
energy management: interdisciplinary curricular design 1−32817
energy modeling and aggregation of refining in France 1−39713
energy situation and future prospects *(French)* 1−31973
energy utilisation efficiency and economics, alternative energy forms *(French)* 1−31972
energy-economics systems, appl. of classical and optimal control theory 1−43747
environmental and economic analysis 1−35598
Eromanga Basin, hydrocarbon deposits, Queensland, Australia 1−4147
European energy consumption anal. using EURECA, macroeconomic energy model 1−39711
European energy modelling program for evaluation and assessment of alternative policies 1−35613
exergy economics, benefit-cost of energy conservation, second law anal. 1−17180
exergy economics, second law cost accounting 1−17179
exploration and development of Indonesian oil resources and their financing *(French)* 1−8662
Federal Republic of Germany up to year 2000 *(German)* 1−39704
fermental alcohol production from biomass feedstocks as petroleum substitute 1−53684
forecasting the cost of energy conservation in the industrial sector 1−48806
Frigg North Sea Gas Field financing and resources development *(French)* 1−8660
gas storage in undergound porous rock, energy cost *(German)* 1−13070
geothermal, hot dry rock development program 1−43741
geothermal energy and its potential 1−4156
geothermal energy prod., use of coatings 1−13078
geothermal energy resources location, economics and applications 1−26816
geothermal energy sources, problems and applications 1−26815
geothermal power, financing considerations and problems 1−48800
geothermal power, Hawaii Geothermal Project, wellhead generator feasibility 1−4157
global energy requirements, supply and demand over next 50 years 1−26804
Hawaii, emerging energy technologies in an island environment 1−39707
Hawaii geothermal project 'A' Wellhead Generator Feasibility Project 1−48799
HTGR plant design for process heat applications 1−45594
HTGR process heat for long distance transportation and direct industrial heating applications 1−45593
HTR process heat development for coal gasification and long distance heat transport 1−48783

energy resources continued
hydrocarbon accumulation in Indian region, rel. to tectonic plate junctions 1−53526
hydrocarbons in Texas coastal Tertiary strata 1−21837
independence, resource use and reuse 1−35610
industrial energy utilisation, second law anal. 1−17181
international energy market future, role of fossil fuels and other primary energy source *(German)* 1−13068
interseasonal energy transfer system to reduce residential fuel consumption 1−21843
kelp processing and biomethanation technology 1−53531
LNG projects, financing trends *(French)* 1−8692
management, changing energy use futures, conf. LA, USA (October 1979) 1−27652
management, changing energy use futures through more efficient policies and technologies 1−31991
management, energy conservation concepts and strategy in Colorado, USA 1−35612
management, energy modelling as an instrument for an international strategy for energy research, development and demonstration 1−35620
management, energy planning in developing and industrializing countries by US DOE International Energy Development Program 1−43749
management, national energy RD&D programs from an international perspective 1−43750
management, net benefits of energy conservation in housing, computer simulation 1−39710
management, world regional energy modelling 1−35614
management and alternative energy forms for rural development and agriculture 1−31998
management and conservation in buildings and dwellings 1−31997
management and technological development, effect on society's lifestyles, motivation and values 1−31994
management in industrial and commercial sectors 1−31995
management in transportation and communications 1−31999
management modelling, MEDEE energy demand model and EFOM energy system optimisation model *(French)* 1−35616
management modelling, polynational polyperiod energy systems analysis using generic linear programming models 1−35617
management strategies and alternatives for future energy supply and demand 1−31992
MARKAL, a multiperiod linear-programming model for energy systems analysis (BNL version) 1−39719
MARKAL energy system analytical model for new energy technology eval. in Japan *(Japanese)* 1−48939
modelling, Belgian system 1−35625
modelling, conservation and pollution abatement 1−39723
modelling, development of computerized data bases and matrix generators for energy models 1−39720
modelling, energy for Europe beyond 2000 1−35619
modelling, ENOR, Norwegian dynamic multisectoral economic simulation model 1−35628
modelling, implementation and analysis of the European energy model in Germany 1−35618
modelling, industrial energy demand in Switzerland 1−35629
modelling, integrated methodology for assessing energy-economy interactions 1−35631
modelling, LABYRINTH−an energy flow scheme for policy evaluation 1−39718
modelling, linear programming network model for energy systems analysis 1−35624
modelling, long-term projections for the USA 1−35615
modelling, MEDEE models for long term energy demand forecasting 1−35633
modelling, methodological problems in long-term energy modelling 1−39714
modelling, national energy systems analysis for Denmark up to year 2030 1−35622
modelling, reconciliation of the results of an energy optimisation model with a general economic profile 1−35632
modelling, residential energy use model, integration in midrange energy forecasting system 1−48807
modelling, STER−a global energy supply model 1−39716
modelling, systems anal. appl. to policy and technology studies 1−35621
modelling, use of reference energy system for technology assessment 1−8691
modelling for energy systems anal., conf. Dublin, Ireland (Oct. 1979) 1−32808
modelling for energy systems analysis using linear programming 1−39722
modelling of energy and economy 1−35630
modelling of Swedish energy futures, solar and nuclear power 1−39709
municipal waste: an energy source for Europe 1−26806
natural gas developments in production and distribution *(French)* 1−26808
neutral flow-energy convertor concepts based on flow instabilities 1−39733
nuclear long distance energy transport using HTR process heat 1−48783
nuclear process heat feasibility study using experimental VHTR 1−50752
ocean thermal resource availability for OTEC 1−8737
oil exploration and production financing *(French)* 1−8658
oil resources, use in less developed countries 1−53523
oil shale installations, environmental assessment 1−35597
petrodollar recycling and monetary problems *(French)* 1−8659
petroleum and petroleum gas deposits, geological and geophysical charcts. *(Russian)* 1−43735
petroleum industry, world investment, through 1980 *(French)* 1−8657
petroleum prospects of Lord Howe Rise, Tasman Sea 1−40081
planning model for acute energy shortages 1−35627
policy analysis, development of energy models 1−31993
policy analysis screening system−a fast information retrieval system 1−39724
present position and prospects of alternative energy sources *(German)* 1−43734
primary commercial energies potential supply and investment and production costs *(French)* 1−8651
raw materials and energy conservation, research and development 1−4167
refractory oxides for high temp. energy sources, conf., Toronto, Canada (July 1979) 1−40598
refuse deprived fuel, alternative energy source for district heating and power generation 1−53532
renewable, world wide financing *(French)* 1−8648
renewable energy resources for developing countries, review 1−39708
energy resources continued
renewable energy sources, environmental aspects, review 1−39706
renewable energy sources for Egypt 1−13110
research and development at Netherlands Energy Research Centre *(Dutch)* 1−35606
review of energy strategy alternatives 1−8646
risks from different energy sources, methodological comments 1−26825
Scandinavian energy system based on renewable energy *(Norwegian)* 1−13069
second law analysis of energy devices and processes, conf. Washington, DC, USA, August 1979 1−13911
solid waste recovery systems, second law anal. 1−17182
systems analysis, time-stepped energy system optimisation model 1−39725
technological developments, ecological and environmental impact 1−32059
third world energy reserves and consumption prediction in years 2000-2020 *(French)* 1−31971
Turkish energy sector dynamic linear programming model for decision analysis 1−43746
UK energy conservation and official energy forecasts 1−13109
UK wave energy resource 1−8665
USA energy policy, utilisation of home resources to cut oil imports *(French)* 1−8654
utilisation, principles of energy accounting 1−35611
waste heat utilization from boilers 1−35608
wave energy device (Salter's duck), performance in various wave environments 1−43739
wind resource assessment in upper Skagit River Valley of Washington 1−53542
World energy conference report, critical summary *(Spanish)* 1−31970
world energy problems and prospects 1−14568
world energy requirements, nuclear energy and fossil fuel *(German)* 1−13111
world petroleum supply, limits *(French)* 1−31975
H utilisation, present state and future prospects *(German)* 1−43733
H_2 based, review considering environmental safety aspects 1−21940
H_2 production from H_2O, appl. of fusion reactors 1−4216
N_2 liquid as automotive heat engine working substance 1−48809
O_2 technico-economic study of large scale uses 1−43736
Th deposits in SE.USA monazite belt 1−35982
U deposits in SE. Missouri, USA 1−44189
U in Pine Creek geosyncline, Australia, conf., June 1979, Sydney, Australia 1−9772
U, low grade ore deposits at Kvanefjeld Greenland 1−9124
U ore deposits identification, microscope technique 1−36086
U production, long run costs 1−26809
U production, long-run marginal cost estimation 1−26810
U, reactor fuel, supply assurance and enrichment services 1−41172

energy states
see also atomic structure; electron energy states (condensed matter); energy level crossing; molecular energy levels; nuclear energy levels; population inversion
effective lifetime measurement of energy levels excited by high-energy charged particles 1−51316
eigenvector matrix and spectrum of 4×4 real and symmetric matrices 1−50343
energy levels in infinite square well, teaching 1−27730
first row ions isoelectronic series, E1, M1 and M2 transition probability 1−37157
Hamiltonian systems, periodic orbit stability transitions 1−83
polycyclic graphs, graph centre concept 1−51080
quantum mechanics, one dimens., energy level degeneracy, teaching 1−22967
H, solid, o-H_2 pairs, energy levels and microwave absorption. freq., temp. and density depend. 1−3541

energy states in solids and liquids *see electron energy states (condensed matter)*

energy storage
see also capacitor storage; direct energy conversion; energy storage devices
3 MJ coil for superconductive energy storage 1−48928
20 MJ supercond. ohmic heating coil conceptual design 1−48929
290 MW gas turbine power station with underground compressed-air storage reservoirs *(German)* 1−8757
400 kJ 250 kA pulsed energy storage coil design 1−48927
air/rock storage for solar central receiver power stations 1−48925
alkali nitrates, molten, thermal energy storage material, sp. ht. contents, temp. coeffs. *(Japanese)* 1−8758
aquifer storage of chilled water for air conditioning, economics 1−53693
chemical energy storage for solar thermal electric conversion 1−48915
chemical heat pump/chemical energy storage system, H_2SO_4 and H_2O, development status and utility 1−48891
chemical processes, energy transformation *(German)* 1−39663
compressed air energy storage at Hume, Illinois, USA 1−35710
compressed air energy storage plant, development 1−53704
compressed air energy storage power plants, economic anal. using energy domain method 1−35712
compressed air energy storage system, optimal design 1−35711
compressed air energy storage with thermal energy storage, economics for utilisation for electric power generation 1−53705
conference, UMR-DNR, Rolla, MO, USA October 1979 1−32805
cryogenic engineering conference, Madison, WI, USA (Aug. 1979) 1−44718
direct contact thermal energy storage system, anal. of energy extraction process 1−17311
electrical energy storage for network load balancing *(German)* 1−48911
electrochemical methods and devices, review *(German)* 1−35713
energy conservation and environmental benefits of thermal energy storage systems in the pulp and paper industry 1−48913
ethanol production from biomass for energy storage *(German)* 1−35666
eutectic alloys, heat storage 1−8277
flat plate solar collectors with thermal storage unit, performance charcts. 1−17306
fluidised bed heat store for power generation, assessment by computerised modelling 1−43810
heat storage project, long term, construction and technical execution *(German)* 1−43809
hybrid chemical concepts for storage of solar thermal energy 1−17312
HYCSOS, metal hydride conversion and storage system, thermodynamic anal. 1−48893
latent heat diode wall for solar energy collection/storage 1−17278

energy storage continued
latent heat storage unit 1−43807
latent heat thermal energy storage with phase change materials, heat exchanger performance 1−21930
low grade heat supply throughout year in mid-latitudes by integrated solar collector and interseasonal store 1−13160
metal hydrides, props. and appls., conf., Colorado Springs, CO, USA (April 1980) 1−6
methane production from biomass for energy storage *(German)* 1−35666
model of direct contact heat transfer for latent heat energy storage 1−53688
natural gas storage methods, solid and liquid states *(German)* 1−13180
new method of efficient heat transfer and storage at very high temperatures 1−48912
phase change thermal storage for solar heating 1−26855
photovoltaic and chemical energy conversion, NASA's progress in space power technology 1−48851
pneumohydraulic accumulator, based on N_2 and various proportions of CO_2+N_2, energy-storage capacity influence on fluid drive system operation *(Russian)* 1−8756
polyethylene, cryst., thermal energy storage material use and eval., physicochem. props. improvement *(Japanese)* 1−8759
preheatic unconfined aquifer heat storage for space heating using heliogeothermy method 1−53692
residential photovoltaic flywheel storage system performance and cost 1−53686
rotating prism Trombe wall for passive solar space heating 1−32043
salt gradient solar ponds, technique to establish salinity gradient 1−13166
Seasonal Thermal Energy Storage in aquifer formations, economic feasibility 1−53691
seasonal thermal energy storage of chilled water in aquifers 1−53690
solar air heating systems, effect of stratification on rock bed storage performance 1−53666
solar collector-storage walls, effect of air flow rate, 1-D thermal circuit network model 1−32039
solar collector-storage walls, thermal behaviour, phase change collector wall versus water collector wall 1−17270
solar energy storage tank efficiency as simulated in a Markovian model of meteorology 1−17309
solar heating systems with air collectors and rock bed storage 1−17272
solar latent heat storage using nitrate salts 1−8763
solar ponds, influence of extinction coeff. on efficiency 1−13164
solar ponds, membrane stratified, to quench convective heat transfer 1−8754
solar power heat storage units for heating and refrigeration 1−17302
solar power photocell/pumped storage agricultural installations, economic viability *(Italian)* 1−48803
solar storage systems using salt hydrate latent heat and direct contact heat exchange 1−13184
solar water heating system with heat storage for industrial utilisation 1−21921
superconducting magnet, electric utility appl., current induction in fusion devices 1−48920
superconducting magnetic energy storage applications and benefits for electric utility power systems 1−35717
synthetic dyes, structures, reduction pots. and abs. maxima for photochemical solar-energy storage using synthetic dyes 1−8767
system for undersea energy storage 1−48924
thermal, greenhouses, passive energy storage 1−13183
thermal, heat/cold energy, seasonal regeneration through underground strata 1−17308
thermal, Stirling traction motors with regenerative braking capability 1−53655
thermal, using layer perovskites $(n\text{-}C_nH_{2n+1}NH_3)_2MCl_4$ 1−8762
thermal and thermochemical energy storage technology, review 1−8746
thermal energy in granular bed of encapsulated paraffin-wax, dynamic characts. of recovery *(French)* 1−43808
thermal energy storage in aquifers and interpretation and simulation using numerical modelling 1−53689
thermal energy storage in heating, cooling and hot water supply system, phase change materials eval. *(Japanese)* 1−8761
thermal energy storage systems exploiting solid-solid phase transitions 1−13181
thermal energy storage unit, size effect rel. to heat losses *(Japanese)* 1−8760
thermal energy storage using fluidised bed heat exchanges, technical and economic assessment 1−53687
thermal energy storage using Glauber's salt: improved storage capacity with thermal cycling 1−48914
thermal energy storage using saturated salt solutions 1−13182
thermal energy storage via low-pressure feedwater storage and coupled operating storage systems, layout, operation and technical and economic results 1−17303
thermal spring, stresses, solar energy storage 1−49906
thermal storage materials for low temp. solar heat 1−17305
thermal storage system based on encapsulated phase-charge materials 1−17304
three-tunnel segmented supercond. energy storage magnet shape optimisation 1−48930
transfer between two superconducting coils 1−48926
vertical porous heat storage, transient characts. of heat transfer 1−17307
water biophotolysis, energy storage and H evolution *(German)* 1−35666
wind/solar power combinations with minimum storage, analysis 1−21853
FeTi, activation for H absorption, electron microscopic study 1−4124
H, spin-stabilised, storage at 1K 1−1058
H_2, absorption-desorption kinetics in $SmCo_5$ 1−2804
H_2, metal hydride form. and surface effects 1−2805
H_2, metal hydrides, electronic struct., bonding and chemisorpt. 1−2807
H_2, metal hydrides, rechargeable, kinetic and dynamic aspects 1−4046
H_2, secondary energy carrier generation and storage, phys.-chem. problems *(German)* 1−35714
H_2 uptake rate by Nb and Ta foils, thin metallic overlayer effect 1−2633
Na_2SO_4-$10H_2O$ crystn. processes for thermal energy storage 1−17310
$Na_2SO_4.10H_2O$, Glaubers salt 1−8766

energy storage devices
fluid battery for economical energy storage 1−53694
flywheel energy storage systems, high performance, design, fabrication and test results 1−53685
inductive, Tokamak plasma current excitation by inductive energy storage 1−7008

energy storage devices continued
phase-change heat storage using solar energy, appl. to bottling industry 1−35707
REDOX electrochemical energy storage system 1−39835
solar heat storage gauged by solar fractions, sizing of storage systems 1−13186
superconducting magnet, AC elec. energy regeneration 1−48921
superconducting magnet energy storage coil, conductor qualification tests, stability and fatigue 1−48923
superconducting magnetic energy storage coil, 30 MJ, design 1−53703
superconducting model magnet for shielded pulsed energy storage 1−53702
superconducting pulse magnet for energy storage, 515 kJ 1−53701
superconductive energy storage system for use by elec. utilities 1−48922
thermal and thermochemical energy storage technology, review 1−8746
thermal performance of a south facing wall as solar collector storage system 1−21929
thermal wells, heat loss and storage functions 1−8764
Trombe wall, computer modelling of a ventilated wall 1−8765
Pb/acid storage batteries, starter, traction and stationary, correct selection of equipment for charging *(German)* 1−4169

energy transfer collisions, molecular *see molecular inelastic collisions*

engineering applications of computing *see engineering computing*

engineering computing
see also aerospace computing; chemical engineering computing; civil engineering computing; communications computing; electrical engineering computing; electronic engineering computing; mechanical engineering computing; nuclear engineering computing
APDC, industrial, regional evaluation and solution using computer techniques *(Hungarian)* 1−49325
BWR lattice calculation, macroscopic depletion model for PDQ-7/HARMONY code 1−45574
fatigue damage indicator, microprocessor controlled 1−17012
frames with substructuring, optimal design, stress anal. and buckling 1−37818
heat conductivity, two dimensional problem, numerical soln. by difference method *(German)* 1−37765
Mindlin plate bending element, hybrid-stress quadratic serendipity displacement 1−37809
PDQ-7/HARMONY code for BWR lattice calculation, macroscopic depletion code 1−45574
suspended cables with flexible supports, natural vibrations 1−37825

engineering societies *see societies*

engines
see also aerospace engines; heat engines; internal combustion engines; ion engines; propulsion
metal hydrides, props. and appls., conf., Colorado Springs, CO, USA (April 1980) 1−6
noise measurements, selection and use of microphones 1−19506

entertainment *see sports and entertainment*

enthalpy
see also heat of .....
adamantane carboxylic acid complex in cyclohexane, self-assoc. obs. using PMR 1−17050
adsorption temperature dependence, thermodynamic analysis, isoergs concept, isotherm eqn. 1−38647
alkali halides, Schottky defect form. enthalpy 1−20192
alkane mixtures, thermodynamic excess properties, mol. struct., mol. theory 1−21755
amorphous films, structural relax. towards enthalpic equilib., DTA *(French)* 1−42658
anharmonic crystal, statistical theory of vacancy formation, thermodynamic props. 1−2432
aromatic sulphides, sulphoxides and sulphones in polystyrene matrix, relax. processes 1−7057
binary systems, retrograde solubility 1−25442
boson interactions, ground-state particle number, thermodynamic functions and fluctuations 1−11928
1-bromo-2-methylpropane, rot. isomerism, conform. retention, IR spectrosc. obs. *(German)* 1−31143
1-bromopropane, rot. isomerism, conform. retention, IR spectrosc. obs. *(German)* 1−31143
1-chloro-2-methylpropane, rot. isomerism, conform. retention, IR spectrosc. obs. *(German)* 1−31143
combustion chamber, thermal operation efficiency *(Russian)* 1−265
dialkyl selenides, unbranched, vibr. spectra and conformations 1−1224
diaryl asymmetric molecules in polystyrine matrix, relax. processes, Eyring activation param. 1−7058
divalent metals, relation between dissociation enthalpy and heat of vaporisation 1−52270
DNA, differential scanning calorimetry studies on dehydration 1−48963
ethyl vinyl ether, vibr., rot. isomers, pot. function calcs. enthalpy determ., IR obs. 1−45963
eutectic alloys, heat storage 1−8277
fatty acid, phase transition on lattice, random walk model 1−48753
fibre cloth reinforced phenolic composites, high-temp. thermal and mech. props. 1−20480
formamide cations, decomposition, rearrangement, struct. and energies of transition states 1−10665
2,4-hexadiyne 1,6-diol bis-p-toluenesulphonate, phase transition rel. to polymerisation, calorimetric study 1−47232
isomers, conformational anal., enthalpy, entropy and vibr. energy determ., PCILO and CNDO calc. 1−46158
liquid mixtures, excess functions calcs. Barker's lattice model appls. *(German)* 1−46973
naphthalene-pyromellitic dianhydride, heat capacity and thermodynamic functions, 5 to 300K 1−16057
naphthalene-tetracyanoethylene, orientational disorder, heat capacity and thermodynamic function meas. 1−16056
organic rigid rotor molecules in polystyrene matrix, dielec. relax. 1−39033
phospholipids, phase transition on lattice, random walk model 1−48753
piezothermal method applied to molecular organic compounds and water−liquid phases and melting 1−30431
plastic crystal, dielec. const. and PVT meas. at low temps. up to 3000 bar 1−39026
polyadenylic acid, differential scanning calorimetry studies on dehydration 1−48963
pyrene-pyromellitic dianhydride, heat capacity and thermodynamic functions, 5 to 300K 1−16057

enthalpy continued
secondary n-amine-n-alkane mixture, Gibbs energies and enthalpies interpreted by quasi-chemical group contrib. theory 1−47253
semiconductor, thermochemistry, book contrib. 1−47260
specific heat and entropy 1−7347
superconducting magnet, enthalpy stability criterion for magnets cooled with superfluid helium II 1−52699
superconductor, high current, quench props. 1−47796
trimethyl acetic acid-DMSO-carbon tetrachloride system, PMR obs. of complexing reactions and parameters 1−17049
zeolites, meas. of heat of immersion against water by quartz temp. sensor *(Japanese)* 1−34488
AgCl, Frenkel defects, characteristic parameter thermodynamics 1−42376
$AgCl-CdCl_2(MnCl_2)(FeCl_2)(CoCl_2)$ liquid mixtures, excess enthalpies 1−16046
Al-Si system, thermodynamic functions and phase diagram, optimisation using least squares method 1−53155
Al_2O_3, electrical cond., enthalpy and heat of fusion determ. in temp. range 1570-3100K 1−52315
Au-Ge, liquid alloy, supercooling and thermodynamic props. *(German)* 1−8282
Au-Sn liq. alloys, enthalpy of mixing 1−47244
Ba-Si(Ge)(Sn)(Pb), thermionic emission props. rel. to phase state 1−31298
$BaUO_4$, heat capacity, 5 to 350K, thermodynamic props. to 1100K 1−31901
Bi-bearing binary substitutional solns., thermodynamics 1−30426
$Br+HO_2(H_2O_2)$, reaction kinetics and constants, stratospheric composition 1−39593
C-C laminate composites, thermal and mech. props. 1−7227
$CO_2+Cl^-(I^-)(NO_2^-)(CO_3^-)(SO_3^-)$ reactions, gas phase cluster prod. 1−4061
Ca-Si(Ge)(Sn)(Pb), thermionic emission props. rel. to phase state 1−31298
$CaCO_3$, rate and activation enthalpy of decomposition 1−12992
CaF_2-type crystals, anti-Frenkel defect form. enthalpy 1−20192
$CaNi_5$-H, differential heat flow calorimetry 1−2655
β-$Ca_{0.17}V_2O_5$, specific heat and entropy 1−7347
$CaWO_4$, diffusion controlled crystal growth, kinetic parameters and thermodynamic props. studied by DTA 1−25184
Cd-bearing binary subsititutional solns., thermodynamics 1−7355
Cd-Pb alloy, liq., vapour press. activities, excess enthalpy and entropy of Cd, comp. depend. 1−47257
Ce-Cu liq. alloys, high temp. heat content and heat capacity, levitation calorimetry 1−11877
Cs_2CrO_4, high temp. enthalpy increments and other thermodynamics props. 1−17096
Cu, annealed and deformed, role of vacancies in structural transform. 1−2620
$Cu_n(CN)_n$, sublimation and mass spectra 1−2607
$CuFeS_2$, chalcopyrite, high temp. thermodynamic props. 1−26763
D_2O, enthalpy, saturation states, thermodynamic props., vapour press., virial coeffs. 1−11886
Dy-Co, amorphous, thermal stability, crystn. study by DSC and X-ray diffr. 1−30091
Fe complex, iodobis(N,N,diethyldithiocarbamato)iron(III), antiferromag., sp. ht. and phase transition 1−30951
Fe-Ni alloys, comparison of enthalpy change between $\alpha' \rightarrow \gamma$ and $\alpha \rightarrow \gamma$ transformations, comment 1−53173
Fe-Ni alloys, comparison of enthalpy change between $\alpha' \rightarrow \gamma$ and $\alpha \rightarrow \gamma$ transformations, reply to comment 1−53174
Fe-V (17.6 at.%), mag. diffusion anomaly 1−16082
Ga-Ge-Sn liquid alloys, liquidus surface phase diagrams and enthalpy of formation 1−21761
GaN, thermodynamic props., temp. depend 5 to 300K 1−11882
Gd-Co, amorphous, thermal stability, crystn. study by DSC and X-ray diffr. 1−30091
Gd_2O_3, thermophysical props. in solid phase 1−42551
H_2, equation of state, enthalpy, molar vol., entropy and chemical pot. calc. 1−15566
$HCO^+ + CO(N_2)$, clustering energies and stable struct., ab initio LCAO SCF MO and SCEP calc. 1−33395
$HN_2^+ + CO(N_2)$, clustering energies and stable struct., ab initio LCAO SCF MO and SCEP calc. 1−33395
He exergy-enthalpy diagram construction and use 1−50091
$KAlO_2$, heat capacity 5 to 303K, enthalpy of transition 1−31900
La-H system, calorimetric-equil. method obs. at 917K, thermodynamic parameters 1−35565
$LaNi_5$-H, differential heat flow calorimetry 1−2655
Li aluminates, vaporisation and thermochem. stability 1−52267
LiNCS dimerisation in aprriotic solvents, IR and Raman vibr. study *(French)* 1−31847
Mg, positron trapping at vacancies from annihilation spectra Doppler broadening 1−42725
Mg-Cd system, liq., thermodynamic functions and phase diagram 1−53154
Mg-Cu(Ni) metallic glasses, thermodynamic props. 1−30424
Mg-Pb(Sn), liquid alloy, temp. depend. of mixing enthalpy *(German)* 1−31428
Mg_2NiH_4, thermodynamic and crystallographic studies 1−21714
$Mn_{23}C_6$, enthalpy of formation 1−25461
Mo, solid and liq., enthalpy meas. by levitation calorimetry, 2282 to 3383K 1−20423
N_2 exergy-enthalpy diagram construction and use 1−50091
$NaBeF_4$, enthalpy, high-temp. calorimetry 1−11885
Na_2BeF_4, enthalpy, high-temp. calorimetry 1−11885
Na_2O-GeO_2 glass melts, thermodynamic functions, 1330 to 1540K 1−42552
κ-$Na_{2.74}V_6O_{16}$, specific heat and entropy 1−38549
$O(^1D_2)+NH_3$, product branching ratios and internal energy distrib., enthalpies, fluoresc. spectra, chemiluminescence 1−39607
$PbIn_2S_4$, vaporisation dissoc., computer automated Knudsen and torsion effusion method 1−38523
$SO_2+Cl^-(I^-)(NO_2^-)$ reactions, gas phase cluster prod. 1−4061
Sb-Zn, liquid alloy, association and its energetic effect *(German)* 1−39316
Sc_2O_3, electrical cond., enthalpy and heat of fusion determ. in temp. range 1570-3100K 1−52315
Si (I and II), electronic partition functions and thermodynamic functions at high temps. 1−30421
Si:As, epitaxial CVD, enthalpies of doping element incorporation 1−20589

enthalpy continued
Si:Ga, diffusion, solid solubility, neutron activation anal. and SIMS meas. 1−38594
Si:H, reactively sputtered, amorphous, kinetic anal. of H evolution 1−34574
SiO_2, fused, crystn. kinetics, effect of press. and OH content 1−34270
Sn-bearing binary substitutional solns., thermodynamics 1−30425
β-$Sr_{0.17}V_2O_5$, specific heat and entropy 1−7347
Th-H system, thermodynamic study at 700K 1−30420
Ti, structural transform., role of vacancies 1−2620
VN, thermodynamic props. in homogeneity range 1−30416
$Y+H_2$, chemical thermodynamics, YH_2 enthalpy of formation 1−39606
Zr-Rh(Fe), amorphous, thermal stability, crystn. study by DSC and X-ray diffr. 1−30091

entropy
see also entropy of substances
alloys and metals, entropy and free energy at HCP→BCC transformation temp. 1−25460
attractor, periodic, with positive topological entropy, iterations of transformations on unit interval 1−36561
Bose-Einstein statistics, discovery 1−5071
boson interactions, ground-state particle number, thermodynamic functions and fluctuations 1−11928
cell model with collapse instability 1−9939
chaos in nonlinear difference equations 1−212
chaos onset in Hamiltonian systems, influence of quantisation, Kolmogorov entropy 1−44775
chemically reacting mixtures of fluids and solids, continuum theory 1−31859
classical Hamiltonian systems, chaos, dynamical correl., Kolmogorov entropy 1−44865
computerised tomography scanners, image evaluation by entropy 1−22114
configuration, for Bernel random packing, appl. to crystal-melt interface 1−7061
crystal-melt interface, configurational entropy calc. 1−7061
cyanoanthracenes, vapour phase exciplex, emission spectra and lifetime temp. effect 1−1245
deterministic chaos, one-dimensional discrete process, statistical mechanics 1−40703
discrete isolated system divided into subsystems, non-equilibrium thermodynamics 1−207
discrete model, nonequilib. thermodynamics of heat conduction 1−9805
dynamical semigroups, characterisation of stationary state, entropy production 1−36595
early Universe, entropy generation by dissipative processes near Higgs phase transition 1−5009
fluid mixture, forced Rayleigh light scatt. with chemical reactions *(French)* 1−31162
fluorescent planar concentrator, generalised brightness theorem, thermodynamic limitations 1−31982
flux, evolution and fluctuations, Ginzburg-Landau constitutive equations 1−23136
friction, thermodynamic model 1−38445
gas, monoatomic, thermodynamics of nonlinear constitutive relations 1−29827
gas dynamics, entropy rate admissibility criterion 1−44864
Glansdorff-Prigogine criterion and theorem of minimum entropy production *(Chinese)* 1−23131
gravitating fermions in an infinite configuration space 1−23103
hard-point system, 1-D, infinite, H-theorem, nonequilibrium entropy 1−40742
2,4-hexadiyne-1,6-diol bis (p-toluene sulphonate), phase transitions in partially and fully polymerised crysts. 1−25427
increase in diffusion 1−40729
irreversible thermodynamics 1−208
irreversible thermodynamics of flow in solids 1−1840
Ising model, random, ferro- and antiferromagnetic binary mixture, entropy of spin-glass state at T=0 1−25958
isolated molecules, reduction in selectivity due to chaotic time evolution determ. 1−30418
isomers, conformational anal., enthalpy, entropy and vibr. energy determ., PCILO and CNDO calc. 1−46158
lattice systems, third law of thermodynamics and degeneracy of ground state 1−40721
Lennard-Jones solid, cell-model prediction of melting 1−2593
lipid monolayer phase transitions 1−43847
low-entropy distribution, three-parameter, efficient numerical parameter search 1−6445
membrane, semipermeable, particle and heat exchange, Gibbs eqn. and entropy flux 1−16150
metalloprotein electron transfer reactions, thermodynamics 1−13035
molecules with internal rot., thermodynamic functions calc. using Feynman chronological ordering method 1−14086
multi-temperature system, non-equilibrium thermodynamics 1−207
non-extensive entropies, superadditivity condition 1−27906
non-extensive entropies, superadditivity condition appl. to generalised gas and black hole system 1−32942
nonequilibrium entropy for dynamical systems, coarse graining method 1−40744
nonequilibrium order, statistical mechanical theory 1−23105
nonequilibrium steady states, excess entropy 1−9961
nuclei, rare-earth, fast-rotating, heated, shape 1−10291
organic liquids, unassoc., polar and nonpolar, mol. configs. 1−37355
plasma, anomalous transport due to drift wave turbulence 1−51952
polymer chains, semi-flexible, absence of completely ordered phase in quasi-lattice model 1−18165
polymers, condensed, short-range order, meander model 1−30025
quantum mechanics, nonstationary, increase of entropy with time 1−36592
quantum statistical mechanics, equations of state 1−36562
shape memory alloys, model free energy, mechanics and thermodynamics 1−25457
spin glass, ground state accessibility hypothesis, Edwards-Anderson model 1−7849
spin glass on a linear triangular lattice, random-bond Ising model 1−30949
spin glass phase transition, quantum spherical model 1−47897
stellar core collapse from Si burning termination onwards, lepton loss and entropy fraction 1−54473
torsion, thermodynamical aspect 1−50083

entropy continued
Universe, perturbations in post-recombination epoch, nonlinear evolution 1−36438
Universe, perturbations in postrecombination epoch, linear evolution 1−9746
universe models, low density, entropy perturbations, gravitational growth 1−54675
Bi-bearing binary substitutional solns., thermodynamics 1−30426
CC BiO_3, mass spectroscopic study of gas-phase equilibria 1−39666
$CO_2+Cl^-(I^-)(NO_2^-)(CO_3^-)(SO_3^-)$ reactions, gas phase cluster prod. 1−4061
H_2O_3, thermodynamic functions calc. using Feynman chronological ordering method 1−14086
LiNCS dimerisation in apriotic solvents, IR and Raman vibr. study *(French)* 1−31847
$SO_2+Cl^-(I^-)(NO_2^-)$ reactions, gas phase cluster prod. 1−4061
Si (I and II), electronic partition functions and thermodynamic functions at high temps. 1−30421
Sn-bearing binary substitutional solns., thermodynamics 1−30425

entropy of substances
acetonitrile, pVT data, phase transitions, volume changes, enthalpy and entropy calcs. *(German)* 1−20373
adamantane carboxylic acid complex in cyclohexane, self-assoc. obs. using PMR 1−17050
alkali metal cyanides, structural phase transition theory, thermodynamic props. *(Russian)* 1−7331
alloy cubic to hexagonal lattice transform., thermodynamic theory *(Russian)* 1−20383
alloys, phase diagrams, thermodynamic anal. and synthesis 1−43320
anharmonic crystal, statistical theory of vacancy formation, thermodynamic props. 1−2432
borate glass, alkali, temp. depend. of B coordination, second order transition 1−30363
dielectric materials, multicomponent, prototypes prediction using entropy of electron density 1−42665
2,2-diphenyl-1-picrylhydrazyl-I_2, complex, chemical stability, vapour pressure data, elec. cond. 1−21759
dodecane, pVT data, phase transitions, volume changes, enthalpy and entropy calcs. *(German)* 1−20373
Earth lower mantle rocks, negative press.-temp. slopes of phase transitions 1−17588
eutectic systems, thermodynamic excess functions, derivation from TX phase diagrams 1−20424
fused salts, hard sphere model appl., entropy, heat capacity determ., viscosity coeff. 1−46980
gas, rigid rod-like molecules, statistical thermodynamics near surface 1−25563
gas-solid adsorption, thermodynamic characteristics determ. using computer program 1−43701
graphite, exfoliated, Ne-coated, adsorption of ^4He, 2 to 10K 1−34569
liquid alloys, binary, entropy of mixing, hard sphere model 1−30397
liquid alloys, binary, entropy of mixing 1−7338
liquid metals, thermodynamic props., hard sphere model 1−46988
liquid systems, entropy and conc. fluctuation by photon correlation technique 1−43134
liquids, excess electrons transport behaviour, rel. to other props. 1−47634
metal, liquid, entropy, phonons and atomic packing 1−25459
metal-H systems, solvus entropy 1−52316
metals, liq., entropies, Percus-Yevick phonon theory 1−47256
metals, nuclear magnetism, thermodynamics and mag. reson. 1−52788
naphthalene-I_2, complex, chem. stability, solidus-liquidus curve, elec. cond. 1−21759
naphthalene-pyromellitic dianhydride, heat capacity and thermodynamic functions, 5 to 300K 1−16057
naphthalene-tetracyanoethylene, orientational disorder, heat capacity and thermodynamic function meas. 1−16056
organic rigid rotor molecules in polystyrene matrix, dielec. relax. 1−39033
plexiglass, shock compressed at low temperatures, thermodynamics 1−11813
polymer-diluent system, glass transition temp. calc., excess entropy 1−38515
pyrene-pyromellitic dianhydride, heat capacity and thermodynamic functions, 5 to 300K 1−16057
semiconductor, thermochemistry, book contrib. 1−47260
shock compressed solid at low temperatures, thermodynamics 1−11813
soil physics, thermodynamics, concept of entropy 1−16067
solution containing r-mers, lattice model of surface layer, entropic contrib. 1−52031
specific heat and entropy 1−7347
spin glass, infinite-range model, ground-state entropy calc. 1−30948
TCNQ salt, methyl-ethyl-morpholinium $(TCNQ)_2$, thermoelec. power, semiconductor-metal transition 1−30732
tetrakismethylaminelithium(0), thermodynamic props., DTA study 1−34487
trimethyl acetic acid-DMSO-carbon tetrachloride system, PMR obs. of complexing reactions and parameters 1−17049
undecane, pVT data, phase transitions, volume changes, enthalpy and entropy calcs. *(German)* 1−20373
vibrating dislocations, thermal props. 1−38489
viscous thermo-acoustic waves, entropic waves, in porous tube *(French)* 1−51901
Ag_2S, α—β transition, X-ray and thermographic investig. 1−52277
Al alloy, 6061-T6 Al, flow process of weak shocks, irreversible-thermodyanmic finite-strain theory 1−7260
Au-Si, metallic glass form., hybridisation, short range order, entropy determ. 1−30360
Ba-Si(Ge)(Sn)(Pb), thermionic emission props. rel. to phase state 1−31298
$CO(O_2)$ cryocrystal, thermal expansion, specific heat *(Russian)* 1−30419
Ca-Si(Ge)(Sn)(Pb), thermionic emission props. rel. to phase state 1−31298
$CaSiO_3$, heat of fusion 1−30365
β-$Ca_{0.17}V_2O_5$, specific heat and entropy 1−7347
$CaWO_4$, diffusion controlled crystal growth, kinetic parameters and thermodynamic props. studied by DTA 1−25184
Cd-bearing binary subsititutional solns., thermodynamics 1−7355
Cd-Pb alloy, liq., vapour press. activities, excess enthalpy and entropy of Cd, comp. depend. 1−47257

entropy of substances continued
$Ce_2Mg_3(NO_3)_{12}.24H_2O$, role of imperfections on mag. and thermodynamic props. 1−16448
CeSb, specific heat anal. of mag. phase diagram 1−25936
Co-Si, liq., entropy of mixing, electronic contrib. 1−30398
CoSi liq., entropy of mixing 1−30389
Cs-CsF(CsCl)(CsI) liq. mixtures, thermodynamic props. at 925K 1−30395
Cs_2CrO_4, high temp. enthalpy increments and other thermodynamics props. 1−17096
Cu complex, bis(adiponitrile)copper(I) nitrate, heat capacity, order-disorder transition 1−11878
Cu-Al alloys, low temp. molar heat capacities and interrelations of thermodynamic props. 1−16055
$DyCo_2H_x$ (x=0 to 4.25), H_2 desorpt. isotherms 1−2803
Fe complex, iodobis(N,N,diethyldithiocarbamato)iron(III), antiferromag., sp. ht. and phase transition 1−30951
Fe-Si, liq., entropy of mixing, electronic contrib. 1−30398
$Fe_{3-x}Mn_xSi$, sp. ht. capacity, 4.2 to 460K, mag. ordering effect 1−25955
FeSi, liq., entropy of mixing 1−30389
$Fe_{0.5}Ti_{0.5}H_x$, in equilib. with H_2 gas, phase diagram and thermodynamic parameters 1−8276
GaAs, highly excited, exciton electron-hole plasma system, optical studies 1−52592
GaN, thermodynamic props., temp. depend 5 to 300K 1−11882
GaP, solubility limit of N during zone melting, entropy effects role 1−52294
H absorption in alloys, Lacher theory, multiplateau extension 1−20555
H_2, equation of state, enthalpy, molar vol., entropy and chemical pot. calc. 1−15566
^3He, melting and solidification, in restricted-geometry porous glass substrate 1−2752
^3He, spin polarised, phase transitions, thermal equilibrium and kinetic phenomena 1−2754
^4He, HCP-FCC transition from triple point to 3.9 kbar, calorimetric study 1−20506
$^{160,161}HfCl_4$, thermodynamic props. by gas chromatography 1−26788
K-Cs mixture, weak melting 1−2599
$K_{0.27}V_2O_5$ bronze, sp. ht., entropy and Debye temp., 25-300K 1−38548
La-H system, calorimetric-equil. method obs. at 917K, thermodynamic parameters 1−35565
$LaNi_5$, heat capacities, enthalpy of formation and entropies meas. 1−7348
$LaNi_5$, $LaNi_5H_{0.36}$ and $LaNi_5H_{6.39}$, heat capacities, entropies and enthalpies of form. 1−2654
α-$LaNi_5H_{0.36}$, β-$LaNi_5H_{6.39}$, heat capacities, enthalpy of formation and entropies meas. 1−7348
Li-Pb alloys, liq., entropy of mixing, hard sphere model 1−30397
$Li_{0.27}V_2O_5$ bronze, sp. ht., entropy and Debye temp., 25-300K 1−38548
Mg-Cd system, liq., thermodynamic functions and phase diagram 1−53154
MnO-CoO antiferromag. solid soln., thermomag. study 1−52785
Mo, cpds. and alloys, thermochemical props. 1−21
N_2 cryocrystal, thermal expansion, specific heat *(Russian)* 1−30419
NH_4Br, heat capacity, 265 to 550K, II to I transition 1−16054
$NH_4Br_xCl_{1-x}$, x=0.20, 0.74, solid solutions, heat capacity from 8 to 300K 1−47252
N_2O cryocrystal, thermal expansion, specific heat *(Russian)* 1−30419
Na-Pb, liq. alloy, entropy of mixing 1−30394
Na-Tl, liq., thermodynamic props. 1−16065
Na_2O-GeO_2 glass melts, thermodynamic functions, 1330 to 1540K 1−42552
NaS_2 (1T), thermal expansion meas., entropy changes at CDW phase transitions 1−34494
$Na_{0.27}V_2O_5$ bronze, sp. ht., entropy and Debye temp., 25-300K 1−38548
κ-$Na_{2.74}V_6O_{16}$, specific heat and entropy 1−38549
$^{90m}NbCl_5$, thermodynamic props. by gas chromatography 1−26788
$NbSe_2(2H)$, thermal expansion meas., entropy changes at CDW phase transitions 1−34494
Ni-Si, liq., entropy of mixing, electronic contrib. 1−30398
NiSi liq., entropy of mixing 1−30389
$PbCl_2$-KCl molten mixture, thermodynamic props. 1−25439
Pd, cold-worked, diffusion of ^3H 1−20460
ScF_3, vapour press. and vaporisation thermodynamics, meas. 1−20371
Sm_4Bi_3, mixed valent, phase transition at 2.7K revealed by sp. ht. meas. 1−25432
SnO, metal insulator transition, transport and optical props., thermodynamic model 1−2874
β-$Sr_{0.17}V_2O_5$, specific heat and entropy 1−7347
UAsS, low temp. sp. ht., 1-300K 1−16447
UAsSe, low temp. sp. ht., 1-300K 1−16447
UAsTe, low temp. sp. ht., 1-300K 1−16447
UPd_3, transport props., lattice consts., susceptibility and sp. ht. 1−25698
Y+H_2, chemical thermodynamics, YH_2 enthalpy of formation 1−39606
$ZnSnAs_2$, enthalpy and entropy of form., EMF method obs. 1−43692

environmental engineering
see also air conditioning; cooling; ergonomics; lighting; safety; space heating; temperature control; ventilation
dielectric gases, environmental effect aspects 1−15687
handbook, air and noise pollution control 1−49891
hydroelectric and pumped storage power stations, effectiveness, under severe demands *(Russian)* 1−35601
industrial environment noise measurement method and worker protection measures *(Portuguese)* 1−15339
nuclear power station gas effluent dispersion anal. using wind tunnel simulation of lower atmosphere layers *(French)* 1−32486
shallow solar ponds, economic, technical and environmental factors assessment for efficient power generation 1−53672
solar ejector freon refrigeration machine, cycle design parameters selection 1−13082
solar power heat storage units for heating and refrigeration 1−17302
wind power plants 1−53709

environmental requirements *see environmental engineering*

environmental testing
see also corrosion testing
graphite/epoxy composite, exposed to nonionizing space parameters, prop. changes 1−48615
INSAT-1 solar array design and development summary 1−48864
optical fibres, effect of water on silicone coated silica, multicomponent fibres *(Japanese)* 1−41847

environmental testing continued
steel, stainless, atmospheric pitting, role of non-metallic inclusions 1−39504
steel, stainless, corrosion in sea water, new technique for predicting performance 1−12921
superconducting MHD component test facility 1−53627
Al alloy/C-epoxy laminates, environmental fatigue crack propagation 1−8415
AlGaAs laser diode, hermetically encapsulated 1−37506
Ti alloy/C-epoxy laminates, environmental fatigue crack propagation 1−8415

epitaxial growth
see also liquid phase epitaxial growth; vapour phase epitaxial growth
adamantine ternary epitaxial layers, growth conditions 1−42650
annealing, laser and electron beam techniques, devices and applications *(Japanese)* 1−48199
deposition conditions, impurities and structural defects, effects on film growth, review 1−38681
graphoepitaxy of oriented crystalline overlayers on amorphous substrates 1−20584
III-V semiconductor thin phase epitaxy for ohmic contact form. 1−8223
oxidation, LEED, AES and thermal desorpt. study 1−21621
Al-Cu (4.5 wt.%), epitaxy and surface melting by high powered directed energy 1−47410
CdS(Se)(Te) epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
Cu_2O films, epitaxial growth by oxidation of Cu 1−2844
Ge, solid phase epitaxial growth, review, book contrib. 1−47415
$Ge_{1-x}Si_x$, heteroepitaxial growth by transient heating of Ge-coated Si substrates 1−42643
Ge_xSi_{1-x} films on Si, solid-phase epitaxial growth, struct. and uniformity 1−47414
$NiSi_2$ phase, epitaxial growth on Si substrate 1−2843
Pd_2Si, ion-beam induced epitaxy at Pd-Si interface 1−16196
Si, amorphous, epitaxial growth on (100) Si, channelling, TEM, SIMS studies 1−38677
Si, autoepitaxy by chloride method, electroadsorptive and electrocatalytic activity 1−11988
Si, CVD polycryst. films on (100) Si, epitaxial alignment 1−16197
Si film deposited in solid phase epitaxy, growth conditions 1−47402
Si, ion implanted, laser annealing, epitaxial regrowth 1−52450
Si, ion-implanted, laser-induced solid phase epitaxial crystn. obs. by optical refl. 1−52446
Si, slip dislocation formation during CW laser annealing 1−47085
Si, solid phase epitaxial growth, review, book contrib. 1−47415
Si:Te(Ag), ion implanted, solute trapping by moving interface 1−30470
ZnS(Se)(Te) epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224

epitaxial layers
see also magnetic epitaxial layers; metallic epitaxial layers; semiconductor epitaxial layers
monolayers on FCC and BCC substrates, misfit accommodation 1−30599
$BaTiO_3$, epitaxial ferroelec. films, conditions of epitaxy 1−20577
BeO thin film, preparation, optical and thermal props. 1−16206
MgO epitaxial films, low energy electron reflection and electron affinity 1−16198
$NiSi_2$ phase, epitaxial growth on Si substrate 1−2843
Si-Al_2O_3 heteroepitaxial interface, high resolution TEM obs. 1−52443
$SrTiO_3$, epitaxial ferroelec. films, conditions of epitaxy 1−20577
YAG single cryst. phosphor screen for cathode ray tube, LPE grown 1−8241

epitaxy *see epitaxial growth*

EPR *see paramagnetic resonance*

EPR line breadth
acridine, mol. cryst. matrix, excited triplet state, transient ESR nutation signals 1−7934
amorphous semiconductors, ESR line breadth and spin relax., appl. of master eqn. approach 1−198
copper(II) calcium acetate hexahydrate, EPR linewidth rel. to exchange interactions 1−52830
dibromonaphthalene, structural defect influence on EPR spectra *(Russian)* 1−38981
1,5-dimethyl-nortropinone nitroxide, dimerisation, EPR, thermally accessible triplet state, hopping rate *(French)* 1−47952
electron-nuclear spin system, nuclear relax. and nuclear double resonance *(Russian)* 1−52861
metals, spin correlation effect on paramagnetic relaxation and ESR line breadth 1−21033
molecular crystal, ESR line broadening, spin-lattice relaxation of triplet excitons 1−26016
paramagnetic molecules, EPR linewidth anal., unresolved hyperfine struct. effects 1−14943
photosynthetic systems, effect of orientation in mag. field on signal shape 1−17357
trans-polyacetylene, undoped, EPR, PMR and dynamic nucl. polarisation studies 1−42995
proteins 2Fe-2S, spin-lattice relax. meas. from broadening of EPR spectrum 1−22171
rotational correlation time determ. by electron-spin echoes 1−1259
ruby, cryst. γ-irrad., EPR line widths 1−3244
silica gel, state of adsorbed water, ESR of transition metal ion probe 1−47936
spin probes undergoing jump diffusion, lineshape simulations in nonlinear EPR spectroscopy 1−14945
TCNQ salt, Qn(TCNQ)$_2$, random-exchange Heisenberg antiferromag. chain, crossover behaviour, ESR study 1−3237
tetrachlorobenzene, structural defect influence on EPR spectra *(Russian)* 1−38981
trisverdazyl radicals in 4,4′-dimethoxyazoxybenzene, ESR lineshape, depend. on orientation 1−2314
Wurster's blue perchlorates, exchange interaction, ESR study 1−26039
Al, g-factor of cond. electrons, calc. and appl. to CESR 1−25616
Au-Er dil. alloy, EPR studies of near-surface layer 1−34938
B_2O_3-PbO-Fe_2O_3 glasses, influence of equilibration time on phys. props. 1−26091
$BaTiO_3$:Pt^{3+}, ESR spectrum, dynamic narrowing in rhombohedral phase, Jahn-Teller effect 1−52840
BeF_2 glass, ESR obs. of paramag. states and ferrimag. phases of Fe-group impurities 1−31019
$CaCO_3$:Mn^{2+}, EPR lineshapes in axial and cubic cryst. field 1−16472

EPR line breadth continued
CdS, ESR of shallow donors 1−34925
$CsCuCl_3$, EPR line broadening, effect of cooperative Jahn-Teller effect 1−52833
CsH_2PO_4, ferroelectric phase transition, ESR study 1−12389
Cu complex with L-citrulline amino acid, ESR linewidth, bonding, mag. susceptibility, hyperfine struct. 1−52834
Cu-Nb sandwiches, transmission ESR above and below supercond. transition 1−21049
Cu(II) complexes, paramag., EPR linewidth anal., unresolved hyperfine struct. effects 1−14943
Cu(II)bis-(diethyl-dithiocarbamato):Zn(II) bis-(diethyl-dithiocarbamato), ^1H ENDOR spectra, ESR linewidth 1−16502
GaAs:Cr^{3+}, EPR, Jahn-Teller centre with stress dependent reorientation field 1−7940
$Gd_{1-x}R_xAl_2$ (R=Dy, Ho, Er), ESR spectra, g-factor and thermal broadening 1−34935
Ge_xSe_{1-x}:Mn^{2+} glasses, chalcogen-rich, EPR study 1−31020
$KFeS_2$, temp. depend. of ESR linewidth 1−12391
$KMnF_3$:Ni^{2+}(Fe^{2+})(Co^{2+}), effect of paramag. impurities on EPR linewidth 1−26022
K_2SeO_4, incommensurate phase, EPR lineshape study 1−47932
Li-methylamine solution, CESR obs. of metal-nonmetal transition rel. to miscibility gap 1−26037
Li-NH_3 solution, CESR in metal-nonmetal transition range 1−26036
Li-Zn bimetallic film; diffusion and solubility of Zn, CESR obs. 1−12402
$MgCr_2O_4$, ESR of Cr^{3+} paramag. ion 1−26025
MgO:Cr^{3+}, ESR line broadening at liquid helium temps. 1−31018
MgO:Cr^{3+}(Co^{2+})(Fe^{3+})(Ni^{2+})(Gd^{3+}), ESR study 1−34934
MgO:Fe_3, ESR line broadening of Fe^{3+} at low temps. 1−12390
MgO:Fe^{3+}(Mn^{2+}), EPR lineshapes in axial and cubic cryst. field 1−16472
MgO:Ni^{2+}, ESR linewidth mechanisms 1−47938
$NH_4Ce(SO_4)_2.4H_2O$:Gd^{3+}, EPR and IR spectra, phase transitions, spin-lattice relax. 1−34936
Na_2O-SiO_2 glass, Fe^{3+} ion clusters form., ESR linewidth anomalies 1−52837
$Pb_{1-x}Mn_xTe$, bottleneck effect in ESR linewidth 1−52832
PbO-SiO_2 glass, Fe^{3+} ion clusters form., ESR linewidth anomalies 1−52837
Rb_2MnCl_4, EPR line width, temp. depend. 1−26028
SiN_x:H plasma-deposited films, ESR study 1−42994
SiO_2, glassy, γ-irrad., ESR study of E′-centres, ^{17}O, ^1H, and very weak ^{29}Si superhyperfine struct. 1−21048
$Sn_{1-x}Cr_xTe$, structural phase transition, spin reson. study 1−52831
$TiBe_2$, exchange enhancement evidence from ESR 1−26014
V_2O_5, incorporation of Li, ESR study 1−34932
V_2O_5:WO_3 amorphous, EPR study, random glass struct., electron localisation 1−47937
V_2O_5-P_2O_5 glasses, low temp. electron paramag. props. 1−7936
$Y_{1-c}H_{1.92}$:Er_c, EPR linebreadth 1−38969
$Zn(ClO_4)_2.6H_2O$:Mn^{2+}, EPR study, 77 to 300K, hyperfine forbidden transitions 1−26019
$ZnCr_2O_4$, EPR line breadth, temp. depend. near T_N 1−38966
ZnO, adsorption of H, accumulation layer CESR meas. 1−12400

EPROM *see PROM*

E²PROM *see PROM*

epsilon meson resonances *see eta meson resonances*

equalisers
dummy head-headphone system, equalisation method for precise reproduction of original sound 1−6743
loudspeaker dynamic equalisation using analogue electronic control cct. 1−15341

equations
for equations used in specific subjects, see the specific indexing heading see also Bethe-Salpeter equation; differential equations; equations of state; integral equations; nonlinear equations
finite difference equations in meteorology, correctness of height difference eqns. in weather forecasting problem *(Russian)* 1−9206

equations of state
see also equations of state of gases; equations of state of liquids; equations of state of solids; phase transformations; thermodynamics
adsorbed fluid phases, thermodynamic props., virial coeffs., Lennard-Jones fluid, Monte Carlo simulation, quantum corrections 1−47366
adsorbed layer, partially localised, nonadditive hard disc model 1−2815
atom+rigid rotor scatt., virial theorem for inelastic molecular collisions 1−10809
cluster expansions and virial coeffs., matrix calculus 1−18146
dielectric permittivity meas. as aid in press. and density determ., high press. studies 1−28019
early Universe, effects of changes in eqn. of state on primordial gravitational-wave spectrum 1−44429
Earth lower mantle, negative press.-temp. slopes of phase transitions 1−17588
electron gas, low density phases, quantum Monte Carlo method 1−165
fluids, precise meas. of PVT props. *(Japanese)* 1−34455
gelatinous media, rheological equation of state, sound dispersion 1−25399
hard dumbbell fluids, eqn. of state, Monte Carlo simulation 1−11655
hard-sphere fluids, dipolar, second dielectric virial coefficient determ. 1−3315
hot dense matter, composition and eqn. of state, supernova explosion 1−32616
intermolecular interaction, potential reconstructed on basis of virial coefficients 1−51260
liquid-vapour, equilibria, pure substances and mixtures, miscibility gap, equation of state 1−20352
Medusa laser compression simulation, eqn. of state 1−28703
metals, melting curves and Gruneisen coeff. at high press. *(French)* 1−38513
mixtures, material constants 1−35496
neutron star matter, eqns. of state rel. to cooling curves 1−9549
one-component system with long-range forces, equation of state 1−36596
percolation phenomena, scaling studies, thermodynamic equation of state 1−44851
photonic compression, lasers for high press. eqn. of state meas. 1−29242
plasma, degenerate, at densities above nuclear, eqns. of state 1−36167
polyatomic molecules, modified form of pot. energy functions, expressions for second virial coeff., force const. 1−51259
pressure measurements, absolute, high press. 1−32995
quantum statistical mechanics 1−36562

equations of state continued
shock wave/particle vel. quadratic relationship, eqn. of state 1−38494
shock waves, laser driven, impedance-match expts. 1−38458
solid-liquid-gas equilibria, modified Van der Waals eqn. of state 1−30348
stellar plasmas equation of state, analytical version of free-energy-minimisation method 1−27483
supernova interior, eqn. of state rel. to axisymmetric relativistic shock waves propag. 1−17762
supernova matter, eqn. of state 1−9361
underwater high power explosion, equations of state calcs. involving vaporization 1−46779
Universe, eqn. of state rel. to hydrodynamics of primordial black hole form. 1−13799
vapour-liquid equilibria, cubic perturbed, hard sphere eqns. of state 1−204
Yang-Lee edge singularity, equation of state and dynamical props. 1−32940
H plasma, equation of state up to 10 Mbar 1−46854

equations of state of gases
dense fluid, analytical eqn. of state, first-order quantum perturbative corrections *(Russian)* 1−30504
gas-gas equilibria, symm. model, theoretical eqn. of state 1−6915
inert gases, at high pressures, improved eqn. of state 1−24909
inert gases, equation of state for high press., rel. to fission gas behaviour 1−15569
inert gases, equations of state, optical data from MFP code 1−19854
inorganic gases, Redlich-Kwong-Soave eqn. of state, pure component parameters 1−20351
methane, Bender's eqn. of state, 91 to 625K and press. to 500 bar 1−30350
methane, eqn. of state of solid and fluid phases 1−16014
methane, second dielectric virial coeff. calcs. 1−10676
methane-propane (5 mol.%) mixture isochoric P-V-T surface meas. 1−52255
nonassociating gases, Van der Waals type eqn. of state, modified 1−6912
polar gaes, second virial coeff. correlation by Redlich-Kwong eqn. of state 1−38035
rare gases, extrapolated equation of state at high temps. and densities 1−42119
real gas characteristics, van der Waals eqn. program for pocket calculator *(German)* 1−24912
real gases, equation of state proposed on basis of geometric struct. and thermodynamic surface anal. 1−11484
relativistic quantum gases, ideal, exact equation of state 1−214
semi-empirical equation of gaseous matter state *(Russian)* 1−6913
shocks, finite-strength, converging, in non-ideal gas 1−51817
tetrafluoromethane, second dielectric virial coeff. calcs. 1−10676
vapour-liquid equilibrium calc., simple and generalised eqn. of state 1−47218
virial-type series, rate of convergence anal. 1−42117
Ar, van der Waal's partition function for fluids, second virial coeffs. 1−42116
Ar, visible spectrum refractivity under variable press. *(French)* 1−6924
H_2, equation of state, enthalpy, molar vol., entropy and chemical pot. calc. 1−15566
H_2O, van der Waal's partition function for fluids, second virial coeffs. 1−42116
H_2O vapour, effective potential 1−29821
He, dielectric constant gas thermometry from 4.2 to 27.1K 1−40787
He Freon-12 mixture, gas-gas phase equilib. calcs. 1−6916
Kr, dense gas, struct., Monte Carlo calcs., virial expansions, rel. to exptl. data 1−2131
N_2, virial eqn. of state, speed of sound meas., 80 to 350K, press. to 1.5 MPa 1−46846
SF_6, pure, PVT obs. near crit. pt., scaling hypothesis verification 1−38036

equations of state of liquids
alkali halide, molten, elec. cond. at high press., press. effects separation using PVT data 1−38570
alkali metals, 0K compression isotherm from P-V relations 1−30353
binary fluid system, thermal props., effective pot. method 1−15779
binary fluid systems, experimental evidence for the universality of the pseudospinodal 1−11837
crystal-liquid instability and pressure-induced glass transition 1−38491
dense fluid, analytical eqn. of state, first-order quantum perturbative corrections *(Russian)* 1−30504
diatomic symmetric mol. fluid, RISM eqn. soln., behaviour at zero density and convergence props. 1−38221
Earth, core, shock wave data and composition 1−44156
ethene, compressed fluid, (p,V,T) and melting line 1−16015
ethylene, low-temperature PVT data by NMR method 1−25350
gravitational motion of fluid obeying equation of state 1−36536
hard-core model, dimensionality and universal strong coupling eouations of state 1−11650
hydrocarbons effect of shock waves, liquid cryst. model, Hugoniot curves 1−47136
Lennard-Jones fluid, fifth virial coeff. in two dimens., integral equation results 1−11652
Lennard-Jones fluids, thermodynamic props., quantum mech. effects 1−52036
liquid crystals at high press. 1−38272
liquid near critical point, scaled eqn. of state and virial expansion, equilibrium props. 1−16013
liquid-gas system, experimental evidence for the universality of the pseudospinodal 1−11837
methane, aq. soln., hydrophobic correl., solute-solvent attractive forces effect 1−7066
methane, Bender's eqn. of state, 91 to 625K and press. to 500 bar 1−30350
methane, eqn. of state of solid and fluid phases 1−16014
molecular dynamics, computer simulation, short-range interactions 1−34210
nematics, hard core eqn. of state 1−2586
poly(maleic acid-co-ethyl vinyl ether), dil. soln. props., light scatt., osmotic press. and viscosity meas. 1−46984
poly(maleic anhydride-co-ethyl vinyl ether), dil. soln. props., light scatt., osmotic press. and viscosity meas. 1−46984
polyatomic liquids, thermal cond. and virial coeff. 1−7399
polydimethylsiloxane, mixtures with solvents, combining rules, segment functions, thermodynamic excess functions 1−26765

equations of state of liquids continued
polymer melt and concentrated soln., constitutive eqn. derived from model of Doi and Edwards 1−42074
primitive diagram contribution to ion-ion mean force potential calcs. *(Russian)* 1−34456
relativistic charged fluids, virial theorem 1−19838
toluene, press. effect on US vel., −95 to 50°C, eqns. of state validity 1−38471
van der Waal's partition function for fluids, second virial coeffs. 1−42116
Van der Waals mixtures, binary fluid, critical lines and phase equilibria 1−52254
vapour-liquid equilibrium calc., simple and generalised eqn. of state 1−47218
virial coeff. anal., hard convex body fluids 1−42505
virial-type series, rate of convergence anal. 1−42117
zero-temperature isotherm calc. for inverse power pots. and Lennard-Jones system 1−34457
zero-temperature isotherms, quantum corrections, Debye temp. 1−34454
Ar, liq., shock compression, 21 to 91 GPa, eqns. of state calc. 1−30288
Ar, orthobaric liq., molar vel. and isothermal compressibility, pVT data 1−38422
Ar, van der Waal's partition function for fluids, second virial coeffs. 1−42116
CO liquid, equations of state 1−38496
Cs fluid, thermodynamic and elec. props., metal-nonmetal transition region 1−25774
D_2 liquid, shock compression data 1−38495
D_2O, enthalpy, saturation states, thermodynamic props., vapour press., virial coeffs. 1−11886
H_2, equation of state, Debye temp., isotope effects, quantum corrections 1−34457
H_2 liquid, shock compression data 1−38495
HBr-H_2O mixtures, PVT relations up to 550°C and 1500 bar 1−38500
H_2O, van der Waal's partition function for fluids, second virial coeffs. 1−42116
He, sound velocity and eqn. of state meas. at high press. 1−38612
^{3}He-^{4}He mixture, excess molar volumes, conc. depend. *(Russian)* 1−20500
^{4}He, isothermal compressibility calc. using analytical eqn. of state *(Russian)* 1−30504
^{4}He, liquid, thermal conductivity in critical region 1−52374
Hg and dilute amalgams, elec. and thermodynamic props. behaviour at high press. and temp., metal-nonmetal transition 1−25773
Hg, expanded fluid, sound vel. and thermodynamic props., metal-nonmetal transition 1−25373
Hg-In amalgams, thermodynamic and electron transport props. in metal-nonmetal transition range 1−25770
N_2, liq., shock compression, 21 to 91 GPa, eqns. of state calc. 1−30288
N_2 liquid, equations of state 1−38496
N_2, saturated and compressed fluid, (p,V,T) meas. 1−30351
N_2-methane mixture, compressed and liquefied, (p,V,T) meas. 1−30352
Na, liquid, equation of state and internal energy *(French)* 1−7285
NaCl solution, P-V-T data, 20 to 600°C and up to 4 kbar 1−42507
O_2, liq., shock compression, 21 to 91 GPa, eqns. of state calc. 1−30288
O_2 liquid, equations of state 1−38496
Rb, fluid, thermodynamic and elec. props., metal-nonmetal transition region 1−25774

equations of state of solids
Al, type 6061-T6, dynamic pressure-shear loading using anisotropic crystals 1−7259
alkali metals, 0K compression isotherm from P-V-T data 1−30353
anharmonic crystal, statistical distrib. function, theory 1−27901
anomalous acoustic velocity at high press. in superstrong mag. field in condensed matter 1−20320
t-butyl chloride, P-T phase diagram of three solid phases *(French)* 1−2589
corrections, intrinsic anharmonic and quantum, temp. and press. depend., geophysics appl. 1−42504
diamond, melting, eqn. of state model 1−34462
ferromagnets, magnetic correlations, quenched random fields 1−34899
geophysics, high press. phenomena 1−32416
graphite 2239, equation of state study using relativistic electron beam 1−2588
graphites, three types, shock-compression parameters and phase transitions to 120 GPa 1−25372
high pressure scale, calibration 1−32953
hollandite ($KAlSi_3O_8$) 1−44170
isotherm uncertainty from Hugoniots, shock wave generated defects 1−42464
metal, non-transition, equation of state, density functional approach 1−38498
metals, pseudopotential calcs. *(Chinese)* 1−2587
methane, eqn. of state of solid and fluid phases 1−16014
orientationally disordered solid, eqn. of state and internal phonon radiation press. 1−38493
plastic crystal, dielec. const. and PVT meas. at low temps. up to 3000 bar 1−39026
plastic crystals at high press. 1−38272
plexiglass, shock compressed at low temperatures, thermodynamics 1−11813
polar and nonpolar compounds, Redlich-Kwong-Soave eqn. of state, pure component parameters 1−20351
polymer, cryst. and semicryst., theory 1−38499
polymeric composites, linear viscoelasticity, model rheological eqns. of state 1−16827
selfconsistent cell model calc. 1−30349
shock compressed solid at low temperatures, thermodynamics 1−11813
shock poles of bodies with compact isotropic struct., calc. using Morse pot. *(French)* 1−38456
shock wave research, continuous loading, experimental techniques 1−39583
thermal shock generation in solids irradiated by intense pulsed relativistic electron beam 1−38460
thin films, magnetic props. and eqn. of state 1−30991
zero-temperature isotherms, quantum corrections, Debye temp. 1−34454
Ag, band structure and eq. of state calc. *(French)* 1−16223
Ag, elastic constant depend. on press. 1−52215
Al alloy, 6061-T6 Al weak-shock eqn. of state, shock-profile jump eqns. 1−7261
Al, Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
Al, lattice mechanical and electronic props., unified calc. 1−42488

equations of state of solids continued
Au, elastic constant depend. on press. 1−52215
CaF_2, cohesive props., equation of state, lattice parameters, LMTO calc. 1−20109
Fe, porosity development, thermodynamic determ. *(French)* 1−39318
GaP single cryst., elastic moduli and press. derivatives 1−34398
H_2, solid, metallic, equation of state, density functional approach 1−38498
H_2, solid, molecular and metallic, eqns. of state, density functional approach 1−38497
He, sound velocity and eqn. of state meas. at high press. 1−38612
InP single cryst., elastic moduli and press. derivatives 1−34398
K, Gruneisen parameter at high press. 1−34451
K, Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
LiF, flash X-ray diffr. to 100 GPa for eqn. of state meas. 1−42466
$LiIO_3$, high press. eqn. of state and phase transform. *(Chinese)* 1−2610
Mg, Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
MgIn $L1_0$-type ordered alloy, anisotropic lattice compression 1−34425
Na, Gruneisen parameter at high press. 1−34451
Na, Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
NaCl, thermal expansion up to 32 kbar and 500°C 1−34495
Pb, Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
PdZn $L1_0$-type ordered alloy, anisotropic lattice compression 1−34425
Ti-Al-V (6, 4 wt.%), Hugoniot curve meas. with commercial manganin gauges 1−42506
Ti_2FeO_x (CoO_x) (NiO_x) ($0 \leq x \leq 0.5$), hydrogenation characts. 1−21715
U pnictides (chalcogenides), electronic struct. and bonding 1−47466
UN, electronic struct. and bonding 1−47466
UO_2, cohesive props., equation of state, lattice parameters, LMTO calc. 1−20109

equilibrium, chemical *see chemical equilibrium*

equilibrium, phase *see phase equilibrium*

equilibrium constants *see chemical equilibrium*

equilibrium diagrams *see phase diagrams*

equivalent circuits
see also network analysis; network synthesis
diode laser, intrinsic elec. equiv. cct., spontaneous emission and self-pulsation effects 1−41697
elastic wave equivalent electrical ccts. and wave eqns. *(Japanese)* 1−1873
electromechanical and electroacoustic ccts. for spherical solid and liquid layers 1−20323
EM wave transmission through narrow slots in thick conducting screens, slot equiv. cct. model 1−1445
infrasound detection by acoustic system, lumped and distributed equiv. cct. 1−6728
marine seismic streamer systems, response from equivalent circuit anal. 1−22509
metal wire in ionosphere plasma, transmission line model 1−32580
MIS photocapacitor/LED electrometric voltage modulator 1−28027
non-metallic solids and liquids, interface effects in elec. response 1−52907
power transformer models, for transient studies based on field meas. 1−38949
RF magnetron and non-magnetron planar system electrical characteristics 1−2172
solar cell performance degradation by areal inhomogeneity 1−8724
transmitter release at neuromuscular junction, equivalent circuits model 1−39907
CdS chemically sprayed film and cell analysis, structural approach 1−8723
Cu_2S/CdS solar cell, mesh grid struct., series resist. anal. using equiv. cct. representation of ohmic losses 1−35652
He, liq., electron mobility in surface state, simplified equivalent circuit anal. 1−11930
ZrO_2, stabilised, with porous Pt electrodes, AC admittance meas., elec. response, equivalent circuit representation 1−7381

erbium
see also nuclei with .....
atoms, radiative lifetimes of optical levels 1−24083
EELS study, clean metal and under H_2 and O_2 exposure 1−48204
first spectrum, description and classification 1−10683
magnetoelastic effects, US meas. 1−31007
photoluminescence of alkaline earth sulphide phosphors activated with Cu and Er 1−39133
UPS after exposure to O_2, H_2, H_2O 1−39221
$Bi_4Ge_3O_{12}$:Er^{3+}, crystal field anal., optical spectra 1−38752
CaF_2: CaF_2:Er^{3+}, optical f-f transitions, strain modulation 1−12531
CaF_2:Er, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
CaF_2:Er^{3+}, dipole spin glass obs., mag. susceptibility *(Russian)* 1−21000
CaF_2:Er^{3+}, laser spectroscopy of defect chemistry 1−43142
CaF_2:Er^{3+}, strain shifts of energy levels, second-order orbit lattice parameters 1−12077
CaO-P_2O_5:Er^{3+} glasses, protonated and deuterated, luminesc. quenching 1−43179
Cs_2NaYCl_6:Er^{3+}, relaxation data of lanthanides in matrix, orbit-lattice interaction model 1−38979
Er, Ho:$LiYF_4$, laser emission at 0.75, 0.85, 1.22, 1.4, 1.73 and 3.9 μm, using Nd:BEL tunable pump source 1−46359
Er IV, $4f^N5d$ and $4f^N6s$ states, config. interpretation by generalised parametric method 1−37088
Er^{3+}, excitation dragging in strong noncoherent interaction with Yb^{3+} in YAG crystals 1−12583
Er^{3+}: glass (phosphate, germanate, tellurite), radiative and nonradiative transition probabilities 1−26236
Er^{3+}:$LiYF_4$, $^4I_{11/2} \rightarrow {}^4I_{13/2}$ 2.8 μm laser transition, Stark level identification 1−29288
Er^{3+}:YAG crystal, population inversion mechanism between the $^4I_{11/2}$ and $^4I_{13/2}$ levels 1−1573
Er^{3+}:YAG giant laser pulse irradiation of YAG and $LiNbO_3$ crystals for optical strength study 1−33732
Er^{3+}:YAG Q-switched crystals, giant laser radiation pulses 1−51490
Er-Si interfacial reaction, silicide form., ion implantation effect 1−38672
$Gd_3Ga_5O_{12}$:Er, garnet; molecular light scatt., photoelasticity 1−21221
Ho,Er:$LiYF_4$, dual wavelength (0.75 and 0.85μm) laser operation 1−29289
LaH_2:Er^{3+} susceptibility and ESR, cryst. field params. 1−43007
$LuAl_2$:Er, crystalline elec. field, magnetisation meas. 1−47593
ScH_x:Er, proton interactions in vicinity of impurity 1−20255
$ScH_2(D_2)$:Er, H(D) site energies, isotope effect, ESR study 1−21045
SrF_2:Er^{3+}, optical f-f transitions, strain modulation 1−12531

erbium continued
YAG:Er, garnet, molecular light scatt., photoelasticity 1−21221
YAl_2:Er, crystalline elec. field, magnetisation meas. 1−47593
YF_3:Yb, Er, IR convertors, heating effect quantitative evaluation 1−43163
$Y_{1-c}H_{1.92}$:Er_c, EPR linebreadth 1−38969
$YH_2(D_2)$:Er, H(D) site energies, isotope effect, ESR study 1−21045

erbium alloys
amorphous, mag. and elec. props. 1−25991
AlEr dirty supercond. films, charge imbalance relax. in presence of pair-breaking interaction 1−38891
Au-Er dil. alloy, EPR studies of near-surface layer 1−34938
Cu-Er (0.04 at.%), EPR spectra of Er^{3+} ions, uniaxial stress effect 1−47944
Er-H solid solutions, mag. transitions, elec. resist. meas., 4.2 to 100K 1−7833
$ErAl_2$, exchange coupling depend. on interatomic distance 1−7825
$ErAl_xGa_{2-x}$, lattice consts. and phases, X-ray diffr. and microprobe anal. 1−20128
$(Er_{75}Au_{25})_{90}B_{10}$, elec. and mag. props. 1−3149
$ErBe_{13}$, crystal field parameters determ. by inelastic neutron scatt. 1−25675
$ErCo_2$, ground-state spin dynamics, neutron inelastic statt. meas. and Green's function RPA calc. 1−34874
$ErCo_2$, transport props. rel. to mag. ordering transition 1−42747
$ErCo_3$, magnetostrictive strains, 77K to room temp. 1−21023
$Er_{67}Co_{33}$, metallic glasses, defect struct., positron studies 1−43205
ErCu, competition between multi-q antiferromagnetic struct. 1−25883
$ErFe_2$, H absorption isotherms, Lacher and Rees theories, enhancement 1−52417
$Er_{1-x}Fe_x$, amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
Er_6Fe_{23}, magnetostriction, anisotropic 1−26008
$ErGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
Er_5Ge_3, elec. and mag. props. 1−20704
Er_5Ir_3, Er_3Ir_2, cryst. struct. 1−34289
$ErMn_2$, X-ray absorption spectroscopic study 1−43219
Er_6Mn_{23}, surface oxidation and electronic struct. 1−38708
$Er_6Mn_{23}H_{23}$, magnetisation meas., search for mag. ordering 1−12356
$ErNi_2$, Laves phase, magnetostriction meas. 1−12375
$Er_2Ni_{21}B_6$, struct. from X-ray diffraction *(Ukrainian)* 1−15835
$ErRh_4B_4$, magnetic field depend. of neutron scatt. 1−7813
$ErRh_{1.1}Sn_{3.6}$, re-entrant supercond., ^{166}Er and ^{119}Sn Mossbauer studies 1−43053
$ErRh_{1.1}Sn_{3.6}$, reentrant supercond., low field magnetisation studies 1−42898
$ErTi_2Ga_4$, crystal structure by X-ray diffraction *(Ukrainian)* 1−20117
$Er_xY_{1-x}Cu$, antiferromagnetic ordering, resistivity and sp. ht. 1−25699
$Er_{1-x}Y_xFe_2$, 77 to 650K, magnetisation and extraordinary Hall effect 1−34684
$Gd_{1-x}Er_xAl_2$, ESR spectra, g-factor and thermal broadening 1−34935
$Sm_{2-x}Er_xCo_{10}Cu_{1.5}Fe_{3.2}Zr_{0.2}$ magnet 1−7901
$Sm_{2-x}Er_xCo_{17-y}Mn_y$, magnetic props. 1−25930
Tb-Er, mag. props., susceptibility and magnetisation meas. 1−25896
$Y_xEr_{1-x}Al_2$, crystal fields determ. from paramag. anisotropy and neutron scatt. 1−20683

erbium compounds
see also erbium alloys
Bi_2O_3-Er_2O_3, O^+ ion conductors, prep. and props. for low temp. use 1−16088
Er IG, optical reflectivity and thermoreflectivity 1−31117
$Er_3Al_{5-x}Ga_xO_{12}$, garnet film, crystallisation from soln. in melt 1−34588
$ErAlO_3$, Mossbauer effect, hyperfine parameters, mag. ordering, relaxation 1−12434
ErC_x, (x=0.6), ferromagnetism, crystal field effect, crystallite orientation, neutron diffr. obs. 1−47852
$ErCl_3$-AlC_3 (A=Al, Ga, In), high temp. vapour complexes, laser-induced fluoresc. and Raman spectra 1−14950
$ErCrO_3$, adiabatic spin reorientation obs. 1−25953
$ErCrO_3$, domain wall energy, Faraday effect meas. 1−25974
ErD_2, cryst. elec. fields, neutron energy loss spectra study 1−34669
$ErFeO_3$, Faraday rotation spectra, cryst. field states 1−8045
$ErFeO_3$, magnetostriction isotherms, spin-flip transitions *(Russian)* 1−12380
$ErFeO_3$, magnon softening, inelastic light scatt. study 1−26208
$Er_3Fe_5O_{10}$, non-collinear mag. structure, assoc. with compensation temp., neutron diffr. study *(French)* 1−52747
$Er_3Fe_5O_{12}$ garnet, Faraday rotation meas. 1−26176
$Er_4Ge_3O_8(OH,F)_6$, cryst. struct. determ. 1−25225
$(Er_{1-x}Ho_x)Rh_4B_4$, reentrant ferromag. supercond., magnetisation meas. 1−20914
$Er_{1-x}Ho_xRh_4B_4$, reentrant ferromag. supercond., mean field theory for T_{c2} min. in phase diagram 1−47782
$Er_{1-x}Ho_xRh_4B_4$, supercond. phase diagram, fluctuation theory *(Russian)* 1−12238
Er_7I_{10}, Er_4I_5, cryst. struct., condensed clusters *(German)* 1−34310
ErIG, rare-earth-FE superexchange interaction 1−20973
$ErMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
$ErMn_2N_{1.5}$, ^{166}Er Mossbauer spectra and X-ray diffr. study 1−3304
$Er_{0.5}Mo_6Se_8$, supercond., Mossbauer studies of coexistence of mag. order and supercond. 1−26101
ErO_x dissoc. energies mass spectra results correl. 1−17044
Er_2O_3 addition to Al_2O_3, effect on sintering *(Japanese)* 1−43305
Er_2O_3, Fourier transform photoacoustic spectroscopy 1−23316
$ErRh_4B_4$, oscillatory mag. fluctuations near superconductor-to-ferromag. transition, small-angle neutron scatt. study 1−30883
$ErRh_4B_4$, ultrasonic attenuation coeff. temp. depend., 1.5 to 20K 1−20918
$ErTiO_3$, magnetic struct. 1−25892
δ-$KEr[PO_3]_4$, cryst. struct. determ. 1−25230
α-$KEr[PO_3]_4$, cryst. struct. determ. 1−30192
Li_2O-La_2O_3-Er_2O_3-P_2O_5 glass, Γ-irrad. paramag. centres, ESR spectra 1−43010
$Sm_xEr_{3-x}Ga_yFe_{5-y}O_{12}$ thin films, high coercivity, thermomag. writing 1−25943
$(YErCa)_3(FeGe)_5O_{12}$, garnet films, magnetic loss, domain wall motion 1−16465

erbium compounds continued
YSmErCaGeIG and YSmErGdLuCaGeIG bubble garnet films, collapse field temperature charact. 1−42987
$(YSmErGdLuCa)_3(FeGe)_5O_{12}$ bubble films with collapse-field temp. coeffs. from −0.3 to 0%/°C 1−7906

erection
900 MWe PWR erection programme in France *(French)* 1−23845
1300 MWe PWR erection programme in France *(French)* 1−23846
heat storage project, long term *(German)* 1−43809
LMFBR liners design for reduced erection costs 1−33286

ergodic theorem *see statistical mechanics*

ergonomics
see also human factors; man machine systems
ocular focusing on visual task, ergonomic problem meas. by laser beam *(Italian)* 1−4392
visual colour discrimination from the ergo-ophthalmological stand point 1−48994
visual ergonomical terms, visual vs. functional visual field 1−4265

erosion
Alpine earth pillars, origin and hydrodynamic formation *(German)* 1−27158
N.America, glacial erosion depth estimated from Atlantic sediments 1−49277
cliff and beach erosion supplying particles to World Ocean 1−54074
coastal structures, lab. investig. of induced wave and current system 1−40135
Columbia River basis, erosional processes rel. to ^{243}Cm, ^{244}Cm contents of river sediments 1−8777
debris flows at Mt. Thomas, New Zealand, erosion and deposition 1−13492
drainage basin development, effect of variable rainfall 1−32470
drainage ditches, erosion effects on bed-load yields in mid-Wales 1−13494
Greenland, glacial erosion depth estimated from Atlantic sediments 1−49277
Kerala coast, India, shoreline deforms. rel. to shore protection structs. 1−54067
Mars, surface erosion caused by Viking descent engine plume 1−49555
microcline perthite, dislocation etching rel. to natural weathering 1−49267
plutonic conglomerate form. from rock and mineral erosion *(Russian)* 1−13498
Walker Creek, Californian coastal stream, Holocene profile changes 1−13493
Zin valley badlands, Negev, runoff and erosion processes 1−13491

error analysis
see also error correction
barometric elevations in northern Nigeria 1−17646
fission reactor safety, technique for analysis and error detection for thermohydraulic system data 1−45663
gravimetric adsorption measurements 1−50106
leakage error in fast Fourier analysis 1−24603
marsh hydrology model, water level and storage release anal. 1−36005
mechanical impedance meas. using impedance heads 1−37861
microprocessor performed statistical measurements, methodical errors anal. 1−23156
minimum problem, interpretation of shape of likelihood function around minimum 1−13998
minimum variance analysis of interplanetary magnetic field directional discontinuities 1−13654
multigroup method for shielding calcs., error estimate 1−5822
non-Gaussian error distributions statistical error boundaries 1−23155
pilot balloon position using double theodolite method, error anal. 1−22507
rainfall-runoff models, adaptive filtering through isolated transient errors detect. 1−36011
satellite geodesy, least squares estimate, recurrent algorithm error anal. *(Chinese)* 1−40035
semiconductor laser amplifier noise and error rate performance in PCM-IM optical transmission system 1−15283
stacked-actuator deformable mirror parameters and optical performance 1−46496
old stellar parallaxes, compilation and probable error recalibration 1−40461
submarine acoustic transmission channel, probabilities of errors *(French)* 1−24581
thermal radiation transfer in planetary atmosphere, error anal. for fast exact scatt. code 1−4762
two-dimensional motion of aerosol particles in an electric field at Reynolds numbers greater than unity 1−8626
wave propagation in inhomogeneous medium, variational numerical soln. 1−49946

error compensation
see also error correction
AF current transformer capacitive error elimination 1−28032
electroacoustical digital coordinate measurement, improvement of accuracy 1−23172
SIMS quantitative analysis methods 1−378

error correction
astrometry, corrections to declinations of star pairs of ZTL-180 Polkovo zenith programme *(Russian)* 1−13666
astronomical telescopes, polar axis orientation and clock errors determ. and correction 1−40347
deformable mirror correcting capability rel. to wavefront sensor charact. and spatiotemporal coupling 1−46494
electron microprobe analysis, quantitative, data handling and correcting program *(Chinese)* 1−39697
Fabry-Perot interferometry, temp. evaluation from spectral line breadth, computer appl. 1−332
gravity meas., tidal corrections for precise meas. in Izu peninsula, Japan 1−4409
machine-readable digital data encoding within human-readable imagery 1−46247
natural object control by internal reflection spectrometry 1−32073
passive IR imaging system errors due to reflected ambient flux 1−24520
Potsdam gravity system, correction with respect to International Gravity Standardisation Net 1−13380
pulse amplitude spectrometer dead time counting errors and countermeasures 1−1035

error correction continued
radio astronomy, improved correction for millimetre-wavelength atmospheric attenuation 1−4776
seismic sounding, correction of long-period components of static corrections in common-depth point shooting 1−9113

error statistics
non-Gaussian error distributions statistical error boundaries 1−23155
optical communications through dispersive medium, photocounting performance bound, error probability 1−46231

errors
see also measurement errors
formula transformation errors on conversion to SI system 1−14090
frequency counting digitisation errors, spectra 1−23143
frequency-domain adaptive interference rejection, effect of array errors 1−29465
Galaxy spiral structure parameters determ. from Cepheids radial vels., error estimates by numerical expts. 1−13860
Michelson interferometer, performance, combined effects of asymmetric surface errors and parabolic disturbance 1−5367
optical constants, accuracy limitation in frustrated total internal reflection calcs. 1−29210
optical surfaces with errors of fit, ray tracing model *(German)* 1−29219
phase errors effects, on E maps 1−15753
sonar, multistage modulation scanning, sidelobe suppression versus phase error charact. 1−29467
temperature errors of a constant resistance hot wire anemometer with thermal compensation *(Russian)* 1−34024
time error in perception of sound brightness 1−15334

Esaki diodes *see tunnel diodes*

Esaki effect *see tunnelling*

ESCA *see electron spectroscopy; spectrochemical analysis; X-ray photoelectron spectra*

ESR *see paramagnetic resonance*

estimation theory
see also information theory
fission reactor safety, technique for analysis and error detection for thermohydraulic system data 1−45663
geodesy, statistical, optimal estimation 1−17555
magnitude squared coherence for unichannel pure tone 1−11253
S/N ratio estimation technique, appl. to stacking 1−22510

eta meson resonances
charmonium model pseudoscalars, η_c and Υ, leptonic widths 1−5580
$e^+e^-\rightarrow\eta'\gamma$ large energy reactions, η'-meson form factor, QCD calcs. *(Russian)* 1−41003
η, η', η^c mixing angles, prod. and mass in SU(4) mass breaking formalism 1−10181
$\eta\rightarrow3\pi$ amplitude from strong anomaly and U(1) current partial conservation, η' decay 1−550
$\eta\rightarrow\mu^+\mu^-$, Dalitz decays in $\pi^+p\rightarrow\mu^+\mu^-X$, 15.5 GeV, low-mass continuum obs. 1−14433
η_b mass and two-photon decays of bottomonia 1−33183
$\eta_c(2980)$ candidate state, hadronic decay 1−45291
η_c candidate state at mass=2978±9 MeV obs. in ψ' decay 1−18483
η' mass, QCD 1/N expansion in chiral symm. limit 1−45149
$\eta'\rightarrow\mu^+\mu^-\gamma$, branching ratio and η' form factor *(Russian)* 1−10222
$\gamma\gamma\rightarrow\nu'(958)$ from e^+e^-, radiative width 1−50450
$\psi(3095)$ EM decay, η, $\eta'(958)$, f(1270) and E(1420) final states 1−45270
$\psi'\rightarrow\eta(\eta')\gamma$, U(1) problem in QCD large N limit, CP violation, effective lagrangian approach 1−18475
$\psi'(3684)\rightarrow\gamma\eta_c(2980)$, SPEAR obs. 1−18482
$\tau\rightarrow\nu_\tau\rho\eta(\eta')$, partial decay widths, triangle quark diagrams *(Russian)* 1−40994

eta mesons
charmed η mass, singlet-triplet splitting in $c\bar{c}$ system 1−10138
decay widths of heavy pseudoscalar mesons 1−544
production and decay, study of $\pi^-p\rightarrow X^0n$, X=meson 1−18513
quark composition and q mass ratios 1−10139
SU(5)×SU(5) chiral symmetry, broken and heavy pseudoscalar mesons 1−10139
technicolour models, detecting a heavy colored object at the FNAL tevatron 1−45192
η, η', η^c mixing angles, prod. and mass in SU(4) mass breaking formalism 1−10181
$\eta\rightarrow2\gamma$, decay widths 1−544
$\eta\rightarrow3\pi$, pseudoscalar decay constants in chiral and 1/N perturbation theory 1−10202
$\eta\rightarrow3\pi$, U(1) problem in QCD large N limit, CP violation, effective lagrangian approach 1−18475
$\eta\rightarrow3\pi$ amplitude from strong anomaly and U(1) current partial conservation, η' decay 1−550
$\eta\rightarrow3\pi$ decay rate, bag model calc., $\epsilon(700)$ four quark struct. 1−23494
$\eta\rightarrow\gamma\gamma\rightarrow\mu^+\mu^-$, observ. in $\pi^-p\rightarrow\mu^+\mu^-n$, 25 and 33 GeV/c 1−23503
$\eta\rightarrow$hadrons 1−544
$\eta\rightarrow\mu^+\mu^-$ branching ratio from $\pi^-p\rightarrow\mu^+\mu^-n$ *(Russian)* 1−10197
$\eta\rightarrow\mu^+\mu^-\gamma$, branching ratio and EM form factor *(Russian)* 1−10221
$\eta'\rightarrow\eta\pi\pi$, scalar meson nonet dominance for η' decays, quark content of 0^{++} states 1−10203
$\eta'\rightarrow\pi\pi\pi$, scalar meson nonet dominance for η' decays, quark content of 0^{++} states 1−10203
η_b' and η_c', decay widths and masses of excited pseudoscalar states 1−50438
η_c' and η_b', decay widths and masses of excited pseudoscalar states 1−50438
$\gamma p\rightarrow\eta^0p$, 1.39-1.8 GeV, pol. γ, cross section asymmetry *(Russian)* 1−36871
NN scatt., form factors. ρ contrib. 1−14384
πN scattering form factors, η contrib. 1−14384
$\pi^-p\rightarrow\eta n$ reaction, Fermilab data, ang. distribs., Regge pole model 1−50459
$\psi(3095)$ EM decay, η, $\eta'(958)$, f(1270) and E(1420) final states 1−45270
$\psi\rightarrow\eta_c$ (2980)γ hadronic final state signals 1−45291
$\psi\rightarrow\eta(\eta')\gamma$, U(1) problem in QCD large N limit, CP violation, effective lagrangian approach 1−18475
$\psi'\rightarrow\psi\pi^0(\eta)$, decay rate ratio and quark masses from QCD lagrangian 1−548
$\tau\rightarrow\nu_\tau\rho\eta(\eta')$, partial decay widths, triangle quark diagrams *(Russian)* 1−40994

etalons *see interferometers*

etchants *see etching*

etching
see also crystal defects; dislocation etching; sputter etching
alloys, heat-resistant, recrystallisation-thermal etching of local plastic strain 1−43602
alpha recording, RF-3 film track diam., rel. to etchant con., etching time 1−23980
cellulose nitrate, chemical etching behaviour, appl. to plastic nuclear track detectors 1−10598
cellulose nitrate γ-irradiated, solid-state track detection 1−51052
cellulose nitrate films, electrochemical etching using 50 Hz HV supply 1−23975
chemical and plasma, surface pattern prod., review 1−53317
CR-39 electrochem. etching, neutron track dosimetry apparatus 1−51057
CR-39 plastic, proton track detector diameter evolution, energy resolution 1−51047
CR-39 plastic track detectors, production, during 1−51046
dry etch rate control of photoresist by E-beam exposure 1−53315
fused single mode fibre access couplers, fabrication by chemical etching 1−51617
glass laminates, effect of HF+H_2SO_4 etching on fracture 1−21572
III-V heterostructure devices for integrated optics, wet chem. etching 1−1725
ion-beam, of metals and fluoropolymers, aids adhesive bonding 1−35430
LR-115 plastic track detector, etching rates rel. to temp. 1−51054
metal, sputtered yields of O_2^+ etch patterns 1−53040
MIS inversion-layer solar cell fabrication, fine line Si shadow mask, prep. by etching of wafer surfaces 1−48839
phosphosilicate glass dopant source for Si diffusion doping, etch rate profile 1−34362
phosphosilicate glass film on Si substrate, SiOH and SiH groups 1−16199
phosphosilicate glasses, P concentration checking method *(Bulgarian)* 1−53507
plasma, low press., appl. in materials science, book contrib. 1−7012
plasma etching, end point determ. using press. gauge 1−29884
plasma etching, optical methods for end point detection 1−42206
plasma etching, or deposition, compensation method using optical interference control monitor 1−341
plasma etching, undercutting monitoring technique 1−8462
plasma etching and polymerisation, H and O effects, metal containing fluoropolymer films 1−34089
plastic, LR 115 type II, background track density 1−10611
plastic materials, graded-index antirefl. surfaces produced by ion implantation 1−6689
plastic nuclear track detectors, chemical etching behaviour of cellulose nitrate 1−10598
plastic track detectors, electrochem. etching model 1−51056
plastics, prep. of polished specimens and thin sections 1−48630
polished surface and thin-film coating damage by 1.06 μ laser pulses 1−37529
polycarbonate foil fast neutron tracks, electrochem. etching 1−51049
polyester film, track enlargment by sequential elec. and chem. etching 1−51051
polyethylene, H_2CrO_4 etching, XPS study of surface 1−21613
polyethylene terephthalate film, ion track selectivity, γ-ray effect 1−23982
polypropylene, H_2CrO_4 etching, XPS study of surface 1−21613
quartz plates, singly and doubly rotated, etching phenomena 1−16936
semiconductor, defect characterisation by etching, optical microscopy and X-ray topography, review, book contrib. 1−47088
semiconductor wafers, rapid nondestructive technique for monitoring polishing damage 1−26704
sintered hardmetal structures, SEM obs. 1−53383
SiO_2 film, magnetron sputtered in H_2-Ar mixture 1−47400
steel, austenitic, electrochemical polishing and etching in same electrolyte *(German)* 1−8486
steel, austenitic stainless, etching in 56% HNO_3 at 56°C 1−26661
steel, austenitic stainless, sigma phase obs. and anal. using non-aq. electrolyte-potentiostatic etching method *(Japanese)* 1−43600
steel, low C, etchant to reveal substruct. 1−48623
steel, Ni-Cr, P-doped, comparison of Auger electron spectroscopy and etching method for grain boundary segregation of P 1−3749
steel, stainless, β-ZZ *(Japanese)* 1−53377
steel, stainless, laser beam etching in vacuum, AES and quadrupole mass spectroscopy studies 1−35132
steel, stainless, phase obs. and anal. by nonaqueous electrolyte-potentiostatic etching method *(Japanese)* 1−48616
steel structures, etched, SEM and optical microscope studies of topography 1−25543
steels, carbide obs. and anal. using non-aq. electrolyte-potentiostatic etching method *(Japanese)* 1−26667
steels, precipitates formed at elevated temps., obs. and anal. using non-aq. electrolyte-potentiostatic etching method *(Japanese)* 1−43342
steels, precipitation of nitrides, obs. and anal. using non-aq. electrolyte-potentiostatic etching method *(Japanese)* 1−43341
sulphides, study by method of gradual etching 1−48632
synthetic quartz in NH_4FHF, anisotropy of etching rate 1−16937
Al alloys, new grain boundary etchant 1−48624
AlN sputtered films, elec. props. and interface anal. by AES 1−34818
Al_2O_3, surface mass transport study by multiple scratch smoothing method 1−16162
$AlPO_4$, crystal growth, solubility and perfection study 1−16676
$AlPO_4$, solubility, cryst. growth, perfection 1−2630
C-ultra thin fibre production, by etching 1−21605
$CaCO_3$ calcite cleavage faces, microdisk pattern prod. by etching 1−20522
CaF_2 single crystals, stratigraphical etch patterns, neutron irrad. effect 1−20272
CdS needle crystal growth direction polarity for growth in atms. of excess Cd or S vapour 1−3584
$CdSnP_2$ prismlike crysts., etching study 1−15893
CdTe optical directional coupler fabrication by electron beam lithography and ion etching 1−29408
CdTe-InSb heterojunctions, SIMS and electrical meas. 1−30812
Cr and Cr oxide films, plasma etching characts. and anomalous etching modes 1−31738
Cr, annealed, thermally etched, oxidation, 800 to 1100°C 1−31734
Cr film, ion implanted, gas plasma etching 1−31737

etching continued
Fe-Si (3 wt.%), fatigue cracks, 3-dimens. obs. of plastic zone using etching technique *(Japanese)* 1−3893
Fe-W, cast, etch method for revealing carbides *(Chinese)* 1−53367
GaAs, epitaxial, oblique sections with specified taper by chem. etching 1−16917
GaAs, epitaxial layers and bulk crysts., etching rate of NH_4OH-H_2O_2 etch 1−21608
GaAs epitaxial layers for photoelastic optical directional couplers 1−51639
GaAs, etching, local, in Br_2-dimethylformamide soln. 1−39484
GaAs MOS polycrystalline solar cells with grain boundary passivative using oxidising etch technique 1−48847
GaAs n-n^+ layer-substrate interface, LPE, high resist. layer removal by in situ etch-back 1−43554
GaAs peeled-film solar cells 1−48842
GaAs, semiinsulating, single cryst., prod. by three temp. boat method *(Japanese)* 1−48251
GaAs with $Ga_{1-x}Al_xAs$ epitaxial layers, selective etching, window prep. 1−43555
GaInAsP/InP DH stripe laser with reactive-ion-etched mirror facets 1−24428
GaInAsP-InP DH lasers with chem. etched facet 1−15183
GaInAsP-InP laser with chemically etched mirror, CW operation 1−1581
Ge surface interaction with S vapour, mol. processes, etching, sulphide film form. 1−38669
HNO_3 etchant for austenitic stainless steel 1−26661
InGaAsP DH lasers fabrication, stripe-geometry, high-efficiency, with chemically-etched mirrors 1−11014
InGaAsP-InP narrow stripe buried heterostructure lasers, fabrication, characterisation 1−1585
InGaAsP-InP wafers, surface morphology improvement, using dummy layer technique 1−53107
InP, etching, local, in Br_2-dimethylformamide soln. 1−39484
InP MISFET, p-channel inversion-type, fabrication and reduction of interface states 1−12163
InP, structural defect detection by electrochem. etching 1−47074
InSb, bulk and surface cond. in intense mag. field at low temp. 1−34717
$LiNbO_3$, reactive ion-beam etching to fabricate holographic gratings and waveguide components 1−1733
MgO crysts., dissoln. mechanism in acids 1−12905
$MoSi_2$ film, sputtered, plasma etching characts. 1−8445
Nb, dry etching, variable-thickness-bridge fabrication 1−43599
Nb, etch angle control, by internal stress variation 1−21623
Nb_2O_5-barrier tunnel junctions, fabrication and elec. characts. 1−7778
Ni-base superalloys, γ′ size distrib., rapid meas. method 1−48631
Ni-based alloys, etching techniques for metallographic study 1−17014
Ni-Cr-Fe-Ti-Al (14.7, 8.9, 2.25, 1.1 wt.%), γ′ determ. by non-aq. electrolyte-potentiostatic method *(Japanese)* 1−31417
NiO/Ni interface, composition profile, ion beam etching, Auger anal. 1−42641
$Pb_{1-x}Sn_xTe$, single crysts., dislocation structs. features 1−30230
PbTe, $Pb_{1-x}Sn_xTe$ crystals, chemical lap polishing 1−21607
Si (111) 7×7 surface struct., persistence under aid exposure, RHEED study 1−11963
p-Si, anodic etching of defects 1−16918
Si, electrical defects introduced by sputtering and sputter etching 1−30820
Si, etching and film form. in bromotrifluoromethane plasmas 1−31696
Si, etching by F atoms, chemiluminescence study 1−16615
Si, gas plasma etching in planar type reactor, RF freq. effect on material selectivity 1−53319
Si, ion enhanced gas-surface reactions, kinetic model for etching mechanism 1−48549
Si photodetector, high-speed, lateral, fabricated over etched interdigital mesa 1−40848
Si, plasma etching, chem. processes, plasma emission spectrum anal. 1−43563
Si, plasma etching using SF_6 1−48538
Si, polycryst. 1−31705
Si, polycrystalline, plasma etch rate acceleration caused by alkaline residues 1−48537
Si, quality characterisation techniques *(German)* 1−34708
Si ribbon growth, by inverted Stepanov process using BN die, characterisation 1−3601
Si solar selective absorbers, textured thin film, prep. by reactive ion etching 1−17239
Si, stacking-fault nucleation, inhibition effect of trichloroethane oxidation 1−42400
Si thin crystals preparation, large-area self-supporting 1−2840
SiC, effect of surface treatment on surface polaritons *(Russian)* 1−2890
SiC membrane ink jet nozzle, plasma deposited, plasma etching 1−48275
SiC membrane ink jet nozzle, glow-discharge deposited, etching 1−48276
Si_3N_4/SiO_2 composite CVD films, pattern etching in HF/glycerol mixtures 1−31694
SiO_2, etching and film form. in bromotrifluoromethane plasmas 1−31696
SiO_2, etching in tetrafluoromethane gas plasma using planar-type reactor 1−53318
SiO_2 film growth from water-alcohol solns. of tetraethoxysilane, spectral characts., chem. stability 1−3391
SiO_2 films, direct thermal nitridation in anhydrous NH_3 gas 1−16920
SiO_2, gas plasma etching in planar type reactor, RF freq. effect on material selectivity 1−53319
SiO_2 layers, etched-edge profile eqns. 1−53312
SiO_2, plasma etching, chem. processes, plasma emission spectrum anal. 1−43563
SnO_2 and SnO_2:Sb films, plasma etching on Si substrates 1−35414
Ta_2N-Ni films, RF sputtering prep. of Ni films, props. and interdiffusion anal. 1−35174
W porous thermal cathode, Os coated, emission props. 1−31299
Y-Sm-Lu-Ca-Ge garnet film, ion implanted bubble circuit, drive layer thickness effect 1−7916
$(YSmCa)_3(FeGe)_5O_{12}$, LPE bubble garnet wafers, mag. props. postgrowth modification by etching 1−7904
Zn, cleavage cracks interaction with forest dislocations 1−42389
ZnS single crystals, flux growth by gradient transport in molten $PbCl_2$, characterisation 1−3590
ZnSe layer on Ge (111) substrate, formation of transition layer 1−34589
ZnTe, diffusion and lattice location of Li 1−20464

ether drift *see special relativity*

Ettingshausen effect *see thermomagnetic effects*

europium
see also nuclei with .....
adatoms on (100) W, conc. depend. of lifetime and heat of adsorption 1−25574
adsorption on W, adsorbed atom lifetime, conc. depend., flux modulation method 1−25577
alkali halides:Eu^{2+}, optical absorpt., emission and excitation spectra 1−39125
germanate glass:Bu^{3+}, Eu^{3+}, interaction mech. in Bi^{3+}-Eu^{3+} energy transfer at low temps. 1−52982
glass:Eu^{3+}, optical transition multipole order determ. by polarised luminesc. method 1−31185
helical spin ordering, role of electron Fermi surface 1−7506
hollow cathode discharge, noise, signal magnitudes and detect. limits by optogalvanic spectroscopy 1−11602
neutronic analysis for appl. as neutron multipliers for hybrid and fusion blankets 1−41239
Riga Gulf, distrib. of Sc, Hf, Th, Ln, Ce, Eu, Mn, Fe, Co in bottom sediments and suspended matter *(Russian)* 1−13449
CaF_2, impurity centre resonance line inhomogeneous broadening 1−26248
CaF_2:Eu crystals, X-band ESR studies of forbidden transitions 1−7945
CaF_2:Eu^{2+}, ballistic propag. of phonons obs. by piezospectroscopic fluoresc. method 1−3487
CaF_2:Eu^{2+}, mode depend. of resonance absorpt. of ballistic phonons *(Russian)* 1−52248
CaF_2:Eu^{2+}, scintillator, luminesc. kinetic characts. 1−12546
CaF_2:Eu^{2+}, tunable optical phonon detector and generator 1−15979
^{151,153}Eu, $z^6P_{7/2}$ hyperfine anomaly, laser-atomic-beam study 1−1132
Eu^{2+} fluorescence and its application in medical X-ray intensifying screens, book contrib. 1−9014
Eu^{2+}, impurity in Ca borosilicate minerals, photoluminesc. 1−21262
Eu^{2+} fluorescence and phosphorescence quenching of L-(−)-tryptophan-DMSO 1−26271
Eu^{3+} in $POCl_3$-$SnCl_4$, enhancement of fluoresc. intensities 1−1162
Eu^{3+} ion in aqueous solution, MCD spectrum 1−26181
Eu^{3+} thin layer emitters, optical-environment-doped-spontaneous emission rates 1−12578
Eu^{3+}:Y_2O_2S, luminesc., solid solution formation, thermal props. 1−39157
^{154}Eu as fuel burnup monitor, accuracy requirements 1−50897
Gd complex, Gd (hexamethylphosphoramide)$_6$$(ClO_4)_3$:$Eu^{3+}$, crystal field parameters, fluoresc. spectra 1−25677
Gd_2O_3:Eu^{3+}, fluoresc. spectrum, site-selective excitation, cryst. field anal., and energy transfer 1−39152
KBr:Eu, photoluminesc. and optical absorpt. of colour centres 1−3474
KCl:Eu^{2+} gamma irrad. effects on lattice parameter and colour centre conc. 1−52176
KF:Eu^{2+} vacancy complexes, ESR 1−47943
$KMgF_3$$(ZnF_3)$:$Eu^{2+}$, absorption spectra, Eu^{2+} interconfigurational transitions 1−21248
KY_3F_{10}:Eu^{3+}, trend of Eu^{3+} ligand bonding, ionicity influence 1−25195
La complex, La (hexamethylphosphoramide)$_6$$(ClO_4)_3$:$Eu^{3+}$, crystal field parameters, fluoresc. spectra 1−25677
$LaCl_3$:Eu^{3+}, trend of Eu^{3+} ligand bonding, ionicity influence 1−25195
NaF:Eu^{2+}, vacancy complexes, ESR 1−47943
RbCl:Eu^{2+}, thermoluminesc., fluoresc., optical absorption 1−43194
RbF:Eu^{2+} vacancy complexes, ESR 1−47943
SrF_2:Eu^{2+}, tunable optical phonon detector and generator 1−15979
SrF_2:Eu^{2+} and SrF_2 substrate for Ni film, phonon emission, diffuse scatt. 1−15983
Y complex, Y (hexamethylphosphoramide)$_6$$(ClO_4)_3$:$Eu^{3+}$, crystal field parameters, fluoresc. spectra 1−25677
$YAlO_3$:Eu^{3+}, stoichiometric material, freq. dependent optical dephasing 1−1653
$YAsO_4$:Eu^{3+}, trend of Eu^{3+} ligand bonding, ionicity influence 1−25195
YPO_4:Eu^{3+}, trend of Eu^{3+} ligand bonding, ionicity influence 1−25195
YVO_4:Eu^{3+}, trend of Eu^{3+} ligand bonding, ionicity influence 1−25195
YVO_4:Nb^{5+}, Eu^{3+}, luminescence processes, effect of Nb impurities 1−26273
$ZrSiO_4$:Eu^{3+}, trapping and emission centres, thermolum.. obs. 1−39163

europium alloys
EuAg, cryst. struct., X-ray diffr. study 1−20130
Eu_3Ag_2, cryst. struct., X-ray diffr. study 1−20130
$EuAl_2$, $EuAl_4$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
Eu_xAu, amorphous, elec. field gradients and exchange interactions 1−25925
$Eu_{80}Au_{20}$, amorphous, electronic, mag. and struct. props. from hyperfine interactions 1−25680
EuCu, cryst. struct., X-ray diffr. study 1−20130
$EuCu_2$, $EuCu_5$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
EuGa garnet film, domain wall velocity 1−12372
Eu_2Mg_{17}, $EuMg_2$, synthesis and mag. props., 3.7 to 295K *(German)* 1−34867
$EuPt_2$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
$Eu_{1-x}Pt_xPt_2$, high press. Mossbauer study of valence stability 1−7988
$EuSN_3$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
$Eu_{0.5}Yb_{0.5}Sn_3$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
$EuZn_2$, mag. hyperfine fields, vol. depend., Mossbauer study 1−43051
$(La_{0.9}Eu_{0.1})Ni_{4.6}Mn_{0.4}$, intrinsic degradation by thermally induced absorpt.-desorption cycles 1−2808
$(ScEu)Al_2$, Mossbauer spectroscopy, valence change of mixed valent Eu impurity ions 1−25834

europium compounds
see also europium alloys
chalcogenides, ferromag. semicond., optical absorption edge, red shift 1−12029
diglycolate, nonradiative relax., role of electronic symmetry of Stark components, emission, time-resolved study 1−35081
monochalcogenides, review of rare earth mag. semiconductors, book contrib. 1−47657
pnictides, cryst. chem. 1−25234
rare earth cpd., $LiR_{1-x}(Eu,Tb,Ce)_x(PO_3)_4$ (R=La, Y, Gd), photolum. and cathodolum. 1−39137
solutions, luminesc. spectra, use for interpretation of struct. data obtained using lanthanide shift reagent 1−35086

europium compounds continued
$Ba_{1-x}Cr_2Se_{4-x}$, thin sections prepared by microtomy, structure imaging of tunnel structs. 1−42270
BaFCl-EuFCl, Eu^{2+} fluorescence and its application in medical X-ray intensifying screens, book contrib. 1−9014
$Ce_xEu_{1-x}B_6$, magnetic susceptibility of solid solutions 1−25906
$(Eu,Y)_3(Ga,Fe)_5O_{12}$ film, LPE grown, mag. damping and wall mobility 1−7919
Eu complex, Eu benzoylacetonate, soln., energy transfer and nonradiative loss 1−12572
Eu Ga YIG film growth, LPE, wafer holder 1−39252
Eu-B-C system, phase diagram, X-ray anal. 1−16764
Eu-CaGe substituted garnet films, bubble domain vel. and mobility, mag. field effects *(Japanese)* 1−7921
Eu-Sn-Se system, interaction over Eu_2Se_3-$SnSe_2$ cross section, elec. cond. of complex phases 1−53161
$EuAlO_3$, Mossbauer effect, hyperfine parameters, mag. ordering, relaxation 1−12434
EuB_6, optical constants, spectral depend. of light reflection 1−3358
EuB_6, thermionic emission props. 1−26355
EuB_6+C, mag. struct. determ. by neutron diffr. 1−47861
$EuCl_3$, Schottky anomaly 1−16053
EuF_n, (n=1,2,3), gaseous, thermochem. investig. 1−43694
$Eu_3Fe_5O_{12}$ garnet, spin echo enhancement 1−21083
$EuHfS_3$, form. in EuS-HfS_2 system, X-ray phase and struct. investig. 1−30172
$EuMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
$EuMgF_4$, photoluminescence and energy transfer 1−26253
$Eu_{1.2}Mo_6S_8(Se_8)$, resistive and mag. props., supercond., high-press. investig. 1−42880
Eu_xNbO_3, $EuMANb_5O_{15}$ (M=Ba, Eu, Sr; A=Na, K), energy level scheme *(French)* 1−20624
Eu_xNbO_3, $EuMANb_5O_{15}$ (M=Ba, Eu, Sr; A=Na, K), elec. and mag. props. *(French)* 1−20725
$Eu_{1-x}Nd_xO_{1-x}N_x$, magnetic and elec. props 1−25913
EuO, critical spin fluctuations, ESR study 1−7860
EuO, magnetic emiconductor, variation of energy gap, Green's function techniques 1−52483
EuO, phase analysis by inversion voltammetry, Eu (II) and Eu (III) contents 1−39700
EuO, reflectivity spectra as function of temp. 1−26217
EuO, resistivity decrease due to ferromag. reson, carrier energy relax. time 1−12123
EuO, s-f model, CPA calcs. with Coulomb repulsion, density of states 1−42670
EuO, temp. depend. of spin dynamics, neutron inelastic scatt. study 1−42956
EuO_{1-z}, nonstoichiometric, IR reflection spectra, charge carrier props. 1−21209
EuO_2-Fe cermet, fabrication for coarse control arm tips in DIDO and PLUTO 1−53151
Eu_2O_3, hot pressing, effect on phase transform 1−16742
Eu_2O_3, monoclinic, thermally activated creep 1−39364
Eu_2O_3, phase analysis by inversion voltammetry, Eu (II) and Eu (III) contents 1−39700
Eu_2O_3-H_2O-CO_2 system, hydrothermal phase equilibria, phase diagrams 1−3703
Eu_3O_4, phase analysis by inversion voltammetry, Eu (II) and Eu (III) contents 1−39700
EuOF, electronis struct., Xα DV calcs., XPS and XES 1−28873
$EuPO_4$:Gd^{3+}, EPR study, appl. to radioactive waste disposal 1−43006
EuP_3O_9, phase transforms. and glass form., absorpt. spectra obs. 1−42538
EuP_5O_{14}, nucl.-quadrupole optical hole burning 1−12431
EuP_5O_{14}, optical spectra, Eu^{3+} energy levels 1−8089
EuP_5O_{14}, photoinduced hole-burning memories appl. 1−29364
EuP_5O_{14}, stoichiometric material, freq. dependent optical dephasing 1−1653
$EuPd_2Si_2$, mixed valence system, X-ray absorption spectra 1−43218
$EuPd_2Si_2$, mixed valence system, Mossbauer effect and mag. susceptibility 1−52872
$Eu^{3+}Rh_6B_4$, itinerant electron ferromag., X-ray, magnetisation and Mossbauer studies 1−30985
EuS, ferromag., spin waves and exchange interactions, neutron scatt. study 1−25918
EuS, Heisenberg ferromag., magnetostatic mode excitations 1−25919
EuS, mag. Raman scatt. mechanisms 1−26205
EuS, s-f model, CPA calcs. with Coulomb repulsion, density of states 1−42670
Eu_3S_4, charge ordering, lattice const. meas. 1−11736
Eu_3S_4, inhomogeneous mixed-valence system, transport and mag. props. model 1−7564
Eu_3S_4, optical spectra, energy level scheme 1−12524
Eu_3S_4, pressure effect on mixed-valence state 1−38750
EuSe, Debye-Waller factors and Debye temp. determ. at room temp. 1−47203
EuSe, mag. Raman scatt. mechanisms 1−26205
EuSe, sp. ht. near mag. transitions 1−12318
$EuSe_{1-x}S_x$, mag. phases, NMR and differential susceptibility meas. 1−38914
$Eu_zSn_{1-z}Mo_6S_8$, supercond., Mossbauer spectroscopy, spin-glass type mag. ordering 1−25834
EuSrS, spin glass, Landau model, fitting to exptl. data 1−25961
$Eu_{0.5}TaO_3$, $EuMATa_5O_{15}$ (M=Ba, Sr; A=Na, K), energy level scheme *(French)* 1−20624
$Eu_{0.5}TaO_3$, $EuMATa_5O_{15}$ (M=Ba, Sr; A=Na, K), elec. and mag. props. *(French)* 1−20725
EuTe, sp. ht. near mag. transition 1−12318
$Ho_{1-x}Eu_xMo_6S_8$, pseudoternary system, supercond. and mag. order 1−47787
KCl-$EuCl_2$, precipitated Eu^{2+} phase, optical absorpt. and luminesc. spectra 1−39130
LaOF, electronic struct., photoelectron and X-ray emission spectra 1−3570
$(Li,Na,K,Cs)(Eu,Tb)_{1-x}(Gd,\gamma)_x[(Mo,W)O_4]_2$, luminescence props. 1−39136
Li_2O-La_2O_3-Eu_2O_3-P_2O_5 glass, Γ-irrad. paramag. centres, ESR spectra 1−43010
$(Na,K)_5(Eu,Tb)_{1-x}(Gd,\gamma)_x[(Mo,W)O_4]_4$, luminescence props. 1−39136
NaCl-$EuCl_2$, precipitated Eu^{2+} phase, optical absorpt. and luminesc. spectra 1−39130
$(Sn,Eu_{1-x})_1Mo_6S_8$, high press. semicond.-supercond. transition 1−42881

europium compounds continued
SnO, metal insulator transition, transport and optical props., thermodynamic model 1−2874
$(Sr_{1-x}Eu_x)S$, dil., specific heat, Eu^{2+} ion interactions, spin freezing 1−3197
$TlInTe_2$-$TlEuTe_2$, current-voltage characteristics, switching effect 1−7673
$Tm_{1-x}Eu_xSe$, valence mixing, mag., elec., and optical props. 1−42726
$(YLaEu)_3(FeGa)_5O_{12}$ epitaxial films, growth induced anisotropy, FMR 1−7920

eutectic alloys
directionally solidified single-grained, anisotropic post-yielding behaviour 1−43448
heat storage, thermodynamic eqns. 1−8277
metal-semiconductor, supercond. transition temp. enhancement, cond. electron tunnelling into negative-U centres 1−20905
ternary eutectic system, structs. expected during steady state directional growth 1−8295
Ag-Ce (0 to 50 at.%), equilib. phase diagram investigation 1−35234
Ag-Ge, liq.-solid nucleation behaviour 1−26442
Ag-Ge eutectic alloys, nucleation behaviour 1−2370
Ag-Ge eutectic liq. alloy, self-diffusion coeffs. meas. *(French)* 1−52324
Al-Ag-Cu ternary eutectic system, structs. expected during steady state directional growth 1−8296
Al-Al_3-Fe eutectic alloy, structural modification by Na and Li additions 1−53166
Al-Al_4Ca eutectic alloy, microduplex struct., room temp. props., prep. and microstruct. 1−39354
Al-Al_4Ca eutectic alloy, with microduplex struct., tensile props., depend. on grain size 1−48449
Al-$CuAl_2$ eutectic, directionally solidified, thermal expansion 1−52320
Al-$CuAl_2$ eutectic alloys, unidirectionally solidified, lamellar structure 1−43329
Al-$CuAl_2$ eutectic composites, hardness meas. 1−31603
Al-Cu(Ni), selective absorbers for solar photothermal conversion 1−32045
Al-Ge, liq.-solid nucleation behaviour 1−26442
Al-Pd eutectic alloy, superplasticity 1−43442
Al-Si alloys, friction and wear, study using SEM and microhardness testing 1−12886
Al-Si(Ge), supercond. transition temp. enhancement, cond. electron tunnelling into negative-U centres 1−20905
Au-Co (4.8 wt.%), precipitation kinetics by meas. saturation magnetisation 1−48350
Au-Si, metallic glass form., hybridisation, short range order, entropy determ. 1−30360
Be containing amorphous alloys, investigation of ternary alloys with high specific strength 1−12814
Be-Si, supercond. transition temp. enhancement, cond. electron tunnelling into negative-U centres 1−20905
Bi-MnBi composite, mag. props., effects of plane-front solidification and heat treatment 1−12345
Cd-Sn(Pb)(Zn)(Bi), sporadic deviations from regular growth of eutectic compositions *(Russian)* 1−31447
Co-Cr-TaC (10, 14 wt.%), hot corrosion and oxidation 1−31747
Co-Cr-(Ni-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652
γ/γ'-Cr_3C_2 eutectic, directionally solified, TEM study 1−3713
Cu based eutectic melt, rapid quenching, microstruct. and mech. props. obs. *(German, English)* 1−43382
Cu-Ag, two-phase alloy, tensile deform. 1−48445
Fe-C alloys, partition of N in hypo-eutectic and near-eutectic alloys 1−53190
Fe-C eutectic alloys, unidirectional solidification, growth temps. and limits of coupled growth 1−8297
Fe-C-Si alloy, partition of Si during eutectic solidification 1−16770
Fe-C(P)(P-C) eutectic liq. alloys, viscosities by capillary method 1−25483
Fe-Nb-Ni eutectic alloy, directionally solidified growth crystallography 1−35248
Nb-Ti (46.5 wt.%) filamentary composite, microstruct./superconducting prop. rel. 1−47828
Nb-Ti-Y system, Y rich, phase props., binary eutectic comps. 1−21423
Ni-B, rapidly quenched, struct. obs. by X-ray diffr. and electron microscopy 1−47005
Ni-Cr-(Al-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652
Ni-Nb-Al (15.1, 9.9 wt.%), γ/δ alloy, Al_2O_3 coated, oxidation behaviour 1−8474
Ni-Sn (28 wt.%) hypoeutectic alloy solidification with undercooling *(Japanese)* 1−48339
Ni-Sn (32.5 wt.%) eutectic alloy microstructure rel. to undercooling degree *(Japanese)* 1−48338
Ni-Sn (36 wt.%) hypereutectic alloy solidification with undercooling *(Japanese)* 1−48339
Ni-V, liq., neutron diffr. obs. of struct. factors and chem. ordering effects 1−25145
$Ni_{64}Zr_{36}$, metallic glass and cryst. eutectic alloy, H_2 sorption 1−16178
Pb-Sn eutectic, melt-spinning 1−12732
Pb-Sn eutectic, splat-quenched, superplasticity 1−3844
Pd-Si glasses, Young's modulus, density, glass temp. 1−20067
Pd-Si melts, short-range order and thermodynamic props. 1−30046
Sn-Pb, sporadic deviations from regular growth of eutectic compositions *(Russian)* 1−31447
Sn-Pb (37 wt.%), solder alloy, stress relax., appl. of deform. modelling 1−12786
Sn-Pb (38.1 wt.%), superplastic eutectic, transient behaviour, influence of anelasticity after stress and strain rate changes 1−8364
Sn-Pb eutectic alloy, superplasticity, lattice-diffusion controlled 1−53243
Sn-Pb eutectic alloy, thermally activated deform. *(German)* 1−8400
Sn-Zn eutectic alloys, mech. props. and microstruct. 1−8378
TaC fibre reinforced Co-Ni-(Cr), Cotac composites, material transport methodology, appl. to impact wear 1−21593
Th-Cd system, phase diagram and cryst. struct. determ. 1−53158
Ti-Al-Mo-SiC fibrous composite material, interaction zone, struct. and phase composition 1−8318
Y-Ir eutectic, strain-induced lattice softening, supercond. transition temp. increase 1−30868
Zn-Sn(Bi), sporadic deviations from regular growth of eutectic compositions *(Russian)* 1−31447
Zr-ZrV_2, supercond. eutectic, influence of crystallisation conditions and Nb or Fe additions on microstruct. *(Russian)* 1−39328
ZrB_2-Si-C, wetting of C materials 1−39297

eutectic structure
high temperature materials, fusion-casting and crystn. 1−8292
metal fibre ceramic eutectics produced by elec. arc melting *(German)* 1−16750
steel, W-Mo, high-speed, eutectics types 1−8299
superalloys, heat resistant, hot workability *(Japanese)* 1−26509
ternary eutectic system, structs. expected during steady state directional growth 1−8295
Al-Ag-Cu ternary eutectic system, structs. expected during steady state directional growth 1−8296
Al-Cu (33 wt.%), off-eutectic, unidirectional solidification *(Korean)* 1−16766
Al-Cu compacts, liquid phase sintering 1−39271
Al-$CuAl_2$ eutectic, directionally solidified, thermal expansion 1−52320
Al-$CuAl_2$ eutectic alloys, unidirectionally solidified, lamellar structure 1−43329
Al-Cu(Ni) eutectic alloys, selective absorbers for solar photothermal conversion 1−32045
Al-Si (12.7wt.%), eutectic alloys, growth temp. and interflake spacing during directional solidification 1−8289
Al_2O_3-Cr_2O_3-Cr(Mo) eutectics, melting points determ. *(German)* 1−38509
Be-Cr alloys, struct. and mech. props. 1−16758
CdSe-TlSe system, phase equilibrium, DTA, microprobe and X-ray study 1−21432
Co-WC system, pseudobinary eutectic reaction 1−39329
$CuGaSe_2$, crystn. from $CdCl_2(I_2)$ solns., phase diagrams, cathodoluminesc. meas. 1−48247
Fe-TiC-TiB_2, quasiternary system, struct. of eutectic alloys 1−21434
MgO-TiO_2 system, phase diagram determ. using slowing cooling float zone method 1−3704
MnBi-Bi eutectic alloys, directionally solidified, depend. of fibre spacing on growth parameters 1−8290
NbN(C) single cryst. growth, RF floating zone process, elec. and struct. props. 1−31342
Ni-Al-Mo (12.7, 21.6 wt.%), directionally solidified eutectic composite, microstructural studies 1−3724
PbTe(S)-Sb(NiSb), Bridgman method growth, eutectics morphology *(Russian)* 1−47027

eutectoid steel *see carbon steel*

evaporated layer production *see vapour deposition*

evaporation
see also drying; field evaporation
acetone drop dropped onto hot silicone oil surface, evaporation 1−2040
arc cathode spots, crater form., erosion rates 1−2260
artificial fog, laser beam transmission growth, evaporation and sedimentation effect modelling 1−19262
ATJ graphite, first wall material, evaporation yield for heat pulses 1−25420
atmosphere, dispersal of evaporating liquid into wind field, theory 1−13194
atmosphere, dispersal of pollutants by wind field, wind tunnel expts. 1−13195
capillary porous wire mesh structures, heat transfer by evaporation 1−37912
channels of complex forms, thermohydraulic parameters nonuniformity effect on stationary modes 1−15486
complex hydrocarbon oils with low ambient vapour press., evaporation rate on piezoelec. crystal in vacuum 1−11854
dichloromethane drop dropped onto hot silicone oil surface, evaporation 1−2040
Dirac particles, Hawking evap. problem *(Chinese)* 1−49709
droplet entrainment model for non-bubbling evaporator, calculation methods *(Russian)* 1−7308
droplets, evaporating floating immiscible superheated, direct contact heat transfer, numerical anal. 1−1809
drops with temperature-controlled surface, evaporation at arbitrary Knudsen number, theory 1−19762
evapotranspiration, relationship to surface temp. *(Italian)* 1−4664
fluoromethane-NaCl, evaporation and desorption by IR laser reson. excitation of mol. vibr. 1−20574
foams, heat and mass transfer 1−29680
gas-water contact heat exchange during adiabatic evaporation, math. model 1−11405
glass, evaporation capability 1−16697
graphite, diffusion of activated fission products *(German)* 1−11911
heat and mass transfer, experimental data generalisation 1−37914
heat and mass transfer theory, appl. to drying processes *(German)* 1−24811
heat exchange in coolant evaporation region within a heated porous wall, mathematical model 1−6748
high temperature high vacuum evaporation furnace design 1−27983
ice on Galilean satellites of Jupiter, evaporation rel. to water thermal migration 1−4814
immiscible gravity driven bubble, closed periodic condensation-evaporation cycle 1−19701
impinging jet on plane wall, evaporation, numerical model 1−15523
interfacial heat transfer enhanced by differential vapour recoil mechanisms 1−33883
isomer mixtures, latent heat of evaporation determ. 1−11853
lawn, suburban, evapotranspiration and energy balance microclimate 1−22422
Leidenfrost boiling, of saline soln. drops, discovery and examination of charge-carrying particles 1−1807
liquid evaporation mechanisms, book contrib. 1−38525
liquids, excess electrons transport behaviour, rel. to other props. 1−47634
materials science, current topics, book 1−36465
metal evaporation process under laser radiation action, thermophysical props. effect 1−21296
metals, BCC, formation of ultrafine particles by gas evaporation 1−25197
methanol-N_2 system, drop evaporation and diffusion calc. 1−1805
methyl alcohol drop dropped onto hot silicone oil surface, evaporation 1−2040
momentum transfer in evaporation and condensation, mass transfer effects 1−24855
monolayers, evaporation resist. meas. above water surface 1−30524
n-pentane drop dropped onto hot silicone oil surface, evaporation 1−2040
polymer films, metallized, dynamically disappearing mirrors, appls. 1−37586
radiation-induced and hydrodynamic perturbations 1−42523

evaporation continued
refractory material liquid drops, evaporation in FM radiation field 1−25535
silicone rubber, heat treatment effect on dissipation factors 1−3795
soil on surface, thermal IR satellite remote sensing technique 1−36082
Southern Baltic, evaporation from snow cover, 1960-1974 period *(Russian)* 1−22367
spray evaporative cooling of heated surface 1−38618
steel, austenitic stainless, evaporation of elements during vacuum annealing 1−30399
Taylor instability in boiling, melting and condensation or evaporation 1−19702
water drops, bleaching under monochromatic radiation action 1−11051
weak evaporation or condensation, molecule internal degrees of freedom excitation effects 1−25417
n-CdS, kinetic anal. of time-depend. evaporation rate from {0001} surfaces 1−34547
$Cs_3AlSi_2O_6$, evaporation, mass spectrometry study 1−7311
Fe, cast, melt, Mg melting loss *(German)* 1−52260
^4He, superfluid, heat conduction through narrow channels and phase separation at zero gravity 1−52379
Mo, reactor first wall material, evaporation yield for heat pulses 1−25420
NH_3-N_2 system, drop evaporation and diffusion calc. 1−1805
Na mist behaviour in Ar cover gas space of LMFBR 1−18719
Na-Ar system, drop evaporation and diffusion calc. 1−1805
Ni, reactor first wall material, evaporation yield for heat pulses 1−25420
$Pb_{1-x}Sn_xTe$ film, comp. investig. using Auger spectra, optimal evap. conditions 1−42645
$Pr_2O_{3.67}$-ZrO_2, evaporation, mass-spectrometric investigation 1−7313
Sm_3S_4, phase relationships and valence changes, lattice const. meas. 1−34313
SnO_2, transparent cond. films, deposition, cond. and optical transmission 1−34812
TiN, coating, synthesis by activated reactive evaporation 1−16698
UO_2, tracer surface diffusion expts., role of gas and solid transport processes 1−42560
W, reactor first wall material, evaporation yield for heat pulses 1−25420
WO_x particle formation, by evaporation of WO_3, electron microscopic study 1−30013

Evershed effect *see sunspots*

evolution (biological)
comets as reservoir of life-forms and pathogens 1−9423
Cretaceous-Tertiary temp. increase and extinctions 1−9258
origin of life, from orderly cosmos 1−49178

EXAFS
acid phthalate crystals, X-ray reflection coeff. across oxygen K-edge region 1−26305
actinide ions in aqueous soln., EXAFS study 1−31235
amorphous semiconductor, structural studies, review *(Japanese)* 1−42304
automatic recording device 1−10054
calculation technique 1−16626
chalcogenide glass structure, EXAFS determ. 1−20077
coordination number determ. 1−21293
Fourier analysis of EXAFS data, a self-contained Fortran program-package 1−24073
high press. X-ray absorpt. 1−35120
principles and applications, review 1−28147
rare earth-manganese intermetallic compounds, RMn_2, (R=Ga, Tb, Dy, Ho, Er, Tm, Lu), X-ray absorption spectroscopic study 1−43219
rare earths, heavy, quasistationary states, Lα and Lβ satellites 1−24074
solid specimen preparation technique 1−23397
structural analysis, short range order 1−31238
synchrotron radiation applications to EXAFS, photoemission, time-dependent spectros., photoelectron diffr. *(Norwegian)* 1−12623
valinomycin-K^+ complex in soln., struct. obs. 1−38364
Al film, thermomodulated EXAFS, thermal expansion 1−31237
Al_2O_3 surface, H_2O doped, photon-stimulated desorption by core level excitation, density of states and extended fine structs. 1−38664
$Au_{0.95}Mn_{0.05}$ spin glass, annealing-induced phase separation, EXAFS study 1−21010
BeO surface, H_2O doped, photon-stimulated desorption by core level excitation, density of states and extended fine structs. 1−38664
C, EXAFS meas. above K-edges, appls. to surface struct. determ. 1−28915
Cu atom, X-ray absorpt. edge, ab initio SCF calc. 1−6277
Cu, refractive index, anomalous dispersion, and EXAFS at K edge, meas. 1−16543
$CuCl_2$, X-ray absorpt. edge, ab initio SCF calc. 1−6277
Cu_2Ti, amorphous alloy, local struct., EXAFS and X-ray scattering 1−30087
F, EXAFS meas. above K-edges, appls. to surface struct. determ. 1−28915
Fe-Sn, Sn segregation of grain boundaries, EXAFS meas. 1−43346
$Fe_{80}B_{20}$, amorphous, local disorder, EXAFS study 1−31232
$Fe_{40}Ni_{40}B_6P_{14}$, amorphous, local disorder, EXAFS study 1−31232
Ga, liq. and solid, temp. and anisotropy effects 1−31231
GaAs, amorphous film, EXAFS study of disorder effects 1−35118
GaAs, high pressure metallic phase, EXAFS and K-absorpt. edge spectrum 1−35121
GaP, amorphous film, EXAFS study of disorder effects 1−35118
I_2 adsorption on Cu, adsorption sites and bond lengths obs. 1−25564
Mo (100), O covered, surface EXAFS by photon stimulated ion desorption 1−20562
Mo (100), photon-stimulated desorption of O following deep core-level excitation 1−52421
$Mo_{50}Ni_{50}$, glassy metallic alloy, EXAFS studies 1−31233
MoS_3, amorphous, struct. study rel. to electrochem. behaviour 1−30061
N, EXAFS meas. above K-edges, appls. to surface struct. determ. 1−28915
Ni film, thermomodulated EXAFS, thermal expansion 1−31237
O, EXAFS meas. above K-edges, appls. to surface struct. determ. 1−28915
O_2 on Al(111) surface, oxidation, EXAFS study 1−26306
PbO-SiO_2 glasses, electronic struct. and resonant covalence 1−30616
Re, L_{III} discontinuity, EXAFS study 1−21294
Se adsorbed on Ni (001), normal-emission photoelectron diffr., analogy with EXAFS 1−42636
SiO_2 surface, H_2O doped, photon-stimulated desorption by core level excitation, density of states and extended fine structs. 1−38664

EXAFS continued
TiO_2-SiO_2 glass, Ti^{4+} coordination geometry, X-ray absorpt. spectra study 1−31228
WS_3, amorphous, struct. study rel. to electrochem. behaviour 1−30061

exchange forces in nucleus *see nuclear forces*

exchange interactions (electron)
see also antiferromagnetism; ferromagnetism; RKKY interaction; superexchange interactions
4f electron systems, low freq. dynamics, cryst. elec. fields 1−20941
A-15 structures, appl. of BCS formula which includes mag. exchange interactions, transition temp. determ. 1−7774
alkali metal halides, off-centre instability induced by exchange forces 1−2928
amorphous alloys, spin glass-paramag. phase boundary, exchange intractions 1−30957
amorphous ferromagnetic alloys, exchange interactions, Grest-Nagel model 1−7824
amorphous ferromagnets, influence of structural instabilities on spontaneous magnetisation 1−7817
amorphous ferromagnets, phase transitions, nonlocal Landau-Ginzburg theory 1−16441
amorphous ferromagnets, solvable model, mag. props. 1−38918
amorphous twisted ribbons, micromagnetic eqns. 1−12379
anisotropic Heisenberg antiferromagnet, variational treatment 1−30901
antiferromagnet, behaviour of impurity spin in zero exchange field *(Russian)* 1−38929
antiferromagnet, two sublattice, influence of mag. field on thermodynamic props. 1−38938
antiferromagnet, two-sublattice, Neel temp. sensitivity to biquadratic coupling 1−25935
antiferromagnet, with uniaxial anisotropy, influence of field strength and direction on mag. phases 1−34877
antiferromagnetic semiconductor, CESR and ENDOR, effect of s-d exchange interaction 1−52843
biquadratic exchange interaction in isotopic Heisenberg ferromag., spin wave theory *(Chinese)* 1−25946
CESR, transmission, anisotropic g-factor effects, theory 1−47949
copper(II) calcium acetate hexahydrate, EPR linewidth rel. to exchange interactions 1−52830
copper formate tetrahydrate and formate bisurea dihydrate, magnetisation curve anal., exchange and anisotropy fields 1−52802
cubic semiconductor, local field effects and excitonic polaritons 1−7534
dilute f-electron systems, crystal-field and exchange splitting in cluster regime, neutron spectroscopy, calc. 1−47589
dilute magnetic alloy, ESR dynamics of spin subsystems at low temps. *(Russian)* 1−31012
electron gas, exchange energy and specific heat, appl. of dielectric function 1−16242
electron gas, uniform, time-dependent Hartree-Fock dielec. function 1−7546
electron liquids, strongly coupled, dielectric function, exchange effects and static props. 1−25654
ferrites, electron interchange effect on initial mag. permeability time stability 1−3169
ferromagnet, simple cubic, with anisotropic exchange interactions, spin wave energy gap calc. 1−25917
ferromagnetic 3d-metals, local band definition, spin waves 1−25863
ferromagnetic metal, plasmons, inelastic scatt. of polarised low-energy electrons 1−2901
ferromagnetic metal, spin-dependent electron absorption 1−43228
ferromagnetic semiconductor, cond. band struct. 1−34621
ferromagnetic superconductors, spin-spiral state, exchange interaction, spin wave spectrum 1−34872
free-electron materials, mean free paths of very-low energy electrons, exchange and correl. effects 1−12100
Heisenberg exchange coupled system, critical behaviour, cubic cryst. field effects, high temp. series investigation 1−52792
Heisenberg ferromagnet, effect of biquadratic-exchange interaction on magnetisation and susceptibility 1−3134
Heisenberg ferromagnet, impure, with biquadratic interactions 1−3135
Heisenberg ferromagnet with uniaxial anisotropy, two-magnon excitations 1−3165
Hubbard model, extended, thermodynamic props. 1−42939
Ising model, random, ferro- and antiferromagnetic binary mixture, entropy of spin-glass state at T=0 1−25958
itinerant ferromagnetism and p-state supercond., coexistence 1−12228
itinerant-electron ferromagnets, mag. field effect on elastic props. 1−15953
kinetic exchange interaction in doubly degenerate narrow band, appl. to $Fe_{1-x}Co_xS_2$ and $Co_{1-x}Ni_xS_2$ 1−3168
Kondo problem, s-d exchange model with arbitrary impurity spin, exact soln. 1−38907
Kondo problem, thermodynamics of s-d exchange model 1−38906
layered ferro- and antiferromag. systems, amorphisation, interlayer exchange parameters, spin glass form., theory 1−12302
magnetic emiconductor, variation of energy gap, Green's function techniques 1−52483
magnetic insulators, Jahn-Teller ions, polaron effects and exchange interaction *(Russian)* 1−7536
magnetic order-disorder transition *(Russian)* 1−7843
magnetic semiconductors, gas-liquid phase transition in quasitwo-dimensional electron gas 1−3073
magnetostatic waves in nonuniform bias fields, exchange effects 1−12381
manganese (II) (1,2,4-triazole), thiocyanate, two-dimensional cpd., magnetic resonance 1−47940
metals, exchange, correlation and many-electron effects on lattice dynamics 1−11825
metals, nuclear magnetism, thermodynamics and mag. reson. 1−52788
mixed-valence systems, magnetic-nonmagnetic ground state model 1−52529
polyacetylene, solitons in condensed CDW system, commensurate and incommensurate phase 1−2949
propylammonium manganese tetrachloride, two-dimensional cpd., magnetic resonance 1−47940
quantum solid, multiple three and four spin exchange 1−2771
rare earth alloys, crystal field origin and magnetoelasticity 1−20942
rare earth alloys, $R_{65}Al_{35}$, R=Ce, Pr, Cy, amorphous, mag. props. meas. 1−12266
rare earth alloys and cpds., superconducting props., cryst. elec. field effects 1−25843

exchange interactions (electron) continued
rare earth compound, van-Vleck magnet, mag. excitation spectrum 1−20943
rare earth cpds., multipolar f-electron-conduction band interactions 1−20688
rare earth metal compounds, magnetic susceptibility of mixed-valence states 1−20955
rare earth metals and alloys, magnetotransport, quadrupole and orbital exchange effects 1−20708
rare earth orthoferrites, $RFe_{1-x}Ni_xO_{3-\delta}$ (R=Ho, Tm, Nd, Dy), antisymmetric exchange, magnetisation meas. 1−52768
rare earth-Au alloys, R_4Au, amorphous, elec. field gradients and exchange interactions 1−25925
rare earth-Co Laves-phase, exchange and cryst. field excitations 1−20972
rare earth-Fe Laves-phase, exchange and cryst. field excitations 1−20972
semiconductors, degenerate-band case, exciton energies, exchange and polaron corrections 1−47498
semiconductors, spin relaxation due to carrier exchange scatt. by paramagnetic impurities 1−12386
spin glasses, macroscopic description 1−12335
spin glasses for Ising models, long and short ranged 1−12336
superconductivity and helical spin order coexistence, interplay of exchange and EM effects 1−42889
superconductors, inhomogeneous magnetic ordering of spins *(Russian)* 1−30968
TCNQ salts, N-methyl-pyridine TCNQ salts, static mag. susceptibility meas. 1−25868
TCNQ salts, random-exchange Heisenberg antiferromag. drains, thermodynamics 1−3206
transition metals, angle-resolved photoemission, spin fluctuation and exchange effects, calc. 1−31315
transition metals, cohesion and mag. props., correl. effects 1−34850
trimeric clusters, Mossbauer spectra, Dzialoshinskii exchange interaction effect, quadrupole splitting 1−31078
tropylium bis(1,2-dicyanoethylene dithiolato)nickelate(III) exchange interactions, crystal struct. 1−47070
two-centre electrostatic interactions between two electrons in cryst. field 1−47525
two-electron systems, exchange splitting in polar media *(Russian)* 1−42731
van Vleck ions interacting with electron gas, mag. props., theory 1−30899
weak itinerant ferromagnets, isotope effect on Curie temp. 1−7856
Wurster's blue perchlorates, exchange interaction, ESR study 1−26039
XY spin glass, ground state props., analytic theory 1−25954
Ag-rare earth amorphous alloys, resist. and magnetoresist. meas. 1−30696
$Al_2La_xTm_{1-x}$ (Y_xEr_{1-x}), crystal fields determ. from paramag. anisotropy and neutron scatt. 1−20683
Au-Yb thin films, ESR study, cryst. field effects and Kondon dilemma 1−21046
Ba_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
$BaF_2:Yb^{2+}$ configuration shift, metal-ligand exchange effects 1−12068
$Ca_{16}Al_4Fe(Al, Mg, Fe)_8Si_{18}O_{70}(OH)_8$, vesuvianite, electron hopping processes, Mossbauer spectra study 1−26095
$CaCu_3Ti_4O_{12}$, appl. of crystallographic and mag. structs. of materials with threefold orbital degeneracy 1−2405
Ca_2EuRuO_6, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
$CaF_2:Er^{3+}$, dipole spin glass obs., mag. susceptibility *(Russian)* 1−21000
$CaF_2:Yb^{2+}$ configuration shift, metal-ligand exchange effects 1−12068
$CaMn_3O_6$ and $CaMn_4O_8$, prep., mag. and EPR behaviour 1−38925
$Cd_{0.95}Mn_{0.5}Se$, semimagnetic semiconductor, exchange induced spin-flip Raman scatt. 1−52953
CdMnTe, semimagnetic, spin-flip Raman scatt. 1−26203
$Cd_{1-x}Mn_xTe$, paramag.-spin glass-antiferromag. transitions 1−12294
CdS, determ. of excitonic parameters of A polariton from magnetoreflectance spectroscopy 1−8092
CdSe:Mn, gigantic spin splitting of exciton states *(Russian)* 1−12042
CdTe:Fe, distrib. of mag. impurities, mag. props. meas. *(Russian)* 1−52170
Ce monopnictides, mag. ordering 1−47876
Ce monopnictides and monochalcogenides, mag. ordering, ⟨100⟩ or ⟨111⟩ alignment 1−47877
CeB_6, anisotropic exchange interaction, paramagnetic susceptibility 1−16425
CeB_6, anomalous mag. props., model calc. within mol. field approx. 1−52766
$Ce_x(La_{0.76}Y_{0.24})_{1-x}As(Sb)(Bi)$, elec. resistivity investigations 1−20706
CeP excited state EPR, g-shift and linewidth, theory 1−26033
CeSb, Ce^{3+} ground state, polarised neutron diffr. determ. 1−47859
CeSb phase diagram, layered struct., mag. interactions 1−47885
Co complex, cobalt pyridine chloride, excitations and mag. ground sate, exchange parameters, spin cluster reson. 1−25880
Co, electron mean free path, spin depend. 1−30729
Cr complexes, Cr III, trinuclear, antiferromag. coupled, luminesc. 1−8110
Cr, mag. props. and polymorphism *(Russian)* 1−20976
Cr-Fe-Mn Invar alloys, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924
Cr(III) complex, tetranuclear rhodoso and Pfeiffer complexes, magnetochem. props. 1−38917
$Cr_xMn_{1-x}As$, Hall resistance modulation 1−25694
$CrS_{1-x}Se_x$, mag. structs. and mag. phase diagram, neutron diffr. study 1−7811
$CsCoCl_3$, ground state props., Raman spectra 1−39083
$CsCuCl_3$, EPR line broadening, effect of cooperative Jahn-Teller effect 1−52833
Cu foil, Fermi liquid exchange parameter determ. 1−16265
Cu, nuclear antiferromagnetism, NMR study 1−2757
$(CuCr_2S_4)_x$-$(Ga_{2/3}Cr_2S_4)_{1-x}$, spin glass state destruction, metal-insulator transition, mag., elec. props. *(Russian)* 1−3209
$Cu(NH_3)_2CO_3$ layer compound, exchange coupling, effective field approx. 1−38923
Dy, magnetisation, AC susceptibility, and microwave absorpt. 1−47867
$DyFe_2$, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297
$Dy_6Mn_{23}(-H_{23})$, mag. ordering, absorbed H effect 1−20970
$DyPO_4$, Ising antiferromagnet, intrinsic fluoresc. in mag. field 1−43172
DySb, paramagnetic, classical mean-field model 1−12254
$ErCo_2$, ground-state spin dynamics, neutron inelastic statt. meas. and Green's function RPA calc. 1−34874
ErCu, competition between multi-q antiferromagnetic struct. 1−25883
$(Eu,Y)_3(Ga,Fe)_5O_{12}$ film, LPE grown, mag. damping and wall mobility 1−7919
$Eu_{80}Au_{20}$, amorphous, electronic, mag. and struct. props. from hyperfine interactions 1−25680
$EuMgF_4$, photoluminescence and energy transfer 1−26253
EuS, ferromag., spin waves and exchange interactions, neutron scatt. study 1−25918
Fe, angle-resolved photoemission, spin fluctuation and exchange effects, calc. 1−31315
Fe complex, carboxilate, Mossbauer spectra, Dzialoshinskii exchange interaction effect, quadrupole splitting 1−31078
Fe, electron mean free path, spin depend. 1−30729
Fe-Cr, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924
Fe-Cr-Ni system, elec. and galvanomag. props., 4.2 to 10K *(Russian)* 1−2942
Fe-V (17.6 at.%), mag. diffusion anomaly 1−16082
$Fe_{1-x}Mn_xCl_2$, disordered mixtures, lowest Fe^{2+} spin excitations by microwave absorption at high freqs. 1−3383
$Fe_xMn_{1-x}Pt_3$, ordered, mag. transform. during temp. variations *(Russian)* 1−30938
$Fe_{0.65}Ni_{0.35}$ Invar alloys, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924
$Fe_{40}Ni_{40}B_{20-x}M_x$ (M=metalloid), amorphous, exchange interactions, Grest-Nagel model 1−7824
$Fe_{10}Ni_{70}P_{14}B_6$ amorphous alloy, spin-glass and mictomagnetic behaviour 1−7862
FeO_x-MgO solid soln., mag. interactions between Fe atoms 1−38922
α-Fe_2O_3-Al_2O_3 solid soln., mag. interactions between Fe atoms 1−38922
Fe_3O_4-$MgAl_2O_4$ solid soln., mag. interactions between Fe atoms 1−38922
$Fe_2(SO_4)_3$, weak ferrimagnetism, mol. field theory approx. anal. 1−12279
GaAs (110), elastic LEED intensity profiles, energy-dependent exchange pots. 1−7052
GaAs:Cr^{2+}(Cr^{3+}), d-electron interaction matrices, energy level calc. 1−42729
$GaAs_{1-x}P_x$:N trap states, zero-phonon excitonic struct., luminesc. and reson. excitation study 1−47538
$(Gd,Y)_4Co_3$, magnetic and transport props. 1−25898
Gd-Co amorphous films, bulk and surface reson. props. 1−12363
$Gd(Al_{1-x}Cu_x)_2$, magnetoresistance and band struct. near Curie temp. 1−7589
$Gd_{0.2}(Co_xNi_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
$Gd_{0.2}(Fe_xCo_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
$Gd_{0.2}(Fe_xNi_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
H atoms adsorbed on frozen H_2 surface, ground state hyperfine resonance 1−1152
^3He, liquid, exchange interactions 1−2751
^3He, solid, BCC, mag. order explained by planar four spin exchange 1−2772
^3He, solid, four spin exchange model and nucl. antiferromag. reson. 1−25527
HgMnTe, semimagnetic, spin-flip Raman scatt. 1−26203
$Hg_{1-x}Mn_xTe$ zero gap semicond., indirect exchange interactions, anisotropic effects 1−2929
HoCu, competition between multi-q antiferromagnetic struct. 1−25883
$Ho_xTb_yDy_{1-x-y}Fe_2$, magnetic anisotropy and spin reorientations 1−20975
K_2CoF_4, antiferromag., dielec. const. near Neel temp. 1−7992
K_3CrO_8, Cr^{5+} paramagnet, antiferromag. exchange, mag. susceptibility, EPR obs. 1−47935
K_2CuF_4:Mn^{2+}, kinetic exchange at low charge transfer energies 1−38924
K_2CuF_4:Mn^{2+}, mag. impurity props. magnetic dipole light absorpt. *(Russian)* 1−47879
$K_2Cu_xZn_{1-x}F_4$, at percolation threshold, Heisenberg ferromag. susceptibility 1−34865
$KZnF_3$:$Mn^{2+}Cu^{2+}(Ni^{2+})$, kinetic exchange at low charge transfer energies 1−38924
$LaCrO_3$ paramag. cryst., short range order, ESR study 1−7944
$La_xTb_{1-x}Ag$, crystal fields determ. from paramag. anisotropy and neutron scatt. 1−20683
Li, band structure, effect of exchange interaction, self-consistent Green's method 1−20619
M=Mg, Ni, Zn, cation distrib., props. of brownmillerite phase 1−47052
MgF_2:$Co^{2+}(Mn^{2+})$, d-electron interaction matrices, energy level calc. 1−42729
MgO:Ni^{2+}, ESR linewidth mechanisms 1−47938
Mn-Rh alloys, mag. transitions, exchange anisotropy effect *(Russian)* 1−3178
MnBi, mictomag. and superparamag. props., high press. effect 1−30942
$Mn_xMg_{1-x}Gd_2S_4$ and $Mn_xMg_{1-x}Yb_2S_4$, solid soln., magnetic behaviour and substitution effect 1−34855
$Mn_xMg_{1-x}Tb_2S_4$ solid soln., mag. behaviour and substitution effect 1−34854
MnO, spin orientation at 0K and zero applied field 1−26000
MnO-CoO antiferromag. solid soln., thermomag. study 1−52785
$NaCa_2Ni_2V_3O_{12}$, canted mag. struct., exchange interaction and effective single-ion anisotropy 1−47862
$(Nd_xGd_{1-x})_{3-y}S_4$, electrical resistivity, mag. ordering effects 1−25747
Ni, angle-resolved photoemission, spin fluctuation and exchange effects, calc. 1−31315
Ni, electron mean free path, spin depend. 1−30729
Ni, electronic structure, correlations, self-energy effects 1−38710
Ni, electronic structure, exchange splitting, correlation effects 1−34617
NiMn, NMR freq. temp. depend., Curie temp. and effective exchange interaction 1−47971
$Pb_{1-x}Mn_xTe$, bottleneck effect in ESR linewidth 1−52832
$Pb_{1-x}Mn_xTe$, long range coupling between Mn^{2+} ions, ESR spectra, mag. susceptibility 1−20971
Pd-Ni, dil., paramag. and weakly ferromag., giant-moment clusters, magnetisation meas. 1−42947
Pr, magnetic ordering at millikelvin temps., thermal neutron scatt. study 1−34859
$PrAl_2$, induced magnetism via conduction electron exchange 1−47868
$Pr_{1-x}Mn_{1+x}O_3$ perovskites, struct. and mag. props. 1−38934
$PrNi_5$, nucl. mag. ordering at 0.4 mK, sp. ht. meas. 1−25959
Pr_3Se_4, singlet-state ferromag., cubic system with low local symmetry 1−25854
$PrVO_4$:Gd, exchange and dipolar interactions, EPR study 1−12398
Rb_2FeF_5, spin-flop type transition and mag. struct. study *(French)* 1−52779

exchange interactions (electron) continued
RbNiF$_3$, ferrimagnet, high-temp. susceptibility of Heisenberg Model 1 12268
Si (111) inversion layer, exchange-correlation effects, strain-enhanced valley-occupancy phase transition 1−47728
(Sm, Y, Ca)$_3$(Ge, Fe)$_5$O$_{12}$, magnetic bubble parameters, temp. depend. 1−21021
(Sm, Y)$_3$(Ga, Fe)$_5$O$_{12}$, magnetic bubble parameters, temp. depend. 1−21021
Sm monopnictides, paramagnetic susceptibilities 1−25871
SmAl$_2$, 4f and band contribution to Sm form factor 1−25678
Sm$_2$Co$_{10}$Cu$_{1.48}$Fe$_{3.16}$Zr$_{0.194}$ hard permanent magnet, domain wall pinning 1−7875
SmMgF$_4$, photoluminescence and energy transfer 1−26253
Sn$_3$La$_x$Nd$_{1-x}$ (La$_x$Tb$_{1-x}$), crystal fields determ. from paramag. anisotropy and neutron scatt. 1−20683
Sr$_2$EuRuO$_6$, magnetic interactions, ^{151}Eu Mossbauer spectroscopy 1−26086
SrF$_2$:Yb^{2+} configuration shift, metal-ligand exchange effects 1−12068
SrMgF$_4$, photoluminescence and energy transfer 1−26253
Tb monopnictides, singlet ground state phase diagram and Tb^{3+} coupling parameters 1−20984
Tb-Er, mag. props., susceptibility and magnetisation meas. 1−25896
Tb-Fe, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297
Tb-Y, magnetisation, AC susceptibility, and microwave absorpt. 1−47867
TbBe$_{13}$, mag. props. 1−30934
Tb$_6$Mn$_{23}$(-H$_{23}$) mag. ordering, absorbed H effect 1−20970
TbP, neutron scatt. study of singlet ground state magnetism 1−34863
TbP, paramagnetic, soft modes and mode splitting 1−20350
TeCrO$_6$, Cr^{III}-Cr^{III} coupling, nonmag. cation influence exchange const., ferro- and antiferromag. effect 1−47875
TiBe$_2$, exchange enhancement evidence from ESR 1−26014
TmCd(Cu)(Lu-Zn), cubic, quadrupolar interactions, parastriction and third-order mag. susceptibility 1−21030
TmCu, competition between multi-q antiferromagnetic struct. 1−25883
U monopnictides, mag. ordering 1−47876
U monopnictides and monochalcogenides, mag. ordering, ⟨100⟩ or ⟨111⟩ alignment 1−47877
UAs, antiferromag., phase transitions, neutron scatt. study 1−47883
U(Fe$_x$Co$_{1-x}$)$_2$, exchange-enhanced paramagnetism and ferromag. behaviour obs. 1−25873
V$_2$O$_5$-P$_2$O$_5$ glasses, low temp. electron paramag. props. 1−7936
W, adsorbed H, indirect exchange interaction between adatoms on solid surface *(Japanese)* 1−38649
WCr$_2$O$_6$, Cr^{III}-Cr^{III} coupling, nonmag. cation influence exchange const., ferro- and antiferromag. effect 1−47875
YFeO$_3$, NMR obs. of spin struct., field induced spin reorientation 1−26047
YbCrO$_3$, metamagnetic transitions, IR spectra 1−16562
YbCrO$_3$, optical absorption spectra, Cr-Yb mag. interaction 1−12489
Yb$_2$O$_3$, ^{70}Yb SXAPS 1−26313
Zn:Cr, mag. susceptibility meas. 1−47871
ZnSe:Mn(Fe), giant spin splitting of exciton states 1−31132
Zn^{2+}(Zn$_{(1-x)/2}^{2+}$Sn$_{(1+x)/2}^{4+}$Fe$_{(1-x)}^{3+}$Fe$_x^{2+}$)O$_4$, electron exchange processes, ^{57}Fe and ^{119}Sn Mossbauer studies 1−52873

exchange models *see peripheral models*

exchanges (chemical) *see chemical exchanges*

exchanges (telephone) *see telephone exchanges*

excimer lasers
active media of exciplex lasers, review 1−1553
compact electron beam pumped excimer laser system 1−41745
control and feeding device *(Bulgarian)* 1−33705
electrical discharge lasers, electron ionisation rates 1−37480
electronic transition lasers, electron collisions, theory 1−37466
excitation system using strip lines of ceramic capacitors 1−51499
excitation technology and spectroscopy, book contrib. 1−10994
fusion reactor laser driver system review, book contrib. 1−11020
inert gas halide, electron mobilities, attachment ionisation coeffs., and electron transport coeffs. 1−33671
inert gas halide, extreme UV generation by freq. mixing, harmonic generation 1−29331
inert gas halide, versatile 0.5 TW electron beam facility for power conditioning studies 1−29292
inert gas halide high repetition rate minilaser, operating characts. 1−41666
inert gas halide lasers, discharge excitation, modelling 1−37482
inert gas halide lasers, generation, meas. and utilisation of Xe excimer rad. prod. by nuclear reaction products 1−19327
inert gas halide lasers, high-power, fast-discharge system, elec. circuit design 1−41723
inert gas halide lasers, kinetic processes 1−37481
inert gas halides, transmission line driven lasers, discharge kinetics, collision processes, Boltzmann eqn. soln. 1−37471
inert gas halides, vibr. relax. studies 1−29268
inert gas ions transient absorpt. studies, 2500 to 4000 Å region 1−45983
inert gas VUV excimer lasers, operation, characts. and appls. 1−29250
inert gas-halogen UV lasers, appls. in chemical industry *(German)* 1−41716
inert-gas mixtures, plasma, current runaway and spatial struct. formation 1−15159
inertial confinement fusion appl. *(French)* 1−10520
interhalogen molecules, laser action, kinetics fluoresc. 1−37473
mirrors and coatings, used for vacuum UV and UV lasers 1−15174
molecular electronic transition laser, laser diagnostics and studies 1−41680
multiple-Raman-shifting of excimer lasers to blue-green in H$_2$, numerical model 1−51546
N$_2$ laser tube transversal gas recirculation 1−11018
polyatomic charge transfer complexes, inversion and lasing action, CNDO calcs. 1−6164
supersonic flow excitation by electron beam stabilised discharge, UV and IR laser emission 1−41673
supersonic flow low temperature electronic transition excimer lasers 1−46305
supersonic gas flow lasers *(French)* 1−10978
Ar-Kr-F$_2$ laser mixtures, kinetic processes 1−46309
Ar-N$_2$ laser pumped by high-current proton beam 1−51461
ArF*, quenching by SF$_6$, KrCl* and XeCl*, CF$_2$Cl$_2$ and XeBr* and by CH$_3$Br 1−6541
excimer lasers continued
ArF*, upper laser levels, quenching by electron beam pulses 1−24397
BrF, TEA laser based on D′→A′ transition 1−19323
ClF, TEA laser based on D′→A′ transition 1−19323
Cs-He (Ar), photoionisation, photoconductivity induced by radiation pulse meas. 1−1547
Hg halide laser, kinetic processes 1−37481
HgBr, dissoc. of HgBr$_2$, small signal gain, fluoresc., energy deposition 1−37479
HgBr, dissociative excitation of HgBr$_2$, optical and elec. characts. 1−37476
HgBr, dissociative excitation of Xe-HgBr$_2$ mixtures, discharge and laser characts. 1−37478
HgBr laser oscill., 502 nm, in electron-beam-controlled discharge-excited Xe-HgBr$_2$ 1−46298
HgBr$_2$, ionisation, dissociative attachment, cross sections, appl. to lasers 1−37341
HgBr*, dissociative excitation of HgBr$_2$-Xe, kinetics, luminesc. 1−37477
ICl, E-state quenching rate consts., radiative lifetimes 1−37267
IF 140 kW laser, small signal gain and operating parameters, 472.7 nm transition 1−41671
IF, blue-green lasing in discharge pumped gas mixtures, gain meas. 1−37475
IF discharge-pumped laser, multi-line emission (480-496 nm) 1−37463
IF, E-state quenching rate consts., radiative lifetimes 1−37267
IF laser, optically pumped, B$^3\Pi(O^+)$→X$^1\Sigma^+$, 7200-6500 Å range 1−24400
IF, lasing and emission spectra meas. at 491, 484 nm 1−24399
IF, TEA laser based on D′→A′ transition 1−19323
IF*, lasing in He-CF$_3$I-NF$_3$ mixtures at 491, 484 nm 1−37474
Kr$^+$+F$^-$, in Ar, ion recombination, plasma shielding effects, appl. to excimer lasers, Monte Carlo calcs. 1−38057
KrF and XeCl excimer laser deposition of Mg and Zn films 1−39242
KrF closed cycle gas transport laser, 200 W output power 1−19349
KrF, discharge condition optimisation, gas and circuit analysis codes 1−41674
KrF electron-beam pumped laser, oscillator performance and energy extraction 1−29262
KrF electron-pumped lasers, amplification props. 1−41668
KrF, gain to non-saturable loss ratio 1−41672
KrF high repetition rate minilaser, operating characts. 1−41666
KrF high-repetition rate mini laser, operating parameters 1−46307
KrF laser, electron beam excitation model 1−37483
KrF laser, UV preionised homogeneous discharge, spatially resolved gain meas. 1−46299
KrF lasers, electron-beam-excited, laser fusion appls. 1−29270
KrF oscillator-amplifier, mode-locked, gain and saturation intensity meas. 1−24398
KrF pulse-periodic electric discharge excimer laser 1−1591
Kr$_2$F, electron-beam pumped, excimer laser emission at 430 nm 1−37462
KrF*, quenching by SF$_6$, KrCl* and XeCl*, CF$_2$Cl$_2$ and XeBr* and by CH$_3$Br 1−6541
KrF*, upper laser levels, quenching by electron beam pulses 1−24397
Kr$_2$F*, quenching reactions, rate consts., temp. depend., fluoresc. 1−37484
KrF*(B) state, accessibility to laser photons, meas. 1−10988
Li$_2$, optically pumped, precise meas. and assignment of CW laser emission lines 1−15157
N$_2$ flat-plate capacitor discharge laser, design considerations 1−41746
N$_2$, high power, long pulse duration 1−24429
N$_2$ high-power transverse-discharge UV laser without gas circulation 1−6576
N$_2$ laser, transversely pumped, reliable 1−37510
N$_2$ laser for dye laser pumping 1−11019
N$_2$ laser pulse energy meas. by chemical actinometer system 1−14165
N$_2$ laser pumped dye laser *(Chinese)* 1−6553
N$_2$ laser pumped pulsed dye laser, 2 GHz linewidth 1−19357
N$_2$ long-pulse UV laser at 357.7, 380.5 and 405.9 nm in N$_2$-Ar-Ne-He mixture 1−37485
N$_2$ long-pulse UV lasers at 357.7, 380.5, 405.9 nm in N$_2$-Ar-Ne-He mixture 1−41665
N$_2$ multichannel laser for multiple wavelength cinematographic and interferometric diagnostics 1−15160
N$_2$, O-O UV laser band, Λ-doubling obs. 1−46023
N$_2$ pulsed discharge, laser spectroscopic anal. at low temp., 1.43 μm laser band 1−10987
N$_2$ pulsed laser, segmented metal discharge tubes 1−24432
N$_2$, spark gaps triggering *(Rumanian)* 1−15677
N$_2$ UV laser, construction, characts. *(Japanese)* 1−6571
N$_2$ UV lasers, laser beam bending effects on interferometric electron density meas. *(Japanese)* 1−42204
Na$_2$, optically pumped, precise meas. and assignment of CW laser emission lines 1−15157
Xe-Cl lidar, stratospheric vertical ozone distrib. meas., aerosol influence 1−36017
XeBr exciplex formation, vibrationally thermalised emission, temp. depend., ab initio pot. curves. two-photon optical pumping 1−6344
XeBr laser, optimum pumping conditions calcs. 1−24409
XeCl, amplification of UV picosec. pulses *(Japanese)* 1−51454
XeCl, attachment rate, vibr. excitation enhancement, quenching rate coeffs., fluoresc. 1−37468
XeCl, Blumlein discharge-excited laser, output rel. to press., voltage etc. 1−37464
XeCl discharge excited laser, resistive stabilisation 1−24430
XeCl electric-discharge laser 1−51509
XeCl, electron beam pumping, variable current density, fluoresc., laser performance 1−37467
XeCl excimer laser with UV preionisation, 1.2 MW output power 1−15179
XeCl excimer lasers, high-power, fast-discharge system, elec. circuit design 1−41723
XeCl high repetition rate minilaser, operating characts. 1−41666
XeCl high-repetition rate mini laser, operating parameters 1−46307
XeCl laser, discharge-pumped, UV-preionised, high pressure *(Chinese)* 1−6546
XeCl laser, transient absorptions 1−29269
XeCl laser, UV preionised homogeneous discharge, spatially resolved gain meas. 1−46299
XeCl, laser performance in Ne-Xe-HCl mixtures, charge exchange process 1−37469
XeCl, long pulse avalanche discharge device 1−37470

excimer lasers continued
XeCl, multiple-Raman-shifting to third Stokes wave in H_2, 308 to 499 nm 1−51546
XeCl, performance characts., wallplug and power efficiencies 1−37472
XeCl, transmission line driven lasers, discharge kinetics, collision processes, Boltzmann eqn. soln. 1−37471
XeCl(F), freq. conversion of beams by means of stimulated Raman scatt. in liq. N_2 1−33763
XeF, electron beam excited laser mixtures, optical gain meas. at 351, 488 nm 1−1549
XeF laser spectral power control 1−33667
XeF, re-estimate of pump parameters of pulsed reactor laser operating on bound-free transition 1−51462
XeF* laser radiation, long pulse length, Raman shifting 1−1626
XeO photochemical laser, internal losses, specific efficiency and output energy 1−33676

excimers
see also excimer lasers
alkali-rare gas molecule, band shape and interaction pot. *(French)* 1−37257
1-amino-3-anthryl-(9)-propanes, electrogenerated chemiluminesc., intramol. exciplex form. 1−26751
anthracenes, photolytic cycloreversion, exciplex form., UV obs. 1−33474
benzopyrene, trimmer exciplex emission, spectra 1−10742
1,3-bis(4-hydroxy-1-naphthyl)propane, normal and second intramol. excimer fluoresc. 1−46006
1,3-bis(4-methoxy-1-naphthyl)propane, normal and second intramol. excimer fluoresc. 1−46006
carbazole-$(CH_2)_n$-terephthalic acid methyl ester, exciplex system, phosphoresc. 1−33486
cyanoanthracenes, vapour phase exciplex, emission spectra and lifetime temp. effect 1−1245
1-(9,10-dicyano-2-anthryl)-3-(2-naphthyl)propane, intramol. exciplex formation, electronic relax. 1−6303
dimethyl-tetrazine dimer, fluoresc. excitation spectra, mol. vibr. 1−37237
dinaphthylalkanes, solns., fast triplet excimer form., spin-orbit coupling 1−33587
heteroexcimer, reaction intermediate, picosec. laser spectrosc. obs. 1−10868
inert gas monohalide formation in transverse AC discharge 1−42242
inert gases, vacuum UV spectroscopy *(German)* 1−10750
pigments, triplet exciplex intermediates in photooxidation 1−24060
poly(N-vinylcarbazole) films, fluoresc., phosphoresc. and delayed fluoresc. at 77K 1−21253
pyrene crystals, excimer and monomer emission, solid state phase transition 1−3452
pyrene films, evaporated at low temp., fluoresc. spectra, excimer emission 1−26261
pyrene-N,N-diethylaniline exciplex in cyclohexane soln., resonance CARS 1−3380
Ar, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
ArF*, quenching by SF_2, KrCl* and XeCl*, CF_2Cl_2 and XeBr* and by CH_2Br 1−6541
ArKrF* excimer, blue luminesc. emission mechanism 1−33499
Ar_2*, homonuclear excimers, excited and ground state interactions, spin-orbit coupling 1−6140
CsXe, yellow emission band, quantum simulation, vibr., pot. curves 1−24117
Kr, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
KrF excimer flashlamp, efficiency 1−15243
KrF*, quenching by SF_2, KrCl* and XeCl*, CF_2Cl_2 and XeBr* and by CH_2Br 1−6541
KrN_2F* excimer, blue luminesc. emission mechanism 1−33499
Kr_2*, homonuclear excimers, excited and ground state interactions, spin-orbit coupling 1−6140
N_2, VUV emissions from laser-excited b′ $^1\Sigma_u^+$ state 1−29026
Ne_2*, homonuclear excimers, excited and ground state interactions, spin-orbit coupling 1−6140
Xe, discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
XeBr*, nuclear-induced fluoresc. for photolytically pumped I laser 1−24411
XeF* excimer form. in hollow-cathode glow discharge, inert gas-halogen carrier mixture 1−53418
Xe_2*, homonuclear excimers, excited and ground state interactions, spin-orbit coupling 1−6140

exciplexes *see excimers*

exciters
exciton isolator as a ferroelectric *(Russian)* 1−2879

excitonic molecules
anthracene, crystal, exciton spectroscopy *(Japanese)* 1−16236
Bose condensation of excitons and excitonic molecules *(Japanese)* 1−2886
crystallised state possibility of exciton matter 1−25639
dye aggregates, single crysts., J-band origin 1−35073
polariton effect influence on excitonic molecules 1−30644
quantum system, Bose-Einstein condensation 1−2876
semiconductor, dense exciton-biexciton systems, optical props. 1−25646
semiconductors, excitons, photons, biexcitons, coherent nutation 1−2885
two-photon generation and optical bistability 1−42694
AgBr, luminescence of excitonic molecules, meas. 1−43174
$AgCl_xBr_{1-x}$, time-resolved luminesc. lines from excitonic molecules 1−48140
CdS, biexcitons, active nonlinear spectroscopy, propag. effects and Fano interf. 1−46453
CdS(Se), luminescence at high excitation densities 1−12555
$CdS_{1-x}Se_x$, emission by electron-hole droplets and electron-hole plasma 1−12556
CdSe, time resolved luminescence, exciton collisions 1−48157
$CsMnF_3$, biexciton decay and multimagnon sidebands in fluroesc. spectra 1−30646
$Cs_2UO_2Cl_4$ cryst., energy transfer and biexciton decay 1−8106
CuBr, excitonic polaritons, dispersion, hyper-Raman scatt., theory and meas. 1−2880
CuBr(Cl), luminescence at high excitation densities 1−12555
CuCl, biexcitons, active nonlinear spectroscopy, propag. effects and Fano interf. 1−46453
CuCl, excitonic molecule distrib. under giant two-photon excitation 1−38726

excitonic molecules continued
CuCl film, excitonic molecule two-photon excitation, Raman scatt. 1−30645
CuCl, hyper-Raman scatt. via biexcitons 1−52939
CuCl, nonequilibrium Bose condensation, excitonic molecules 1−34631
CuCl, optical gain, induced absorpt. in high density exciton system 1−8103
CuCl, two photon resonant, coherent Raman scatt. via excitonic molecules 1−39077
GaP:N, excitonic molecule bound to N trap, uniaxial stress effect 1−25643
Ge, bound exciton level fine struct. in multiexciton complexes *(Russian)* 1−2878
α-N_2, solid, vacuum UV luminescence spectrum *(Russian)* 1−43154
Si, biexciton form., photoluminesc. study 1−48145
Si, excitons, biexcitons, and free carriers, kinetic props., luminesc. 1−47488
Si, uniaxially stressed, dense electron-hole system and exciton-plasma transform 1−52495
Si:B(Li)(P), bound multiexciton complexes, exciton capture and Auger recomb. rates 1−48146
Si:P, bound multi-exciton complexes 1−47486
Si:P, bound multiexciton complex radiation lines in mag. field, polarisation and splitting 1−52993
Si:P, four-particle radiative transitions of biexcitons and multiple bound excitons 1−31188
Si:P, high frequency modulation spectroscopy of bound multiexciton complexes 1−48142

excitons
see also excitonic molecules; phonon-exciton interactions
aggregate photoreceptors, hole photogeneration 1−2980
alkali iodides, resonant Raman scatt. and luminescence 1−39081
alkali metal halides, electroluminescence mechanism of α emission 1−21278
anisotropic polar crystal, polarons and Wannier excitons 1−2893
anthracene, crystal, exciton spectroscopy *(Japanese)* 1−16236
anthracene, influence of surface effects and temp. on triplet excitons interaction, fluroesc. obs. 1−8125
anthracene, two photon generation of charge carriers, triplet excitons role 1−25755
anthracene cryst., triplet exciton pair-charge carrier interaction 1−20635
anthracene crystal, annealing influence on low-temp. fluorescence, exciton *(Russian)* 1−35096
anthracene crystals, with triplet exciton traps, temp. depend. of delayed fluoresc. lifetime 1−26254
anthracene crysts., charge transfer exciton potentials, optical charge carrier generation 1−12035
anthracene single cryst., triplet states, phosphoresc. and delayed fluoresc. mag. reson. 1−31063
anthracene-dianhydride pyromethyl acid complex, absorpt. spectra, exciton band shifts *(Russian)* 1−21215
anthracene-tetracyanobenzene, 1:1 charge transfer cryst., optical nuclear polarisation, phase transform. 1−7975
anthracene-tetracyanobenzene charge transfer complex, exciton dynamics EPR spectra 1−47927
antiferromagnet, exciton-magnon coupling, exciton energy spectrum *(Russian)* 1−42959
antiferromagnet, optical pumping, excitation of magnons and excitons *(Russian)* 1−31130
aromatic molecular crystal, interaction of radiation with matter 1−21154
autolocalised barrier, Jahn-Teller symm. breaking *(Russian)* 1−47592
Bose condensation of excitons and excitonic molecules *(Japanese)* 1−2886
chalcogenide glasses and crystals, photolum. dynamics 1−3462
charge transfer crystal, organic, optical and photoelectric props. 1−30789
coherent energy transfer in solids, exciton-lattice interactions, book contrib. 1−11821
coherent exciton-photon system, nutation effect taking into account collective two-photon and two-exciton transforms. 1−52499
β-copper phthalocyanine crysts., refl. spectra meas. excitons, charge transfer 1−21225
core excitons in insulators and semiconds., effective mass approx., review of theory 1−30637
crystallised state possibility 1−25639
$CsMnBr_3.2H_2O$ exciton migration, luminesc. quench study 1−47482
cubic semiconductor, local field effects and excitonic polaritons 1−7534
cyanine dye cryst., polariton reson. 1−20642
density, average, eqn. in RPA scheme 1−12039
diamagnetic exciton theory, many band approx. 1−21178
dibromonaphthalene, structural defect influence on EPR spectra *(Russian)* 1−38981
dielectric in an alternating elec. field *(Russian)* 1−42701
dielectric response of a one-dimensional electron gas 1−34640
diethylammonium manganese tetrachloride, 2-dimens. spin canted antiferromag., exciton transfer 1−8087
1,5-dimethyl-nortropinone nitroxide, dimerisation, EPR, thermally accessible triplet state, hopping rate *(French)* 1−47952
direct gap semiconductors, effect of high excitation on carrier density 1−25642
direct-gap semiconductor, three-particle electron-hole states effect on opt. spectra 1−21162
ferromagnet, impure, phase diagram 1−12296
fluorene-pyrene-d_{10} mixed organic cryst. system, triplet state energy transfer 1−47929
free Frenkel exciton-excess electron interaction, complex charge carrier formation 1−47496
generalised master equations 1−47494
hopping system with Gaussian energy distrib., dispersive exciton transport simulation 1−25637
III-V semiconductors, shallow core exciton fine struct. and temp. depend., refl. meas. 1−30636
inert gas solids, valence excitons, one- and two-photon spectroscopy 1−31164
inert gases, condensed, localised excitation dynamics from energy, time resolved spectroscopy 1−31163
intermediate coherence domain, transient grating expts., exciton-transport theory 1−12037
ionic and covalent crystals, optical dispersion connection with lattice and bonding props. 1−39058
ionic crystals, luminesc., self-trapping excitons, holes, and electrons, review 1−12547

excitons continued
ionic solids, self trapping of electronic excitations, radiolysis 1−7526
lattices, simple and binary, correlated random-walk simulations, appl. to exciton percolation 1−183
layered crystals, transverse exciton mass, calc. 1−47500
light absorption, role of spatial dispersion *(Russian)* 1−12041
light absorption peak, thermal shift, long and short wave, physical causes 1−26153
light energy capturing via exciton nonconservation 1−52492
long-range order destruction, pinning and fluctuation interband mechanism 1−2883
luminescence, polariton mechanism 1−12561
luminescence spectra, surface polaritons 1−12559
maleic anhydride, cryst., vibr. spectrum, reson. interactions 1−3398
mica, vermiculite, X-ray K-absorpt., Fe^{2+}/Fe^{3+} ratio and Fe-O bond length, heat treatment effect 1−31230
migration experiments with imperfectly absorbing end detectors, theory 1−47497
molecular chains, in solitary exciton states, elastic neutron scatt. differential cross section calc. *(Russian)* 1−52027
molecular crystal, ESR line broadening, spin-lattice relaxation of triplet excitons 1−26016
molecular crystal, exciton annihilation, fluorescence intensity 1−2882
molecular crystal with impurity centres, reson. interaction effect on Stark effect 1−16264
molecular crystals, exciton absorption line-shape, low-energy tail, defect and phonon effects 1−47499
molecular crystals, exciton light absorpt. *(Russian)* 1−2888
molecular crystals, pulsed pumping, exciton-exciton annihilation kinetics, theory 1−26260
naphthalene, influence of surface effects and temp. on triplet excitons interaction, fluroesc. obs. 1−8125
naphthalene, isotopically mixed crystals, universality and critical exponents of energy transport 1−30639
naphthalene, lightly doped crystals, singlet exciton transport, correlated hopping model, fluoresc. meas. 1−3450
naphthalene crystal with impurity centres, reson. interaction effect on Stark effect 1−16264
naphthalene crystals, isotopically mixed, Anderson transition in vibronic exciton bands 1−48108
naphthalene neat crystals, vibr. relax. by ps CARS 1−12485
naphthalene single crystals, detrapping of charge carriers by singlet excitons 1−25756
noncoherent Frenkel exciton luminescence spectra at high pumping levels 1−12582
ODMR, in semiconductors 1−31064
optical bistability, theory 1−11039
polar crystal, electrostatic potential of slow excitons *(Chinese)* 1−25636
polar crystal, Wannier exciton stability *(Chinese)* 1−52491
polar crystals, surface exciton interactions 1−2877
polarised radiation transfer in crystals in exciton region *(Russian)* 1−12519
polaritons, study by resonant light scatt. 1−52502
poly(N-vinylcarbazole) films, fluoresc., phosphoresc. and delayed fluoresc. at 77K 1−21253
polyacetylene, excitons, polarons, bipolarons, superconductivity *(Russian)* 1−42752
polycytosine, σ-exciton type mechanism for superconductivity 1−47778
polydiacetylene backbones, HF crystal orbital calcs., excitonic effects and defect props. 1−29153
polydiacetylene crysts., compressibility under hydrostatic press. 1−15946
polymers, optical excitations, props., nonconservation effects influence 1−39054
polypeptides, helical polymer circular dichroism, transition matrix theory 1−46004
quantum system, Bose-Einstein condensation 1−2876
rare earth metal compounds, valence transition mechanism, excitons *(Russian)* 1−30684
rare earth metal hydrides, RH_x(R=La, Ce, Pr, Nd), metal-semiconductor transition, electronic band struct. model 1−20634
α-resorcinol, IR and Raman spectra, vibr. exciton states, fine struct., crystal and mol. transitions 1−39076
self-localization of elementary excitations 1−30638
self-trapping barrier, spectroscopic study 1−42697
semiconductor, cubic, binding energies of excitons and acceptors, analytical expressions 1−25640
semiconductor, disordered, Wannier excitons, single-site theory 1−12036
semiconductor, donor-bound exciton complex, ground-state energy 1−47487
semiconductor, doped, optical transitions to D^- band, excitonic effects 1−48120
semiconductor, electron-hole droplet instability, recomb. mechanism 1−47489
semiconductor, exciton peak temp. shift *(Russian)* 1−42699
semiconductor, exciton-impurity complexes, coherent resonant interaction with powerful laser pulses 1−11040
semiconductor, large lattice relax. processes 1−34662
semiconductor, strongly doped, excitonic absorpt. spectra *(Russian)* 1−43149
semiconductor and semimetallic film, Coulomb interaction, exciton binding energy 1−20648
semiconductor physics, conference, Kyoto, Japan (Sept. 1980) 1−44693
semiconductor thin films, exciton light absorpt., amplitude thickness depend. 1−43203
semiconductor thin films, quantised, Wannier-Mott exciton decay on neutral impurity centre *(Russian)* 1−2875
semiconductor-thin films, exciton light absorption 1−3357
semiconductors, correlation energy and excitation spectra of electron-hole systems 1−7531
semiconductors, degenerate-band case, exciton energies, exchange and polaron corrections 1−47498
semiconductors, excitons, photons, biexcitons, coherent nutation 1−2885
semiconductors, optical detection of exciton resonances 1−47976
semiconductors, optical spectra, many-body effects 1−48106
semiconductors with direct band gap, polariton theory of scattering of light beams 1−52501
semimetals, nonlocal electron interaction effects in spontaneous current model *(Russian)* 1−42691
silicate glasses, electron loss spectra 1−31248
stilbene monocrystal, exciton diffusion anisotropy toward surface impurity, quantitative estimates 1−30640

excitons continued
stilbene monocrystals, triplet exciton diffusion anisotropy *(Russian)* 1−52498
superlattice, interband absorpt. coeff., 2-D Mott excitations effect *(Russian)* 1−39057
surface self-trapping of Frenkel excitons 1−3042
surfaces, crystal, optical properties, local-field and excitonic effects, theory 1−52908
TCNQ, absorpt. spectra, exciton band shifts *(Russian)* 1−21215
TCNQ salt, alkali metal, ESR 1−42999
TCNQ salt, stilbene-TCNQ complex, absorpt. spectra, exciton band shifts *(Russian)* 1−21215
p-terphenyl, cryst., triplet exciton transport 1−7527
1,2,4,5-tetrachlorobenzene, laser excitation, triplet exciton band, spin-echo obs. 1−16469
tetrachlorobenzene, structural defect influence on EPR spectra *(Russian)* 1−38981
tetraethylammonium ion radical salt, triplet excitons, EPR study, fine struct. and g-tensor determ. 1−12404
bis(p-toluene sulphonate)diacetylene, monomeric and polymeric cryst., optical spectra 1−8085
tunnelling process from free state to self-trapped state 1−38728
two-dimensional electrons in a strong magnetic field *(Russian)* 1−52631
two-dimensional lattice sums and the dispersion relation of Frenkel excitons 1−7530
VUV radiation physics, conf., Charlottesville, VA, USA (June 1980) 1−27648
Wannier exciton-phonon interaction, exciton polaron 1−7532
Wannier-Mott exciton spectrum, renormalisation by Frohlich interaction 1−25644
zinc-blende type, excitonic polaritons, dispersion, theory and meas. 1−2880
Ag halide physics, recent developments 1−35071
$Al_xGa_{1-x}As$, indirect-gap semicond., photolum., excitons and electron-hole plasma 1−3477
a-As_2S_3, chalcogenide glass, luminescence polarisation time depend. 1−16605
BN, photoemission yield, band struct., atomic effects 1−21328
BaO, surface states, UV diffuse refl. spectra 1−21227
BeF_2 glass, synchrotron radiation reflectance and photoelectron spectrum obs. 1−31166
CaF_2, reflectivity, fluoresc. and photoelectron spectra, 20 to 100 eV 1−3466
CaO, surface states, UV diffuse refl. spectra 1−21227
$Cd_{1-x}Mn_xTe$, single cryst., valence band spin-orbit splitting, giant Zeeman effect 1−42730
CdS crystals, luminesc. spectra when frozen into solid He, N_2 laser excitation, optical cryostat design 1−18237
CdS crystals, resonance-enhanced transient reflectivity via exciton polaritons 1−48111
CdS, determ. of excitonic parameters of A polariton from magnetoreflectance spectroscopy 1−8092
CdS, exciton-plasmon interaction in nonequilibrium electron-hole plasma *(Russian)* 1−52496
CdS, excitonic polariton dispersion curves 1−47501
CdS, excitonic solid, press. quenching, anomalous mag. and elec. behaviour 1−30327
CdS, high density phase of excitons, refl. spectra meas. 1−26229
CdS, hyper-Raman scatt. in strong mag. fields 1−52938
CdS, luminescence and photoelectric props. changes on annealing, defect formation *(Russian)* 1−21274
CdS, magneto-Brillouin scatt. of polaritons 1−39118
CdS, magneto-optic effects in exciton absorpt. spectra obs. in megagauss fields 1−48039
CdS, nonradiative states and defects, photoacoustic meas. with ZnO transducer 1−3459
CdS, polariton spectroscopy, magneto Brillouin scatt. and thin prism refraction 1−47504
CdS, radiative recombination in the presence of screening of Coulomb interaction 1−12554
CdS, resonance secondary exciton emission 1−12558
CdS:Cl(Li)(I), resonant Raman study of bound excitons 1−8077
CdS-metal interface, exciton refl. and photolum. spectra meas. 1−25645
CdS(Se), exciton-exciton elastic scatt. cross section 1−38729
CdS(Se), luminescence at high excitation densities 1−12555
$CdS_{1-x}Se_x$, emission by electron-hole droplets and electron-hole plasma 1−12556
CdS_xSe_{1-x} single crystals, near band-edge photoluminesc. meas. 1−43159
CdSe, ionised donor-exciton complexes in polar crysts., binding energy 1−7528
CdSe, opticalgain spectrum, exciton-exciton interaction and electron-hole plasma recomb. 1−3437
CdSe, time resolved luminescence spectra 1−8129
CdSe, time resolved luminescence, exciton collisions 1−48157
CdSe:Mn, gigantic spin splitting of exciton states *(Russian)* 1−12042
CdTe, ionised donor-exciton complexes in polar crysts., binding energy 1−7528
CdTe, resonant electronic Raman scatt. 1−35034
Cs halides, exciton relaxed state stability 1−30643
CsBr, exciton decay into defects, polarised luminescence *(Russian)* 1−20637
$CsCoCl_3$, low temp. mag. spin structs., optical selection rules 1−39121
$CsMnCl_3.2H_2O$ exciton migration, luminesc. quench study 1−47482
$CsMnCl_3.2H_2O$, exciton-magnon light absorpt. *(Russian)* 1−48038
$CsNiCl_3$, low temp. mag. spin structs., optical selection rules 1−39121
$CsPbBr_3(Cl_3)$, exciton absorpt., refl., and luminesc. spectra 1−12540
CuBr, exciton polariton, resonant Brillouin scatt. 1−52959
CuBr, excitonic polaritons, dispersion, hyper-Raman scatt., theory and meas. 1−2880
CuBr, excitonic polariton dispersion, reson. Raman scatt. under two-photon excitation 1−35043
CuBr, polaritons associated with nearly degenerate excitons, dispersion and refl. 1−25648
CuBr, temp. depend. of spin-orbit coupling and energy gap, reflectivity spectrum 1−38757
CuBr(Cl), luminescence at high excitation densities 1−12555
CuCl, diamagnetic anomaly model, energy bands, defect and impurity levels 1−20633
CuCl, exciton longitudinal-transverse splitting, k-depend. 1−25638
CuCl, excitonic polaritons, picosecond time-of-flight meas. 1−47502
CuCl, interband electronic Raman scatt. of polarised light 1−39088

excitons continued
CuCl, optical gain, induced absorpt. in high density exciton system 1−8103
$CuCrS_2$, vacuum UV reflectivity spectra, band struct. 1−21228
CuI, $Z_{1,2}$ exciton-polaritons, magneto-optical studies 1−26178
Cu_2O crystals, excitonic photocond. and structural defects 1−3013
Cu_2O, exciton energy levels under uniaxial stress 1−38730
Cu_2O, exciton gas, evidence for Bose-Einstein statistics 1−25641
Cu_2O, exciton screening, two-photon absorpt. *(Russian)* 1−42695
Cu_2O single cryst., exciton absorpt. spectra, hydrostatic press. effect 1−42702
Cu_2O, two-photon spectroscopy on even parity excitons 1−48107
EuP_5O_{14}, stoichiometric material, freq. dependent optical dephasing 1−1653
GaAs crystals, resonance-enhanced transient reflectivity via exciton polaritons 1−48111
GaAs, highly excited, exciton electron-hole plasma system, optical studies 1−52592
GaAs, impact ionisation of free exciton 1−16290
GaAs, resonant electronic Raman scatt. 1−35034
GaAs semiconductor-oxide-electrolyte interface 1−34801
GaAs unrelaxed (110) surface Ga core exciton effects 1−16330
GaAs-$Al_xGa_{1-x}As$ multi-quantum well struct., radiative recombination from quantum states 1−52990
GaAs-AlAs (110) interface deep substitutional sp^3-bonded impurity levels and Frenkel core excitons 1−16344
GaAs-AlGaAs superlattice, Coulomb interactions, intersubband spectroscopy 1−7719
$GaAs_{1-x}P_x$:N trap states, zero-phonon excitonic struct., luminesc. and reson. excitation study 1−47538
GaP:N, decay kinetics of excitons and electron-hole plasma 1−3484
GaP:N, N-bound excitons, stress depend., zero-phonon luminesc. and absorpt. spectra 1−26268
GaP:N, phase separation of carriers, electron-hole plasma models 1−12134
GaP:N, photoluminesc. decay time meas., exciton bound states 1−39146
GaP:N, radiative combination at NN_i isoelectronic centre 1−3496
GaP:N, valley-orbit splitting of N-bound exciton from stress-optical spectra 1−47485
GaSe crystals, optical props. of band edge exciton, 10K 1−35002
GaSe, exciton phonon interaction *(Russian)* 1−2887
GaSe, excitonic emission, direct and indirect, photoluminesc. 1−48161
GaSe, magneto-optic effects in exciton absorpt. spectra obs. in megagauss fields 1−48039
GaSe thin film, exciton absorpt. spectrum 1−34634
GaSe(S), ODMR, bound and free triplet excitons 1−31064
$GaTe_xSe_{1-x}$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
Ge, bound exciton level fine struct. in multiexciton complexes *(Russian)* 1−2878
Ge, core-exciton shifts, XPS spectra 1−16235
Ge, dielectric function expansion into elementary parts, intrinsic absorpt. spectra 1−16578
Ge, electron-hole drops, free excitons, free carriers, magnetoplasma resonance study 1−20638
Ge, electron-hole drops, static friction mechanism 1−42698
Ge, electron-hole system outside droplet formation region, thermodynamical props. 1−26264
Ge, excited hole state of donor bound excitons and parity selection rule 1−3457
Ge excitonic binding, free carrier screening, spectroscopic search 1−3416
Ge, impurities and excitons, far IR spectroscopy *(Japanese)* 1−3447
Ge:As(Bi)(P), even parity excited donor states from bound exciton two-electron transitions 1−48143
Ge:B, exciton condensation kinetics at high excitation levels *(Russian)* 1−30648
GeS, photoconductivity spectra, exciton effects 1−20820
a-GeS_2, chalcogenide glass, luminescence polarisation time depend. 1−16605
$GeSe_2$, layered crystals, refl. and transmission spectra, indirect excitons *(Russian)* 1−48105
In-I, resonant Raman scatt. and luminesc. 1−12488
$In_xGa_{1-x}Se$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
InI, photoluminescence, donor-acceptor pair recomb. 1−8126
InP, deform. pot. of fundamental exciton spectrum 1−8093
InSe:Fe, impurity effect on optical spectra *(Russian)* 1−31177
In_4Se_3, refl. spectra and optical functions 1−52965
K halides, shallow core exciton fine struct. and temp. depend., refl. meas. 1−30636
KBr, F-centre and self-trapped exciton form. under two-photon excitation 1−2436
KCN, exciton spectra, exciton-vibron coupling, orientational disorder effects 1−34633
$K(CN)_xCl_{1-x}$, exciton spectra, exciton-vibron coupling, orientational disorder effects 1−34633
KCl, self-trapped excitons, non-radiative de-excitation, F- and H-centre prod. 1−12567
KCl, self-trapped excitons, evolution of Frenkel pairs from excited states 1−35077
KCl(Br), absorption band polarisation due to self-trapped exciton 1−12529
KI, free exciton, coexistence with self-trapped exciton 1−38725
KI, free exciton, luminescence spectra, nature of emission 1−38724
KI, photostimulated luminesc. after UV preexposure 1−48163
Kr, solid, valence excitons, two-photon photoemission expt. 1−31164
LiF:TiO_2, crystal excitation transfer mechanism to activator centres 1−35089
$LiYF_4$, optical detection of exciton EPR 1−26079
MgF_2, self-consistent energy band struct. calc. using LCAO method 1−16228
MgO, surface states, UV diffuse refl. spectra 1−21227
NaCl, absorption band polarisation due to self-trapped exciton 1−12529
NaCl, γ-irradiated, F-centre decay, aquoluminesc. 1−8135
NaCl:Cu^{2+}, fluorescence spectra 1−3455
$NaCrS_2$, vacuum UV reflectivity spectra, band struct. 1−21228
NaI, self-localised exciton luminesc., point defect recomb., phonon contrib. 1−3486
Ne crystalline, exciton bands *(Russian)* 1−2889
Ne, solid, energy bands and excitons, OPW calc. 1−38716
excitons continued
Ne, solid, formation process of self-trapped exciton bubbles, optical absorption spectrum 1−7529
PbI_2, magneto-optic effects in exciton absorpt. spectra obs. in megagauss fields 1−48039
PbI_2, resonant two-level photoemission of 1s exciton level 1−39212
PbI_2(2H), reflection and photoluminescence spectra, exciton polaritons 1−48156
PbO, low temp. luminesc. rel. to exciton-impurity complexes 1−35087
PbO-SiO_2 glasses, electronic struct. and resonant covalence 1−30616
$RbAg_{4-x}Cu_xI_5$, thin film, elec. ionic cond., optical absorpt. 1−25496
RbBr, absorption band polarisation due to self-trapped exciton 1−12529
RbBr, exciton decay into defects, luminescence spectra 1−12038
RbBr(I), F-centre and self-trapped exciton form. under two-photon excitation 1−2436
RbCl, self-trapped excitons, evolution Frenkel pairs from excited states 1−35077
RbI, de-excitation of electron and hole excited states of self-trapped excitons 1−20636
Si, core-exciton shifts, XPS spectra 1−16235
Si, dielectric function expansion into elementary parts, intrinsic absorpt. spectra 1−16578
Si, electronically excited, valence band photoemission study 1−48220
Si, exciton dynamical props., far IR laser magnetoabsorpt. study 1−48040
Si, exciton-exciton elastic scatt. cross section 1−38729
Si, excitons, biexcitons, and free carriers, kinetic props., luminesc. 1−47488
a-Si, hydrogenated, band-to-band luminescence 1−8130
Si, insulator-metal transition of free excitons to electron-hole plasmas, luminesc. spectra 1−47490
Si, many-exciton and exciton-impurity complexes, spectral study 1−12552
Si, nonradiative states and defects, photoacoustic meas. with ZnO transducer 1−3459
Si p-n junction, burst noise model, carrier trapping *(German)* 1−20837
Si, substitutional donors and core excitons, shallow-deep instability 1−47560
Si, uniaxially stressed, dense electron-hole system and exciton-plasma transform 1−52495
Si:Al(B)(Ga)(In)(Tl), acceptor bound excitons in mag. and uniaxial stress fields 1−47484
Si:B,In, photoluminesc., relative impurity concs. exciton transfer 1−38399
Si:In, U_2 photoluminesc. line, evidence for complex isoelectronic centre 1−26257
Si:In(B), exciton capture cross section, photoluminesc. 1−39153
Si:Li, bond multiexciton luminesc. 1−8118
Si:P, charge carrier interactions in multiparticle exciton-impurity complexes *(Russian)* 1−52497
Si:P, four-particle radiative transitions of biexcitons and multiple bound excitons 1−31188
SiO_2 optical absorption edge 1−12525
SrO, surface states, UV diffuse refl. spectra 1−21227
TbP, paramagnetic, soft modes and mode splitting 1−20350
TlBr, exciton polariton, resonant Raman scatt. 1−52936
$TlGaS_{2x}Se_{2(1-x)}$, near-band-edge optical props., 6 to 200K 1−26231
$TlGaSe_2$, transmission spectra, excitonic transitions 1−48113
UPd_3 single cryst., dispersion of collective mag. excitons 1−20641
$YbCrO_3$, Cr^{3+} exciton-Yb^{3+} spin flip simultaneous absorption 1−12490
Xe adsorbed on Ni, surface reflection of slow electrons, electron-exciton complex autoionisation zones *(Russian)* 1−34208
Xe, fluid, intermediate and Wannier excitons, reflectivity spectra 1−30642
Xe, solid, luminescence, polariton mixing near exciton edge *(Russian)* 1−3451
$YAlO_3$:Eu^{3+}, stoichiometric material, freq. dependent optical dephasing 1−1653
$Zn_xCd_{1-x}S(Se)$, nonclassical excitonic refl. spectra 1−48112
$Zn_xCd_{1-x}Se$, Bose condensed exciton phase *(Russian)* 1−30647
$Zn_xCd_{1-x}Te$, fundamental absorpt. edge 1−43138
ZnO epitaxial layers, recomb. radiation kinetics 1−31194
ZnO, exciton-exciton elastic scatt. cross section 1−38729
ZnO, hyper-Raman scatt. in strong mag. fields 1−52938
ZnO, modified exciton-polariton behaviour near surface, refl. and ATR spectra 1−47503
ZnO, spatially dispersive, C1-surface exciton polaritons, dispersion relations and nonlinear generation 1−3036
ZnS, exciton refl. and luminesc. spectra evolution during struct. transition 1−26233
ZnSe, bound excitons, investigation by electroabsorption method 1−21174
ZnSe, excitonic polaritons, picosecond time-of-flight meas. 1−47502
ZnSe, Fano effect in bound exciton spectra 1−48141
ZnSe, free exciton luminesc. and refl. spectra, native defect conc. effect 1−12570
ZnSe, ionised donor-exciton complexes in polar crysts., binding energy 1−7528
ZnSe single cryst., edge luminesc. under strong opt. excitation, 77-300K 1−21273
ZnSe, surface exciton polariton, reflection spectra 1−38825
ZnSe:Mn(Fe), giant spin splitting of exciton states 1−31132
ZnSe-metal interface, exciton refl. and photolum. spectra meas. 1−25645
ZnSe(Te), donor species, bound excitons, photoluminesc. meas. 1−48135
$ZnSiP_2$ crystal, exciton absorpt. spectrum 1−16234
ZnTe, heavily doped, photoluminescence, bound exciton complexes 1−31189
ZnTe, high excitation luminescence, two-photon Raman scatt. 1−26270
ZnTe, resonance secondary exciton emission 1−12558
ZnTe, resonant donor-bound-exciton luminesc. 1−3456
ZnTe, two-phonon resonance Raman scatt. 1−21211
ZnTe, valence-band parameters and g-factors from free-exciton magnetorefl. 1−3374

exhibitions
No entries

exobiology *see extraterrestrial life*

exoelectron emission
detection by delayed pulses in organic-quenched Geiger-Muller counter 1−14211
material fatigue detection by UV localised exoelectron emission 1−31822
ultrasound dosimetry, using BeO:Li transferred TSEE 1−9036
Al oxidation, early stages, exoelectron emission and photoemission study 1−39532
Al_2O_3, α/β, TSEE from plasma flame mixture 1−8203

exoelectron emission continued
Al_2O_3, sintered, exoelectron dosimetry material, enhanced by annealing 1−8352
BeO films, evaporated on graphite substrates, TSEE dosimetry 1−968
Be_2SiO_4, thermoluminescence and exoemission from surface layers *(Russian)* 1−21283
KCl, undoped and Tl (Cu) doped, thermally stimulated exoelectron emission, thermoluminesc., rel. to colour centres 1−43252
LiF materials, flame-sintered, comparative TL-TSEE measurements 1−8140
Mg oxidation, early stages, exoelectron emission and photoemission study 1−39532
Mg-Al oxidation, early stages, exoelectron emission and photoemission study 1−39532
MgO, exoelectron energy distrib., Monte Carlo calc. 1−8204
MgO, exoelectron mean energy, UV irrad. period depend. 1−26374
NaCl, thermally stimulated exoemission, role of dislocations 1−26373
Ni-NaF systems, as UV dosimeters by TSEE 1−10589
Si target covered with SiO_2 layer, exoelectron emission due to relaxation at surface 1−53061
SiO_2 thin layers, ion implanted, radiation damage, TSEE and IR spectra study 1−38412

exosphere
temperature meas. at Millstone Hill, seasonal var., magnetic activity effect 1−4671
H geocorona, H_α spectral profile obs. indicating H escape 1−36090

exotic atoms
see also hadronic atoms; muonic atoms
coulomb level shifts by a complex Yamaguchi potential 1−19217
nuclei, exotic states, review *(Polish)* 1−50554
short-lived quasi-atoms and molecules, supercritical field QED *(German)* 1−10114
K_L^0 decay, $(\pi\mu)$ atoms, S-matrix element and form factor 1−40985

expanding universe *see cosmology*

expansion, thermal *see thermal expansion*

expansion chambers *see cloud chambers*

exploding foils *see exploding wires and foils*

exploding wires and foils
see also discharges (electric); plasma production
arc discharges in air and water, microscopic 1−15722
atomic spectroscopy, exploding thin film, using saturable inductor based controlled waveform excitation source 1−43719
capillary fusion, dense plasmas, pinch and recoil effects 1−19927
conductors, elec. breakdown, fusion stage simulation 1−15673
cylindrical shell, elec. explosions, high energy prod. 1−45727
high velocity flow measurement using high speed Schlieren system *(Japanese)* 1−38023
magnetic fields, ultrahigh, generation by small scale single shot experiments 1−34181
metal conductor, melting in pulsed heating 1−2277
metals, determ. in refractory powder, exploding thin film excitation technique 1−13062
multiple exploding wire arrays, early expansion, self-pinching 1−11584
pulsed X-ray tube constructions for exploding-wire radiography 1−45090
relativistic electron beam irrad. of layered target, blowoff plasma behaviour 1−6982
Al, dielec. exploded foil, laminar pulsed discharge initial stage 1−52012
Cu, inhomogeneous wire explosion in water *(Korean)* 1−46942
Cu wire, explosion, rectangular current pulse supply, forming network 1−52003
Cu wire explosion, air breakdown characts. calc. and obs. 1−15700

explosion bubbles *see bubbles*

explosions
see also accidents; detonation; nuclear explosions; safety; shock waves
asteroid parent body (Phaethon), explosion due to ice volumetric electrolysis 1−54410
conical explosion system, super-high load prod. 1−37968
crater dimension scaling 1−44191
electrical explosion of cylindrical shells, gas compression calcs. 1−19918
electro-surgery using electric scalpels, dangers and safety measures *(Italian)* 1−35849
electron field emission, explosive, current instability mechanism 1−53060
electrostatic painting, ignition hazards, review 1−20015
energy dissipation in dilating and nondilating media 1−46780
exothermic spherical mass with diminishing reaction rates, criticality and spontaneous ignition 1−17057
far-field and near-field radiation from a growing and propagating relaxation source 1−32384
flash X-rays reveal exploding movements of critical devices 1−40912
galactic nuclei explosions, form. of superdense gaseous cores in disc galaxies nuclei 1−54617
disc galaxies nuclei, post-explosion gas flow model for rot. curve central peak 1−36390
Io, liquids S vapour explosions as cause of 5 μm outbursts 1−4815
liquefied natural and petroleum gas carrier spillage and leakage, explosion hazards 1−48787
liquid, one-dimensional nonstationary motions 1−51785
magnetogasdynamic explosion model, appl. to extragalactic double radio sources 1−36391
magnetoids 1−44641
methylcyclohexane-Cl mixture, combustion, upper temp. limit *(Russian)* 1−4094
non-zero cavitation tension effect on target plate damage subject to underwater explosion 1−42077
nuclear tests, obs. from USA, short period amplitudes, source and receiver var. 1−22233
nuclear tests in USSR, seismic discrimination from L_g propag. 1−22234
plasma magnetised ion beam system, explosive instability and fluctuations *(Russian)* 1−2206
plates, explosive-bonded, molten pockets at interface 1−35500
porous elastoplastic medium, energy dissipation from explosion 1−41952
primordial black holes explosions, new upper limit on optical bursts 1−36324
radiation gas dynamics, exact analytical soln. 1−54504
relativistic gravitational collapse, equilibrium configuration explosion and reorganisation 1−23074
seismic sounding, theoretical and exptl. evaluations of effectiveness of trench source 1−9112

explosions continued
shock attenuation in air during explosion of plane high-explosive charge in shock tube 1−24839
shock initiation in heterogeneous explosives 1−31860
shock parameters, measurement 1−13593
steel, austenitic, explosive strengthening 1−26479
supernovae in early Universe, galaxy form. in explosion-dominated intergalactic medium 1−54619
test bench for operation with large explosive charges under laboratory conditions 1−35533
underwater high power explosion, equations of state calcs. involving vaporization 1−46779
vapour cloud, unconfined, explosion high propag. rate, appl. to Flixborough 1−46823
viscous explosion of incompressible liquid, hydraulic theory 1−46810
Cu-Al alloys and intermetallics, synthesis under combustion and thermal explosion conditions 1−53137
$LiClO_4$/dioxolane electrolyte, inherent explosion hazard 1−17069
O_3, O_3-CO, light amplification theory in recomb. reactions during exothermic mixture adiabatic explosion *(Russian)* 1−41682
TiC_xN_z, cubic phase, explosion by elec. current pulse, phase composition of products formed 1−30167
TiH_m, cubic phase, explosion by elec. current pulse, phase composition of products formed 1−30167
TiO_y, cubic phase, explosion by elec. current pulse, phase composition of products formed 1−30167

exposure meters *see photometers*

extended Huckel theory calculations *see EHT calculations*

extensive air showers *see cosmic ray showers and bursts*

extensometers
AC dilatometer, piezoelectricity and electrostriction direct meas. 1−14104
dilatometer for accelerated investigation of thermal expansion of polymers 1−15384
dilatometers used for investigation of low TCLE, first class standard measures 1−15380
dilatometric measurements at high temperatures 1−19554
dilatometry in industrial research and development and quality assurance 1−40754
fatigue testing machine, associated extensometry 1−21677
galvanomagnetic dilatometers for thermal expansion measurements on ferroelectrics and semiconductors 1−15385
gas dilatometer, for Poisson ratio determ. of polymers 1−26691
high temperature dilatometric measurements, second and third category standard instruments 1−15381
high-temperature differential 1−18235
interference dilatometer, high resolution signal interpolator 1−27918
interference dilatometer type KIVA-1 for high temp. measurement on refractories 1−15382
linear expansion thermal coeff. meas., accuracy requirements for precision alloys 1−15379
low temperature dilatometry, standards service 1−15378
multiposition optical dilatometer for dilatometric measurements on plastics 1−15383
phase and relaxation transitions in polymers by the volume dilatometry method 1−19555
phase transformation study in steel and alloys, 20-1000°C, cylindrical casing dilatometer 1−21441
piezoelectricity appl. *(French)* 1−44894
precision interference dilatometer, thermostat system 1−23227
standards service for dilatometric measurements 1−15377
temperature coefficient of linear expansion on an interference dilatometer over the temperature range −60-60°C 1−19556
tension-torsion creep-ruptures testing machine 1−21676

external flows
air plasma on ballistic path in air-heavy gas mixture, simulation 1−42066
boundary layer turbulence, direction of streamlines near wall 1−51756
circular cylinder in oscillating flow field, induction of steady streaming 1−29639
conjugate heat transfer for vertical pipe 1−37917
corners, symm. external axial, flow, numerical calc. 1−2020
flat plate, weakly interacting, radiating, boundary layer flow anal. 1−29663
flow over blunt bodies with spikes and cavities 1−11431
fluid-elastic vibrations in tube bundles in transverse flow *(German)* 1−42016
ideal fluid around solids of revolution, with leading detachment zone, supersonic flow calc. 1−42067
inclined plane, stability of non isothermal flow of viscous liquid 1−1915
jet, plane, potential flow past convex surface 1−2044
slow viscous flow around a vertical fence on a plane 1−37865
sphere sedimenting in viscous fluid outside circular cylinder 1−6881
stability of tube flow developing from uniform inlet conditions, high Reynolds number 1−42094
steady flow with inhomogeneous velocity head *(German)* 1−42004
turbulent boundary layer mean flow meas. over body of revolution 1−51759
viscoelastic fluids, anomalous transport phenomena in rapid external flows 1−51829
wedge, nonequilibrium flow of ideal dissociating gas behind attached shock wave 1−51808

extraordinary ray *see birefringence*

extrapolation
mechanical systems, coupled, staggered transient analysis 1−9824
permittivity measurement of nematic liq. crysts. in mag. and elec. fields using extrapolation procedures 1−7078
refractory metals and alloys, extrapolating min. creep rates, evaluation of methods 1−11806

extraterrestrial atmospheres *see planetary satellite atmospheres*

extraterrestrial life
early solar system organic chemistry, influences of interstellar medium 1−22481
ecosphere of Sun and planets, emigration of life between planets due to solar evolution *(Italian)* 1−4403
SETI, wide band radio signals advantages over narrow band 1−36202

extraterrestrial radiofrequency radiation *see radiofrequency cosmic radiation*

extremum control *see optimal control*

extrusion
deformation zone, metal extrusion *(Polish)* 1−16830
hot extrusion forging 1−21374

extrusion continued
hydrostatic extrusion, of nonlinear viscous body through arbitrary die *(Ukrainian)* 1−26540
hydrostatic extrusion, solid-lubricant entrainment 1−30318
metal processing, design and appl. of extrusion presses 1−35198
metals, flow in high-temperature extrusion 1−19582
PET melt, flow induced crystallization in convergent flow regime and imposed temp. gradient, fibre prod. 1−39304
polycarbonate degradation, during recycling in a capillary rheometer 1−48399
polyethylene, high density, microhardness of extruded fibres 1−48497
polyethylene, high modulus, elongational flow effect on continuous processing *(Japanese)* 1−8266
polyethylene, injection moulded, crystn. and amorphous orientations 1−43366
polyethylene, linear, hydrostatic extrusion, effects of extrusion temp. and polymer grade 1−16810
polymer melt extrusion, use of penalty finite element anal. 1−46718
polyolefins, processing stability 1−48398
polyoxymethylene/ethylene-vinyl acetate copolymer molten blends, rheology and extrudate microstruct. 1−47140
polystyrene, extrudate distortion study using extrusion rheometer 1−30289
polystyrene, glass-filled, extrusion and injection moulding props. 1−48408
PVC dielectric const. meas. using condensator sensor during extrusion process, rel. to mechanical props. 1−23271
PVC melts, extensibility, influence of acrylic processing aids 1−34390
rod extrusion, anal. using approx. stress equilib. method 1−26549
steel, C, hydrostatically extruded, texture and substruct., X-ray diffr. study *(Russian)* 1−26492
steel, high speed, powder metallurgical technique using pre-alloyed powders 1−16717
steel, W and W-Mo, high-speed, cold hydrostatic extrusion effect on transforms. and lattice defects 1−8304
structural stoneware bodies plastic deform., effect of comp. *(German)* 1−35304
Al alloy, extruded sections of D16, charact. of laminations 1−3804
Al alloys, hydrostatic extrusion, production of hollow and solid profiles 1−35220
Al-Mg-Mn (5, 0.8 wt.%), duplex deform. substruct. form. during extrusion 1−31483
Al-Mg-Si alloys, round extrusions, texture development *(German)* 1−48374
Be, hydroextruded at high temps., cell struct. study *(Russian)* 1−53217
Cu-Sn-Nb multiple core conductors, superconducting props., hydrostatic extrusion effect 1−34836
Mo-Cu(-Ni) composites, sintered, mech. props., comp. and strain depend. 1−26517
Ni base alloys, high temp., hot impact extrusion and subsequt processing 1−39351
V_3Ga microcomposite wires, powder metallurgical prep. and supercond. props. 1−48296
W rods produced by various methods, struct. 1−53143

eye
see also contact lenses; vision
accommodation, effect of cognitive demand 1−17395
accommodative convergence, rel. to night myopia 1−35766
adaptation state of one eye, effects on pupillary diameter of collateral *(Spanish)* 1−8862
amacrine cells, catfish retina, preferential response to vertically moving objects 1−13240
anisometropia, transient, in young diabetic patients without retinopathy 1−48983
aphakic, math. model of oscills. 1−32116
artificial vision based on visual cortex stimulation, development prospects 1−22163
astigmatism, effects on sensitivity to sinusoidal and square wave gratings 1−8861
astigmatism as a function of visual scan, head scan, and head posture 1−43868
astigmatism in infants, its disappearance with age 1−13235
axonal retrograde transport of target tissue-derived macromols. 1−8830
background adaption in developing rat retina, ERG study 1−8865
binocular interactions of vergence components 1−35784
blood flow, radionuclide studies 1−26982
border visibility, colour differences, luminance contrast, luminance level, separate and combined effects 1−53789
catadioptric magnifiers, basic principles and geometry 1−37580
compound eye, optical apsects and information processing *(Japanese)* 1−53782
compound eye visual sense, mech. *(Japanese)* 1−26898
compound eyes, optical mechanisms 1−8850
cone dark adaption and surround configuration 1−8870
contact lens retaining forces, between blinks 1−17417
continuous medium model for the retina, instabilities 1−39920
corneal endothelial cells, intracellular pots., rabbit culture, response to temp. and ouabain 1−35780
crustacean eye fine struct. seen by SEM 1−17384
crustacean taxonomy based on eye struct. (square facet refl. eyes) 1−8851
γ-crystallin II, mol. struct. and stability of eye lens protein 1−53752
defocusing as optical image transform. method at technical and visual system inputs 1−51383
degerative retinal diseases rel. to light exposure, epidemiological study methods 1−35823
depth of focus, eye size and visual acuity 1−8852
developing retina, direction-selective cells formation model 1−8854
directional sensitivity of the retina, alteration by monocular occlusion 1−35782
disease diagnosis, light levels in fundus photography and fluorescein angiography 1−35869
disparity vergence, proposed name for a dominant component of binocular vergence movements 1−35771
disparity-induced vergence responses in normal and strabismic subjects 1−35776
electrooculography, automated, microprocessor appl. example 1−35901
ERG bioelectric field, numerical soln. 1−43872
ergonomical terms, visual vs. functional visual field 1−4265
fixation disparity analysis of oculomotor imbalance 1−35774
fixation disparity as a steady state error of disparity-induced vergence 1−35773

eye continued
fixation disparity parameters review 1−35772
fluorescein angiography, risks in ophthalmological diagnosis 1−35868
flying spot television ophthalmoscope 1−32228
flying spot TV ophthalmoscope 1−8943
focal perturbations, response of a servo controlled eye 1−32124
focusing on visual task, ergonomic problem, meas. by laser beam *(Italian)* 1−4392
foetal eye lens and cornea growth control algorithm 1−8853
fovea, convexiclivate, optical function rel. to notosudid deep-sea teleosts 1−4264
foveal receptor, MM wave model 1−43870
fusional vergence, sustained and transient components 1−35785
fusional vergence eye movements, dynamics in binocular dysfunction 1−35786
glaucoma, automation of mass screening 1−22157
glissadic eye movements, undershoot and overshoot rel. to pulse width errors 1−8860
Haidinger's Brush effect enhancement with color striations 1−8864
hering's law of equal innervation and vergence eye movement 1−35768
image stabilisation systems rel. to contrast sensitivity meas. 1−32122
inherited retinal degenerations, interaction with environmental light and eye pigmentation 1−35779
intense light hazards, conf., Houston, USA (Oct. 1979) 1−32799
intradian dioptric changes in young diabetic people without retinopathy 1−4262
intraocular photography using the RETINOPHOT 211 fundus camera 1−35856
L-type horizontal cell in carp retina, dynamic charact. 1−39916
laser irradiation spectral acuity anal. 1−43901
laser radiation, maximum permissible exposure studies 1−53821
lateral optic nerve responses in limulus, synchronisation 1−39914
lateral optic nerve responses in Limulus, synchronisation 1−39915
lens, elec. props. at microwave freqs. 1−43897
lens and cornea, Brillouin scatt. and elastic props. 1−32180
lens cell differentiation, tissue culture system for study 1−35924
lens epithelium and radiation cataracts, meridional rows interface death 1−43912
light damage, review of macaque model 1−35819
light sources, high intensity, safety standards and meas. techniques 1−35893
Limulus lateral eye, oscillatory response 1−39911
long wavelength foveal insensitivity in rhesus 1−13243
low level laser light long term effects 1−43900
luminance-brightness comparisons of separated circular stimuli 1−53788
medical diagnosis and treatment *(Japanese)* 1−49150
medical engineering in ophthalmology, optoelectronics and lasers *(Japanese)* 1−39983
metacontrast in the fovea 1−39936
microprocessor-based real time system for eye motion analysis 1−49087
movement, linear homeomorphic model for human movement 1−22024
movement physiological functions and control mechanisms *(Japanese)* 1−26901
movements analysis system, EOG quantification during diverse activities by computer 1−32283
movements of eye controlled by superior colliculus in two day old cats 1−53785
multiplicative intrinsic noise and the limits to visual performance 1−39926
myopia, empty field, target size and correct. 1−4263
nystagmus, voluntary, new findings and clinical implications 1−43871
oculometric errors caused by movements of the observer's head 1−13311
oculomotor adjustments, role in distance perception in low illumination 1−35765
oculomotor control, slow, effect of expectations, unpredictable target displacements guessing 1−39931
oculoplethysmograph, fluid filled, in vitro evaluation 1−13342
Ocuscan 400, performance evaluation with the ECHOSIMULATOR 1−35843
ophthalmic devices, pot. hazards due to retinal light exposure 1−35816
ophthalmic instruments, microprocessor applications 1−49148
ophthalmological instruments, appls. of fibre-optic elements for ocular illumination 1−22102
ophthalmological measurements, realisation of instruments *(Rumanian)* 1−13340
ophthalmoscope and related instruments, review of optical principles 1−22105
ophthalomodynamometry, comparison of direct and indirect methods in carotid artery occlusive disease detect. 1−27024
optic disc anal./image processing techniques 1−53855
optics, rel. to understanding of vision, book 1−17960
optokinetic nystagmus, abolition in the cat 1−48989
outer isopter variability, normal, meridional dependence 1−4274
perimeter for automatic subjective and objective studies 1−8955
photoreceptor damage by light, possible mechanisms in mammalian eyes 1−35822
photoreceptors, effect of waveguiding prop. on light absorpt. 1−22010
physical optics, visual performance and visual instruments 1−26896
physiological optics [book] 1−44734
pigment epithelium, frog. effect of long-term constant light 1−35821
polarisation method for examining the fundus oculi and antérior part of the eye 1−22101
private cones, differential spectral photic damage 1−35820
processing in avian retina, layered model 1−17385
protective effect of spectacles for X-ray 1−40012
pulvinar neurons, responses to eye movements and light flashes, squirrel monkeys 1−4268
rapid movements during sleep, quantification of time-connectivity patterns 1−35738
receptor pigments in the African cichlid fish, Haplochromis burtoni 1−8869
receptor potential, correl. with light-induced transient Ca^{2+} conc. increase, Limulus 1−22009
refraction, distribution in 3 isolated communities in Western Newfoundland 1−43869
refraction measurement using visual evoked pots. *(German)* 1−4371
refraction scotomata, effects of entoptical scatt. 1−48984
refractive error, geometrical optics and statistical anal. 1−8849
resolution rel. to MTF of telescope 1−1507
retina, frog, visual computation, theoretical proposal 1−4269

eye continued
retinal bipolar cells, different postsynaptic events in 2 types, turtle obs. 1−17389
retinal blood cell flow meas., using fundus camera laser Doppler velocimeter 1−39978
retinal blood flow meas. with laser Doppler velocimetry, clinical instrument development 1−43934
retinal blood velocity, laser Doppler anemometer for meas. 1−8965
retinal damage from multiple-pulse laser exposures 1−43895
retinal damage produced by intracolar fibre optic light 1−35817
retinal ganglion cells, monkey, movement sensitivity obs. 1−39918
retinal ganglion cells and optic decussation of white cats 1−13237
retinal laser photocoagulation, benefits and risks 1−35867
retinal light damage, role of protection by ocular pigmentation 1−35892
retinal locus dependency of visual detect. and resolution 1−13241
retinal macular capillaries, blue field entoptic phenomenon and blood velocity 1−17387
retinal network models, elec. coupling 1−39910
retinal pattern displacements and body movements in a walking fly 1−39913
retinal PII responses, rat, light adaption and temp. effects 1−13239
retinal points, corresponding and disparate, in normal and anomalous correspondence 1−35775
retinal radiation damage, nature, dependence on wavelength, power level and exposure time 1−35818
retinal responses to white-noise modulated current stimuli [haemorrhage patients application] 1−32118
retinal RNA metabolism rel. to cyclic lighting, frog expts. 1−35778
retinal rod and cone systems, increment threshold and detect. latency 1−13242
retinal sensitivity and spatial summation in the foveal and parafoveal regions 1−53784
retinal temperature rise due to long-term laser irrad., rhesus monkey obs. 1−22063
retinitis pigmentosa rel. to light deprivation 1−35763
retinoscopy artifact rel. to chromatic aberration 1−43867
rhodopsin, lateral diffusion in photoreceptor cells meas. by fluoresc. photobleaching and recovery 1−39909
rhodopsin, photon-like signals following weak bleaches 1−43875
rod−cone interaction in the dark-adapted fovea 1−39908
rod-cone interaction, temporal analogue of MacAdam ellipses 1−4272
saccades, oblique, comparative study of the horizontal and vertical components durations, cat 1−8857
saccades rel. to vestibular nystagmus quick phases, cat 1−8856
saccadic eye movement inequalities, vergence interactive effect model 1−8859
saccadic eye movements, natural and drug-induced variations of velocity and duration 1−48987
saccadic eye movements and body sway 1−4270
saccadic eye movements are spatially coded, monkey expts. 1−8855
saccadic eye movements quantification, mini computer technique 1−53916
saccadic movement, effective sampling time from expts. using a vergence input 1−35770
saccadic movements, displacements detect., direction-specific and position-specific effects 1−39935
sclera, human, US velocity topographic distrib. 1−17453
single photons, responses to fly optomotor neuron 1−39925
smooth pursuit eye movements in response to unpredictable target waveforms 1−13236
spectral sensitivity, effect in retroreflection meas. of street signs *(German)* 1−48995
spider's eye, telephoto system found in Salticidae (jumping spiders) 1−26897
Stiles-Crawford effect, apodisation model 1−4276
strabismus, anomalous correspondence, accommodative and fusional vergence 1−35777
stratismus and amblyopia, unexpected role for normal accommodative vergence 1−35767
task contrast effect on visual performance and visual fatigue at constant illuminance 1−35781
temporal coding of colour information 1−4281
tissue culture, conf., Bethesda, USA (Oct. 79) 1−32800
UV irradiation, additive effects in rabbits 1−43902
vergence, unequal saccades 1−35769
vergence movements, conf., Boston, USA (Dec. 1978) 1−32794
vergence movements, the Maddox classification 1−35764
vertebate photoreceptor membrane preparation, rapid photo-induced changes in light scatter 1−35811
vestibular testing, clinical instrumentation system, eye movements anal. 1−13341
voltage noise accompanying chemically induced depolarisation of insect photoreceptors 1−48985

F-centres
see also A-centres; M-centres; R-centres; Z-centres
alkali halide, colour centre lasers, 0.8-3.33 μm range 1−29287
alkali halide, Frenkel defect generation efficiency, temp. depend. 1−25263
alkali halide F-centres, hyperfine const. and light absorption, MS Xalpha method 1−39128
alkali halides, F-centre luminesc., stress-induced polarisation for vibronic model of relaxed excited state 1−39150
alkali halides, hyperfine parameters from F-centre pair nonresonant luminescent effects and spin memory 1−3475
alkali halides, irradiation colouring, heterogeneous nucleation model 1−2507
alkaline earth oxides, anion vacancy centres, review 1−38366
fluorite, synthetic, absorption spectra, radiation effects 1−25266
Forster's deactivation relation, inhomogeneous spatial distrib. and acceptor active behaviour effects 1−2904
insulators and high resistance semicond., current-voltage characts. in presence of trapping centres with distrib. energies *(German)* 1−7170
ionic solids, self trapping of electronic excitations, radiolysis 1−7526
sapphire, fluorescence, 4.4 to 300K, F-centre electronic struct. 1−26269
two-electron systems, exchange splitting in polar media *(Russian)* 1−42731
CaO, excited triplet state of F^+-centre pairs, spin dephasing 1−3299
CaO:Li, $[F_{Li}]^0$ centre, EPR and ENDOR study 1−38980
CaO:Mg, F and F_A centres, ODMR 1−16505
CaO:Mg, F_A-centre and F-centre luminesc. meas. 1−16596
Cs halides, reson. Raman scatt. from F-centre 1−3403

F-centres continued
Ge_xSe_{1-x}, amorphous, fatigue of photoluminesc. and photocreation of paramag. centres 1−21266
KBr, electron pulse induced transient defects, annealing, 400 to 700K 1−2437
KBr, F-centre and self-trapped exciton form. under two-photon excitation 1−2436
KBr, Frenkel defect accumulation efficiency, temp. depend. meas. 1−20198
KCl, additively coloured, laser freq. up-conversion obs. 1−37554
KCl, excited F-centre picosecond deactivation process 1−8102
KCl, F-centre optical stability, impurity ion effects 1−2438
KCl, optical bleaching of F- and M-centres under high press. 1−24463
KCl, positive ion bombard., particle track effects 1−52187
KCl, self-trapped excitons, non-radiative de-excitation, F- and H-centre prod. 1−12567
KCl, thermal and photothermal conversion of colour centres after high-dose electron irrad. *(Russian)* 1−16588
KCl, undoped and Tl (Cu) doped, thermally stimulated exoelectron emission, thermoluminesc., rel. to colour centres 1−43252
KCl:Ca^{2+}(Sr^{2+})(Eu^{2+}), gamma irrad. effects on lattice parameter and colour centre conc. 1−52176
KCl:OH^-, photochemistry of OH^- defects and F-centres under UV and visible irrad. 1−21239
KCl(Br), additively and gamma coloured, lyoluminesc. in fluoresc. and chemiluminesc. solns. 1−26274
KCl(Br)(I), mag. circular polarisation of F centre emission and spin mixing processes in optical cycle 1−39139
LiF, F-centre energy levels, variational convergence, SCFMO calcs. 1−47559
LiF, F-centres, modulation ENDOR in single crysts. 1−52868
LiF, microhardness, influence of low-energy Ar ions and vacuum UV *(Russian)* 1−48488
LiF, with F_2^+, F_2^-, centres, emission spectra and intracentre characts. 1−37500
LiF:Ti, thermoluminescent mechanism, F-centre trap 1−3506
$MgAl_2O_4$-metal contact, photoemission, photocond., irrad. effects, band struct. 1−3017
MgO, heavy ion implanted, annealing by proton bombardment, defect absorption bands, expt. 1−11794
MgO, origin of luminesc. excited in F absorption band 1−3468
NaCl, F-centre optical stability, impurity ion effects 1−2438
NaCl, F-centres, aggregation, Raman scatt. study 1−3394
NaCl, gamma irrad., holograms recorded with radiation from He-Ne laser, diffr. efficiency 1−51407
NaCl, γ-irradiated, F-centre decay, aquoluminesc. 1−8135
NaCl, radiation induced F-centre diffusion process 1−38599
NaCl, synthetic and natural rock salt, electron irrad. induced F-centre and colloid form. 1−2512
NaCl, X-ray irrad. under DC field, F-centre absorption and gradient 1−3439
NaCl(Br), additively and gamma coloured, lyoluminesc. in fluoresc. and chemiluminesc. solns. 1−26274
RbBr(I), F-centre and self-trapped exciton form. under two-photon excitation 1−2436
RbCl(Br), mag. circular polarisation of F centre emission and spin mixing processes in optical cycle 1−39139
SrF_2, F-centre Raman scatt. theory 1−3393
$ZrSiO_4$, zircons, natural radiation damage, X-ray and positron annihilation studies 1−52175

F_2-centres *see M-centres*
F_3-centres *see R-centres*
F_A-centres *see A-centres*
F-layer *see F-region*
F-region
artificial ionospheric inhomogeneities, relaxation of anomalous absorption of a test wave 1−49448
auroral F-region, Chatanika/TRIAD obs. of unstable ionisation enhancements 1−17724
current convective instability during diffuse aurora conditions, mag. shear effect 1−40249
electron collision freq., A1 radiowave absorption meas. 1−22586
electron temperature latitudinal gradients at mid to low latitudes 1−54318
equatorial anomaly in Indian Zone, IMF sector boundary passage effect 1−22612
equatorial F-layer irregularities, airborne studies 1−13631
equatorial irregularity patches studies using SIRIO VHF transmission 1−22568
equatorial spread-F, backscatter meas. of assoc. 11 cm irregularities 1−17725
f_0F_2 prediction using mathematical modelling *(French)* 1−44362
F_2-layer, electron density stratification near equator and radiocommunication implications 1−4679
F_2-layer, near-noon mid-latitude structure, theory 1−4678
F_2-layer, positive disturbances during mag. storms, reasons 1−4680
F_2-layer, transmission of large-scale travelling ionospheric disturbances (TIDs) 1−27337
F_2-layer critical freqs., longit. distrib. rel. to lower atmos. press. 1−22594
F_2-layer during storm, critical freq. var. components 1−4686
gravity waves internal, effect on lower ionosphere 1−4687
HF Doppler sounding over Japan, small-scale fluctuations 1−54312
ion densities rel. to neutral meridional winds, AE-E meas. 1−9316
ionisation irregularities, growth and decay 1−44385
ionisation irregularities near electrojet edge, fading obs. study 1−44360
irregularities, generation from plasma instabilities, review 1−13641
irregularities of diffuse auroral F-region, nonlinear evolution 1−4690
irregularities on 3 m to km scale during nighttime, scintillation and radar obs. 1−17733
Lagopedo II expt. over Kauai, Hawaii, meas., model and modification 1−4696
metal ions morphology from Fe^+ data anal. 1−40257
modification studies, SIRIO satellite program 1−22572
N(h) analysis of ionograms 1−54322
night-time photoionisation rate, ionisation sources 1−22614
nighttime vertical drifts over Waltair, phase-path records 1−22611
plasma stability in presence of photoelectrons 1−22616
quiet-day electric fields, empirical model 1−9317
spread-F, solar activity affecting occurrence and latitudinal extent 1−22593

F-region continued
spread-F configurations rel. to geomag. activity, Kodaikanal. India 1−44361
spread-F irregularities in mid-latitude regions 1−40266
Sq and L variation elec. currents, location within ionosphere 1−27327
summertime ionospheric short period parameters 1−4685
thermal parametric turbulence in a plasma 1−51951
travelling ionospheric disturbances in F-region, VHF obs. 1−54309
travelling wave disturbance at ground level and in ionosphere, simultaneous obs. 1−32572
upper atmosphere energy transport by gravity wave 1−13634
VHF SIRIO emission, transmitted polarisation determ. 1−22569
whistler propagation at low latitudes, equatorial anomaly effect 1−17722
Cs plasma cloud release expt., to study auroral precipitation 1−17727
O I 1356 Å rel. to F-region parameters 1−32473
O_2^+, dissociative recomb., O(1S) quantum yield, appl. to F-region 1−22615

f-values *see oscillator strengths*

faces (crystal) *see crystal faces*

facsimile
see also video signals
telecommunications as an aid to energy conservation *(German)* 1−48849
temperature pattern classification based on tree-root structure 1−27987

facsimile communication *see facsimile*

facsimile document reproduction *see photocopying*

facsimile signals *see video signals*

facsimile transmission *see facsimile*

faculae *see Sun*

fading
see also radiowave propagation
F-region ionis. irregularities near electrojet, fading obs. study 1−44360
HF fading on high latitude radio path, freq. spectra, mag. activity effects 1−22581
ionosphere, VHF waves propagating from satellite to ground 1−49445
ionosphere auroral backscatter, results on 42 MHz fading 1−27335
ionosphere irregularities, satellite beacon studies 1−49450
LF radiowaves, link with geomag. activity and major meteor showers 1−9310
line of sight path, 4.1 and 6.2 GHz, tropospheric disturbances 1−54164
microwave links, slant-path multilayer rain fade statistics at 28.56 GHz for satellite beacon signal, Wallops Island, VA, USA 1−32487
rain-induced fades of signals from Sirio at 11.6 GHz, random process of duration 1−36025
SIRIO satellite carrier transmission near 11.6 GHz attenuation meas. at Appleton Laboratory 1−22378
SIRIO satellite SHF propag. data, attenuation statistical behaviour 1−22377
troposphere microwave propagation amplitude fading level prediction using sodar sounding 1−13518

failure, electrical *see electrical faults*

failure (mechanical)
see also fracture; mechanical strength; plastic deformation
epoxy/Ti bonds, adhesive failure in aq. solns. 1−8526
fibre-reinforced materials, unidirectional, failure 1−35309
glass fibre reinforced plastics laminates, multi-axial, failure initiation mechanisms 1−48454
joint durability, model prediction 1−8525
pyrophyllite, relation of wave vel. changes to ultimate failure plane 1−22337
sheet with skeleton frame, limit load *(Russian)* 1−15427
structural elements with multifactor damage, method for estimating endurance 1−29535
C-fibre reinforced epoxy resin, laminates, failure initiation mechanisms 1−48454

failure analysis
see also electrical faults; wear
fission reactor failure analysis and diagnosis, fuzzy sets and systems theory 1−23793
nuclear power stations, detection of sensor failures, analytic redundancy method 1−10496
plates, clamped crossply laminated elliptic, initial flexural failure anal. 1−29620
semiconductor device handling procedure for safe SEM exam. 1−5437
superconducting MHD magnet failure mode and safety analysis 1−48883

fallout
see also air pollution
^{243}Cm, ^{244}Cm, meas. in Columbia River sediments 1−8777
Cumbria, England, radionuclides in atmosphere 1−48934
Mediterranean seawater composition, rainwater radionuclide contrib. 1−22363
N.Pacific Ocean, distrib. of bomb-produced T and radiocarbon (^{14}C) at GEOSECS station (347) 1−4534
Pacific Ocean, fallout radionuclides vertical and horizontal distribs. from GEOSECS stations 1−9180
radioactive fallout in air and rain: results to end of 1979 1−13205
radiocarbon (^{14}C), bomb-produced, use as tracer for fossil fuel CO_2 into deep-sea source regions 1−4535
stratosphere radionuclide residence time following atmospheric nucl. test 1−26863
Am in the environment, Tokyo and Pacific, Indian and Southern Oceans 1−53711
^{7}Be in stratosphere, due to bombs and cosmic rays 1−49368
^{36}Cl in rainwater, van der Graaff accelerator obs. 1−36034
^{137}Cs from nuclear explosions, sedimentary record of environmental pollution in W.Baltic Sea 1−48932
^{137}Cs, whole body counting results from 1974 to 1979 for Bikini Island residents 1−9042
^{131}I, obs. of deposition onto vegetation and biological half-life 1−8789
Pu in Hudson River estuary sediments, $^{238}Pu/^{239,240}Pu$ ratios, rel. to fallout origin 1−53715
Pu in the environment, Tokyo and Pacific, Indian and Southern Oceans 1−53711
^{A}Pu, A=239, 240, fallout concs. in human tissues from New York City 1−4370
^{90}Sr, content in human bone of West German residents 1−17500
^{90}Sr, surface water contamination in central N.Atlantic Ocean by atmospheric fallout 1−21943
T, rates of input to world oceans 1−4533

Faraday effect
covalent semiconductors IR Faraday rotation 1−16545
Crab Nebula, Faraday rot. from polarisation map at 23 GHz 1−9605
ferrite-garnet epitaxial film with submicron domain struct., magnetooptical study 1−52817
G93.3+6.9, highly polarised supernova remnant, rot. measure and interstellar depolarisation from radio obs. 1−32741
ionospheric time delay variability in Mediterranean region 1−22570
ionospheric VHF scintillation and fluctuation of Faraday rotation caused by spread-F and sporadic-E over Kokubunji, Japan 1−27339
lanthanum borate glasses, Faraday rotation and other props. 1−3373
liquid mixtures, Faraday effect, mag. rot., dispersion const. and excess mag. rot. 1−48043
molecular invariant tensors, calc. methods, appl. to refraction and Faraday effect 1−51540
narrow energy bands, Hall and Faraday effect study *(Russian)* 1−21179
North Polar Spur, Faraday depolarisation of radio continuum emission 1−44652
optical fibre Faraday rotator, fabrication and props. *(Japanese)* 1−1712
plasma with helical structure mag. field, resonance effects 1−19907
quartz, X-ray Faraday effect and optical activity 1−48047
quasi-stationary mag. field generation, reverse Faraday effect in an inhomogeneous plasma *(Russian)* 1−51957
radio sources in galaxy clusters 1−49825
rare earth ions, interactions with phonons 1−20379
semiconductor-metallic screen interface, magnetoplasma polariton modes in Faraday geometry 1−52634
SIRIO Italian satellite program for ionospheric modification studies 1−22572
SIRIO VHF beacon in Graz and Landau/Harz 1−22571
terbium phosphate glasses, Faraday effect in IR and visible region, magnetooptical characteristics 1−8046
transition metal oxides, Hall and Verdet consts., sign reversal *(Russian)* 1−12127
VHF SIRIO emission, transmitted polarisation determ. 1−22569
Voyager 1 and 2 spacecraft navigation, use of SIRIO Faraday rotation data 1−22659
X-rays, ferromagnetic Faraday rotation 1−52918
$CaF_2:U^{3+}$, spin inversion due to unpolarised optical pumping 1−26180
$CdCr_2Se_4$, Faraday rot., IR absorpt. in mag. field, near absorpt. edge 1−3375
n-CdS, electron dynamics, spin-flip Raman scatt. obs., model amorphous antiferromag., Faraday rot. 1−48083
Co, ferrofluid, magneto-optical effects 1−26175
Co, X-ray Faraday effect and optical activity 1−48047
$ErCrO_3$, domain wall energy, Faraday effect meas. 1−25974
$ErFeO_3$, Faraday rotation spectra, cryst. field states 1−8045
$Er_3Fe_xO_{12}$ garnet, Faraday rotation meas. 1−26176
Fe, X-ray Faraday effect and optical activity 1−48047
$FeCl_2$, metamagnet, tricritical scaling and logarithmic corrections, magnetisation, sp. ht., and Faraday rot. meas. 1−20980
Fe_3O_4, ferrofluid, magneto-optical effects 1−26175
GIG, Faraday effect rel. to applied field 1−35018
$(Gd_{0.26}Fe_{0.74})_{1-y}Sn_y$ amorphous films, mag., magneto-optical and switching props. 1−12346
Ge, interband Faraday rot. at L-point 1−26173
$Ho_{0.5}Dy_{0.5}FeO_3$ domain struct. near Neel temp., Faraday effect experiment 1−34904
HoIG, Faraday effect at 1.15 μ in strong mag. fields 1−52924
InSb, interband Faraday rotation, intensity induced 1−52919
InSb plasma slab, microwave and sub-mm wave transmission in Faraday config., hot electrons effect 1−25751
K_2CuF_4, ferromagnetic stripe domains, magneto-optical studies 1−12480
$KMgF_3:Ni^{2+}$ paramag. cryst., acoustic Faraday and Cotton-Mouton effects 1−16321
$LiHoF_4$, spontaneous magnetisation, crit. behaviour, light scatt. meas. 1−20966
$LiIO_3$ crysts., magneto-optical props. meas. 1−21177
Na, polarisation spectroscopy, Zeeman effect 1−6203
Ni, X-ray Faraday effect and optical activity 1−48047
$NiSO_4.6H_2O$, X-ray Faraday effect and optical activity 1−48047
$SrFe_8Al_4O_{19}$ films, LPE growth, mag. and magnetooptic props. 1−7912
$SrFe_8Al_4O_{19}$ single crystal ferrimagnetic hexaferrite films prep. and props. *(German)* 1−30995
$TmFeO_3$, Faraday rotation spectra, cryst. field states 1−8045
$YFeO_3$, bubble wall movement depend. on crystallographic direction 1−25996
$YFeO_3$, domain wall motion of limiting and translimiting velocities 1−25977
$(YGdYbBi)_3Fe_{5-x}Al_xO_{12}$, ferrite garnet epitaxial film, noncollinear mag. state 1−25995
YIG, Faraday effect rel. to applied field 1−35018
ZnO-YIG-GGG thin-film waveguides, hybrid modes optical propag. and conversion props. 1−24536

farming
vegetation canopy, remote sensing of temp. profiles 1−49276
video application to farmer training in developing countries 1−27737
wheat yield estimates using spectral refl. meas. 1−54086

fast amplifiers *see pulse amplifiers*

fast Fourier transforms
computerised tomography image reconstruction, fast implementation of a minimum varience estimator 1−53865
finite extent data fourier spectrum continuation by the fast Fourier transform 1−37423
plasma simulation, bounded fourth-order Poisson soln. 1−19950
radiographic screen-film systems, Wiener spectrum meas., digital methods comparison 1−49106
two phase flow velocities meas. using image correlation 1−51891
X-ray image noise power spectrum meas. and recording *(German)* 1−408

fastening *see joining processes*

fatigue
for corrosion fatigue see stress corrosion cracking; for thermal fatigue see thermal stress cracking
see also fatigue cracks; fatigue testing
ABS, rubber roughening of plastics, fatigue damage mechanisms 1−31595
alloy, high-strength, WT80C, effect of artificial small defects (drilled holes) on fatigue strength *(Japanese)* 1−48478
Armco Fe, low cycle fatigue, anal. based on hysteresis energy 1−39418
Astroloy superalloy, hot isostatically pressed, porosity effect on mech. props. 1−3667

fatigue continued
boride layers, on steel, dry sliding friction, invest. of failure mechanism 1−12894
α-brass, effective plastic strain component for low cycle fatigue 1−26536
brass, notched specimen, fatigue strength under combined stress 1−12942
carbon fibre reinforced pressure vessels for gaseous H_2 storage and transport *(German)* 1−43826
cast Fe, graphite shape and amount influence on rolling contact fatigue strength *(Japanese)* 1−3896
cast Fe stress-strain state microinhomogeneity, rel. to fatigue failure *(Russian)* 1−21573
ceramic materials, fatigue, review 1−31587
chloroprene rubber, deterioriation of mech. props. under various conditions 1−39485
cold worked holes, strain field meas. high res. grating photography, data processing and reduction 1−26711
compact bone, dog, dynamic viscoelastic props. variation during fatigue process 1−13266
component design for low cycle high temp. loading 1−34415
composite materials, fatigue behaviour 1−31591
concrete, plain, flexural fatigue behaviour 1−8411
cumulative damage, under two level cycling, predictions and test data 1−3828
cumulative damage at elev. temps., design concepts 1−31662
curve method for correlating different types 1−39421
cyclic life prediction, high temp., damage accumulation model 1−34412
diffusion model, fatigue life under random loading 1−19643
dislocation behaviour, loop patches breakdown, persistent slip bands and dislocation cells formation 1−30240
dislocation distrib. and fatigue damage prediction 1−52137
Duralumin, plasticity in low cycle fatigue 1−31643
Duralumin D16T, fatigue life, improving accuracy of calc. by linear damage summation 1−39446
dynamic fatigue, flaw characts., residual contact stresses influence 1−26600
epoxide resin, cured with poly(carboxylic) acids having different functionalities, fatigue behaviour *(Japanese)* 1−39433
fatigue crack propagation rate, model relating low cycle fatigue props. and microstruct. 1−7250
gas-turbine engine parts, endurance, evaluation under combined influence of repeated-static and vibrational loads 1−30310
glass fibre mat reinforced polyester, environmental fatigue stress failure 1−3876
glass fibre reinforced epoxy, unidirectional, flexural fatigue in longitudinal direction 1−26615
glass fibre reinforced laminated plastics, fatigue life dispersion, reliability anal. 1−48505
glass fibre reinforced plastics, fatigue behaviour at room and elevated temp. 1−31590
glass fibre reinforced polyester, fatigue damage assessment in cyclic loading 1−48506
glass optical fibres, surface compressed, static fatigue 1−51614
glass plastics, diffusional light transmission, fatigue damage, stratification effects 1−26638
glass-fabric laminate, effect of test conditions on fatigue strength 1−12861
graphite fibre reinforced epoxy, failure surface anal. 1−48475
graphite fibre reinforced epoxy composites, subjected to static and fatigue loading, marine durability 1−39456
graphite fibre reinforced laminate, US eval. of impact damage 1−35466
graphite reinforced epoxy sandwich struct., multispecimen fully reversed fatigue system 1−8408
hot-pressed materials, powder metallurgy, fatigue behaviour 1−53292
IMI 685, Ti-Al-Zr alloy, fatigue behaviour, time dependent deform. 1−35391
Inconel 718, creep-fatigue-environment interaction 1−3829
Inconel X-750 alloy, high temp. fatigue effect on fracture toughness 1−53277
laminated composite plates, fatigue 1−31592
LMFBR components, low-cycle fatigue at high temps. 1−41171
low cycle fatigue with creep, nonisothermal loading, kinetic deform. criterion 1−34411
low cycle multiaxial fatigue, simple theory 1−37850
material life-time under random triaxial stress, computer simulation 1−53298
mechanical behaviour of materials, conf., Cambridge, England (Aug. 1979) 1−27673
medial collateral ligament, artificial, design and fixation 1−49161
metal fatigue, microscopic mechanisms 1−31661
metallic materials, fracture handbook 1−9781
metallic materials, present state and problems on numerical data activities for strength (fatigue props.) *(Japanese)* 1−43485
metals, book 1−48504
metals, crack propagation during thermal shock 1−34410
metals, fatigue curves, construction on basis of energy criterion 1−3931
metals, polycryst., creep and creep-fatigue, high temp., deform. and intergranular fracture 1−34416
metals, ultrasonic quenching method appl., hardness, fatigue tests 1−26506
metals and alloys, strength, conf., Aachen, Germany (Aug. 1979) 1−5030
Miner's rule, statistical consideration 1−39423
model deformation, constitutive model, physically-based 1−8363
Nimonic 90, Ni-Cr-Co alloy, fatigue behaviour, time dependent deform. 1−35391
notched, and unnotched specimens, fatigue criterion under combined stress state *(Japanese)* 1−43487
notched members, fatigue lifetime prediction 1−1882
optical fibres, effect of water on silicone coated silica, multicomponent fibres *(Japanese)* 1−41847
optical fibres, fatigue characterisation, effect of intrinsic and extrinsic flaw distribs. 1−11138
optical fibres, static fatigue evaluation, plastic secondary-coating effects, test methods 1−11210
particle-hardened alloys, micromechanisms, book 1−5040
parts examination on engng. level, fatigue fracture features 1−39447
pipe components, fatigue life prediction 1−34413
plastic zone size model 1−3882
polycarbonate, bisphenol A, fatigue and crazing, X-ray obs. 1−35361
polyethylene water treeing mechanisms obs., in HV cables 1−21604
polymeric materials, cavitation erosion, influence of microstruct., SEM study 1−16908
polymeric materials, fatigue behaviour at room and elevated temp. 1−31590
polymers, fatigue, review 1−31588
polymers, filled amorphous, fatigue breakdown anisotropy 1−48494
polystyrene, high impact, rubber roughening of plastics, fatigue damage mechanisms 1−31595
precipitation hardened alloys, fatigue behaviour, influence of microplasticity and crack initiation 1−31653
process heat gas cooled reactor systems applications, structural materials requirements 1−45627
railway bridges under traffic loads, estimation of fatigue life 1−6829
refractories, crack kinetics and texture relationship, effect on fatigue behaviour *(German)* 1−39412
Rene 77, low cycle fatigue at elevated temp. 1−53265
residual stresses, quantitative nondestructive meas., review 1−43622
review, fatigue resist. and struct. 1−3888
rigid polymeric materials, fatigue behaviour at 20°C and 50°C *(Japanese)* 1−26605
statistical model for const. amplitude cyclic loading 1−47159
steel, 0.17%C, rel. between crack initiation process and notch sensitivity in rotating bending fatigue *(Japanese)* 1−48477
steel, 0.1%C Al-killed, age hardening effect by interstitial solute atoms on hysteresis loop under cyclic load *(Japanese)* 1−43434
steel, 0.54%C, rel. between crack initiation process and notch sensitivity in rotating bending fatigue *(Japanese)* 1−48477
steel, 34CrMo4, 37MnSi5, fatigue limit estimation, by progressively-increasing load tests 1−48466
steel, 9% Ni, and its welded joint, fatigue props. at room and liq. N_2 temp. *(Japanese)* 1−26610
steel, A106B, piping, fatigue threshold stress intensity and life estimation, fracture mechanics 1−31636
steel, AE study of fatigue, offshore appl. 1−53395
steel, AISI 4340, Mn diffusion coated, influence on fatigue life 1−16891
steel, alloy, fatigue strength of polished specimens, small plastic strains effect 1−3924
steel, alloy, fatigue-creep interactions, damage 1−35392
steel, alloy, hardening during cyclic loading 1−31614
steel, alloy, strengthened by surface plastic deform., fatigue and corrosion fatigue under fretting conditions 1−53285
steel, austenitic 310, C-ion implantation effect in low-cycle fatigue 1−3920
steel, austenitic stainless, corrosion fatigue behaviour in H_2SO_4/NaCl media, effect of metallurgical variables 1−39411
steel, austenitic stainless, crack growth rate under high temp. creep, fatigue, and creep-fatigue interaction 1−26588
steel, austenitic stainless, crack growth rate under high temp. creep, fatigue and creep-fatigue interactions, role of fracture mech. parameter 1−26589
steel, austenitic stainless, creep-fatigue interaction, interactive damage eqn. 1−34414
steel, austenitic stainless, elevated temp., low-cycle fatigue life, effect of rising mean strain 1−8436
steel, austenitic stainless, fatigue, low cycle high temp., damage mechanisms 1−35393
steel, austenitic stainless, fatigue, low-cycle, under creep-fatigue interaction 1−8414
steel, austenitic stainless, fatigue, low-cycle thermal-mech., under creep-fatigue interaction 1−35390
steel, austenitic stainless, fatigue behavior, low cycle, effects of environment and hold times 1−39454
steel, austenitic stainless, fatigue life, low-cycle, high temp., effect of strain wave shape 1−43495
steel, austenitic stainless, props. and microstruct., TEM and SEM study 1−35394
steel, austenitic stainless, type 316 L, hardening fatigue damage interaction *(French)* 1−8339
steel, austentic stainless, fatigue, low cycle, thermal and isothermal, tensile hold time effects 1−35389
steel, C, cast and forged, fatigue strength in biaxial stress, comparative evaluation 1−31617
steel, C, corrosion fatigue, influence of cavitation erosion and effect of surface coatings on resistance 1−39450
steel, C, fatigue strength of polished specimens, small plastic strains effect 1−3924
steel, C, laser heat-treated, fatigue resist. 1−48490
steel, C, structural, type 45, fatigue resistance under nonuniform complex stress 1−39444
steel, C, welded, residual stress and fatigue, X-ray diffr. study *(Chinese)* 1−35350
steel, C-Mn-Cb, plate, fatigue and toughness props. 1−43513
steel, cast, low-cycle fatigue in different media, Al addition influence 1−3930
steel, Cr-Mo (2.25, 1 wt.6), thermal fatigue strength under creep fatigue interaction 1−3935
steel, Cr-Mo (2.25, 1 wt.%), thermally aged fatigued, and creep deformed, TEM study 1−8386
steel, Cr-Mo-V, rotor type, cyclic loading effect on apparent cleavage fracture toughness 1−48462
steel, cutter, contact fatigue, friction hardening treatment effect 1−26679
steel, die, resist. to deform. and failure in service 1−35368
steel, ductile processes, H suppression 1−26570
steel, electroslag refined En 52, fatigue crack growth rates and fracture toughness 1−39420
steel, fatigue failure, stress distrib. in plates with welded-in pieces in elastoplastic deform. 1−35448
steel, heat-resistant, fatigue resistance of welds 1−31618
steel, high strength, 30 Cr MnSINi2A, shot peening residual stresses effect on fatigue behaviour 1−3889
steel, high strength, fatigue fracture surface, SEM obs. *(Chinese)* 1−39410
steel, HSLA, Nb-bearing, quenched and tempered, low cycle fatigue behaviour 1−8429
steel, low C, fatigue life enhancement by N_2^+ ion implantation 1−3913
steel, low C, fatigued, persistent slip bands in interior 1−25284
steel, low C, internal damping and defect of elasticity modulus, effect of cyclic straining *(Slovak)* 1−48487
steel, low-C, 510C, effective plastic strain component for low cycle fatigue 1−26536
steel, martensitic, corrosion-resist., operation at temps. up to 650°C 1−16886

fatigue continued
steel, martensitic, cyclic wear behaviour of tempered 4130 steel 1−12881
steel, medium C and low alloy, fatigue, effect of stress conc. and size effect 1−39445
steel, medium C martensitic, fatigue crack nucleation, role of cyclic wear 1−12876
steel, medium-alloy, chemicothermal treatment in calcium cyanate bath effect 1−8479
steel, medium-C, low cycle fatigue, anal. based on hysteresis energy 1−39418
steel, mild, effect of low-level stress cycles on varying load fatigue *(Japanese)* 1−43488
steel, mild, monotonic and cyclic deform., positron annihilation 1−39382
steel, mild, vibratory stress relief, fundamental study 1−12776
steel, N ion implantation, modification of mech. props. 1−21587
steel, quenched and tempered, fatigue cracks, effect of fretting and environment 1−12858
steel, rolled, heat treatment effect on fatigue strength anisotropy 1−26505
steel, stainless, irradiated 0Kh16N15M3B, low cyle fatigue equation 1−3932
steel, stainless, martensitic and austenitic, fatigue life in H_2 atmosphere, low-cycle loading freq. influence 1−3927
steel, stainless, SUS 321 crack propagation rate under high temp. low-cycle fatigue conditions 1−8434
steel, stainless 304, eval. of creep-fatigue interaction by linear damage rule and fracture appearance *(Japanese)* 1−35351
steel, stainless 304, fatigue, elevated temp., low cycle, wave shape and ultrahigh vac. effects 1−53264
steel, stainless 316, high strain fatigue 1−48470
steel, stress-strain curve, influence of mode control, mean value and frequency of loading *(Slovak)* 1−3839
steel, structural, limiting state criteria in repeated static loading at room and high temp. 1−8397
steel, turbine-disc, high temp. low cycle-fatigue 1−3890
steel, type 1018, endurance life increase by N implantation *(Hungarian)* 1−16871
steel, type 316, creep/fatigue props. at 625°C 1−39369
steel, type 40 Kh, fatigue damaged, nitrogenated, healing mechanism *(Russian)* 1−16869
steel armour plate, texture influence on mech. and ballistic props. 1−43367
steel EHP693VD, thermal fatigue strength, strain kinetic criterion 1−31624
steel machine parts, strengthened by residual stresses, laws of fatigue fracture 1−31621
steel powder, metal-infiltrated sintered, fatigue and fracture response 1−48511
steel reinforced concrete, fatigue performance of reinforcement bars 1−8410
steel-Cu composites, multilayer, mech. props. 1−21391
steels, Al-killed low C, atmospheric humidity effect on fatigue strength, micro-cracks nucleation *(Japanese)* 1−26609
steels, austenitic stainless, grain size influence in low-cycle fatigue lives at high temp. 1−16878
steels, cavitation erosion, influence of microstruct., SEM study 1−16908
steels, fatigue, low cycle, effect of thermal cycle 1−39453
steels, StE47 and StE70, prestrain influence on low and high cycle fatigue behaviour *(German)* 1−31584
steels, structural, fatigue softening, influence of freq. and temp. 1−30316
stochastic models for fatigue failure of materials 1−37852
strength analysis, computer program system *(Japanese)* 1−43481
stress cycle, elastic stress or plastic strain with constant or varying principal direction 1−31635
structural elements, reliability under random cyclic loading 1−30311
structural fatigue in case of random vibrations, energy dissipation effect 1−1877
superalloy, fracture mechanics anal. of low cycle fatigue 1−1883
superconducting magnet energy storage coil, conductor qualification tests, stability and fatigue 1−48923
surface layer effect on mech. props. in crystals 1−26556
tendon, avian leg, expts., apparatus and testing procedures 1−13279
thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
thermodynamics of fatigue-sensitive materials 1−11356
thermoplastics, fatigue behaviour at room and elevated temp. 1−31590
transmission stereographic fractography of fatigue fractures 1−12871
wood, fatigue props. 1−31593
wood composites, fatigue props. 1−31593
Al alloy, creep and fatigue, alternating, method of predicting endurance at crack initiation and growth states 1−12869
Al alloy, fatigue life prediction, remaining life in initiation regime using SAW 1−48591
Al alloy, vibratory stress relief, fundamental study 1−12776
Al alloy 2024-T3, fatigue, plastic zone size model 1−3882
Al alloy 2024-T3, fatigue strength of dimpled and undimpled loaded holes, clamping press. effect 1−26613
Al, deformation at low stress in early stage of fatigue and creep 1−53232
Al, effective plastic strain component for low cycle fatigue 1−26536
Al electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
Al, single crysts., fatigue process, in-situ study by HVEM 1−3899
Al, UPS from oriented surface, plastic deform. enhanced, fatigue life depend. 1−16665
Al-alloy, rel. between crack initiation process and notch sensitivity in rotating bending fatigue *(Japanese)* 1−48477
Al-Cu, type 2024-T3, fatigue fracture mode transitions, environmental effects 1−39419
Al-Cu-Mg-Fe-Ni, type 2618A alloy, fatigue threshold 1−48468
Al-Mg (0.7 at.%), fatigue deform. and microstruct. stability in single crysts. 1−31649
Al-Mg (0.7 wt.%) single crysts., fatigue softening 1−31602
Al-Mg alloy, effective plastic strain component for low cycle fatigue 1−26536
Al-Mg-Ag alloys, tensile and fatigue props., effect of Ag 1−31655
Al-Zn-Mg, aged, plastic strain amplitude change in total strain controlled low-cycle fatigue 1−16832
Al-Zn-Mg, type 7075-T6, fatigue fracture mode transitions, environmental effects 1−39419
Al-Zn-Mg (4, 1.6 wt.%), overaged, deform. microstruct. and crack formation in low-cycle fatigue 1−16831
fatigue continued
Al-Zn-Mg single crysts., age-hardened, dislocation struct. and persistent slip band form. during cycling 1−30243
Al-Zn-Mg-Cu (5.7, 2.5, 1.5 wt.%), microstruct. and fatigue fracture correlation 1−31642
Al-Zn-Mg-Cu (6.2, 2.6, 0.15 wt.%), fatigue crack propagation and fatigue life, effect of shallow notch 1−8435
B coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
B fibre reinforced Al-Cu, mech. props. *(Slovak)* 1−48405
Co-Cr-Ni, X-40, gas turbine materials, thermal fatigue testing 1−35388
Co-Cr-(Ni-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652
Co-Ni (33 wt.%), deform. twinning under cyclic conditions and strain reversibility in high-strain fatigue 1−30247
Co-Ni (33-45 wt.%), low cycle fatigue, influence of slip 1−31651
Co-Ni-Cr-W superalloys coated with Co-Ni-Cr-Al-Y, mech. props. and environmental resistance 1−31762
CrNi alloys, high temp. dispersion hardened, welded joint thermal fatigue and endurance, postweld heat treatment depend. 1−31510
Cu, C-ion implantation effect in low-cycle fatigue 1−3920
Cu, cavity spacings determ., limitations on use of intergranular fracture surfaces 1−12863
Cu, effective plastic strain component for low cycle fatigue 1−26536
Cu, fatigue at low strain amplitudes, TEM study 1−8403
Cu, fatigue induced grain boundary cavitation, SANS obs. 1−3917
Cu, fatigued, evolution of dislocation struct. in polycryst. specimens 1−53284
Cu, grain boundary cavity growth, during high-temp. creep and fatigue 1−43443
Cu, hardening during cyclic loading 1−31614
Cu, low cycle fatigue, anal. based on hysteresis energy 1−39418
Cu polycryst., correl. of texture and fatigue 1−31491
Cu, polycrystalline, cyclic stress-strain response, ion implantation effect 1−21531
Cu, polycrystn., fatigue damage, comparative study in air or vacuo *(French)* 1−26622
Cu single crysts., fatigued, correlating back stresses and friction stresses 1−31641
Cu single crysts. fatigue deform, and microstruct. stability 1−31649
Cu, surface layer effect on mech. props. 1−26556
Cu, texture stability under fatigue conditions, computer simulation 1−3782
Cu-Al (2 wt.%), fatigue process, in-situ study by HVEM 1−3899
Cu-Cr-Mg precip. hardened alloy, fatigue, low cycle high temp., damage mechanisms 1−35393
Cu-Ni alloys, cyclic hardening 1−26504
Cu-Ni-Sn (10, 6 wt.%), spinodal, low cycle fatigue 1−26617
Cu-Ti (4 wt.%), single crysts., spinodally decomposed, fatigue behaviour 1−48501
Cu-Zn-Al alloys, superelastic, fatigue props. 1−31644
CuZnAl shape memory alloys, fatigue behaviour 1−31656
Fe, fatigue process in single crysts. temp. dependence 1−31648
Fe polycrysts., Barkhausen effect, influence of cyclic stressing 1−30988
Fe, sintered, fatigue curve, microstruct. and fractographic interpretation 1−31608
Fe, strengthening and loss of strength kinetics in adsorption fatigue 1−35376
α-Fe-based single crysts., low cycle fatigue, shear band form. 1−31654
Fe-C-Si facing alloys, wear resist. and fatigue strength, effect of Si 1−16901
Fe-Ni (30 wt.%) alloy, cyclic plastic behaviour at 293 and 373K 1−39375
Fe-Ni-Cr, cyclic strength at elevated temp. of alloys 800 and 800H 1−8413
LiF single crysts., fatigue hardening in push-pull cyclic deform. 1−39409
Mg alloys, fatigue failure kinetics, low temp. influence 1−53288
Mg alloys, fatigue fracture in vacuum at room and low temperatures 1−31612
Mg-Y, IMV6 alloy, softening during fatigue 1−31622
Mo electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
Na_2O-CaO glass, dynamic fatigue, flaw characts., residual contact stresses influence 1−26600
Na_2O-CaO-SiO_2 glass, surface treatment effect on fatigue 1−31596
Nb single crysts., cyclic deform. props., orientation dependence 1−31570
Nb_3Sn multifilamentary wire, bend strain tolerance 1−52738
Nb_3Sn superconducting composite produced by modified external diffusion method, props. 1−47834
Ni, C-ion implantation effect in low-cycle fatigue 1−3920
Ni, fatigued single cryst., cyclic stress-strain curve of persistent slip bands 1−31600
Ni superalloys, fatigue strength under combined mechanical and thermal loading 1−35387
Ni-Ag wire, statistical aspects of fatigue life under low level loading 1−39422
Ni-base heat-resist. alloys under asymmetric high-cycle loading, method of predicting limiting state 1−12868
Ni-Co-Cr, Rene' 150, gas turbine materials, thermal fatigue testing 1−35388
Ni-Cr-Y_2O_3, dispersion strengthened gas turbine materials, thermal fatigue testing 1−35388
Ni-Cr-(Al-TaC), directionally solidifed eutectic, creep-fatigue interactions 1−31652
Ni-P, electroless deposited, microstruct. and fatigue props. 1−53282
NiTi, shape memory alloys, fatigue behaviour 1−31656
Si-Fe (3 wt.%) single crysts., containing pre-introduced deform. twins, cyclic deform. 1−3857
SiC, hot pressed and sintered α-phase, high temp. dynamic fatigue 1−3872
SiO_2 fibre waveguides, Al coated, low cycle fatigue behaviour 1−29393
Ta, annealed and drawn, tensile and cyclic tensile fatigue strength in vac. at high temp. *(Japanese)* 1−53198
Ti alloys, electrospark alloying, for increasing durability in lubricated friction assemblies *(Russian)* 1−43538
Ti alloys, fatigue strength of polished specimens, small plastic strains effect 1−3924
Ti alloys, mech. props., improvement by optimising struct. 1−16842
Ti, impact damage on leading edges from small hard objects 1−48465
Ti-Al (8.6 wt.%), microstruct. and fatigue fracture correlation 1−31642

fatigue continued
Ti-Al-Mo-Zr (6.7, 3, 1.7 wt.%), VT9, superplastic deform., improvement of mech. props. 1−16843
Ti-Al-Sn-Zr-Mo (6, 2, 4, 2 wt.%), fatigue props. improvement by Pt ion plating 1−8425
Ti-Al-Sn-Zr-Mo-Si (5, 5, 2, 2, 0.25 wt.%), β-processed, high temp. low cycle fatigue 1−8427
Ti-Al-V (6, 4 wt.%), fretting fatigue, environmental effects 1−26626
Ti-Al-V-Sn (6,6,2 wt.%), notched and unnotched, fatigue under sinusoidal and random excitation 1−48489
Ti-Mn alloys, low cycle fatigue behaviour cyclic stress/strain response 1−8426
TiB_2 coated limiters in tokamak fusion devices 1−18891
TiB_2 coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
TiC coated limiters in tokamak fusion devices 1−18891
TiC coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
W electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
W wire reinforced Cu, fatigue failure modes 1−3934
W-Re composite tube fabricated by chemical vapor deposition for application in an 1800°C high thermal efficiency fuel-processing furnace 1−12669
WC electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
WC-Co, VK8 and VK15, subjected to cyclic cantilever bending, residual porosity effect 1−12865
Zn bicrysts. 1−15908
Zn, hardening during cyclic loading 1−31614
Zn-Al-Cu-Mg (3.5-4.5, 0.75-1.25, 0.03-0.08 wt.%), castings, mech. props. 1−43506
Zr, grain boundary cavity growth, during high-temp. creep and fatigue 1−43443
Zr-Nb (2.5 wt.%), critical propag. event for H_2 induced slow crack growth 1−43517

fatigue cracks
ABS electroplated with Cu, adhesion strength and fatigue damage 1−39442
adhesives, structural, fatigue crack growth 1−48482
antiplane strain state, subcritical and fatigue crack growth 1−15447
austenitic stainless steel, type 304, with crack, creep and fatigue fracture *(Japanese)* 1−39366
boride layers, on steel, dry sliding friction, invest. of failure mechanism 1−12894
brass, dislocation structures adjacent to fatigue cracks propagating at high rates 1−42388
brass-steel clad plates, explosively or roll bonded, fatigue crack growth and crack closure *(Japanese)* 1−48480
ceramics, design technology, for structural applications *(Japanese)* 1−38441
ceramics, fatigue, static, dynamic and cyclic *(German)* 1−3875
closure in modes I and II, elastic-plastic anal. 1−46697
concrete, microcracking mechanics under fatigue loading 1−43526
crack closure assessment, in fatigue using Westergaard stress function 1−46705
crack growth monitoring, at elevated temps. by elec. potential technique 1−39549
crack propag., calc. of threshold stress intensity range 1−46706
crack propagation in lugs, finite element anal. 1−21576
crack propagation rate, model relating low cycle fatigue props. and microstruct. 1−7250
cryogenic metal, brittle fracture, notch testing 1−48471
cylindrical specimen, notched, fatigue crack growth rate, effect of absolute dimens. 1−31620
detection, compressive bending stress effects on US techniques 1−12940
development, calc. problems 1−34406
diffusion model, fatigue life under random loading 1−19643
dislocation structs., associated with fracture surface topographies in stage II fatigue crack growth 1−16890
ductile materials, fatigue crack closure model 1−31660
environmental influence, on fatigue crack growth in threshold region 1−26578
epoxy-epoxy composite, simulative study of fatigue crack growth behaviour in two dissimilar materials *(Japanese)* 1−26607
epoxy-metal composite, simulative study of fatigue crack growth behaviour in two dissimilar materials *(Japanese)* 1−26607
failure of materials, stochastic models 1−37852
fatigue notch life in high cycle region *(Czech)* 1−47162
flat design elements, crack growth eval. 1−35375
fracture toughness test results, influence of load at fatigue precracking *(Slovak)* 1−48619
fusion reactor, postirradiation fatigue crack growth testing, miniature specimen technology 1−4042
glass, surface microcrack formation, tensile stress caused by Na^+/Li^+ ion exchange *(Czech)* 1−30539
growth, mixed mode predictions 1−25362
growth determining and recording, bridge circuit appl. 1−26693
growth meas. by high sensitivity potential drop method 1−4039
growth retardation under constant amplitude and variable mean stress 1−21574
Inconel 718, creep-fatigue-environment interaction 1−3829
Inconel X-750, temp. effect on fatigue-crack propag. 1−48469
initiation life, determ. 1−1881
mechanical reliability technique, for crack initiation and fatigue *(French)* 1−31823
metal composite, fatigue crack growth suppression using prestressed reinforcing members 1−48459
metals, fatigue crack growth, phenomenological plan 1−34408
metals, fatigue electrochemical detection 1−43629
metals and alloys, crack development, calc. problems 1−34406
metals and alloys, crack propagation under thermal and fatigue loading, review 1−34407
Nimonic 90, local plastic strain, study by selected area channelling patterns in STEM 1−3846
notched members, fatigue lifetime prediction 1−1882
optical fibres, dynamic fatigue, normalized crack growth, strength loss estimation during proof testing *(German)* 1−33836
pipe components, fatigue life prediction 1−34413

fatigue cracks continued
plastic crack growth under repeated loading, discrete dislocation anal. 1−52226
polymers, fatigue crack growth 1−31589
polymers, fatigue cracks development, review 1−35370
precipitation hardened alloys, fatigue behaviour, influence of microplasticity and crack initiation 1−31653
probabilistic approach, to fatigue crack growth rate 1−41987
probabilistic models, critical anal. 1−46701
propagation, energy considerations 1−46708
PVC, fingerlike cracks, offset, development and growth 1−26586
residual stresses, induced by fatigue cracking 1−25363
residual stresses, tensile or compressive fatigue crack propag. *(Japanese)* 1−43491
steel, 0.17%C, rel. between crack initiation process and notch sensitivity in rotating bending fatigue *(Japanese)* 1−48477
steel, 0.54%C, rel. between crack initiation process and notch sensitivity in rotating bending fatigue *(Japanese)* 1−48477
steel, A106B, piping, fatigue threshold stress intensity and life estimation, fracture mechanics 1−31636
steel, AISI 4340, Mn diffusion coated, influence on fatigue life 1−16891
steel, austenitic stainless, crack growth rate under high temp. creep, fatigue, and creep-fatigue interaction 1−26588
steel, austenitic stainless, crack growth rate under high temp. creep, fatigue and creep-fatigue interactions, role of fracture mech. parameter 1−26589
steel, austenitic stainless, fatigue, low-cycle, under creep-fatigue interaction 1−8414
steel, austenitic stainless, fatigue life, low-cycle, high temp., effect of strain wave shape 1−43495
steel, austenitic stainless, Z6 CND 17-12, oxidation of fatigue fracture surfaces at low crack growth rates 1−3904
steel, austentic stainless, fatigue, low cycle, thermal and isothermal, tensile hold time effects 1−35389
steel, C, fatigue crack growth in impregnation with H, loading frequency and heat treatment influence 1−35377
steel, C, fatigue crack tip, macroscopic residual stress distrib. 1−8412
steel, C (0.45 wt.%), fatigue crack propagation cyclic stress hysteresis effect at elevated temp., strain ageing 1−26581
steel, Cr-Mo (2.25, 1 wt.%), fatigue crack prop. charact. in liq. Li 1−16880
steel, Cr-Mo-V (0.5, 0.5, 0.25 wt.%), behaviour of cracks in creep 1−39400
steel, crack propag. and failure, EM radiation charact., noncontact monitor development 1−31773
steel, dual-phase, crack propag. 1−31659
steel, ductile processes, H suppression 1−26570
steel, eutectoid, rail, fatigue crack propagation 1−31658
steel, fatigue crack initiation and propagation in low C martensite, role of prior austenite grains 1−8409
steel, fatigue cracks production with specified depth for crack propag. resist. testing 1−26685
steel, fracture toughness determ. under conditions of plastic instability 1−48518
steel, high strength, fatigue fracture surface, SEM obs. *(Chinese)* 1−39410
steel, high tensile, effect of sheet thickness on retardation behaviour *(Japanese)* 1−26608
steel, high-strength, microstruct. effect on fatigue crack growth *(Japanese)* 1−26606
steel, HSLA martensitic, thermomech. treatment, rel. between struct. and mech. props. 1−31513
steel, HT80, fatigue crack growth, sheet thickness effect on delayed retardation phenomena 1−3878
steel, low alloy, crack length meas. method using crack-opening displacement 1−8508
steel, low alloy, fatigue, microstruct. effects at intermediate and high crack growth rates 1−3902
steel, low alloy, fatigue crack growth, influence of environment and stress ratio 1−26585
steel, low C, fatigue crack propagation rates in elastic-plastic region *(Czech)* 1−48485
steel, low C, vessel wall fracture features due to surface crack under low-cycle loading 1−21660
steel, low-alloy, fatigue crack growth kinetics, intense strain influence 1−35371
steel, low-alloy, type 18G2AV, fatigue crack growth retardation under constant amplitude and variable mean stress 1−21574
steel, low-alloy PM specimen, AISI 4600, fatigue crack growth rate rel. to porosity 1−21575
steel, low-alloy SNCM8, environmentally enhanced fatigue crack growth 1−26580
steel, low-C, Al-killed, strain ageing effect on fatigue crack initiation process *(Japanese)* 1−43486
steel, low-C, comparison of plastic work of fatigue crack propag. meas. by strain gauges and electron channelling 1−39417
steel, medium C, development of slip bands during low-cycle fatigue *(Russian)* 1−31586
steel, medium C martensitic, fatigue crack nucleation, role of cyclic wear 1−12876
steel, mild, environmental influence on fatigue crack growth in threshold region 1−26578
steel, mild, fatigue crack propag., and threshold at 77 and 293K 1−26579
steel, mild, JIS SPCC, fatigue crack grwoth under mode II loading *(Japanese)* 1−43492
steel, Ni-Cr, high-strength, austenite grain size and stress ratio effect on near threshold fatigue crack growth *(Japanese)* 1−48479
steel, phenomenon of point closure of a fatigue crack *(French)* 1−35357
steel, pressure vessel, Cr-Mo (2.25, 1 wt.%), near-threshold fatigue crack growth in air and H_2 1−43515
steel, pressure vessel, irrad., fatigue crack growth in simulated nuclear coolant environment 1−43478
steel, quenched and tempered, fatigue cracks, effect of fretting and environment 1−12858
steel, stainless, 304, elastic-plastic mechanics approach to fatigue crack growth *(Japanese)* 1−43493
steel, stainless, SUS 321 crack propagation rate under high temp. low-cycle fatigue conditions 1−8434
steel, stainless, Type 304, corrosion fatigue crack growth, acoustic emission detection *(Japanese)* 1−53389

fatigue cracks continued
steel, stainless 304, corrosion fatigue crack propag. in boiling $MgCl_2$ soln. *(Japanese)* 1−26670
steel, stainless 304, environmental influence on fatigue crack growth in threshold region 1−26578
steel, stainless 304, fatigue crack propag., and threshold at 77 and 293K 1−26579
steel, stainless type 306, postirradiation fatigue crack growth testing, miniature specimen technology 1−4042
steel, structural, BS4360 grade 50D, appl. of tensile ligament instability model of crack propag. 1−39544
steel, structural, fatigue crack propagation, influence of overloads 1−31657
steel, structural, SM50B, fatigue crack grwoth under mode II loading *(Japanese)* 1−43492
steel, thermal shock cracking, elastic-plastic fracture mechanics study 1−48515
steel fillet welds, comparison between expt. and predicted fatigue crack propag. 1−39435
steel machine parts, strengthened by residual stresses, laws of fatigue fracture 1−31621
steel pipes, fatigue crack growth and overload retardation 1−826
steel plates, brass clad, fatigue crack growth and crack closure behaviour *(Japanese)* 1−43482
steels, Al-killed low C, atmospheric humidity effect on fatigue strength, micro-cracks nucleation *(Japanese)* 1−26609
steels, C, effect of microstruct. on fatigue crack growth *(Japanese)* 1−43489
steels, fatigue crack growth threshold level, influence of microstruct. 1−31647
steels, fatigue crack propagation, plastic work 1−53268
stell, Ck45, stress amplitude influence on fatigue cracks initiation *(German)* 1−43473
stress corrosion, dry, brittleness and delayed failure *(French)* 1−48543
tensile crack, under fatigue, discrete dislocation anal. 1−8422
threshold for fatigue crack initiation 1−31645
tools, ferritic, fast neutron irrad., fatigue crack growth behaviour 1−12873
transmission stereographic fractography of fatigue fractures 1−12871
US diffr. charact. 1−48592
US diffraction meas. of fatigue crack growth 1−12938
US fatigue testing, review 1−8506
weld, subcritical fatigue crack growth, residual stress effect 1−39448
welded joints, fatigue crack initiation life, automatic detection 1−48635
wide plates, crack opening displacement rel. to strain 1−33933
Al alloy, Al-Ni plasma coated, crack initiation and propag. 1−39443
Al alloy, creep and fatigue, alternating, method of predicting endurance at crack initiation and growth states 1−12869
Al alloy, fatigue crack tip plastic strain obs. by stereoimaging 1−3884
Al alloy 2219-T851, fatigue crack growth rate data, wide range, three component model eval. 1−26614
Al alloy HT80, fatigue crack growth, sheet thickness effect on delayed retardation phenomena 1−3878
Al alloy/C-epoxy laminates, environmental fatigue crack propagation 1−8415
Al-alloy, A5083-O, fatigue crack growth, environmental effects *(Japanese)* 1−43490
Al-alloy, rel. between crack initiation process and notch sensitivity in rotating bending fatigue *(Japanese)* 1−48477
Al-Cu, 2017-T4, fatigue crack grwoth under mode II loading *(Japanese)* 1−43492
Al-Cu, type 2124 T351, fatigue crack growth retardation 1−8423
Al-Cu, type 2219-T851, fatigue crack growth response following high load excursion 1−43514
Al-Cu, type 2219-T851, fatigue crack growth, SIMS and AES study 1−31638
Al-Cu-Mn alloys, short surface fatigue cracks, growth rate models 1−53269
Al-Zn, 7075-T6, fatigue crack grwoth under mode II loading *(Japanese)* 1−43492
Al-Zn-Mg, type 7075-T6, tongue-shaped crack extension during fatigue 1−48467
Al-Zn-Mg (4, 1.6 wt.%), overaged, deform. microstruct. and crack formation in low-cycle fatigue 1−16831
Al-Zn-Mg single crysts., age-hardened, dislocation struct. and persistent slip band form. during cycling 1−30243
Al-Zn-Mg-Cu, type 7075-T651, fatigue crack growth, SIMS and AES study 1−31638
Al-Zn-Mg-Cu (6,2,x wt.%), effect of Cu content and deform. mode on fatigue crack propag. 1−12856
Al-Zn-Mg-Cu (6.2, 2.6, 0.15 wt.%), fatigue crack propagation and fatigue life, effect of shallow notch 1−8435
Al-Zn-Mg-Cu alloy, fatigue crack initiation of notches 1−31646
Al_2O_3 ceramics, fatigue, static, dynamic and cyclic *(German)* 1−3875
Al_2O_3-ZrO_2 ceramics, fatigue, static, dynamic and cyclic *(German)* 1−3875
Co-Ni (33-45 wt.%), low cycle fatigue, influence of slip 1−31651
Cr-Mo-V steel, high strain fatigue, prediction of crack growth rates from total endurances 1−7249
Cu, dislocation structs., associated with fracture surface topographies in stage II fatigue crack growth 1−16890
Cu, dislocation structures adjacent to fatigue cracks propagating at high rates 1−42388
Cu, environmental influence on fatigue crack growth in threshold region 1−26578
Cu, fatigue crack growth in single crystal, high frequency, threshold behaviour 1−3915
Cu, fatigue crack propag., and threshold at 77 and 293K 1−26579
Cu, fatigue crack propagation, influence of crystalline orientation on environment 1−31650
Cu polycryst., correl. of texture and fatigue 1−31491
Cu, polycrystn., fatigue damage, comparative study in air or vacuo *(French)* 1−26622
CuZnAl shape memory alloys, fatigue behaviour 1−31656
Fe, Armco, fatigue crack growth rate and grain size 1−31619
Fe, sintered, fatigue curve, microstruct. and fractographic interpretation 1−31608
Fe-Si (3 wt.%), fatigue cracks, 3-dimens. obs. of plastic zone using etching technique *(Japanese)* 1−3893
Mg-Al-Zn-Mn, sheets, fatigue cracks development 1−53286
NiTi, shape memory alloys, fatigue behaviour 1−31656
fatigue cracks continued
Ti alloy/C-epoxy laminates, environmental fatigue crack propagation 1−8415
Ti test sample fatigue crack detect. using an optical Fourier spectrum analyser 1−8492
Ti-Al-Mo-Cr (4.5, 5, 1.5 wt.%), influence of processing and heat treatment on mech. props. 1−12767
Ti-Al-Sn-Zr-Mo (6, 2, 4, 2 wt.%), fatigue props. improvement by Pt ion plating 1−8425
Ti-Al-Sn-Zr-Mo-Si (5, 5, 2, 2, 0.25 wt.%), β-processed, high temp. low cycle fatigue 1−8427
Ti-Al-V (6,4 wt.%), elastic-plastic mechanics approach to fatigue crack growth *(Japanese)* 1−43493
Ti-V alloys, effect of environment and loading freq. on fatigue crack propag. 1−39457
TiB_2 thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
TiC thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
Zr-Nb (2.5 wt.%), fission reactor pressure tube rolled joint, crack growth by delayed H cracking 1−788
ZrO_2 ceramics, fatigue, static, dynamic and cyclic *(German)* 1−3875
ZrO_2, partially stabilised, subcritical crack growth 1−26592
fatigue failure *see fatigue*
fatigue fracture *see fatigue*
fatigue life *see fatigue*
fatigue testing
for corrosion fatigue testing, see corrosion testing
aeronautical structure control in fatigue testing using holographic pulsed laser interferometry 1−21680
bending tests, calc. of stresses in wedge-shaped specimens 1−11363
crack growth determining and recording, bridge circuit appl. 1−26693
crack monitoring using potential drop technique, data controller system 1−39582
detection by UV localised exoelectron emission 1−31822
electrochemical scanning, fatigue damage testing 1−31819
flat cross-shaped specimens under biaxial loading, parallelogram device 1−21665
fusion reactor, postirradiation fatigue crack growth testing, miniature specimen technology 1−4042
lubricant-soluble additive, Mo dithiolate, exploratory invest. under rolling contact conditions 1−35403
machine for flat specimens 1−21669
mechanical, photonics processes 1−35495
mechanical reliability technique, for crack initiation and fatigue *(French)* 1−31823
metals, installation for checking cyclic loading freq. 1−21666
monitor, for fatigue damage, battery operated, microprocessor based, LCD display 1−17012
plastics, 1−16987
PMMA triaxial fatigue testing machine 1−21677
polymer materials, fatigue testing, lever profile design 1−48612
polymeric materials, triaxial fatigue testing machine 1−21677
porous materials, fatigue testing device 1−26687
steel, Cr-Mo-V, biaxial high strain fatigue testing 1−39552
steel, low-C, type G40.21-50A, overstrain effects during variable amplitude service history testing 1−21673
steel, stainless type 306, postirradiation fatigue crack growth testing, miniature specimen technology 1−4042
steels, 45 and 17 KhG2SAFR, cyclic strength, welding effects, comparative testing 1−35494
tendon, avian leg, expts., apparatus and testing procedures 1−13279
thermomechanical fatigue testing device 1−17000
torsional methods used with resonance machines, calibration 1−48610
US diffraction meas. of fatigue crack growth 1−12938
US fatigue testing, review 1−8506
wedge specimen, thermal and mech. cyclic loaded in aggressive gas, fatigue test unit 1−31807
welded joints, fatigue crack initiation life, automatic detection 1−48635
X-ray double cryst. diffractometry, and topography for fatigue failure prediction 1−31820
Al alloy AK4-1-T1, resistance to low-cycle strain, eval. upon internal heating 1−31530
Al foils for TEM, defects after high-freq. fatigue deform. 1−39566
Al-Cu, type 2024 alloy, X-ray double cryst. diffr. and topography for fatigue failure prediction 1−31820
Be, fracture roughness determination from fractographic data 1−35367
fault currents
see also flashover; leakage currents; overcurrent; short-circuit currents
high-power DC convertor systems for JET 1−34122
switchgear, SF_6 insulated, power arc fault studies 1−38166
vacuum arcs, transverse mag. field interaction, current limitation appl. 1−34148
fault location
fault testing using dissolved-gas anal. 1−26780
high-power DC convertor systems for JET 1−34122
industrial component testing, using acoustic emission, analysis *(German)* 1−53393
optical fibre, backscatter method appl. for fault location 1−29403
optical fibre fault location field-portable instrument 1−41897
solar mirrors, surface reflectivity and curvature, fault detection 1−37579
faults, electrical *see electrical faults*
f.d.m. *see frequency division multiplexing*
feature extraction *see pattern recognition*
feedback
see also control systems; control theory
body-substrate-distance regulation in stick insect, sinusoidal stimulation responses 1−49024
dye amplifier for coherent optical active feedback in 514 nm range 1−41731
eye movement physiological functions and control mechanisms *(Japanese)* 1−26901
four-arm bridge characteristic improvement, structural methods 1−28028
fusion reactor, neutral beam injection, control theory 1−914
fusion reactor, plasma equilib. static and dynamic control, self-consistent method 1−913
fusion reactor, TFTR, feedback control design 1−910
fusion reactor plasma position feedback control, effective mode approx. 1−912

feedback continued
neuronal encoder two-phase adaptation model 1−8845
optical confocal resonator used for image processing with coherent feedback 1−46243
optical feedback, image processing and bistability, review 1−1619
optical feedback, polarisation-rotated, in self-coupled optical pickup 1−6598
optical feedback in spatial light modulator bistable optical matrix device 1−1687
pneumatic micrometer circuit, with positive feedback system 1−44886
regenerative high-resolution NMR spectrometer 1−44970
saccadic eye movements, natural and drug-induced variations of velocity and duration 1−48987
TV optical feedback systems 1−1675
vibration plane table, contraction isolated, level feedback control methods *(German)* 1−250
visual perception model, pattern stimulus reproduction on neurons screen, model 1−48997

Fermi-Dirac statistics *see quantum statistical mechanics*

Fermi gas *see fermion systems*

Fermi level
A-15 intermetallic compounds, residual resistivity features 1−12092
doped semiconductor, hopping and delocalisation, electron-electron interactions effect, Coulomb gap 1−47651
electron gas, disordered, noninteracting, two-dimensional, conductivity, power law localisation 1−52506
Fermi level, carrier conc. depend. calc. 1−38712
graphite intercalation compounds, electronic energy bands 1−7520
graphite intercalation compounds with HNO_3, $HFSO_3$, Br, Li, KHg, quantum oscillatory effects 1−42678
heavily doped semiconductor devices, rigid band anal. 1−52555
heterojunctions in thermal equilibrium, extrinsic and intrinsic heterojunctions theory 1−3055
intercalation compounds with AsF_5, $FeCl_3$, B, electron energy loss spectroscopy 1−48207
intermediate valence compounds, electrical resistivity due to electron-phonon scatt. 1−25683
intermediate valence model, Green function method 1−20665
junction devices, separation of quasi-Fermi levels and boundary conditions 1−12185
Li intercalated graphite, electronic props. of various stages 1−2859
MIS solar cells, p-type, surface recombination effects 1−13129
periodic Anderson model, mag. susceptibility calcs. 1−20965
semiconductor, lightly doped, impurity band struct., review 1−20658
semiconductor hot-electron transport in quantising mag. fields 1−16302
semiconductor-liquid junction, Fermi level pinning, energy conversion efficiency 1−7727
semiconductors, extrinsic, Fermi level, mathematical approach 1−47428
semiconductors, extrinsic, photocurrents 1−7664
semiconductors, non-parabolic zero-gap, dielectric function, reflectivity spectra 1−42709
transition metal binary alloys, short-range order, effect of Fermi level position *(Russian)* 1−7502
A_2Se_3:Cu(Ni,Mo), amorphous, RF cosputtered films, cond. temp. depend., optical absorpt., Fermi level shift 1−42781
As, carrier density, nonmonotonic variation at press. up to 120 kbar 1−2992
Au/n-$GaAs_{0.6}P_{0.4}$ anode, illuminated, quasi-Fermi level and flat band pot. meas. method 1−34745
Au-Al periodic structs., electronic struct., nearly-free-electron model 1−47446
Au-Cu, X-ray absorpt. spectra, chem. shifts 1−26302
$BaPb_{1-x}Bi_xO_3$ superconducting oxide, new supercond. region, electron transport props. *(Japanese)* 1−38875
Bi, electron Fermi energy, at high temp., numerical iteration technique 1−34618
Bi, giant quantum sound attenuation below 1K, Fermi and Landau levels 1−47435
Bi, giant quantum ultrasonic attenuation, anomalous freq. depend. below 1K 1−2571
Cd_3As_2 crystalline film, Shubnikov-de-Haas effect 1−52586
$CdSnAs_2$, crystal defects from electron irradiation, effect on cond. 1−25326
$CeCu_2Si_2$, mag. susceptibility and kinetic parameters *(Russian)* 1−30927
$Cr_xMn_{1-x}As$, Hall resistance modulation 1−25694
CsSn thin film, electronic props. 1−25813
Cu, X-ray emission line $K\beta_{2,5}$, deep-band probe, fine struct. 1−8165
Fe alloy, electronic structure from positron annihilation 1−12022
Fe-Mn-Cr alloys, band struct. near Fermi level, elec. resist., thermo-EMF and mag. susceptibility meas. *(Russian)* 1−30622
$Ga_{1-x}Al_xAs$ (110) surface anion vacancies, bound-state energy level calc. 1−16332
GaAs (110), clean and oxidised, surface band bending, Raman spectra 1−38829
GaAs (110) surface anion vacancies, bound-state energy level calc. 1−16332
GaAs, heavily doped, photoluminesc., hydrostatic press. depend. 1−48134
GaAs polycrystal Schottky barriers, grain boundary effects 1−16365
p-GaAs, semiconductor electrode in photoelectrochem. in aq. soln. 1−7728
GaAs:Cr, EPR, photoinduced changes, Cr^{4+} second-acceptor state 1−12393
n-GaAs:Si, recombination centres, spontaneous emission 1−52991
GaAs(Sb), (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
GaInAs, GaInP, GaAlAs, Schottky barrier formation, anion vacancy electron states 1−52644
GaSb (110) surface, electronic states induced by surface defects, calc. 1−16337
$Gd(Co_xNi_{1-x})$ ($0 \le x \le 0.3$), transport and mag. props. 1−25701
n-Ge:As, heavily doped, compensated, elec. cond. 1−20743
HfC_x, LCAO-CPA studies of C vacancies 1−2856
$Hg_{1-x}Cd_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
α-HgS, cinnabar, photoluminesc., optical absorpt., and excitation spectra 1−3481
InAs-GaSb semimetallic superlattices to heterojunction limit, Shubnikov-de Haas investigation 1−47735
$In_{1-x}Mg_x$, electron-phonon interaction, phase transition *(Russian)* 1−42495
InP (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
InP (110) surface anion vacancies, bound-state energy level calc. 1−16332
InP (110) with Ag overlayers, film growth, Schottky barrier formation 1−34593
InP crystal photoluminescence, influence of surface energy band bending 1−16597
KC_8 intercalation cpd., electronic band struct. calc. 1−47433
LaH_2, LaH_3, electronic struct., APW method 1−38715
LaH_x ($1.90 \le x \le 2.89$), optical absorptivity and photoemission 1−21157
$LaNi_{5-x}Al_x$ (Pt_x), heat capacity, hydrogenation, influence of lattice and electronic factors 1−20418
$La_{1-x}Th_xNi_5$, heat capacity, hydrogenation, influence of lattice and electronic factors 1−20418
Mo, photoemission and electronic struct. 1−8193
$Mo_{48}Ru_{12}B_{20}$, $Mo_{40}Ru_{40}P_{20}$, amorphous, photoemission and electronic struct. 1−8193
NbC, LCAO-CPA studies of C vacancies 1−2856
NiH, electronic struct., rel. to supercond. 1−25607
PbN_6, electron excitation and transfer 1−34753
$PbS_{1-x}Se_x$, Fermi level, carrier conc. depend. calc. 1−38712
$Pb_{0.93}Sn_{0.07}Se$ epitaxial film, band struct. 1−42689
$Pb_{1-x}Sn_xSe$, Fermi level, carrier conc. depend. calc. 1−38712
$Pb_{1-x}Sn_xTe(Se)$, Fermi level, carrier conc. depend. calc. 1−38712
Pd, resonant valence band satellite, PES study 1−52476
PdH, band struct., APW calc. 1−38717
Ru, photoemission and electronic struct. 1−8193
Sb, free carrier contributions to second and third order elastic consts. 1−47143
$(Se_{32}Te_{32}As_4Ge_{32})_{100-x}Ni_x$, chalcogenide amorphous semicond., electrical cond. and optical absorpt. 1−20730
Si, amorphous, elec. cond. and ESR study 1−20744
a-Si, RF-sputtered, solar cells, doping effects of group-III and -V elements on conductivity 1−4191
p-Si, semicond. electrode, illuminated, photoreduction, Fermi level pinning 1−7729
Si:As(B)(As,B), ion-induced impurity displacement, effect of Fermi level 1−11795
Si:F, H, amorphous, MIS solar cells, high-efficiency, theory and expt. 1−43782
Si:H, amorphous, photoinduced optical absorpt. spectra 1−43145
a-Si:H Schottky barrier diode, band struct., conductance-capacitance freq. depend. 1−7704
Si-Al interface, PES and Auger studies 1−53046
SnO_2:Sb, electrical and optical props. 1−42874
TaC_x, LCAO-CPA studies of C vacancies 1−2856
Ta_2O_5 amorphous film, hopping transport 1−20889
$Th_7Ni_3H_x$, magnetic props. 1−20956
Ti-Mn-H, magnetic susceptibility and magnetization meas. 1−20964
TiC_xN_{1-x}, solid solution, distrib. of density of electron states 1−52464
TiNi, cubic to rhombohedral phase transform. mechanism *(Russian)* 1−26449
TiRu, energy band struct. calc. *(Russian)* 1−20615
$TiSe_2$, angular resolved photoemission and band structure 1−48221
TiTc, energy band struct. calc. *(Russian)* 1−20615
$Ti_xV_{1-x}C$, solid solution, distrib. of density of electron states 1−52464
UAs(S)(Sb)(Se)(Te), optical spectroscopy, electronic struct. 1−48114
$U(Co_xNi_{1-x})_2$, ferromagnetism onset 1−47887
V-Fe, electronic structure from positron annihilation 1−12022
VSe_2, angular resolved photoemission and band structure 1−48221
Zr hydrides, band struct. calc. 1−25608

Fermi liquid *see fermion systems*

Fermi resonance
atom+triatomic mol. collision, Fermi reson. effects 1−1308
band shapes of Fermi reson. spectra 1−33448
classical motion stability, quantum spectral features, vibr., Fermi reson. 1−37169
crystal, Raman scattering of light by polaritons during Fermi resonance *(Russian)* 1−43118
ethane, mol. const., Fermi and Coriolis resonance, rot.-vibr. IR obs. 1−24133
ethylene, improved general harmonic force field 1−51075
lithium formate, Raman light scatt. characts. 1−26211
maleic anhydride, cryst., vibr. spectrum, reson. interactions 1−3398
molecular liquids, Raman mode Fermi reson., conc. depend. effect 1−16560
optical spectra, E-e problem *(Russian)* 1−26154
thioacetamide-protonacceptor complexes, mol. vibr., hydrogen bonds, IR obs. 1−14892
vibrational eigenvalues and wavefunctions, SCF CI calcs. 1−6173
$B_2H_6(B_2D_6)$, gaseous and crystalline phases, IR spectra, vibr. assignments, Fermi reson., force field calc. 1−41379
BrCN, trapped cations, laser induced fluoresc. spectra, vibr. and spin-orbit splitting, Fermi reson. 1−46009
CO_2^+, $A^2\Pi_u$-$X^2\Pi_g$ band emission spectra, fermi resonance, vibronic parameters 1−19083
Co_2, solid Raman spectrum, Fermi resonance studied up to 11 GPa 1−42465
CsI:NCO^-, Fermi doublets, temp. dependence 1−3446
FO_2, IR vibr. spectra and photodissoc., prod. from F+O_2 reaction in Ar matrix 1−39615
He+OCS(CO_2), collision, Fermi reson. effects 1−1308
KBr:BF_4^-, IR spectra, vibr. absorpt. bands and Fermi reson., temp. depend. 1−52971
KBr(Cl):NCO^-, Fermi doublets, temp. dependence 1−3446
KCl:BF_4^-, IR spectra, vibr. absorpt. bands and Fermi reson., temp. depend. 1−52971
KI:NO_2^-, laser induced fluorescence and Raman studies 1−43171
NH_3, Raman mode Fermi reson., conc. depend. effect 1−16560
N_2O_4, cryst. Raman and IR spectra 1−43106
O_2F_2, IR vibr. spectra and photodissoc., prod. from F+O_2 reaction in Ar matrix 1−39615

Fermi surface
alkali metal intercalation compounds, Fermi surface obs. by Shubnikov-de Haas and magnetoreflection methods 1−47436
alloy, randomly substituted, Fermi surface 1−12019
β-brass type phases, Fermi surface interaction with Brillouin zone faces and elastic props., pseudopot. method *(Russian)* 1−12016

Fermi surface continued
electron-hole plasma resistivity, Fermi surface anisotropy influence 1−20739
ferromagnetic conductors, anisotropic Fermi surfaces, excitation in magnetic field 1−2898
gap anisotropy and mass enhancement anisotropy relation 1−38888
graphite, pyrolytic, press. effect on energy spectrum parameters, mag. props. *(Russian)* 1−7508
graphite intercalation compounds with AsF_5, HNO_3 and Rb, de Haas-van Alphen effect 1−42677
graphite intercalation compounds with HNO_3, $HFSO_3$, Br, Li, KHg, quantum oscillatory effects 1−42678
graphite intercalation compounds with $PdCl_2$, $FeCl_3$, $CuCl_2$ and WCl_6, electronic props. 1−42679
graphite-alkali metal intercalation cpds., electronic struct. 1−38705
Li intercalated graphite, electronic props. of various stages 1−2859
metal, Fermi surface local geometry 1−12020
metal, surface impedance, low-field extremum at MHz freqs. 1−3045
metal, surface impedance, normal and anomalous skin effect in very weak mag. fields 1−7650
metal films, quantum magnetosize effect *(Russian)* 1−42872
metal polycrystalline films, thermoelectric power and temp. coeff. of resist., transport parameters 1−25693
metal with multiply degenerate bands, oscillatory mag. breakdown, model calc. 1−52468
noble metals, electron-phonon scatt. rates from magnetoacoustic expts. 1−12017
one-dimensional conductor, Peierls instability, charge density distortions, glassy phase formation 1−20713
polycrystalline thin films, longitudinal magnetoresistance, analytical expressions 1−16384
random alloys, conc. momentum distrib. of electrons 1−25609
superconductor-exciton dielectric mixed phase, critical mag. fields *(Russian)* 1−3119
α-U, Fermi surface, press. effect 1−47439
Ag, electron-phonon scatt. rate from magnetoacoustic expts. 1−16217
Ag, electron-phonon scatt. rate, point by point determ. 1−30339
Ag-Cd, electron energy band struct., KKR-Ziman method 1−7515
Al, g-factor of cond. electrons, calc. and appl. to CESR 1−25616
Al, pure, true low field Hall coeff. at low temps. 1−25703
Al, stress-induced electronic transition, supercond. crit. temp. and magnetothermopower meas. 1−42673
As, carrier density, nonmonotonic variation at press. up to 120 kbar 1−2992
AsF_5-graphite intercalates, band struct., optical props., structural energy 1−47463
Au, electron-phonon scatt. rate from magnetoacoustic expts. 1−16217
Au, energy band dispersion, photoemission from Fermisurface optical transitions 1−12635
Be, Fermi surtace cross-sections, doppler-shifted acoustic cyclotron reson. 1−25615
Bi, electron Fermi surface hydrostatic press. effect 1−52470
Bi-Sb-Te, electron Fermi surface hydrostatic press. effect 1−52470
$Bi_{1-x}Sb_x$ cyclotron reson., helicon wave contrib., Fermi surface anisotropy effects 1−34612
C_6Li intercalate, electronic band struct. 1−47461
$C_{16}(NO_3H)$, Fermi surface and band struct. 1−47437
Cd, RF size effect meas. of electron scatt. freq. 1−16216
Cd_3P_2, Shubnikov-de Haas oscills., cond. band struct. determ. 1−42675
Ce, f-electron bonding, electronic struct. and phase transitions 1−47431
Ce, isostructural γ-α transition, self-consistent linearised APW energy band calc. 1−42682
Ce, volume compression up to 4 GPa 1−7254
$CeSn_3$, mixed-valence, Fermi surface meas. 1−42674
Co, electron and phonon spectra, press. depend. 1−34607
Cr, antiferromagnetic, Fermi surface and spin density wave Q-vector, vol. depend. 1−25614
Cu, electron-phonon scatt. rate from magnetoacoustic expts. 1−16217
$α\text{-}Cu_{1-c}Zn_c$, Fermi surface props. 1−52469
Eu, helical spin ordering, role of electron Fermi surface 1−7506
Fe, BCC, oscillatory mag. breakdown, model calc. 1−52468
Fe, electron and phonon spectra, press. depend. 1−34607
Fe single crystals, Hall effect results reviews 1−34688
GdCd, magnetically ordered, elec. resistivity and thermal props. 1−30721
Ge (111) surface reconstruction origins and mechanisms 1−16329
HfC_x, LCAO-CPA studies of C vacancies 1−2856
Hg, de Haas-van Alphen effect, influence of electron-phonon interaction 1−25612
K, open orbits, struct. in induced torque rotation pattern obs. 1−2860
La, f-electron bonding, electronic struct. and phase transitions 1−47431
La, FCC, electronic struct. and supercond. under press., linearised APW calc. 1−7514
LaH_2, electronic struct., APW method 1−38715
Mo, surface impedance, low-field extremum at MHz freqs. 1−3045
Nb-Mo alloy, band struct., Fermi surface and Compton profile 1−38709
NbC, LCAO-CPA studies of C vacancies 1−2856
Nb_3Sb, A15 cpd., Shubnikov-de Haas and high-field magnetoresistance effects 1−12018
$NbSe_3$, elec. cond. Frohlich mode motion, one-dimensional model 1−42750
Ni, electron and phonon spectra, press. depend. 1−34607
Ni, self-consistent semi-relativistic energy band struct. calcs. 1−34616
NiSi, de Haas-van Alphen effect and LMTO band struct. 1−7512
Pd, Fermi surface and many-body enhancement 1−42676
Pd, Knight shift and band struct. calcs. 1−26061
PdH, band struct., APW calc. 1−38717
Pt film, very thin, mean free path and conductance electron density, size effect determ., surface effects 1−38868
Pt very thin films, size quantisation of electronic states 1−12212
Sb acoustic absorpt. reson. models 1−47176
Sb, quantum oscillations of vel. of sound, power spectrum anal. 1−47438
Sb, Shubnikov-de Haas effect, hydrostatic press. effect 1−20777
Si (111) surface reconstruction origins and mechanisms 1−16329
Si MOSFET, magnetic breakdown in tipped superlattice 1−52467
Sn, white, thermopower sign, electron-phonon scatt., Fermi surface *(Russian)* 1−12099
TaC_x, LCAO-CPA studies of C vacancies 1−2856
TbZn(Gd), mag. ordered, elec. resistivity and thermal props. 1−30721
TiB_2, de Haas-Van Alphen effect 1−34610
α-U, low temp. Hall coeff. 1−2945
UAsS, positron annihilation study of electronic struct. 1−8155
Fermi surface continued
UGe_3, Fermi surface, press. effect 1−47439
$USb_2(P_2)$, positron annihilation study of electronic struct. 1−8155
V, metallic, charge asphericity, X-ray form factors calc. 1−25613
W, ballistic and wave-type EM excitations, Doppler shifted cyclotron resonance *(Russian)* 1−43014
YAl_2, Fermi surface and energy band struct. 1−7507
Zn-Al dil. alloys, longitudinal magnetoresist., contrib. from lens Fermi sheet 1−25704

Fermi-Thomas model *see Thomas-Fermi model*

fermion systems
see also electron gas; liquid helium-3
1+1 dimensional S-matrix, on-shell soln. of massive Thirring model, quantum sine-Gordon eqn. 1−28225
anticommuting variable integrals, appl. to unsolved statistical mechanics models 1−40705
bound states, Bethe-Salpeter eqn., coupling consts., abnormal solns. 1−14228
charged Bose-Fermi gas miscibility at zero temp. 1−40706
correlation functions, anticommuting variable integrals 1−27863
correlation inequalities and thermodynamic limit, Bose-Einstein and Fermic-Dirac statistics 1−44836
density excitation spectrum of one-dimensional gas 1−42707
density matrices, algebraic struct. 1−50042
dilute Fermi gas, self energy expansion 1−5224
drone-fermion representation, appl. to Heisenberg ferromagnets 1−18148
dyonium system, spin properties, behaviour of wave function under interchange of particles *(Russian)* 1−23470
electron liquid, strongly coupled, longitudinal dielec. response function 1−7545
electron liquids, 2-D, dynamical form factor and spectrum 1−2899
electron liquids, metallic density, dynamical structure factor and local-field correction 1−2895
electron liquids, strongly coupled, dielectric function, exchange effects and static props. 1−25654
equations of state in quantum statistical mechanics 1−36562
equilibrium states from canonical ensemble partial density matrices 1−14064
Fermi gas, 1-D, with spin-dependent forward scatt., scaling properties 1−5225
Fermi systems interactions, ground state props. calc. using coupled-cluster many-body theory in correl. basis 1−168
ferromagnet with paramagnetic nuclei, generalised Heisenberg model 1−30902
Feynman path integrals, Poisson process on groups 1−5137
gravitating fermions in an infinite configuration space 1−23103
ground state and pair correl. function using Jastrow trial wave function, appl. to liq. ^{3}He 1−52383
ground state energy, Hohenberg-Kohn theorem 1−14062
impurity-lattice relax. for simple mixed-valence impurity model, Fermi-liquid theory 1−38747
intermediate valence systems, local Fermi liq. theory 1−7563
internal state functions and internal equations of particles 1−28271
large Fermi systems, surface and polarisation effects, FHNC eans. 1−9924
liquid, Fermi, gauge and scale transformations 1−27868
many body problem, nucleon-nucleon interaction, Landau Fermi liquid theory 1−10331
many-fermion system, application of the maximum algorithm to the Lipkin model 1−9858
many-fermion systems, variational principle 1−40708
metals, quantum anomalies in inhomogeneous susceptibility *(Russian)* 1−47889
mixed-valent system, virtual bound states and f-bands 1−47582
muon mass from internal state function 1−28308
N-fermion system, improved energy lower bound 1−36563
neutron matter, dense, possible ferromagnetism 1−54539
neutron system, stable with gravitational interactions only, ground state binding energy 1−33222
nuclear gas, mean free path, finite temp. anal. 1−5721
nuclear matter, state-dependent correls., momentum distrib., FHNC calcs. 1−23580
odd fermion system, variational foundation of improper Hartree-Bogoliubov formalism 1−5226
one-dimensional Fermi systems, anisotropic $S=^1/_2$ Heisenberg chain, correlation exponents, theory 1−7850
one-dimensional Fermi systems, symmetry props., nonperturbative results 1−42754
one-dimensional Fermion lattice model, thermodynamic props., Monte Carlo calc. 1−32904
one-dimensional many-fermion system, backscattering, dielectric function 1−52512
paramagnetism of hot magnetic neutron gas 1−49703
partition functions as fermionic field theories, integrals over anticommuting variables 1−27862
phase operator and phase fluctuations 1−5223
quantum particle moving in three-dimens. random pot. approx. theory 1−47475
quark model, fermi, coloured, classification, production and possible presence in nuclei of multi-quark states 1−40968
rarefied Fermi liquids, boundary effects, slip flow length 1−33985
spatial correlations in model Fermi fluids 1−9922
spin polarised, Cooper pairing 1−2743
spinless fermion model, charge order, order-disorder transform. 1−7293
superfluid, microscopic modes, dispersion relations 1−11940
superfluid, microscopic modes, linearised kinetic equations 1−11939
superfluid Fermi systems, isotropic, couplings between internal and translational degrees of freedom 1−2755
surface oscillations, surface tension, Landau theory *(Russian)* 1−5227
thermodynamics, approximate integrals of motion 1−50046
two-dimensional, appl. to submonolayer He films 1−2761
Vlasov hydrodynamics of a quantum mechanical model 1−50040
wave number depend. susceptibility 1−20951
^{3}He liquid, ion mobility 1−11945
^{3}He, spin polarised, quantum props. 1−1301
^{3}He, superfluid, A-phase, orbital hydrodynamic eqns., microscopic derivation 1−11947
^{3}He, superfluid B-phase, autocorrelation functions of density and transversal current in collisional regime 1−11946

fermions
see also baryons; fermion systems; leptons
boson representations for systems of fermions 1−9923
bound pairs, spinor Bethe-Salpeter equation with generalized ladder kernels and the Goldstein problem 1−50298
coupling limit of interaction of gauge field and fermion field, generating functional expansion 1−423
field theories with fermion degrees of freedom, Monte Carlo calcs. 1−40678
generations in SO(14) 1−40956
lattice fermion problem, weak coupling of perturbation theory, chiral invariance 1−28213
mass, first-order chiral perturbation theory, leading nonanalytic corrections using QCD 1−14323
masses in grand unified theories, effective Yukawa terms 1−45191
SU(7) GUT, survival hypothesis evasion for fermions 1−50367
superheavy fermions interacting through superheavy gauge bosons, role in early Universe 1−54360
vierbein gauge fermions, high spin, and hypergravities 1−5201

fermium
see also nuclei with .....
electron binding energy 1−45810

fermium compounds
No entries

ferrimagnetic properties of substances
see also ferrimagnetism; ferrites; garnets; magnetic semiconductors
alloys, amorphous, mag. props. *(Japanese)* 1−42952
ferrites, microwave applications, book contrib. 1−30919
ferrites, nonmicrowave applications, book contrib. 1−30918
garnets, magnetic properties, book contrib. 1−30916
titanomagnetite, intermediate, mag. domain obs. of nucleation processes in fine particles 1−17589
$CaMn_3O_6$ and $CaMn_4O_8$, prep., mag. and EPR behaviour 1−38925
^{248}Cm, magnetic susceptibility 1−52758
$Co_3Gd(Tb)(Dy)(Ho)(Er)$, magnetostrictive strains, 77K to room temp. 1−21023
$Co_{1.75}Mn_{1.25}O_4$, mag. props. and magnetoelectric effect *(Russian)* 1−34918
Dy_6Fe_{23}, magnetostriction, anisotropic 1−26008
$DyFe_3H_x$, cryst. struct. and mag. props 1−7132
$ErCo_2$, ground-state spin dynamics, neutron inelastic statt. meas. and Green's function RPA calc. 1−34874
$ErCrO_3$, domain wall energy, Faraday effect meas. 1−25974
Er_6Fe_{23}, magnetostriction, anisotropic 1−26008
$ErTiO_3$, magnetic struct. 1−25892
$Er_{1-x}Y_xFe_2$, 77 to 650K, magnetisation and extraordinary Hall effect 1−34684
Eu_2Mg_{17}, synthesis and mag. props., 3.7 to 295K *(German)* 1−34867
EuSe, mag. Raman scatt. mechanisms 1−26205
Fe-Pt Invar alloys, high field mag. props. 1−34909
Fe-Se-Te solid solution, mag. props. in ferrimagnetic and paramagnetic ranges 1−52776
γ-Fe_2O_3 sputtered thin film disc, prep. process 1−12651
Fe_3O_4, cryst. struct. at low temp. rel. to Verwey transition 1−11734
Fe_3O_4 multidomain particles dispersed in nonmagnetic matrix, anhysteretic remanent magnetisation 1−35977
Fe_3O_4, stoichiometric and vacancy doped, mag. aftereffects, 4.2 and 130K 1−12359
$Fe_2(SO_4)_3$, weak ferrimagnetism, mol. field theory approx. anal. 1−12279
Gd-Co amorphous films, bulk and surface reson. props. 1−12363
Gd-Co amorphous mag. film, domain wall dynamics, in-plane field effects, expt. 1−12370
Gd-Co amorphous RF sputtered films, perpendicular anisotropy and magnetostriction, origin, expt. 1−52810
Gd-Co/Permalloy, amorphous multilayer films, mag. props., meas. 1−12362
Gd-Co/Tb-Fe, amorphous multilayer films, mag. props., meas. 1−12362
Gd-Co-Mo sputtered films, perpendicular anisotropy rel. to oxidation during annealing 1−12281
Gd-Fe amorphous films, electron beam deposited, uniformity of mag. props. 1−47918
Gd-Fe(Co), amorphous sputtered thin films, TEM study *(Japanese)* 1−21018
GdCo film, amorphous sputtered, substrate bias effect on O contamination 1−25587
GdCo sputtered amorphous films, effect of Ar gas press. 1−25586
$Gd_{21}Co_{79}$ amorphous films, induced mag. anisotropy, mag. field annealing effect *(Russian)* 1−25993
Gd_xCo_{1-x} films, mag. and magneto-optical props., mag. field intensity and chem. comp. influence *(Russian)* 1−3223
Gd_xCo_{1-x}, $Gd_x(Co_yNi_{1-y})_{1-x}$, amorphous films, charged wall form. 1−7914
$Gd(Co_xAl_{1-x})_2$ compounds, mag. props. and reson. studies 1−52847
$Gd_{0.2}(Co_xNi_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
$(Gd_xFe_{1-x})_{0.9}B_{0.1}$, amorphous films, charged wall form. 1−7914
GdFeBi-CdS.Cu.Cl photoconductor sandwich, thermomagnetic switching effect 1−25944
$Gd_{0.2}(Fe_xCo_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
$Gd_{0.2}(Fe_xNi_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
$(Gd_{0.26}Fe_{0.74})_{1-x}Sn_x$ amorphous films, mag., magneto-optical and switching props. 1−12346
HoCo amorphous films, Hall hysteresis loops in vicinity of compensation temp. 1−25988
Ho_6Fe_{23}, magnetostriction, anisotropic 1−26008
K_xVF_3, cryst. and mag. struct., comp. depend. 1−13971
$Mn_{1-x}Cr_xSb$, double-phase sample, struct. and mag. props. 1−20401
$PrNi_5$, nucl. mag. ordering at 0.4 mK, sp. ht. meas. 1−25959
$RbNiF_3$, ferrimagnet, high-temp. susceptibility of Heisenberg Model 1−12268
$SmFe_2$, amorphous, quenched, mag. props. meas., 4.2 to 300K 1−38951
$(SmLuCa)_3(FeSi)_5O_{12}$ epitaxial films on CaGeGa garnet, mag. and struct. characts. 1−42988
Tb-Fe amorphous thin films, mag. props., magneto-optic memory appls. 1−12347
$TbFe_2$, magnetic excitations, inelastic neutron scatt. studies 1−25888
Tb_6Fe_{23}, magnetostriction, anisotropic 1−26008
TmV_2O_7, ferrimagnetic semiconductor, critical temp. and saturation moment 1−25912
UAs, mag. props., neutron diffr., magnetisation and specific heat study 1−47854

ferrimagnetic properties of substances continued
Y_4Co_3, magnetic and transport props. 1−12271
$Y_6(Fe_{1-x}Mn_x)_{23}$ (x=0.8, 0.9), mag. struct. 1−25889
YIG film between permalloy strips, magnetostatic surface modes with nonuniform in-plane fields 1−12382
YbV_2O_7, ferrimagnetic semiconductor, critical temp. and saturation moment 1−25912

ferrimagnetic resonance
ferrite behaviour at very high frequencies in presence of external magnetic field, aspects *(Rumanian)* 1−52801
$(SmLuCa)_3(SiLuFe_5)O_{12}$ epitaxial film, domain wall resonance 1−3226
YIG single cryst., ferrimag. reson. field, photoinduced decrease 1−47956

ferrimagnetism
see also ferrimagnetic properties of substances
Curie temp. determ., in ferrimagnetics 1−34878
hexagonal ferrimagnets, mag. phase diagrams in compensation temp. range, thermodynamic method *(Russian)* 1−3174
Ising model, mixed-spin renormalisation group calcs. 1−20990

ferrite applications
see also ferrite devices
eddy-current transducer design with shell-type ferrite core 1−36650
VHF antenna, directional, for geophysical diagnostics 1−27255

ferrite devices
see also ferrite applications
manufacturing, control technology 1−53150
microwave applications, book contrib. 1−30919
nonmicrowave applications, book contrib. 1−30918

ferrites
see also ferrimagnetic properties of substances; ferrimagnetism; ferrite applications; ferrite devices
behaviour at very high frequencies in presence of external magnetic field *(Rumanian)* 1−52801
$(Bi_{0.4}Sm_xTm_{2.6-x})(Ga_{0.8}Fe_{4.2})O_{12}$ ferrite-garnet epitaxial films, domain struct. *(Russian)* 1−3224
crystal growth at the Central Research Institute for Physics 1−8209
crystalline films for magnetic bubbles, book contrib. 1−30998
disc, nonuniformly biased, without conducting boundaries, synthesised magnetostatic resonances 1−12406
electron interchange effect on initial mag. permeability time stability 1−3169
F *(French)* 1−34324
ferromagnetic materials, props., book 1−27687
garnet-ferrite epitaxial film with submicron domain struct., magnetooptical study 1−52817
helicons at semiconductor-ferrite interface, theory 1−25752
irradiated, props. interpret. using method of cluster components *(Russian)* 1−15926
magnetic, materials and components in communication engineering and data transmission, conf., Bad Nauheim, Germany *(German)* 1−27658
magnetic loss meas., reson. cavity method 1−7888
magnetically hard, standard samples 1−44874
magnetodynamic characteristics, influence of internal stresses *(German)* 1−52821
magnetoelastic props., appl. as transducers for compressive stress meas. 1−26009
magnetostatic surface waves in ferrite slab, dispersion relations, effect of perfect conductors 1−7930
magnetostatic waves in nonuniform bias fields, exchange effects 1−12381
microwave, nonlinear phenomena at high magnetic fields *(French)* 1−52795
microwave applications, book contrib. 1−30919
microwave cubic ferrites, crystalline anisotropy influence on non-linear effects *(German)* 1−31033
MnZn ferrite, effect of doping with GeO_2 or SnO_2 on microstruct. and mag. props. 1−30980
nonmicrowave applications, book contrib. 1−30918
orthoferrites, antiferromagnetic reson., magnetoelastic tuning 1−21058
polycrystalline, soft-magnetic, effect of powder dispersity on formation of microstructures 1−21375
powder, coercivity field strength dependence on packing density obs. *(German)* 1−52807
powders, plasticity determ. and improvement 1−21398
preferred orientation degree depend. on mag. props. 1−26501
rare earth orthoferrites, $RFe_{1-x}Ni_xO_{3-x}$ (R=Ho, Tm, Nd, Dy), antisymmetric exchange, magnetisation meas. 1−52768
recrystallisation, grain size control 1−53148
semiconductor-ferrite boundary, coupled surface helicon-spin waves *(Russian)* 1−42847
spinel, crystal orientation during solid-solid reaction 1−48653
stripe domain struct. theory 1−3215
surface magnetostatic spin waves, amplification, in ferrite-paramag. struct. 1−25921
suspensions, drying kinetics of single drops 1−39295
tensor permeability meas. using two cylindrical ferrite rods *(Japanese)* 1−23276
$(Ba,Sr)_2M_2Fe_{12}O_{22}$ (M=Zn, Cu, Cd), mag. props. and cation distrib. 1−47908
$Ba^{2+}Fe_2^{2+}Fe_{16}^{3+}O_{27}^{2-}$ W-hexaferrites, preferred Fe^{2+} sites, Mossbauer effect obs. 1−31065
$Ba_3Fe(II)_4Fe(III)_{28}O_{49}$ ferrite, specific saturation magnetisation meas. 1−38950
$BaFe_{12}O_{19}$, chemically coprecipitation form., DTA, X-ray and magnetic obs. 1−39290
$BaFe_{12}O_{19}$ ferrite, form. from $BaCO_3+Fe_2O_3$ roll scale, kinetics and mech. 1−39601
$BaFe_{12}O_{19}$, hexaferrite, magnetostriction and anisotropy energy, sublattice contribs. 1−52824
$BaFe_{12}O_{19}$, M-type hexaferrite, hyperfine struct., Mossbauer meas. 1−34962
$BaFe_{18}O_{27}$ ferrite, sintered, remanence, coercive force 1−38953
$BaO-Fe_2O_3$, amorphous films, crystallisation, RF sputtering prep. 1−30059
$BaO.6Fe_2O_3$, preferred orientation degree depend. on mag. props. 1−26501
$BaO.6Fe_2O_3$, synthesis by reaction of β-FeOOH with $BaCl_2$ solns. 1−35515
$Ba_{2-x}Sr_xZn_2Fe_{12}O_{22}$, Y-type ferrite, mag. struct. Mossbauer study 1−12264
$Ba_2Zn_2Fe_{12}O_{22}$, relax. processes near mag. phase transitions, ferromag. reson. study 1−26044

ferrites continued
BeF_2 glasses, ESR of paramag. states and precipitated ferrimag. phases 1−31019
$CaFe_{2+x}O_{4+x}$, cryst. struct., intergrowth process *(French)* 1−34324
$CoFe_2O_4$, cation site occupation parameter, synchrotron-radiation diffr. data 1−7146
$CoFe_2O_4$, small-scale prep. by thermal decomp. 1−8262
$Co_xMn_{0.62-x}Zn_{0.27}Fe_{2.08}O_4$, ferromag. reson. parameters, saturation magnetis. and magnetocryst. anisotropy, 77-300K *(Russian)* 1−16485
Cu-Fe-O system, oxidation kinetics of $CuFeO_2$ 1−39486
$Cu_{0.5}Fe_{2.5}O_4$, struct., oxidation states, of Fe, Cu, spectrometric anal. *(French)* 1−20667
$Cu_x^{II}Mn_{1-x}^{II}Fe_2^{III}(OH)_8$, phase transform., ferromag. props., ferrite form. *(German)* 1−25423
$ErFeO_3$, Faraday rotation spectra, cryst. field states 1−8045
Fe-Mn-Zn system based ferritic raw material, electrochem. prep. synthesis conditions influence on mag. characts. 1−39287
FeO_x Berthollide ferrite films deposited by vacuum-arc evaporation 1−12658
α-Fe_2O_3, monodispersed haematite, interactions with stainless steel, depend. on pH, flow rate, temp. and additives 1−35580
Fe_2O_3 pellets, reducibility, prep. and description *(French)* 1−35224
Fe_2O_3:Li_2O, haematite, sintering, influence of nature of initial salts on chem. homogeneity, cryochemical method 1−35206
Fe_3O_4, grain growth, sintering study 1−3679
Fe_3O_4, mag. and dielec. props. meas., Verwey transition 1−12355
$Ho_{0.5}Dy_{0.5}FeO_3$ domain struct. near Neel temp., Faraday effect experiment 1−34904
Li ferrites, magneto-microwave Kerr effect study of effective line width 1−26177
Li-Ni ferrites, lattice consts., X-ray diffr. study 1−30181
$LiFe_5O_8$ flux grown single crystals, cryst. defects 1−7101
$Li_{0.5}Fe_{2.5}O_4$, Curie temp. rel. to stoichiometry 1−38932
$Li_{0.5}Fe_{2.5}O_4$, polycryst., echo signal obs. in wide freq. range 1−26077
$Li_xFe_{3-x}O_4$, volatilisation of Li during sintering 1−35207
$Li_{0.464}Na_{0.036}Fe_{2.5}O_4$, volatilisation of Li during sintering 1−35207
LiZnTiMn ferrite, mag. props. rel. to prep. technology 1−8257
$MgFe_2O_4$, thin films and small particles, superparamag. props. 1−7898
$Mg_{0.9}Mn_{0.3}Fe_{1.8}O_4$ epitaxial films, rotatable mag. anisotropy and mag. domain struct. 1−7911
Mn ferrite single crystal, Young's modulus, internal stresses, acoustic loss 1−2553
Mn-Mg ferrites, lattice consts., X-ray diffr. study 1−30181
Mn-Zn ferrite, dislocation climb controlled creep *(Japanese)* 1−43460
Mn-Zn ferrite, mag. microstructure, influence of small amounts of additives 1−20958
Mn-Zn ferrite single crysts., mech. polishing effect on mag. props. 1−8443
Mn-Zn-Co ferrite, Fe-deficient, cryst. growth by Bridgman method, mag. props. 1−8216
MnFe ferrite, magnetic disaccommodation, press. depend., activation volume 1−16462
$MnFe_2O_4$, small-scale prep. by thermal decomp. 1−8262
MnZn ferrite, In doped, DC resist. meas. 1−34710
MnZn ferrites, O_2 gradients and resultant strains 1−4008
$Mn_{0.5}Zn_{0.5}Fe_2O_4$, sintered, form. of duplex struct., effect of binder materials 1−3754
$Mn_{0.9}Zn_{0.5}Fe_{1.6}O_4$, liq. phase epitaxial growth under reduced O partial pressures 1−3642
Ni ferrites, elec. cond. meas. 1−20736
Ni ferrites, internal friction, temp. depend. 1−30323
Ni-Zn ferrites, hot-pressed, composition and static and dynamic magnetic properties *(Russian)* 1−30979
Ni-Zn ferrites, initial mag. permeability, rot. contrib. 1−7897
Ni-Zn ferrites, internal friction, temp. depend. 1−30323
Ni-Zn ferrites, microstructure and grain growth, expt. 1−38381
Ni-Zn ferrites, sensitive method for Curie temp. determ. 1−34878
$NiAl_xFe_{2-x}O_4$, $0 \leq x \leq 1$, props. *(Russian)* 1−52803
$NiFe_{2-x}Al_xO_4$, magnetostriction 1−3231
$NiFe_2O_4$, ferrospinel form. mechanism and kinetics from inequimolar Fe_2O_3-NiO mixture 1−53401
$NiFe_2O_4$, induced mag. anisotropy at low temp. 1−25928
$NiFe_2O_4$, small-scale prep. by thermal decomp. 1−8262
$Ni_{0.89}Fe_{2.11}O_4$, phase equil., stoichiometry and lattice parameter, additives effect 1−38505
NiZn ferrite, single cryst. growth by Bridgeman method, mag. characts. 1−8215
NiZn ferrite substrate, surface quality improvement and meas. 1−8448
NiZn ferrite-PZT ceramic heterogeneous system, magnetoelec. effect 1−52823
$SrFe_8Al_4O_{19}$ films, LPE growth, mag. and magnetooptic props. 1−7912
$SrFe_8Al_4O_{19}$ single crystal ferrimagnetic hexaferrite films prep. and props. *(German)* 1−30995
$SrFe_{12}O_{19}$, M-type hexaferrite, hyperfine struct., Mossbauer meas. 1−34962
$SrFe_{12}O_{19}$ powder, Mossbauer obs. of phase transition and superparamag. during sintering *(Chinese)* 1−21087
$TbFeO_3$, mag.-field-induced spin-reorientation phase transitions 1−25941
$Ti_xNiFe_{2-x}O_4$, induced mag. anisotropy at low temp. 1−25928
$TmFeO_3$, Faraday rotation spectra, cryst. field states 1−8045
Y ferrite-garnet crystals, laser radiaton diffr. by laminated domain struct. 1−48045
$YFeO_3$, bubble wall movement depend. on crystallographic direction 1−25996
$YFeO_3$, domain wall motion of limiting and translimiting velocities 1−25977
YFe_2O_{4-z}, magnetisations and Mossbauer spectra, effect of O deficiency 1−47982
$(YGdYbBi)_3Fe_{5-x}Al_xO_{12}$, ferrite garnet epitaxial film, noncollinear mag. state 1−25995

ferroacoustic resonance
No entries

ferroelasticity
see also shape memory effects
ammonium Rochelle salt, cryst. struct. at 300K, X-ray study 1−7153
ammonium Rochelle salt-Rochelle salt system, optical, dielec., piezo-optical, piezoelec. props. 1−8006
benzil, ferroelastic transition, Brillouin scatt. study 1−35065
conference, Bologoe, USSR (Sept.-Oct. 1980) 1−5016

ferroelasticity continued
ethylammonium copper chloride, high-temp. phase transform., dielectric and optical props. 1−42533
ferroelastics, domain shape problems 1−3218
ferroics, tertiary, symmetry constraints and free energy terms 1−7122
Jahn-Teller ferroelastics and antiferroelastics, microscopic theory, dielec. and elastic props. 1−7239
lithium ammonium tartrate, ferroelastic phase transition 1−38527
phase diagrams, singular points, Landau model 1−7287
phase transitions, defect effects on thermodynamic and kinetic props. 1−7286
phase transitions, rhombic paraphase to monoclinic ferrophase, dielec. and elastic anomalies 1−7289
polydomain crystals, symmetry props. and mutual reversal of domains in phase transitions 1−7240
pseudospin-phonon system, ferroelastic and ferroelec. transitions 1−7288
rare earth molybdates, ferroelec.-ferroelastic, phase transform., soft modes, acoustic phonons, Raman and Brillouin scatt. study 1−8049
review 1−7238
single cryst., shear modulus near ferroelastic phase transition, low freq. torsional pendulum method 1−7225
squaric acid, phase transition, pseudospin model for H bond system 1−34994
Tanane, ferroelastic phase transition mechanism, dielec. const. meas. 1−52282
tetramothylammonium copper chloride, successive phase transitions 1−11859
TGS, bisectrices dispersion for subMM waves 1−8166
trisarcosine calcium chloride, ferroelec.-ferroelastic phase transition, Raman and Brillouin scatt. study 1−8050
twinning and ferroelectricity theories rel. to ferroelastics, review 1−7241
As, shear deformations, displacive phase transitions 1−2595
$Ba_2K_xNa_{1-x}Nb_5O_{12}$, Raman scatt. study of ferroelastic, paraelastic phases, Curie temp. 1−3405
$Ba_2K_xNa_{1-x}Nb_5O_{15}$, paraelastic and ferroelastic phases, Raman study 1−21185
$Ba_2NaNb_5O_{15}$, incommensurate phases, X-ray diffr., birefr., and DTA meas. 1−34472
$BaTiO_3$ single cryst., luminesc. during mech. switching 1−8144
$BiVO_4$ single cryst., ferroelastic phase transition 1−7320
$CsPbCl_3$, monoclinic phase, ferroelastic domain struct., theory 1−30294
$CsPbCl_3$, monoclinic phase, ferroelastic domain struct., expt. 1−30295
$DyVO_4$, ferroelastic antiferroelec., microscopic theory, dielec. and elastic props. 1−7239
$Gd_2(MoO_4)_3$, ferroelastic and ferroelectric, pol. reversal and field induced phase transform., electron microscopy 1−39049
$Gd_2(MoO_4)_3$ single cryst., luminesc. during mech. switching 1−8144
$HgBr_2(Cl_2)$, ferroelastic, lattice dynamics, displacive transform., effective Hamiltonian 1−7284
$Hg_2Br_2(Cl_2)(I_2)$, pure improper ferroelastics, phase transitions, thermodynamic props., review 1−7318
Hg_2Cl_2, ferroelastic phase transition, domain behaviour and thermal expansion 1−20380
Hg_2Cl_2, ferroelastic phase transition, biaxial behaviour and spontaneous birefringence 1−25426
$Hg_2Cl_2(Br_2)$, improper ferroelastics, thermodynamic props. at crit. point, Landau theory 1−25464
K ditungstenates and dimolybdates, ferroelastic phase transitions 1−7319
KCN, ferroelastic phase transitions, mol. field theory 1−7317
KCN, stress aligned ferroelastic, librational-translational modes, Raman and IR studies 1−3392
KCN, stress aligned ferroelastic, Raman and IR studies 1−21202
$KClO_3$, stress induced domain struct., ferroelastic definition 1−7237
KD_2PO_4, domain struct., elec. field effect, neutron diffr. data 1−8021
$KD_3(SeO_3)_2$, ferroelastic-antiferroelec. transition, ionic displacement role, EPR study 1−43009
$KFe(MoO_4)_2$, ferroelastic, phase transition, optical phonons and soft modes, Raman scatt. study 1−8048
$K(H_xD_{1-x})_3(SeO_3)_2$, x=0, 0.2, 1.0, ferroelastics, thermal expansion and spontaneous strain 1−7242
$KH_3(SeO_3)_2$, bisectrices dispersion for subMM waves 1−8166
$KH_3(SeO_3)_2$ cryst., mech. hysteresis loops 1−7243
$KH_3(SeO_3)_2$, ferroelastic phase transition, NMR study 1−2557
$KH_3(SeO_3)_2$, ferroelastic transition, antiferroelec. ordering, microscopic theory 1−7235
$KH_3(SeO_3)_2$, ferroelastic transition, elastic const. behaviour, Brillouin scatt. expt. under applied shear stress, optical cell construction 1−14131
$KH_3(SeO_3)_2$ single cryst., shear modulus near ferroelastic phase transition, low freq. torsional pendulum method 1−7225
$KH_3(SeO_3)_2$, sound absorption near ferroelastic transition, isotopic H substitution effects 1−7263
$K_2Hg(CN)_4$, mol. distortion and ferroelasticity, Raman scatt. 1−12505
$K_2Hg(Cn)_4$, pressure-induced config. distortion and phase transition, Raman scatt. study 1−35038
$K_{1-x}Rb_xSc(MoO_4)_2$, soft modes, Raman spectra study 1−26202
$LiNH_4SO_4$, proton spin-lattice relaxation, ferroelec. transitions 1−12419
NaCN, stress aligned ferroelastic, Raman and IR studies 1−21202
$NaH_3(SeO_3)_2$ single cryst., domain struct. rearrangement and Barkhausen effect 1−8020
Ni_3Fe, domain struct. after tensile deform. 1−8014
$Pb_3(PO_4)_2$ crystals, ferroelastic phase-transition, Raman and Mandel'shtam Brillouin scatt. spectra 1−12512
$Pb_3(PO_4)_2$, ferroelastic, temp. depend. of spontaneous birefringence 1−3363
$Pb_3(PO_4)_2$, ferroelastic phase, electron microscopy study of domain struct. 1−20238
$Pb_3(PO_4)_2$, ferroelastic. domains, statics and dynamics 1−7244
$Pb_3(PO_4)_2$, improper ferroelastic, phase transitions, Raman scatt. by low freq. oscills. 1−8051
$Pb_3(PO_4)_2$-$Pb_3(AsO_4)_2$, ferroelastic phases, X-ray and optical studies 1−48330
$Pb_3(P_{0.9}V_{0.1}O_4)_2$ crystal, ferroelastic phase-transition, Raman and Mandel'shtam Brillouin scatt. spectra 1−12512
$Pb_3(VO_4)_2$, domain struct. and phase transitions 1−26150
$Pb_3(VO_4)_2$, ferroelastic, domain boundary props. during phase transforms., electron diffr. and microscopy obs. 1−8302
$Pb_8V_2O_{13}(P_2O_{13})$, ferroelastic crystals, domain struct., permittivity 1−20302
$PrCl_3$, antiferroelastic antiferroelec., microscopic theory, dielec. and elastic props. 1−7239
Rb ditungstenates and dimolybdates, ferroelastic phase transitions 1−7319

ferroelasticity continued
Sb, shear deformations, displacive phase transitions 1−2595
Sb_2O_7I, polytype 2MC, ferroelastic, elastic behaviour, US and Brillouin scatt. studies 1−11801
$Sr_{3-x}Ba_xWO_6$, nonlinear props., dielec X-ray and DTA meas. *(French)* 1−43073
VO_2, metal-insulator ferroelastic transition, electron correlations and electron-lattice interactions 1−30633
$ZnGeF_6.6H_2O$, ferroelastic transition, permittivity US wave, elec. cond. and IR absorpt. meas. 1−30297

ferroelectric Curie temperature
antiferromagnet, exchange magnetoelectric interaction *(Russian)* 1−52820
displacive-type, lattice viscosity in paraelec. phase, temp. depend. 1−42501
ferroelectrics, displacive, with impurities, electric field dependence of Curie temperature and microwave absorption 1−16534
polar crystals, mag. control of nonlinear dielectric props. *(Russian)* 1−21136
polarised crystal, cooperative behaviour of paraelectric defects *(Russian)* 1−8019
solid solutions, in multicomponent systems, ferroelec. props. rel. to crystal chem. parameters 1−34993
TGFB, deuterated, spontaneous polarisation rel. to permittivity and pyroelec. coeff. 1−26114
TGS, spontaneous polarisation rel. to permittivity and pyroelec. coeff. 1−26114
TGSe-DTGSe system, tricritical points, spontaneous polarisation 1−39047
trigycine selenate, ferroelectric, thermal expansion coeff. near critical temp. 1−30429
variable temperature cell for phase transition point determ. 1−31100
$Ba_xK_yNa_{1-x}Nb_5O_{12}$, Raman scatt. study of ferroelastic, paraelastic phases, Curie temp. 1−3405
$Ba_{0.9}Sr_{0.1}TiO_3$, cryst. growth by pulling method, pyroelec. and dielec. meas. 1−26139
CsH_2AsO_4, electrooptical props. near Curie point 1−12476
KD_2PO_4, light scatt. spectra, anisotropic polarisation relaxation time 1−39031
K_2SeO_4, dielec. props., hydrostatic press. effect 1−52903
$LiNbO_3$-$LiTaO_3$-$NaNbO_3$-$NaTaO_3$, crystallochemical and dielectric study *(French)* 1−31441
$(NH_4)_3FeF_6$, phase transition study 1−21147
$(Na_{0.5}Bi_{0.5})TiO_3$-$CdTiO_3$ system solid solns., synthesis, struct. and dielec. props. 1−39042
$Na_{1-x}Li_x(Nb_{0.6}Ta_{0.4})O_3$ ($0.02 \leq x \leq 0.20$), solid soln., cryst.-chem., dielec. and pyroelec. study *(French)* 1−26132
Ni_3Fe, domain struct. after tensile deform. 1−8014
(Pb, Ba, Sr) (Zr, Ti)O_3, ferroelectric ceramics, lapped surface layer effect on dielectric props. 1−39022
$PbB_{0.5}N_{0.5}O_3$, B=Sc, Fe, Lu, Yb, In, Tm, Curie point, antiferroelectric phases 1−21144
$Pb_5Ge_3O_{11}$ film on Si substrate, preparation and props. 1−16204
$Pb(Sc_{0.5}Ta_{0.5})O_3$, B-site cation disorder role in diffuse phase transition, props. 1−3340
RbD_2PO_4, transition to ferroelectric state, dielectric props. 1−39048
$RbHSO_4$, Brillouin scatt. study of polarisation relaxation time 1−39112
$SrTiO_3$-$Na_{0.5}Bi_{0.5}TiO_3$ solid solns., Curie point, dielec. const. and phase diagram 1−39043

ferroelectric devices
PLZT ceramic, ion implantation improvement of photoferroelectric imaging 1−38805

ferroelectric domains *see electric domains*

ferroelectric materials
see also antiferroelectric materials; electric domain walls; ferroelectric semiconductors; ferroelectric thin films; ferroelectric transitions; lattice dynamics of ferroelectric crystals
p-alkoxybenzylidene-p'-amino-2chloro-propyl-cinnamate, liquid crystal *(Japanese)* 1−46998
ammonium Rochelle salt, cryst. struct. at 300K, X-ray study 1−7153
ammonium Rochelle salt crystal, paraelec., nonlinear temp. changes of optical charact. *(Russian)* 1−52914
ammonium Rochelle salt-Rochelle salt system, optical, dielec., piezooptical, piezoelec. props. 1−8006
application for heat to electrical energy conversion 1−53633
benzil, ferroelastic transition, Brillouin scatt. study 1−35065
ceramic with layer type struct., degree of preferred orientation after hot pressing, X-ray determ. method *(Chinese)* 1−48364
dicalcium barium pripionate, electrical cond., ferroelectric to paraelectric phase transform. 1−25730
dicalcium lead (strontium) propionate, ferroelec., cryst. growth and dielec. props. 1−26377
dicalcium lead and strontium propionate, solution crystal growth 1−53072
dicalcium strontium propionate, soln. grown single crysts., defect form., dielec. props. 1−12462
elastic ferroelectrics, SAW coupling *(French)* 1−24571
electromechanical constitutive relations, phenomenological approach 1−16537
electrooptic and nonlinear optical props. of oxygen-octahedral ferroelecs., review 1−52900
ferroelectric material, anisotropic, plasticity during variable loading in EM field 1−42451
ferromagnetic and ferroelectric materials hysteresis curve model *(German)* 1−25989
galvanomagnetic dilatometers for thermal expansion measurements on ferroelectrics and semiconductors 1−15385
glass preparation by roller quenching, elec. and mag. props. 1−31409
glasses, definitions and criteria 1−26136
glycine, γ-irrad. crystals, paramag. radiation defects form. and stabilisation 1−47945
internal friction features and shear modulus at Hz freqs. 1−25370
liquid crystal, smectic, dynamics of elec. field induced distortion, soft mode props. near T_c 1−52889
lithium acetylacetonate, dielec., ferroelec., and piezoelec. props. 1−48017
lithium thallium tartrate, non-deuterated and deuterated, thermal cond. at ferroelec. transition 1−20485
order-disorder type, dynamic struct. factor due to crit. scatt. on pseudospins *(Russian)* 1−16532
organic materials, piezoelectricity, pyroelec., ferroelec., book contrib. 1−12460
orthophosphates, dynamics of proton-ion system, cluster approx. 1−52901

ferroelectric materials continued
oxides with tetragonal potassium tungsten bronze struct., synthesis and X-ray struct. investig. 1−39288
perovskite type compounds, lattice dynamics and phase transitions 1−21141
PLZT ceramic, domain switching, light scatt. and strain variations 1−8023
PLZT ceramics, image storage appl., effects of Ar and Ne ion implantation obs. 1−15241
poly(vinylidene fluoride) film, ferroelectric hysteresis effects 1−12467
polyvinylidene fluoride, ferroelec., transition temp. 1−31103
polyvinylidene fluoride, ferroelec. polarisation 1−39041
polyvinylidene fluoride, orientation under electric field, X-ray study 1−42328
polyvinylidene fluoride, piezoelectric and ferroelectric properties 1−52906
pyroelectric IR detection and imaging, materials, review 1−5375
Rochelle salt, Curie point meas. cell. 1−31100
Rochelle salt, dielec. relax., contrib. of impurity-vacancy pairs *(Rumanian)* 1−12453
Rochelle salt, dielectric spectra, submillimeter monochromatic spectroscopic study *(Russian)* 1−12447
Rochelle salt, ferroelec., statistics of quasi-one-dimensional model 1−21135
Rochelle salt, relaxation dynamics, asymmetric double-well single particle potential calcs. *(Russian)* 1−31088
smectic C film, electrostatically stabilised disclination walls, macroscopic orientation patterns 1−20060
smectic ferroelectic liq. cryst., domain boundaries resonance 1−30053
smectic liquid crysts., chiral, spontaneous polarisation variation in homologous series 1−3324
sodium ammonium tartrate, spontaneous macroscopic quadrupole moment in noncommensurable polar phase 1−3344
solid solutions, phase transitions, spatially inhomogeneous struct. form. 1−26145
tanane, ferroelastic and ferroelectic transition, neutron and Brillouin scatt. studies 1−21145
tetramethyl ammonium zinc chloride, model of successive phase transitions 1−39045
tetramethylammonium tetrachlorozincate, X-ray study of incommensurate phase *(French)* 1−52278
TGFB, deuterated, spontaneous polarisation rel. to permittivity and pyroelec. coeff. 1−26114
TGFB, ferroelec., lamellar model of thermal expansion and other props. 1−38557
TGS: L-α-alanine, phys. props. of disordered regions, elastic and piezoelectric props. 1−52214
TGS, γ-irrad. crystals, paramag. radiation defects form. and stabilisation 1−47945
TGS, bisectrices dispersion for subMM waves 1−8166
TGS, crystallisation from aqueous soln., pH depend. 1−3596
TGS, domain dynamics study using nematic liq. crystals 1−21150
TGS, domain struct. visualisation using nematic liq. crysts. 1−26146
TGS, ferroelec., crit. behaviour of spontaneous polarisation 1−39030
TGS, ferroelec., lamellar model of thermal expansion and other props. 1−38557
TGS, ferroelec., $T^{3/2}$ specific heat term at low temp. 1−52312
TGS, light scatt. spectra, central peak, crit. opalescence 1−26222
TGS, sp. ht. in appl. elec. field near crit. temp. 1−7350
TGS, spontaneous polarisation rel. to permittivity and pyroelec. coeff. 1−26114
TGS, X-irradiated, optical consts. and refl. spectra, 5 to 22 eV region 1−35070
TGS wafer, in metal-ferroelec.-metal system, pyroelec. and electrocaloric effects in phase transition region 1−26130
TGSe, ferroelec., lamellar model of thermal expansion and other props. 1−38557
TGSe, press.-induced tricritical nature, dielec. const. and spontaneous polarisation meas. 1−26141
TGSe-DTGSe system, tricritical points, spontaneous polarisation 1−39047
thiourea, elec. field phase diagram, optical birefringence study 1−48015
thiourea, ferroelec., soft mode in disordered-incommensurate-commensurate transform 1−21139
thiourea, phase diagram at atmos. press. under elec. field, theoretical anal. 1−48016
trigycine selenate, ferroelectric, thermal expansion coeff. near critical temp. 1−30429
tris-sarcosine calcium chloride, antiferroelectric high press. phase dielectric observation 1−8018
tris-sarcosine calcium chloride, ferroelec. transition temp., press. depend. 1−26140
trissarcosine calcium chloride, critical ferroelec. behaviour, calorimetric obs., 50 to 330K 1−31101
trissarcosine calcium chloride, polarisation rel. to elec. field, press.-induced phase obs. 1−8011
$[(NH_4)_3H(SO_4)_2]_{1-y}[(ND_4)_3D(SO_4)_2]_y$, effect of hydrostatic press. on phase transitions, dielec. study 1−8010
$[(NH_4)_{1-x}Rb_x]_2SO_4$, ferroelectric crystals, dielectric and nonlinear optical props. 1−1643
$AgNa(NO)_2$, two sublattice model of phase transition 1−3343
$Ba_2Bi_4Ti_5O_{18}$, ferroelec. perovskite, high resoln. imaging 1−34209
$Ba_xK_yNa_{1-x}Nb_5O_{15}$, paraelastic and ferroelastic phases, Raman study 1−21185
$Ba_4Li_2Nb_{10}O_{30}$ crystals, dielec. props., ferroelec. transition, cryst. struct., meas. 1−52894
$BaMF_4$ (M=Co, Ni, Mg, Zn), condensed modes, group theoretical anal. 1−12461
$Ba_2NaNb_5O_{15}$ crystals, Raman scatt. under uniaxial and hydrostatic stresses 1−21182
$Ba_2NaNb_5O_{15}$, incommensurate phases, X-ray diffr., birefr., and DTA meas. 1−34472
$Ba_{0.3}Si_{0.7}Nb_2O_6$, ferroelec., photoelectret state investig. 1−43063
$Ba_{0.5}Sr_{0.5}Nb_2O_6$:Fe^{3+}, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
$Ba_{0.55}Sr_{0.50}Nb_2O_6$ solid solns., elec. cond. to 1100°C, electron and ionic components, thermo-EMF 1−38818
$Ba_xSr_{1-x}Nb_2O_6$, mol. scatt. of light, elastic and photoelastic consts. 1−35067
$Ba_{0.9}Sr_{0.1}TiO_3$, cryst. growth by pulling method, pyroelec. and dielec. meas. 1−26139
$Ba_xSr_{1-x}TiO_3$, Raman study of ferroelec. phase transition 1−21184
$BaTiO_3$ ceramic, domain configuration and equilibrium size 1−8022

ferroelectric materials continued
$BaTiO_3$, ceramic, phase transition temps. determ. by acoustic emission 1−31104
$BaTiO_3$ ceramic, piezoelec. effect 1−31096
$BaTiO_3$, Debye-Waller factor critical behaviour at ferroelectric transition 1−16533
$BaTiO_3$, depolarised polycryst. ferroelectrics, piezoelec. effect 1−31095
$BaTiO_3$, dipolar modes, temp. depend., IR refl. meas. 1−12501
$BaTiO_3$, electrolum. emission during polarisation reversal 1−26276
$BaTiO_3$, electrooptic effect mechanism 1−26170
$BaTiO_3$, epitaxial ferroelec. films, conditions of epitaxy 1−20577
$BaTiO_3$, ferroelec., struct. phase transitions, thermodynamic anal. 1−31099
$BaTiO_3$, first-order phase transition stimulated by external EM field 1−31102
$BaTiO_3$, influence of mag. field on phase boundary *(Russian)* 1−43075
$BaTiO_3$, optical props., phase transition effects, tight-binding energy band calcs. 1−39059
$BaTiO_3$, photoanodes for flash photoelectrolysis of water 1−26839
$BaTiO_3$ single cryst., luminesc. during mech. switching 1−8144
$BaTiO_3$, size effect in phase transition 1−26144
$BaTiO_3$, very narrow quasielastic scatt. close to ferroelec. phase transition 1−26220
$BaTiO_3$:Fe, dopant valence state, charge compensation, Mossbauer and gravimetric meas. 1−7185
$BaTiO_3$:H, positions of H impurities, IR absorpt. study 1−26185
CsD_2AsO_4, ferroelec., high temp. phase transition, thermal expansion coeff. study *(Russian)* 1−52905
CsD_2PO_4, short-range order, press. depend., neutron scatt. study 1−3342
CsH_2AsO_4, deuterated, struct. in ferroelec. and paraelec. phases, neutron diffr. study 1−47057
CsH_2AsO_4, electrooptical props. near Curie point 1−12476
CsH_2AsO_4, ferroelec., high temp. phase transition, thermal expansion coeff. study *(Russian)* 1−52905
CsH_2PO_4, ferroelec., birefringence meas. 1−21165
CsH_2PO_4, ferroelectric phase transition, ESR study 1−12389
CsH_2PO_4, quasi-one-dimensional ferroelectric, ultrasonic velocity and absorpt. *(Russian)* 1−42474
$Fe_3B_7O_{13}Br$, ferroelec., use in pyroelec. IR detection and imaging, review 1−5375
Fe_3O_4, cryst. struct. at low temp. rel. to Verwey transition 1−11734
$Gd(MoO_4)_3$, improper ferroelec., optical props. meas. 1−21230
$Gd_2(MoO_4)_3$, electrical transport, 650 to 1075K 1−25725
$Gd_2(MoO_4)_3$, ferroelastic and ferroelectric, pol. reversal and field induced phase transform., electron microscopy 1−39049
$Gd_2(MoO_4)_3$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
$Gd_2(MoO_4)_3$ single cryst., luminesc. during mech. switching 1−8144
KDP, laser destruction dynamics, pressure wave effects *(Russian)* 1−30277
KDP, temp. and press. depend. of proton tunnelling 1−35024
KD_2PO_4, Brillouin and Rayleigh scatt. spectra near ferroelec. transition 1−26221
KD_2PO_4, domain struct., elec. field effect, neutron diffr. data 1−8021
KD_2PO_4, domain struct. rearrangement in elec. field, neutron diffr. study 1−26147
KD_2PO_4, ferroelec. Raman scatt., proton sublattice vibrs. 1−21212
KD_2PO_4-like ferroelectrics, relaxation processes *(Russian)* 1−34983
$K_4Fe(CN)_6.3D_2O$, Raman spectra, OD stretching vibrs. 1−8068
KH_2AsO_4, ferroelec., LF dielec. spectra 1−12605
$K(H_{1-x}D_x)_2PO_4$, conc. depend. of coupled modes in impure pseudospin-phonon system 1−20324
$KH_{2(1-x)}D_{2x}PO_4$ mixed crysts., light scatt. spectra, temp. depend. meas. 1−39117
KH_2PO_4, dielec. const. meas. in paraelec. phase, Curie-Weiss law deviation 1−26109
KH_2PO_4, ferroelec. Raman scatt., proton sublattice vibrs. 1−21212
KH_2PO_4, IR refl. spectra and phase transition mechanism *(Korean)* 1−12496
KH_2PO_4, NQR study of H atom motion 1−39002
KH_2PO_4, near IR spectra, inter- and intra-proton tunnelling 1−26184
KH_2PO_4, neutron diffractometry study of tricritical point 1−52902
KH_2PO_4, piezoelec., nonequilibrium thermodynamics and quasielastic light scatt. 1−39115
KH_2PO_4, Raman spectra anomalies due to order-disorder phase transitions 1−52956
KH_2PO_4 twinned crystals, ferroelec., differential γ-ray diffractometry 1−20036
KH_2PO_4 type, polarisation fluctuation spectra studied by light scattering *(Japanese)* 1−48101
KH_2PO_4, X-irrad., opt. absorpt. and thermolum., 13K to room temp. 1−31208
KIO_3, lattice dynamics, NQR study *(Russian)* 1−43032
KNO_3 films, linear thermal expansion meas. 1−52318
KNO_3, lattice dynamical studies 1−20330
$KNbO_3$ crystal, electronic struct., mol. clusters, ferroelec. phase transitions 1−52485
$KNbO_3$ crystal, reduced, holographic currents 1−51412
$KNbO_3$, ferroelec., correlation of soft modes in orthorhombic and cubic phases, IR reflectivity studies 1−52935
$KNbO_3$, growth and electrophysical props. 1−34971
$KNbO_3$, high-sensitivity read-write volume holographic storage 1−1511
$KNbO_3$, lattice dynamical studies 1−20330
$KNbO_3$, long-wavelength phonons, ferroelectric phonons, Raman scatt. meas. 1−42503
$KNb0_3$, electronic struct. rel. to ferroelec. phase transitions 1−34626
$K_3Pb_3WNb_9O_{30}$ and $K_3Sr_3WNb_9O_{30}$, high-density ceramic, X-ray struct. investig. and dielec. props. 1−30169
$K_{1-x}Rb_xSc(MoO_4)_2$, soft modes, Raman spectra study 1−26202
K_2SeO_4, dielec. props., hydrostatic press. effect 1−52903
K_2SeO_4, noncommensurable ferroelectric, submillimeter spectroscopy 1−26314
K_2SeO_4, specific heat, phase transition, 48-800K 1−38553
K_2SeO_4, successive phase transitions, Brillouin scatt. 1−48097
$KTa_{1-x}Nb_xO_3$ and $KTaO_3$ single crysts., low temp. thermal conductivity 1−20486
$KTaO_3$:Li, birefringence meas. 1−35009
$KTaO_3$:Nb, impurity-induced ferroelec. phase transition, Raman scatt. study 1−35037
$LiNH_4SO_4$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
ferroelectric materials continued
$LiNH_4SO_4$, proton spin-lattice relaxation, ferroelec. transitions 1−12419
$LiNbO_3$ crystals, polarisation effect 1−21111
$LiNbO_3$, dielectric const. temp. depend., IR reflectance spectra 1−21106
$LiNbO_3$, electro-optic crystals, wavefronts conjugation via degenerate four-wave mixing 1−19385
$LiNbO_3$, He ion implanted, refractive index profile, appl. to integrated optics 1−19475
$LiNbO_3$, lattice dynamical studies 1−20330
$LiNbO_3$, optically active light scatt. centres, optical and X-ray obs. 1−31120
$LiNbO_3$, Raman scatt. relation to electro-optical effects 1−12508
$LiNbO_3$ single cryst., SHG in polydomain striae region *(Chinese)* 1−46443
$LiNbO_3$ sputtered thin film, permitt., loss angle, temp. depend. 1−43057
$LiNbO_3$, temp. depend. of spontaneous polarisation *(Russian)* 1−47999
$LiNbO_3$ with periodic laminar ferroelec. domains, SHG enhancement 1−15217
$LiNbO_3$:Cr, ferroelec., Cr^{3+}-Cr^{3+} excited state dipole moment interactions 1−21112
$LiNbO_3$:Fe, hologram decay with time varying cond. 1−1516
$LiNbO_3$:Fe, photorefractive effect, photoconductivity 1−21167
$LiNbO_3$-$LiTaO_3$-$NaNbO_3$-$NaTaO_3$, crystallochemical and dielectric study *(French)* 1−31441
$LiRbSO_4$(V), X-ray cryst. struct. of room-temp. phase 1−30156
$LiTaO_3$, dielec. props., temp. depend., Raman spectroscopy study 1−16569
$LiTaO_3$, electro-optic crystals, wavefronts conjugation via degenerate four-wave mixing 1−19385
$LiTaO_3$, He ion implanted, refractive index profile, appl. to integrated optics 1−19475
$LiTaO_3$, pyroelec. effect, emission of high-energy electrons 1−3337
$LiTaO_3$, temp. depend. of spontaneous polarisation *(Russian)* 1−47999
NH_4^+ compounds, order-disorder phase transitions, mean field approx. 1−25400
$(NH_4)_2BeF_4$, ferroelec. phase, X-ray diffr. cryst. struct. determ. 1−30196
$(NH_4)_2BeF_4$, noncommensurable ferroelectric, submillimeter spectroscopy 1−26314
$(NH_4)_2BeF_4$, transformation to incommensurate phase, elec. props. *(Russian)* 1−43077
$(NH_4)_3FeF_6$, phase transition study 1−21147
$[(NH_4)_2.BeF_4]$, elastic constants determ. by X-ray thermal diffuse scattering 1−7224
$(Na_{0.5}Bi_{0.5})TiO_3$-$CdTiO_3$ system solid solns., synthesis, struct. and dielec. props. 1−39042
$NaH_3(SeO_3)_2$, α-β phase transition dynamics, elastic coeff. crit. behaviour 1−26142
$NaH_3(SeO_3)_2$ single cryst., domain struct. rearrangement and Barkhausen effect 1−8020
$NaNH_4SeO_4.2H_2O$, proton spin-lattice relaxation 1−26065
$NaNO_2$, microscopic model based on reorientations and translations 1−42496
$NaNO_2$, X-ray Bragg reflection and IR absorption topography 1−48069
$NaNbO_3$-$PbTiO_3$ system, ferropiezoceramic solid soln. form. and charact. 1−39286
$Ni_3B_7O_{13}Br$, ferroelec., use in pyroelec. IR detection and imaging, review 1−5375
$Ni_3B_7O_{13}Br$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
Ni_3Fe, domain struct. after tensile deform. 1−8014
PLZT 6/65/35 ceramics, domain wall motion, optical method 1−26148
PLZT ceramic, ion implantation improvement of photoferroelectric imaging 1−38805
PLZT, pyroelec. current meas. from polling currents under possible injection of free charge 1−26131
(Pb, Ba, Sr) (Zr, Ti)O_3, ferroelectric ceramics, lapped surface layer effect on dielectric props. 1−39022
Pb compounds, neutron activation anal., determ. of impurities *(Russian)* 1−48769
$(Pb_{1-x}Ba_x)Nb_2O_6$ solid solns., struct. features rel. to conc. in two-phase region *(Russian)* 1−12724
$PbBi_4Ti_4O_{15}$, mixed oxide ferroelec. with layer type struct., X-ray powder diffr. obs. *(Chinese)* 1−47051
$PbBi_4Ti_4O_{15}$, with layer type struct., degree of preferred orientation after hot pressing, X-ray determ. method *(Chinese)* 1−48364
$Pb_5Ge_3O_{11}$ film on Si substrate, preparation and props. 1−16204
$Pb_5Ge_3O_{11}$, fundamental vibrs. symmetry anal. 1−30335
$Pb_5Ge_3O_{11}$, powders, dielectric behaviour 1−47996
$Pb_5(Ge_{1-x}Si_x)_3O_{11}$, pulsed polarisation switching 1−31106
$PbHfO_3$, temp.-elec. field phase diagram of antiferroelec. and ferroelec. phases 1−21143
$Pb(Hf_{1-y}Zr_y)_{1-x}Ti_xO_3$, stress-forced ferroelec.-antiferroelec. transition, electromech. energy conversion 1−21137
$Pb_{0.92}La_{0.08}Nb_2O_6$:$Fe^{3+}$, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
$PbMg_{1/3}Nb_{2/3}O_3$, ferroelec. single crysts., optical second harmonic generation at phase transition 1−8015
$PbMg_{1/3}Nb_{2/3}O_3$, ferroelec., photoelectret state investig. 1−43063
$Pb(Mg_{1/3}Nb_{2/3})O_3$ single crystal flux growth, ferroelec. transition 1−3589
$Pb(Mg_{1/3}Nb_{2/3})O_3$-$Pb(Mg_{1/2}W_{1/2})O_3$ perovskite solid solns., comp. ordering 1−38355
$Pb(Mg_{1/3}Pb_{2/3})O_3$ ceramics, ferroelec., electrostrictive coeffs. meas. 1−21130
Pb_2NbCoO_6, perovskite, high-temp. X-ray phase investig. 1−30171
$Pb_{0.99}Nb_{0.02}[(Zr_{0.73}Sn_{0.27})_{0.93}Ti_{0.07}]_{0.98}O_3$, polarocaloric effect of 2°C 1−16531
$Pb(Sc_{0.5}M_{0.5})O_3$ (M=Nb,Ta), ordering process kinetics 1−7326
$PbSc_{1/2}Nb_{1/2}O_3$, ferroelec. single crysts., optical second harmonic generation at phase transition 1−8015
$Pb(Sc_{1/2}Nb_{1/2})O_3$, $Pb(Sc_{1/2}Ta_{1/2})O_3$, order-disorder reactions rel. to ferroelec. props. 1−21146
$Pb(Sc_{0.5}Ta_{0.5})O_3$, B-site cation disorder role in diffuse phase transition, props. 1−3340
$PbSc_{0.5}Ta_{0.5}O_3$, contribution of structural disorder to diffuse phase transitions 1−7144
$Pb(Sc_{0.5}Ta_{0.5})O_3$ single crystal flux growth, ferroelec. transition 1−3589
$Pb(Sc_{1/2}Ta_{1/2})O_3$, relaxor and normal ferroelec., dielec. props., press. depend. 1−8009
$Pb(Ti,Zr)O_3$, thermodynamic description near triple point 1−21140
$PbTiO_2$, amorphous, rapidly quenched, crystallisation, DTA and Raman spectra study *(Japanese)* 1−42305

ferroelectric materials continued
$PbTiO_3$, amorphous, dielec. const., temp. depend., crystn. behaviour 1−26137
$PbTiO_3$, amorphous, X-ray diffr. study of struct. *(Japanese)* 1−42306
$PbTiO_3$ ceramics, chemically pure, props. and synthesis 1−31107
$PbTiO_3$, cryst. lattice defects obs. by TEM 1−20214
$PbTiO_3$, depolarised polycryst. ferroelectrics, piezoelec. effect 1−31095
$PbTiO_3$ ferroelec. thin film, fabrication by RF sputtering, optical and dielec. props. *(Japanese)* 1−35176
$Pb(Ti_{1-x}Zr_x)O_3$ solid solns., struct. features rel. to conc. in two-phase region *(Russian)* 1−12724
$Pb_3(VO_4)_2$ crystals, ferroelec., dielec. and pyroelec. meas. 1−8024
$Pb(Zr,Ti)O_3$, PZT 65/35, 1-D polar mechanical and dielectric responses due to domain switching 1−26149
$Pb(Zr,Ti)O_3$, phase transitions, dielec., pyroelec., and piezoelec. props. and DTA 1−16536
$Pb(Zr,Ti)O_3$, props. under high electric field 1−16538
$Pb(Zr, Ti)O_3$-based antiferroelec.-ferroelec. multilayer composites, electromech. behaviour 1−26128
$PbZrO_3$, space charge polarisation and phase transitions 1−16535
$PbZrO_3$-$PbTiO_3$-Pb_2FeNbO_6, ferroelec., use in pyroelec. IR detection and imaging, review 1−5375
$PbZr_xTi_{1-x}O_3$ ferroelectric ceramics, energy conversion under shock loading 1−39052
$PbZr_xTi_{1-x}O_3$, solid solns., complex phase composition, dielec. props. 1−34978
$Rb_2Cd_2(SO_4)_3$, ferroelec., elastic anomalies 1−7230
$Rb(D_xH_{1-x})_2PO_4$, phase transitions, 290 to 320K, elastic props. study 1−25431
RbD_2PO_4, transition to ferroelectric state, dielectric props. 1−39048
RbH_2PO_4, cryst. struct. in paraelec. and ferroelec. phases 1−2403
RbH_2PO_4, ferroelec., LF dielec. spectra 1−12605
RbH_2PO_4, ferroelec. Raman scatt., proton sublattice vibrs. 1−21212
$RbHSO_4$, Brillouin scatt. study of polarisation relaxation time 1−39112
$RbH_3(SeO_3)_2$, ferroelec., phase transition, dielec. and elastic props. 1−39044
$RbH_3(SeO_3)_2$, Raman spectra above and below phase transition 1−39078
$RbH_3(SeO_3)_2$:Cr^{3+}, ferroelec., EPR study 1−38971
$RbLiSO_4$, ferroelec. crysts., ^7Li NQR, elec. field gradient determ., phase transitions *(Japanese)* 1−7971
Rb_2ZnCl_4, ^{87}Rb NMR study, phase transition, elec. field gradient in paraelec. phase 1−12408
Rb_2ZnCl_4, crit. phenomena and anomalous thermal hysteresis accompanying normal-incommensurate phase transitions 1−39046
Rb_2ZnCl_4, ferroelec. transitions, dielec. props., thermal anal. 1−8013
Rb_2ZnCl_4, low temp. phase transitions 1−48013
SbSI, thermal expansion near ferroelec. phase transition 1−2664
SbSI, tricritical point investigation by NQR *(Russian)* 1−12466
SbSi:As ferroelectric, Raman resonance scatt. temp. depend. *(Russian)* 1−3420
$SrBi_4Ti_4O_{15}$, mixed oxide ferroelec. with layer type struct., X-ray powder diffr. obs. *(Chinese)* 1−47051
$Sr_2(Ta_{1-x}Nb_x)_2O_7$ (x≃0.12), perovskite-type slabs, ferroelec. phase transitions, cryst. struct. 1−34296
$Sr_2Ta_2O_7$, perovskite-type slabs, ferroelec. phase transitions, cryst. struct. 1−34296
$SrTeO_3$ single crysts., ferroelec., phase transitions, SHG study 1−39050
$SrTiO_3$, defects and central peak 1−2440
$SrTiO_3$, epitaxial ferroelec. films, conditions of epitaxy 1−20577
$SrTiO_3$, ferroelec., IR refl. spectra at high temp., dispersion, soft modes 1−21204
$SrTiO_3$, field-induced Raman spectrum of ferroelectric soft mode 1−43110
$SrTiO_3$, phase transition temps. determ. by acoustic emission 1−31104
$SrTiO_3$, single crystals, macroscopic growth defects study *(Russian)* 1−52129
$SrTiO_3$, stressed, Pott's model transition near bicrit. point, XY to Gaussian crossover 1−26143
$Tb_2(MoO_4)_3$, electrical transport, 650 to 1075K 1−25725
$Tb_2(MoO_4)_3$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
Ti compounds, neutron activation anal., determ. of impurities *(Russian)* 1−48769
$Zn_3B_7O_{13}Cl$, trigonal, boracite, lattice dynamics, Raman spectrum study 1−21183

ferroelectric phenomena *see ferroelectricity*

ferroelectric semiconductor materials *see ferroelectric semiconductors*

ferroelectric semiconductors
anomalous photovoltaic effect in ferro and piezoelectric semiconductors and its application for optical storage by holography *(Japanese)* 1−46260
$(Ba_{1-x}Sr_x)TiO_3$, barrier-dominated contact noise 1−52611
$BaTiO_3$ ceramic, semiconducting, PTC action of single grain boundary, direct exam. 1−2958
$BaTiO_3$, reduction mechanism, magnetochem. investig., vacancy model behaviour 1−43654
$KNbO_3$ crysts., elec. cond. and dielec. props., impurity effects 1−52904
$KNbO_3$, principal refractive indices determ. 1−39056
$NaNbO_3$, elec. props. meas., high press. effects, small polaron hopping theory 1−16288
$Pb_{1-x}Ge_xTe$, refr. index and opt. energy gap, anomalies of temp. coeffs. at ferroelec. transition 1−26163
$Pb_{1-x}Ge_xTe$, structural instability, Ge ion local displacement effects 1−39051
Sb_2S_3 chain crystals, molecular-like-vibrs. 1−20332
SbSI chain crystals, molecular-like-vibrs. 1−20332
SbSI, complex dielec. const. and loss tangent at microwave freqs., central mode 1−12463
SbSI, ferroelec., anomalous photovoltaic effect meas. 1−7660
SbSI, influence of press. on reflection spectra, band struct. *(Russian)* 1−21231
$Sn_2P_2S_6$, thermal expansion near ferroelec. phase transition 1−2664
n-$SrTiO_3$, polar semicond., supercond. theory 1−16395
n-$SrTiO_3$, superconductivity mechanism, Coulomb interaction effect 1−47784

ferroelectric switching
PLZT ceramics, image storage appl., effects of Ar and Ne ion implantation obs. 1−15241
TGS, domain dynamics study using nematic liq. crystals 1−21150
$BaTiO_3$, electrolum. emission during polarisation reversal 1−26276

ferroelectric switching continued
$BaTiO_3$ single cryst., luminesc. during mech. switching 1−8144
$Gd_2(MoO_4)_3$ single cryst., luminesc. during mech. switching 1−8144
KD_2PO_4, domain struct. rearrangement in elec. field, neutron diffr. study 1−26147
$Pb_5(Ge_{1-x}Si_x)_3O_{11}$, pulsed polarisation switching 1−31106
$Pb(Zr,Ti)O_3$, PZT 65/35, 1-D polar mechanical and dielectric responses due to domain switching 1−26149

ferroelectric thin films
review *(Japanese)* 1−3338
$Ba_{0.5}Sr_{0.5}Nb_2O_6$ thin film, dielec. nonlinearity, dielec. const. and electrooptical props. meas. 1−26127
$LiNbO_3$ sputtered thin film, permitt., loss angle, temp. depend. 1−43057
PLZT, pyroelec. current meas. from polling currents under possible injection of free charge 1−26131
$Pb_{1-x}Ge_xTe$, refr. index and opt. energy gap, anomalies of temp. coeffs. at ferroelec. transition 1−26163
$PbTiO_3$ ferroelec. thin film, fabrication by RF sputtering, optical and dielec. props. *(Japanese)* 1−35176

ferroelectric transitions
see also critical fluctuations; displacive transformations; ferroelectric Curie temperature; order-disorder transformations
ammonium Rocheile salt crystal, paraelec., nonlinear temp. changes of optical characts. *(Russian)* 1−52914
antiferroelectricity, analogy with antiferromagnetism 1−8007
antiferromagnet, exchange magnetoelectric interaction *(Russian)* 1−52820
ceramic, phase transition transducer 1−15355
commensurate-incommensurate structural phase transitions 1−11841
copper formate tetrahydrate, two-dimensional six-vertex system, fluctuations and polarization correlations 1−7297
cubic anisotropy influence in dipole-dipole interactions, renormalisation group study 1−3341
dicalcium barium pripionate, electrical cond., ferroelectric to paraelectric phase transform. 1−25730
dicalcium lead (strontium) propionate, ferroelec., cryst. growth and dielec. props. 1−26377
displacive type, one- and two-dimens., soft mode polarisation operator *(Russian)* 1−16008
doped displacive ferroelectrics, electric field dependence of Curie temperature and microwave absorption 1−16534
dynamic form factor, central peak formation mechanism 1−21148
field theory in (1+1) dimensions, ϕ^6 1−8016
improper ferroelectricity theory, transitions, CDW 1−12465
lattice dimensionality, symmetry, and critical behaviour of ferroelectrics 1−21142
lithium thallium tartrate, non-deuterated and deuterated, thermal cond. at ferroelec. transition 1−20485
magnetic ferroelectric, soft mode relaxation near structure transitions *(Russian)* 1−47206
narrow band gap semiconductors, ferroelectric transitions induced by electron-phonon interactions 1−48012
order-disorder and displacive, model description 1−43078
order-disorder models, six- and four-site, with tunnelling, thermodynamics 1−43076
order-disorder phase transitions, mean field approx. 1−25400
order-disorder type, dynamic struct. factor due to crit. scatt. on pseudospins *(Russian)* 1−16532
paraelectric system, phase transformation to spontaneous coherent state 1−48014
perovskite type compounds, lattice dynamics and phase transitions 1−21141
polar crystals, mag. control of nonlinear dielectric props. *(Russian)* 1−21136
polarisation relaxational mode-acoustic phonon coupled system, light scatt. spectra 1−39111
polarised crystal, cooperative behaviour of paraelectric defects *(Russian)* 1−8019
polydomain crystals, symmetry props. and mutual reversal of domains in phase transitions 1−7240
polyvinylidene fluoride, ferroelec., transition temp. 1−31103
polyvinylidene fluoride, piezoelectric and ferroelectric properties 1−52906
prototypic-ferroic first-order phase transitions 1−42509
proustite, microscopic mechanism of low-temp. phase transition 1−11862
pseudo-spin Hamiltonian, anal. by second order cumulant expansion 1−21138
pseudospin-phonon system, ferroelastic and ferroelec. transitions 1−7288
pyrargyrite, microscopic mechanism of low-temp. phase transition 1−11862
rare earth molybdates, ferroelec.-ferroelastic, phase transform., soft modes, acoustic phonons, Raman and Brillouin scatt. study 1−8049
second-order transitions, incommensurate superstruct. form. due to fluctuation effects 1−52290
sodium ammonium tartrate, spontaneous macroscopic quadrupole moment in noncommensurable polar phase 1−3344
solid solutions, phase transitions, spatially inhomogeneous struct. form. 1−26145
squaric acid, phase transition, pseudospin model for H bond system 1−34994
squaric acid, two-dimensional phase transition, light scatt. studies 1−8082
tanane, ferroelastic and ferroelectic transition, neutron and Brillouin scatt. studies 1−21145
tetramethyl ammonium zinc chloride, model of successive phase transitions 1−39045
tetramethylammonium tetrachlorozincate, X-ray study of incommensurate phase *(French)* 1−52278
TGS, light scatt. spectra, central peak, crit. opalescence 1−26222
TGS, sp. ht. in appl. elec. field near crit. temp. 1−7350
TGS wafer, in metal-ferroelec.-metal system, pyroelec. and electrocaloric effects in phase transition region 1−26130
TGSe, press.-induced tricritical nature, dielec. const. and spontaneous polarisation meas. 1−26141
TGSe-DTGSe system, tricritical points, spontaneous polarisation 1−39047
thiourea, elec. field phase diagram, optical birefringence study 1−48015
thiourea, ferroelec., soft mode in disordered-incommensurate-commensurate transform 1−21139
thiourea, phase diagram at atmos. press. under elec. field, theoretical anal. 1−48016
tris-sarcosine calcium chloride, antiferroelectric high press. phase dielectric observation 1−8018

ferroelectric transitions continued
tris-sarcosine calcium chloride, ferroelec. transition temp., press. depend. 1−26140
trisarcosine calcium chloride, ferroelec.-ferroelastic phase transition, Raman and Brillouin scatt. study 1−8050
trissarcosine calcium chloride, critical ferroelec. behaviour, calorimetric obs., 50 to 330K 1−31101
trissarcosine calcium chloride, polarisation rel. to elec. field, press.-induced phase obs. 1−8011
$[(NH_4)_3H(SO_4)_2]_{1-x}[(ND_4)_3D(SO_4)_2]_x$, effect of hydrostatic press. on phase transitions, dielec. study 1−8010
$AgNa(NO_2)_2$, two sublattice model of phase transition 1−3343
$Ba_4Li_2Nb_{10}O_{30}$ crystals, dielec. props., ferroelec. transition, cryst. struct., meas. 1−52894
$BaMF_4$ (M=Co, Ni, Mg, Zn), condensed modes, group theoretical anal. 1−12461
$(Ba_{1-x}Pb_x)TiO_3$, mixed perovskite crystal, successive phase transitions 1−8012
$Ba_{0.5}Sr_{0.5}Nb_2O_6$ thin film, dielec. nonlinearity, dielec. const. and electrooptical props. meas. 1−26127
$(Ba_xSr_{1-x})Nb_2O_6$ single cryst., diffused ferroelec. phase transition, hydrostatic press. effect 1−31105
$(Ba_{1-x}Sr_x)TiO_3$, mixed perovskite crystal, successive phase transitions 1−8012
$Ba_xSr_{1-x}TiO_3$, Raman study of ferroelec. phase transition 1−21184
$Ba(Ti_{1-x}Hf_x)O_3$, mixed perovskite crystal, successive phase transitions 1−8012
$BaTiO_3$, ceramic, phase transition temps. determ. by acoustic emission 1−31104
$BaTiO_3$, Debye-Waller factor critical behaviour at ferroelectric transition 1−16533
$BaTiO_3$, ferroelec., struct. phase transitions, thermodynamic anal. 1−31099
$BaTiO_3$, first-order phase transition stimulated by external EM field 1−31102
$BaTiO_3$, influence of mag. field on phase boundary *(Russian)* 1−43075
$BaTiO_3$, optical props., phase transition effects, tight-binding energy band calcs. 1−39059
$BaTiO_3$, size effect in phase transition 1−26144
$BaTiO_3$, very narrow quasielastic scatt. close to ferroelec. phase transition 1−26220
$BaTiO_3$, weakly first-order transition, compressible Ising system, theory 1−18169
CsD_2AsO_4, ferroelec., high temp. phase transition, thermal expansion coeff. study *(Russian)* 1−52905
CsD_2PO_4, short-range order, press. depend., neutron scatt. study 1−3342
CsH_2AsO_4, deuterated, struct. in ferroelec. and paraelec. phases, neutron diffr. study 1−47057
CsH_2AsO_4, ferroelec., high temp. phase transition, thermal expansion coeff. study *(Russian)* 1−52905
CsH_2PO_4, ferroelec., birefringence meas. 1−21165
CsH_2PO_4, ferroelectric phase transition, ESR study 1−12389
$Gd_2(MoO_4)_3$, ferroelastic and ferroelectric, pol. reversal and field induced phase transform., electron microscopy 1−39049
$Gd_2(MoO_4)_3$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
K, $Zn_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464
KD_2PO_4, Brillouin and Rayleigh scatt. spectra near ferroelec. transition 1−26221
$KD_3(SeO_3)_2$, ferroelastic-antiferroelec. transition, ionic displacement role, EPR study 1−43009
KH_2PO_4, IR refl. spectra and phase transition mechanism *(Korean)* 1−12496
KH_2PO_4, neutron diffractometry study of tricritical point 1−52902
KH_2PO_4, piezoelec., nonequilibrium thermodynamics and quasielastic light scatt. 1−39115
KH_2PO_4, Raman spectra anomalies due to order-disorder phase transitions 1−52956
KH_2PO_4 type ferroelectric, polarisation fluctuation spectra studied by light scattering *(Japanese)* 1−48101
$KH_3(SeO_3)_2$, ferroelastic transition, antiferroelec. ordering, microscopic theory 1−7235
KIO_3, lattice dynamics, NQR study *(Russian)* 1−43032
$K_2Mn_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464
$KNbO_3$ crystal, electronic struct., mol. clusters, ferroelec. phase transitions 1−52485
$KNbO_3$ crysts., elec. cond. and dielec. props., impurity effects 1−52904
$KNbO_3$, ferroelec., correlation of soft modes in orthorhombic and cubic phases, IR reflectivity studies 1−52935
$KNbO_3$, long-wavelength phonons, ferroelectric phonons, Raman scatt. meas. 1−42503
$KNbO_3$, electronic struct. rel. to ferroelec. phase transitions 1−34626
K_2SeO_4, commensurate and incommensurate, lattice dynamics 1−8017
K_2SeO_4, successive phase transitions, Brillouin scatt. 1−48097
$KTaO_3$:Nb, impurity-induced ferroelec. phase transition, Raman scatt. study 1−35037
$LiNH_4SO_4$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
$LiNH_4SO_4$, proton spin-lattice relaxation, ferroelec. transitions 1−12419
$LiNbO_3$, temp. depend. of spontaneous polarisation *(Russian)* 1−47999
$LiTaO_3$, temp. depend. of spontaneous polarisation *(Russian)* 1−47999
NH_4^+ compounds, order-disorder phase transitions, mean field approx. 1−25400
$(NH_4)_3FeF_6$, phase transition study 1−21147
$NaH_3(SeO_3)_2$, α-β phase transition dynamics, elastic coeff. crit. behaviour 1−26142
$NaNH_4SeO_4{\cdot}2H_2O$, proton spin-lattice relaxation 1−26065
$NaNO_2$:Mn^{2+}, expulsion of Mn^{2+} to surface, EPR study 1−11914
$NaNbO_3$, elec. props. meas., high press. effects, small polaron hopping theory 1−16288
$NaNbO_3$-$PbTiO_3$ system, ferropiezoceramic solid soln. form. and charact. 1−39286
$Ni_3B_7O_{13}Br$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
$PbB_{0.5}N_{0.5}O_3$, B=Sc, Fe, Lu, Yb, In, Tm, Curie point, antiferroelectric phases 1−21144
$Pb_{5-x}Ba_xGe_3O_{11}$, ferroelectric, high press. studies 1−34995
$Pb_5Ge_3O_{11}$, fundamental vibrs. symmetry anal. 1−30335
$Pb_{1-x}Ge_xTe$, refr. index and opt. energy gap, anomalies of temp. coeffs. at ferroelec. transition 1−26163

ferroelectric transitions continued
$Pb_{1-x}Ge_xTe$, structural instability, Ge ion local displacement effects 1−39051
$PbHfO_3$, temp.-elec. field phase diagram of antiferroelec. and ferroelec. phases 1−21143
$Pb(Hf_{1-y}Zr_y)_{1-x}Ti_xO_3$, stress-forced ferroelec.-antiferroelec. transition, electromech. energy conversion 1−21137
$PbMg_{1/3}Nb_{2/3}O_3$, ferroelec. single crysts., optical second harmonic generation at phase transition 1−8015
$Pb(Mg_{1/3}Nb_{2/3})O_3$ single crystal flux growth, ferroelec. transition 1−3589
$PbSc_{1/2}Nb_{1/2}O_3$, ferroelec. single crysts., optical second harmonic generation at phase transition 1−8015
$Pb(Sc_{1/2}Nb_{1/2})O_3$, $Pb(Sc_{1/2}Ta_{1/2})O_3$, order-disorder reactions rel. to ferroelec. props. 1−21146
$Pb(Sc_{0.5}Ta_{0.5})O_3$, B-site cation disorder role in diffuse phase transition, props. 1−3340
$PbSc_{0.5}Ta_{0.5}O_3$, contribution of structural disorder to diffuse phase transitions 1−7144
$Pb(Sc_{0.5}Ta_{0.5})O_3$ single crystal flux growth, ferroelec. transition 1−3589
$Pb(Ti,Zr)O_3$, thermodynamic description near triple point 1−21140
$Pb_3(VO_4)_2$, antiferroelec. ferroelastic, domain struct. and phase transitions 1−26150
$PbZrO_3$, space charge polarisation and phase transitions 1−16535
$PbZr_xTi_{1-x}O_3$ ferroelectric ceramics, energy conversion under shock loading 1−39052
$PbZr_xTi_{1-x}O_3$, solid solns., complex phase composition, dielec. props. 1−34978
$Rb_2Cd_2(SO_4)_3$, ferroelec., elastic anomalies 1−7230
$Rb_2Cd_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464
RbD_2PO_4, transition to ferroelectric state, dielectric props. 1−39048
$RbH_3(SeO_3)_2$, ferroelec., phase transition, dielec. and elastic props. 1−39044
$RbH_3(SeO_3)_2$, Raman spectra above and below phase transition 1−39078
$RbLiSO_4$, ferroelec. crysts., ^7Li NQR, elec. field gradient determ., phase transitions *(Japanese)* 1−7971
Rb_2ZnCl_4, ^{87}Rb NMR study, phase transition, elec. field gradient in paralec. phase 1−12408
Rb_2ZnCl_4, crit. phenomena and anomalous thermal hysteresis accompanying normal-incommensurate phase transitions 1−39046
Rb_2ZnCl_4, ferroelec. transitions, dielec. props., thermal anal. 1−8013
Rb_2ZnCl_4, low temp. phase transitions 1−48013
SbSI, thermal expansion near ferroelec. phase transition 1−2664
SbSI, tricritical point investigation by NQR *(Russian)* 1−12466
$Sn_2P_2S_6$, thermal expansion near ferroelec. phase transition 1−2664
$Sr_2(Ta_{1-x}Nb_x)_2O_7$, ($x\simeq0.12$), perovskite-type slabs, ferroelec. phase transitions, cryst. struct. 1−34296
$Sr_2Ta_2O_7$, perovskite-type slabs, ferroelec. phase transitions, cryst. struct. 1−34296
$SrTeO_3$ single crysts., ferroelec., phase transitions, SHG study 1−39050
$SrTiO_3$, field-induced Raman spectrum of ferroelectric soft mode 1−43110
$SrTiO_3$, phase transition temps. determ. by acoustic emission 1−31104
$Tb_2(MoO_4)_3$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
$Tl_2Cd_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464

ferroelectricity
see also antiferroelectricity; ferroelectric devices; ferroelectric materials; ferroelectric switching; ferroelectric transitions
annual review of physical chemistry (book) 1−9789
antiferromagnet, exchange magnetoelectric interaction *(Russian)* 1−52820
bibliography, Jan.-July 1979 1−17963
ceramic, complex elastic, dielec. and piezoelec. constants by domain wall damping 1−21149
displacive-type, lattice viscosity in paraelec. phase, temp. depend. 1−42501
elastic ferroelectric, Bleustein-Gulayev surface waves *(French)* 1−42620
electron spin-spin and spin-lattice relaxation times, anomalous behaviour 1−21035
exciton isolator as a ferroelectric *(Russian)* 1−2879
ferroelastics, rel. to twinning and ferroelectricity theories, review 1−7241
ferroics, tertiary, symmetry constraints and free energy terms 1−7122
hysteresis loop, ultra low freq. meas. *(Chinese)* 1−26151
liquid crystals, optical, mech. and elec. props. rel. to mol. ordering, book contrib. 1−38271
mechanical strain due to domain switching, interferometer meas. 1−14177
organic materials, piezoelectricity, pyroelec., ferroelec., book contrib. 1−12460
photovoltaic current, general formula *(Russian)* 1−16314
photovoltaic effect, bulk, and charge carrier localisation 1−20797
polar crystals, mag. control of nonlinear dielectric props. *(Russian)* 1−21136
polarisation fluctuations 1−34991
polarisation wave excitation by moving domain walls 1−21151
psuedo one-dimensional H bonded ferroelectrics, soliton excitations 1−3339
pure noncentrosymmetric crystals, bulk photovoltaic effect 1−16315
smectic C, chiral, binary mixture, spontaneous polarization 1−34992
solid solutions, in multicomponent systems, ferroelec. props. rel. to crystal chem. parameters 1−34993
specific heat, low temp., lattice dynamics 1−7351
tanane, ferroelastic and ferroelectric transition, neutron and Brillouin scatt. studies 1−21145
vibronic ferroelectric, bulk photovoltaic effect 1−20796
$Co_{1.75}Mn_{1.25}O_4$, mag. props. and magnetoelectric effect *(Russian)* 1−34918
β-Sb_2O_4, single cryst. prep., dielec. charcts. and cond., ferroelec. and struct. transition absence 1−53063

ferrofluids *see magnetic fluids*

ferromagnetic-antiferromagnetic transitions
see also metamagnetism; Morin temperature
actinide compounds, antiferromagnetic-ferromagnetic transition, electron correlation effects, Hubbard and RKKY models 1−47881
anisotropy effect on first-order transition, theory 1−12291
antiferromagnet, with uniaxial anisotropy, influence of field strength and direction on mag. phases 1−34877
metamagnetism, collinear, Heisenberg term, magnon spectrum 1−7837
metamagnetism, collinear, two-sublattice, field- and temperature-induced 1−7835
metamagnetism, collinear, two-sublattice, high density expansion method 1−7836

ferromagnetic-antiferromagnetic transitions continued
Potts model, triangular, with two- and three-site interactions, critical point 1−44852
copper formate, tetrahydrate and isomer, field-induced antiferromag. to ferromag. transition, process magnetisation 1−34908
Dy, magnetisation, AC susceptibility, and microwave absorpt. 1−47867
Dy_3Co, metamagnetic phase transitions *(Russian)* 1−20982
$DyFe_{0.9975}Co_{0.0025}O_3$, Morin type transitions 1−34880
$Fe_xMn_{1-x}Pt_3$, ordered, mag. transform. during temp. variations *(Russian)* 1−30938
Fe_2P, pressure induced mag. transition 1−30941
Mn-Rh alloys, mag. transitions, exchange anisotropy effect *(Russian)* 1−3178
MnB_2, orientation of easy magnetisation directions and antiferromagnetism axis *(Russian)* 1−30975
$Pt_3Mn_xFe_{1-x}$, specific heat, ferromagnetic-antiferromagnetic transition *(Russian)* 1−30967
rare earth compounds, antiferromagnetic-ferromagnetic transition, electron correlation effects, Hubbard and RKKY models 1−47881
Tb-Sm single crystals, magnetisation, susceptibility, anisotropy, rel. to temp., composition 1−34866
Tb-Y, magnetisation, AC susceptibility, and microwave absorpt. 1−47867
$TiBe_{2-x}Cu_x$, specific heat anomaly, phason interpretation 1−12328
$TiBe_{2-x}Cu_x$, antiferromag., analogy with antiferroelectricity 1−8007
$TlCu_{2-x}Fe_xSe_2$, irreversible antiferromag. to ferromag. transition 1−34882
UP-USe system, mag. phase diagram, neutron diffr. and mag. susceptibility study 1−12290

ferromagnetic Curie temperature *see Curie temperature*

ferromagnetic-paramagnetic transitions
see also Curie temperature
alkali metal uranates (neptunates) (plutonates), optical spectra and magnetism, 4.2-300K 1−35068
alkaline earth (uranates) (neptunates) (plutonates), optical spectra and magnetism, 4.2-300K 1−35068
amorphous alloys, spin glass-paramag. phase boundary, exchange intractions 1−30957
amorphous ferromagnets, phase transitions, nonlocal Landau-Ginzburg theory 1−16441
critical mag. susceptibility temp. modulation of AC susceptibility study 1−12260
finite system, real-space renormalisation group anal. 1−21004
Heisenberg ferromagnet, self-consistent renormalised spin-wave theory in critical region 1−34871
itinerant ferromagnetism and p-state supercond., coexistence 1−12228
Landau model, phase transitions, with two order parameters, stability, phys. props. 1−16454
paramagnets with maximum susceptibility, transition to ferromagnetic state *(Russian)* 1−52777
rare earth alloys, R_3Pd_2, mag. susceptibility, Curie temp. meas., 4.2 to 300K *(French)* 1−30922
superconductor, magnetostatics, generalised Ginzburg-Landau theory 1−12229
ticonal alloy, YuNDK35T5BA, transform. of γ phase, mag. and struct. props. *(Russian)* 1−31457
transition metal alloys, ferromagnetism onset as cooperative phase transition 1−12287
$BaNpO_3$, magnetic susceptibility and transitions 1−47869
ErC_x, ($x=0.6$), ferromagnetism, crystal field effect, crystallite orientation, neutron diffr. obs. 1−47852
EuO, critical spin fluctuations, ESR study 1−7860
FeGe, helical mag. struct., phase transition, theory 1−16429
$(Fe_xNi_{1-x})_{75}P_{16}B_6Al_3$ amorphous ribbon, mag. phase diagram 1−7841
Ho_2C, ferromagnetism, crystal-field effect, struct., neutron-diffr. obs. 1−47851
$K_2Cu_xZn_{1-x}F_4$, at percolation threshold, Heisenberg ferromag. susceptibility 1−34865
$LiHoF_4$, spontaneous magnetisation, crit. behaviour, light scatt. meas. 1−20966
$LiTb_{0.3}Y_{0.7}F_4$, diluted uniaxial dipolar ferromagnet, crit. props. 1−7851
MnSi, helical mag. struct., phase transition, theory 1−16429
Ni (110) surface ion scatt. near Curie point 1−31267
Ni-Mn, dil., thermal and elec. cond. in ferro-paramagnetic transition region 1−16442
Ni-Si, electrical resistivity meas., near mag. phase transition, Curie temp., concs. depend. 1−7830
Pd-Ni, dil., paramag. and weakly ferromag., giant-moment clusters, magnetisation meas. 1−42947
PdFeMn, reentrant spin-glass system, neutron scatt. studies 1−12329
$SrNpO_3$, magnetic susceptibility and transitions 1−47869
$TiBe_{2-x}Cu_x$, ferromag. transitions, mag. props. meas., itinerant electron model 1−47845
UP-USe system, mag. phase diagram, neutron diffr. and mag. susceptibility study 1−12290

ferromagnetic properties of substances
see also ferromagnetic relaxation; ferromagnetic resonance; ferromagnetism; magnetic semiconductors
(110) [001] orientated, optimised comp. for high permeability, low core loss 1−7889
actinide 5f compounds, excitation spectrum, carrier conc. and temp. depend., CPA calc. 1−47469
actinide metallic cpds., intermediate valence model and mag. props. 1−47840
alloys, amorphous, mag. props. *(Japanese)* 1−42952
Alnico permanent magnets, elongated single domain particles, rotational hysteresis and magnetisation curling 1−12352
amorphous alloys, spin glass-paramag. phase boundary, exchange intractions 1−30957
amorphous electrodeposited alloy films, Barkhausen noise 1−21012
amorphous ferromagnet, permeability relaxation, annealing effects 1−25983
coercive force determ., soln. *(Russian)* 1−3219
cubic close packed CuAu-type alloys, elastic and mag. props., effect of atomic order *(Russian)* 1−7827
Fe-Ni Invar, magnetisation in γ-phase, tension-related incomplete phase transform. 1−34915
Fe-Ni-Co, precip.-hardening, physicomech. props., Co effect 1−43397
ferromagnetic and ferroelectric materials hysteresis curve model *(German)* 1−25989

ferromagnetic properties of substances continued
ferromagnetic material, anisotropic, plasticity during variable loading in EM field 1−42451
Invar, deformation before heat treatment, effect on props. and fine struct. 1−43440
invar, influence of surface anisotropy on RF collapse effect, Mossbauer study 1−39012
iron bis-diethyldithiocarbamate halide system, 3 dimens. Ising ferromag., magnetisation and NMR 1−3211
liquids, properties, preparation and applications, book contrib. 1−30969
materials, props., book 1−27687
metal, ferromagnetic, appl. of multi-frequency eddy currents to testing 1−35477
metal, spin-fluctuation resist., isotropic model study 1−47630
metallic glass, magnetisation and microstruct. 1−25982
metallic glass ribbons, magnetostriction *(Japanese)* 1−42990
metallic glasses, stress effect on magnetoresistance 1−16277
Permalloy, cold-rolled, magnetoelastic effect in ferromagnet, struct. and processing effects 1−34917
Permalloy, I-bars and bubbles modelling fundamentals using Fourier series 1−52811
Permalloy crystals, induced mag. anisotropy annealing by positron annihilation method *(Russian)* 1−20974
Permalloy film, charged domain boundaries, mag. reversal phenomena *(Russian)* 1−30977
Permalloy film, domain struct. near phase transition 1−16463
Permalloy film, ferromag., mag. state variation due to impurity diffusion forming antiferromag. inclusion *(Russian)* 1−30992
Permalloy film, mag. reversals of tunnels *(Russian)* 1−3225
Permalloy film, mag. suspension effect on domain struct. *(Russian)* 1−34914
Permalloy film, magnetoresistive response and Barkhausen noise characts. 1−7910
rare earth alloys, amorphous, random crystal field effects 1−20940
rare earth alloys, $R_{1-x}Fe_x$ (R=Sm, Gd, Tb, Dy, Ho, Er, Tm, Lu), amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
rare earth alloys, R_3Pd_2, mag. susceptibility, Curie temp. meas., 4.2 to 300K *(French)* 1−30922
rare earth alloys, $R_{65}Al_{35}$, R=Dy, Pr, amorphous, mag. props. meas. 1−12266
rare earth alloys, R_7Pt_3, (R=La, Ce, Pr, Gd), mag. props. meas., 4.2 to 300K 1−30923
rare earth alloys, RFe_2, magnetostrictive effects at spin reorientation transition, Mossbauer effect 1−47924
rare earth compounds, RRh_4B_4, ferromag. ordering temp. rel. to supercond. transition 1−34879
rare earth metals, heavy, tunnelling meas. of conduction electron spin polarisation 1−3075
rare earth-Co alloy magnets, magnetisation temp. depend. determ. method 1−18260
rare earth-Co Laves-phase, exchange and cryst. field excitations 1−20972
rare earth-cobalt magnets, hysteresis loops meas. using pulsed mag. fields *(Japanese)* 1−5347
rare earth-Fe_2 alloy, Laves phase, neutron scatt. studies 1−25203
rare earth-Fe Laves-phase, exchange and cryst. field excitations 1−20972
rare earth-Rh_4B_4, magnetic superconductor, crystal field role 1−25856
rare-earth-Co permanent mag. alloy 1−12384
soft magnetic metallic materials, book contrib. 1−30917
specific loss meas. at inductance approaching saturation 1−44965
steel, 45 and 30KhGSNA, magnetoelastic effect in ferromagnet, struct. and processing effects 1−34917
steel, austenitic stainless, for thermonuclear reactors, ferromag. phase precipitation 1−35259
steel, austenitic stainless, low-temperature ultrasonic treatment, effect on props. 1−48346
steel, austenitic weld metal, ferrite content meas. by ferrite numbers *(German)* 1−3173
steel, C, martensite magnetisation, effect of C content *(Russian)* 1−7896
steel, high-induction grain-oriented, mag. alloy 1−12384
steel, low C, type SKF-REMKO, mag. props., review 1−3221
steel, massive component, magnetic field in neutral plane magnetized by two pole electromagnet 1−34910
steel, stainless, electrical props., resistivity, hysteresis, magnetisation, EM shielding, temp. depend. 1−3220
steels, metastable, Kh18N(10-15), plastic deform., low temp., martensitic transform., mag. susceptibility meas. *(Russian)* 1−26541
superconducting thin films in contact with Al, spin polarised tunnelling, mag. suppression 1−42923
surface magnetostatic waves, propag. in ferromag. plate 1−25923
tetramethylammonium cobalt trichloride, spin cluster resonance intensity temp. depend. 1−39017
ticonal alloy, YuNDK35T5BA, transform. of γ phase, mag. and struct. props. *(Russian)* 1−31457
titanomagnetite, piezomag. and magnetostrictive behaviour of single domain cryst. 1−3232
transition metal alloys, ferromagnetism onset as cooperative phase transition 1−12287
transition metal based glassy ribbons, $(M_xM'_{1-x})_{75}P_{16}B_6Al_3$ (M,M'=Fe,Ni,Mn,Co), mag. and transport props. 1−7587
transition metals, dynamical spin susceptibility calc. using multiband scheme 1−52759
transition metals and alloys, ferromagnetic, neutron scatt. and magnetic props., review *(Russian)* 1−52748
transition metals and alloys, neutron scattering and magnetic properties, automated data processing, review *(Russian)* 1−25879
trimethylammonium cobalt trichloride, one-dimensional ferromagnet, critical fluctuation dynamics 1−38915
Bi-MnBi composite, mag. props., effects of plane-front solidification and heat treatment 1−12345
$CaMn_3O_6$ and $CaMn_4O_8$, prep., mag. and EPR behaviour 1−38925
$CdCr_2S_4(Se_4)$, electronic band struct., discrete variational Xα calc. 1−2869
$CdCr_2S_4(Se_4)$ single cryst., mag. props. in phase transition region 1−38933
$CdCr_2Se_4$, crit. relax. processes, mag. reson. linewidth meas. 1−26043
$CdCr_2Se_4$, ferromag. semicond. with hybridisation, two band s-d model 1−43137
$CdCr_2Se_4$, fundamental gap, photoluminesc. determ. 1−43169
$CdCr_2Se_4$, spin wave instability *(Russian)* 1−16437
$CdCr_2Se_4$, UHF pulse length influence on spin wave instability threshold *(Russian)* 1−30933

ferromagnetic properties of substances continued
$CdCr_2Se_4$:Ga, mag. domain. struct. and hysteresis, photoinduced changes meas. 1—52799
$CdCr_2Se_4(S_4)$, ^{111}In (^{111}Cd) hyperfine interactions, TDPAC meas. 1—26093
Ce monopnictides, mag. ordering 1—47876
Ce monopnictides and monochalcogenides, mag. ordering, ⟨100⟩ or ⟨111⟩ alignment 1—47877
Ce-Fe, amorphous, mag. props. and Kerr rot. 1—25970
(Ce-La) $[Co_{1-x}(Cu,Fe)_x]_5$, phase relations and mag. props. 1—8272
(Ce-La-Nd-Pr-Fe)$_2$Co$_{17}$, equilibrium relations among mag. phases 1—26427
CeSb, Ce^{3+} ground state, polarised neutron diffr. determ. 1—47859
CeSb:Bi(As), magnetization and neutron diffr. studies 1—47915
Co, electron mean free path, spin depend. 1—30729
Co, ferrofluid, magneto-optical effects 1—26175
Co, ferromagnetic resonance, oxidation effects 1—26042
Co film, domain struct. near phase transition 1—16463
Co film, ultra-thin, spin polarised, self-consistent band struct. calc. 1—30623
Co, HCP, domain wall centre and domain wall edge NMR reson., ^{59}Co spin echo intensity meas. 1—39007
Co, internal friction at spin reorientation transforms. *(Russian)* 1—42463
Co, magnetisation self reversal, appl. to palaeomagnetism 1—12354
Co, NMR study, crit. region and ferromag. and paramag. phase 1—26067
Co, spontaneous magnetisation, modified Zener model 1—34864
Co-B sputtered films, Hall effect and anisotropic magnetoresist. 1—7588
Co-Cr sputtered film, perpendicular magnetization mode 1—12369
Co-Fe-Si-B amorphous alloys, mag. relax., permeability, domain walls 1—30983
Co-Fe-V alloy, stator core of aircraft electrical alternator, effect of flux and stress conditions on mag. props. 1—12376
Co-Mn-B amorphous alloy, mag. props. 1—12284
Co-Ni-B sputtered films, Hall effect and anisotropic magnetoresist. 1—7588
Co-Pt (40 to 67 at.%) thin films, mag. behaviour 1—34862
Co-SiO_2 granular films, mag. and transport props. 1—47888
$(Co_{0.83}Cu_{0.17})_6Ce$, struct. changes during ageing, mag. props. 1—31508
$(Co_{0.81}Cu_{0.19})_{5.5}Sm$ alloy, struct. and coercive force after heat treatment, X-ray diffr. study 1—20131
CoF_2, electronic, structural and mag. props. of ^{57}Fe atoms created by ^{57}Co electron capture decay 1—26092
$Co_{0.995}Fe_{0.005}S_2$, Mossbauer study in external mag. field, mag. struct., quadrupole splitting 1—26098
$Co_{71.4}Fe_{4.6}Si_{9.6}B_{14.4}$ amorphous alloy, Lorentz electron microscopy 1—12339
CoP layers, cylindrical, amorphous, non-annealed and annealed, influence of torsion on magnetic properties 1—52819
$Co(S_xSe_{1-x})_2$, Hall effect and magnetoresistance 1—38796
Cr-Co-Cu-Fe permanent magnet alloys, deform.-aged, mag. props. 1—12342
Cr-Co-Fe permanent mag. alloy 1—12384
Cr-Fe, mag. props. and mag. interactions 1—30981
Cr-Fe decomposed solid solns., singularities of mag. props. *(Russian)* 1—38930
Cr-Fe-Mn Invar alloys, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1—25924
Cr-Mn austenitic steel, thermonuclear reactor material, ferromag. layer form. 1—41231
Cr-Ni austenitic steel, thermonuclear reactor material, ferromag. layer form. 1—41231
$Cr_xMn_{1-x}As$, Hall resistance modulation 1—25694
$(Cr_{1-x}Ni_x)_2As$ single crysts., mag. props., conc. depend. meas. 1—12267
$(Cr_{1-x}Ni_x)_2P$, ferromag. and paramag. props. 1—52756
CrO_2 preparation by oxidative process 1—35203
$Cr_3Se_{4-x}Te_x$, longitudinal and transverse magnetoresist., 5 to 300K, Curie pt. peak, thermal spin disorder decrease *(French)* 1—38797
$CsNiF_3$, ferromagnet, easy-plane, soliton features, calc. 1—7796
$CsNiF_3$, ferromeg; sine-Gordon system, breather contribs. to dynamical form factors 1—52762
$CsNiF_3$, local magnon modes, dynamic response associated with single-impurity spin 1—12275
$CsNiF_3$, mag. solitons, non-covariant corrections, theory 1—47892
$CsNiF_3$ one dimensional magnet, shear and nonlinear modes 1—7822
$CsNiF_3$, one-dimens. ferromag., static spin correls., transfer matrix method 1—3189
$CsNiF_3$, one-dimens. ferromag., phonon, magnon, and electronic Raman scatt. 1—12491
$CsNiF_3$, soliton obs. by neutron scatt., harmonic spin wave theory 1—47873
$CsNiF_3$, statistical mech., spin waves, mag. solitons 1—21002
Cu quaternary chalcogenides, Cu_2ABX_4 (A=Zn, Mn, Fe, Co; B=Si, Ge, Sn; X=S,Se), elec. mag. and EPR studies 1—34868
Cu-Ni, X-ray absorpt. spectra, mag. moments, and band theories 1—26307
$Cu_2Mn(Al_{1-x}Sn_x)$, Heusler alloy, spin-disorder resist. 1—7603
$Cu_x^{II}Mn_{1-x}^{II}Fe_2^{III}(OH)_8$, phase transform., ferromag. props., ferrite form. *(German)* 1—25423
Dy, magnetisation, AC susceptibility, and microwave absorpt. 1—47867
Dy-Th, mag. phase diagram, search for Lifshitz points 1—12292
$DyAl_2$, electrical resistivity anisotropy in ferromagnetic range 1—30720
$DyFe_2$ (100) plates, mag. domain struct. 1—25978
$DyFe_2$, elastic modulus from transverse sound-wave velocity along appl. mag. field 1—20297
$DyFe_2$-H_2 system: magnetism and pressure-composition isotherms to 1400 atm 1—20962
$E_{75}Si_{13}B_{12}$ amorphous alloys, mag. props. *(German)* 1—30984
ErC_x, (x=0.6), ferromagnetism, crystal field effect, crystallite orientation, neutron diffr. obs. 1—47852
$ErCrO_3$, adiabatic spin reorientation obs. 1—25953
$(Er_{1-x}Ho_x)Rh_4B_4$, reentrant ferromag. supercond., magnetisation meas. 1—20914
$Er_{1-x}Ho_xRh_4B_4$, reentrant ferromag. supercond., mean field theory for T_{c2} min. in phase diagram 1—47782
$ErMn_2N_x$, ^{166}Er Mossbauer spectra and X-ray diffr. study 1—3304
$ErRh_4B_4$, magnetic field depend. of neutron scatt. 1—7813
$ErRh_4B_4$, oscillatory mag. fluctuations near superconductor-to-ferromag. transition, small-angle neutron scatt. study 1—30883
$ErRh_{11}Sn_{3.6}$, reentrant supercond., low field magnetisation studies 1—42898
Eu-ZZ 1—12029
ferromagnetic properties of substances continued
$Eu_{1.2}Mo_6S_8(Se_8)$, resistive and mag. props., supercond., high-press. investig. 1—42880
EuO, critical spin fluctuations, ESR study 1—7860
EuO(S), s-f model, CPA calcs. with Coulomb repulsion, density of states 1—42670
$Eu^{3+}Rh_6B_4$, itinerant electron ferromag., X-ray, magnetisation and Mossbauer studies 1—30985
EuS, ferromag., spin waves and exchange interactions, neutron scatt. study 1—25918
EuS, Heisenberg ferromag., magnetostatic mode excitations 1—25919
EuS(Se), mag. Raman scatt. mechanisms 1—26205
$EuSe_{1-x}S_x$, mag. phases, NMR and differential susceptibility meas. 1—38914
(Fe, Co, Ni)-(Zr, Hf) amorphous alloys, mag. props. 1—25905
$(Fe,Ni,Co)_{90}Zr_{10}$, amorphous, Invar charact., thermal expansion, mag. props., and elec. resist. 1—7926
$(Fe,Ni)_{100-x}B_x$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1—34881
Fe alloy, amorphous, magnetostriction and magnetisation meas. 1—16468
Fe alloy, ferromagnetic transition, thermodynamic treatment 1—16439
Fe, angle-resolved photoemission, spin fluctuation and exchange effects, calc. 1—31315
Fe, Armco, magnetoelastic effect in ferromagnet, struct. and processing effects 1—34917
Fe, BCC, moment reversal calc. 1—3152
Fe, BCC and FCC, ferromag. and antiferromag., mag. moments 1—30925
α-Fe, C-charged, electron irrad., mag. relax. after annealing above stage III 1—21016
Fe complex, bromodis(N,N-diethyldithiocarbamato) Fe(III), mag. ordered phase 1—30945
Fe complex, $FeCl_2$-bispyridine, electronic, structural and mag. props. of ^{57}Fe atoms created by ^{57}Co electron capture decay 1—26092
Fe, DC mag. props., effect of sintering atm. 1—3940
Fe, electron mean free path, spin depend. 1—30729
Fe, ferromagnetic, polycrystalline film, Brillouin scatt. from magnons 1—26225
Fe film, ultra-thin, spin polarised, self-consistent band struct. calc. 1—30623
Fe foil, transient hyperfine field at recoiling Si, Pd and Pt ions 1—16267
Fe, itinerant electron ferromag., effects of spin fluctuations 1—30959
Fe, itinerant electron systems, single-site spin fluctuation theory 1—7846
Fe, K-shell polarisation of O ions by spin depend. electron promotion 1—16513
Fe, magnetic aftereffect of interstitial oxygen 1—52809
Fe, magnetic properties of plastically deformed single crysts. 1—47906
Fe, NMR study, crit. region and ferromag. phase 1—26067
Fe, orbital and high-field susceptibility calcs. 1—16430
Fe sheets AC magnetisation characteristics and iron loss testing using Epstein's apparatus *(Polish)* 1—40827
Fe single crystals, Hall effect results reviews 1—34688
Fe, sintered, Fe_3P addition effect on mag. props. and struct. 1—52805
Fe, specific heat and temp. coeff. of elec. resist. near Curie point *(Russian)* 1—25945
Fe, spontaneous magnetisation, modified Zener model 1—34864
Fe-Al, conc., self-diffusion meas. 1—52339
Fe-Al disordered alloys, disappearance of ferromagnetism, spin glass transition 1—38943
Fe-Al-Si, sendust, mag. props., appl. as video head for high coercive tape 1—7892
α-Fe-Al(Si)(P)(B), dil., substitutional sp impurities, electronic struct. calc. 1—16253
Fe-B Invar-type amorphous ribbons, magnetoelastic props. 1—7927
Fe-B sputtered films, Hall effect and anisotropic magnetoresist. 1—7588
Fe-B-Mo amorphous alloy, high mag. field magnetisation, magnetoresistance 1—7593
Fe-B(-Ni-P)(Si) amorphous alloy, ferromag., annealing and fabrication conditions, effect on mag. props. 1—12765
Fe-Co, soft X-ray appearance potential spectra 1—3538
Fe-Co-Si-B amorphous alloy sheets, eddy current losses, field annealing 1—12351
Fe-Cr, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1—25924
Fe-Cr-Co (55, 27, 17 wt.%), high-coercivity thermomag. treatment 1—42983
Fe-Cr-Co-Si permanent mag. alloy, mag. props. and Mossbauer spectra, heat treatment effect *(Chinese)* 1—52753
Fe-Cr-Co-V-(Ti), hard magnets, U and V-Ti additions effect on mag. and mech. props. 1—52798
Fe-Cr-Ni, sp. ht. anomalies obs. 1—30954
Fe-Cr(Mn)(V), dil. alloys, mag. moment distrib. and environmental effects, neutron scatt. study 1—25933
Fe-Mn, mag. alloys, high-remanence square-loop, mag. props. 1—7894
Fe-Mn amorphous alloys, spin glass-ferromag. crit. line, expt. 1—7839
Fe-Ni, dil., mag. relax. and aftereffect, low temp., after electron beam irrad. 1—7956
Fe-Ni, mag. alloys, high-remanence square-loop, mag. props. 1—7894
Fe-Ni, surface magnetism, chemisorption of gases influence 1—34583
Fe-Ni films, α to γ phase transform. under pulsed laser irrad. *(Russian)* 1—3735
Fe-Ni Invar alloy, mag. struct., neutron diffr. study 1—7810
Fe-Ni Invar alloy, metamagnetism imposed on ferromagnetism *(French)* 1—52773
Fe-Ni Invar film, saturation magnetisation, anomalous thickness depend. 1—7903
Fe-Ni Invar thin sheets, magnetoelastic props. 1—7927
Fe-Ni-Co film, production of stable, planar, micron-size magnetic domains 1—52818
Fe-Ni-Co thin film, relaxation processes under electron-nuclear resonance conditions 1—12428
Fe-Ni-Mn-Ti (10, 5, 1.5 at.%), Mossbauer spectra, annealing and rolling effects on mag. props. 1—39013
Fe-Ni-P-B amorphous alloys, resist. and magnetoresist. meas., mag. contrib. to scatt. 1—30699
Fe-Ni-P-B-Cr amorphous alloy, high mag. field magnetisation, magnetoresistance 1—7593
Fe-Ni(Pd)(Pt) Invar alloys, mag. and thermal anomalies 1—42949
Fe-Ni(Si), specific heat and temp. coeff. of elec. resist. near Curie point *(Russian)* 1—25945
Fe-Pd(Pt) alloys, mag. environment model, moment disturbances 1—25932

ferromagnetic properties of substances continued
Fe-Si, anisotropic electrical steel, mag. losses as function of induction amplitude 1−7883
Fe-Si, Barkhausen effect in oriented transformer sheets, role of grain boundaries 1−52800
Fe-Si, conc., self-diffusion meas. 1−52339
Fe-Si, induced mag. anisotropy prod. by thermomag. treatment *(Russian)* 1−3170
Fe-Si, magnetisation dynamics study by small-angle neutron scatt. 1−3217
Fe-Si, steel with diffuse plane cubic struct., mag. props., thermal and thermomag. treatment effect 1−7884
Fe-Si (3 wt.%), additional losses upon mag. reversal, extremal eqn. method 1−7879
Fe-Si (3 wt.%), domain struct. and EM losses in rotating mag. fields 1−7873
Fe-Si (3 wt.%), electrical steels, physics and physical metallurgy, conf. Chelyabinsk USSR (Sept. 1978) 1−5015
Fe-Si (3 wt.%), grain oriented, core losses, flux density depend. 1−7890
Fe-Si (3 wt.%), grain-oriented, decarburization, grain growth, mag. props. 1−8440
Fe-Si (3 wt.%), grain-oriented, mag. props., annealing coating and surface condition effects 1−8441
Fe-Si (3 wt.%), magnetisation curve calc., free crystal energy numerical minimisation 1−7880
Fe-Si (3 wt.%), non-oriented sheets, excess dynamic loss, grain size, precipitated Al_2O_3 particles, and lamination thickness effects 1−16461
Fe-Si (3 wt.%), plastically deformed, dislocation struct. rel. to mag. anisotropy *(Russian)* 1−11750
Fe-Si (3%) transformer plate, ferromagnetic domain structure *(Hungarian)* 1−25975
Fe-Si (3.2 wt.%), EM losses rel. to domain boundary motion nonuniformity 1−7872
Fe-Si (3.2 wt.%), single crystal, MgO film form. kinetics on (110) surface, magnetic props. 1−7924
Fe-Si (∼4 wt.%), magnetostriction rel. to magnetisation processes in alternating mag. field 1−7923
Fe-Si alloy (6 to 7 wt%), ribbon form, prep. grain struct., coercive force, annealing 1−8251
Fe-Si magnetostrictive films for tunable SAW devices 1−7928
Fe-Si-Al, mag. props. in high-freq. region 1−7882
Fe-Si-B metallic glass, comp. effects on thermal stability, magnetostriction and Young's modulus 1−25174
Fe-V (17.6 at.%), mag. diffusion anomaly 1−16082
$(Fe\text{-}Ni)_{86}B_{14}$ glassy alloys, mag. and struct. props. meas. 1−30982
$Fe_{1-x}B_x$ sputter films, prep. and struct., coercive field obs. 1−26386
$Fe_{100-x}B_x$, amorphous and annealed, Lorentz electron microscopy study 1−30065
$Fe_{82}B_{12}Si_6$, amorphous, Mossbauer study 2 to 796K 1−21098
$Fe_{82}B_{12}Si_6$ amorphous ribbons, Metglas 2605S, perpendicular mag. anisotropy, Mossbauer, X-ray diffr., and density meas. 1−52771
FeC_xB_{16-x} amorphous alloy, core loss meas. 1−12360
Fe_xCo_{1-x}, surface atomic order and ferromagnetism 1−52404
$Fe_{74}Co_{10}B_{16}$, Metglas 2605CO, Mossbauer study, crystn. and Curie temps. 1−39015
$(Fe_xCo_{1-x})_{89}Cr_{11}$, Invar properties, role of crystal and electronic structure 1−20981
$Fe_{1-x}Co_xSi$ solid solutions, low-temp. specific heat, ferromagnetism 1−20419
$Fe_2Cr_2S_4$, metal-semicond. transition, high temp. ferromagnetism *(Russian)* 1−34630
FeGe, helical mag. struct., phase transition, theory 1−16429
$Fe_{80-x}M_xP_{13}C_7$ (M=Ni, Mn, Cr), amorphous, crit. phenomena, sp. ht. meas. 1−7845
$Fe_{1-x}Mn_xCl_2$, disordered mixtures, lowest Fe^{2+} spin excitations by microwave absorption at high freqs. 1−3383
$Fe_{1-x}Mn_xSi$, sp. ht. capacity, 4.2 to 460K, mag. ordering effect 1−25955
$Fe_{3x}Mo_{3}B_{20}$, amorphous, anomalous thermal expansion on annealing, mag. struct. transitions 1−16069
$Fe_{0.65}Ni_{0.35}$ Invar alloys, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924
$Fe_{40}Ni_{40}B_{20}$, amorphous, inhomogeneously deformed, domain wall pinning 1−30970
$Fe_{40}Ni_{40}B_{20-x}M_x$ (M=metalloid), amorphous, exchange interactions, Grest-Nagel model 1−7824
$Fe_{47}Ni_{25}B_{18}Si_{10}$ ribbons, amorphous, relationship between magnetic properties and struct. changes during annealing 1−47901
$Fe_{82-x}Ni_xCr_{18}$, low-field magnetic suscept. near critical concentration *(Ukrainian)* 1−38913
$Fe_{32}Ni_{36}Cr_{14}B_6$, Metglas 2826-A, Mossbauer spectroscopic data 1−26096
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, Curie temp., anomalous props. in crit. region 1−7854
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, crit. behaviour, static magnetisation and AC susceptibility meas. 1−34893
$Fe_{40}Ni_{38}Mo_4B_{18}$ metallic glass, mag., elec. props. 1−3147
$Fe_{40}Ni_{38}Mo_4B_{18}$, Metglass 2826, amorphous ferromag., Mossbauer obs. 1−47990
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, ribbon, power loss and domain wall spacing, stress effects 1−12349
$Fe_{10}Ni_{70}P_{14}B_6$ amorphous alloy, spin-glass and mictomagnetic behaviour 1−7862
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, quenching effects, mag. anisotropy meas. 1−30936
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, rotational power loss, freq. depend. determ. 1−12348
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, ribbons, power loss and domain struct., ribbon width depend. 1−12350
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, remanence and Matteucci effect meas. 1−12379
$Fe_{80-x}Ni_xP_{20-y}B_y$ amorphous ferromagnetic alloys, short-wavelength elastic stress effect on coercive force *(German)* 1−31009
$Fe_xNi_{80-x}P_{14}B_6$, amorphous, magnetoresistance studies 1−25705
$Fe_xNi_{80-x}P_{14}B_6$ amorphous alloys, resistivity, mag. contrib. determ. 1−30697
$Fe_{1-x}Ni_xSi$, hyperfine interactions, local-environment model 1−52537
FeO_x-MgO solid soln., mag. interactions between Fe atoms 1−38922
Fe_2O_3, γ to α transform., mag. reson. study, superparamag. 1−3266
α-Fe_2O_3-Al_2O_3 solid soln., mag. interactions between Fe atoms 1−38922
γ-Fe_2O_3-Fe_3O_4 solid solns., changes in coercive force with magnetostrictive anisotropy 1−12353
Fe_3O_4, ferrofluid, magneto-optical effects 1−26175
Fe_3O_4-$MgAl_2O_4$ solid soln., mag. interactions between Fe atoms 1−38922
Fe_2P, pressure induced mag. transition 1−30941
$Fe_2P_{1-x}B_x$, ($x<0.15$), ^{57}Fe Mossbauer and X-ray study 1−26087
$FePd_3$:Sn, Mossbauer study of ^{119}Sn mag. hyperfine interaction *(Russian)* 1−7989
Fe_3Pt:Sn, Mossbauer study of ^{119}Sn mag. hyperfine interaction *(Russian)* 1−7989
$Fe_{78}Si_{10}B_{12}$ ribbons, amorphous, melt-spinning fabrication, effects of ambient gases on props. 1−25981
$Fe_{90-x}Si_xB_{10}$, amorphous, magnetisation and annealing effect, temp. depend. 1−47905
$Fe_{95-x}W_xB_x$, metallic glass, mag. props. and thermal stability meas. 1−20071
$Ga_{2/3+x}Cr_{2-x}S_4$, cation-deficient spinel, crystallographic and mag. props. 1−34321
$(Gd,Y)_4Co_3$, magnetic and transport props. 1−25898
Gd, elec. field gradient for ^{144}Gd 1−34963
Gd, magnetoelastic effects, mag. phase diagram, 170 to 300K 1−26003
Gd-Co/Permalloy, amorphous multilayer films, mag. props., meas. 1−12362
Gd-Lu(Y), mag. phase diagram, search for Lifshitz points 1−12292
$GdAl_2$, magnetisation in ferromag. phase 1−47909
$Gd(Al_{1-x}Cu_x)_2$, magnetoresistance and band struct. near Curie temp. 1−7589
GdCd single cryst., ferromag., transport props., critical behaviour 1−25702
$GdCl_3$, renormalisation calcs., susceptibility 1−42951
GdCo film, RF sputtered, spatial uniformity, O distrib. influence 1−12364
GdCo film, sputtered amorphous, growth induced perp. mag. anisotropy *(Korean)* 1−12365
$GdCo_3$ sputtered amorphous film, domain struct. depend on anisotropy 1−34913
$Gd(Co_xAl_{1-x})_2$ compounds, mag. props. and reson. studies 1−52847
$Gd_xCo_{1-x}(Cu_{1-x})$, amorphous, mag. anisotropy 1−25927
$GdCo_5H_x$, hyperfine field at ^{59}Co nuclei, NMR spin echo study, H conc. effect 1−3292
$Gd_6Mn_{23}H_{22}$, magnetisation meas., search for mag. ordering 1−12356
$Gd_{70}Y_{30}$, double ferromagnetism, susceptibility, elec. resist., and sp. ht. meas. 1−3153
^3He, triangular plane crystal, mag. props. of vacancies 1−2765
n-$HgCr_{1.9}In_{0.1}Se_4$, elec. cond., magnetoresist., and Hall effect meas. 1−20726
Ho^{3+} compounds, mag. props., crystal field splitting, calc. 1−3155
Ho_2C, ferromagnetism, crystal-field effect, struct., neutron-diffr. obs. 1−47851
$Ho_{11}Ge_{8.75}Si_{1.25}$, magnetic struct. determ. by neutron difr. 1−25893
$HoMo_6S_8$, competition between ferromagnetism and supercond. 1−38911
$HoMo_6S_8$, reentrant supercond., long range mag. order obs. 1−38910
$Ho_xTb_yDy_{1-x-y}Fe_2$, magnetic anisotropy and spin reorientations 1−20975
$In_{2/3+x}Cr_{2-x}S_4$, cation-deficient spinel, crystallographic and mag. props. 1−34321
Ir-Gd, dil., ferromag. props. 1−12272
Ir-rare earth, dil., ferromag. props. 1−12272
K_2CuF_4, ferromagnetic stripe domains, magneto-optical studies 1−12480
K_2CuF_4, two-dimens. ferromag., anomalous mag. intensity obs. in neutron scatt. 1−52751
K_2CuF_4:Mn^{2+}, kinetic exchange at low charge transfer energies 1−38924
K_2CuF_4:Mn^{2+}, mag. impurity props. magnetic dipole light absorpt. *(Russian)* 1−47879
$K_2Cu_xZn_{1-x}F_4$, at percolation threshold, Heisenberg ferromag. susceptibility 1−34865
$K_2Cu_xZn_{(1-x)}F_4$, critical temperature of randomly diluted two-dimensional Heisenberg ferromag. 1−7832
$KZnF_3$:$Mn^{2+}Cu^{2+}(Ni^{2+})$, kinetic exchange at low charge transfer energies 1−38924
$LaRh_6B_4$, itinerant electron ferromag., X-ray, magnetisation and Mossbauer studies 1−30985
$La_{80-x}Sm_xAu_{20}$ amorphous alloys, supercond. and bulk mag. props. 1−30864
$LiHoF_4$, spontaneous magnetisation, crit. behaviour, light scatt. meas. 1−20966
$LiTbF_4$, renormalisation calcs., susceptibility 1−42951
$LiTb_{0.3}Y_{0.7}F_4$, diluted uniaxial dipolar ferromagnet, crit. props. 1−7851
$LiTb_xY_{1-x}F_4$, Ising ferromag. random dilution at marginal dimensionality 1−20977
$Lu_{0.02}Dy_{0.98}$, dil., anal. of ^{175}Lu NMR data 1−34946
$Lu_{0.02}Tb_{0.98}$, dil., anal. of ^{175}Lu NMR data 1−34946
$Lu_2V_2O_7$, ferromagnetic semiconductor, critical temp. and saturation moment 1−25912
MnAl, melt extracted, mag. props. and permanent magnet parameters 1−12344
MnAlC, melt extracted, mag. props. and permanent magnet parameters 1−12344
MnAlC permanent magnets with macroscopically-plane mag. anisotropy 1−12280
MnAs, Mossbauer spectra of ^{57}Fe 1−47988
$Mn_{1+x}Cr_{2-x}O_4$, spinel system, magnetic properties 1−47878
$Mn_{2-x}Cr_xSb$, double-phase sample, struct. and mag. props. 1−20401
$MnFe_2O_4$, non-exponential spin relaxation near critical point 1−38942
MnP, magnetic phase transition undermag. field, neutron diffr. obs. 1−7831
$Mn_5Pd_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
$Mn_5Rh_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
MnSb under high temp. and press., mag. props. *(Russian)* 1−20978
MnSi, helical mag. struct., phase transition, theory 1−16429
MnSi, helical spin density wave 1−12276
Mo Permalloy film, cathode sputtering deposition mag. props. 1−8226
Ni (110), transversely magnetised, spin-polarised photoelectron emission 1−31314
Ni, angle-resolved photoemission, spin fluctuation and exchange effects, calc. 1−31315
Ni, chemisorption of H_2, Anderson-Newns Hamiltonian 1−7473

ferromagnetic properties of substances continued
Ni, dynamic susceptibility, temp. depend., coherent mag. inelastic neutron scatt. study 1−34873
Ni, electromag. US generation and attenuation in mag. field 1−12377
Ni, electron mean free path, spin depend. 1−30729
Ni ferromagnetic, hyperfine field and relaxation time of impurities 1−7556
Ni film, ultra-thin, spin polarised, self-consistent band struct. calc. 1−30623
Ni, itinerant electron ferromag., effects of spin fluctuations 1−30959
Ni, itinerant electron systems, single-site spin fluctuation theory 1−7846
Ni, itinerant ferromagnetism and p-state supercond., coexistence 1−12228
Ni, itinerant ferromagnetism, spin polarised photoelectrons from (110) surface 1−12632
Ni, K-shell polarisation of O ions by spin depend. electron promotion 1−16513
Ni, microwave transmission, ferromag. antiresonance 1−7952
Ni, NMR study, crit. region and ferromag. and paramag. phase 1−26067
Ni, neutron scatt., low-angle, specimen thickness and mag. field effects *(Russian)* 1−25123
Ni oil, transient hyperfine field at recoiling Si, Pd and Pt ions 1−16267
Ni, orbital and high-field susceptibility calcs. 1−16430
Ni, porous, longitudinal magnetostriction 1−21027
Ni, self-consistent semi-relativistic energy band struct. calcs. 1−34616
Ni, spontaneous magnetisation, modified Zener model 1−34864
Ni, surface electronic struct. changes at Curie temp. 1−52774
Ni-B amorphous-like alloy film, electroless plating deposition using DMAB reducing agent, crystallization and magnetic props. *(Japanese)* 1−47006
Ni-Cu alloys, local environment effect on atomic mag. moment 1−38916
Ni-Fe films, resonance oscills. in mag. structures, stroboscopic electron microscopic study *(German)* 1−30994
Ni-Fe soft mag. high permeability materials properties *(German)* 1−21011
Ni-Fe specimen, Bloch-wall resonance excitation in vertical field on smooth wall *(German)* 1−30971
Ni-Fe thin films, vacuum deposited, mag. and struct. props., substrate temp. effects 1−42985
Ni-Fe-Mn alloys of high const. mag. permeability 1−7887
Ni-Fe(Mn), disordered, spin wave damping, inelastic neutron scatt. study 1−7819
Ni-H, electronic struct. of interstitial H by cluster-in-condensed-matter technique 1−20653
Ni-Mn, dil., thermal and elec. cond. in ferro-paramagnetic transition region 1−16442
Ni-Mn, disordered, forced volume magnetostriction 1−7929
Ni-Mn-Cr alloys, γ-phase, mag. state *(Russian)* 1−30913
Ni-Mo-Mn soft magnetic alloy 79NM, purity effect on mag. props. 1−42982
Ni-NiO-Ni(Co)(Fe) ferromagnetic tunnelling junctions, spin-polarised electron tunnelling *(Japanese)* 1−12210
Ni-Pd(Pt) alloys, mag. environment model, moment disturbances 1−25932
Ni-Si, electrical resistivity meas., near mag. phase transition, Curie temp., concs. depend. 1−7830
Ni_xAg_{1-x} amorphous thin films, prepared by RF sputtering, resistivity and Hall effect, mag. props. *(French)* 1−30849
β′-NiAl, magnetisation behaviour under const. field, magnetometer response effects 1−7895
$Ni_{1-x}Cr_x$, forced volume magnetostriction temp. depend. 1−47922
$Ni_{0.4}Cu_{0.6}$, compositionally modulated alloys, neutron diffr. anal. 1−12263
Ni_3Fe, domain struct. after tensile deform. 1−7876
Ni_3Fe, mag. anisotropy induced by rolling, effect of O_2 *(Russian)* 1−3171
Ni_3Fe, ordered, neutron irrad. mag. relax. 1−25992
$Ni_{1-x}In_yH_x$, ion implanted, mag. props., TDPAC spectra study 1−21099
Ni_3Mn, exchange interaction mechanism, nucl. spin echo study 1−52767
$Ni_{75}Mn_{18}Fe_7$, disordered, ferromagnetic relaxation anomaly during spin glass transition *(Russian)* 1−31034
$Ni_{1-c}Ru_c$, c=0.027, 0.033, 0.046, ferromagnetic, magnetic moment distribs. and form factors 1−7812
$Ni_{3.34}Si$ elastic characts. and thermal props., Curie pt. effects 1−38428
Np intermetallics, mag. props., high press. Mossbauer study 1−47992
Os-Gd, dil., ferromag. props. 1−12272
Pd film, ultra-thin, spin polarised, self-consistent band struct. calc. 1−30623
Pd-Co(Ni)(Fe), magnetic anisotropy in Pd rich alloys 1−7826
Pd-Fe, inhomogeneous ferromag. ordering, small-angle neutron scatt. study 1−25885
Pd-Fe film, compositionally modulated, mag. props. 1−12361
Pd-Mn, inhomogeneous ferromag. ordering, small-angle neutron scatt. study 1−25885
Pd-Mn-Sb alloys, polarised neutron scatt., appl. as neutron polariser 1−45761
Pd-Ni, dil., paramag. and weakly ferromag., giant-moment clusters, magnetisation meas. 1−42947
PdCo, dil., ferromag. to spin glass transition, magnetoresist. study 1−30940
PdFeMn, reentrant spin-glass system, neutron scatt. studies 1−12329
PdMn, dil., ferromag. phase, AC susceptibility and elec. resist. 1−47866
Pd_2MnSn Heusler alloy, spin dynamics 1−38941
$(Pd_xPt_{1-x})_3Fe$, Hall effect meas., mag. heterogeneity effect *(Russian)* 1−12096
Pr-Fe amorphous alloys, melt-spin, prep. and coercive force 1−47900
$PrAl_2$, electrical resistivity anisotropy in ferromagnetic range 1−30720
Pr_2Co_{17}, hard axis anisotropy meas., single-point detection technique 1−16438
Pr_3Se_4, singlet-state ferromag., cubic system with low local symmetry 1−25854
Pr_3Tl, electrical resistivity, induced moment ferromag. near threshold 1−25721
Pt-Gd, dil., ferromag. props. 1−12272
PtFe, dil., ferromag. to spin glass transition, magnetoresist. study 1−30940
$Pt_3Mn_xFe_{1-x}$, specific heat, ferromagnetic-antiferromagnetic transition *(Russian)* 1−30967
$RbNiF_3$, domain struct. visual investigation *(Russian)* 1−34907
Rh-Gd, dil., ferromag. props. 1−12272
Ru-Gd, dil., ferromag. props. 1−12272
Sc_3In, heat capacity peak disappearance around Curie temp. in high mag. field 1−47894

ferromagnetic properties of substances continued
Si steels, oriented cold rolled of Czechoslovak origin, mag. props. *(Czech)* 1−3146
Si-Fe single crystal, differential movement in 180° Bloch wall *(German)* 1−30972
Sm intermetallics, 4f and band contribution to Sm form factor 1−25678
$Sm(Co,Cu,Fe,M)_z$ magnets, M=Ti, Zr, Z=6.8, 7.25, microprobe and TEM study 1−52304
$Sm_2(Co, Cu, Fe, Zr)_{17}$ magnets, resin bonded 1−8252
$SmCo_5$, amorphous sputtered films, crystn., mag. and struct. changes 1−16459
$SmCo_5$ based permanent magnets, methods of determ. perfection of mag. and cryst. texture 1−16460
$SmCo_5$ magnet, hot isostatically pressed 1−8253
$SmCo_5$ magnets, oxidation controlled mag. ageing, mag. losses meas. 1−53305
$Sm_2Co_{10}Cu_{1.48}Fe_{3.16}Zr_{0.194}$ hard permanent magnet, domain wall pinning 1−7875
$Sm_{0.5}M_{0.5}Co$, (M=Ce 50%, La 20%, Nd 10%, Pr 10% etc.), amorphous sputtered films, crystn., mag. and struct. changes 1−16459
$Sm_{2-x}R_xCo_{10}Cu_{1.5}Fe_{3.2}Zr_{0.2}$ (R=Gd, Tb, Dy, Ho, Er) magnets 1−7901
$Sm_{2-x}R_xCo_{17-y}Mn_y$ (R=Gd,Er,Dy), magnetic props. 1−25930
$Sn_{1-x}Cr_xTe$, structural phase transition, spin reson. study 1−52831
$Sr(Co_{1-x}Mn_x)O_3$ perovskite, isotropic temp. factors, spin state change rel. to lattice parameter 1−38354
$(Sr_{1-x}Eu_x)S$, dil., specific heat, Eu^{2+} ion interactions, spin freezing 1−3197
Tb thin foils, microstruct. and mag. domain struct., TEM study 1−47921
Tb-Er, mag. props., susceptibility and magnetisation meas. 1−25896
Tb-Fe, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297
Tb-Sm single crystals, magnetisation, susceptibility, anisotropy, rel. to temp., composition 1−34866
Tb-Th(La)(Gd), mag. phase diagram, search for Lifshitz points 1−12292
Tb-Y, magnetisation, AC susceptibility, and microwave absorpt. 1−47867
TbF_3, mag. props., powder neutron diffr. study 1−3143
$TeCrO_6$, Cr^{III}-Cr^{III} coupling, nonmag. cation influence exchange const., ferro- and antiferromag. effect 1−47875
Th_7Fe_3Hx, magnetic props. 1−20956
Ti-Mn-H, magnetic susceptibility and magnetization meas. 1−20964
$Ti(Be_{0.9}Cu_{0.1})_2$, ferromag., high-field magnetisation 1−16426
$Ti(Be_{0.95}Cu_{0.05})_2$, ferromag., high field magnetisation 1−16426
$TiBe_{2-x}Cu_x$, ferromag. transitions, mag. props. meas., itinerant electron model 1−47845
$Ti(Fe_{0.5}Co_{0.5})$, off-stoichiometric, mag. props. 1−47923
$TlCu_{2-x}Fe_xSe_2$, irreversible antiferromag. to ferromag. transition 1−34882
$Tl_2Mn_2O_7$, synthesis at high press. in oxidation atmosphere 1−35227
$TmAl_2$, magnetic behaviour from neutron scatt. expts. 1−25891
α-TmH(D), electrical resistivity, ordered mag. struct. 1−20700
$TmH_x(D_x)$, solid solution, electron irradiated, low temp. elec. resist. 1−34679
U chalcogenides, magnetisation and mag. struct. meas., domain wall effects 1−47912
U monochalcogenides and monopnictides, cond. and valence band states, spin polarised photoemission study 1−47468
U monopnictides, mag. ordering 1−47876
U monopnictides and monochalcogenides, mag. ordering, ⟨100⟩ or ⟨111⟩ alignment 1−47877
U_3As_4, cubic, ferromag. anisotropy and elec. resistivity 1−47690
U_3As_4 cubic cryst., low fields torque in easy directions 1−52797
U_3As_4, ferromag., phase transition with mag. field along hard direction 1−16440
UAsS, low temp. sp. ht., 1-300K 1−16447
UAsSe, low temp. sp. ht., 1-300K 1−16447
UAsTe, low temp. sp. ht., 1-300K 1−16447
$U(Co_xNi_{1-x})_2$, ferromagnetism onset 1−47887
$U(Fe_xCo_{1-x})_2$, exchange-enhanced paramagnetism and ferromag. behaviour obs. 1−25873
$U(Fe_{50}Mn_{50})_2$, quasi-binary alloy, AC magnetic susceptibility, 4.2 to 290K 1−47863
UGa_2 single crystal, anisotropy of power spectrum of Barkhausen noise 1−47903
UP-USe system, mag. phase diagram, neutron diffr. and mag. susceptibility study 1−12290
U_3P_4, cubic, ferromag. anisotropy and elec. resistivity 1−47690
UPd_3, low temp. phase transitions, thermal expansion, mag. susceptibility, magnetisation meas. 1−47882
$U_{1-x}(Pr,Nd)_x$ S(P), cubic struct., magnetization and neutron diffr. studies 1−47914
$UPt(Pt_2)$, binding energies, work function changes, and saturation moments 1−53052
$USb_{1-x}Te$ solid soln., mag. phase diagram 1−47886
UTe, electronic struct., cluster MS calc. 1−47467
UTe(S), spin and phonon excitations, neutron scatt. studies 1−47874
UTe_xSb_{1-x} and UTe, low temp. X-ray diffr. studies 1−47062
$U_xY_{1-x}Sb$, singlet-ground-state ferromag., valence of U and 5f moment localisation 1−47911
$(U_xZr_{1-x})Fe_2$, magnetization and Mossbauer studies 1−52806
WCr_2O_6, Cr^{III}-Cr^{III} coupling, nonmag. cation influence exchange const., ferro- and antiferromag. effect 1−47875
YCo_5, domain wall centre and domain wall edge NMR reson., ^{59}Co spin echo intensity meas. 1−39007
YCo_5, magnetisation density and cryst. struct., polarised neutron study 1−25882
YCo_5H_x, hyperfine field at ^{59}Co nuclei, NMR spin echo study, H conc. effect 1−3292
$Y_2(Co_{1-x}M_x)_{17}$ (M=Cu,Al), mag. anisotropy and NMR, individual Co-site contrib. 1−52770
$Y_{1-x}Gd_xCo_5$, magnetocrystalline anisotropy *(Russian)* 1−25926
YbPd, mixed valence props., expansion coeff. and mag. susceptibility 1−34492
Zr-Fe(Co)(Ni) amorphous alloy, mag. props. 1−12283
$Zr(Fe_{1-x}Co_x)_2$, hyperfine interactions and local mag. ordering, Mossbauer and NMR study 1−47984
$ZrZn_2$, itinerant ferromagnetism and p-state supercond., coexistence 1−12228
$ZrZn_2$, polycryst., high-field magnetoresist. meas. 1−30723
$ZrZn_2$, self-consistent band calc., magnetism and supercond. 1−12023

ferromagnetic relaxation
see also ferromagnetic resonance
$CdCr_2Se_4$, crit. relax. processes, mag. reson. linewidth meas. 1−26043
Co-Fe-Si-B amorphous alloys, mag. relax., permeability, domain walls 1−30983
Fe-Ni, dil., mag. relax. and aftereffect, low temp., after electron beam irrad. 1−7956

ferromagnetic resonance
see also ferromagnetic relaxation
bubble circuit, ion implanted, annealing 1−7915
bubble garnets, submicron, development and characts. 1−7905
diethylammonium copper tetrachloride, spin-wave relaxation in field induced paramag. phase 1−7955
discs and films, FMR magnetostatic modes, retroaction on microwave field 1−52763
ferrites, resonant metallised, magnetic loss meas., reson. cavity method 1−7888
ferromagnetic resonance line width and shift by dislocation group 1−7957
ferromagnetic thin films, surface mag. anisotropy obs. 1−47919
ferromagnets, magnetoelastic dislocation internal friction, magnon damping *(Russian)* 1−31004
garnet film, laser annealed, mag. props., ferromag. reson. and bubble statics meas. 1−12367
garnet films, (111) oriented, ferromag. reson. 1−16483
garnet films for micron and submicron mag. bubbles with low damping consts., ferromag. reson. linewidth meas. 1−47920
glass, ferromagnetic resonance of fine grained precipitates 1−31032
hyperfine interaction due to high-freq. electron spin oscills. effect, NMR freq. shift 1−3275
magnetic, materials and components in communication engineering and data transmission, conf., Bad Nauheim, Germany (April 1980) *(German)* 1−27658
magnetogyrotropic media effective parameters, EM wave propag. 1−37393
metal, microwave transmission, ferromag. antiresonance 1−7952
microwave cubic ferrites, crystalline anisotropy influence on non-linear effects *(German)* 1−31033
multilayer films, ferromag. reson. freq. determ. 1−3267
thick film, EM energy reson. transmission via phonons 1−7953
thin films, ferromagnetic resonance point determ. 1−47955
X-band, cryostat for range 6 to 300K *(Chinese)* 1−5327
$BaFe_{12}O_{19}$, chemically coprecipitation form., DTA, X-ray and magnetic obs. 1−39290
$Ba_2Zn_2Fe_{12}O_{22}$, relax. processes near mag. phase transitions, ferromag. reson. study 1−26044
$CdCr_2Se_4$, crit. relax. processes, mag. reson. linewidth meas. 1−26043
Co complex, cobalt pyridine chloride, excitations and mag. ground sate, exchange parameters, spin cluster reson. 1−25880
Co, ferromagnetic resonance, oxidation effects 1−26042
$Co_xMn_{0.62-x}Zn_{0.27}Fe_{2.08}O_4$, ferromag. reson. parameters, saturation magnetis. and magnetocryst. anisotropy, 77-300K *(Russian)* 1−16485
Dy, magnetisation, AC susceptibility, and microwave absorpt. 1−47867
EuO, resistivity decrease due to ferromag. reson, carrier energy relax. time 1−12123
EuS, Heisenberg ferromag., magnetostatic mode excitations 1−25919
Fe-Ni-Co thin film, relaxation processes under electron-nuclear resonance conditions 1−12428
Fe_2O_3, γ to α transform., mag. reson. study, superparamag. 1−3266
FeTi, ferromag. reson. after hydrogenation-dehydrogenation cycles, superparamag. cluster form. 1−43017
Gd-Co amorphous films, bulk and surface reson. props. 1−12363
$Gd(Co_xAl_{1-x})_2$ compounds, mag. props. and reson. studies 1−52847
$LaNi_5$, ferromag. reson. after hydrogenation-dehydrogenation cycles, superparamag. cluster form. 1−43017
$(LaTmCa)_3(FeGe)_5O_{12}$, garnet films, magnetic loss, domain wall motion 1−16465
$MgAl_{0.2}Cr_xFe_{1.8-x}O_4$ $(0 \leq x \leq 0.6)$, Cr effect on mag. and elec. props. 1−7190
$MgFe_2O_4$, thin films and small particles, superparamag. props. 1−7898
$Mg_{0.9}Mn_{0.3}Fe_{1.8}O_4$ epitaxial films, rotatable mag. anisotropy and mag. domain struct. 1−7911
Mg_2Ni, ferromag. reson. after hydrogenation-dehydrogenation cycles, superparamag. cluster form. 1−43017
Ni, microwave transmission, ferromag. antiresonance 1−7952
Ni-Fe films, resonance oscills. in mag. structures, stroboscopic electron microscopic study *(German)* 1−30994
Ni-Fe specimen, Bloch-wall resonance excitation in vertical field on smooth wall *(German)* 1−30971
$Ni_{75}Mn_{18}Fe_7$, disordered, ferromagnetic relaxation anomaly during spin glass transition *(Russian)* 1−31034
Tb-Y, magnetisation, AC susceptibility, and microwave absorpt. 1−47867
$(YErCa)_3(FeGe)_5O_{12}$, garnet films, magnetic loss, domain wall motion 1−16465
YGaIG, float zone growth, cryst. defects and microwave characts 1−8222
YIG disc, FMR magnetostatic modes, retroaction on microwave field 1−52763
YIG epitaxial film, low-field damped surface modes in FMR spectra 1−7954
YIG thick epitaxial film, FMR study of damped surface modes 1−16484
$YIG:Co^{2+}$, magnetoelastic props., FMR and static capacitance 1−26006
$(YLaEu)_3(FeGa)_5O_{12}$ epitaxial films, growth induced anisotropy, FMR 1−7920
$(YSmLuCa)_3(FeGe)_5O_{12}$ garnet films, magnetic loss, domain wall motion 1−16465

ferromagnetism
see also ferromagnetic properties of substances; ferromagnetic relaxation; ferromagnetic resonance; Ising model; spin waves
alloys, binary, surface atomic order and ferromagnetism 1−52404
alloys, phase diagram calcs. mag. effects 1−43318
alloys, spin wave stiffness, const. depend. on ordering 1−16432
amorphous, longitudinal spin fluctuations, relax. times 1−30931
amorphous alloys, exchange interactions, Grest-Nagel model 1−7824
amorphous alloys, ferromag. and speromag., dipole field distrib., calc. 1−20987
amorphous ferromagnet, metastable states in random anisotropy model, Monte Carlo simulation 1−12248
amorphous ferromagnet, two-component, spin wave spectrum in random lattice model 1−52765
amorphous ferromagnets, influence of structural instabilities on spontaneous magnetisation 1−7817

ferromagnetism continued
amorphous ferromagnets, phase transitions, nonlocal Landau-Ginzburg theory 1−16441
amorphous ferromagnets, solvable model, mag. props. 1−38918
amorphous ferromagnets below ordering temperature, spin wave model *(Spanish)* 1−16433
amorphous ribbons under torsion, magnetisation reversal, theory 1−21024
anharmonic ferromagnetic chain, solitary magnons *(Russian)* 1−3167
anisotropic ferromagnet, magnon spectrum and damping *(Russian)* 1−20969
anisotropic homogeneous quenched bond-mixed Potts ferromagnet, critical props. 1−42964
anisotropic polycrystalline ferromagnetic material, magnetisation rotation meas. and prediction 1−52769
anisotropy effect on first order antiferromag.-ferromag. transition 1−12291
Ashkin-Teller model, phase transform. near decoupling limit 1−34902
biquadratic exchange interaction in isotopic Heisenberg ferromag., spin wave theory *(Chinese)* 1−25946
chains, flat system, solitary magnons 1−7821
coexistence with supercond., free energy calc. 1−34824
conducting plate, collective excitations, surface impedance in mag. field *(Russian)* 1−3159
conductors, anisotropic Fermi surfaces, excitation in magnetic field 1−2898
correlation decay and local Ward identities 1−3182
correlation inequalities and decay of correlations 1−3180
critical temperature for unique equilibrium, N-vector models 1−23117
dilute and two-dimensional systems, Monte Carlo simulation 1−7797
dilute ferromagnet, excitations near percolation threshold 1−7868
dilute ferromagnetism, crit. dynamics in soluble model 1−12331
dilute magnets, dimensional crossover, crit. curves 1−12308
dilute s-state Potts model, thermal phase transition at percolation threshold 1−42972
diluted ferromagnet, effective field theory 1−25962
disordered ferromagnetic chain, dynamic response, alloy transfer matrix approx. 1−16431
domain structure obs. using polarisation microscope 1−40823
domain wall contribution to low-temp. thermodynamics *(Russian)* 1−42960
elastically stressed ferromagnet, limiting velocity of domain walls 1−3216
electrically conducting half-space, losses caused by AC current carrying filament 1−1435
exciton ferromagnet, impure, phase diagram 1−12296
ferrofluids, magnetic birefringence 1−26174
ferromagnet with paramagnetic nuclei, generalised Heisenberg model 1−30902
ferromagnetic double layer, magnetostatic spin wave modes 1−3162
ferromagnetic semiconductors, electron level density *(Russian)* 1−12011
ferromagnetic superconductors, re-entry phenomena 1−30875
film, charged walls between domains *(Russian)* 1−12366
film, light scatt. by spin wave excitations 1−43136
film, multi-layer, internal cylindrical mag. domains *(Russian)* 1−38956
film domain wall width determ., Fresnel mode of Lorentz microscopy, in STEM 1−20037
films, channel form. under influence of fields perpendicular to plane of sample *(Russian)* 1−7902
fine particles, small-angle neutron scatt., Guinier law 1−47916
finite system, real-space renormalisation group anal. 1−21004
generalised Heisenberg ferromagnet and Gross-Neveu model *(Russian)* 1−42940
generalised nonlinear Schrodinger and Heisenberg ferromagnetic spin eqns., geometry 1−34846
Ginzburg-Landau theory, random temperature, ferromagnetic or spin-glass ordering 1−20936
ground state of spin-1 system with three-atom interaction 1−12251
guided magnetic waves, quasi-optics of group delay 1−1442
Hall effect development history ferromagnets, Hall effect development history 1−34686
Heisenberg ferromagnet, biquadratic, choice of decoupling scheme 1−25862
Heisenberg ferromagnet, continuous isotropic mag. solitons as envelope solitons of nonlinear Schrodinger eqns. 1−20949
Heisenberg ferromagnet, crit. exponents in reaction field approx. 1−20997
Heisenberg ferromagnet, Curie temp. sensitivity to single-ion aniotropy, second-order Green's function approach 1−7840
Heisenberg ferromagnet, effect of biquadratic-exchange interaction on magnetisation and susceptibility 1−3134
Heisenberg ferromagnet, general spin, dilution 1−38939
Heisenberg ferromagnet, impure, with biquadratic interactions 1−3135
Heisenberg ferromagnet, low temp. magnetisation 1−47838
Heisenberg ferromagnet, self-consistent renormalised spin-wave theory in critical region 1−34871
Heisenberg ferromagnet, sensitivity of the Curie temperature to the number of nearest neighbours 1−38940
Heisenberg ferromagnet, uniaxial, low temp. self-energy 1−3132
Heisenberg ferromagnet with uniaxial anisotropy, two-magnon excitations 1−3165
Heisenberg model, drone-fermion representation 1−18148
Heisenberg one-dimensional classical ferromagnet, static spin correls., transfer matrix method 1−3189
Heisenberg quantum ferromag. chain, solitons 1−16446
helimagnets, two-dimens. X-Y model, crit. behaviour, theory 1−20994
Hubbard model, magnetic structure for nonalternating lattices, vacancies *(Russian)* 1−30903
Hubbard tetrahedron, ferromag. correlation, mag. susceptibility, spt. ht. calc. 1−20996
hyperfine fields at impurity sites in ferromag. host, self-consistent calc. 1−12282
hysteresis energy loss mechanism in rotational mag. reversal 1−7881
hysteresis loop, analytical expressions *(Russian)* 1−7886
hysteresis processes, complex, modelling procedure 1−7891
Ising ferromagnet, dipolar-coupled, upper marginal dimensionality 1−7866
Ising ferromagnet, grand-canonical ensemble model, crit. temp., chem. pot. depend. 1−30961
Ising ferromagnet, semi-infinite, crit. behaviour, real-space renormalisation group transform. 1−12322
Ising ferromagnets, examples with nonconcave M at low H 1−25858
Ising linear chain with long- and short-range interactions 1−25949
Ising model, crit. field and low temp. crit. indices 1−12324

ferromagnetism continued
Ising model, ferromag. square lattice, surface tension renormalisation group calcs. 1−42977
Ising model, random, ferro- and antiferromagnetic binary mixture, entropy of spin-glass state at T=0 1−25958
Ising model, two-dimensional, in random mag. fields, recursive transfer matrix model 1−34894
Ising model, two-dimensional, with frustrated squares, free energy, phase transition 1−20995
Ising model, two-dimensional brickwork lattice, with second neighbour interactions in horizontal direction, exact soln. 1−52784
Ising model with frustration, critical temp. 1−16449
Ising model with spin 1/2, correlation reduction theory 1−30950
Ising models, continuous-spin, low temperature expansion 1−25857
Ising models without phase transitions 1−42980
itinerant electron ferromagnet, effects of spin fluctuations 1−30959
itinerant electron magnetism, unified picture *(Japanese)* 1−34851
itinerant ferromagnetism and p-state supercond., coexistence 1−12228
itinerant magnetism in hybridised degenerate electronic bands 1−47839
itinerant-electron ferromagnets, mag. field effect on elastic props. 1−15953
jellium, CDW and spin density waves 1−25651
Landau model, phase transitions, with two order parameters, stability, phys. props. 1−16454
Landua-Ginzburg eqn. for solid surfaces, oder parameters 1−18173
lattice systems, third law of thermodynamics and degeneracy of ground state 1−40721
layered ferro- and antiferromag. systems, amorphisation, interlayer exchange parameters, spin glass form., theory 1−12302
linear ferromagnet, Ising-Heisenberg model, excitation spectrum, low-temp. thermodynamics 1−3196
liquid, magnetisation and transition temp., statistical calc. 1−12249
magnetic correlations, quenched random fields 1−34899
magnetic crystal, struct. phase transitions, theory 1−12300
magnetic excitations and struct. disorder in Heisenberg system 1−12277
magnetic insulators, spin wave damping, threshold acoustic phenomena *(Russian)* 1−30930
magnetic noise struct. meas., selection of test mode with superposed transducer 1−28041
magnetic semiconductor, free-carrier absorption of radiation due to spin-disorder scatt. 1−3350
magnetic superconductor, transitions, coupling parameters, Ginzburg-Landau theory 1−3175
magnetically ordered materials, press. effect on mag. ordering *(Russian)* 1−7834
magnetisation distrib. in polycryst. ferromag. bodies with high demagnetisation factor 1−30987
magnetisation in uni-directional field, mathematical model *(Russian)* 1−25979
magnetoelastic dislocation internal friction, magnon damping *(Russian)* 1−31004
magnetoelastic oscills. of domain boundaries, reson. modes *(Russian)* 1−25972
magnetoelastic oscills. of domain boundaries, sound generation and scatt. *(Russian)* 1−31000
magnons, localised, around surface impurity in two interacting spin chains 1−42953
many-body correlations and the phase transition for ferromagnets *(Chinese)* 1−25934
metal, microwave transmission, ferromag. antiresonance 1−7952
metal, nearly ferromagnetic, susceptibility and specific heat calc., Coulomb correlations 1−25908
metal, plasmons, inelastic scatt. of polarised low-energy electrons 1−2901
metal, spin-dependent electron absorption 1−43228
metal chemisorption of H_2, Anderson-Newns Hamiltonian 1−7473
metallic ferromagnets, RPA degenerate d-band complex magnons, spin polarity fluctuations 1−34849
metals, elec., thermal, and thermoelec. props. near Curie temp. *(Russian)* 1−30724
metals, invar phenomena, magnetovolume effect 1−3234
3-dmetals, local band definition, spin waves 1−25863
metals and semiconductors, electron phenomena of spin relax., diffusion damping *(Russian)* 1−31028
metals and semiconductors, ferromag., conduction electron homogeneous spin relax. *(Russian)* 1−38982
mictomagnets, spin correlation, ferromag. and antiferromag., theory 1−52791
mixed Ising ferromagnet, critical props. 1−7869
multidomain ferromagnets, photomagnetisation by circularly polarised light *(Russian)* 1−52796
n-vector model, thermal phase transition at percolation threshold 1−42972
neutron matter, dense, possible ferromagnetism 1−54539
NMR frequency shift due to high-freq. electron spin oscills. effect 1−3275
NMR line profile in rotating coordinate system 1−12414
nuclear spin-lattice relaxation in XY one-dimensional magnetic chains 1−34955
one-dimensional ferromagnet, quantum corrections for narrow domain walls 1−3212
phase transitions of 'extended' Ising models on a square lattice 1−34901
radiation-induced retardation of narrow domain boundaries *(Russian)* 1−25973
random dipolar uniaxial ferromagnets, non-numerical behaviour of susceptibility 1−34869
random hierarchical model 1−25967
random layered frustration models 1−34900
semiconductor, ferromag., cond. band struct. 1−34621
semiconductor, ferromag., influence of direct transitions between spin branches on free-carrier absorption 1−31111
semiconductor, ferromag., single two band s-d model with hybridisation 1−43137
semiconductors, magnetisation in electron quasiparticle energy in s-d model 1−42942
shells in magnetic field, bending, nonlinear thermoelasticity *(German)* 1−19573
simple cubic ferromagnet with anisotropic exchange interactions, spin wave energy gap calc. 1−25917
sine-Gordon magnetic chains, spin-correlation functions 1−25859
soft ferromagnet with 180° domain struct., mag. hysteresis rel. to irreversible transition 1−7878
soliton features in easy-plane ferromagnets, calc. 1−7796
ferromagnetism continued
sphere, magnetostatic self-energy 1−37382
spin glass, Mattis random ferromagnet, elementary excitations 1−25968
spin systems, periodic Gibbs states 1−42969
spin waves in space-disordered media, hydrodynamic long wavelength theory 1−38920
spin-(1/2) planar, low temp. crit. phenomena, quantum-classical crossover 1−30953
stationary states, quantum statistical mech., rel. to ferromagnets 1−170
superconductivity coexistence, s-d model 1−25829
superconductor, ferromag., anomalous behaviour of surface state 1−42896
superconductor, ferromag., spin wave spectrum in spin-spiral state 1−34872
superconductor, magnetostatics, generalised Ginzburg-Landau theory 1−12229
superconductor-to ferromagnet transition, EM effects 1−7770
superconductor-to-ferromagnet transition, EM effects, Ginzburg-Landu theory 1−7769
superconductors, inhomogeneous magnetic ordering of spins *(Russian)* 1−30968
superdiamagnets, transitions and phase diagram *(Russian)* 1−30905
surface, magnetoelastic wave refl. 1−21026
thick film, EM energy reson. transmission via phonons 1−7953
thin films, surface mag. anisotropy obs. 1−47919
thin plate, cylindrical domain struct., associated magnetoelastic waves *(Russian)* 1−3229
transition metals, angle-resolved photoemission, spin fluctuation and exchange effects, calc. 1−31315
transition metals, broken-symmetry states, ferromagnetism 1−12252
transition metals, cohesion and mag. props., correl. effects 1−34850
transition to spin glass, random anisotropy, one-dimensional, ground state spin configuration 1−7870
transparent insulator, transverse magnetisation by optical waves 1−26179
two-magnon bound states in coupled electronic and nuclear spin system 1−16434
uniaxial, mag. dipole energy depend. on distance from domain wall *(Russian)* 1−25971
uniaxial, strongly anisotropic, domain walls and stripe domain struct., theory 1−3214
uniaxial ferromagnet, solitary spin wave interaction 1−25915
uniaxial ferromagnet, soliton contrib. to dynamic struct. factor *(Russian)* 1−47850
van Vleck ions interacting with electron gas, mag. props., theory 1−30899
variable magnetic field computation, in conducting ferromagnetic medium *(Russian)* 1−46198
X-Y mode, S=1/2, susceptibilities on square lattice at T=0 1−3128
X-Y model, spin-1/2, 2-D, pair correlation function in ground state 1−47837
Fe-metalloid ferromagnetic metals, hyperfine fields 1−20680

ferromagnets *see ferromagnetic properties of substances; ferromagnetism*

ferrous alloys *see iron alloys*

Feshbach resonances *see atomic resonant states; molecular resonant states*

f.e.t. *see field effect transistors*

few-nucleon reactions *see nuclear reactions involving few nucleon systems*

few-nucleon scattering *see nuclear scattering involving few nucleon systems*

few-nucleon systems *see nuclei with mass number 1 to 5*

Feynman diagrams
ϕ^4 theory, massless, conformal-invariant, spontaneous mass generation, tadpole graphs 1−45124
asymptotic behaviour of Feynman integrals 1−36813
atomic collisions, Feynman diagram approach 1−6331
atomic configurations, open shell system, relativistic formulation, many body problem 1−14789
computer used for analytical calculations 1−14223
continuous mass parameter fields 1−18394
deep inelastic asymptotic behavior with crossing lines 1−28170
deuteron bound states within triton bound state *(Russian)* 1−41066
Drell-Yan amplitude for production of massive μ-pairs, analytic structure 1−23489
fishing net planar Feynman diagrams as a completely integrable system 1−23417
gravity, quantum, one-loop ambiguity in dimensional regularisation 1−18131
massless particle, EM corrections to strong interaction 1−50330
multiloop, evaluation, Gegenbauer polynomial x-space technique QCD, $\sigma_{tot}(e^+e^-\rightarrow h)$ calc., QED appl. 1−10072
neutral mesons, transitions, multiquasar schemes *(Russian)* 1−50398
parton cross sections, unique asymptotic feedom predictions 1−28297
planar field theory struct., planar Feynman diagram sum 1−18387
QCD, polarised photon structure function, Feynman diagram method 1−5567
relativistic scattering amplitudes, Pade approximant method 1−23455
S-matrix, multiparticle, macrocausality, unitary and physical region analytic structure 1−10095
singular structure in coordinate space 1−14257
SU(N) group, Lagrangian model, large N and non trivial dynamics 1−23420
Yang-Mills theories, high energy scatt. amplitudes, eikonal formulas, generalized leading term approx. 1−45140
NNρ weak vertex, parity-violating, sign of 1/2 resonance pole contribs., MIT bag model 1−41062

fibre optics
Used for fibre optic instruments and their components e.g. fibre optic gyroscopes, endoscopes and fibre lasers. For optical fibre waveguides used in telecommunications, see optical fibres
see also optical fibres
accelerometer for strain meas. 1−5301
acoustic sensitivity predictions of single-mode fibres using Brillouin scatt. 1−11092
acoustic sensor, fibre microbend, construction and characts. 1−6662
acoustic sensor using dynamic holographic interferometry 1−11109
beamforming fibre optic acoustic sensor 1−37615
biomedical apparatus, comparative anal. of light-optics illumination systems 1−6627
biomedical diagnostic instruments, OS-150 illuminator 1−8949
biomedical endoscopes, flexible, optical props. 1−8947
biomedical endoscopes used in the USSR, review 1−8946
biomedical endoscopes with structureless images 1−4350
birefringent multimode fibres, polarisation preservation 1−46558

fibre optics continued
CAMAC highway, fibre-optic high-voltage isolation 1−11123
coherent fibre optics test techniques 1−1734
cold-light source and binocular viewer with fibre-optics illumination for neurosurgery 1−8950
CRO actuation by fibre-guided light pulse 1−44897
CRT's for use in copy machines, plain-paper nonimpact printing 1−6668
current sensing with optical fibres, multimode, Al-coated 1−24502
deflectors and switches, liquid interface 1−51619
detector array for disc appl. 1−46371
diagnostic oesophagoscope, Puchok-MT2 1−4353
displacement sensor development 1−19435
displacement sensor using microbending induced mode coupling 1−37611
dissector for quasars and nebulosity spectroscopy anal. 1−49524
dosimetry, civil defence appl. 1−6043
endoscopy, developments in optical instrumentation 1−49093
fibrogastroscope attachment for motion picture filming, medical diagnosis appl. 1−4351
focon MTF meas. 1−41857
gyroscope, dual-input 1−11108
gyroscope, Sagnac fibre interferometer, polarisation control 1−51622
gyroscope, with [3×3] directional coupler, phase-bias elimination 1−41842
hydrophone, multimode, based on schlieren acoustooptic intensity modulation 1−41841
illuminator for use in dispersion staining 1−15276
inertial frame rotation sensors, design approaches 1−36647
laser diodes, high data modulation in fibre optical systems 1−37537
laser gyro, rotation detection appl. 1−24499
laser noise in fibre-optic interferometer systems, meas. 1−6663
latest technological developments *(Swedish)* 1−1700
LED sensor 1−24503
lightguide microconverter transducers for precise meas. in EM and acoustic fields, miniaturization limits 1−50119
liquid crystal catheter for O_2 saturation and blood flow meas. in coronary sinus 1−32227
LSI module serial light pipe linking modules 1−51618
magnetic field sensing with single-mode fibre 1−37623
magnetic field sensitivity of optical fibres with magnetostrictive jackets 1−18256
magnetostrictive optical fibre interferometer, thermal straining in Ni jacket 1−21022
medical endoscopic instruments, optical fibre types *(Czech)* 1−32224
Michelson interferometer using multimode fibre-optical power divider, vibr. object displacement meas. appl. 1−5370
microfluorimetry for acute and chronic in-vivo animal studies 1−22177
microspectrophotometric screening system with multi-fibre scanning, vervical lesion diagnosis appl. 1−4356
miniaturization limits in optical systems 1−46208
monomode fibres, props. meas. *(German)* 1−24504
multi-mirror illuminator, light focusing onto fibre optic bundle 1−51585
noncircular-cross section, uniform, large-aperture, geometrical optics 1−1710
ophthalmological instruments, appls. of fibre-optic elements for ocular illumination 1−22102
parametric Raman freq. converter 1−51560
passive multiplexing system for fiber-optic sensors 1−6658
polarisation in optical fibres, random coupling between polarisation normal modes 1−41848
polarisation in optical fibres, theory 1−11101
polariser, single mode 1−11107
portable dB meter for fibre optics 1−41867
position of high velocity liner using timing optical fibre system 1−32961
pressure transducer, fibre-optic coupled, dynamic pressure meas. is transverse discharge laser 1−11096
probe of vibration meas. *(Japanese)* 1−15279
quartz-plastic fibre technology and applications 1−1707
Raman fibre laser, generation dynamics *(Russian)* 1−11007
Raman scattering, angular resolved, using fibre-optic probes 1−23317
refractive index profile dispersion in optical fibres, differential mode delay measurements 1−19438
resonator gyroscope, sensitivity and thermal nonreciprocity 1−41832
ring illumination system for use in low-powered dark field video, cine and photomicrography 1−23305
ring interferometer, optical rotation sensor based on Sagnac effect *(German)* 1−19459
rotation sensing, low-noise, with fibre optic Sagnac interferometer 1−41860
Sagnac gyro rotation sensors, scatt. limitation of rot. sensing 1−11110
sensor applications 1−51621
sensor systems, review 1−36646
single-mode optical fibre interferometer, drift elimination using piezoelectrically stretched coiled fibre 1−6659
solid-state phase-nulling optical gyro 1−1696
step index fibre, SHG by nonlinear line source 1−1636
stomatalogical instruments with fibre light pipes 1−8951
test techniques and equipment 1−29389
time delay multiplexing of optical spectra with a fiber optic array 1−50213
TMX, fibre optics in neutral beam control 1−11122
transducer appl. *(French)* 1−46568
transmission system technology status report *(Japanese)* 1−29394
urological endoscopes, standardised designs in the Soviet Union 1−4349
vortex shedding fluid flowmeter using optical fibre sensors 1−51883
Xe lamp light source for cold-light biomedical endoscopes 1−4352

fibre reinforced composites
see also carbon fibre reinforced composites; glass fibre reinforced plastics
adhesion strength measurement device 1−53376
aligned discontinuous fibre pre-pegs, prep. by deposition from suspension 1−35231
anisotropic couple-stress theory *(Russian)* 1−15397
anisotropic fibre, elastic props. 1−46674
automotive components, design methodology using fibre reinforced composite materials 1−39585
beams, strongly anisotropic, fibre reinforced, transverse flexural vibrs. 1−29596
bifurcation of equilibrium state 1−15428
borsic fibre reinforced Ti, crack-tip damage and fracture toughness, SEM obs. 1−48464

fibre reinforced composites continued
compressed tubular wound rods, reinforcement arrangement effect on load bearing capacity 1−31629
cylinders, hollow, thick-walled and elastic, axially symmetric deform. 1−29549
decorative and protective coatings for glass-reinforced plastics 1−3950
elastic composite materials, with inextensible rigid fibres, wave propag. and buckling *(Japanese)* 1−34417
epoxies, mechanical strength, effect of low temp. irradiation 1−31526
epoxy resin matrix, physical mechanism for deterioration in props., mech. and chem. attack 1−43566
fibrocement manufacture using ZrO_2 containing glass fibre 1−48314
glass fibre reinforced cement, lightweight, polymer impregnated, phys. and mech. props. 1−12751
graphite/epoxy composite, exposed to nonionizing space parameters, prop. changes 1−48615
heat-resistant fibre-refractory clay material 1−12687
isentropic densification 1−12689
jute fibre reinforced polyester, mech. props. 1−43471
Kevlar-49 fibre reinforced polyester resin, compression strength 1−8377
Kevlar-fibre reinforced plastic laminates, US data dispersion as meas. of hygrothermal effects 1−35455
laminate, computer appl. to design anal. 1−3818
laminate, fibrous, macroscopic fracture 1−21584
laminated composite discs, rotating strength 1−26537
laminates, physical relationships determ. 1−43401
laminates, unidirectional, failure 1−35309
local load sharing, probability of failure, chain-of-bundles model 1−3911
matrix fibre composites, anisotropic hygrothermoelasticity, constitutive theory, finite element appl. 1−37805
metal fibre ceramic eutectics produced by elec. arc melting *(German)* 1−16750
metal-matrix fibrous composites, fatigue 1−31592
Metglas 2826 fibre reinforced epoxy resin, composites, mech. props. 1−12798
organic fibre unidirectionally reinforced epoxy, strength anisotropy eval. 1−12813
organic fibre/glass fibre reinforced textolite hybrid composite, strength in plane stress 1−31550
organo-textolite laminates, mech. props. anisotropy 1−48436
physics of strength and fracture, review 1−31604
plastic beams, discrete model for dynamic anal. 1−15414
plastics, composite, oriented, internal electrostatic field 1−21131
plastics, fibre reinforced, impact compressive fracture, anisotropics props. *(Japanese)* 1−31610
plates, fibre reinforced orthotropic elliptical, large amplitude vibrs. 1−33923
polyaramid fibre reinforced epoxy laminates, biaxial testing, expt.-theoretical comparison 1−12943
polyester fibres rubberised with butyl resin, creep, effect of water and seawater 1−31551
polymer matrix, engineered struct. materials, review 1−12955
polymer melt, elongational flow 1−2038
polypropylene fibre reinforced cement, reinforcing props. of fibres 1−8396
polypropylene fibre reinforced cement composites, mech. response, analogy with bone 1−12803
polypropylene fibre reinforced cement composites, multiple cracking 1−39425
pull-out tests, on fibres embedded in brittle matrices 1−35313
rubber-fibre composites, tensile strength and ultimate elongation 1−43427
shear props. meas., using 10°-off-axis tensile-test specimen 1−39561
short-fibre composites, effective thermal stress and thermal expansion, coeffs. 1−25467
short-fibre-reinforced composites, self-consistent approach to elastic stiffness 1−21501
slotted-tension shear test expt. evaluation 1−21653
steel, fibre reinforced polystyrene impregnated concrete, strength props. 1−43469
steel, reinforced epoxy resin, compressive strength 1−21512
steel, stainless, fibre reinforced Al_2O_3 castables, high temp. mech. props. 1−31524
steel fibre reinforced Al+Ti hybrid, mech. props. *(Slovak)* 1−3813
steel fibre reinforced Al and Mg, SEM obs. of fracture 1−31616
steel fibre reinforced Mg, fracture characts. using fractographic anal. 1−16881
sterically-curvolinear reinforced, deform. and elastic props. determ. 1−12782
thermal conductivity, 2 to 300K 1−42589
thermoplastic moulded components, flow mechanism effects on fibre orientation 1−33987
three dimensional containing broken fibres, stress around cracks 1−3881
viscoelastic plate, cooled from cure temperature to room temperature, residual stresses 1−20428
viscoelastic simple and fibre reinforced materials, two-dimensional rheological models 1−33904
wound laminated organic plastic, elastic charact. prediction rel. to props. of structural components 1−31521
Al fibre reinforced Nb supercond. composites, prod. by powder processing 1−48300
Al-B fibre reinforced composite, B fibre strength influence on mech. props. *(Russian)* 1−3887
Al-steel fibre deformable composite, preparation, heat treatment *(Russian)* 1−16718
B fibre reinforced Al and Mg, SEM obs. of fracture 1−31616
B fibre reinforced Al-Cu, mech. props. *(Slovak)* 1−48405
B fibre reinforced Mg, fracture characts, using fractographic anal. 1−16881
C fibre reinforced epoxide, failure under superposed press. in three-point bending 1−35339
C-fibre reinforced plastic laminates, US data dispersion as meas. of hygrothermal effects 1−35455
C-fibre reinforced polyester resin, compression strength 1−8377
γ/γ'-Cr_3C_2 eutectic, directionally solified, TEM study 1−3713
Cu-Nb_3Sn composites, supercond. props. rel. to heat treatment 1−8354
Nb fibre reinforced Cu-Sn, supercond. props. *(Japanese)* 1−25821
Ni alloy-SiC composite, influence of ZrC protective coating on fibre interactions *(Russian)* 1−16719
Ni-Al-Mo (12.7, 21.6 wt.%), directionally solidified eutectic composite, microstructural studies 1−3724
SiO_2 fibre cloth reinforced phenolic, high-temp. thermal and mech. props. 1−20480

fibre reinforced composites continued
TaC fibre reinforced Co-Ni-(Cr), Cotac composites, material transport methodology, appl. to impact wear 1−21593
Ti-Al-Mo-SiC fibrous composite material, interaction zone, struct. and phase composition 1−8318
TiC fibre interaction with Ni alloy matrix compatibility, dissolving *(Russian)* 1−3793
W fibres in Ni-Al(Cu)(Cr) matrix, composition influence on Ni diffusion into fibres *(Russian)* 1−47294
W wire reinforced Cu, fatigue failure modes 1−3934

fibres
see also carbon fibres; composite materials; fibre reinforced composites; glass fibres; optical fibres
acrylic fibres, carrier dyeing 1−52358
asbestos fibre identification by X-ray intensity ratio variation 1−4141
capillary flow of dimethoxysilicone fluid in filter paper, distrib. of inter-fibre spacings 1−38625
cellulose, oriented, from mesophase system 1−3691
cellulose fibres, struct. by proton NMR anal. swelling effects 1−34247
collagen fibres, isometric hydrothermal denaturation 1−32173
cryogenic powder and fibre insulator performance, 90 to 300K 1−9987
cryogenic thermal insulation system optimisation and selection 1−5323
fabrics, dyed, brightness matrices of light scatt. layers 1−51372
failure by stress corrosion 1−43558
Fourier transform inversion method for fibre-particle size distrib. from light scatt. data 1−23166
heat insulation fibrous materials, thermal conductivity determination method 1−27969
heat-resistant fibres, made from power station fly ash 1−12687
insulation materials, high temp., thermal performance in aerospace environments 1−2724
isentropic densification 1−12689
jute, mech. props. 1−43471
light scattering from apparently perfect fibre, out of plane scatt. pattern, twisting effect 1−10907
organic fibres, high modulus/high strength, book contrib. 1−39306
PET fibres, wide angle X-ray diff. quantitative determ. of mesomorphic regions 1−2343
PET melt, flow induced crystallization in convergent flow regime and imposed temp. gradient, fibre prod. 1−39304
polyacrylonitrile fibres, elec. charact. of carbonization process *(German)* 1−2961
polycaproamide, modified with polyethylene glycol, struct. of fibres and granules *(Bulgarian)* 1−7089
polyester fibres, carrier dyeing 1−52358
polyethylene, hard-elastic fibre, mechanical properties *(German)* 1−52089
polyethylene fibre shish-kebabs, charact. by small angle X-ray scattering 1−7090
polyethylene fibres, high mol. wt., maximum strength and hot drawing mechanism 1−8379
polyethylene fibres, IR spectra, specimen prep. 1−53370
polyethylene fibres, porous high mol. wt., spinning/hot drawing influence on tensile strength 1−26421
polymer, apparatus for isometric heating and thermomech. testing 1−17013
polymer textile fabrics, treatment by RF, silent discharges plasmas 1−3949
polymers, fibrous, degree of paracrystallinity, X-ray diffr. investig. 1−47019
polyparabenzamide fibres, IR spectra, specimen prep. 1−53370
polypropylene fibre, high shrinkage, review 1−7091
polypropylene fibre used as reinforcing medium in substrates 1−8396
polypropylene fibres, optical props. 1−35000
polyvinyl alcohol fibres, refr. index and birefringence meas., comparison of meas. methods 1−33039
refractory materials, fibrous, IR props. and radiative thermal cond. *(French)* 1−42591
specimen preparation for IR spectra measurement in stressed state 1−53370
surface mass tranport process kinetics *(Japanese)* 1−20526
test device, for heat-resist. of thin fibres and wires 1−21671
texture sample orientation distrib. function, reproducibility from pole figures 1−25191
Al_2O_3 fibre based porous insulating material, thermal cond. 1−11927
Al_2O_3-SiO_2 fibre, Cr_2O_3 stabilized, high temp. props. 1−31388
B fibres, time-temp. depend. axial failure, prediction 1−48474
K_2TiO_3 fur fibres, synthesis by disc process *(Japanese)* 1−16725
K_2TiO_4 fibres, growth by slow cooling, flux growth reactions *(Japanese)* 1−21722
Ni, extended fibre prod., sintering 1−31384
SiO_2 fused fibres, effect of TiO_2 coating on tensile strength 1−39365
W wire, KAlSi dopes, K form. on surface during drawing *(German)* 1−48369

field, crystal internal *see crystal field interactions*

field effect devices
see also field effect integrated circuits; field effect transistors; metal-insulator-semiconductor devices
GaAs-$Ga_{1-x}Al_xAs$ field effect semicond. laser 1−29294

field effect integrated circuits
see also charge-coupled device circuits
III-V semiconductor IGFET, MESFET and JFET problems and prospects 1−16374
micromechanical accelerometer, sensing element and MOS detect, circuitry integration on single chip 1−40782
MOS Si chip, elec. parameters in const. current transient technique *(Chinese)* 1−30827
MOS VLSI, stability of low press. CVD poly Si gates on thin oxides 1−34798
planar accelerometer structs., PI-FET capacitive transducers, strain detect. in miniature cantilever beams 1−44911
GaAs, ion implantation and IC fabrication applic., review *(Japanese)* 1−25312
Si diode dosimeter with memory, CMOS digital counter 1−9029
WSi_2 work function, MOS capacitance-voltage technique of meas. 1−7703

field effect transistor circuits
Used for general papers and papers where the use of field effect transistors is significant
GaAs L-band cryogenically cooled FET amplifier, used for radio astronomy 1−36182

field effect transistors
see also field effect integrated circuits; insulated gate field effect transistors; junction gate field effect transistors; Schottky gate field effect transistors
ISFET, catheter-tip, appl. for continuous in vivo pH meas. 1−13337
VMOS power transistors, radiation effect expts. 1−2503

field emission, electron *see electron field emission*

field emission electron microscopes
see also field emission electron microscopy
scanning, illumination system, accelerating gap electron-optical props. 1−14215
W field emitter, S adsorption 1−8603

field emission electron microscopy
see also field emission electron microscopes
acrylonitrile-2-hydroxyethyl methacrylate, graft copolymerised on polyvinyl alcohol, membranes, mech. props. *(Japanese)* 1−31466
conference, Albuquerque, NM, USA (July 1978) 1−17935
gun system incorporating preaccelerator mag. lens, CTEM use 1−18334
microcrystallography at high spatial resolution using electron back-scattering patterns 1−33079
techniques, developments and appl., book contrib. 1−46963
C fibre field emitters, surface and crystallographic struct., field-ion and electron microscopy study *(Japanese)* 1−39226
Hf, thermionic emission and polymorphic transform. 1−31297
W, adsorption of Cu, work function variation, field emission microscopy study 1−34585
W, coadsorption of La and B, work functions and field emission patterns *(Japanese)* 1−52420

field emission ion microscopes
see also field emission ion microscopy
electric field distrib. as function of specimen shank 1−14210

field emission ion microscopy
see also atom probe field ion microscopy; field emission ion microscopes
computers in field ion microscopy, review 1−7055
conference, Albuquerque, NM, USA (July 1978) 1−17935
dislocations, imaging techniques 1−2454
metal surface, field ionisation rate consts., analytic formalism 1−48243
substrate grain boundary propag. into overgrowth, field ion microscope studies 1−11998
techniques, developments and appl., book contrib. 1−46963
C fibre field emitters, surface and crystallographic struct., field-ion and electron microscopy study *(Japanese)* 1−39226
C fibres, PAN based, elastic moduli, charact. 1−39357
K epitaxial layer growth on W FEM emitter tip surface 1−2835
Nb, field ion microscopy at low residual gas pressures, H diffusion 1−47302
Ni_4Mo, near-surface ordering during in situ annealing, FIM study 1−47342
Ni_4Mo ordered alloy, deformation twinning, slip, FIM obs. 1−21514
Pt, catalytic active sites, ion bombardment and FEM study 1−25537
Ta, field ion microscopy at low residual gas pressures, H diffusion 1−47302
W (110) plane, migration behaviour of single W atoms and W diatomic clusters, FIM study 1−25540
W (110) surface, adsorption of W, Ir, adatom pair interactions, FIM study 1−47376
W field emitter tip, adsorpt. of Sb, surface self-diffusion modifications 1−42630
W, ion irrad., single atom sputtering events, near-surface depleted zone obs. 1−43231
W surfaces, surface self-diffusion, field ion microscopy study *(Japanese)* 1−42607
ZnO overgrowths, electrodeposited, nucleation and growth charact. 1−11993

field evaporation
Cs^+ ion source, liq., emission charact., field evap. theory predictions 1−5435
Ga-Mo interface, field ion microscopy, struct. of Ga, field emission current *(Japanese)* 1−31319
Ga-Mo interface, field ion microscopy, temp. depend. of evaporation field *(Japanese)* 1−31320
Ga-W interface, field ion microscopy, struct. of Ga, field emission current *(Japanese)* 1−31319
Ga-W interface, field ion microscopy, temp. depend. of evaporation field *(Japanese)* 1−31320
Mo surface, adsorbed Ga, Sn, field evaporation, binding states 1−30570
Si whiskers, time-of-flight atom probe anal. 1−53059
W, field evaporation kinetics in the pulsed regime *(Russian)* 1−12641
W surface, adsorbed Ga, Sn, field evaporation, binding states 1−30570
ZnO overgrowths, electrodeposited, nucleation and growth charact. 1−11993

field intensity patterns (antenna) *see antenna radiation patterns*

field interactions (condensed matter)
see also crystal field interactions; hyperfine field interactions (condensed matter)
glass:Fe^{3+} ESR signal g-value correlation investigation 1−3243
glass systems, ESR and opt. obs. of Nd^{3+} complexes behaviour 1−52842
Na_2O-SiO_2 glass, Fe^{3+} ion clusters form., ESR linewidth anomalies 1−52837
$Nd_{21}Ag_{79}$, amorphous, mag. props., non-axial cryst. field model 1−42937
PbO-SiO_2 glass, Fe^{3+} ion clusters form., ESR linewidth anomalies 1−52837
$Pr_{21}Ag_{79}$, amorphous, mag. props., non-axial cryst. field model 1−42937

field ion emission
conference, Albuquerque, NM, USA (July 1978) 1−17935
As field ion source using alloys 1−12640
Au^+ cluster ions from liquid source, current-dependent energy spectra 1−8202
B field ion source using alloys 1−12640
Cs^+ ion source, liq., emission charact., field evap. theory predictions 1−5435
Ga-Mo interface, field ion microscopy, struct. of Ga, field emission current *(Japanese)* 1−31319
Ga-W interface, field ion microscopy, struct. of Ga, field emission current *(Japanese)* 1−31319
Ga-W interface, temp. depend. of evaporation field *(Japanese)* 1−31320
Gd-Mo interface, temp. depend. of evaporation field *(Japanese)* 1−31320
Si field ion source using alloys 1−12640

field ion emission continued
W, electron-stimulated field desorption of multiply charged He and Ne ions 1−16671
W, field evaporation kinetics in the pulsed regime *(Russian)* 1−12641
field ion microscopy, atom-probe *see atom probe field ion microscopy*
field ionisation
metal surface, field ionisation rate consts., analytic formalism 1−48243
Se sputtering, charged particle flux, technological condition effects, mol. beam ionis. degree 1−16650
field measurement, electric *see electric field measurement*
field measurement, magnetic *see magnetic field measurement*
field plotting
see also field strength measurement
body surface mapping during exercise in coronary heart disease diagnosis *(German)* 1−40021
ECG, construction of isochrone or isopot. maps by computer 1−32277
ECG body surface maps, automated classification 1−17519
ECG body surface potential mapping in treadmill testing, appl. to coronary artery disease 1−32304
hydrophone orientation mechanism for far-field US beam pressure distrib. plotting 1−37760
resistivity, data interpretation by matching kernel function curves method 1−15053
field strength measurement
see also electric field measurement; magnetic field measurement
biological VHF/UHF EM field meas. by electrodeless insulated probes 1−32299
EM field probe based on dipole antenna for monitoring of complex fields, 10 MHz-1 GHz 1−50170
microwave field intensity sensor, dynamic range and possibility of range extension *(Russian)* 1−5290
field theories, unified *see unified field theories*
field theory, classical *see classical field theory*
field theory, crystal *see crystal field interactions*
field theory, electromagnetic *see electromagnetic field theory*
field theory, meson *see meson field theory*
field theory, quantum *see quantum field theory*
fields, electric *see electric fields*
fields, magnetic *see magnetic fields*
filament lamps
selectively emissive refractory metal surfaces 1−47266
file management *see file organisation*
file organisation
see also data handling; data structures; database management systems
molecular structure database maintenance, manipulation and graphic display 1−19206
filled polymers
amorphous, fatigue breakdown anisotropy 1−48494
battery separators, inorganic-organic, vol. resist. control using filler coating systems 1−32003
butyl resin rubberised polyester fibres, creep, effect of water and seawater 1−31551
coatings, magnetic field effects on props. *(German)* 1−21601
combined relax. spectrosc. investigs. 1−38447
composites, highly-filled, micromech. features defined by mech. heterogeneity 1−43426
elastomer, amorphous material, sandwich model 1−42329
elastomers, reinforcement by fillers review, 1967-76 1−35261
epoxy resin, organic fibre unidirectionally reinforced, strength, anisotropy evaluation 1−12813
epoxy resin, plasticised, mech. relaxation *(German)* 1−21502
epoxy resin spacers with high resistive contamination, flashover voltage meas. 1−12454
heterogeneous system, filled, thermal and electrical cond. determ. 1−12159
1-hexene-SiO_2 gel system, stabilised H and D atoms during radiolysis, ESR study 1−4110
melts, rheological props. 1−41996
polished specimen and thin section prep. 1−48630
poly(acrylic acid)-Al_2O_3 composites, dynamic mech. props. 1−35293
polybutadiene, glass bead filled model elastomer, tear and tensile strength 1−43435
polyethylene, Cu and Fe powder filled, wear mechanism, running-in effect 1−12882
polyisoprene filled with technical carbon, relax. processes determined by mobility of active filler particles 1−53478
polymer EPDM (Nordel 1040), with and without C back, flow props. by capillary rheometry 1−33941
polyolefins, SiO_2 filled, stabilised H and D atoms during radiolysis, ESR study 1−4110
polypropylene, talc-filled, rheological props., effect of polymeric additions 1−35300
polypropylene oxide networks filled with sodium tetraphenylboride, ionic conductivity 1−2687
polystyrene, glass-filled, extrusion and injection moulding props. 1−48408
polystyrene, rubber reinforced, strengthening mechanism, delayed crack model appl. 1−12860
polystyrene melts, reinforced with $CaCO_3$, TiO_2 and C black particles, shear and elongational flow props. 1−42076
PTFE, Cu-Sn filler effect on friction and wear 1−53301
resin filled with conducting metal particles, thermal and electrical cond. determ. 1−12159
silane-filler interface, filler desorption test, technique for direct study of water attack 1−47333
thermal conductivity, calc. 1−16112
C black filled, elec. cond. calc. using three-dimens. struct. model 1−20716
C filled polyethylene cathode/metallic anode galvanic cell, O_2, pH, salt conc. effects 1−26671
films
see also adsorbed layers; coatings; foils; helium films; Langmuir films; liquid films; monolayers; optical films; polymer films; replicas; thick films; thin films
periodic atomic film, total electrostatic energy 1−47419
testing of film materials with universal instrument 1−16993
vapour film on vertical surfaces during film boiling, interfacial instability 1−34553
filtering and prediction theory
see also information theory; Kalman filters; random processes; Walsh functions
geophysical data, multichannel, statistical charact., polarisation and coherence 1−36062
holographic computer-made image processing 1−15099
nonlinear filtering and quantum physics, mathematical problems analogy 1−49986
nonperiodic objects, electron micrograph restoration 1−40908
optimal filtering in Fourier transform NMR 1−314
radio interferometer, correlation-type, fluctuations transmission by SI-SD-LPF filter 1−9368
reflection seismology, charact. of methods of multiple noise waves suppression for W Siberian platform 1−9111
speech analysis, homomorphic prediction using ARMA model, improved method 1−41927
sunspot cycle, simulation using narrowband Gaussian process 1−54469
visual pattern perception based on biological filtering of spatial information 1−8878
weather forecasting, numerical, development using short period noise waves filtering *(German)* 1−9218
filters
see also active filters; band-pass filters; crystal filters; digital filters; electromechanical filters; high-pass filters; Kalman filters; low-pass filters; matched filters; microwave filters; notch filters; optical filters; passive filters; spatial filters
heterodyne filters, use in narrow band correlators 1−19958
inverse filters for multipath regroupment of acoustic signals *(French)* 1−29444
SAW chirp transform processors, doubling analyzable bandwidth 1−33855
thermal neutron filter, using cooled, large-mosaic pyrolitic graphite 1−33360
Be filt-r for kaon$^+$ beam enhancement 1−51013
filters, optical *see optical filters*
filtration
axisymmetry Stokes flow near hole in wall, filtration flows 1−51859
gas and liquid filtration in deformable porous media *(Russian)* 1−29772
heavy ion nuclear tracks in solids, appls. 1−47120
layered, porous media, dispersion coeffs., approx. formulae 1−2071
membrane, dynamic colloidal, form. and functioning 1−48726
nonstationary filtering problem, boundary variation method 1−19800
Nuclepore filters, large pore, filtration efficiencies meas. for liq. and solid aerosols 1−48749
particulate-sampling filter for gas flow, improved design 1−38009
polymer microspheres, hybrid, packing material for separators appl. 1−39616
H_2O flow rate is affected by surface modification on low press. side of membrane 1−53467
FIM, atom-probe *see atom probe field ion microscopy*
fine structure, atomic *see atomic fine structure*
fine structure, molecular *see molecular fine structure*
finite element analysis
aerodynamics, lifting surfaces in unsteady flow, general shaped finite elements 1−29713
airfoil cascades, hybrid problem, variational principles 1−33974
algorithm for renumbering nodal unknowns 1−27766
angle ply laminates, through cracks, assumed stress finite element anal. 1−46698
annular plate with concentrated edge load, stability and vibration 1−37826
annuli, concentric spherical, natural convection, finite difference anal. 1−6864
arterial stenoses, pressure and flow pattern anal. 1−43886
axisymmetric solid elastic mechanics, finite element method error anal. *(Chinese)* 1−23021
Battelle Benchmark geometries, stress intensity factors determ. 1−1886
beam, elastoplastic, finite deformation anal. 1−24708
beam modelling, eccentric stiffeners or portions of composite cross-sections, dynamic aspects 1−11299
beam with tip mass, finite element model for vibration frequencies, comments 1−24731
beams, curved, thick-shell or membrane-stiffening isoparametric elements 1−41944
beams, immovably supported, vibr. nonlinearly, Ritz type finite element anal. 1−1857
beams, thick, higher order theories 1−49941
beams continua elastic plastic anal., finite element models, 1−1839
bending, thin plate anal., three-node triangular elements, review 1−24677
bending of annular plate in presence of concentrated in-plane edge load 1−15393
bending vibrations of straight-axed beam 1−19633
biharmonic unilateral problem, mixed finite element soln. 1−46676
Bingham's variational inequalities approx. by penalty function for incompressibility constraint 1−46719
blunt crack band anal., finite element choice effects 1−24746
boundary layer equation, Falkner-Skan, quintic spline collocation procedure 1−42008
boundary-value problems, elliptic 1−15359
boundary-value problems, time-space boundary element formulation 1−40654
brain, potentials due to applied elec. stimulation 1−32113
buckled stiffener plates, post-critical anal. 1−19597
Burgers equation of turbulence, space-time finite elements 1−11372
cascade flow, unsteady 2D, finite element anal. 1−24820
cascade flows, subsonic and transonic computation 1−2018
cement-mortar plates, fracture under in-plane impacting load by an explosive, numerical simulation *(Japanese)* 1−3897
channel with circular vortex, finite element model stability and accuracy 1−11457
charged powders in axisymmetric containers electrostatic fields and potentials calc. using finite-element method 1−24312
Charpy specimen, pre-cracked, simple formula for dynamic stress intensity factor 1−24747
circular plate bending problem semi-analytical finite element anal. 1−19570
circular plates, finite element iterative method for optimal elastic design 1−37793
circular plates, thermal ratcheting, effect of transverse press. loading 1−41955

finite element analysis continued
coastal upwellings, numerical study 1—4528
composite materials, elastic compliances, theoretical determ. 1—7226
composite materials, expt. and analytical study of rail shear-test method 1—35308
composites, anisotropic fibre reinforced, elastic props. 1—46674
contact stiffness matrix for finite element problems involving external elastic restraint 1—37854
convection, optimal control least-square penalty finite element calc. methods 1—1802
convection, three-dimensional, in tilted rectangular boxes, Galerkin and explicit finite difference calc., laser interferometer expts. 1—1979
convection in enclosed cavities 1—19693
convection-diffusion problems, finite-element anal. 1—29664
convective diffusion eqns. with dominating convection term, oscillation limits for weighted residual method 1—14078
convective diffusion problems, finite element approx., upwinding and anisotropic balancing dissipation 1—14079
convective heat transfer problems, with change of phase, finite element anal., book contrib. 1—24817
corona discharge field calc., point-to-plane systems 1—15705
crack propagation in lugs, finite element anal. 1—21576
cracks, stress-intensity factors from 3-D quarter-point element modal displacements 1—11349
curved-plate assemblies with diaphragm ends, anal. of free vibr. using finite strip method 1—24732
diamagnetic molecules, NMR shielding and mag. susceptibility, finite element calcs. *(German)* 1—1253
diffusion-convection problems in 1-D, optimal finite element solns. 1—9951
dividing and combining flow manifolds, finite-difference modelling 1—42001
doubly connected membranes, comparison of variational and finite element solutions of Helmholtz's equation 1—11337
ECG inverse problem, regularisation methods appl. 1—9052
eddy current, appl. to NDT of flaws in metallic structs. 1—12945
eddy current methods, for NDT, finite element anal. 1—43626
eddy current NDT, prediction of probe signal trajectories 1—8497
eddy currents, variational formulation, using finite element analysis for non-moving rigid bodies *(French)* 1—10887
elastic bars in torsion, multiparameter shape optimisation 1—11308
elastic beams, curved, shear deformation, dynamic large-displacement analysis 1—1825
elastic beams and frames, large deflection, numerical results using elliptic integrals 1—29548
elastic body in water, vibr. anal. by combination of finite element method and source sink method *(Japanese)* 1—6811
elastic systems, dynamic stability, variational principle 1—27781
elastic wave equivalent electrical ccts. and wave eqns. *(Japanese)* 1—1873
elastic-plastic large strain analysis, computational aspects 1—29570
elastic-plastic strain problem, finite element method *(Japanese)* 1—1838
elastic-viscoelastic config., under random load environment, finite element anal., missile appl. 1—1827
elasticity theory of displacements, program set construction for fundamental eqns. soln. *(German)* 1—27783
elasto viscoplastic flow, effects of boundary conditions 1—29571
elastodynamic contact stresses anal. by dynamic zooming method 1—46714
elastoplastic bending of plates *(German)* 1—1846
elastoplastic calculation of curvilinear tube under internal pressure *(German)* 1—51706
electrocardiography and magnetocardiography *(Japanese)* 1—4305
electron lenses, vector potential distribution 1—15062
elliptic cylinder two-dimens. hydrodynamic pressure, effects of viscous and convective inertia terms *(Japanese)* 1—46737
elliptic two-dimens. flows including heat transfer, finite difference method, book contrib. 1—19719
EM pulse scattering from curved thin wires, anal. using finite element method 1—1463
EM wave propag. in isotropic medium with one-dimens. inhomogeneities in permitt. and permeab., variational theory 1—29172
enclosures, tilted rectangular, small aspect ratio, free convection, finite difference calc. 1—1982
error estimation, mesh adaptation for finite element method 1—24671
Euler equation, vortex method with finite element 1—2002
exact straight-line elements 1—18020
fabrics, coated plain-weave, finite-element method appl. to deform. anal. *(Japanese)* 1—35319
fatigue crack closure in modes I and II, elastic-plastic anal. 1—46697
fatigue crack tip, macroscopic residual stress distrib. 1—8412
FBR, above-core structs., buckling, finite-element program 1—33317
fibre-strengthened materials, containing a hole, mech. behaviour simulation 1—48354
film condensation of binary gas-vapour mixtures, effect of wall temperature variation 1—33886
fission reactor, quench front, 2-D, implicit isotherm migration 1—18724
fission reactor fuel element pellet-cladding interaction, finite element thermal stress anal. 1—783
fission reactors, mechanical interaction effects during compaction of a hexagonal core array 1—14670
flexible pipelines, large displacement calc. by finite element and non-linear programming methods 1—24691
flow, viscous, variational formulation 1—73
flow pattern prediction program, development *(Japanese)* 1—6867
fluid dynamic systems of arbitrary geometry, triangular finite element mesh generator, TRIFEM II 1—72
fluid dynamics, compressible rotating gas, finite difference method 1—37941
fluid dynamics, Cosserat fluid jet equations 1—37984
fluid dynamics, dispersal of passive scalar contaminant in turbulent boundary layer 1—33950
fluid dynamics, inviscid stability of a trailing line vortex 1—24823
fluid dynamics, laminar boundary layer flow, finite element algorithm 1—15466
fluid dynamics, laminar flow with chemical reaction 1—42103
fluid dynamics, laminar free convection boundary layer around horizontal circular cylinder *(Japanese)* 1—15469
fluid dynamics, Newtonian fluid, re-entrant corner flow, finite difference scheme 1—37866
fluid dynamics, subcritical compressible flow, finite element anal. and iterative soln. 1—19740

finite element analysis continued
fluid dynamics, transient convective-conductive heat transfer 1—24781
fluid dynamics, vectored injection into laminar and turbulent, boundary layers 1—19668
fluid dynamics, viscous incompressible flow by a penalty function finite element method 1—19805
fluid flow problems, least squares residual fitting finite element appl. 1—23018
fluid in open channel with series of submerged rectangular orifices and vertical baffles, laminar flow *(Japanese)* 1—15548
fluid meniscus in capillary tube, numerical simulation of steady movement 1—34549
fluid-structure eigenvalue problems, finite element approach, reduction methods 1—14009
fracture analysis of V-notched plate, singular finite elements 1—67
frames dynamic anal. using two-level finite element method 1—51723
free boundary problems, finite element approx. 1—24659
free convection in incompress. laminar steady state flow 1—6859
free vibration anal. of rotating shaft of variable cross section using finite element method 1—17997
fusion device, dynamic analysis model of large complicated structure 1—2256
fusion reactor, lithium-cooled blanket, MHD convection, finite-element anal. *(Japanese)* 1—895
fusion reactors, JT-60, eddy currents, finite element circuit method 1—911
graphite fibre reinforced polyimide laminates, in-plane shear behaviour, finite element stress analysis 1—8371
harmonic wave propag. in infinite elastic medium with periodic array of cylindrical pores 1—19611
heat and mass transfer in porous media 1—1801
heat equation solution 1—15359
heat transfer, transient natural convection in water cooled through 4°C 1—1958
Helmholtz equation, 2-D, lower bound to eigenvalues 1—24334
highly convective flows, QUICK algorithm, finite difference method, book contrib. 1—18029
human body, electric field problems simulation *(Japanese)* 1—13226
hyperbolic problems and mixtures of 1st order, variational method *(French)* 1—1908
incompressible and nearly incompressible media, elasticity, variational formulation, finite element anal. *(Russian)* 1—19565
incompressible fluid flow, finite element anal., book contrib. 1—18026
incompressible viscous fluid, finite element anal., book contrib. 1—18027
inhomogeneous materials, elastic and elastic-plastic deform., model approach 1—20306
inhomogeneous media discretised by boundary vol. element, transient heat conduction 1—14576
interface between immiscible fluids, pinned on slot, multiple equil. shapes and stability 1—34548
interior penalty Galerkin procedures for miscible displacement problems in porous media 1—24877
ionised nonequilibrium laminar boundary layer behind shock, finite difference soln. *(Japanese)* 1—33981
laminar heated boundary layers at stagnation point, implicit finite difference calc. 1—24763
large systems of equations, soln. using finite element program *(German)* 1—27767
light scattering from inhomogeneous particles, global-local finite element exact soln. 1—10928
liquefied natural gas spillage vapour spread and dispersion 1—32063
liquid, laminar flow caused by rot, disk, finite difference scheme anal. 1—1992
LMFBR, pool-type, reactor decks and supports during HCDA, finite element model 1—33322
LMFBR, prestressed concrete reactor vessel, transient anal., finite element method 1—33324
LMFBR HCDA analysis using finite element methods 1—50830
loudspeaker cone vibration and sound pressure response, voice coil and surround effects *(Japanese)* 1—19534
low intensity mag. fields including permanent magnetisation effects, functional for finite element anal. 1—51340
lung alveolus, math. model 1—35797
magnetic field, three-dimensional, finite element formulation and anal. 1—10886
MARC transport/diffusion theory computer code, finite element option 1—50707
matrix fibre composites, anisotropic hygrothermoelasticity, constitutive theory, finite element appl. 1—37805
mechanical contact, thermoviscoelasticity, finite element analysis *(Russian)* 1—11360
mechanical systems, coupled, staggered transient analysis 1—9824
Mindlin plate bending element, hybrid-stress quadratic serendipity displacement 1—37809
mixed finite element methods for a class of nonlinear boundary value problems 1—22996
mixed methods analysis using mesh depend. spaces 1—22997
multiphase immiscible fluids flow through porous media, simulation using numerical model *(Italian)* 1—34008
multispan nonuniform beams, shafts and frames, elastic stability and buckling loads 1—41962
Navier-Stokes equations, 2-D, stream function-vorticity finite element formulation 1—42002
neutron flux, even-parity, in slab geometry, finite element/orthogonal function scheme 1—45564
neutron transport equation, discrete ordinates method, spatial difference scheme 1—746
neutron transport theory, comparison with conventional solutions 1—728
non-Newtonian blood flow models, numerical simulation by finite element method 1—8894
nonlinear, 3-dimensional, computation using finite elements based on Galerkin procedure 1—10888
nonlinear dynamic anal. of rotors 1—6812
nonlinear elasticity, finite elements with penalties 1—11309
nonlinear mechanics, computational method, conf. Austin, TX, USA (Mar. 1979) 1—22950
nonlinear mechanics, numerical computations 1—6795
nonlinear shell elements, development and eval. 1—11301
nonlinear transient analysis, convergence of implicit-explicit algorithms 1—27779
parallel-coupled acoustic systems using subsystems 1—1796

finite element analysis continued
particle transport calculations with the method of streaming rays, appl. to shielding 1−45739
permanent magnet, flux distrib. anal. using finite element method *(Polish)* 1−29161
plane-strain sheet bending, finite element anal. 1−29568
plasma, charged particle transport, Fokker-Planck equation, discrete ordinates soln. 1−6933
plastic design of structures subject to multiple load conditions, decomposition principle 1−18018
plastic flow of metal in high-temperature extrusion 1−19582
plastic solids, statically strained, surface instabilities 1−11321
plasticity theory, existence proof, discretisation *(Japanese)* 1−15420
plate, laminated bimodulus composite-material 1−37796
plate, oscillating, with crack, stress intensity factors using finite element anal. 1−37841
plate, stiffened, stability anal., limit element method, variational principle *(Chinese)* 1−1850
plates, composite cantilever, frequency determination and non-dimensionalization 1−19608
plates, cracked, tensile loaded in elastic plastic range, finite-element-method and Dugdale model anal. *(German)* 1−41985
plates, linear buckling anal., mixed finite element scheme 1−24714
plates, Naghdi-Reissner model, finite element asymptotic anal., biharmonic problem *(French)* 1−29528
plates in fluid, Gauss quadrature order effect on analysis of free vibrations 1−41968
plates on elastic foundations, spline finite element calc. *(Chinese)* 1−29538
polymer melt extrusion, use of penalty finite element anal. 1−46718
propagation characts. of α-power graded-core fibres, high-accuracy numerical data 1−6667
prosthetic total hip replacement, simulated 1−49160
α-quartz, X-cut, secondary twinning, finite element anal. 1−42395
quasi-Newton method in finite element calculations 1−23014
raindrops, microwave scattering anal. 1−32554
random finite-difference operators, spectrum, Schrodinger eqn. appl. *(French)* 1−27807
reactor eqn. model soln., incomplete factorisation, comparison with variable directions method 1−10421
rectangular isoparametric finite elements, accuracy losses due to distortion 1−49942
refractory, electrocast, mathematical model for cooling 1−3701
resistivity sounding over complex geological structs., finite element modelling 1−27066
Ritz procedure and its extension in finite element analysis 1−23000
rocks, effect of strain rate on strength in uniaxial compression test, computer model *(Japanese)* 1−35320
rotating laminar flow, Navier-Stokes eqn. soln. finite element anal. smoothing techniques, book contrib. 1−18028
rotating plasma problems, finite element anal. program 1−19881
rotors with variable diameters, free vibs. study using finite element anal. *(Hungarian)* 1−27768
sandwich strip, Saint Venant's principle 1−37795
shallow water long wave flow, finite element anal. 1−24830
shearing deformation, finite element method anal. 1−33905
shell, curved triangular, finite element approach 1−6767
shell roof, continuous circular cylindrical, Fourier series soln., finite element method comparison 1−6785
shell structures, nonlinear finite element anal. using semi-loof element 1−37810
shells, cylindrical, failure of axially compressed frangible joints 1−41982
shells, linear problems, lower order integration schemes 1−49940
shells, mixed finite element formulation using reduced Reissner's principle in elastodynamics 1−5105
shells, plates, finite differential element method soln. 1−6781
shells, ribbed and reinforced anal., family of special-purpose elements 1−37786
shells, theory conf., Tbilisi, USSR (Aug. 78) 1−5029
shells, thin, linear elastic, finite element, variational anal. 1−6779
shells of revolution, curvilinear finite element 1−11300
shock wave propagation, space-time finite element anal. 1−11335
shock-capturing schemes, K-consistence of first differential approx. 1−14020
shock-smoothing methods in simulation of multidimensional discontinuous gas flows 1−14019
short cylinder impacted by thin bar, elastic wave motion 1−24725
Signorini problem in semi-coercive cases 1−37790
slot, vertical, natural convection, wall conduction, radiation effects, finite difference anal. 1−6863
solid body, three-dimens. finite element anal. 1−24692
solidification, shape instabilities and pattern formation numerical soln. of moving boundary problem 1−51696
source strength estimation from potential meas. 1−32471
spheres, concentric spherical, natural convection heat transfer in porous media, numerical anal. 1−1988
stacked iron sheets, mag. field distrib., finite element anal. *(French)* 1−24313
stationary, calc. using finite element anal. 1−51341
stationary Navier-Stokes eqns., finite element approx. 1−23019
steady-state skin effect numerical soln., integrodifferential approach 1−52590
steel, cylindrical rod, impact loaded, plastic deform. and dislocation struct. along axis *(Czech)* 1−3836
steel, residual stresses in oil- and water quenched cylinders, influence of diameter *(German)* 1−3790
Stefan problem, 1-D, with mixed boundary condition, variable time step methods 1−37779
Stefan problems, one-phase, 2-D 1−19551
Stokes flow simulation using hybrid finite-element model 1−46720
stress analysis, thick plates, three-dimensional hybrid-stress elements 1−29532
stress analysis of beams, solid and thin wall sections, shape functions for isoparametric transition elements 1−68
stress calculations, stiffness matrix constructed using sliding interpolation 1−24687
stress evaluation under thermal load for simple finite elements 1−9838
stress membrane element, four-node quadrilateral, with rotational stiffness 1−9839
stresses from arbitrary surface loads on half space, continuous anal. 1−14012
finite element analysis continued
structural eigenvalue problems, finite element approach, reduction methods 1−14009
Strum-Liouville systems, discontinuous coeffs., direct solns. 1−1858
Sturm−Liouville problems, uniformly valid approx. of eigenvalues 1−9274
subsonic mean flow, sound propag. in non-uniform ducts, finite element method 1−51653
symmetric transonic aerofoil anal., finite element method, upwinding technique 1−11422
temperature field calculation, alloy steel forgings during batch cooling 1−3798
tension specimen with semi-circular notch, finite element anal. of elastic-plastic problems 1−24697
thermal sensitivity analysis for thermal protection systems 1−29513
three-dimensional EM field calcs. using finite element discretisation, software development 1−24328
three-dimensional EM field problem soln. using finite element methods 1−24329
Tokamaks, dynamic behaviour of cylinder due to EM force, finite element anal. 1−900
tool materials, square indentation test 1−4018
transient convective-conductive heat transfer, explicit finite element soln., book contrib. 1−19718
transient convective-conductive heat transfer, finite element anal. of CONDIF code 1−29511
transient ignition on flat-plate boundary layer, finite difference anal. 1−29797
travelling load finite elements, development 1−36491
Tsunami response of archipelago, finite-difference numerical model 1−32460
turbulence and heat transfer over backward facing steps, prediction book contrib. 1−19720
turbulent flow modeling using finite elements, book contrib. 1−19680
two-dimensional numerical bifurcation models, press. and flow calc. 1−32155
undamped elastic shell natural frequencies 1−24716
vibrating plates, finite element analysis of mixed boundary integral 1−15442
vibrations, free, of continuous rectangular plates on oblique supports 1−37830
vibrations, free, of structures, natural frequencies determin. by numerical algorithm and computer program 1−41969
vibrations, non-linear, general structures, analytical-numerical approach 1−24727
vibroacoustic characts. of complex spatial structures at high audio freqs. 1−37683
viscoelasticity, thermo-, plane problems, finite element method 1−19581
viscoplastic deformation and heat transfer, coupled analysis 1−37813
viscoplastic deformation and heat transfer, coupled analysis 1−37814
viscoplasticity struct. calcs., finite element and boundary value integral eqn. methods *(French)* 1−51709
viscous incompressible flow, finite element interpolation schemes 1−11364
von Karman plate theory, penalty method anal. 1−24666
water flooding problem, finite element method 1−6887
wave equations, nonlinear, Petrov-Galerkin methods 1−49945
wave propagation in continuous media, summed progressing wave formalism 1−18048
wave propagation in inhomogeneous medium, variational numerical soln. 1−49946
yielding of notched steel plates under combined axial force and bending 1−15412
Al cylinder, axial compression, stress and flow patterns 1−34403
Al, wear process, anal. using finite element method 1−11811
Nb_3Sn multifilamentary composites, improved strain resist. 1−47831
UO_2 fuel rods, PuO_2 inclusions, local overheating finite element anal. 1−23760

Finlay-Freundlich red-shift hypothesis *see gravitational red shift*

fireproofing *see flameproofing*

fires
see also accidents; combustion; flames; safety
brush fire smoke clouds, IR radiation transfer study 1−40188
electro-surgery using electric scalpels, dangers and safety measures *(Italian)* 1−35849
electrostatic ignition hazards with flammable liquids 1−24311
electrostatic painting, ignition hazards, review 1−20015
forest fires caused by lightning, mag. direction finding method 1−44302
patient treatment in hyperbaric chambers, electrostatic charge control for fire prevention 1−27025
scrub fire effect on Earth surface radiation budget 1−9158
H_2 detonation flame arrestor development testing for Oyster Creek Nuclear station 1−50841

fission
see also fission of plutonium; fission of uranium; photofission; spontaneous fission
A=270-322 rotating compound nuclei, fission barriers, critical ang. momenta, deformation 1−50668
A=270-500 shell structure and stability possible primordial superheavy nuclei 1−674
adiabaticity criterion for charge equilibration with application to fission 1−28505
avalanche counters, parallel-plate, TOF and cross-section meas., proton-induced fission appl. 1−23959
barrier, double-humped, review 1−28462
barrier intermediate structure, rot. bands moment of inertia, parity *(French)* 1−50683
beta strength function fine struct., effect on fission, fusion, astrophysical superheavy elements 1−45465
beta-delayed fission, strength functs., branching ratios, low-lying struct. 1−50681
cold fission processes, surprisal approach, maximal entropy condition 1−28506
collective oscillations and single particle excitations, coupling system *(Chinese)* 1−18671
conference, Julich, Germany (May 1979) 1−44711
conference on nuclear behaviour at high ang. momentum, Strasbourg, France (April 1980) 1−44695
coupling system involving relative motion collective oscillations and single particle excitations *(Chinese)* 1−18671

fission continued
di-nuclear system at high ang. momentum, stability, fission barriers, saddle point shapes 1−23696
dynamics as a dissipative process 1−50666
fusion-fission and fusion evaporation reactions, ang. momentum effects 1−45557
heavy ion collisions, compound nucleus fission barriers, liquid drop calc. 1−50691
heavy ion fusion-fission, pot. energy surfaces and mass distrib., liquid drop model, book contrib. 1−50629
heavy ion fusion-fission type reactions, compound nucleus fission mechanism 1−50640
heavy ion reactions, fragmentation theory, asymm. two-centre shell model, cranking model, book contrib. 1−50631
heavy ion sequential fission, classical dynamical description 1−10394
heavy nuclei, decay mode intermediate between nuclear fission and α-decay, review *(Russian)* 1−23611
highly-inelastic reactions, rel. to fission, collective modes *(French)* 1−50694
history, rel. to heavy ion reactions 1−50632
induced fission probability, friction constant, diffusion model 1−14560
isomeric states, spectroscopic properties 1−50680
mass distrib. width, rel. to Z^2/A, fission barrier height, ang. momentum, temp. 1−10398
nuclear dynamics macroscopic aspects 1−14553
parity violation in nuclear fission *(Russian)* 1−36946
potential energy surfaces, expts. 1−50673
scission in heavy ion fusion, complete and incomplete, experimental aspects, book contrib. 1−50627
scission point stretch in heavy ion induced fusion-fission and quasi-fission *(Chinese)* 1−45492
self-sustaining multiplicative reaction chains, existence, characterisation 1−28461
shell struct. effects for heavy nuclei 1−50690
spherical and deformed nuclei, fission probability rel. to level density, collective effects *(Russian)* 1−50689
Z=90 to 104 nuclei, fission barriers and masses, Yukawa+exponential model 1−50685
(N,f), Monte Carlo code calcs. for fission reactor shielding design 1−50973
(n,f) cross section systematics for 57 isotopes of elements, 0.5 to 6 MeV 1−18699
(p,f), determination of neutron yield 1−18700
^{A}Am(n,f), A=241,242, delayed neutron yields, time-depend. 1−45554
^{241}Am, differential neutron data, review 1−14527
^{241}Am(n,f), 10 to 250 keV, neutron capture and fission cross section 1−10393
(Ar,f), proton-rich nuclei with N∼126 fission probabilities 1−50688
(^{40}Ar,f), symmetric fragmentation reactions, mass distrib. effects on fission barrier 1−10397
^{205}At compound nucleus, mass distrib. width, ang. momentum effect *(French)* 1−50692
^{205}At from HI reactions, fast fission phenomena, mass distrib. FWHM, simple model 1−45547
^{209}Bi(^{12}C,X), 61-73 MeV, product and fission cross sections, ^{8}Be direct transfer 1−18664
(Ca,X), product isotopic distrib. for fusion and fission, statistical model anal. 1−28492
^{249}Cf(n,f), delayed neutron yields, time-depend. 1−45554
^{244}Cm, capture and fission neutron cross-sections, area analysis of under-determined neutron resonance data 1−14519
^{245}Cm(n,f), delayed neutron yields, time-depend. 1−45554
^{245}Cm(n,f), thermal, fission product mass and charge yields 1−41153
^{248}Cm(^{238}U,X), 7.5 MeV/u, compound nucleus fission, liquid drop model 1−50693
Hg, from W(^{12}C,X), 80-87 MeV, fission development, blocking lifetime meas. 1−50687
^{139}La(^{86}Kr,X), 505-710 MeV, charge distribs., fission-fusion cross section, nucleon exchange anal. 1−5686
^{24}Mg(e,f), fission modes, disintegration product coincidence meas. 1−14559
(Ne,X), product isotopic distrib. for fusion and fission, statistical model anal. 1−28492
^{237}Np(e,f), 90-720 MeV, cross-section meas. *(Russian)* 1−41154
^{237}Np(n,f), delayed neutron yields, time-depend. 1−45554
^{231}Pa(n,f), 130 to 450 keV, vibr. states, KJ$^{\pi}$ assignment *(French)* 1−50682
^{231}Pa(n,f), 140-400 keV, spectrosc. props. of fine structs. 1−45549
^{231}Pa(n,f) cross section, high resolution meas. from 0.4 eV to 12 MeV 1−18698
^{A}Pb, A=199-204, multiple chance fission cross sections and excitation functions, stat. anal. *(Russian)* 1−18702
^{208}Pb(^{58}Ni,X), deep inelastic, sequential fission, classical dynamical description 1−10394
^{208}Pb(^{90}Zr,X), deep inelastic, sequential fission, classical dynamical description 1−10394
^{110}Pd(^{46}Ar,X), evaporation residue and fission cross sections, statistical anal. 1−45546
^{239}Pu(γ, 2n), 45 MeV, photonuclear yield systematics, cross sections, fission isomers 1−23636
^{240}Pu(γ, xn), 45 MeV, photonuclear yield systematics, cross sections, fission isomers 1−23636
^{242}Pu(γ, n), 45 MeV, photonuclear yield systematics, cross sections, fission isomers 1−23636
^{28}Si(e,e′f), intermediate state, variational α-cluster model calcs., ^{12}C+^{16}O struct. 1−5811
^{232}Th(α,α′f), 120 MeV, fission probabilities and ang. distribs. in GQR region 1−10395
^{232}Th(α,α′f), 120 MeV, friction, giant resonances 1−50686
^{232}Th(μ^-,f), muon lifetime and conversion probability 1−23697
^{232}Th(n,f), delayed neutron yields, time-depend. 1−45554
^{232}Th(n,f) cross-section for thermal and 2.44 MeV neutrons 1−724
^{235}U(γ, xn), 45 MeV, photonuclear yield systematics, cross sections, fission isomers 1−23636
^{238}U(^{238}U,X), 7.5 MeV/u, compound nucleus fission, liquid drop model 1−50693
^{238}U(γ, 2n), 45 MeV, photonuclear yield systematics, cross sections, fission isomers 1−23636
^{90}Zr(^{238}U,X), 7.5 MeV/u, compound nucleus fission, liquid drop model 1−50693

fission counters
breakdown counter response to pulsed gamma and electron radiation 1−18972
fast fission chamber sensitivity for flux monitoring in PBHTGR 1−18812
hemispherical fission ion chamber for μg samples 1−23972
in-core flux monitoring systems 1−28654
Kimfol films to count fission fragments, absolute efficiency 1−37068
vacuum, U_3O_8 coated emitter, neutron monitoring appl. 1−10601
variable dead time counters, critical analysis 1−14773
wide-range ionisation fission chamber for reactor control and safety systems 1−23983

fission of plutonium
thickness of source, effect in gated meas. of number of neutrons emitted 1−776
^{A}Pu, A=237,239, fission isomers, levels, spectroscopic props. from self consistent calcs. 1−5698
^{A}Pu, A=238, 240, prompt, delayed and photo-fission, ang. distrib., barrier parameters 1−50676
^{A}Pu(N,f), A=239, 240, prompt neutron spectra rel. to 252 Cf 1−23693
^{A}Pu(n,f), A=238,239,241,242, delayed neutron yields, time-depend. 1−45554
^{A}Pu(n,γf), A=239,241, reactor width, prefission γ-ray spectra, fission barrier, vibr. states *(French)* 1−50677
^{19}Pu(n, f), A=239, 241, thermal n, fission fragment electron and antineutrino spectra *(Russian)* 1−36973
^{239}Pu(n,f), short lived fission products absolute yields 1−18690
^{239}Pu(n,f), yields of short-lived fission products produced by thermal neutron fission 1−45548
^{239}Pu(n,f) calc. of neutron yield, at neutron energies from thermal to 20 MeV 1−50671
^{239}Pu(n,f) cross-section measurements, thermal to 30 keV neutron energy 1−36970
^{240}Pu fission barrier and energy surface using Skyrme type microscopic calc. 1−23694
^{240}Pu, fission barrier calc., Hartree-Fock-Bogolyubov method *(French)* 1−50684
^{240}Pu, fission barriers with Skyrme forces, semiclassical calcs. 1−18693
^{240}Pu fission neutrons, coincidence counting, shift register method 1−51067
^{240}Pu(n,f), delayed neutron spectra, near-eqn. meas. 1−725
^{240}Pu(n,f), pol. n, light fragment asymm., parity nonconservation *(Russian)* 1−50678

fission of uranium
barrier penetration, 2-D, coupled channels method 1−5807
chemical dependence, fission and delayed neutron yields in U_3O_8 and UO_2 1−775
neutron detection using fissile resistor, calorimetric technique 1−28511
photofission of ^{238}U, integral equations of first kind, appl. in experimental physics 1−15642
photon induced fission for photographic image enhancement 1−10043
thickness of source, effect in gated meas. of number of neutrons emitted 1−776
^{235}U, induced fission by irradiating neutron flux for continuous void swelling meas. 1−23168
^{235}U, thermal neutron fission, radiochemical investigation on existence of polyneutron nuclei 1−53511
UF_6 fissioning gas reactors, critical UF_6 cavity reactor experiments 1−23742
^{A}U, A=233-236, spont. fission half-lives, spinner detector detérm. 1−45553
^{A}U, A=234, 236, prompt, delayed and photo-fission, ang. distrib., barrier parameters 1−50676
^{A}U(α,α′f); A=236,238, 50 and 120 MeV, friction, giant resonances 1−50686
^{A}U(e,f), A=236, 238, E2 virtual photon spectra, DWBA calcs. 1−5812
^{A}U(n,f), A=232,233,235,238, delayed neutron yields, time-depend. 1−45554
^{A}U(n,f), A=233, 235, prompt neutron spectra rel. to 252 Cf 1−23693
^{A}U(n,f), A=233, 235, thermal fission, model for estimating independent yields of fission products 1−50670
^{A}U(n,f), A=235,238, 14.7 MeV, cross sections 1−28507
^{233}U(d,f), fission products yield, mass distribs., charge division mechanism 1−50665
^{233}U(n,f) thermal-neutron fission, meas. of light-fragment independent yields 1−50669
^{235}U (n,f), thermal, ternary fission, charged light particle yields and energy distribs. 1−5808
^{235}U(d,pf), 23 MeV, friction, giant resonances 1−50686
^{235}U(n,αf), thermal n, α-energy spectrum 1−23700
^{235}U(n,ef), beta spectrum absolute meas. 1−45551
^{235}U(n,f), analysis of prompt neutron isotropies 1−23691
^{235}U(n,f), fast n, ^{1,3}H and ^{4}He multiparameter study, emission probabilities 1−50667
^{235}U(n,f), mass and kinetic energy distrib. of fragments *(Chinese)* 1−18696
^{235}U(n,f), mass distrib., transport model *(Chinese)* 1−18695
^{235}U(n,f), short lived fission products absolute yields 1−18690
^{235}U(n,f), thermal, α, Li and Be fragment energy distribs., ang. and mass correlations *(Russian)* 1−18701
^{235}U(n,f), thermal, charge and mass yields from fission product kinetic energy 1−726
^{235}U(n,f), thermal, long range α-particles, multiparameter study 1−5809
^{235}U(n,f), thermal n, fission fragment electron and antineutrino spectra *(Russian)* 1−36973
^{235}U(n,f), uncertainties in ENDF/B-V fission spectrum 1−50672
^{235}U(n,f) in UF_6, fission fragments lasing of Ar-Xe 1−41663
^{235}U(n,γf), reactor width, prefission γ-ray spectra, fission barrier, vibr. states *(French)* 1−50677
^{236}U compound nucleus lifetime for excitation energy 6.7-10 MeV in ^{235}U(n,f) 1−45545
^{236}U fission α-particle trajectory calcs., finite size effects from (n,f) 1−14563
^{236}U fission with microscopic energy dissipation, single-particle spectrum, BCS theory 1−18704
^{236}U two peaks fission barrier, penetrability for variable mass particle, liquid drop model *(Russian)* 1−18703
^{236}U(e,f), electrofission yield and ang. distribs., E2 giant resonances and M1 component 1−10396
^{238}U, giant quadrupole reson., fission decay in (α,α′f) 1−45550

fission of uranium continued
^{238}U giant quadrupole resonance, electro- and hadron-fission decay, stat. calc. 1−23695
^{238}U, muon induced quadrupole photofission, muonic X-rays 1−18694
^{238}U, muonic, muon final state probabilities after muon induced fission 1−18691
^{238}U, spontaneous fission, disintegration constant, and effective range of UO_2 fission fragments *(Portuguese)* 1−33273
^{238}U spontaneous fission half-life by prompt neutron detection 1−23967
^{238}U, subthreshold photofission at 3.6-6.0 MeV, yield and ang. distrib. 1−50675
^{238}U(^{16}O,f), 20 MeV/N, correlated fission fragments, folding angle distrib. 1−14561
^{238}U(^{184}W, f), Coulomb fission, semiquantal theory, double humped fission barrier 1−23698
^{238}U(α,α'f), 120 MeV, fission probabilities and ang. distribs. in GQR region 1−10395
^{238}U(α,α'f), 120 MeV, fission decay rel. to excitation energy 1−45552
^{238}U(e,f), 90-270 MeV, cross-section meas. *(Russian)* 1−41154
^{238}U(γ,f), 600 to 1600 MeV, fission fragment yield *(Russian)* 1−45555
^{238}U(γ,f), deformation of high spins, shell structure role 1−50489
^{238}U(μ^-,f), muon lifetimes and muonic shape isomer, conversion probability 1−23697
^{238}U(n,f), energy dependence of the ^{238}U thermal capture cross section 1−18697
^{238}U(n,f), fast n, fission fragment electron and antineutrino spectra *(Russian)* 1−36973
^{238}U(n,f) fission fragment angular anisotropy, radiochem. anal. *(Russian)* 1−45556
^{238}U(p,f), 1 GeV, $^{79-97}$Rb and $^{121-146}$Cs isotopic distribs. and cross sections 1−18692
^{338}U(n,f), fast n, fragment energy and mass distrib. 1−23699
U(n,f), A=234, 236, pol. n, light fragment asymm., parity nonconservation *(Russian)* 1−50678

fission products
airborne radiation release from the SL-1 accident following reactivity insertion accident, computer code anal. 1−41194
APEX−accelerator fuel producer and fission product exterminator 1−5977
circulating uranium fuel, fission products conc., energy release, calc. 1−28526
decay rate data from fission products for radiation protection appls. 1−50965
FBR core meltdown, interaction of sacrificial layer material with UO_2 and fission products 1−5888
gas release in fuel rods, time-depend. diffusion model 1−5845
graphite, diffusion of activated fission products *(German)* 1−11911
HTR, fission fragment gettering in primary circuit *(German)* 1−28552
LMFBR, fission gas release, effect on fuel pin temp. 1−5952
LMFBR analysis, fission product cross section model 1−50721
LWR fuels, internal fuel rod chem. invest., exptl. methods 1−50759
LWR LOCA, fission product release from high gap-inventory fuel 1−5935
molten salt converter reactor with a very low fission product inventory 1−5858
partitioning in spent oxide fuel reprocessing, remote operations for pyrometallurgical reprocessing experiments 1−5981
pneumatic transport system for rapid analysis of fission products *(French)* 1−23913
range determination method in gases 1−23995
rare gases, extrapolated equation of state at high temps. and densities 1−42119
sequential fragment ang. distribs. from deep inelastic heavy ion reaction model 1−14552
soda glass detectors, effect of temp. on fission fragment tracks 1−23945
solid-state detector 1−51042
spark counter fission fragment registration efficiency degradation by intense γ flux 1−1010
TMI-2, assessment of fuel damage from fission product conc. meas. 1−10491
volatile fission products release following reactor accident 1−41193
γ-production, large-scale, from fission products, viability under diff. fuel-cycles 1−23926
(n,f), fission fragment electron and antineutrino spectra *(Russian)* 1−36973
(^{40}Ar,f), symmetric fragmentation reactions, mass distrib. effects on fission barrier 1−10397
^{252}Cf spontaneous fission fragments β-spectrum for 1-20 MeV *(Russian)* 1−18603
^{245}Cm(n,f), thermal, fission product mass and charge yields 1−41153
Cs, fission product release from high gap-inventory fuel following LWR LOCA 1−5935
^Cs, A=121-146, isotopic distribs. and cross sections from ^{238}U(p,f) 1−18692
^FM, A=246, 248, spontaneous fission, fragment mass and kinetic energy distribs. 1−5810
H_2 production from nuclear fission product waste heat 1−8768
I, fission product release from high gap-inventory fuel following LWR LOCA 1−5935
Mo-Pd-Ru systems, fission products, thermodynamics and phase diagrams, calc. 1−43316
^{145}Nd, total neutron cross sections 1−23710
^{239}Pu(n,f), yields of short-lived fission products produced by thermal neutron fission 1−45548
^Rb, A=79-97, isotopic distribs. and cross sections from ^{238}U(p,f) 1−18692
^Sm, A=157, 158, fission product from ^{252}Cf course, gamma-rays and half-life 1−28411
^{132}Sn-region, levels from rapid automated nuclear chemistry of fission products 1−14468
ThO_2:$^{235}UO_2$, migration and trapping of fission ^{133}Xe, function of irradiation dose 1−34375
U-Pu oxide fuel/UO_2 blanket interface, Cs thermomigration and reaction 1−33293
^U(n,f), A=233, 235, thermal fission, model for estimating independent yields of fission products 1−50670
^{233}U(d,f), fission products yield, mass distribs., charge division mechanism 1−50665
^{233}U(n,f) thermal-neutron fission, meas. of light-fragment independent yields 1−50669

fission products continued
^{235}U (n,f), thermal, ternary fission, charged light particle yields and energy distribs. 1−5808
^{235}U(n,f), fast n, ^{1,3}H and ^{4}He multiparameter study, emission probabilities 1−50667
^{235}U(n,f), short lived fission products absolute yields 1−18690
^{235}U(n,f), thermal, α, Li and Be fragment energy distribs., ang. and mass correlations *(Russian)* 1−18701
^{235}U(n,f), thermal, charge and mass yields from fission product kinetic energy 1−726
^{235}U(n,f), thermal, long range α-particles, multiparameter study 1−5809
^{236}U(e,f), electrofission yield and ang. distribs., E2 giant resonances and M1 component 1−10396
^{236}U(γ,f), photofission yield, E2 giant resonances and M1 component 1−10396
^{238}U(γ,f), 600 to 1600 MeV, fission fragment yield *(Russian)* 1−45555
^{338}U(n,f), fast n, fragment energy and mass distrib. 1−23699
^Xe, A=129-136, fission product isotopic anal. using mass spectrometer 1−31943
^{133}Xe release from lightly irrad. $(Th,U)O_2$ powder 1−42427

fission reactor cooling and heat recovery
see also cooling; fission reactor core control and monitoring
adiabatic superheated steam saturated condensed moisture flow *(Russian)* 1−18740
AGR, Hinkley Point B, graphite corrosion, coolant chemistry, carbon deposition 1−10442
AGR, methane profiles in graphite structures, calc. 1−45592
AGR and Magnox power stations, appl. of 2-D boiler model to design and operation problems 1−28559
AGR boiler, estimation of steady-state temp. distrib. from external meas. 1−28584
AGR boiler dynamic stability limits, prediction using DYMEL code 1−28582
AGR boiler systems, commissioning experience 1−28588
AGR boilers, feed flow limit cycling 1−28561
AGR coolant, chemical form of ^{35}S released to atmosphere 1−14641
AGR design and simulator reference dynamic total plant models 1−28572
AGR heat transfer surfaces, historical development 1−14578
AGR steam generator, tube to tube excursive instability−sensitivities and transients 1−28564
anisotropic turbulence model for flow in nuclear fuel and rod bundles 1−28539
annular channel, fuel rod bending, critical coolant temp. rise 1−23805
anticipated transient without trip, computer modelling of primary-to-secondary heat transfer 1−5953
aqueous solutions of $B(OH)_3$ and KOH at high temps. and pressures, electrical conductivity meas. 1−36991
auxiliary feedwater reliability analyses for plants with B&W-designed NSSs 1−5927
auxiliary shutdown heat removal system, influence of the main condenser on SHRS reliability 1−5928
BWR, detector adjoint spatial characteristics related to two-detector noise measurements of steam velocity 1−50872
BWR, direct moderator heating, Monte Carlo calc. using SAM code 1−5949
BWR, dryout measurements for boiling water flow in 3650 mm long annulus 1−28520
BWR, instrument guide-tube vibrations, stochastic analysis, VIBRPI 1−14584
BWR, quantitative analysis of relationship between stability and channel steam velocity 1−50871
BWR, subcooled boiling and slip ratio 1−5907
BWR, time-dependent coolant velocity measurements, noise analysis of neutron detector signals 1−36981
BWR air and steam blowdown suppression, PELE-IC code 1−824
BWR core, onset of bypass voiding, prediction using FIBWR and COBRA III C codes 1−50741
BWR core, steady-state thermal-hydraulic anal. using FIBWR code 1−50740
BWR core stability analysis, time-domain program with parallel channel capability 1−14668
BWR emergency heat removal controller, design and functions 1−5839
BWR fuel bundles, reduced clearance effect on critical power 1−28550
BWR fuel channel inlet flow rate, noise analysis estimation 1−740
BWR LOCA, post-TMI review of response 1−45678
BWR LOCA, thermal-hydraulic models for operator guidelines 1−28671
BWR LOCA blowdown, discharge coefficient for the Moody critical flow model 1−5932
BWR LOCA simulation, TLTA system performance 1−50821
BWR neutron noise analysis, attenuation and reactivity effects 1−18829
BWR pipe break analysis, initialising exit plane conditions using RELAP4-REPIPE 1−50742
BWR piping, thermal analysis in induction heating stress improvement *(Japanese)* 1−28593
BWR piping system, O_2 suppression to prevent stress corrosion cracking 1−45624
BWR piping systems, computation studies on controlling residual stress by induction heating 1−45625
BWR piping systems, induction heating stress improvement for intergranular stress corrosion cracking prevention 1−50765
BWR piping systems, inservice US testing inspection for pipe crack sizing and detection 1−50845
BWR piping systems, intergranular stress corrosion cracking 1−50762
BWR piping systems, intergranular stress corrosion cracking of 304 stainless steel, countermeasures 1−50763
BWR plant, distributed DDC condensate clean up control system 1−50753
BWR plant main steam pipes, weld defect size distrib., inspection and repair effects 1−14651
BWR power control system, ADMIX, with triple control channel and self-diagnoses 1−45702
BWR pressure perturbation tests at Peach Bottom-2 1−5957
BWR recirculation piping integrity, effect of intergranular stress corrosion cracking, EPRI R and D 1.−45623
BWR stability analysis, influence. of radial nonuniformity 1−50743
BWR suppression pool, pressure fields, Green's function calc., other methods comparison 1−23794
BWR water chemistry and stress corrosion cracking of 304 stainless steel pipes 1−50764

fission reactor cooling and heat recovery continued
BWR/4 recirculation system modeling using RETRAN-01 for core flow prediction during transient event 1−5954
CANDU natural circulation steam generator, space dependent dynamic model 1−28554
CANDU reactor shutdown system unavailability estimation using fault tree analysis 1−50833
circular pipes, contraction ratio rel. to stabilisation length, initial turbulence 1−24885
Clinch River LMFBR assemblies, rod temp. calcs., hot channel factors 1−23728
COBRA-3C/RERTR, thermal-hydraulic subchannel code for research and test reactors 1−28546
contamination transport in the primary coolant system during a breached fuel pin test in EBR-II 1−45621
convective heat transfer improvement by increasing surface microroughness of fuel, car 1−33291
coolant boiling detection using acoustic-neutronic cross-correlation techniques 1−18830
coolant flow rate meas., utilization of thermocouple random signal correl. method, NZ-664 type flowmeter 1−28589
core meltdown accident, one-dimensional transient model for analyzing large-scale steam explosion experiments 1−50800
core thermal hydraulics, DNBR response surfaces, statistical sampling for safety evaluations 1−5944
corrosion product transport modeling in the BWR primary system 1−18797
coupled nuclear-thermal hydraulic code for prediction of core behavior during steam line break transient 1−10457
CRBR upper plenum thermal stratification, computer simulation 1−28542
critical heat flux in inclined steam generator channels 1−28583
critical heat flux in two-phase cross flows in nuclear reactor core 1−28583
cross-flow heat exchange with primary fluid mixing, CROSSMIX 2-D model 1−28585
cylindrical tubes, laminar vertical upward flow friction, buoyancy effect, LMFBR subassemblies appl. 1−24883
digital void velocimeter, accuracy improvement using microcomputer signal control *(Japanese)* 1−19843
dissociating coolant reactors, heat exchange predictions *(Russian)* 1−18735
dual variable method for 2-D steam generator calcs. 1−10423
dynamic hydraulic forces in piping systems, calc. using PIPES computer program 1−50801
dynamic simulation of LMFBR systems 1−41159
dynamics of start-up conditions of nuclear power station with fast reactor and dissociating coolant *(Russian)* 1−50748
EBR II, LMFBR, forced to natural convection transition 1−36993
EBR-II flow blockage simulation test, delayed neutron anal. 1−50827
EBR-II forced and natural circulation, in-core expts. 1−23730
effect of thermal radiation scattering on heat transfer coefficient pertaining to multicomponent flows 1−5973
fast disperse core reactor fuel element radiative-thermal efficiency *(Russian)* 1−18736
fast flux test facility, auxiliary system testing programme 1−18728
fast flux test facility, heat transport system and component design 1−18727
fast flux test facility, pipe vibration testing, dimensional survey 1−18766
fast flux test facility, sodium and cover gas impurities, removal, chem. anal. 1−18726
fast flux test facility, use for irradiation testing, current status 1−18765
fast reactor, coolant temp. control regulator for emergancy conditions 1−28532
fast reactor, sodium coolant cct., neutron streaming, expts. and calcs. *(Czech)* 1−5895
fast transients, heat release from fuel elements *(German)* 1−23746
FBR, interpretation of TREAT heat balance experiments 1−5964
FBr, Na flow distribution test of air cooler tubes *(Japanese)* 1−5827
FBR, neutron and gamma-ray streaming in cavity-duct system 1−10416
FBR, simulated HCDA, Structural response of scale models 1−828
FBR, structural response to HCDA, comparison of experiment with analytic simulations 1−829
FBR, vapor generation function for electrically heated volume-boiling systems 1−5960
FBR gridded fuel subassembly, local turbulent thermal diffusivity 1−23727
FBR loss-of-piping-integrity transients, SLSF expts. for safety anal. 1−14656
FBR safety, accidents involving core destruction *(German)* 1−23781
FBR thermal hydraulic analysis, comparison of the COMMIX-2 two-phase flow model with experimental data 1−50746
FBR thermal-hydraulic analysis of distorted rod bundles using boundary-fitted coordinates system 1−50747
FBR TOP accident, TREAT safety expt. 1−14657
feedwater transients, event tree analysis 1−50832
FFTF, anal. of secondary systems transients 1−5958
FFTF fuel handling in Ar and Na, thermal hydraulic characteristics 1−50777
FFTF transient analysis, SSC-L thermohydraulic simulation code verification 1−5959
field steam-generating tube, thermo hydraulic stability under direct or countercurrent flow 1−23740
film boiling heat transfer during reflood phase in postulated PWR loss-of-coolant accident 1−28621
flow blockage problems, simplified subchannel anal., initial value problems 1−10424
flow-blockage problems, subchannel models, initial-value methods 1−23719
fluidised bed, effective thermal diffusivity theory *(Russian)* 1−18739
Fort St. Vrain HTGR, primary coolant contaminants, removal and evaluation 1−36988
Fort St. Vrain HTGR, steam system performance tests 1−36987
fuel element pin cluster, effective friction calc., dimensional var. effect 1−5836
fuel element steady state heat conduction problem soln. *(Russian)* 1−18737
fuel element vibration in cooling medium high flow rate *(Czech)* 1−28522
fuel element with cladding, thermal shock 1−18723
fuel pin thermal performance asymmetric fuel-clad gap cond. effect 1−41166
fission reactor cooling and heat recovery continued
fuel rod, coolant temp. jump effect 1−45578
fuel-coolant interaction, shock wave-induced drop fragmentation, numerical anal. 1−23795
full length emergency cooling heat transfer forced reflood expts., mass effluence 1−28631
gas cooled reactors, microprocessor control of safe shutdown 1−23835
gas-cooled rod assemblies in nuclear reactors, thermohydraulic analysis 1−735
GCFR, once-through steam generator dynamics and automatic control 1−28580
GCFR, review of major design changes 1−14582
GCFR, steam-generating type, international collaboration 1−14585
GCFR cladding, stress anal. codes 1−41165
GCFR shutdown, energetics following loss of cooling accident 1−5971
GCRF, PAHR 1−5876
HCDA transient fluid-structure interactions, arbitrary Lagrangian-Eulerian method 1−33318
heat transfer and resistance of steam generator with N_2O_4 coolant *(Russian)* 1−18738
highly-loaded LMFBR core elements, with spacer grids, temp. field 1−23761
HTGR, downflow boiler design 1−10417
HTGR, enhancement of simultaneous radiative and convective heat transfer in high porosity media 1−19798
HTGR, optimisation of helium-steam binary cycle 1−36984
HTGR, secondary cooling system simulation *(Japanese)* 1−742
HTGR, thermal insulation system, transient behaviour of gas flow 1−18718
HTGR auxiliary shutdown and cooling systems, design criteria 1−41220
HTGR plant design for process heat applications 1−45594
HTGR process heat for long distance transportation and direct industrial heating applications 1−45593
HTR, fission fragment gettering in primary circuit *(German)* 1−28552
hydraulic transient calc. using GRASS code 1−50813
hydrodynamic stability tests and analytical model development for once-through sodium heated steam generator 1−28560
impedance probe, derivative signal thresholding for local void fraction meas. in two-phase flows 1−29809
implicit noniterative method for computing liquid and gas flow 1−10428
in-reactor safety experiments, technique for analysis and error detection for thermohydraulic system data 1−45663
inhomogeneous media discretised by boundary vol. element, transient heat conduction 1−14576
inlet flow blockage simulation, counter-current flow limited conditions, drift flux models 1−23720
JOYO experimental fast reactor, subassembly outlet coolant temperatures 1−23731
k-ε turbulence model prediction of vortex shedding behind bodies 1−10425
Ko-Ri Nuclear Power Station Unit 1, supply of balance of primary plant 1−33287
large two-phase bubbles, expansion, collapse expts. 1−36990
liquid metal cooled reactor, heat exchangers, thermal-hydraulic calcs., homogeneous model 1−28529
liquid metals, two-phase flow in tubes, void fraction correlation 1−738
LMFBR, carbide-fueled, in-pile MFCI safety expts.,, TREAT test AX1 1−10481
LMFBR, CDS primary and intermediate systems design 1−10434
LMFBR, coolant, protective gas, ^{3}H, ^{85}Kr, ^{133}Xe levels, gas chromatography 1−23867
LMFBR, core thermal hydraulics during transients, rel. to heat transport 1−23797
LMFBR, design of the CDS steam generator, feedwater, and condensate systems 1−10435
LMFBR, determ. of incipient boiling propagation, simulated assembly tests 1−28541
LMFBR, dynamic response of heat exchangers to flow and temperature perturbations 1−28544
LMFBR, fission gas release, effect on fuel pin temp. 1−5952
LMFBR, fuel element failure, delayed neutron signal anal. of breached elements 1−5903
LMFBR, gas-cover bubbles accumulation in primary cooling loop, neutron noise anal. 1−18730
LMFBR, HCDA, above-core hydrodynamics, sodium spillage, Eulerian method 1−33316
LMFBR, multichannel molten cladding motion in LOCA conditions 1−36989
LMFBR, Na boiling incoherency in large heterogeneous core, impact of power-to-flow ratio 1−45684
LMFBR, Na mist behaviour in Ar cover gas space 1−18719
LMFBR, Na-H_2O reaction jets, metal wastage calc., reply 1−10452
LMFBR, Particle-bed heat removal with subcooled sodium: D4 analysis 1−45687
LMFBR, penetration of hot liquid pool into vertical solid surface 1−41182
LMFBR, response of high-burnup fuel to simulated thermal transients 1−10483
LMFBR, retention of fuel within reactor vessel after hypothetical accident with core melting *(German)* 1−23782
LMFBR, scaled heads, response to HCDA, comparison of experiment and analytic simulation 1−830
LMFBR, SCARABEE mono and 7-pin LOCA expts., fission product meas. 1−823
LMFBR, sodium eddy diffusivity of heat in circular duct 1−38013
LMFBR, sodium heated helically coiled steam generator tubes at elevated pressures, dryout conditions 1−37995
LMFBR, steam generators, computer simulation of severe transients, BESBET II code 1−28574
LMFBR, SWAAM-1 program for large Na-H_2O reactions in secondary systems 1−10458
LMFBR, thermal insulation of large diameter reactor vessels, design requirements 1−28538
LMFBR, thermal-hydraulic anal., porous medium formulation, computer code 1−23723
LMFBR, thermohydraulics of coolant, cladding and fuel 1−18725
LMFBR, transient calcs. of a 45 MW(th) steam generator model 1−28676
LMFBR, verification of a dynamics model of a sodium heated steam generator 1−28555
LMFBR, water leak detection, cover-gas H_2 meter 1−14661

fission reactor cooling and heat recovery continued
LMFBR accident analysis, consideration of liquid Na film behaviour 1−45686
LMFBR accident delineation and the evaluation of research priorities 1−45698
LMFBR blanket assembly model, heat transfer, temp. distrib. 1−23736
LMFBR blanket heat transfer, design code predictions CF test results 1−50745
LMFBR boiler control system design anal., appl. of multivariable freq. response methods 1−28577
LMFBR bundles, multicell slug flow, heat transfer anal. 1−23724
LMFBR control assembly rod, transient design considerations 1−50888
LMFBR coolant flow distrib. to orificing zones 1−50718
LMFBR core assemblies, wire-wrapped, hydraulic field scale expts. 1−23735
LMFBR core meltdown, main problems of an internal core-catcher 1−5891
LMFBR core meltdown, PAHR, decay-heat-induced decomposition of concrete slab 1−10477
LMFBR core meltdown, PAHR, fuel debris bed experiment 1−10474
LMFBR core meltdown, thermal-hydraulic and chemical interaction of core melt with underlying materials 1−5875
LMFBR cores, natural convection anal. codes 1−23729
LMFBR counter-flow steam generators, two-phase flow dynamics modelling 1−28571
LMFBR damaged core, natural convection analysis using SSC-L code 1−45696
LMFBR fuel assembly thermal-hydraulic tests, expt. techniques 1−23733
LMFBR fuel pin failure, TREAT test H6, LACOBRA/LAFM analysis 1−5963
LMFBR fuel subassembly, local flow blockage simulation 1−23798
LMFBR fuel thermal performance, HCDA computer programs, RESTRUC 1−14643
LMFBR fuel-coolant thermal interactions, simulation using Freon-11 1−48725
LMFBR HCDA, PAHR, fuel debris bed dryout 1−10475
LMFBR HCDA analysis using finite element methods 1−50830
LMFBR HCDA energetics analysis for SNR-300 licensing 1−50831
LMFBR HCDA fluid/structure anal. using THUDD-1 code 1−5962
LMFBR HCDA PAHR, investigation of limiting boiling heat fluxes from debris beds 1−45690
LMFBR HCDA PAHR, sodium interactions with magnetite-aggregate concrete 1−50825
LMFBR HCDS PAHR, comparison of models for water release from heated concrete 1−50826
LMFBR inherent accommodation of unprotected LOF accidents 1−45697
LMFBR intermediate heat transport system, anal. of Nu neutron activation 1−50969
LMFBR LOCA, fuel disruption, post-test examination results of SLSF experiment P3A 1−50828
LMFBR LOCA, sodium void effect on reactivity, model calcs. 1−28639
LMFBR PAHR, build-up of molten fuel pools inside a plugged subassembly 1−5873
LMFBR PAHR, cooling of particulate debris beds 1−5862
LMFBR PAHR, effective thermal conductivity for combined convection-radiation heat transfer in a molten oxide fuel layer 1−45691
LMFBR PAHR, fuel particulate debris bed dryout in Na 1−5865
LMFBR PAHR, heat transfer between two horizontal liquid layers with gas injection 1−5872
LMFBR PAHR, heat transfer from a stratified two-fluid system with internal heat sources 1−5866
LMFBR PAHR, heat transfer internally-heated molten UO_2 pools 1−5871
LMFBR PAHR, heat transfer measurements of internally heated liquids in cylindrical convection cells 1−5870
LMFBR PAHR, hydrodynamic aspects of stratification and mixture within boiling immiscible mixtures 1−5972
LMFBR PAHR, interaction between molten Na pool and core-catcher 1−5868
LMFBR PAHR, melting front phenomena−analysis and computation 1−5874
LMFBR PAHR, natural convection in liquid Na surrounding core-catcher plate 1−5869
LMFBR PAHR, natural convective cooling of debris bed 1−5863
LMFBR PAHR, steady and transient natural convection in single and multi-fluid layers with heat generation 1−5867
LMFBR pipe during flow coastdown, numerical simulation of thermal hydraulics 1−50889
LMFBR pool outlet plenum, expt. modelling of simulated scram transients 1−28543
LMFBR post accident heat recovery analysis 1−5861
LMFBR power plant, Benson system cycle, grid, disconnection trip 1−28675
LMFBR pressurised pipes, crack propag. due to ductile fracture 1−41184
LMFBR pump coastdown, turbulent and laminar flow in transition to natural convection 1−23799
LMFBR pump trip event in metal-fuelled and oxide-fuelled reactors 1−50829
LMFBR rod bundles, subchannel anal., conduction mixing lengths 1−23738
LMFBR safety anal. using MELT-111A code, appl. of generalised sensitivity theory 1−5967
LMFBR steam generator dynamics 1−28519
LMFBR steam generators, correlation of critical heat flux data−sodium-heated boiling water 1−28545
LMFBR steam generators, dynamic analysis and control systems 1−28575
LMFBR steam generators, meas. of acoustic background noise 1−50715
LMFBR sub-assemblies transient heat transfer calc. 1−23722
LMFBR subassemblies, detection of cooling anomalies, temperature noise analysis techniques 1−36985
LMFBR subassemblies, local flow blockage, three-dimens. code, subchannel approach 1−23796
LMFBR subassembly, hydraulic influences of transient overpower generated blockages 1−10470
LMFBR subassembly coolant flow and power meas. by correlation method 1−18831
LMFBR thermal hydraulics, 61-pin simulated subassembly 1−28540
LMFBR thermal-hydraulic performance, cycle-to-cycle analysis vs. homogenized equilibrium cycle analysis 1−50722

fission reactor cooling and heat recovery continued
LMFBR top accident, PAHR, forced-flow evaporative cooling of a volumetrically heated porous layer 1−10476
LMFBR TOP-generated porous blockages, dryout modelling 1−45685
LMFBRs Na flow blockage, fluidisation and sweepout 1−23844
LMRBR, breeding and thermal-hydraulic anal. using 2-D R-Z models 1−50724
LOCA, anal. of blowdown heat transfer expts. and associated CHF phenomena 1−5929
LOCA, anal. of small breaks following TMI 1−28666
LOCA, calculation of the CANON experiment using the TRAC code 1−5931
LOCA, drag disc turbine transducer behaviour in steady state two-phase flow 1−736
LOCA, effect of reactor coolant pump trip 1−10494
LOCA, effect of sleeves on quenching of a 4-rod bundle 1−5936
LOCA, exam. of uncovery transients in a 3×3 rod bundle 1−5934
LOCA, fluid-structure interactions of core barrel and fuel rods *(German)* 1−23783
LOCA, fuel-and-cladding model of rewetting of nuclear fuel rod 1−18781
LOCA, pre-test calculations of LOFT nuclear tests L2-2 and L2-3 with the RETRAN computer code 1−5933
LOCA, prediction of quench and rewet temperatures 1−5938
LOCA, quenching, precursory cooling effect, three-region model 1−811
LOCA, two-phase flow eqns. in elastic tube, single pressure 1−5904
LOCA analysis, model for secondary containment pressure transient analysis 1−10465
LOCA conditions, unsteady dispersed flow heat transfer 1−10449
LOCA simulation, response of self-powered neutron detectors to coolant density variations 1−45676
local reactivity feedback in PWR steamline break evaluations 1−10468
LOFT ECCS, application of ANSI/ANS-5.1-1979/HEAT 6 code to LOFT technical specifications 1−45677
LWR, dynamics of slender cylindrical elements conveying fluid and subjected to steady axial flow 1−50712
LWR, forced convective subcooled boiling in heated annular channels 1−14577
LWR, LOCA, decompression wave forces on structures in pressure vessel 1−18774
LWR, Zircaloy-4 rod, transient cooling process in reactivity initiated accident 1−18776
LWR coolant corrosion product anal. system 1−28622
LWR core meltdown, fragmentation mechanisms occurring during an energetic fuel-coolant interaction 1−45683
LWR core meltdown, molten fuel-coolant interaction, a vapor explosion in the RIA-ST-4 experiment 1−5942
LWR core meltdown, phenomenological modeling of small-scale steam explosion experiments 1−5943
LWR core pressurisation during energetic MCFI, effect of coolant conditions 1−50806
LWR LOCA, AA 1−45674
LWR LOCA, hydrodynamically controlled dryout in tubes at low mass flow rates 1−5941
LWR PAHR, dryout heat fluxes in very deep debris beds 1−45689
LWR plants, pressure-wave propagation, treatment in licensing procedure *(German)* 1−796
LWR safety analysis, simulation of LOCA, DRIX-2D 1−5902
LWR safety analysis, thermal-hydraulic aspects of degraded-heat-removal accidents 1−28667
LWR thermal-hydraulic safety anal., non-LOCA overcooling events 1−28669
LWR thermal-hydraulic safety anal., post TMI anal. 1−28668
LWR thermal-hydraulic transient analysis, THERMIT two-fluid code 1−28547
LWR uncovered core, radiative shape factors and heat flux 1−45679
Marviken critical flow tests for independent assessment of TRAC-P1A 1−50803
mass flow measurement devices in loss-of-fluid test facility (LOFT), PWR appl. 1−10436
McGuire PWR, problems encountered during pre-operational tests 1−23806
MFBR PAHR conf., Varese, Italy, (Oct. 1978) 1−5018
mixing length model for fully developed turbulent two-phase flow 1−50879
NSSS safety functions, impact of multiple failures and operator errors 1−14659
nuclear fuel slab, one dimensional temp. distribution determination using Maxwell-Cattaneo-Vernotte heat conduction theory *(Italian)* 1−1799
nuclear power station boiler dynamics and control, conf. Bournemouth, England (October 1979) 1−27670
nuclear power stations, circulation pumps, design and operation testing for use with RBMK-1000 reactors 1−14580
nuclear steam supply systems, steam generator feedwater pipe cracking 1−50767
once through boiling system, flow instability, computer anal. modified DYNAM code 1−741
PAHR, hot liquid pool downward penetration into meltable solid 1−50824
particle-bed dryout model with upward and downward boiling 1−45688
Peach Bottom II turbine trip test analysis 1−28677
PFR, fuel-coolant heat transfer coeffs., power perturbation method 1−23732
PFR boiler feedwater control systems 1−28587
PHWR, heat transfer in CANDU fuel bundle, experimental and theoretical comparisons *(Rumanian)* 1−41161
pipe compressible flow, computer-aided analysis, KOMPAKT program *(German)* 1−10415
pulsed gas generator, cyclic gaseous core reactors 1−14583
PWR, coolant stability calc. 1−28531
PWR, ECC system, countercurrent steam-water flow in large horizontal pipes 1−45633
PWR, lower plenum sweepout in LOCA, surface wave growth 1−28679
PWR, solubility of $Ni_xFe_{3-x}O_4$ in aqueous boric acid soln. 1−52299
PWR 16-rod bundle thermohydraulics, expt. subchannel meas. and predictions 1−50739
PWR bayonet tube steam generator, frequency domain anal. of void-flow instability 1−28563
PWR cold-leg break LOCA, ECCS steam condensation effect of reflooding rates 1−50818
PWR containment atmospheric response for postulated Class 9 accident 1−50815

fission reactor cooling and heat recovery continued
PWR coolant sampling, anal. methods *(Hungarian)* 1−23750
PWR coolant sampling and analytic problems, bibliography 1−13953
PWR coolant system void volume synthesis using available instrumentation 1−10469
PWR coolant temperature sensors, response time validation techniques 1−28534
PWR core meltdown, concrete destruction after pressure vessel failure 1−5878
pWR core response for a steamline break accident−sensitivity studies 1−10467
PWR feedwater pipe cracking: an overview of Combustion Engineering activities 1−50766
PWR fuel rods containing defects, power ramp and power-cooling-mismatch conditions 1−10450
PWR in-vessel liquid level detection using heated thermocouples 1−50882
PWR LOCA, dynamics of a rod bundle under forced oscillation flow reflooding 1−50802
PWR LOCA, effect of steam condensation on ECC penetration 1−5940
PWR LOCA, experimental study of hot-wall effects on liquid flow 1−5939
PWR LOCA, independent assessment of TRAC-P1A with Moby-Dick nitrogen-water tests 1−5937
PWR LOCA, multidimensional aspects of reflood in a scaled PWR model 1−50807
PWR LOCA, pressure wave propagation, fluid structure dynamical coupling, FLEXWALL computer program *(German)* 1−797
PWR LOCA, thermal-hydraulic anal. during blowdown, transient coolant dynamic anal. 1−28549
PWR LOCA, TRAC-PD2 analysis of ORNL Thermal-Hydraulic Test Facility Test 177 1−45675
PWR LOCA, TRAC-PD2 analysis of the Bennett tube experiments 1−28548
PWR main steam pipe break, steam free jet and impinging jet studies *(Japanese)* 1−45632
PWR natural circulation events, anal. using SSC-W code 1−50809
PWR natural circulation steam generators, hydrodynamic stability anal. 1−28566
PWR once-through steam generator, flow instability anal. 1−28562
PWR once-through steam generator dynamics anal., NUMEL computer aided design 1−28581
PWR plant computer anal. using SIRENE and PICOLO codes 1−28678
PWR pressure vessel design concept, feasibility 1−50714
PWR pressurised fuel rods, Zircaloy clad burst 1−18782
PWR primary piping after LOCA, dynamic behaviour, impact function, lateral stability 1−18783
PWR small-break LOCA, core cooling conditions during core uncovery 1−50812
PWR small-break LOCA, effect of delayed reactor coolant pump trip 1−5930
PWR steam generator, water level adaptive control 1−28579
PWR steam generator inspection using photographic techniques 1−45709
PWR steam generators, automatic control of low load level 1−28578
PWR steam generators, heat transfer and 3-D flow distrib. 1−28586
PWR steam generators, preoperational chemical cleaning, American experience 1−759
PWR steam generators, thermohydraulic performance, test rigs 1−50713
PWR thermal hydraulic behaviour, experimental study of level swell in a partially water filled fuel cluster 1−33288
PWR thermal-hydraulics, flashing transient separate-effects experiments at LOFT scale, blowdown and refill expts. 1−50738
PWR transients, heat removal in steam generators, modelling 1−50805
PWR U-tube steam generator, expt. simulation studies of fluid modelling and flow visualisation 1−28556
PWR U-tube steam generator dynamics modelling and verification 1−28553
PWR U-tube steam generator modelling: application to level control and comparison with plant data 1−28674
quench front, 2-D, implicit isotherm migration 1−18724
RBM-K reactor, heat carrier losses, thermometric correlational system 1−36995
RBMK-1000, water plant chem. anal., corrosion activity 1−28597
reactor coolant oil ingress monitoring, photoionisation detector appl. 1−798
reactor coolant two-phase flow problems, weighted residual anal. 1−28570
recirculation piping, hot water rapid depressurisation study 1−37012
remotely controlled ultrasonic testing system for BWR plants 1−23829
research reactors, boiling safety margin estimation 1−28642
REWET-I single pin reflood experiments 1−23752
rewetting of hot horizontal channels, heat transfer and temp. distribs. 1−750
rib roughened heated pins, cluster of seven, convection, resistance and temps. 1−5841
rib roughened pins, single and cluster of seven, forced convection heat transfer 1−5840
rod bundle thermal hydraulic anal., boundary-fitted coord. method 1−23725
rod bundles, heat transfer to axial dispersed flow 1−36992
rod bundles, turbulent momentum transport 1−23726
rod bundles with spacer grids, press. drop, vel. distrib. 1−23737
rod-bundle thermal-hydraulic analysis, overview 1−23721
sheathed thermocouples in nuclear reactor service, transient response and thermal shock resistance 1−27972
shellside velocity measurements in a steam generator flow model 1−29811
SNR-300, experimental determination of density-wave oscillations in full-scale sodium-heated steam generators 1−28567
SNR-300 LMFBR HCDA, retention of dispersed fuel within the reactor vessel 1−5892
sodium boiling detection, acoustic-neutron noise correl. 1−23802
square pitch rod cluster, developed single phase turbulent flow, reactor appl. 1−14575
steam generator replacement by the channel head cut alternative 1−28535
steam generator stability at variable loads 1−28568
steam generator thermal analysis, improved calculation procedures for heat transfer and associated pressure drop analysis 1−28569
steam generator tube diagnostics−the B&W approach 1−45708
steam generators, dynamic modelling 1−28573
steam generators, linearised transient anal. 1−5831
Stokes flow simulation using hybrid finite-element model 1−46720
Super Phenix steam generators, control and operation 1−28576

fission reactor cooling and heat recovery continued
Super-CANON blowdown tests for independent assessment of TRAC-P1A 1−50804
Super-Phenix steam generator, 45 MW scale model, digital simulation of transient conditions 1−28558
Super-Phenix steam generator, 45 MW scale model, prediction of dynamic stability limits 1−28565
Surry Unit 2 steam generator replacement 1−50711
temperature distribution in a fuel pin and sheath with radiative heat transfer 1−28533
test facility for reactor coolant pumps, in full operating conditions 1−45590
thermal behaviour of LOFT nuclear fuel and NEPTUN heater element 1−50819
thermal hydraulic analysis, droplet-liquid film mass exchange rate in annular flow 1−50736
thermal hydraulic analysis, RETRAN code development at EPRI 1−50887
thermal hydraulics, downflow post-CHF heat transfer to low-pressure water 1−50881
thermal hydraulics, pulsed neutron activation meas., nonuniform tagging and flow struct. effects 1−51888
thermal hydraulics of steam line break transients in thermal reactors−simulation experiments 1−50799
thermal-hydraulic analysis capability at Florida Power and Light Company 1−50886
thermal-hydraulic analysis capability at Northeast Utilities Service Company 1−50884
thermal-hydraulic analysis capability at Yankee Atomic Electric Company 1−50883
thermal-hydraulic analysis methodology at GPU nuclear 1−50885
thermal-hydraulic analysis of the February 26, 1980 loss-of NNI bus transient at Crystal River 3 1−50808
thermal-hydraulic instability in two-region BWR 1−50744
thermal-hydraulics, mixing between two laterally interconnected two-phase flows 1−50737
thermal-hydraulics, water hammer phenomena, closed-form soln. for inertially controlled motion of liquid slug 1−50880
TMI accident, thermal-hydraulic response, TRAC-P1A anal. 1−5955
TMI-2, natural circulation for long-term core heat decay removal 1−10492
TMI-2 accident, sequence of events *(Spanish)* 1−28615
TMI-2 accident, small breaks and natural convection in LOCA *(Spanish)* 1−28616
TMI-2 accident, thermal-hydraulic anal. of first 16 hours 1−10490
TMI-2 PAHR, reactor plant pressure and temp. control 1−14658
TMI-2 safety anal., degraded core cooling calc. 1−28670
top blowdown vessel expt. to assess TRAC-P1A code 1−50820
TRAC-P1A thermodynamic equation of state for H_2O, for thermal-hydraulic computer codes 1−45589
TRAC-PD2 calculations of CREARE countercurrent flow tests 1−50811
transient fuel pin temperature calculations based on describing functions 1−10422
transient heat transfer during reflooding of a vertical single heater tube 1−28518
transient reactor thermal hydraulics problem, functional extrema, sensitivity theory 1−10430
transient two phase flow in a forced circulation Freon test rig 1−28557
triangular geometry fluid dynamics with reduced artificial diffusion 1−10429
turbine trip, RAMONA anal. of pressure transients at Peach Bottom 1−5956
two phase flow, spatial distribution using scattered γ-radiation 1−751
two-phase flow, heat transfer correlation for saturated and superheated steam-air atmospheres 1−51861
two-phase flow, instantaneous void fraction meas. by dual-beam X-ray technique 1−29812
two-phase flow, void fraction and phase distrib. meas. using neutron beams 1−19790
two-phase flow regime identification using a high-intensity X-ray system 1−29810
two-phase thermal hydraulic computer code, COMMIX-2 1−45588
two-phase-flow characterization by local and global neutronic fluctuation measurements 1−18731
vent clearing time, analysis using closed-form solution 1−50814
VHTR process heat feasibility study 1−50752
VVER-440, main circulation pump failure, core temperature transient anal. *(Slovak)* 1−5898
water reactors, gamma radiation effect on corrosion products from C steel and stainless steel 1−780
water-cooled reactors, water treatment, corrosion prevention, R and D, review 1−28528
water-steam system, flows after coolant escape, model expts. 1−10420
wire-wrapped rod bundles, hydraulic charcts., physical models 1−23734
WWER horizontal type steam generators, transient simulation *(Czech)* 1−5894
Zircaloy, cladding, oxidation by steam in LOCA of LWR, computer calc. 1−810
Zircaloy-2/UO_2 surfaces in contact, heat flow study 1−11924
$^{19}F(n,\alpha)^{16}N$ cross-section, threshold to 9 MeV, appl. to fission reactor coolant 1−45584
$^{19}F(n,p)^{19}O$ cross-section, threshold to 9 MeV, appl. to fission reactor coolant 1−45584
^{3}H content in VVR-M reactor water 1−23866
LMFBR core meltdown, temp. distrib. and comp. of UO_2 particle bed. 1−5864
LMFBR thermal-transient-induced pipe stratification 1−50890
N_2O_4, dissoc. coolant, thermophysical props. 1−50710
N_2O_4 dissociating coolant, radionuclide behaviour in APS circuit *(Russian)* 1−18734
N_2O_4 vapour barbotage through liquid layer, heat transfer *(Russian)* 1−19791
Na cooled LMFBRs, physical features 1−50750
Na saturated vapour pressure meas. manometer 1−23716
^{235}U decay heat on reactor shutdown, model expts. *(Japanese)* 1−18721

fission reactor core control and monitoring
see also fission reactor safety; fission research reactors; nuclear engineering; nuclear reactor instrumentation
1300 MW plants, new methods of control-monitoring and their appls. *(French)* 1−842

fission reactor core control and monitoring continued
actinide neutron cross sections, level density effects *(Russian)* 1−18833
advances in nuclear science and technology, book 1−13938
AGR and Magnox power stations, appl. of 2-D boiler model to design and operation problems 1−28559
anticipated transient without trip, computer modelling of primary-to-secondary heat transfer 1−5953
burnup analysis, development and verification of multicycle depletion perturbation theory 1−23812
burnup effects in data sensitivity studies 1−50867
burnup-dependent cross-section data for research reactors and a comparison of REBUS-2 and PDO-7 burnup 1−50864
BWR, APSD evaluation from neutron noise meas. 1−14675
BWR, detector adjoint spatial characteristics related to two-detector noise measurements of steam velocity 1−50872
BWR, direct moderator heating, Monte Carlo calc. using SAM code 1−5949
BWR, power distributions calculated from in-core detector readings, on-line computer applications 1−45636
BWR, PWR power plants signature monitoring, stochastic modelling 1−50906
BWR, quantitative analysis of relationship between stability and channel steam velocity 1−50871
BWR, subcooled boiling and slip ratio 1−5907
BWR automatic in-core sipping equipment development for fuel failure inspection 1−45703
BWR bundle analysis with nonuniform void within the channel, CASMO analysis 1−50855
BWR core stability analysis, time-domain program with parallel channel capability 1−14668
BWR fuel assemblies, local power distrib., super-cell model 1−28517
BWR fuel assembly neutronics code evaluation using XMC Monte Carlo code 1−18820
BWR fuel bundles, reduced clearance effect on critical power 1−28550
BWR fuel channel inlet flow rate, noise analysis estimation 1−740
BWR fuel cycle analysis, calc. of fuel depletion 1−23815
BWR fuel management appl. of ONDA computer code system 1−41202
BWR improved core daily load-following charact., core design and operation 1−45701
BWR in-core fuel management, automated procedure for refuelling patterns 1−41201
BWR in-core nuclear instrumentation 1−45712
BWR load-following operation, evaluation of power distribution change 1−45700
BWR LOCA, post-TMI review of response 1−45678
BWR LOCA blowdown, discharge coefficient for the Moody critical flow model 1−5932
BWR neutron noise analysis, attenuation and reactivity effects 1−18829
BWR neutron noise interpretation, neutron propagation in heterogeneous media 1−50870
BWR nodal analysis, radial albedo boundary condition and spectrum correction factor usage 1−50865
BWR power control system, ADMIX, with triple control channel and self-diagnoses 1−45702
BWR pressure perturbation tests at Peach Bottom-2 1−5957
BWR radial albedo boundary condition and spectrum correction factor verifications using SIMULATE 1−23813
BWR/4 recirculation system modeling using RETRAN-01 for core flow prediction during transient event 1−5954
BWR/6 rod withdrawal limiter generic statistical licensing basis 1−50810
CANDU fuel element behaviour under normal operating conditions, ELESTRES code 1−45681
CANDU power plant, research and development in control, instrumentation and electronics 1−45714
CANDU reactor shutdown system unavailability estimation using fault tree analysis 1−50833
CANDU reactors, in-core flux detector assembly 1−10497
CANDU reactors, research and development review 1−5987
CANDU shut down system, fault-tree analysis 1−18785
CANDU stations, control systems design 1−50899
CFRMF central neutron flux spectrum, sensitivity and uncertainty analysis 1−50858
Clinch River LMFBR, blanket rod bundle compaction, cladding response 1−18784
coarse-mesh methods application in three-dimensional core analysis 1−33284
comparison between CASMO and CPM 1−50854
computer reliability enhancement using military computers 1−23778
constrained sensitivity theory 1−23744
containment analysis, efficient nodalization for subcompartment force-moment analysis 1−5950
control room design improvements, operators role 1−28649
coolant boiling detection using acoustic-neutronic cross-correlation techniques 1−18830
core meltdown in a sacrificial bed, effect of steel layer on ladle penetration 1−5951
core thermal hydraulics, DNBR response surfaces, statistical sampling for safety evaluations 1−5944
critical heat flux in two-phase cross flows in nuclear reactor core 1−28583
criticality for water reflected homogeneous arrays and heterogeneous fuel elements *(German)* 1−28610
criticality of water-flooded fuel rod arrays, effect of heavy metal reflectors 1−45673
criticality safety, calculated K_{eff} for partially concrete-reflected FTR pins in water 1−50793
criticality safety, impact of materials safeguards 1−50794
criticality safety analysis, SCALE system cross-section validation 1−45672
criticality safety and materials safeguards at Idaho Chemical Processing Plant 1−50796
criticality safety criteria 1−45669
dynamic simulation of LMFBR systems 1−41159
e 1−23828
EBR-II flow blockage simulation test, delayed neutron anal. 1−50827
EBR-II forced and natural circulation, in-core expts. 1−23730
effect of thermal radiation scattering on heat transfer coefficient pertaining to multicomponent flows 1−5973
effects of containment purge on the consequences of a loss-of-coolant accident 1−10466

fission reactor core control and monitoring continued
energy release profile conservation in multiple region reactor *(Russian)* 1−18832
fast reactor subassembly wrapper, frequency dependence of acoustic resonances on blockage position 1−23787
fast reactors, low density cylindrical channels, effective neutron diffusion coeff. calc. 1−18711
FBR, heterogeneous cores *(German)* 1−23780
FBR, mechanical interaction effects during compaction of a hexagonal core array 1−14670
FBR, Na cooled, reactor instruments and instrumentation systems, current status in Japan *(Japanese)* 1−45631
FBR, simulated HCDA, Structural response of scale models 1−828
FBR, structural response to HCDA, comparison of experiment with analytic simulations 1−829
FBR, vapor generation function for electrically heated volume-boiling systems 1−5960
FBR control elements, advanced absorber assembly design 1−14669
FBR core meltdown, interaction of sacrificial layer material with UO_2 and fission products 1−5888
FBR core meltdown, MgO-UO_2 interactions up to 3000 K 1−10479
FBR fuel motion detection at TREAT, experimental validation of method for predicting fast-neutron hodoscope performance 1−5965
FBR internal core catcher using $Na_2B_4O_7$ as sacrificial material 1−5887
FBR loss-of-piping-integrity transients, SLSF expts. for safety anal. 1−14656
FBR oxide fuel response under LOF and prompt-burst heat conditions 1−50823
FBR safety, accidents involving core destruction *(German)* 1−23781
FBR safety, TREAT upgrade program objectives 1−14655
FBR TOP accident, TREAT safety expt. 1−14657
FBR TREAT SAREF expts., fuel dispersal phenomena, molten fuel configuration behaviour, safety anal. 1−10478
FFTF, anal. of secondary systems transients 1−5958
FFTF, initial physics meas. 1−23743
FFTF fuel assembly duct lifetime determ., structural analysis 1−50716
FFTF transient analysis, SSC-L thermohydraulic simulation code verification 1−5959
fission reactor data analysis, representative sampling 1−18814
fission-gas-induced fuel swelling in low- and medium-burnup fuel during high-temperature transients 1−5946
flux tilt, relationship with excess reactivity 1−37004
Fort St. Vrain HTGR, control rod drive and orifice assemblies 1−37009
fuel burnup monitoring using ^{154}Eu 1−50897
fuel cycle extension by part-length control rod removal at Rancho Seco 1−50852
fuel management analysis, combined batch and assembly nodal method 1−50726
fuel management modeling with REBUS-2 for research and test reactors 1−50771
GCFR, critical assembly expts. for design method validation 1−28537
GCFR, integral neutronics parameters, accidental steam entry effects 1−833
GCFR, review of major design changes 1−14582
GCFR HCDA, neutron streaming effects, mitigation possibilities 1−5970
GCFR shutdown, energetics following loss of cooling accident 1−5971
GCRF, PAHR 1−5876
HCDA, effects of cracks within sacrificial bed material on the growth of molten pools 1−5885
heterogeneous reactors, neutron diffusion tensors for systems with 2-D periodic lattices 1−23814
high subcriticality, determ. using exponential expt. 1−45671
homogeneous thermal benchmark calculations with ENDF/B-V data using MCNP code 1−50856
HTGR, VG-400 prototype, core design comparison 1−10419
HTR, ^{240}Pu resonance absorption effects on burn-up *(Japanese)* 1−45595
HWR, determination of power feedback coefficients 1−18819
impedance probe, derivative signal thresholding for local void fraction meas. in two-phase flows 1−29809
in-core flux monitoring systems 1−28654
Inconel mineral insulated coaxial cables, signals in neutron and gamma-ray fields 1−23833
inverse kinetics analysis of rhodium SPND for thermal flux mapping 1−50731
ionic thermometers for fission reactor core temp. 1−27977
IRT, operation regime optimisation, ^{135}Xe poisoning analysis *(Russian)* 1−14646
IRT-2000 reactor, ^3He gas absorber control system 1−28641
isotope reactor surveillance using pattern recognition methods 1−23786
JOYO experimental fast reactor, subassembly outlet coolant temperatures 1−23731
JOYO MK-II experimental fast reactor, mockup tests of control rods 1−45692
KWU boiling water reactors, control-rod-scheduling computer appl. *(German)* 1−45639
Kyoto University Critical Assembly, reactor physics group consts. for C-core *(Japanese)* 1−5830
LMFBR, 1000 MW(e) CDS plant reactor assembly and refueling systems 1−10432
LMFBR, behaviour of homogeneous and heterogeneous cores under protected overpower transients 1−18816
LMFBR, carbide-fueled, in-pile MFCI safety expts.,, TREAT test AX1 1−10481
LMFBR, coded aperture imaging system for nuclear fuel motion detection 1−50790
LMFBR, comparison of space-time and point kinetics calcs. for homo- and heterogeneous cores 1−50725
LMFBR, Conceptual Design Study core design 1−10433
LMFBR, core thermal hydraulics during transients, rel. to heat transport 1−23797
LMFBR, fission gas release, effect on fuel pin temp. 1−5952
LMFBR, heterogeneous, reactivity control requirements and worths, B enrichment 1−50842
LMFBR, identification of ruptured fuel elements in subassemblies irradiated in BER-II 1−45613
LMFBR, LOF accident, fission energy generation in volume-boiling pool systems, MW heating simulation expts. 1−10480
LMFBR, Na boiling incoherency in large heterogeneous core, impact of power-to-flow ratio 1−45684
LMFBR, possible development requirements towards the post accident containment of core debris 1−5860

fission reactor core control and monitoring continued
LMFBR, response of high-burnup fuel to simulated thermal transients 1−10483
LMFBR, scaled heads, response to HCDA, comparison of experiment and analytic simulation 1−830
LMFBR, transient calcs. of a 45 MW(th) steam generator model 1−28676
LMFBR accident analysis, consideration of liquid Na film behaviour 1−45686
LMFBR accident delineation and the evaluation of research priorities 1−45698
LMFBR accident delineation study: assessment of post-accident phenomenology 1−45699
LMFBR control systems design, influence of control rod worth interactions 1−18815
LMFBR coolant flow distrib. to orificing zones 1−50718
LMFBR core configuration optimization of high-performance 1000-MW(e) oxide heterogeneous cores 1−18729
LMFBR core meltdown, experiments related to the design and performance of in-pool core catchers 1−5890
LMFBR core meltdown, integrity of fuel support grid, calc. of melt through time 1−5877
LMFBR core meltdown, main problems of an internal core-catcher 1−5891
LMFBR core meltdown, molten core/concrete interaction 1−5879
LMFBR core meltdown, PAHR, decay-heat-induced decomposition of concrete slab 1−10477
LMFBR core meltdown, PAHR, fuel debris bed experiment 1−10474
LMFBR core meltdown, phys. props. of UO_2-stainless steel above 1690K 1−5881
LMFBR core meltdown, thermal-hydraulic and chemical interaction of core melt with underlying materials 1−5875
LMFBR cores, natural convection anal. codes 1−23729
LMFBR damaged core, natural convection analysis using SSC-L code 1−45696
LMFBR extended fuel motion, effects of fuel-Na film interaction and delayed fission gas release 1−10471
LMFBR fuel assembly thermal-hydraulic tests, expt. techniques 1−23733
LMFBR fuel blockage simulation experiment, gap effect on fluted tube container burst pressure 1−45693
LMFBR fuel motion, analysis of TREAT expts. 1−5966
LMFBR fuel motion in voided channels, effect of steel vapour pressure 1−5961
LMFBR fuel pin deformation, expt. eval. 1−10484
LMFBR fuel pin failure, TREAT test H6, LACOBRA/LAFM analysis 1−5963
LMFBR fuel thermal performance, HCDA computer programs, RESTRUC 1−14643
LMFBR HCDA, candidate sacrificial material compatibility with Na at 773K 1−5889
LMFBR HCDA, chem. constitution of a molten oxide fast reactor core 1−5883
LMFBR HCDA, energy absorpt. pot. of PCRV in primary containment 1−10473
LMFBR HCDA, growth of volumetrically-heated pools in miscible gas-releasing solid beds 1−5880
LMFBR HCDA, PAHR, fuel debris bed dryout 1−10475
LMFBR HCDA, radiological consequences, effect of nonequilib. mass transfer 1−5969
LMFBR HCDA, UO_2-refractory material interactions 1−5886
LMFBR HCDA analysis using finite element methods 1−50830
LMFBR HCDA energetics analysis for SNR-300 licensing 1−50831
LMFBR HCDA fluid/structure anal. using THUDD-1 code 1−5962
LMFBR inherent accommodation of unprotected LOF accidents 1−45697
LMFBR LOCA, fuel disruption, post-test examination results of SLSF experiment P3A 1−50828
LMFBR PAHR, build-up of molten fuel pools inside a plugged subassembly 1−5873
LMFBR PAHR, cooling of particulate debris beds 1−5862
LMFBR PAHR, effective thermal conductivity for combined convection-radiation heat transfer in a molten oxide fuel layer 1−45691
LMFBR PAHR, fuel particulate debris bed dryout in Na 1−5865
LMFBR PAHR, heat transfer between two horizontal liquid layers with gas injection 1−5872
LMFBR PAHR, heat transfer from a stratified two-fluid system with internal heat sources 1−5866
LMFBR PAHR, heat transfer internally-heated molten UO_2 pools 1−5871
LMFBR PAHR, heat transfer measurements of internally heated liquids in cylindrical convection cells 1−5870
LMFBR PAHR, hydrodynamic aspects of stratification and mixture within boiling immiscible mixtures 1−5972
LMFBR PAHR, interaction between molten Na pool and core-catcher 1−5868
LMFBR PAHR, melting front phenomena−analysis and computation 1−5874
LMFBR PAHR, natural convection in liquid Na surrounding core-catcher plate 1−5869
LMFBR PAHR, natural convective cooling of debris bed 1−5863
LMFBR PAHR, spalling and transient heat transfer in concrete 1−5882
LMFBR PAHR, steady and transient natural convection in single and multi-fluid layers with heat generation 1−5867
LMFBR post accident heat recovery analysis 1−5861
LMFBR power plant, Benson system cycle, grid, disconnection trip 1−28675
LMFBR safety anal. using MELT-111A code, appl. of generalised sensitivity theory 1−5967
LMFBR safety analysis equivalent recoil area concept for delayed neutron signal characterization 1−45694
LMFBR simulated meltdown critical assemblies, transport theory anal. 1−28664
LMFBR subassembly, coolability of TOP-generated porous heat generating blockages, modelling 1−5968
LMFBR subassembly, hydraulic influences of transient overpower generated blockages 1−10470
LMFBR subassembly coolant flow and power meas. by correlation method 1−18831
LMFBR top accident, PAHR, forced-flow evaporative cooling of a volumetrically heated porous layer 1−10476
LMFBR TOP-generated porous blockages, dryout modelling 1−45685

fission reactor core control and monitoring continued
LMFBR transient overpower accident, carbide fuel failure analysis 1−10472
LMRBR, breeding and thermal-hydraulic anal. using 2-D R-Z models 1−50724
LOCA, anal. of blowdown heat transfer expts. and associated CHF phenomena 1−5929
LOCA, calculation of the CANON experiment using the TRAC code 1−5931
LOCA, effect of sleeves on quenching of a 4-rod bundle 1−5936
LOCA, exam. of uncovery transients in a 3×3 rod bundle 1−5934
LOCA, fuel-and-cladding model of rewetting of nuclear fuel rod 1−18781
LOCA, pre-test calculations of LOFT nuclear tests L2-2 and L2-3 with the RETRAN computer code 1−5933
LOCA, prediction of quench and rewet temperatures 1−5938
LOCA analysis, model for secondary containment pressure transient analysis 1−10465
LOCA simulation, response of self-powered neutron detectors to coolant density variations 1−45676
local reactivity feedback in PWR steamline break evaluations 1−10468
LOFT, stochastic flow-induced low freq. power fluctuations, spectral meas. 1−50869
LOFT ECCS, application of ANSI/ANS-5.1-1979/HEAT 6 code to LOFT technical specifications 1−45677
LWR, economic incentives for improved core materials performance 1−45607
LWR benchmark expt. analysis using ENDF/B-V data 1−18813
LWR core meltdown, fragmentation mechanisms occurring during an energetic fuel-coolant interaction 1−45683
LWR core meltdown, molten fuel-coolant interaction, a vapor explosion in the RIA-ST-4 experiment 1−5942
LWR core meltdown, phenomenological modeling of small-scale steam explosion experiments 1−5943
LWR core meltdown, risk assessment of environmental radionuclide release 1−5924
LWR core meltdown, severe reactivity initiated accident, assessment of molten debris freezing 1−5947
LWR core performance studies in the UK, reactor physics calcs. 1−33289
LWR core pressurisation during energetic MCFI, effect of coolant conditions 1−50806
LWR critical assembly, coupled-core-reactor kinetic parameters, frequency response 1−10448
LWR lattices, calc. of few-group constants for fuel management 1−50866
LWR LOCA, AA 1−45674
LWR LOCA, fission product release from high gap-inventory fuel 1−5935
LWR LOCA, hydrodynamically controlled dryout in tubes at low mass flow rates 1−5941
LWR PAHR, dryout heat fluxes in very deep debris beds 1−45689
LWR passive containment system overcomes class 9 accidents, core melt and containment overpressure 1−50844
LWR spent fuel assembly, K_∞ meter, TRIGA subcritical expts. for verification 1−50857
LWR uncovered core, radiative shape factors and heat flux 1−45679
LWR with square fuel lattices, power distrib. calcs., nodal method 1−23832
Magnox power reactor, Wylfa, axial flux shape meas. and optimisation 1−10451
mass flow measurement devices in loss-of-fluid test facility (LOFT), PWR appl. 1−10436
MFBR PAHR conf., Varese, Italy, (Oct. 1978) 1−5018
minimum-deviation regulation of xenon oscillations in a reactor 1−28647
modified coarse-mesh nodal aval., influence of axial node size 1−23745
neutron detector response to reactor core parametric fluctuations math. model 1−23816
neutron flux control of a research reactor by a microcomputer system *(German)* 1−28611
neutronic performance of a 14-MW TRIGA reactor LEU vs. HEU fuel 1−50863
nonlinear power reactor systems, coloured multiplicative noise, stochastic anal. 1−739
NRX, X-6 loop, self powered flux detectors 1−50894
nuclear combustion cycle selection and problems *(Slovenian)* 1−23784
nuclear plants operator guidance systems, model order reduction aggration technique appl. 1−50907
nuclear power, integrated control and monitoring 1−28620
nuclear power station control 1−45628
Obninsk HTR in-reactor monitoring with automatic regulation 1−23804
on-line core protection calculator, shape annealing and power synthesis uncertainties 1−50816
operating limit uncertainty allowance, determ. from fuel performance 1−5850
optimal control of xenon spatial oscillations in load following 1−45658
PAHR, hot liquid pool downward penetration into meltable solid 1−50824
PBHTGR, sensitivity of fast fission chambers for flux monitoring 1−18812
Peach Bottom II turbine trip test analysis 1−28677
Peach Bottom-2 reactor stability prediction with 1-D transient model 1−50868
pebble bed reactor, flux distrib., successive approx. method *(German)* 1−28612
PFR, fuel-coolant heat transfer coeffs., power perturbation method 1−23732
pulsed gas generator, cyclic gaseous core reactors 1−14583
PWR, radiocaesium behaviour on mixed-bed demineralisers 1−50851
PWR, uncertainties in the calculated radial power peaking, F_{xy}^N 1−50853
PWR 1−10495
PWR cold-leg break LOCA, ECCS steam condensation effect of reflooding rates 1−50818
PWR containment atmospheric response for postulated Class 9 accident 1−50815
PWR coolant system void volume synthesis using available instrumentation 1−10469
PWR core global effects of axially zoned Gd_2O_3-UO_2 distributed turnable absorbers 1−45655
PWR core meltdown, concrete destruction after pressure vessel failure 1−5878
pWR core response for a steamline break accident−sensitivity studies 1−10467

fission reactor core control and monitoring continued
PWR in-core instrumentation, safety aspects 1−50859
PWR in-core resistance thermometers, reponse time testing 1−50817
PWR in-vessel liquid level detection using heated thermocouples 1−50882
PWR instrumentation: recommendations for improvement from TMI-2 experience 1−18825
PWR LOCA, dynamics of a rod bundle under forced oscillation flow reflooding 1−50802
PWR LOCA, effect of steam condensation on ECC penetration 1−5940
PWR LOCA, experimental study of hot-wall effects on liquid flow 1−5939
PWR LOCA, fuel rod stored-energy estimates for LOCA model eval. 1−5948
PWR LOCA, independent assessment of TRAC-P1A with Moby-Dick nitrogen-water tests 1−5937
PWR LOCA, multidimensional aspects of reflood in a scaled PWR model 1−50807
PWR plant computer anal. using SIRENE and PICOLO codes 1−28678
PWR protection, fuel clad damage prevention *(Croatian)* 1−863
PWR small-break LOCA, core cooling conditions during core uncovery 1−50812
PWR small-break LOCA, effect of delayed reactor coolant pump trip 1−5930
PWR U-tube steam generator dynamics modelling and verification 1−28553
PWR U-tube steam generator modelling: application to level control and comparison with plant data 1−28674
radioactive source distributions, nondestructive meas., Fredholm integral soln. 1−10613
reactimeter data recording device, design and development 1−18823
reactimeter with a pulsed measurement channel 1−23803
reactivity changes due to water insertion in graphite reflector of Argonaut reactor *(German)* 1−28609
reactivity excess determ. from critical and subcritical expts. 1−28645
reactivity meter, CAMAC based, for nuclear reactors 1−23791
reactor diagnostics techniques during TMI-2 accident 1−18827
reactor kinetics simulation, logarithmic inversion model 1−28530
real-time method for analyzing nuclear plant transients 1−28655
REDNET, a distributed data acquisition system for nuclear research reactors 1−50896
remotely controlled ultrasonic testing system for BWR plants 1−23829
research reactors, boiling safety margin estimation 1−28642
Sham-Ram-Scram, positive reactivity change on disassembly 1−10461
shutdown events, fuel centreline temp. response FRAP-T5 predictions 1−5945
SNR-300, HCDA, material investigations for verification of core catcher concept 1−5884
SNR-300 LMFBR HCDA, retention of dispersed fuel within the reactor vessel 1−5892
subcritical multiplication expts., aval. of BeO reflected $^{233}UNO_3$ soln. 1−5909
suboptimal control using singular perturbation theory to obtain an approx. solution 1−815
super-critical reactor, prompt. neutron stochastic distrib. 1−50786
temperature-induced fine structure spectral shift effects on Doppler reactivity 1−18817
thermal behaviour of LOFT nuclear fuel and NEPTUN heater element 1−50819
Three Mile Island, effect on nuclear power system control design 1−23715
TMI accident, thermal-hydraulic response, TRAC-P1A anal. 1−5955
TMI-2, assessment of fuel damage from fission product conc. meas. 1−10491
TMI-2, core conditions derived from instrumentation response during accident 1−10486
TMI-2, criticality safety considerations 1−45664
TMI-2, neutronic sensitivity anal. of SRM response 1−10488
TMI-2, NRC assessment of in-reactor instrumentation failure 1−18824
TMI-2 accident, anal. of self-powered neutron detector response 1−10489
TMI-2 accident, core damage evaluation *(Spanish)* 1−28618
TMI-2 accident, faults in instrumentation system 1−18822
TMI-2 accident, thermal-hydraulic anal. of first 16 hours 1−10490
TMI-2 accident anal., calculation of the TMI-2 source-range monitor reading for several core water levels 1−10487
TMI-2 core recriticality potential 1−45666
TMI-2 criticality analysis−analytical models and methods 1−45667
TMI-2 criticality analysis−parametric studies and overall results 1−45668
TMI-2 emergency response diagnostics, signals anal. program 1−18828
TMI-2 instrumentation for core damage assessment 1−18826
TMI-2 once-through steam generator modelling for accident anal. 1−10493
TMI-2 post-accident criticality analyses 1−45665
TMI-2 radionuclide inventory and decay properties 1−18821
TMI-2 safety anal., degraded core cooling calc. 1−28670
TRAC-PD2 calculations of CREARE countercurrent flow tests 1−50811
two-phase flow, void fraction and phase distrib. meas. using neutron beams 1−19790
two-phase-flow characterization by local and global neutronic fluctuation measurements 1−18731
unsymmetrical zone control system synthesis for power distrib. 1−28643
VVER, boron control under variable power loadings 1−28644
WER-440 power reactors, Xe fluctuations and stability props. *(Hungarian)* 1−800
wide-range ionisation fission chamber for reactor control and safety systems 1−23983
ZPPR-10A, control rod geometry and enrichment effects 1−28663
LMFBR core meltdown, temp. distrib. and comp. of UO_2 particle bed. 1−5864
^{231}Pa(n,f) cross section, high resolution meas. from 0.4 eV to 12 MeV 1−18698
^{233}Pa, reactivity worth in Th-U light-water breeder reactors, determ. from critical position meas. 1−18811
$(U,Pu)O_2$ rod arrays in water, calc. of critical dimensions 1−50791
U/Fe benchmark assembly for core design 1−28665
U-Pu water breeder reactors, void coefficient in a unit cell 1−18818
UF_6 fissioning gas reactors, critical UF_6 cavity reactor experiments 1−23742
UF_6 plasma in Be-reflected reactor, confinement in Ar vortex 1−23769
U_3O_8, criticality of moderated/unmoderated low-enriched systems 1−50792

fission reactor core control and monitoring continued
^{233}U-Th LWBR stability, meas. of Xe spatial oscillations 1−50873
^{235}U decay heat on reactor shutdown, model expts. *(Japanese)* 1−18721

fission reactor fuel
see also claddings; fission of plutonium; fission of uranium; fission reactor fuel preparation and reprocessing; isotope separation; radioactive waste
actinide production and burnup, prediction, NEACRP views 1−28590
advanced convertor reactors using Th as fuel, arguments against and benefits obtainable 1−758
advanced nuclear energy systems, comparative assessment of economics and proliferation systems 1−10437
alternative fuel cycle evaluation program, back-end fuel cycle costs for alternative fuels 1−23777
annular fuel at high burnup in PWR, economic eval. 1−45603
Belgian nuclear program, fuel reprocessing, waste management and MOX fuel fabrication 1−18772
BN-350 fast power reactor, power effect of reactivity, rel. to fuel condition 1−28524
burn-up and build-up of fission products in irradiated fuel assemblies *(Ukrainian)* 1−23748
burnup calculation for square lattice cell, neutronic calculations 1−45583
burnup extension, sensitivity analysis of equilibrium fuel cycles with power coastdown 1−45600
burnup monitoring using ^{154}Eu 1−50897
burnup-dependent cross-section data for research reactors and a comparison of REBUS-2 and PDO-7 burnup 1−50864
BWR end-of-cycle/cycle length flexibility 1−45605
BWR fuel cycle analysis, calc. of fuel depletion 1−23815
BWR fuel management appl. of ONDA computer code system 1−41202
BWR fuel rod thermal design, neutron distrib. influence 1−14574
BWR in-core fuel management, automated procedure for refuelling patterns 1−41201
CANDU fuel channels and fuel, research and development 1−23775
CANDU fuel element behaviour under normal operating conditions, ELESTRES code 1−45681
CANDU fuel quality 1−50780
CANDU reactor fuel rods, tolerance to power ramp defects, effect of graphite interlayers 1−782
CANDU reactors, research and development review 1−5987
centreline temp. response following shutdown events, FRAP-T5 predictions 1−5945
ceramic, production, mech. props., energy appl. conf., Saint Vincent, Italy (May 1979) 1−13927
ceramic, review 1−14636
ceramics, oxides, and carbides, in liq. and solid state spectral refl. and emissivity meas. 1−20431
circulating uranium fuel, fission products conc., energy release, calc. 1−28526
cladding tubes, meas. of residual stress by X-ray method *(Japanese)* 1−33292
compacted nuclear spent-fuel storage, designs and problems 1−868
comparative performance of a 10-MW generic reactor with HEU and LEU fuels 1−50729
conf. ANS, Gatlinburg, TN, USA, Sept. 1980 1−17943
critical assemblies, lifetime adjoint weighted neutron 1−760
criticality of water-flooded fuel rod arrays, effect of heavy metal reflectors 1−45673
criticality safety, calculated K_{eff} for partially concrete-reflected FTR pins in water 1−50793
criticality safety analysis, SCALE system cross-section validation 1−45672
decay schemes for radionuclides of potential importance in the nuclear fuel cycle 1−45638
design and management, impact of United States Government policy 1−789
discharge burnup increase, fuel cycle cost analysis 1−45598
ENDF/B-V fission yields calc. program, improvements 1−50751
ENDF/B-V reactor dosimetry file, data testing 1−50991
energy release, neutron and gamma components, Gray chamber meas. 1−28596
enrichment, gamma-spectroscopic method *(Ukrainian)* 1−23855
enrichment reduction feasibility 1−50771
equilibrium core analysis of low enrichment research reactor fuel 1−50730
extended-burnup fuel management, PWR licensing assessment 1−5854
fast flux test facility, fuels and materials examination, storage, maintenance facilities 1−23768
FBR fuel motion detection at TREAT, experimental validation of method for predicting fast-neutron hodoscope performance 1−5965
FBR oxide fuel response under LOF and prompt-burst heat conditions 1−50823
FFTF fuel assembly duct lifetime determ., structural analysis 1−50716
FFTF fuel handling in Ar and Na, thermal hydraulic characteristics 1−50777
fissile fuel by-product of fusion synfuel factories 1−41237
fission-gas-induced fuel swelling in low- and medium-burnup fuel during high-temperature transients 1−5946
fuel element pin cluster, effective friction calc., dimensional var. effect 1−5836
fuel failure mechanisms under reactivity initiated accident conditions, review 1−18746
fuel pin thermal performance asymmetric fuel-clad gap cond. effect 1−41166
fuel stress and failure rate calcs. 1−50782
FUELMACS−a computer-based nuclear fuel management and accounting system 1−1050
Fuels and Materials Examination Facility, standard examination stage for nuclear fuel pin handling 1−50774
gamma emission computed tomography of fission reactor fuel bundles 1−43635
gas release in fuel rods, time-depend. diffusion model 1−5845
HCDA, molten UO_2 one-dimens. penetration into substrate limestone concrete 1−835
high subcriticality, determ. using exponential expt. 1−45671
high temperature reactor cores design variants, ^{137}Cs, ^{110}Ag, ^{90}Sr release *(German)* 1−5975
high-U density reduced enrichment plate-type fuels 1−50909
highly-loaded LMFBR core elements, with spacer grids, temp. field 1−23761

fission reactor fuel continued
hot cell complex for postirradiation exam. of FBR fuel and materials, in Japan 1—763
HTGR spent-fuel treatment technology, appl. to spherical fuel elements 1—41223
HTR, ^{240}Pu resonance absorption effects on burn-up *(Japanese)* 1—45595
INFCE and US nonproliferation policy 1—50756
International Fuel Service Centers for proliferation resistance 1—45717
International fuel service Centres for fuel reprocessing and fabrication, waste management and spent fuel storage 1—45719
irradiated fuel assay gauge, design and operation 1—43636
limited supply, effect on future of nuclear energy 1—50789
linac fuel enricher regenerator 1—5977
LMFBR, 1000-MW(e) oxide heterogeneous reactor conceptual design, fuel cycle cost sensitivity 1—5853
LMFBR, $3/s overpower accident, TREAT test E8, irradiated FTR type fuel 1—5905
LMFBR, carbide-fueled, in-pile MFCI safety expts.,, TREAT test AX1 1—10481
LMFBR, development and performance of fuel elements *(German)* 1—23837
LMFBR, fission gas release, effect on fuel pin temp. 1—5952
LMFBR, fuel element failure, delayed neutron signal anal. of breached elements 1—5903
LMFBR, identification of ruptured fuel elements in subassemblies irradiated in BER-II 1—45613
LMFBR, performance of commercially produced mixed-oxide fuels in EBR-II 1—45612
LMFBR, SCARABEE fuel failure expts. thermohydraulic aspects 1—821
LMFBR, SCARABEE mono and 7-pin LOCA expts., fission product meas. 1—823
LMFBR, SCARABEE safety expts., fuel behaviour aspects 1—822
LMFBR core meltdown, PAHR, fuel debris bed experiment 1—10474
LMFBR extended fuel motion, effects of fuel-Na film interaction and delayed fission gas release 1—10471
LMFBR fuel, fuel rod sheaths, ^{3}H, ^{85}Kr, ^{133}Xe levels, gas chromatography 1—23867
LMFBR fuel motion, analysis of TREAT expts. 1—5966
LMFBR fuel motion, TREAT expts. 1—5906
LMFBR fuel motion in voided channels, effect of steel vapour pressure 1—5961
LMFBR fuel pin deformation, expt. eval. 1—10484
LMFBR fuel pin failure, TREAT test H6, LACOBRA/LAFM analysis 1—5963
LMFBR fuel pin failure expts., SCARABEE facility 1—820
LMFBR fuel solidification rate following transient, expt. simulation 1—10485
LMFBR fuel temperature analysis using deterministic and probabilistic methods 1—45618
LMFBR fuel thermal performance, HCDA computer programs, RESTRUC 1—14643
LMFBR PAHR, effective thermal conductivity for combined convection-radiation heat transfer in a molten oxide fuel layer 1—45691
LMFBR proliferation resistant fuel cycle using metallic Pu-Th fuel and metallic ^{233}U-^{238}U denatured fuel 1—50768
LMFBR subassembly, coolability of TOP-generated porous heat generating blockages, modelling 1—5968
LMFBR transient overpower accident, carbide fuel failure analysis 1—10472
LMFBR unirradiated fuel pin failure, SCARABEE programme, AEA/CEA/KfK interpretation 1—819
LOCA, fuel-and-cladding model of rewetting of nuclear fuel rod 1—18781
LWR, evaluation of core designs and fuel management strategies for improved uranium utilization 1—45601
LWR, fuel rods, thermomechanical modelling program PIN *(Czech)* 1—5899
LWR core meltdown, fragmentation mechanisms occurring during an energetic fuel-coolant interaction 1—45683
LWR core meltdown, severe reactivity initiated accident, assessment of molten debris freezing 1—5947
LWR fuel assemblies, close-packed underwater storage, critical expts. 1—28595
LWR fuel behaviour and failure probability at power ramping, modelling procedure 1—45608
LWR fuel cycle parameters and costs, sensitivity to uncertainties in thermal nuclear data, FASTT code 1—45597
LWR fuel fabrication from BNFL IDR-CONPOR powder 1—45610
LWR fuels, internal fuel rod chem. invest., exptl. methods 1—50759
LWR high burnup fuel elements, post-irrad. anal. 1—50784
LWR high gap-inventory fuel, fission product release following LOCA 1—5935
LWR lattices, calc. of few-group constants for fuel management 1—50866
management, extended burnup and extended cycle design 1—787
management appl. of probabilistic decision theory to optimise fuel ordering strategy 1—45604
mechanical response at various powers, DIMCO-C code *(Spanish)* 1—28591
MSR, U-Pu and U-Th fuel cycle efficiency 1—23767
neutronic performance of a 14-MW TRIGA reactor LEU vs. HEU fuel 1—50863
new designs of spent fuel casks for Germany's growing requirements 1—33311
nuclear energy centres, feasibility, US DOE site-specific studies 1—45718
nuclear power development during the 1980s, U supply aspects 1—23717
operating limit uncertainty allowance, determ. from fuel performance 1—5850
oxide fuel and blanket assemblies for the U.S. LMFBR Development Plant 1—45619
oxides, FBR fuel *(German)* 1—23836
particles, coated, mechanical loading effects *(German)* 1—37002
pellet, thermally induced radial cracking 1—33295
pellet fabrication from gel microspheres, sphere cal process 1—50754
pellet-cladding gap variation during sinusoidal power variations, FRAP-T5 anal. 1—45682
powder transport through container leaks 1—41205
predisposal radwaste management systems for alternative fuel cycles, anal. 1—846
PWR, improved once-through fuel cycle 1—785
PWR, optimal storage of nuclear fuel assemblies *(French)* 1—37003
PWR annular fuel pellet design, economic evaluation 1—786
fission reactor fuel continued
PWR core global effects of axially zoned Gd_2O_3-UO_2 distributed turnable absorbers 1—45655
PWR extended burnup transition cycle development for Zion-1 using ARMP procedures 1—45599
PWR fuel assembly, nondestructive assay using solid-state dosimeters 1—50783
PWR fuel rods containing defects, power ramp and power-cooling-mismatch conditions 1—10450
PWR LOCA, fuel rod stored-energy estimates for LOCA model eval. 1—5948
PWR reactor fuel programme in France *(French)* 1—23765
PWR with natural U radial blanket, effect on fission product radioactivity 1—5856
quench front, 2-D, implicit isotherm migration 1—18724
Reduced Enrichment Research and Test Reactor Program, use of LEU fuels 1—50728
rod bundles, 2-D fluid flow and heat transfer 1—41170
safeguards, FBR fuel drawer scanner 1—18762
safeguards, Pu denaturing concept evaluation 1—5849
safeguards at U enrichment plants 1—23838
slurry calcination process for conversion of aqueous uranium and plutonium to a mixed-oxide powder 1—18844
solutions, elution of U and Pu 1—41174
spent fuel, nondestructive testing by γ-ray spectrometry and neutron radiography 1—50916
spent fuel handling accident, ^{131}I release prop. distrib. calc. 1—5922
spent fuel storage facility, test areas at Nevada site, USA 1—5911
spent nuclear fuel, central storage facility, Sweden 1—14647
spent nuclear fuel, safe terminal disposal, feasibility 1—809
Sphere-Pac nuclear fuel, axial shear in power reactor environment 1—45611
storage underwater, critical assemblies simulating close-packed LWR fuel storage 1—28595
thermal behaviour of LOFT nuclear fuel and NEPTUN heater element 1—50819
thermal neutron coincidence counting system for Pu bearing materials 1—1045
thermal shock in nuclear fuel element with cladding 1—18723
thermohydraulics of coolant, cladding and fuel for Na-cooled and He-cooled FBR 1—18725
transient fuel motion self-shielding considerations for the DCT-1 test 1—28721
transport casks for spent nuclear fuel interim storage, development in W.Germany 1—14648
U-Pu-Zn system, binary and ternary phase diagrams, theoretical and exptl. study 1—21422
UO_2 fuel, irrad., wetting by Cu 1—52397
UO_2 fuel element design for use in the Penn State Breazeale Reactor (PSBR) 1—41168
vitroceramic fuel elements, permeability of alumino-silicate coatings 1—18748
Westinghouse pressurized water reactor fuel development and performance 1—33302
yield measurements, review 1—50785
Zircalloy clad UO_2 fuel elements, cladding defects effect in PWR 1—28608
Zircaloy-2/UO_2 surfaces in contact, heat flow study 1—11924
Zircaloy-4 rod, transient cooling process in reactivity initiated accident in LWR 1—18776
Al-USiAl dispersion fuel with high-U density, development of lower enrichment fuels for Canadian Research Reactors 1—50772
MgO-UO_2 interactions up to 3000 K following FBR core meltdown 1—10479
O_2 getter coatings for fission reactor fuel pins 1—18770
Pu contaminated waste, passive γ-ray monitoring using Ge(Li) detector 1—50990
Pu recycling in PWRs for U conservation 1—5852
Pu safeguards, nondestructive gamma-ray spectrometry of spent fuels 1—41173
Pu storage schemes and nuclear nonproliferation 1—767
Pu(-Ga), elastic constants, noncontact meas. at elevated temps. 1—53223
$Pu(NO_3)_4$, transportation risk assessment 1—28607
PuO_2, FBR fuel *(German)* 1—23836
PuO_2, near-stoichiometric, elec. cond. anomaly, 950-1100°C 1—20727
PuO_2, neutron production in reactor fuels, effect of burnup 1—50769
$PuO_{2\pm x}$, oxygen redistribution *(Japanese)* 1—23754
$^{A}Pu(N,f)$, A=239, 240, prompt neutron spectra rel. to 252 Cf 1—23693
^{238}Pu fuel denaturing for diversion safeguard 1—18757
$^{238}PuO_2$, fabrication of general purpose heat source for space appls. 1—41224
^{239}Pu, thermal fission, foil thickness convection in meas. of neutrons emitted 1—776
$^{240}Pu(n,f)$, delayed neutron spectra, near-eqn. meas. 1—725
^{241}Pu, thermal fission, foil thickness convection in meas. of neutrons emitted 1—776
^{242}Pu safeguards abundance determ. using isotope correl. techniques 1—23763
(Th, U)O_2, pellet fabrication from gel microspheres, sphere cal process 1—50754
(Th,U)O_2 powder, lightly irrad., fission Xe release 1—42427
Th-Fe(Ni) systems, chemical diffusion 1—52365
ThO_2 coated fuel particle design for hybrid fusion-fission system 1—36998
ThO_2, neutron production in reactor fuels, effect of burnup 1—50769
ThO_2, pellet fabrication from gel microspheres, sphere cal process 1—50754
ThO_2-$^{235}UO_2$, migration and trapping of fission ^{133}Xe, function of irradiation dose 1—34375
ThO_2-UO_2, fission gas release 1—23776
(U,Pu)C, LMFBR fuel/blanket materials, property needs for element design 1—45617
(U,Pu)N(C) nuclear fuels, Xe conc. determ. 1—23755
(U, Pu)O_2 breached pin performance in reference design fuel pins 1—45614
(U, Pu)O_2 consolidated fuel reprocessing program, gel sphere processes for product conversion. Consolidated fuel reprocessing program 1—23843
(U,Pu)O_2 fuel at high burnup, fuel-cladding chemical interaction 1—45615
(U,Pu)O_2, LMFBR fuel/blanket materials, property needs for element design 1—45617

fission reactor fuel continued
$(U,Pu)O_2$, mixed oxide conversion facility alternative conceptual designs 1−18870
$(U,Pu)O_2$ pellet size and composition, effect of rogue pellets on fuel pin and reactor performance 1−45616
$(U,Pu)O_2$, performance of commercially produced mixed-oxide fuels in EBR-II 1−45612
$(U,Pu)O_2$ rod arrays in water, calc. of critical dimensions 1−50791
U alloys, containment in powder metallurgical W vessels 1−53399
U, atomic, laser isotope separation 1−935
U corrosion mechanism investigation using stable isotopes with ion microprobes 1−31765
U enrichment and T separation by chemical exchange and plasma separation *(Japanese)* 1−33339
U extraction from seawater, present status and problems 1−18743
U fuel pellets, carbon content, gas chromatography, serial loading 1−23766
U fuel utilisation improvement in PWR, B_4C-Al_2O_3 burnable poison design 1−45602
U liquid waste meas. for materials safeguards 1−23800
α-U, low-temp. phase transition 1−26451
U, reactor fuel, supply assurance and enrichment services 1−41172
U/Fe benchmark assembly for core design 1−28665
U-Pu oxide fast reactor fuel pins, fuel-cladding chem. interaction 1−35422
U-Pu oxide fuel/UO_2 blanket interface, Cs thermomigration and reaction 1−33293
U-V (0.2 wt.%), forged in α phase, struct. and mech. props. *(French)* 1−16801
UC+PuC fuel element pellet, thermally induced radial cracking 1−33295
UF_3-CsF system, phase diagram, crystal structure 1−5980
UF_3-KF system, phase diagram, crystal structure 1−5980
UF_3-RbF system, phase diagram, crystal structure 1−5980
UF_6 fissioning gas reactors, critical UF_6 cavity reactor experiments 1−23742
UF_6 in cyclic gaseous core reactors 1−14583
UF_6 plasma regeneration experiments/diagnostic systems 1−23770
$UNi_{5-x}In_x(Sn_4)(Zn_4)$, substitution study, X-ray obs., unit cell and microhardness 1−33294
UO_2, anharmonic specific heat 1−34485
UO_2, coeff. of friction meas. with Al_2O_3 and unirradiated Zircaloy cladding 1−33298
UO_2 critical lattices, LWR benchmark expt. analysis using ENDF/B-V data 1−18813
UO_2, determ. of elect. cond. change when heated through melt 1−10482
UO_2, elec. resist. of solid, 1000 to 3100K 1−42774
UO_2, electron-to-hole mobility ratio meas., effect on thermal cond. 1−2713
UO_2, electronic and radiative contributions to thermal cond. 1−772
UO_2, FBR fuel *(German)* 1−23836
UO_2, fission gases, anal. of dynamic release during low temp. irrad. 1−50758
UO_2 fuel, temp. profiles under direct electric heating conditions 1−42590
UO_2, fuel for light water reactor, standardized industrial product 1−14638
UO_2 fuel pellet fabrication from fluidised bed denitrated UO_3 1−5983
UO_2 fuel pellets, carbon content, gas chromatography, serial loading 1−23766
UO_2 fuel pellets, fabrication from gel-derived microspheres 1−10507
UO_2 fuel pellets, thermally induced cracking in LWR 1−45680
UO_2 fuel pins in LWR, close-packed underwater storage, critical expts. 1−28595
UO_2 fuel rods, PuO_2 inclusions, local overheating finite element anal. 1−23760
UO_2, Kr^{85m} gas release, predictions, comparison with expt. 1−7388
UO_2, LMFBR fuel/blanket materials, property needs for element design 1−45617
UO_2, LWR fuel pellet, thermal conductivity, cracking effects 1−18749
UO_2, molten, electron band gap calcs. 1−34613
UO_2 molten pools following LMFBR core meltdown, heat transfer with internal heat source 1−5871
UO_2, neutron production in reactor fuels, effect of burnup 1−50769
UO_2, pellet fabrication from gel microspheres, sphere cal process 1−50754
UO_2 rods, ^{235}U-enriched, reactor fuel, dissolution and storage expt., criticality safety 1−778
UO_2, shock-compression parameters and Hugoniot elastic limit, 5 to 330 GPa 1−38464
UO_2, sintered, isothermal grain growth kinetics 1−45626
UO_2, sintering at low temps. 1−14639
UO_2, temp. depend. of atomic thermal displacements, Rietveld powder profile refinement method 1−30204
UO_2 test fuel rods, Zircaloy-clad, in-pile diameter meas., pellet-cladding mechanical interaction 1−10439
UO_2, thermodynamic props., electronic contrib. to specific heat 1−2649
UO_2, tracer surface diffusion expts., role of gas and solid transport processes 1−42560
UO_2, Zircaloy clad fuel rods containing defects, power ramp and power-cooling-mismatch conditions 1−10450
UO_2:MgO fuel, irrad. performance 1−20259
UO_2/ThO_2 fuel, diversion resistance of chloride volatility reprocessing system 1−871
UO_2-CeO_2 system, crystallographic study at high temp. *(French)* 1−26428
UO_2-PuO_2 (28 wt.%), irradiated, subject to multiple, mild thermal transients, microstruct. study 1−774
UO_2-PuO_2 mixtures, PuO_2, impurity content spectral anal. 1−5984
UO_2-PuO_2 nuclear ceramics, fabrication for fast breeder reactor fuels 1−14637
UO_2-PuO_2 system, reaction with liq. Na, O_2 thresholds 1−50760
UO_2-PuO_2(Gd_2O_3), fuel for light water reactor, standardized industrial product 1−14638
UO_2-SiO_2 rods, radial distrib. of UO_2 in vitreous phase *(French)* 1−20392
UO_2-stainless steel, surface and interfacial props. above 1690K for LMFBR HCDA anal. 1−5881
UO_2-Zircaloy thermal gap conductance and temp. transients, MPD expt. predictions 1−50822
UO_{2+x}, redistrib. of O_2 under thermal gradient *(French)* 1−5846
$UO_{2\pm x}$, oxygen redistribution *(Japanese)* 1−23754
$UO_{2(3)}$, encapsulated in metal, thermo- and electrotransport meas. 1−11901
fission reactor fuel continued
U_3O_8, criticality of moderated/unmoderated low-enriched systems 1−50792
U_3O_8, nonstoichiometry, study of influencing factors 1−50757
U_3O_8 resources in USA 1−18771
(UPu)C sphere-pac fuel, α-particle autoradiography 1−50761
$U_{1-y}Pu_yO_{2-x}$, O_2 potentials of PuO_{2-z} 1−35564
US, diffusional props. 1−7374
US-ZrC(UC), diffusional props. 1−7374
$^{A}U(n,f)$, A=233, 235, prompt neutron spectra rel. to 252 Cf 1−23693
^{233}U, thermal fission, foil thickness convection in meas. of neutrons emitted 1−776
$(^{233}U/Th)O_2$ denatured fuel for large BWR, performance and safety anal. 1−41209
$^{233}UO_2$ preparation for light water breeder reactor demonstration program 1−5982
^{235}U decay heat on reactor shutdown, model expts. *(Japanese)* 1−18721
^{235}U, thermal fission, foil thickness convection in meas. of neutrons emitted 1−776
^{238}U in RBMK lattice, neutron resonance absorption 1−28513

fission reactor fuel preparation and reprocessing
see also isotope separation; radioactive waste
actinide partitioning facilities for radwaste management, preconceptual designs and cost estimates 1−854
actinide partitioning from radwaste, transmutation and fuel cycle impacts 1−853
actinide partitioning of radwaste, short-term risk anal. 1−855
actinide partitioning process for fuel cycle wastes 1−852
actinide production and burnup, prediction, NEACRP views 1−28590
actinide recycling in LWR 1−5979
AGR irradiated fuel element inspection by holography 1−45715
n-alkanes, tributyl phosphate diluent choice in spent fuel regeneration 1−10453
alpha-contained laboratory-scale pulse column facility for SRL 1−18865
alternate fuel cycles and reactor concepts, appraisal programme in United States 1−757
alternative fuel cycle evaluation program, back-end fuel cycle costs for alternative fuels 1−23777
APEX−accelerator fuel producer and fission product exterminator 1−5977
Belgian nuclear program, fuel reprocessing, waste management and MOX fuel fabrication 1−18772
BNFP centrifugal contactor experience 1−18863
breeder fuel pellet fabrication from gel-sphere conversion 1−18869
breeder fuel reprocessing plant, databank of safety-related incidents 1−23842
breeder recycle processing technology, R and D at ORNL 1−18873
breeding improvement using spallation reactions and muonic atom catalysis 1−18847
breeding of fission material with accelerators *(Hungarian)* 1−28681
CANDU reactors, automatic fuel pellet assembly 1−45720
[CC] Pu $(NO_3)_4$ concentrator, safeguards design, applied estimation approach 1−18846
[CC] ThO_2 gels, washing of NH_4NO_3 in wet chem. fuel particle manufacture 1−5986
chemical fuel reprocessing, R and D at the Institut fur Heisse Chemie 1−18861
CIVEX reprocessing technique, assessment of technology and institutional problems for materials accountability 1−14615
closed gas centrifuge, thermal convection linearised eqn. eigenvectors, adjoint matrix eigenvectors 1−872
coated fuel particles, equipment for remote production 1−23841
comparative economics of nuclear fuels reprocessing 1−18850
conf. ANS, Gatlinburg, TN, USA, Sept. 1980 1−17943
consolidated fuel reprocessing program, gel sphere processes for product conversion. Consolidated fuel reprocessing program 1−23843
consolidated fuel reprocessing program, role in US breeder reactor program 1−18859
criticality analyses for safety evaluation of dry storage of spent-fuel assemblies 1−10463
Criticality of water-moderated and reflected plutonium arrays 1−10508
criticality safety and materials safeguards at Idaho Chemical Processing Plant 1−50796
deferral of nuclear fuel reprocessing and plutonium breeder commercialization 1−50908
DIAPROF, remote nuclear-fuel bundle gauging device 1−23771
disposal, safety assessment in USA, review *(Japanese)* 1−813
dose rates from a bare spent-fuel assembly 1−18911
electrochem. separation in liquid metal-salt systems 1−23839
electroredox facility, Karlsruhe, FRG, operating experience in Pu cycle 1−18864
environmental impact, United Nations study programme summary 1−4369
extraction chromatographic system for Np and Pu from HTR fuel reprocessing *(German)* 1−5985
fast flux test facility, fuel loading and handling equipment 1−18849
fast reactor fuel, Pu.U separation by displacement reextraction 1−28685
FBR burnup and breeding calculations, review 1−14689
FBR fuel elements, PUREX process *(German)* 1−23779
FBR fuel oxides *(German)* 1−23836
FFTF startup status, review 1−18805
fluorinel dissolution and storage facility, unique liquid sampling and transfer system 1−50912
gas centrifuge, scoop chamber flow simulation 1−870
HEF breeder fuel reprocessing plant, facility and eqpt. concepts. 1−18860
high density fuel storage pool, NEA code criticality calcs. 1−33338
high-U density reduced enrichment plate-type fuels 1−50909
hot fuel examination facility, sampling of airborne radioactivity 1−18898
HTGR irradiated high temp. fuel reprocessing 1−18854
HTGR spent-fuel treatment technology, appl. to spherical fuel elements 1−41223
HTR fissile and fertile particle drying from gel *(German)* 1−28689
HTR-fuel coating in fluidised bed furnaces 1−50915
International Fuel Service Centers for proliferation resistance 1−45717
International fuel service Centres for fuel reprocessing and fabrication, waste management and spent fuel storage 1−45719
irradiated/fuel pin data acquisition and control for gamma scanning nuclear 1−23840
linac fuel enricher regenerator 1−5977

fission reactor fuel preparation and reprocessing continued
liquid-liquid system contactors selection for a nuclear fuel reprocessing plant 1−18866
LMFBR, development and performance of fuel elements *(German)* 1−23837
LMFBR, performance of commercially produced mixed-oxide fuels in EBR-II 1−45612
LWR, actinide recycling 1−5979
LWR fuel cycle, ^{238}Pu as heat spike for proliferation resistance 1−28683
LWR fuel fabrication from BNFL IDR-CONPOR powder 1−45610
LWR high burnup fuel elements, post-irrad. anal. 1−50784
LWR Pu fuel cycle, effluent discharge radiological impact 1−50914
LWR spent fuel recycle complex, conceptual design 1−18874
materials control, automatic calibrations and dynamic corrections for differential pressure transmitters 1−14603
materials safeguards, assessing the credibility of diverting through containment penetrations 1−14606
materials safeguards, containment/surveillance instrumentation systems in fuel reprocessing plant 1−18751
materials safeguards, evaluation of process inventory uncertainties at FFTF 1−14610
MSRs, expanded breeding by ^{234}U continuous extraction 1−28527
nuclear energy centres, feasibility, US DOE site-specific studies 1−45718
nuclear fuel cycle for pressurised water reactor, technology *(Hungarian)* 1−45629
occupation radiation exposure data utilisation to improve system design 1−28727
occupational radiation exposure at Karlsruhe fuel reprocessing plant 1−28740
occupational radiation exposure at the Eurochemic reprocessing plant during normal operation and intervention periods 1−28739
occupational radiation exposure at the Idaho chemical processing plant 1−33355
occupational radiation exposure control at UK power stations 1−28731
occupational radiation exposures in reprocessing facilities at the Savannah River Plant 1−28741
oxides, FBR fuel *(German)* 1−23836
packed particle nuclear fuel fabrication plant reliability study 1−28688
plant construction and operation experience and recommendations 1−41221
proliferation of nuclear weapons and countermeasures, INFCE survey *(German)* 1−10506
Pu(IV) polymerisation in aqueous nitric acid solns. for nuclear fuel reprocessing 1−18858
pulsed gas generator, cyclic gaseous core reactors 1−14583
Purex based technology, safety factors and safety evaluation *(Japanese)* 1−33337
PUREX process for reprocessing FBR fuel elements *(German)* 1−23779
PWR, optimisation of once-through U cycle 1−5978
radioactive microelements, radiation safety of nuclear fuel cycle *(Russian)* 1−50892
radioactive waste, disposal, storage, dispersal, review 1−792
radioactive waste treatment and disposal in major Western countries 1−50787
remote maintenance system 1−50913
Remotex−a new concept for efficient remote operations and maintenance in nuclear fuel reprocessing 1−18843
Remotex−a new concept for efficient remote operations and maintenance in nuclear fuel reprocessing 1−50910
safeguarding fuel cycle facilities, IAEA safeguards, present status 1−764
safeguarding LEU fuel fabrication plants, ESARDA R and D 1−14618
safeguards, advanced integrated system at Barnwell Nuclear Fuel Plant 1−14622
safeguards, facility-integrated computer system for materials accountability 1−18759
safeguards, facility-integrated computer system for process control 1−18871
safeguards, fuel cycle facilities, multinational arrangements, implications 1−18750
safeguards, material accounting data anal. during fuel fabrication 1−18754
safeguards, proliferation control methods for fuel reprocessing facilities 1−14625
safeguards, Pu denaturing concept evaluation 1−5849
safeguards, SNM accounting and physical security systems, emergency response 1−14626
safeguards, use of process monitoring data to enhance material accounting 1−14631
safeguards at U enrichment plant, NDA technology 1−14633
safeguards at U enrichment plants 1−23838
safeguards during reprocessing, nondestructive assay instrumentation 1−18872
safeguards verification in LEU fabrication plant 1−14617
safety evaluation of a conceptual fuel recycle complex 1−18868
safety research in France, nuclear fuel cycle 1−28629
slurry calcination process for conversion of aqueous uranium and plutonium to a mixed-oxide powder 1−18844
solvent extraction design improvement and safeguards development 1−18862
solvent extraction processes, tributylphosphate hydrolysis rate, effect of Th, U, Zr 1−41222
solvent extraction studies of coprocessing flowsheets 1−18856
solvent extractors, suitability for spent fuel reprocessing and direct servicing 1−28684
spent fuel, nondestructive testing by γ-ray spectrometry and neutron radiography 1−50916
spent fuel recycling and reprocessing to reduce α-activity and fissile Pu content 1−45640
spent oxide fuel, fission product partitioning, remote operations for pyrometallurgical reprocessing experiments 1−5981
technology developments for nuclear waste processing, review 1−858
THOREX pilot reprocessing plant, modification for new FBR fuel cycle concept 1−50911
VSOP, code system for reactor physics and fuel cycle simulation 1−33340
waste management for nuclear fuel cycle, US R and D program 1−18834
waste solutions from nuclear fuel reprocessing, denitration 1−5908
Pu irradiated fuel recycling in MILLI facility FRG 1−18855
Pu recycling in PWRs for U conservation 1−5852
$Pu(NO_3)_4$ safeguards at nuclear fuel reprocessing plant, closed-loop control system 1−23764

fission reactor fuel preparation and reprocessing continued
PuO_2 irradiated recycle fuels, voloxidation and aqueous dissolution 1−18852
^{238}Pu as heat spike for proliferation resistance in LWR fuel cycle 1−28683
^{238}Pu fuel denaturing for diversion safeguard 1−18757
^{238}Pu, use as heat spike in fuel reprocessing for proliferation resistance 1−18867
$^{238}PuO_2$, fabrication of general purpose heat source for space appls. 1−41224
RuF_3, fuel reprocessing, fluorination by F_2, thermochromatography and IR measurements 1−18848
RuO_2, fuel reprocessing, fluorination by F_2, thermochromatography and IR measurements 1−18848
$RuO_2+UO_2(Y_2O_3)$, fuel reprocessing, fluorination by F_2, thermochromatography and IR measurements 1−18848
T enrichment by isotope exchange using hydrophobic catalysts for nucl. fuel reprocessing *(German)* 1−28680
(Th,U)O_2 fuel, remote Gel-Sphere-Pac fuel fabrication plant design 1−28687
ThO_2 irradiated fuel, T removal and dissolution 1−18853
ThO_2-UO_3 sol-gel process, role of U(VI) 1−28682
$(U,Pu)O_2$, mixed oxide conversion facility alternative conceptual designs 1−18870
$(U,Pu)O_2$ pellet size and composition, effect of rogue pellets on fuel pin and reactor performance 1−45616
$(U,Pu)O_2$, performance of commercially produced mixed-oxide fuels in EBR-II 1−45612
U, chemical enrichment process, potential commercial appl. 1−14688
U enrichment, centrifuges help match supply and demand 1−14687
U enrichment facility in western world, present and future trends 1−14685
U, French enrichment plant 1−14686
U ore segregation in transport containers, effect on rapid gamma anal. 1−28686
U, reactor fuel, supply assurance and enrichment services 1−41172
UF_6, aerodynamic separation by Jet Membrane process 1−45716
UF_6 cryogenic soln., U isotope separation process by vibr. and hyperfine levels excitation 1−6037
UO_2 fuel pellet fabrication from fluidised bed denitrated UO_3 1−5983
UO_2 fuel rods, PuO_2 inclusions, local overheating finite element anal. 1−23760
UO_2 nuclear fuel voloxidation, expts. 1−18851
UO_2 pellets, fabrication from gel-derived microspheres 1−10507
UO_2/ThO_2 fuel, diversion resistance of chloride volatility reprocessing system 1−871
UO_2-PuO_2 mixtures, PuO_2, impurity content spectral anal. 1−5984
$^{233}UO_2$ preparation for light water breeder reactor demonstration program 1−5982
^{235}U enrichment of U fuel for once-through cycle of PWR, optimisation 1−5978
U, fuel purification using Purex process, use of U(IV) as reductant 1−18857

fission reactor instrumentation *see nuclear reactor instrumentation*

fission reactor materials
see also claddings; fission reactor fuel; fusion reactor materials; materials handling; moderators; radioactive waste
actinide ions, nuclear waste management, conference, Argonne, IL, USA (Sept. 1979) 1−27657
actinide production and burnup, prediction, NEACRP views 1−28590
AGR, Hinkley Point B, graphite corrosion, coolant chemistry, carbon deposition 1−10442
austenitic stainless steel, cold swelling, effects of Si and Ti, HV electron microscope investig. *(Japanese)* 1−38409
austenitic stainless steel, type 304, with crack, creep and fatigue fracture *(Japanese)* 1−39366
austenitic stainless steels, 0Kh16N15M3B and 1Kh18N10T, ^{60}Co diffusion 1−28600
BC absorber material, FBR control elements, advanced absorber assembly design 1−14669
breached nuclear fuel elements, identification and NDT using Compton suppression of gamma scanner 1−50776
BWR piping, thermal analysis in induction heating stress improvement *(Japanese)* 1−28593
BWR piping system, O_2 suppression to prevent stress corrosion cracking 1−45624
BWR piping systems, intergranular stress corrosion cracking 1−50762
BWR recirculation piping integrity, effect of intergranular stress corrosion cracking, EPRI R and D 1−45623
CANDU fuel channels and fuel, research and development 1−23775
ceramic, production, mech. props., energy appl. conf., Saint Vincent, Italy (May 1979) 1−13927
ceramics, oxide, low-neutron irrad., wetting by Hg and Sn 1−52397
clad and wrapper materials for SNR-300, irradiation behaviour *(German)* 1−23753
Clinch River LMFBR, blanket rod bundle compaction, cladding response 1−18784
concrete, decay-heat-induced decomposition following LMFBR core meltdown 1−10477
concrete, magnetite-aggregate, interaction with Na following reactor accident 1−50825
concrete, spalling and transient heat transfer in LMFBR post-HCDA conditions 1−5882
concrete, water release rates following reactor accident, modelling 1−50826
concrete containment vessel, prestressed, for LMFBR, dynamic relaxation computer program 1−23758
concrete pressure vessels, prestressed, for HTR, development 1−18780
concrete pressure vessels in GCFR, steam-generating type 1−14585
concrete slab shields, slant incidence, gamma-ray buildup factors 1−943
containment cell liner design, FFTF 1−14635
containment structures, design, materials and construction 1−23759
contamination transport in the primary coolant system during a breached fuel pin test in EBR-II 1−45621
core meltdown in a sacrificial bed, effect of steel layer on ladle penetration 1−5951
criticality parameters of 55-gal waste drum arrays 1−50798
criticality safety, impact of materials safeguards 1−50794
criticality safety and materials safeguards, experience at EG and G, Idaho falls, USA 1−50797

fission reactor materials continued
criticality safety and materials safeguards at Idaho Chemical Processing Plant 1−50796
decommissioning a boiling water reactor nuclear power plant 1−28604
deuterium, separation by catalytic isotope exchange 1−936
ductile pipes, stability of circumferential through cracks, nuclear plant appl. 1−14649
eddy current detection of corrosion damage in heat exchanger tubes 1−8522
FACSIMILE code, VS2 version for void swelling calcs. in reactor material 1−5857
fast flux test facility, auxiliary system testing programme 1−18728
fast flux test facility, fuels and materials examination, storage, maintenance facilities 1−23768
fast flux test facility, operations structure, operator training 1−18806
fast flux test facility, pipe vibration testing, dimensional survey 1−18766
fast flux test facility, plant utilisation programme 1−18764
fast flux test facility, reactor system testing results, overview 1−18768
fast flux test facility, surveillance and in-service inspection 1−18767
fast flux test facility, use for irradiation testing, current status 1−18765
fast reactor cladding during transients, deform. and failure modeling 1−41183
FFTF in containment cell liner design and installation experience 1−14635
fuel element pellet-cladding interaction, finite element thermal stress anal. 1−783
fuel pins, C deposition on steel surfaces 1−28594
fuel rod, Na austenitic corrosion model appl. 1−3980
fuel rod meltdown model, expt. verified 1−41179
fuels and materials examination facility, NDT equipment status 1−50773
GCFR cladding, stress anal. codes 1−41165
Gd_2O_3-UO_2 distributed turnable absorbers in PWR core 1−45655
graphite, diffusion of activated fission products *(German)* 1−11911
graphite, HTGR, irradiation effects on thermal shock resistance and fracture toughness 1−36999
graphite, preferred orientation, effect on bulk phys. props. 1−12755
graphite, reactor grade, combined mode fracture toughness at high temp. 1−3891
graphite, thermal expansion coeff., neutron irrad. effect 1−28599
graphite, thermal expansion coeff. 1−28603
graphite-sheathed fuel elements irradiated in superheated steam coolant 1−23774
graphite-water vapour reaction, kinetic study of hydrocarbon formation 1−8564
Hastelloy-X, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
heavy water prod. using hydrogen isotope exchange reaction in a hydrophobic catalyst bed 1−5855
hot cell complex for postirradiation exam. of FBR fuel and materials, in Japan 1−763
HTR, fission fragment gettering in primary circuit *(German)* 1−28552
Incoloy 800, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
Inconel 600, electrolytic comp. and heat treatment effect on aq. crevice corrosion 1−39509
Inconel 600 tubing, nonsensitised, method for controlled stress corrosion cracking 1−16960
Inconel 617, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
Inconel 625 (Ni-Cr-Mo) fuel cladding, elevated temp. behaviour 1−48583
Inconel mineral insulated coaxial cables, signals in neutron and gamma-ray fields 1−23833
international safeguards for fast critical facilities, IAEA material inventory verification 1−50795
ion exchange materials, radiation effects literature survey 1−45622
irradiated fuel claddings, eddy-current testing techniques using probe coil system 1−50775
liquid metal embrittlement, review 1−3968
LMFBR, prestressed concrete containment vessel, dynamic relaxation computer program 1−23758
LMFBR, prestressed concrete reactor vessel, transient anal., finite element method 1−33324
LMFBR components, low-cycle fatigue at high temps. 1−41171
LMFBR HCDA, candidate sacrificial material compatibility with Na at 773K 1−5889
LMFBR HCDA PAHR, sodium interactions with magnetite-aggregate concrete 1−50825
LMFBR HCDS PAHR, comparison of models for water release from heated concrete 1−50826
LMFBRs, fluctuation monitor sodium ionisation detector for aerosol leaks 1−812
Los Alamos Critical Assembly Lab., history, facilities and programs 1−10443
LWR, contamination mechanisms, decontamination methods, review 1−5859
LWR, economic incentives for improved core materials performance 1−45607
LWR coolant purification 1−50755
metallurgical aspects, corrosion *(Spanish)* 1−761
metallurgical coatings, wear and corrosion performance in Na 1−21598
metals, surface recombination rate constant for H isotopes 1−7461
missile impact, generation of missiles and destructive shock fronts and their consequences 1−838
missile impact damage, 3-D numerical prediction using central finite difference formulation 1−53
missile impact damage against reinforced concrete structures 1−841
missile impact damage due to plant generated missiles, conf., Leicester, England (March 1980) 1−12
missile impact on metal structures 1−840
missile impact with reinforced concrete structures 1−839
moderators, effect in central region of hollow fuel element 1−36997
Nitronic 60, Co free wear resistant alloys development for BWR control rod pins 1−23772
nuclear energy equipment materials selection criteria *(Spanish)* 1−18742
nuclear steam supply systems, steam generator feedwater pipe cracking 1−50767
paraffin, moderator materials, effect in central region of hollow fuel element 1−36997
pearlitic steel, use in BWRs, corrosion resistance 1−28598
pellet-cladding mechanical interaction, absorber assembly design 1−10444
fission reactor materials continued
plexiglass, moderator material, effect in central region of hollow fuel element 1−36997
pressure component failure, safety analysis of generated missiles 1−836
pressure vessel surface flaws and nozzle corner cracks, effect of flaw shapes on stress intensity 1−29628
pressure vessels, elasto/viscoplastic dynamic response of axisymmetrical shells, overlay model 1−29577
pressure vessels, steel grade anal. *(Czech)* 1−5847
pressure wave phenomena in pipes, HDR valve tests *(German)* 1−37006
prestressed concrete pressure vessels, end slabs, shear behaviour 1−37001
process heat gas cooled reactor systems applications, structural materials requirements 1−45627
proliferation of nuclear weapons and countermeasures, INFCE survey *(German)* 1−10506
PWR feedwater pipe cracking: an overview of Combustion Engineering activities 1−50766
radioactive materials transport, obtaining safety assurance through international agreements 1−33310
RBMK-1000, water plant chem. anal., corrosion activity 1−28597
refractories, effects of cracks within sacrificial bed material on the growth of molten pools following HCDA 1−5885
refractories, interaction with UO_2 following LMFBR HCDA 1−5886
safeguard vulnerability analysis program, materials diversion by nonviolent insiders 1−14613
safeguarding, nondestructive techniques, spent nucl. fuels, irrad. parameters depend. 1−45606
safeguarding fuel cycle facilities, IAEA safeguards, present status 1−764
safeguarding LEU fuel fabrication plants, ESARDA R and D 1−14618
safeguarding on-line accountability data 1−14630
safeguards, accountability and physical protection, US DOE R and D 1−14590
safeguards, advanced integrated system at Barnwell Nuclear Fuel Plant 1−14622
safeguards, assessing the credibility of diverting through containment penetrations 1−14606
safeguards, computerized nuclear material system at Sandia National Laboratories 1−18758
safeguards, containment/surveillance instrumentation systems in fuel reprocessing plant 1−18751
safeguards, designing IAEA safeguards approaches 1−14589
safeguards, emergency responses for accounting and security systems 1−14627
safeguards, Euratom's accounting procedures to comply with IAEA requirements 1−14605
safeguards, evaluating physical protection systems of licensed nuclear facilities using systems engineered inspection guidance 1−14612
safeguards, evaluation of process inventory uncertainties at FFTF 1−14610
safeguards, facility protection system design, impact of threat levels 1−14653
safeguards, facility-integrated computer system for materials accountability 1−18759
safeguards, fuel cycle facilities, multinational arrangements, implications 1−18750
safeguards, fuel reprocessing systems, monitoring and meas. techniques 1−14615
safeguards, German physical protection system 1−14593
safeguards, IAEA quantification 1−765
safeguards, IAEA verification of near-real-time materials accountancy data 1−14604
safeguards, implementing advanced data analysis techniques in near-real-time materials accounting 1−14607
safeguards, Japanese objectives 1−14592
safeguards, laser surveillance system for spent fuel 1−18752
safeguards, Latin America and Treaty Nonproliferation of Nuclear Weapons 1−5844
safeguards, lightweight air-transportable accident resistant container 1−14624
safeguards, LMFBR design for physical protection of materials 1−14596
safeguards, material accounting and control using NDA techniques 1−14619
safeguards, material accounting data anal. during fuel fabrication 1−18754
safeguards, material accounting to prevent insider falsification 1−18755
safeguards, microcomputer based shelf system to monitor special nuclear materials in storage 1−14629
safeguards, near real time material accounting for inventory verification 1−14608
safeguards, negotiations for Treaty Nonproliferation of Nuclear Weapons 1−769
safeguards, nondestructive measurements on spent fuel for away-from-reactor storage facilities 1−18845
safeguards, nondestructive measurements on spent fuel for the nuclear fuel cycle 1−14632
safeguards, NRC R and D program 1980 1−18756
safeguards, physical protection concepts for facility design 1−18773
safeguards, physical protection of facilities and special nuclear materials in France 1−14591
safeguards, physical protection of SNM in the United Kingdom 1−14594
safeguards, proliferation control methods for fuel reprocessing facilities 1−14625
safeguards, radiological source term resulting from terrorist attack on spent fuel shipping cask 1−14611
safeguards, rel. to NPT 1−770
safeguards, scintillator for spent fuel monitoring 1−18753
safeguards, SNM accounting and physical security systems, emergency response 1−14626
safeguards, SNM accounting meas., nondestructive assay using energy-dispersive absorption edge densitometry 1−14634
safeguards, standardization of SNM containers 1−14597
safeguards, tandem mass spectrometer, high-abundance sensitivity 1−23762
safeguards, transuranic waste assay using pulsed neutron meas. 1−14602
safeguards, US SNM inventory 1−14621
safeguards, use of process monitoring data to enhance material accounting 1−14631
safeguards analysis, combined SAFE/SNAP procedure 1−14614
safeguards and accountability, US program 1−14588
safeguards and materials management, INMM conf., Palm Beach, FL, USA (June 1980) 1−13916

fission reactor materials continued
safeguards at fuel fabrication plant, fuel labelling and plant perimeter monitoring 1−14598
safeguards at reprocessing plant, automatic calibrations and dynamic corrections for differential pressure transmitters 1−14603
safeguards at U enrichment plant, NDA technology 1−14633
safeguards during international transport and storage 1−768
safeguards during reprocessing, facility-integrated computer system 1−18871
safeguards during reprocessing, nondestructive assay instrumentation 1−18872
safeguards experience in Germany 1−14620
safeguards for SNM, US DOE requirements 1−14595
safeguards inspections, planning and evaluation using INSPECT computer programs 1−14609
safeguards measurements, overview of reference materials 1−18760
safeguards R and D 1−14616
safeguards system response in an actual uranium diversion incident 1−14628
safeguards systems, control and accounting meas. 1−18761
safeguards verification in LEU fabrication plant 1−14617
safeguardsin the European Community, a regional approach 1−766
small angle neutron diffraction expts. 1−50781
SNR-300, HCDA, material investigations for verification of core catcher concept 1−5884
stainless steel Kh18N9, neutron-irradiated, swelling, temp. drop effect 1−28601
stainless steels, He production by irradiation 1−23756
stainless steels, He production by irradiation 1−23757
stainless steels Kh18N10T and steel 20, corrosion rate, rel. to surface treatment 1−28602
statistical accountancy system 1−10438
steel, 0Kh16N15M3B, H, methane, CO release on heating 1−5851
steel, A302, micromechanisms of crack extension 1−43501
steel, austenitic, Cr-Ni(12,13 wt.%), irradiation induced phase transformations and orientation rel. 1−35254
steel, austenitic stainless, corrosion in liquid Na loops, anal. diffusion model 1−8485
steel, austenitic stainless, Cr-Ni-Mo-Ti-B, boride phase precipitation 1−26468
steel, austenitic stainless, exposed to oxygenated Na, form. of $NaCrO_2$ 1−21769
steel, austenitic stainless, in-reactor creep 1−21513
steel, austenitic stainless 316, dual beam irradiation, vacancy loop effect on swelling 1−2531
steel, austenitic stainless and ferritic, fatigue crack growth in PWR environment 1−26656
steel, austenitic type 304, high-temp. water effect, oxide formation 1−8470
steel, austenitic type 316, B content and distrib. effects on He bubble populations and stress-rupture props. 1−26595
steel, autstenitic stainless, Cr-Ni-Mo (AM-350), corrosion behaviour in LWR coolant 1−48582
steel, BWR pressure vessel, neutron irrad., effect on notch toughness props. 1−11791
steel, C and stainless, gamma radiation effect on corrosion products in high temp. water 1−780
steel, Cr-Mo (2.25-1 wt.%) decarburized and aged, creep rupture 1−35348
steel, Cr-Ni (20, 25 wt.%), Nb-stabilised AGR fuel pin cladding design 1−10441
steel, Cr-Ni-Mo-V, ferritic-pearlitic, radiation brittleness, additional alloying effect 1−3908
steel, ferritic, C and N transfer during exposure to Na environment 1−42561
steel, ferritic, in-reactor creep 1−21513
steel, low alloy, reactor pressure vessel, acoustic emission during elastic-plastic deform., uniaxial 1−3842
steel, low alloy, reactor pressure vessel, acoustic emission during elastic-plastic deform. around crack 1−3843
steel, martensitic, heat-resistant, components in fast breeder reactors, review *(German)* 1−18747
steel, mild, laser micro-spectrograph for trace element monitoring, nucl. power station appls. *(German)* 1−21815
steel, mild, Si meas. with laser microspectrograph rel. to corrosion prediction 1−43730
steel, nuclear pressure vessel, fracture toughness estimation, use of side-grooved Charpy-size specimens 1−12680
steel, nuclear pressure vessel, fracture toughness predictions 1−47165
steel, penetration of 6 MeV photons angular props., shielding 1−28706
steel, precipitation hardened, in-reactor creep 1−21513
steel, pressure vessel, irrad., fatigue crack growth in simulated nuclear coolant environment 1−43478
steel, pressure vessel, remote Charpy V-notch impact testing 1−53390
steel, solid solution hardened, in-reactor creep 1−21513
steel, stainless, 304, electrolytic comp. and heat treatment effect on aq. crevice corrosion 1−39509
steel, stainless, Cr-Ni-Nb, corrosion resistance in nitric acid soln. in presence of Cr^{6+} and Fe^{3+} ions 1−48584
steel, stainless, fuel cladding tubes, meas. of residual stress by X-ray method *(Japanese)* 1−33292
steel, stainless, FV448 martensitic, void swelling resistance after fast reactor irradiation 1−784
steel, stainless, induction heating stress improvement for intergranular stress corrosion cracking prevention 1−50765
steel, stainless, neutron capture, normalised to ^{235}U fission rate ratio 1−777
steel, stainless, ribbed, AGR heat transfer surfaces 1−14578
steel, stainless, surface and interfacial props. above 1690K for LMFBR HCDA anal. 1−5881
steel, stainless 304, BWR water chemistry and stress corrosion cracking 1−50764
steel, stainless 304, computation studies on controlling residual stress by induction heating 1−45625
steel, stainless 304, intergranular stress corrosion cracking of BWR piping systems, countermeasures 1−50763
steel, stainless 316, aged, neutron irradiated, cold worked, irradiation induced microstruct. changes 1−2525
steel, stainless type 316, H diffusion under 10-100 keV ion bombardment *(Japanese)* 1−18744
fission reactor materials continued
steel, structural, dynamic bearing capacity, influence of neutron irrad. and temp. *(Czech)* 1−12801
steel, structural, dynamic bearing capacity, influence of neutron irrad. *(Czech)* 1−47118
steel, type 316, creep/fatigue props. at 625°C 1−39369
steel for PWR pressure vessels, effect of chem. comp. on mech. props. 1−33303
steel pipes, fatigue crack growth and overload retardation 1−826
swelling-irradiation creep opposition testing, technical basis 1−37000
temperature-induced fine structure spectral shift effects on Doppler reactivity 1−18817
thermally sprayed coatings, wear protection appls. in HTGR 1−18769
TMI-2, comparisons with previous accidents, fuel casing damage *(Spanish)* 1−28613
TMI-2 core material damage, possible scenario 1−41176
TMI-2 core material performance 1−41175
TMI-2 core materials performance during accident, examination program 1−45656
TMI-2 radionuclide inventory and decay properties 1−18821
tools, ferritic, fast neutron irrad., fatigue crack growth behaviour 1−12873
U safeguards, gamma spectrometric technique for analysis of ^{235}U and total U content of gaseous diffusion process absorbers 1−14600
VVR-S research reactor, core irrad. tests *(Czech)* 1−33390
water, moderator materials, effect in central region of hollow fuel element 1−36997
water-cooled reactors, water treatment, corrosion prevention, R and D, review 1−28528
WER-440 power reactors, Xe fluctuations and stability props. *(Hungarian)* 1−800
X-ray residual stress measurement, in metals at Chalk River Nuclear Labs. 1−28141
Zircalloy clad UO_2 fuel elements, cladding defects effect in PWR 1−28608
Zircaloy, cladding, oxidation by steam in LOCA of LWR, computer calc. 1−810
Zircaloy, effect of dispersion and spheroidization treatment of δ-ZrH_2 on creep and corrosion resistance 1−5848
Zircaloy, irradiated, effect of texture on I stress corrosion cracking 1−8471
Zircaloy, oxide thickness meas. by ellipsometry 1−5361
Zircaloy, plastic fracture mechanics field implications to PCI stress corrosion problem 1−26664
Zircaloy, stress corrosion cracking, influence of testing conditions and irrad. 1−21636
Zircaloy clad burst of PWR pressurised fuel rods 1−18782
Zircaloy clad UO_2, fuel rods containing defects, power ramp and power-cooling-mismatch conditions 1−10450
Zircaloy cladding, mech. restraint effect on deform. 1−48452
Zircaloy cladding, under LOCA conditions, surface products 1−26665
Zircaloy fretting wear tests, at Westinghouse Canada Ltd. 1−31687
zircaloy oxidation during high-pressure-temp. steam depleted conditions 1−45620
Zircaloy reaction in hydrogen-steam mixtures: implications for TMI-2 core damage 1−41178
Zircaloy-2, anisotropic mechanical behaviour 1−39407
Zircaloy-2, commercial tubing, origin of variations in I_2 SCC susceptibility 1−3970
Zircaloy-2, electron irrad. damage study using HVEM 1−42423
Zircaloy-2, low temp. (4.6K) fast neutron irradiation, dose and recovery studies 1−7212
Zircaloy-2, phase transform., kinetic aspects 1−53170
Zircaloy-2, rel. between strain rate, strain to failure and lifetime 1−35317
Zircaloy-2 fuel cladding tubes, meas. of residual stress by X-ray method *(Japanese)* 1−33292
Zircaloy-2 pressure tubes, cold-worked, creep ductility in-reactor 1−43430
Zircaloy-2/UO_2 surfaces in contact, heat flow study 1−11924
Zircaloy-4, low temp. (4.6K) fast neutron irradiation, dose and recovery studies 1−7212
Zircaloy-4, recrystn. during transient heating 1−12754
Zircaloy-4, unirradiated, I_2 SCC, hoop stress to axial stress ratio effect 1−33296
Zircaloy-clad fuel pins 1−41177
Zircaloy-clad UO_2 test fuel rods, pellet-cladding mechanical interaction 1−10439
Zircaloys, stress corrosion cracking by iodine, SIMS molecular beam study 1−762
Al, impurity determ., neutron activation anal. 1−8632
Al_2O_3, coeff. of friction meas. with UO_2 and unirradiated Zircaloy cladding 1−33298
$^{241}Am(n,f)$, 10 to 250 keV, neutron capture and fission cross section 1−10393
B, burnable absorber materials, analytical comparison of B and Cd 1−50770
BC, He bubble growth, irradiation temp. effect, TEM obs. 1−2526
B_4C pellets, thermally induced stresses and fracture 1−3874
B_4C-Al_2O_3 burnable poison design to improve PWR U fuel utilisation 1−45602
BeO reflected $^{233}UNO_3$ solution in subcritical multiplication expts. 1−5909
Cd, burnable absorber materials, analytical comparison of B and Cd 1−50770
Cr, neutron capture, normalised to ^{235}U fission rate ratio 1−777
Cr-Ni austenitic steel, thermonuclear reactor material, ferromag. layer form. 1−41231
$^{52}Cr(n,p)^{52}V$ near threshold, cross-section meas., neutron dosimetry in reactors 1−702
Cu, neutron irradiation at 327°C 1−2524
Cu, polycrystn., expt. evidence for stress-induced blister formation 1−7215
Cu-ZZ 1−45609
Cu_3Au, displacement cascade damage produced by fast particle irrad. 1−42428
D_2O safeguards, nondestructive meas. techniques for diversion detection 1−14623
EuO_2-Fe cermet, fabrication for coarse control arm tips in DIDO and PLUTO 1−53151
Fe, fission fragment damage, comparison with fast neutron damage 1−2523
Fe, neutron capture, normalised to ^{235}U fission rate ratio 1−777

fission reactor materials continued
Fe self-shielding factors, inelastic neutron scatt. cross-section 1−50949
Fe, UO_2 coated, fission fragment damage, comparison with fast neutron damage 1−2522
Fe, void swelling examination using C ion bombardment 1−47121
Fe-Ni-Cr, heat resistant, compatibility with sintered Li_2O in static He 1−3969
He coolant in GCFR, steam-generating type 1−14585
He in cyclic gaseous core reactors 1−14583
He-cooled FBR, thermohydraulics of coolant, cladding and fuel 1−18725
MgO-UO_2 interactions up to 3000 K following FBR core meltdown 1−10479
N_2O_4, dissoc. coolant, thermophysical props. 1−50710
Na, flow through cold impurity traps, transport processes, EM mixing effect 1−11401
Na spray fire analysis using NACOM computer code 1−14654
Na-Ce-O system, phase equilib. invest. 1−53164
Na-cooled FBR, thermohydraulics of coolant, cladding and fuel 1−18725
$Na_2B_4O_7$ as sacrificial material for FBR internal core catcher 1−5887
Ni, neutron capture, normalised to ^{235}U fission rate ratio 1−777
Ni-Cr-Al-Mo, Co free wear resistant alloy development for BWR control rod rollers 1−23772
Ni-Cr-Mo, radiation blistering surface erosion by He ions, incidence angle effect 1−33345
Ni-Mo alloys teel for LWR pressure vessels *(Czech)* 1−33299
$Ni_xFe_{3-x}O_4$, solubility in in aqueous boric acid soln., PWR coolant system during operation and cooldown 1−52299
$^{231}Pa(n,f)$ cross section, high resolution meas. from 0.4 eV to 12 MeV 1−18698
^{233}Pa, reactivity worth in Th-U light-water breeder reactors, determ. from critical position meas. 1−18811
Pb compounds, neutron activation anal., determ. of impurities *(Russian)* 1−48769
Pd (Pt) hollow sphere for H bubble removal from nuclear reactors 1−37011
Pu oxalate nondestructive assay for materials safeguards 1−14599
$Pu(NO_3)_4$ safeguards at nuclear fuel reprocessing plant, closed-loop control system 1−23764
^{240}Pu assay of waste materials for safeguards anal. 1−14601
RbF-PbF_2-BiF_3 system, phase diagram as target salt in accelerator breeder 1−28592
Si low conc. remote meas. in nuclear reactor struct. materials, computerised laser analysis 1−31958
Th axial blanket expts. in PROTEUS reactor 1−28605
Th disequilibrium, nuclear waste management, conference, Argonne, IL, USA (Sept. 1979) 1−27657
Th zone, reaction rate distribs. in GCFR lattice 1−28606
ThO_2 powders, optimisation of Th oxalate precip. conditions rel. to derived oxide sinterability 1−43302
Ti compounds, neutron activation anal., determ. of impurities *(Russian)* 1−48769
U disequilibrium, nuclear waste management, conference, Argonne, IL, USA (Sept. 1979) 1−27657
U-Pu oxide fast reactor fuel pins, fuel-cladding chem. interaction 1−35422
UF_6 tailings, cascade performance for large separation factors 1−28705
UO_2-Al_2O_3, interaction of sacrificial layer material with UO_2 and fission products following FBR HCDA 1−5888
UO_2-stainless steel, surface and interfacial props. above 1690K for LMFBR HCDA anal. 1−5881
$^{233}UNO_3$ solution, BeO moderated, in subcritical multiplication expts. 1−5909
^{235}U enrichment by redox chromatography 1−781
^{235}U fission, thermal neutron induced, fission and delayed neutron yields in U_3O_8 and UO_2 1−775
$^{238}U(n,f)$, energy dependence of the ^{238}U thermal capture cross section 1−18697
Xe spatial oscillations in load following, optimal control model 1−45658
$^{89}Y(n,X)$, parameter determ. in nuclear model calcs. 1−5778
Zircaloy-4, mechanistic strain rate model verification, fuel sheaths during transient heating 1−48453
ZnO, swelling and gas release 1−3680
Zr alloys, in-reactor oxidation in moist CO_2, 573 to 868K 1−33297
Zr alloys, irradiation growth, review 1−50779
Zr alloys, preferred orientation, effect on bulk phys. props. 1−12755
Zr, annealed polycrystalline, ion simulation of neutron irradiation growth 1−34378
Zr based alloy, dispersion strengthened, nuclear reactor appl., mech. props. 1−43357
Zr, cold-worked, low-temp. internal friction 1−7252
Zr, electron irrad. damage study using HVEM 1−42423
Zr, fractography, neutron irrad. effect 1−2521
Zr, low temp. (4.6K) fast neutron irradiation, dose and recovery studies 1−7212
Zr oxidation, appl. of diffusion in semiinfinite system with moving interphase, solvent density change considerations 1−35423
α-Zr, oxidation at high temp., diffusion in semi-infinite system 1−12925
Zr, oxidised at 800°C, determ. of O conc. profile, by secondary ion emission and nuclear microanal. 1−21635
Zr, positron annihilation rel. to sample purity 1−35114
Zr, rate theory of void swelling, irradiation creep and growth, bulk recomb. effect 1−779
α-Zr, vacancy properties 1−42377
Zr/Nb (2.5 wt.%), thermal cycling effect on movement of αZr/αZr+hydride phase boundary 1−35292
Zr-Cr-Fe (1.14, 0.08 wt.%), β-quenched, abnormal grain growth during ageing, metallographic study 1−3796
Zr-Hf (2.2 wt.%), theoretical eval. of oxidation rates 1−48581
Zr-Nb (2.5 wt.%), fission reactor pressure tube rolled joint, crack growth by delayed H cracking 1−788
Zr-Nb (2.5 wt.%), nuclear reactor pressure tubing, TEM obs. of hydrides 1−45596
Zr-Nb (2.5 wt.%), pressure tubes, cold-worked, creep ductility in-reactor 1−43430
Zr-Nb (2.5 wt.%), pressure tubes, fast fracture prediction using elastic-plastic fracture mechanics 1−48517
Zr-Nb (2.5 wt.%) pipes from nuclear reactors, neutron irrad., fracture characts. determ. 1−21662
Zr-Nb-(Al), (10,(1) wt.%), omega and the martensitic transformation 1−26456
Zr-zz 1−45609

fission reactor materials continued
Zr_x foil, H_2 absorpt. and desorption 1−52296
Zr_3Al-based alloy, stoichiometric, oxidation 1−26663
ZrC, CVD within spouted bed by bromide process 1−53098
$ZrNi_{5-x}In_x(Sn_x)(Zn_x)$, substitution study, X-ray obs., unit cell and microhardness 1−33294
$^{90}Zr(n,X)$, parameter determ. in nuclear model calcs. 1−5778

fission reactor operation
see also fission reactor cooling and heat recovery; fission reactor core control and monitoring; fission reactor safety
10 W training reactor for training industrial engineers for nuclear power plants 1−5843
advances in nuclear science and technology, book 1−13938
BWR, Chernobyl nuclear power plant experience in assimulating design capacity 1−5913
BWR, operating experience *(German)* 1−10445
BWR end-of-cycle/cycle length flexibility 1−45605
BWR improved core daily load-following characts., core design and operation 1−45701
BWR in-core fuel management, automated procedure for refuelling patterns 1−41201
BWR load-following operation, evaluation of power distribution change 1−45700
BWR load-following operation, optimisation 1−50735
BWR O_2 suppression of prevent pipe cracking corrosion 1−45624
BWR plant startup−generic problems and lessons learned 1−18798
BWR water chemistry and stress corrosion cracking of 304 stainless steel pipes 1−50764
Byron/Braidwood PWRs, startup-engineering liaison experience 1−18801
CANDU shut down system, fault-tree analysis 1−18785
conf., world nuclear energy, ANS proceedings, Washington, DC, USA, Nov. 1980 1−40599
Diablo Canyon power station, startup and testing 1−18802
environmental impact, United Nations study programme summary 1−4369
fast breeder, development, construction and operation *(German)* 1−873
fast flux test facility, initial loading, criticality, neutron and gamma-ray spectra 1−18807
fast flux test facility, operations structure, operator training 1−18806
FFTF startup status, review 1−18805
Fort St. Vrain HTGR, rise to power test program 1−37008
fuel burnup extension, sensitivity analysis of equilibrium fuel cycles with power coastdown 1−45600
fuel cycle extension by part-length control rod removal at Rancho Seco 1−50852
GCR, efficiency and safety for electricity generation in Britain 1−14645
health hazard from nuclear power production, review 1−39973
LMFBR, fully developed MHD turbulence near critical magnetic Reynolds number 1−51878
LMFBR proliferation resistant fuel cycle using metallic Pu-Th fuel and metallic ^{233}U-^{238}U denatured fuel 1−50768
LOFT plant process computer, aid for reactor operators 1−41288
LWR, evaluation of core designs and fuel management strategies for improved uranium utilization 1−45601
LWR, outage trends, book contrib. 1−14673
LWR fuel behaviour and failure probability at power ramping, modelling procedure 1−45608
management appl. of probabilistic decision theory to optimise fuel ordering strategy 1−45604
McGuire PWR, problems encountered during pre-operational tests 1−23806
molten salt converter reactor with a very low fission product inventory 1−5858
nuclear fuel cycle for pressurised water reactor, technology *(Hungarian)* 1−45629
nuclear plant reduced-load-operation strategy, Fredholm integral eqn. 1−14640
Peach Bottom power station, admin. communications 1−23809
Perry nuclear plant, startup, upper management involvement 1−18800
plant status monitoring and shift turnover 1−28652
prototype large breeder reactor design, operability design review 1−41169
PWR, annular fuel at high burnup economic evaluation 1−45603
PWR, radiocaesium behaviour on mixed-bed demineralisers 1−50851
PWR, U fuel utilisation improvement, B_4C-Al_2O_3 burnable poison design 1−45602
PWR, uncertainties in the calculated radial power peaking, F_{xy}^N 1−50853
PWR extended burnup transition cycle development for Zion-1 using ARMP procedures 1−45599
PWR fuel cycle optimisation analysis for longer operating cycles 1−50727
PWR generic startup problems 1−18799
PWR power stations, operating experience *(German)* 1−10446
Shoreham nuclear station, online computing for surveillance, maintenance, radiation monitoring 1−23807
simulator staffing considerations 1−18809
simulator training, specific and generic types, recommendations 1−18808
staffing, effect of Three Mile Island accident 1−18804
training on plant-specific simulators, form and benefits after Three Mile Island 1−23811
training simulators, justification and procurement 1−18810
training simulators, use in engineering design, control scheme evaluation 1−23741
Turkish nuclear power project: manpower development and personnel planning for operation and maintenance 1−5976
VSOP, code system for reactor physics and fuel cycle simulation 1−33340
water moderated water cooled reactor for nuclear steam generation, thermal power determ. 1−23847
WWR-SM research reactor, computerised control system 1−28672
γ-production, large-scale, from fission products, viability under diff. fuel-cycles 1−23926
I, radioactive, chemical behaviour in BWR's 1−6041

fission reactor safety
see also fission reactor cooling and heat recovery; fission reactor core control and monitoring
accident risk assessment, consequence model calc. of fatalities 1−5923
advanced recycle depletion capabilities programs 1−10459
advances in nuclear science and technology, book 1−13938
AGR, current standing 1−10515
annular channel, fuel rod bending, critical coolant temp. rise 1−23805

fission reactor safety continued
anticipated transient without trip, computer modelling of primary-to-secondary heat transfer 1−5953
approximate methods in reactor shielding calculations 1−18923
atmospheric model for short-term nuclear plant accident diffusion estimates, in United States, effects of proposed changes 1−867
atmospheric release advisory capability applicability to power plant emergency preparedness 1−28656
automated pattern recognition system for noise analysis 1−28653
auxiliary feedwater reliability analyses for plants with B&W-designed NSSs 1−5927
auxiliary shutdown heat removal system, influence of the main condenser on SHRS reliability 1−5928
BRW transient calculations, uncertainties in void dependence of nuclear parameters 1−50861
BWR, APSD evaluation from neutron noise meas. 1−14675
BWR, denatured ($^{233}U/Th)O_2$-fuelled, performance and safety anal. 1−41209
BWR, detector adjoint spatial characteristics related to two-detector noise measurements of steam velocity 1−50872
BWR, direct moderator heating, Monte Carlo calc. using SAM code 1−5949
BWR, dryout measurements for boiling water flow in 3650 mm long annulus 1−28520
BWR, power distributions calculated from in-core detector readings, on-line computer applications 1−45636
BWR, PWR, cooling pipe fracture conditions, behaviour of isolation valves 1−18786
BWR, PWR power plants signature monitoring, stochastic modelling 1−50906
BWR, quantitative analysis of relationship between stability and channel steam velocity 1−50871
BWR, subcooled boiling and slip ratio 1−5907
BWR air and steam blowdown suppression, PELE-IC code 1−824
BWR automatic in-core sipping equipment development for fuel failure inspection 1−45703
BWR emergency heat removal controller, design and functions 1−5839
BWR evaluations, response to TMI accident sequence 1−14665
BWR in-core nuclear instrumentation 1−45712
BWR LOCA, post-TMI review of response 1−45678
BWR LOCA, thermal-hydraulic models for operator guidelines 1−28671
BWR LOCA blowdown, discharge coefficient for the Moody critical flow model 1−5932
BWR LOCA simulation, TLTA system performance 1−50821
BWR loose-parts detection system using acoustic signal monitor 1−45704
BWR piping, thermal analysis in induction heating stress improvement *(Japanese)* 1−28593
BWR piping systems, inservice US testing inspection for pipe crack sizing and detection 1−50845
BWR plant main steam pipes, weld defect size distrib., inspection and repair effects 1−14651
BWR pressure perturbation tests at Peach Bottom-2 1−5957
BWR suppression pool, pressure fields, Green's function calc., other methods comparison 1−23794
BWR/4 recirculation system modeling using RETRAN-01 for core flow prediction during transient event 1−5954
BWR/6 rod withdrawal limiter generic statistical licensing basis 1−50810
CANDU control functions hierarchy, distributed systems implementation *(French)* 1−50901
CANDU fuel element behaviour under normal operating conditions, ELESTRES code 1−45681
CANDU natural circulation steam generator, space dependent dynamic model 1−28554
Candu nuclear plants, computers for reactor instrumentation and control, development trends 1−876
CANDU operational experiences related to reactor safety analysis, human error and mech. failure 1−41210
CANDU reactor shutdown system unavailability estimation using fault tree analysis 1−50833
CANDU reactors, eliminating radiation sources to reduce occupational exposure 1−28735
CANDU reactors, intelligent safety system design 1−50904
CANDU reactors, shutdown monitoring computer system 1−10498
CANDU shut down system, fault-tree analysis 1−18785
[CC] Pu $(NO_3)_4$ concentrator, safeguards design, applied estimation approach 1−18846
CHILES-T program for fracture mechanics calcs. including thermal effects 1−33331
code assessment for nuclear reactor accident analysis programs 1−45660
common-mode/common-cause failure 1−37005
computer based reactor protection system, fail safe design criteria 1−50903
computer reliability enhancement using military computers 1−23778
containment analysis, efficient nodalization for subcompartment force-moment analysis 1−5950
containment structures, design, materials and construction 1−23759
containment vessels, dynamic deform. using analytical solns. 1−41975
control room design improvements, operators role 1−28649
core meltdown accident, one-dimensional transient model for analyzing large-scale steam explosion experiments 1−50800
core meltdown in a sacrificial bed, effect of steel layer on ladle penetration 1−5951
core thermal hydraulics, DNBR response surfaces, statistical sampling for safety evaluations 1−5944
corrosion product transport modeling in the BWR primary system 1−18797
coupled nuclear-thermal hydraulic code for prediction of core behavior during steam line break transient 1−10457
coupled-core reactor models, integro-differential equations, stability analysis 1−45635
cracked reactor components plane-strain bending deform. 1−33314
criticality accident, dosimetry and dosimeters, review 1−5974
criticality for water reflected homogeneous arrays and heterogeneous fuel elements *(German)* 1−28610
criticality of water-flooded fuel rod arrays, effect of heavy metal reflectors 1−45673
criticality safety, calculated K_{eff} for partially concrete-reflected FTR pins in water 1−50793
criticality safety, impact of materials safeguards 1−50794
criticality safety analysis, SCALE system cross-section validation 1−45672
fission reactor safety continued
criticality safety and materials safeguards, experience at EG and G, Idaho falls, USA 1−50797
criticality safety and materials safeguards at Idaho Chemical Processing Plant 1−50796
criticality safety criteria 1−45669
cSRL-V: an ENDF/B-V 227-group cross-section library for criticality safety studies 1−10464
decay schemes for radionuclides of potential importance in the nuclear fuel cycle 1−45638
defense-in-depth approach 1−14664
design errors, risk assessment 1−5925
design of nuclear power stations, public health and safety criterion 1−831
Diablo Canyon power station, startup and testing 1−18802
ductile pipes, stability of circumferential through cracks, nuclear plant appl. 1−14649
dynamic hydraulic forces in piping systems, calc. using PIPES computer program 1−50801
dynamic simulation of LMFBR systems 1−41159
dynamics, quasi-static approx., analytical methods 1−14573
EBR-II flow blockage simulation test, delayed neutron anal. 1−50827
EBR-II forced and natural circulation, in-core expts. 1−23730
electrical entry, type LC, for PWR containment vessels *(Japanese)* 1−799
electronic simulation experiments for fault tree analyses 1−50836
equipment qualification for vibratory and other concurrent loadings 1−23792
equipment qualification program 1−14660
event sequences and consequence spectrum, probabilistic transient analysis 1−45634
ex-core detector functions in a Westinghouse PWR 1−50860
extreme load design criteria, international requirements 1−827
facility protection system design, impact of threat levels 1−14653
fail-to-safe and fail-to-danger probabilities, anal. using SAFE program 1−817
failure analysis and diagnosis, fuzzy sets and systems theory 1−23793
fast flux test facility, auxiliary system testing programme 1−18728
fast flux test facility, surveillance and in-service inspection 1−18767
fast reactor, coolant temp. control regulator for emergency conditions 1−28532
fast reactor, sodium coolant cct., neutron streaming, expts. and calcs. *(Czech)* 1−5895
fast reactor cladding during transients, deform. and failure modeling 1−41183
fast reactors, space-dependent resonance shielding of cross-sections, calc. methods comparison 1−23790
fast transients, heat release from fuel elements *(German)* 1−23746
FBR, above-core structs., buckling, finite-element program 1−33317
FBR, interpretation of TREAT heat balance experiments 1−5964
FBR, simulated HCDA, Structural response of scale models 1−828
FBR, structural response to HCDA, comparison of experiment with analytic simulations 1−829
FBR, vapor generation function for electrically heated volume-boiling systems 1−5960
FBR core meltdown, interaction of sacrificial layer material with UO_2 and fission products 1−5888
FBR core meltdown, MgO-UO_2 interactions up to 3000 K 1−10479
FBR fuel motion detection at TREAT, experimental validation of method for predicting fast-neutron hodoscope performance 1−5965
FBR internal core catcher using $Na_2B_4O_7$ as sacrificial material 1−5887
FBR loss-of-piping-integrity transients, SLSF expts. for safety anal. 1−14656
FBR Na flow distribution test of air cooler tubes for auxiliary core cooling *(Japanese)* 1−5827
FBR oxide fuel response under LOF and prompt-burst heat conditions 1−50823
FBR safety, accidents involving core destruction *(German)* 1−23781
FBR safety, TREAT upgrade program objectives 1−14655
FBR safety analysis computer codes, statistical determination of threshold variables 1−45661
FBR TOP accident, TREAT safety expt. 1−14657
FBR transients with scram, appl. of differential sensitivity theory 1−45695
FBR TREAT SAREF expts., fuel dispersal phenomena, molten fuel configuration behaviour, safety anal. 1−10478
feedwater transients, event tree analysis 1−50832
FFTF, anal. of secondary systems transients 1−5958
FFTF, hydraulic core mockup, vibr. characts. 1−41167
FFTF startup status, review 1−18805
FFTF transient analysis, SSC-L thermohydraulic simulation code verification 1−5959
film boiling heat transfer during reflood phase in postulated PWR loss-of-coolant accident 1−28621
finite rectangular plate, Griffith crack, thermal stress singularities at tip 1−14650
fires, loss of safety functions, risk assessment 1−5921
fission-gas-induced fuel swelling in low- and medium-burnup fuel during high-temperature transients 1−5946
flow-blockage problems, subchannel models, initial-value methods 1−23719
Fort St. Vrain HTGR, primary coolant contaminants, removal and evaluation 1−36988
fuel failure mechanisms under reactivity initiated accident conditions, review 1−18746
fuel reprocessing, Purex based technology, safety factors and safety evaluation *(Japanese)* 1−33337
fuel rod meltdown model, expt. verified 1−41179
fuel stress and failure rate calcs. 1−50782
fuel-coolant interaction, shock wave-induced drop fragmentation, numerical anal. 1−23795
full length emergency cooling heat transfer forced reflood expts., mass effluence 1−28631
future of nuclear energy 1−50789
gas cooled reactors, microprocessor control of safe shutdown 1−23835
gases from underground nuclear power plant, multidimensional flow through soil 1−795
gasous core reactors, proliferation risk, safety, environmental impact, economics, R&D requirements 1−18875
GCFR, integral neutronics parameters, accidental steam entry effects 1−833
GCFR, review of major design changes 1−14582
GCFR HCDA, neutron streaming effects, mitigation possibilities 1−5970

fission reactor safety continued
GCFR radial blanket and shield integral expt. 1−50970
GCFR shutdown, energetics following loss of cooling accident 1−5971
GCR, efficiency and safety for electricity generation in Britain 1−14645
GCRF, PAHR 1−5876
German plants, review of safety precautions following Three Mile Island accident 1−23810
German Risk Study, methods, results and implications 1−28630
HCDA, effects of cracks within sacrificial bed material on the growth of molten pools 1−5885
HCDA, molten UO_2 one-dimens. penetration into substrate limestone concrete 1−835
HCDA transient fluid-structure interactions, arbitrary Lagrangian-Eulerian method 1−33318
health physics problems at TMI 1−18795
high subcriticality, determ. using exponential expt. 1−45671
high temperature reactor cores design variants, ^{137}Cs, ^{110}Ag, ^{90}Sr release *(German)* 1−5975
high-range containment atmosphere radiation monitoring 1−28716
HTGR, current standing 1−10515
HTGR auxiliary shutdown and cooling systems, design criteria 1−41220
HTR, prestressed concrete pressure vessels development 1−18780
HTR concept which excludes core melting accidents *(German)* 1−37007
hydraulic transient calc. using GRASS code 1−50813
implicit noniterative method for computing liquid and gas flow 1−10428
in-reactor safety experiments, technique for analysis and error detection for thermohydraulic system data 1−45663
in-service non-destructive examination methods *(Czech)* 1−33306
in-service ultrasonic testing *(Czech)* 1−33305
inert gases, equation of state for high press., rel. to fission gas behaviour 1−15569
inlet flow blockage simulation, counter-current flow limited conditions, drift flux models 1−23720
instrumentation assessment to meet operators needs 1−28650
instrumentation reliability, fault tree analysis, Monte-Carlo simulation by the PL-MODMC code 1−50835
instrumented fuel element design and performance with replaceable tungsten-rhenium thermocouples 1−28662
international cooperation for assuring safety 1−41189
international safeguards for fast critical facilities, IAEA material inventory verification 1−50795
Italian approach to nuclear safety philosophy 1−33309
Japan, safety licensing and regulation procedures following TMI accident 1−45707
JOYO MK-II experimental fast reactor, mockup tests of control rods 1−45692
KWU boiling water reactors, control-rod-scheduling computer appl. *(German)* 1−45639
LaCrosse BWR, neutron dosimetry anal. 1−18787
liner insulation for gas-cooled reactors, book contrib. 1−14587
liquid cooled reactors, space-depend. transient code COSTANZA 1−33330
liquid metals, two-phase flow in tubes, void fraction correlation 1−738
LMFBR, $3/s overpower accident, TREAT test E8, irradiated FTR type fuel 1−5905
LMFBR, behaviour of homogeneous and heterogeneous cores under protected overpower transients 1−18816
LMFBR, carbide-fueled, in-pile MFCI safety expts.,, TREAT test AX1 1−10481
LMFBR, coded aperture imaging system for nuclear fuel motion detection 1−50790
LMFBR, core thermal hydraulics during transients, rel. to heat transport 1−23797
LMFBR, cracked subassembly ducts, dynamic response 1−33315
LMFBR, excursion, pressure and energy calc. *(Czech)* 1−18779
LMFBR, fission gas release, effect on fuel pin temp. 1−5952
LMFBR, fuel element failure, delayed neutron signal anal. of breached elements 1−5903
LMFBR, HCDA, above-core hydrodynamics, sodium spillage, Eulerian method 1−33316
LMFBR, HCDA high energy excursion, ICECO code anal. 1−33321
LMFBR, LOF accident, fission energy generation in volume-boiling pool systems, MW heating simulation expts. 1−10480
LMFBR, multichannel molten cladding motion in LOCA conditions 1−36989
LMFBR, Na boiling incoherency in large heterogeneous core, impact of power-to-flow ratio 1−45684
LMFBR, Na spray fire analysis using NACOM computer code 1−14654
LMFBR, Na-H_2O reaction jets, metal wastage calc., reply 1−10452
LMFBR, Particle-bed heat removal with subcooled sodium: D4 analysis 1−45687
LMFBR, penetration of hot liquid pool into vertical solid surface 1−41182
LMFBR, pool-type, in-tank components during HCDA, three-dimens. formulation 1−33319
LMFBR, pool-type, reactor decks and supports during HCDA, finite element model 1−33322
LMFBR, possible development requirements towards the post accident containment of core debris 1−5860
LMFBR, prestressed concrete reactor vessel, transient anal., finite element method 1−33324
LMFBR, response of high-burnup fuel to simulated thermal transients 1−10483
LMFBR, retention of fuel within reactor vessel after hypothetical accident with core melting *(German)* 1−23782
LMFBR, scaled heads, response to HCDA, comparison of experiment and analytic simulation 1−830
LMFBR, SCARABEE fuel failure expts. thermohydraulic aspects 1−821
LMFBR, SCARABEE mono and 7-pin LOCA expts., fission product meas. 1−823
LMFBR, SCARABEE safety expts., fuel behaviour aspects 1−822
LMFBR, secondary containment, advantages of using prestressed concrete 1−33329
LMFBR, sodium spillage, following slug impact, ICECO code anal. 1−33323
LMFBR, SWAAM-1 program for large Na-H_2O reactions in secondary systems 1−10458
LMFBR, transient calcs. of a 45 MW(th) steam generator model 1−28676
LMFBR, verification of a dynamics model of a sodium heated steam generator 1−28555

fission reactor safety continued
LMFBR, water (steam) leak checking system using eddy current method 1−28646
LMFBR, water leak detection, cover-gas H_2 meter 1−14661
LMFBR accident analysis, consideration of liquid Na film behaviour 1−45686
LMFBR accident delineation and the evaluation of research priorities 1−45698
LMFBR accident delineation study: assessment of post-accident phenomenology 1−45699
LMFBR check valves, thermal-hydraulic analysis 1−23830
LMFBR components, low-cycle fatigue at high temps. 1−41171
LMFBR control assembly rod, transient design considerations 1−50888
LMFBR core meltdown, experiments related to the design and performance of in-pool core catchers 1−5890
LMFBR core meltdown, integrity of fuel support grid, calc. of melt through time 1−5877
LMFBR core meltdown, main problems of an internal core-catcher 1−5891
LMFBR core meltdown, molten core/concrete interaction 1−5879
LMFBR core meltdown, PAHR, decay-heat-induced decomposition of concrete slab 1−10477
LMFBR core meltdown, PAHR, fuel debris bed experiment 1−10474
LMFBR core meltdown, phys. props. of UO_2-stainless steel above 1690K 1−5881
LMFBR core meltdown, thermal-hydraulic and chemical interaction of core melt with underlying materials 1−5875
LMFBR damaged core, natural convection analysis using SSC-L code 1−45696
LMFBR design for physical protection of materials 1−14596
LMFBR extended fuel motion, effects of fuel-Na film interaction and delayed fission gas release 1−10471
LMFBR fuel blockage simulation experiment, gap effect on fluted tube container burst pressure 1−45693
LMFBR fuel motion, analysis of TREAT expts. 1−5966
LMFBR fuel motion, TREAT expts. 1−5906
LMFBR fuel motion in voided channels, effect of steel vapour pressure 1−5961
LMFBR fuel pin deformation, expt. eval. 1−10484
LMFBR fuel pin failure, TREAT test H6, LACOBRA/LAFM analysis 1−5963
LMFBR fuel pin failure expts., SCARABEE facility 1−820
LMFBR fuel solidification rate following transient, expt. simulation 1−10485
LMFBR fuel subassembly, local flow blockage simulation 1−23798
LMFBR fuel thermal performance, HCDA computer programs, RESTRUC 1−14643
LMFBR fuel-coolant thermal interactions, simulation using Freon-11 1−48725
LMFBR HCDA, candidate sacrificial material compatibility with Na at 773K 1−5889
LMFBR HCDA, chem. constitution of a molten oxide fast reactor core 1−5883
LMFBR HCDA, energy absorpt. pot. of PCRV in primary containment 1−10473
LMFBR HCDA, growth of volumetrically-heated pools in miscible gas-releasing solid beds 1−5880
LMFBR HCDA, PAHR, fuel debris bed dryout 1−10475
LMFBR HCDA, radiological consequences, effect of nonequilib. mass transfer 1−5969
LMFBR HCDA, UO_2-refractory material interactions 1−5886
LMFBR HCDA analysis using finite element methods 1−50830
LMFBR HCDA energetics analysis for SNR-300 licensing 1−50831
LMFBR HCDA fluid/structure anal. using THUDD-1 code 1−5962
LMFBR HCDA PAHR, investigation of limiting boiling heat fluxes from debris beds 1−45690
LMFBR HCDA PAHR, sodium interactions with magnetite-aggregate concrete 1−50825
LMFBR HCDS PAHR, comparison of models for water release from heated concrete 1−50826
LMFBR inherent accommodation of unprotected LOF accidents 1−45697
LMFBR intermediate heat transport system, anal. of Nu neutron activation 1−50969
LMFBR lines-of-assurance idea, engineering mechanics appls. 1−33313
LMFBR LOCA, fuel disruption, post-test examination results of SLSF experiment P3A 1−50828
LMFBR LOCA, sodium void effect on reactivity, model calcs. 1−28639
LMFBR PAHR, build-up of molten fuel pools inside a plugged subassembly 1−5873
LMFBR PAHR, cooling of particulate debris beds 1−5862
LMFBR PAHR, effective thermal conductivity for combined convection-radiation heat transfer in a molten oxide fuel layer 1−45691
LMFBR PAHR, fuel particulate debris bed dryout in Na 1−5865
LMFBR PAHR, heat transfer between two horizontal liquid layers with gas injection 1−5872
LMFBR PAHR, heat transfer from a stratified two-fluid system with internal heat sources 1−5866
LMFBR PAHR, heat transfer internally-heated molten UO_2 pools 1−5871
LMFBR PAHR, heat transfer measurements of internally heated liquids in cylindrical convection cells 1−5870
LMFBR PAHR, hydrodynamic aspects of stratification and mixture within boiling immiscible mixtures 1−5972
LMFBR PAHR, interaction between molten Na pool and core-catcher 1−5868
LMFBR PAHR, melting front phenomena−analysis and computation 1−5874
LMFBR PAHR, natural convection in liquid Na surrounding core-catcher plate 1−5869
LMFBR PAHR, natural convective cooling of debris bed 1−5863
LMFBR PAHR, particle-bed dryout model with upward and downward boiling 1−45688
LMFBR PAHR, spalling and transient heat transfer in concrete 1−5882
LMFBR PAHR, steady and transient natural convection in single and multi-fluid layers with heat generation 1−5867
LMFBR pipe during flow coastdown, numerical simulation of thermal hydraulics 1−50889
LMFBR pool outlet plenum, expt. modelling of simulated scram transients 1−28543
LMFBR post accident heat recovery analysis 1−5861

fission reactor safety continued
LMFBR postulated accidents, nuclear aerosol behaviour *(Japanese)* 1−45630
LMFBR power plant, Benson system cycle, grid, disconnection trip 1−28675
LMFBR pressurised pipes, crack propag. due to ductile fracture 1−41184
LMFBR prestressed concrete reactor vessels, containment capability 1−33325
LMFBR pump coastdown, turbulent and laminar flow in transition to natural convection 1−23799
LMFBR pump trip event in metal-fuelled and oxide-fuelled reactors 1−50829
LMFBR safety anal. using MELT-111A code, appl. of generalised sensitivity theory 1−5967
LMFBR safety analysis equivalent recoil area concept for delayed neutron signal characterization 1−45694
LMFBR safety expts., determination of UO_2, electrical conductivity change when heated through melt 1−10482
LMFBR shielding design, discrete ordinates code in (X,Y,Z) geometry 1−28708
LMFBR simulated meltdown critical assemblies, transport theory anal. 1−28664
LMFBR sub-assemblies transient heat transfer calc. 1−23722
LMFBR subassemblies, local flow blockage, three-dimens. code, subchannel approach 1−23796
LMFBR subassembly, coolability of TOP-generated porous heat generating blockages, modelling 1−5968
LMFBR subassembly, hydraulic influences of transient overpower generated blockages 1−10470
LMFBR top accident, PAHR, forced-flow evaporative cooling of a volumetrically heated porous layer 1−10476
LMFBR TOP-generated porous blockages, dryout modelling 1−45685
LMFBR transient overpower accident, carbide fuel failure analysis 1−10472
LMFBR unirradiated fuel pin failure, SCARABEE programme, AEA/CEA/KfK interpretation 1−819
LMFBRs, containment code validation for HCDA-induced loading 1−33320
LMFBRs, fluctuation monitor sodium ionisation detector for aerosol leaks 1−812
LMFBRs Na flow blockage, fluidisation and sweepout 1−23844
LOCA, air/water mixtures, steady-state flow meas. using pitot tube and gamma densitometer 1−11480
LOCA, anal. of blowdown heat transfer expts. and associated CHF phenomena 1−5929
LOCA, anal. of small breaks following TMI 1−28666
LOCA, calculation of the CANON experiment using the TRAC code 1−5931
LOCA, change of phase in compressible trans-phase calculations 1−14652
LOCA, drag disc turbine transducer behaviour in steady state two-phase flow 1−736
LOCA, effect of reactor coolant pump trip 1−10494
LOCA, effect of sleeves on quenching of a 4-rod bundle 1−5936
LOCA, exam. of uncovery transients in a 3×3 rod bundle 1−5934
LOCA, fluid-structure interactions of core barrel and fuel rods *(German)* 1−23783
LOCA, fuel-and-cladding model of rewetting of nuclear fuel rod 1−18781
LOCA, pre-test calculations of LOFT nuclear tests L2-2 and L2-3 with the RETRAN computer code 1−5933
LOCA, prediction of quench and rewet temperatures 1−5938
LOCA, quenching, precursory cooling effect, three-region model 1−811
LOCA, radioactive release from breached containment, parametric study 1−834
LOCA, two-phase flow eqns. in elastic tube, single pressure 1−5904
LOCA, zircaloy oxidation during high-pressure-temp. steam depleted conditions 1−45620
LOCA analysis, model for secondary containment pressure transient analysis 1−10465
LOCA conditions, unsteady dispersed flow heat transfer 1−10449
LOCA simulation, response of self-powered neutron detectors to coolant density variations 1−45676
local reactivity feedback in PWR steamline break evaluations 1−10468
LOFT, stochastic flow-induced low freq. power fluctuations, spectral meas. 1−50869
LOFT ECCS, application of ANSI/ANS-5.1-1979/HEAT 6 code to LOFT technical specifications 1−45677
LOFT reactor plant, optimal estimation and control theory appl. 1−50905
long-term emergency recovery planning 1−41211
Los Alamos Critical Assembly Lab., history, facilities and programs 1−10443
LWR, fuel rods, thermomechanical modelling program PIN *(Czech)* 1−5899
LWR, LOCA, decompression wave forces on structures in pressure vessel 1−18774
LWR, outage trends, book contrib. 1−14673
LWR, risk perception, quantification 1−816
LWR, Zircaloy-4 rod, transient cooling process in reactivity initiated accident 1−18776
LWR coolant corrosion product anal. system 1−28622
LWR core meltdown, fragmentation mechanisms occurring during an energetic fuel-coolant interaction 1−45683
LWR core meltdown, molten fuel-coolant interaction, a vapor explosion in the RIA-ST-4 experiment 1−5942
LWR core meltdown, phenomenological modeling of small-scale steam explosion experiments 1−5943
LWR core meltdown, risk assessment of environmental radionuclide release 1−5924
LWR core meltdown, severe reactivity initiated accident, assessment of molten debris freezing 1−5947
LWR core performance studies in the UK, reactor physics calcs. 1−33289
LWR core pressurisation during energetic MCFI, effect of coolant conditions 1−50806
LWR critical assembly, coupled-core-reactor kinetic parameters, frequency response 1−10448
LWR emergency safeguard systems, diesel generator reliability 1−50834
LWR LOCA, AA 1−45674
LWR LOCA, fission product release from high gap-inventory fuel 1−5935
LWR LOCA, hydrodynamically controlled dryout in tubes at low mass flow rates 1−5941

fission reactor safety continued
LWR PAHR, dryout heat fluxes in very deep debris beds 1−45689
LWR passive containment system overcomes class 9 accidents, core melt and containment overpressure 1−50844
LWR plant equipment structural integrity assurance, development programme 1−866
LWR plants, pressure-wave propagation, treatment in licensing procedure *(German)* 1−796
LWR power plants, improved safety with Passive Containment System 1−865
LWR safety, summary of world progress 1−41188
LWR safety analysis, importance of spatial kinetics 1−50862
LWR safety analysis, mixing length model for fully developed turbulent two-phase flow in circular pipe 1−50879
LWR safety analysis, simulation of LOCA, DRIX-2D 1−5902
LWR safety analysis, thermal-hydraulic aspects of degraded-heat-removal accidents 1−28667
LWR steam generators, nonlinear transient analysis, implicit Eulerian method 1−45637
LWR thermal-hydraulic safety anal., non-LOCA overcooling events 1−28669
LWR thermal-hydraulic safety anal., post TMI anal. 1−28668
LWR thermal-hydraulic transient analysis, THERMIT two-fluid code 1−28547
LWR uncovered core, radiative shape factors and heat flux 1−45679
LWR vent-filtered containment concept, design and operation 1−50843
LWRs, sources and causes of radiation build-up with emphasis on ^{60}Co release reduction 1−50953
man-machine interaction, operational aids 1−28651
man-machine interface, safety aspects 1−28648
Marviken critical flow tests for independent assessment of TRAC-P1A 1−50803
McGuire PWR, problems encountered during pre-operational tests 1−23806
media with moving boundaries, radioactive atom diffusion, integral transform method soln. 1−18722
metal/water explosion phenomenon, review 1−10505
methyl iodide, formation by gamma irrad. of iodine, methane, water vapour, air mixture, nuclear power safety *(Czech)* 1−5897
MFBR PAHR conf., Varese, Italy, (Oct. 1978) 1−5018
missile impact, generation of missiles and destructive shock fronts and their consequences 1−838
missile impact damage, 3-D numerical prediction using central finite difference formulation 1−53
missile impact damage against reinforced concrete structures 1−841
missile impact damage due to plant generated missiles, conf., Leicester, England (March 1980) 1−12
missile impact on metal structures 1−840
missile impact with reinforced concrete structures 1−839
MONJU, small sodium-to-gas leak detectors 1−10499
national criteria harmonization, path of progress 1−28627
neutron skyshine from nuclear facilities, Monte Carlo anal. 1−45566
nonlinear correlation analysis of reactor operating data 1−10454
nonlinear problems with discontinuities, differential sensitivity theory appl. 1−10455
NRC recommendations related to TMI accident 1−14662
NSSS safety functions, impact of multiple failures and operator errors 1−14659
nuclear combustion cycle selection and problems *(Slovenian)* 1−23784
nuclear industry and plant safety problems 1−33308
nuclear power plant post-accident radiation monitoring, plant communications improvements 1−50954
nuclear power plants, drywell sump leakage detection system 1−50900
nuclear power plants, risk study, Germany 1979 1−23785
occupational exposure management system, admin., data acquisition and anal. 1−18917
occupational radiation exposure, identification and reduction in BWR plants 1−4368
on-line core protection calculator, shape annealing and power synthesis uncertainties 1−50816
operator errors in commercial nuclear stations, human factors in system design and interfaces 1−23808
operator role and safety functions 1−50902
PAHR, effect of thermal radiation scattering on heat transfer coefficient pertaining to multicomponent flows 1−5973
PAHR, hot liquid pool downward penetration into meltable solid 1−50824
Peach Bottom II turbine trip test analysis 1−28677
Peach Bottom-2 reactor stability prediction with 1-D transient model 1−50868
pebble bed, HTR, neutron physical and thermohydraulic design *(German)* 1−756
pellet-cladding gap variation during sinusoidal power variations, FRAP-T5 anal. 1−45682
perturbation theory for nonlinear systems, importance conservation 1−45579
PHWR, safety comparison with PWR *(Chinese)* 1−5901
physical protection of facilities and special nuclear materials in France 1−14591
pipe compressible flow, computer-aided analysis, KOMPAKT program *(German)* 1−10415
piping systems, elastic-plastic nonlinear behaviour under transients 1−33327
plate, orthotropic finite rectangular, transient thermal stresses from arbitrary surface hat generations 1−825
post-accident radiation protection design criteria, Lahti, G.P 1−50960
post-LOCA coolant piping dose rates−a plant shielding survey tool 1−18796
power plant safety, debate at UMR-DNR conf., October, 1979 1−33336
power plant staff training methods, tools and aids 1−5045
power reactor radiation dose acceptability determ. and health hazard monitoring 1−45738
pressure and temperature sensors, time constants, dynamic data system method 1−818
pressure component failure, safety analysis of generated missiles 1−836
pressure transducers for loss of flow tests in PWRs, full scale testing appl. 1−14676
pressure vessel damage, surveillance capsule meas. 1−18789
pressure vessel dosimetry, Brown's Ferry results anal. 1−18909
pressure vessel failure, initial velocities attained by plant generated missiles 1−837

fission reactor safety continued
pressure vessel fluences, extrapolation of surveillance dosimetry information 1−18790
pressure vessels, steel grade anal. *(Czech)* 1−5847
pressure wave phenomena in pipes, HDR valve tests *(German)* 1−37006
pressurised water reactor nuclear steam supply system, protection and control system 1−50898
primary containment leakage integrity 1−28658
probabilistic risk analysis, characterisation and uncertainty evaluation 1−28673
prototype large breeder reactor design, operability design review 1−41169
PWR, ^{235}U-enriched UO_2 rods, dissolution and storage expt., criticality safety 1−778
PWR, coolant stability calc. 1−28531
PWR, ECC system, countercurrent steam-water flow in large horizontal pipes 1−45633
PWR, four lamp Westinghouse, design 1−754
PWR, lower plenum sweepout in LOCA, surface wave growth 1−28679
PWR, optimisation of once-through U cycle 1−5978
PWR, safety comparison with PHWR *(Chinese)* 1−5901
PWR, sensitivity of risk parameters to human errors 1−41212
PWR, simulation system 1−10460
PWR 1−10495
PWR accidents, multidimensional anal. using BWKIN code 1−10456
PWR cold-leg break LOCA, ECCS steam condensation effect of reflooding rates 1−50818
PWR containment, meas. of stray neutron fields 1−28737
PWR containment atmospheric response for postulated Class 9 accident 1−50815
PWR containment environment, neutron monitor evaluation 1−18908
PWR coolant system void volume synthesis using available instrumentation 1−10469
PWR core meltdown, concrete destruction after pressure vessel failure 1−5878
pWR core response for a steamline break accident−sensitivity studies 1−10467
PWR effects of containment purge on the consequences of a loss-of-coolant accident 1−10466
PWR fuel rods containing defects, power ramp and power-cooling-mismatch conditions 1−10450
PWR in-core instrumentation, safety aspects 1−50859
PWR in-core resistance thermometers, reponse time testing 1−50817
PWR in-vessel liquid level detection using heated thermocouples 1−50882
PWR instrumentation: recommendations for improvement from TMI-2 experience 1−18825
PWR LOCA, dynamics of a rod bundle under forced oscillation flow reflooding 1−50802
PWR LOCA, effect of steam condensation on ECC penetration 1−5940
PWR LOCA, experimental study of hot-wall effects on liquid flow 1−5939
PWR LOCA, fuel rod stored-energy estimates for LOCA model eval. 1−5948
PWR LOCA, independent assessment of TRAC-P1A with Moby-Dick nitrogen-water tests 1−5937
PWR LOCA, multidimensional aspects of reflood in a scaled PWR model 1−50807
PWR LOCA, pressure wave propagation, fluid structure dynamical coupling, FLEXWALL computer program *(German)* 1−797
PWR LOCA, thermal-hydraulic anal. during blowdown, transient coolant dynamic anal. 1−28549
PWR LOCA, TRAC-PD2 analysis of ORNL Thermal-Hydraulic Test Facility Test 177 1−45675
PWR LOCA, TRAC-PD2 analysis of the Bennett tube experiments 1−28548
PWR main steam pipe break, steam free jet and impinging jet studies *(Japanese)* 1−45632
PWR natural circulation events, anal. using SSC-W code 1−50809
PWR plant computer anal. using SIRENE and PICOLO codes 1−28678
PWR pressurised fuel rods, Zircaloy clad burst 1−18782
PWR primary piping after LOCA, dynamic behaviour, impact function, lateral stability 1−18783
PWR protection, fuel clad damage prevention *(Croatian)* 1−863
PWR small-break LOCA, core cooling conditions during core uncovery 1−50812
PWR small-break LOCA, effect of delayed reactor coolant pump trip 1−5930
PWR steam generator inspection using photographic techniques 1−45709
PWR thermal hydraulic behaviour, experimental study of level swell in a partially water filled fuel cluster 1−33288
PWR thermal-hydraulics, flashing transient separate-effects experiments at LOFT scale, blowdown and refill expts. 1−50738
PWR transients, heat removal in steam generators, modelling 1−50805
quantitative analysis in Britain AGR and PWR appl. 1−28628
quench front, 2-D, implicit isotherm migration 1−18724
radiation monitoring, role in reactor emergency 1−28717
radiation release from the SL-1 accident following reactivity insertion accident, computer code anal. 1−41194
radiation source terms and shielding at TMI-2 1−18792
radioactive gas, quasi-zero discharge by low temp. distillation *(German)* 1−14642
radioactive gas and hydrogen removal after a LOCE at the LOFT facility 1−28660
radioactive microelements, radiation safety of nuclear fuel cycle *(Russian)* 1−50892
radiochemistry experience at TMI-2 1−18794
reactimeter data recording device, design and development 1−18823
reaction rate ratio measurement errors 1−50980
reactivity transient calculations, evaluation of coarse-mesh methods in calculation of safety-related parameters 1−45713
reactor coolant oil ingress monitoring, photoionisation detector appl. 1−798
reactor diagnostics techniques during TMI-2 accident 1−18827
reactor kinetics simulation, logarithmic inversion model 1−28530
real-time method for analyzing nuclear plant transients 1−28655
recirculation piping, hot water rapid depressurisation study 1−37012
regulatory requirements, CE response to TMI 1−10503
regulatory requirements, industry perspective of TMI-2 impact 1−10502
regulatory requirements, TMI impact, GPU position 1−14663
regulatory requirements, TMI impact 1−10501
RELAP4 experiences and appl. in Finland 1−33334
reliability analysis of safety systems 1−5926
remote camera/radiation monitoring experiments in TMI-2 containment building 1−18793
remote monitoring system for detection and estimation of malfunctions *(German)* 1−794
REPA1D code for reactivity accident anal. *(Czech)* 1−28625
report by California Energy Commission *(German)* 1−28626
research in France, PWR, fast reactors, and nuclear fuel cycle 1−28629
research reactors, boiling safety margin estimation 1−28642
REWET-I single pin reflood experiments 1−23752
rewetting of hot horizontal channels, heat transfer and temp. distribs. 1−750
risk and quantitative safety criteria for nuclear power 1−50838
rod bundles, heat transfer to axial dispersed flow 1−36992
RPI critical facility, reconstruction to lower critical mass 1−28661
S_n transport calculations of the PCA experiments with some estimated uncertainties 1−18788
secondary containment, internal loading, integrated approach 1−33328
Seismic Safety Margins Research Programme, in United States, brief overview 1−869
sensor failures, detection by analytic redundancy method 1−10496
Sequoyah nuclear plant, radiation monitoring equipment 1−28718
Sham-Ram-Scram, positive reactivity change on disassembly 1−10461
Sheba: a solution critical assembly to evaluate accidental criticality alarm detectors 1−45670
shutdown events, fuel centreline temp. response FRAP-T5 predictions 1−5945
SNR-300, HCDA, material investigations for verification of core catcher concept 1−5884
SNR-300 LMFBR HCDA, retention of dispersed fuel within the reactor vessel 1−5892
sodium boiling detection, acoustic-neutron noise correl. 1−23802
soluble neutron absorber use for criticality safety 1−10462
solvent extractors, suitability for spent fuel reprocessing and direct servicing 1−28684
spent fuel handling accident, ^{131}I release prop. distrib. calc. 1−5922
standardizing products for the international NSSS market 1−33312
steam generator tube diagnostics−the B&W approach 1−45708
steel pipes, fatigue crack growth and overload retardation 1−826
Stokes flow simulation using hybrid finite-element model 1−46720
STRAW quasi-Eulerian fluid struct. code, core component transient simulation 1−33301
Super-CANON blowdown tests for independent assessment of TRAC-P1A 1−50804
Super-Phenix steam generator, 45 MW scale model, digital simulation of transient conditions 1−28558
system approach to in-plant radiation monitoring 1−28720
system safety and reliability, limitations of inservice inspection 1−50840
systems availability/unavailability time-dependent anal. 1−45662
Tennessee Valley authority, planning for radiological emergencies 1−18920
thermal behaviour of LOFT nuclear fuel and NEPTUN heater element 1−50819
thermal hydraulic analysis, droplet-liquid film mass exchange rate in annular flow 1−50736
thermal hydraulic analysis, RETRAN code development at EPRI 1−50887
thermal hydraulics, downflow post-CHF heat transfer to low-pressure water 1−50881
thermal hydraulics of steam line break transients in thermal reactors−simulation experiments 1−50799
thermal-hydraulic analysis capability at Florida Power and Light Company 1−50886
thermal-hydraulic analysis capability at Northeast Utilities Service Company 1−50884
thermal-hydraulic analysis capability at Yankee Atomic Electric Company 1−50883
thermal-hydraulic analysis methodology at GPU nuclear 1−50885
thermal-hydraulic analysis of the February 26, 1980 loss-of NNI bus transient at Crystal River 3 1−50808
thermal-hydraulics, mixing between two laterally interconnected two-phase flows 1−50737
thermal-hydraulics, water hammer phenomena, closed-form soln. for inertially controlled motion of liquid slug 1−50880
Three Mile Island, accident anal. 1−50895
TMI, accident analysis, planning for large-scale accidents 1−41180
TMI accident, thermal hydraulic anal. using RELAP4/MOD6/U4/J2 1−33333
TMI accident, thermal-hydraulic response, TRAC-P1A anal. 1−5955
TMI impact on attitudes of NRC and industry 1−10500
TMI induced changes in design and operation, effect on plant performance 1−14666
TMI radioactive material release pathways 1−18791
TMI recovery systems design, radiation protection considerations 1−18910
tMI short-term lessons learned radiation protection recommendations: NRC perspective 1−50958
TMI-2, assessment of fuel damage from fission product conc. meas. 1−10491
TMI-2, comparisons with previous accidents, fuel casing damage *(Spanish)* 1−28613
TMI-2, core conditions derived from instrumentation response during accident 1−10486
TMI-2, criticality safety considerations 1−45664
TMI-2, general description *(Spanish)* 1−28614
TMI-2, natural circulation for long-term core heat decay removal 1−10492
TMI-2, neutronic sensitivity anal. of SRM response 1−10488
TMI-2, NRC assessment of in-reactor instrumentation failure 1−18824
TMI-2 accident, anal. of self-powered neutron detector response 1−10489
TMI-2 accident, core damage evaluation *(Spanish)* 1−28618
TMI-2 accident, external radiological impact *(Spanish)* 1−28617
TMI-2 accident, faults in instrumentation system 1−18822
TMI-2 accident, sequence of events *(Spanish)* 1−28615
TMI-2 accident, small breaks and natural convection in LOCA *(Spanish)* 1−28616
TMI-2 accident, thermal-hydraulic anal. of first 16 hours 1−10490
TMI-2 accident anal., calculation of the TMI-2 source-range monitor reading for several core water levels 1−10487
TMI-2 core damage, Zircaloy reaction in H_2-steam mixtures 1−41178
TMI-2 core material damage, possible scenario 1−41176

fission reactor safety continued
TMI-2 core material performance 1−41175
TMI-2 core materials performance during accident, examination program 1−45656
TMI-2 core recriticality potential 1−45666
TMI-2 criticality analysis−analytical models and methods 1−45667
TMI-2 criticality analysis−parametric studies and overall results 1−45668
TMI-2 decontamination and recovery program 1−50839
TMI-2 emergency response diagnostics, signals anal. program 1−18828
TMI-2 instrumentation for core damage assessment 1−18826
TMI-2 once-through steam generator modelling for accident anal. 1−10493
TMI-2 PAHR, reactor plant pressure and temp. control 1−14658
TMI-2 post-accident analysis by Electricite de France 1−45705
TMI-2 post-accident criticality analyses 1−45665
TMI-2 recovery radiation monitoring systems 1−23868
TMI-2 safety anal., degraded core cooling calc. 1−28670
TMI-2 short-term lessons learned: radiation protection−the NSAC perspective 1−50959
top blowdown vessel expt. to assess TRAC-P1A code 1−50820
TRAC experience at Winfrith 1−33332
TRAC-PD2 calculations of CREARE countercurrent flow tests 1−50811
training improvements for plant operators, TMI impact 1−10504
transient, water-steam, pipe-break accident in PWR, model *(Japanese)* 1−814
transient events, assessment of operator procedures and display instrumentation 1−14667
transient fuel motion self-shielding considerations for the DCT-1 test 1−28721
transient heat transfer during reflooding of a vertical single heater tube 1−28518
transient load measuring system, steam/water flow appl. 1−14678
transient reactor thermal hydraulics problem, functional extrema, sensitivity theory 1−10430
transient two phase flow in a forced circulation Freon test rig 1−28557
TREAT, improved pipe anal. using ICEPEL code 1−33326
triangular geometry fluid dynamics with reduced artificial diffusion 1−10429
turbine trip, RAMONA anal. of pressure transients at Peach Bottom 1−5956
two phase flow, spatial distribution using scattered γ-radiation 1−751
UMFBR protective systems, sensing technique for controlled intervention 1−41219
unavailability analysis using UNRAC code 1−50837
uncertainty analysis, efficient procedure to evaluate second-order sensitivities for nonlinear problems and nonlinear responses 1−41218
uncertainty analysis, response-parameter correlations, generalised Lagrangian adjustment 1−45659
upgrading emergency preparedness at nuclear power facilities 1−45706
vapour explosion phenomena, book contrib. 1−14674
vent clearing time, analysis using closed-form solution 1−50814
volatile fission products release following reactor accident 1−41193
VVER-440, main circulation pump failure, core temperature transient anal. *(Slovak)* 1−5898
waste form performance evaluation, isolation in geologic media 1−28632
water-steam system, flows after coolant escape, model expts. 1−10420
wide-range ionisation fission chamber for reactor control and safety systems 1−23983
WWER horizontal type steam generators, transient simulation *(Czech)* 1−5894
x-ray tomographic imaging of boiling from heated rod bundles [nuclear reactors], simulation 1−14677
Zircalloy clad UO_2 fuel elements, cladding defects effect in PWR 1−28608
Zircaloy, cladding, oxidation by steam in LOCA of LWR, computer calc. 1−810
ZPR-6 facility, safe shutdown earthquake anal. 1−41185
Ge detector spectroscopy in reactor primary coolant loops 1−28657
Ge detectors, nuclear reactor appl. 1−28813
H bubble removal from nuclear reactors 1−37011
H_2 detonation flame arrestor development testing for Oyster Creek Nuclear station 1−50841
I, radioactive, chemical behaviour in BWR's 1−6041
LMFBR, acoustic detect. of simulated $Na+H_2O$ reaction, sound prog. test *(Japanese)* 1−5893
LMFBR core meltdown, temp. distrib. and comp. of UO_2 particle bed. 1−5864
LMFBR thermal-transient-induced pipe stratification 1−50890
Na cooled LMFBRs, physical features 1−50750
$(U,Pu)O_2$ rod arrays in water, calc. of critical dimensions 1−50791
U/Fe benchmark assembly for core design 1−28665
UO_2 fuel pellets, thermally induced cracking in LWR 1−45680
UO_2-Zircaloy thermal gap conductance and temp. transients, MPD expt. predictions 1−50822
U_3O_8, criticality of moderated/unmoderated low-enriched systems 1−50792
^{233}U-Th LWBR stability, meas. of Xe spatial oscillations 1−50873
^{235}U decay heat on reactor shutdown, model expts. *(Japanese)* 1−18721

fission reactor theory and design
see also fission reactors; fission research reactors; neutron transport theory
advanced convertor reactors using Th as fuel, arguments against and benefits obtainable 1−758
advanced recycle depletion capabilities programs 1−10459
advances in nuclear science and technology, book 1−13938
AGR, current standing 1−10515
AGR, methane profiles in graphite structures, calc. 1−45592
AGR and Magnox power stations, appl. of 2-D boiler model to design and operation problems 1−28559
AGR design and simulator reference dynamic total plant models 1−28572
alternate fuel cycles and reactor concepts, appraisal programme in United States 1−757
aseismic design, soil behaviour influence 1−36994
axisymmetric heated annular plates, nonlinear deflection anal., rel. to boundary conditions 1−24679
BN-350 fast power reactor, power effect of reactivity, rel. to fuel condition 1−28524
BRW transient calculations, uncertainties in void dependence of nuclear parameters 1−50861

fission reactor theory and design continued
burnup analysis, development and verification of multicycle depletion perturbation theory 1−23812
burnup effects in data sensitivity studies 1−50867
BWR, APSD evaluation from neutron noise meas. 1−14675
BWR, instrument guide-tube vibrations, stochastic analysis, VIBRPI 1−14584
BWR, neutron noise field, numerical calc. of global and local components 1−745
BWR, rehocence function, correlation methods for the determination of transit times 1−23714
BWR, space cross-correlation of noise sources 1−33283
BWR bundle analysis with nonuniform void within the channel, CASMO analysis 1−50855
BWR fuel assemblies, local power distrib., super-cell model 1−28517
BWR fuel cycle analysis, calc. of fuel depletion 1−23815
BWR fuel rod thermal design, neutron distrib. influence 1−14574
BWR improved core daily load-following charact., core design and operation 1−45701
BWR lattice calculation, macroscopic depletion model for PDQ-7/HARMONY code 1−45574
BWR nodal analysis, radial albedo boundary condition and spectrum correction factor usage 1−50865
BWR radial albedo boundary condition and spectrum correction factor verifications using SIMULATE 1−23813
CANDU fuel channels and fuel, research and development 1−23775
CANDU reactors, research and development review 1−5987
CFRMF central neutron flux spectrum, sensitivity and uncertainty analysis 1−50858
CHILES-T program for fracture mechanics calcs. including thermal effects 1−33331
circulating uranium fuel, fission products conc., energy release, calc. 1−28526
Clinch River LMFBR assemblies, rod temp. calcs., hot channel factors 1−23728
coarse-mesh methods application in three-dimensional core analysis 1−33284
comparative performance of a 10-MW generic reactor with HEU and LEU fuels 1−50729
control room design improvements, operators role 1−28649
core materials, spatial random perturbations, reactivity and flux profile modulation 1−33282
critical reactors, constrained sensitivity theory 1−23744
cycling gas core reactor power systems, neutronics 1−18717
cylinder, finite hollow circular, elastostatic solns., integral transform methods 1−41948
cylindrical reactor model, two-dimensional energy distribution optimisation, flattened fields 1−5838
design errors, risk assessment 1−5925
diffusion coefficient calculations in Wigner-Seitz cells, integral transport theory 1−41162
dynamic simulation of LMFBR systems 1−41159
dynamics, nonlinear equations, singular perturbation methods 1−14572
dynamics, quasi-static approx., analytical methods 1−14573
dynamics, retarded neutrons and neutron feedback, semilinear parabolic systems 1−50749
EBR-II, 2-D R-Z transport calc., modified χ_g and $\Sigma_s(1-g)$ to simulate axial leakages 1−50719
ENDF/B-V fission yields calc. program, improvements 1−50751
ENDF/B-V reactor dosimetry file, data testing 1−50991
equilibrium core analysis of low enrichment research reactor fuel 1−50730
fast flux test facility, heat transport system and component design 1−18727
fast flux test facility, initial loading, criticality, neutron and gamma-ray spectra 1−18807
fast oxide reactors, doppler effect meas. accuracy 1−5842
fast power reactor design, computer system *(Czech)* 1−5829
fast reactor, sodium coolant cct., neutron streaming, expts. and calcs. *(Czech)* 1−5895
fast reactors, critical conc., critical mass, breeding charas., calc. 1−23739
fast reactors, space-dependent resonance shielding of cross-sections, calc. methods comparison 1−23790
FBR design, stress classification criteria below the creep threshold 1−50717
FBR development, perceptions of risk and timing 1−755
FBR development *(German)* 1−23712
FBRs, French programme *(German)* 1−14690
FFTF, hydraulic core mockup, vibr. charact. 1−41167
FFTF, initial physics meas. 1−23743
FFTF, subcritical reactivity monitoring, eval. of modified source multiplication method 1−50720
FFTF fuel assembly duct lifetime determ., structural analysis 1−50716
flow-blockage problems, subchannel models, initial-value methods 1−23719
fuel burn-up and build-up of fission products in irradiated fuel assemblies *(Ukrainian)* 1−23748
fuel burnup calculation for square lattice cell, neutronic calculations 1−45583
fuel element vibration in cooling medium high flow rate *(Czech)* 1−28522
fuel management analysis, combined batch and assembly nodal method 1−50726
GCFR, critical assembly expts. for design method validation 1−28537
GCFR, review of major design changes 1−14582
heterogeneous reactors, neutron diffusion tensors for systems with 2-D periodic lattices 1−23814
highly-loaded LMFBR core elements, with spacer grids, temp. field 1−23761
homogeneous thermal benchmark calculations with ENDF/B-V data using MCNP code 1−50856
HTGR, current standing 1−10515
HTGR, VG-400 prototype, core design comparison 1−10419
HTGR auxiliary shutdown and cooling systems, design criteria 1−41220
HTGR plant design for process heat applications 1−45594
HTR concept which excludes core melting accidents *(German)* 1−37007
HWR, determination of power feedback coefficients 1−18819
instability behaviour, integrodifferential system, global soln. nonexistence 1−14579
instrumented fuel element design and performance with replaceable tungsten-rhenium thermocouples 1−28662

fission reactor theory and design continued
inverse kinetics analysis of rhodium SPND for thermal flux mapping 1−50731
JENDL-2 benchmark tests, preliminary results 1−28521
Keno IV validation test codes 1−33290
Kyoto University Critical Assembly, reactor physics group consts. for C-core *(Japanese)* 1−5830
linear accelerator reactor, neutron yield computation 1−6071
liner insulation for gas-cooled reactors, book contrib. 1−14587
LMFBR, 1000 MW(e) CDS plant reactor assembly and refueling systems 1−10432
LMFBR, 1000-MW(e) oxide heterogeneous reactor conceptual design, fuel cycle cost sensitivity 1−5853
LMFBR, CDS primary and intermediate systems design 1−10434
LMFBR, comparison of space-time and point kinetics calcs. for homo- and heterogeneous cores 1−50725
LMFBR, Conceptual Design Study core design 1−10433
LMFBR, design of the CDS steam generator, feedwater, and condensate systems 1−10435
LMFBR, effects of resonance profile representation on reactor integral parameters 1−50723
LMFBR, excursion, pressure and energy calc. *(Czech)* 1−18779
LMFBR, factors affecting size and design of the fuel building 1−45591
LMFBR, fully developed MHD turbulence near critical magnetic Reynolds number 1−51878
LMFBR, multidimensional neutron diffusion calcs., nodal Green's function methods 1−5833
LMFBR, pool-type, in-tank components during HCDA, three-dimens. formulation 1−33319
LMFBR, possible development requirements towards the post accident containment of core debris 1−5860
LMFBR, radial heterogeneous core designs, book contrib. 1−14586
LMFBR, SWAAM-1 program for large Na-H_2O reactions in secondary systems 1−10458
LMFBR, thermal insulation of large diameter reactor vessels, design requirements 1−28538
LMFBR, thermal-hydraulic anal., porous medium formulation, computer code 1−23723
LMFBR, US R and D, objectives of Conceptual Design Study 1−14581
LMFBR, US R and D program, Conceptual Design Study technical integrator role 1−10431
LMFBR analysis, fission product cross section model 1−50721
LMFBR control assembly rod, transient design considerations 1−50888
LMFBR control systems design, influence of control rod worth interactions 1−18815
LMFBR core configuration optimization of high-performance 1000-MW(e) oxide heterogeneous cores 1−18729
LMFBR core meltdown, experiments related to the design and performance of in-pool core catchers 1−5890
LMFBR design for physical protection of materials 1−14596
LMFBR liners design for reduced erection costs 1−33286
LMFBR LOCA, sodium void effect on reactivity, model calcs. 1−28639
LMFBR thermal hydraulics, 61-pin simulated subassembly 1−28540
LMFBR thermal-hydraulic performance, cycle-to-cycle analysis vs. homogenized equilibrium cycle analysis 1−50722
LMRBR, breeding and thermal-hydraulic anal. using 2-D R-Z models 1−50724
LWR, 3-D multigroup Monte Carlo code for lattice calculations, MONALI 1−734
LWR, coupled neutronic-thermohydraulic models *(German)* 1−41160
LWR, dynamics of slender cylindrical elements conveying fluid and subjected to steady axial flow 1−50712
LWR, evaluation of core designs and fuel management strategies for improved uranium utilization 1−45601
LWR, fuel rods, thermomechanical modelling program PIN *(Czech)* 1−5899
LWR core performance benchmark codes, comparison between CASMO and CPM 1−50854
LWR core performance studies in the UK, reactor physics calcs. 1−33289
LWR fuel cycle parameters and costs, sensitivity to uncertainties in thermal nuclear data, FASTT code 1−45597
LWR lattices, calc. of few-group constants for fuel management 1−50866
LWR safety analysis, importance of spatial kinetics 1−50862
LWR steam generators, nonlinear transient analysis, implicit Eulerian method 1−45637
LWR vent-filtered containment concept, design and operation 1−50843
Magnox power reactor, Wylfa, axial flux shape meas. and optimisation 1−10451
media with moving boundaries, radioactive atom diffusion, integral transform method soln. 1−18722
modified coarse-mesh nodal aval., influence of axial node size 1−23745
molten salt converter reactor with a very low fission product inventory 1−5858
Morse combinatorial geometry validation test codes 1−33290
MSRs, expanded breeding by ^{234}U continuous extraction 1−28527
multi-element thermoemissive assembly, geometric profiling, graphico-analytic method 1−28525
multigroup eigenvalue problems, plane asymmetric cell lattices with superimposed small buckling 1−5832
multigroup space-time reactor problems with feedback, quasi-static synthesis method appl. 1−10427
neutron cross section functionals, complex, calc. 1−5826
neutron diffusion, F_N method of solving critical problem for three-region reactor 1−33280
neutron diffusion, four-region problem, elementary solutions and F_N methods 1−749
neutron diffusion, homogenised cell parameters for centrally symmetric cells and supercells 1−45568
neutron diffusion lengths in pebble bed HTRs, Monte Carlo calc. 1−23718
neutron escape probabilities from two-dimensional rectangular geometry, ESCAPE program 1−36986
neutron escape probability function, single-parameter 1−5835
neutron flux perturbations, high-order, differential functional approach 1−45582
neutron moderators, molecular dynamics and neutron thermalisation in benzene, GASKET code 1−732
neutron multigroup diffusion equations, iterative Newton method 1−747
neutron multiplying chain, cumulative, stochastic, forward and backward Kolmogorov eqns. 1−36980

fission reactor theory and design continued
neutron scattering from ^{56}Fe, resonance reactions, angular distribs. 1−18708
neutron streaming calculations, use of perturbation theory to test ordinate arrays 1−45575
neutron total cross section around resonance valley near 24 keV for $^{54,56,57}Fe$ 1−18720
neutron transport, coarse-mesh diffusion methods, sEXI−a semi-analytical nodal method to reduce computational time 1−45573
neutron transport, forward and backward Kolmogorov eqns. for multiplying systems 1−33281
neutron transport, improved numerical techniques for processing Monte Carlo thermal scattering data 1−45586
neutron transport, incoming current condition, fictitious materials for imposing boundary conditions along irregular surfaces 1−45576
neutron transport, internal rectangular voids treatment in diffusion theory 1−45570
neutron transport, multigroup coarse-mesh RθZ diffusion theory, implementation into QUARTZ code 1−45572
neutron transport, multigroup criticality calculations for non-uniform lattices 1−45571
neutron transport, multigroup diffusion equations, computer calc. *(Ukrainian)* 1−23747
neutron transport, thermal, in D_2O, 5 to 60°C, scattering kernel 1−748
neutron transport equation, discrete ordinates method, spatial difference scheme 1−746
neutron transport equation, source-free, monoenergetic, semianalytic method for soln. in plane and spherical geometries 1−45581
neutron transport equation in toroidal geometry 1−5834
neutron transport theory, construction of equiprobable bins 1−45577
neutron transport theory, finite element analysis, extension to eigenvalue problems 1−728
neutron transport theory monoenergetic, multiregion problems 1−36983
neutron utilization parameter for complex coupled systems 1−41164
neutronics with nonuniform fuel depletion, calc. 1−28523
nodal analysis, incorporation of NEM-type methods in a general response matrix modal simulator 1−50734
nodal code SIMULATE, generalised perturbation theory implementation 1−10426
noise analysis, appl. of information divergence 1−753
noise analysis, correlation method of transit time estimation 1−23713
noise investigations, dynamic *(Ukrainian)* 1−23749
nonlinear power reactor systems, coloured multiplicative noise, stochastic anal. 1−739
NSSS safety functions, impact of multiple failures and operator errors 1−14659
occupation radiation exposure data utilisation to improve system design 1−28727
optimal control of xenon spatial oscillations in load following 1−45658
oxide fuel and blanket assemblies for the U.S. LMFBR Development Plant 1−45619
parameter identification in a nonlinear nuclear reactor model using quasi-linearization *(Portuguese)* 1−36996
Peach Bottom-2 reactor stability prediction with 1-D transient model 1−50868
pebble bed, HTR, neutron physical and thermohydraulic design *(German)* 1−756
perturbation theory for nonlinear systems, importance conservation 1−45579
physical protection concepts for facility design 1−18773
plate, orthotropic finite rectangular, transient thermal stresses from arbitrary surface hat generations 1−825
post-accident radiation protection design criteria, Lahti, G.P 1−50960
power distribution calculations, influence of void feedback on convergence of iterative methods 1−45585
pressure component failure, safety analysis of generated missiles 1−836
PROCELLA-3 code for HWR lattice calculations 1−33285
prototype large breeder reactor design, operability design review 1−41169
pulsed gas generator, cyclic gaseous core reactors 1−14583
PWR, four lamp Westinghouse, design 1−754
PWR, space dependence of reactivity noise 1−733
PWR, uncertainties in the calculated radial power peaking, F_{xy}^N 1−50853
PWR 1−10495
PWR analysis, nodal imbedded method to recover local power peaking from coarse-mesh reactor calculations 1−50732
PWR plant computer anal. using SIRENE and PICOLO codes 1−28678
PWR with natural U radial blanket, effect on fission product radioactivity 1−5856
reaction rate ratio measurement errors 1−50980
reactivity transient calculations, evaluation of coarse-mesh methods in calculation of safety-related parameters 1−45713
reactor analysis, development of point kinetics parameters from nodal power distributions 1−50733
reactor eqn. model soln., incomplete factorisation, comparison with variable directions method 1−10421
reactor kinetics simulation, logarithmic inversion model 1−28530
real-time simulators, time integration of 3-D kinetic eqns. using Pade approximation 1−45587
Reduced Enrichment Research and Test Reactor Program, use of LEU fuels 1−50728
reflected spherical core, small-scale design optimization using an interactive minicomputer 1−18733
resonance integral calculations 1−36982
sealed vessel, pressure change on saturated steam entry calc. 1−5837
stability analysis for nuclear reactor systems six-delay-group representation, method of D-partitions 1−45580
stationary diffusion multigroup approx., spectral characts. 1−18712
structural damping values as a function of dynamic response stress and deformation levels 1−752
Three Mile Island, effect on nuclear power system control design 1−23715
training simulators, use in engineering design, control scheme evaluation 1−23741
transport theory, P_N approximation, interface and source problems 1−41163
uncertainty analysis, response-parameter correlations, generalised Lagrangian adjustment 1−45659
UO_2 fuel element design for use in the Penn State Breazeale Reactor (PSBR) 1−41168
VVER, neutron kinetics soln. efficiency *(Slovak)* 1−744

fission reactor theory and design continued
water moderated reactors, bare, homogeneous, neutron noise components, three-dimensional theory 1−731
Na cooled LMFBRs, physical features 1−50750
Th zone, reaction rate distribs. in GCFR lattice 1−28606
U/Fe benchmark assembly for core design 1−28665
UF_6 fissioning gas reactors, critical UF_6 cavity reactor experiments 1−23742

fission reactors
see also fission reactor materials; fission reactor operation; fission reactor theory and design; fission research reactors; hybrid reactors; nuclear engineering; nuclear physics; nuclear power stations
900 MWe PWR, main features *(French)* 1−23845
1300 MWe PWR, main features *(French)* 1−23846
breeder reactors in USSR 1−875
breeder reactors operation and non-proliferation 1−18876
BWR cooling water radiation reduction by new high temp. filter 1−50951
BWR plant, neutron flux fluctuations, local steam transit time determ. using correlation methods 1−45721
Clinch River LMFBR assemblies, rod temp. calcs., hot channel factors 1−23728
comparative economics of the breeder and light water reactor 1−50992
cycling gas core reactor power systems 1−18717
decommissioning a boiling water reactor nuclear power plant 1−28604
emerging nuclear energy systems conf. Lausanne, Switzerland, (Apr. 1980) 1−3
energy analysis, development planning of PWRs and FBRs 1−39712
fast breeder, development, construction and operation *(German)* 1−873
FBR's, their need and environmental consequences 1−33342
FBR commercialisation, West German programme, economics and governmental decision making 1−50917
FBR development *(German)* 1−23712
FBRs, French programme *(German)* 1−14690
gasous core reactors, proliferation risk, safety, environmental impact, economics, R&D requirements 1−18875
high temperature reactor cores design variants, ^{137}Cs, ^{110}Ag, ^{90}Sr release *(German)* 1−5975
HTGR, exploitation in Germany, effects of licensing regulations 1−10511
HTGRs, role in alternative nuclear strategy 1−878
HTR, development in Common Federal Republic *(French)* 1−877
HTR for power station at Hamm-Uentrop, in Germany *(German)* 1−14691
HTR process heat development for coal gasification and long distance heat transport 1−48783
liquid metal cooled fast breeder reactor, distributed control system 1−50918
LMFBR programme in France 1−41225
LMFBRs Na flow blockage, fluidisation and sweepout 1−23844
LWBR, reactor programs incorporating use of LWR in Germany *(German)* 1−874
MSRs, expanded breeding by ^{234}U continuous extraction 1−28527
nuclear fuel cycle for pressurised water reactor, technology *(Hungarian)* 1−45629
nuclear power development during 1980s 1−23717
nuclear reactor welds testing using ultrasonic methods *(German)* 1−50778
principal types, classification *(German)* 1−10512
process heat HTGR, potential applications and advantages 1−45722
pulsed gas generator, cyclic gaseous core reactors 1−14583
PWR core barrel fabrication, two welding machines 1−18741
PWR licensing assessment for extended-burnup fuel 1−5854
review, AGR versus PWR and future of FBR in Britain *(German)* 1−10513
Soviet designed reactors 1−875
steam reforming plant heated by HTGR, process feasibility and investment cost evaluation of hydrogasification 1−48916
synergetic nuclear energy systems concepts, book contrib. 1−14699
TMI-2, assessment of fuel damage from fission product conc. meas. 1−10491
TMI-2, core conditions derived from instrumentation response during accident 1−10486
TMI-2, natural circulation for long-term core heat decay removal 1−10492
TMI-2, neutronic sensitivity anal. of SRM response 1−10488
TMI-2 accident, anal. of self-powered neutron detector response 1−10489
TMI-2 accident, thermal-hydraulic anal. of first 16 hours 1−10490
TMI-2 accident anal., calculation of the TMI-2 source-range monitor reading for several core water levels 1−10487
TMI-2 once-through steam generator modelling for accident anal. 1−10493
TMI-2 PAHR, reactor plant pressure and temp. control 1−14658
underground siting concepts, rock-cavity plant and pit siting 1−50993
VHTR process heat appl., coal conversion for synthetic fuel prod. 1−53528
Na cooled LMFBRs, physical features 1−50750

fission research reactors
see also fission reactor core control and monitoring; fission reactor theory and design; nuclear reactor instrumentation
burnable absorber materials, analytical comparison of B and Cd 1−50770
burnup-dependent cross-section data for research reactors and a comparison of REBUS-2 and PDO-7 burnup 1−50864
CDFR, in Britain *(German)* 1−10513
CFRMF central neutron flux spectrum, sensitivity and uncertainty analysis 1−50858
COBRA-3C/RERTR, thermal-hydraulic subchannel code for research and test reactors 1−28546
comparative performance of a 10-MW generic reactor with HEU and LEU fuels 1−50729
data acquisition system, distributed terminal support 1−50919
EBR-II, 2-D R-Z transport calc., modified χ_g and $\Sigma_s(1-g)$ to simulate axial leakages 1−50719
EBR-II flow blockage simulation test, delayed neutron anal. 1−50827
EBR-II forced and natural circulation, in-core expts. 1−23730
equilibrium core analysis of low enrichment research reactor fuel 1−50730
FBR TREAT SAREF expts., fuel dispersal phenomena, molten fuel configuration behaviour, safety anal. 1−10478
FFTF, anal. of secondary systems transients 1−5958
FFTF, initial physics meas. 1−23743
FFTF, subcritical reactivity monitoring, eval. of modified source multiplication method 1−50720
fission research reactors continued
FFTF fuel assembly duct lifetime determ., structural analysis 1−50716
FFTF transient analysis, SSC-L thermohydraulic simulation code verification 1−5959
fuel enrichment reduction feasibility, fuel management modeling with REBUS-2 for research and test reactors 1−50771
German first nuclear reactor (1942-1944) 1−44750
Grenoble hyperflux reactor, neutron physics expts. *(German)* 1−10418
IBR-2 periodically operating, pulsed reactor for neutron research *(Hungarian)* 1−28690
instrumented fuel element design and performance with replaceable tungsten-rhenium thermocouples 1−28662
inverse kinetics analysis of rhodium SPND for thermal flux mapping 1−50731
IRT, operation regime optimisation, ^{135}Xe poisoning analysis *(Russian)* 1−14646
JOYO experimental fast reactor, subassembly outlet coolant temperatures 1−23731
JOYO MK-II experimental fast reactor, mockup tests of control rods 1−45692
linear accelerator reactor, neutron yield computation 1−6071
LMFBR core assemblies, wire-wrapped, hydraulic field scale expts. 1−23735
LOFT, stochastic flow-induced low freq. power fluctuations, spectral meas. 1−50869
LOFT reactor plant, optimal estimation and control theory appl. 1−50905
loss of fluid test facility (LOFT), mass flow measurement devices 1−10436
neutronic performance of a 14-MW TRIGA reactor LEU vs. HEU fuel 1−50863
neutronic research using inserted zones *(Czech)* 1−5828
occupational radiation exposure, dose equivalents during maintenance and operation of an organic-cooled research reactor 1−28726
Peach Bottom II turbine trip test analysis 1−28677
personnel training *(French)* 1−5988
PNP, 900 MWe two circuit HTR, pilot reactors *(German)* 1−14691
PWR primary piping after LOCA, dynamic behaviour, impact function, lateral stability 1−18783
reactivity changes due to water insertion in graphite reflector of Argonaut reactor *(German)* 1−28609
REDNET, a distributed data acquisition system for nuclear research reactors 1−50896
Reduced Enrichment Research and Test Reactor Program, use of LEU fuels 1−50728
RPI critical facility, reconstruction to lower critical mass 1−28661
thermal flux distributions from rhodium SPND in research reactors 1−28536
TREAT safety expt. on FBR TOP accident 1−14657
TREAT test AX1 for LMFBR, carbide-fueled, in-pile MFCI safety expts., 1−10481
TREAT upgrade program objectives for FBR safety expts. 1−14655
VVER, experiment of channel, dosimetry, thermal neutron capture, radiation therapy expts. *(Czech)* 1−942
VVR-S research reactor, core irrad. tests *(Czech)* 1−33300
waste heat utilisation from Univ. of Missouri reactor 1−28691
WWR-SM research reactor, computerised control system 1−28672
ZPR-6 facility, safe shutdown earthquake anal. 1−41185
Al-USiAl dispersion fuel with high-U density, development of lower enrichment fuels for Canadian Research Reactors 1−50772
Th axial blanket expts. in PROTEUS reactor 1−28605
Th HTGR, state of development *(German)* 1−10510
Th zone, reaction rate distribs. in GCFR lattice 1−28606
$^{232}Th(n,f)$ cross-section for thermal and 2.44 MeV neutrons 1−724

fissures *see cracks*

flame sprayed coatings
coatings, enamelled and flame-sprayed, characterisation and microwave reflectivity 1−43510
Al flame-sprayed active coatings, cavitation behaviour 1−21646
Zn flame-sprayed active coatings, cavitation behaviour 1−21646
Zn-Al (15 wt.%) flame-sprayed active coatings, cavitation behaviour 1−21646

flame spraying
metal and ceramics, techniques 1−3948
optimum control claimed for new powder delivery system 1−21380

flameproofing
see also fires
polybutylene terephthalate, colour change of flame retardant *(Japanese)* 1−4045

flames
see also chemically reactive flow; combustion; fires
acetaldehyde, oxidation in stirred flow reactor, oscillatory ignition, cool flames 1−29795
atomisation processes, atomic absorpt. spectrometry, titration method 1−53427
axisymmetric plane, temp. and density meas. by crossed beam correlation technique 1−5286
collision of flow in boiler combustion chambers *(Hungarian)* 1−26743
diagnostics by multiangular absorpt., book contrib. 1−53521
horizontal flame propagation, heat conduction and radiation 1−24661
hydrocarbon flame, flame parameters determ. from scatt. spectrum of laser radiation, Cs nitrate addition effect 1−8570
impinging jets in high speed flow, circulation flow, possible flame stabilisation 1−15527
laminar flame-wall interface, struct. by laser Raman spectroscopy 1−13006
laminar-jet diffusion flames, Shvab-Zeldovich formulation 1−29798
laser beams focusing by flat flames, teaching 1−22983
local. flame temperature measurement by thermally assisted at. fluoresc. 1−44916
marine diesel engines, emission props. of flames *(Russian)* 1−4095
methane-air flame, flame parameters determ. from scatt. spectrum of laser radiation, Cs nitrate addition effect 1−8570
methane-air flame, laminar premixed, temp. and mol. conc. meas. 1−4093
methane-O_2, particle-size measurement using light scatt. 1−34002
miniature high temp. diffusion flames for anal. at. spectrosc. 1−43718
molecular fluorescence, saturated laser-induced, balanced cross-rate model 1−10768
natural gas-air flame, flame parameters determ. from scatt. spectrum of laser radiation, Cs nitrate addition effect 1−8570

flames continued
physical and chemical processes in combustion phenomena *(Japanese)* 1−53424
propagation in substance reacting at initial temp. 1−39639
silicate rocks:Li(Rb) powder, graphite-capsule flame atomiser for emission anal. 1−43724
soot emission from spray combustion flame at high ambient press. *(Japanese)* 1−17055
spray combustion model with locally homogeneous two-phase flow, evaluation 1−4090
temperature and concentration meas. by coherent antiStokes Raman scattering method 1−13012
three-level system, rate eqn. soln. for temporal behaviour 1−10688
toluene-NO flame, props. and appl. in atomic absorpt. spectroscopy 1−4089
turbulent Ar-methane jet, multiangular absorption diagnostics 1−2050
turbulent diffusion flames stabilised in plane shear flows *(Japanese)* 1−39638
turbulent velocity fluctuations and mean particle radii, scatt. laser, power spectra meas. 1−33948
velocity profiles above thin flat plate in low pressure flame 1−2051
visualisation by laser tomography 1−39641
BaS isotopic species in chemiluminescent flame, millimeter wave spectra, vibr. anal. 1−14872
CO chemiluminescence in flames, electron collisional quenching 1−39645
CS_2 flame, CO vibr. distrib., N_2O effect 1−1211
N_2 CARS thermometry, press. broadened line width 1−14115
O_3, premixed, combustion laminar steady-state flame modeling 1−39640
OH in H_2-O_2-N_2 flame, balanced cross-rate model for saturated laser-induced fluoresc. 1−10768

flare stars *see variable stars*

flares, solar *see solar flares*

flash lamps
chemical relaxation expts. using synchronised flash light source 1−4138
dye laser, flash-lamp pumped, excited by transverse discharge 1−51503
dye laser, high-stability, coaxial, flashlamp-pumped 1−6570
dye lasers, flashlamp-pumped, mode-locked 1−19360
fast discharge flash tubes, plasma Z-pinch effect, I-V charact. 1−7015
flash slave unit, using photo-Darlington transistor 1−23329
laser energy parameter change by pumping lamp quartz bulb heating 1−41715
linear flashlamps, preionisation mode, dye laser pumping appl. 1−15175
photographic multiple flash automatic unit, using 555 timer IC, 4017 counter IC 1−23327
Z-pinch pulses light source for 0.6 μs UV photolysis 1−46479
HF chemical laser, flashlamp-initiated large-vol. H_2-F_2 1−51508
KrF excimer flashlamp, efficiency 1−15243
Xe, flash lamp, short discharge time, heat losses 1−15674
Xe flashlamps, large bore, time resolved spectroscopy 1−19399
Xe-filled tubular and coaxial flashlamps with short lived discharge, emission, spectral props. 1−52010

flash photolysis *see photolysis*

flashover
air insulation dielectric strength and behaviour study 1−52019
arc propagation current with narrow strips when flashover across electrolyte surface 1−11605
DC corona and sparkover observations for up to 1 MV 1−15725
discharge development in support insulation structures 1−15728
epoxy insulators in SF_6, flashovers over insulator surface 1−12455
epoxy resin spacers with high resistive contamination, flashover voltage meas. 1−12454
HV large conductor-tower air gaps, switching surge discharge charact. 1−15683
insulators, polluted, discharge growth obs. using image intensifier 1−15741
minimum flashover voltage in air, sliding arrangement determ. *(Czech)* 1−34136
modelling by switching waves *(Czech)* 1−34135
space charge in rod-to-plane gap, meas. using sphere probe under impulse voltage 1−15733
surface flashover, electro-optical meas. 1−7013
thermoplastic spacers in SF_6, DC and AC voltage strength meas. 1−16524
V-shaped flashover voltage charact. in needle to plane electrode using discharge model 1−15732
SF_6 insulated spacer surfaces, flashover caused by conducting particles 1−11629
SF_6-gas mixtures, cylindrical insulator flashover voltages 1−15711
SF_6-N_2 mixtures, flashover studies using direct applied voltages 1−19997

flaw detection *see crack detection*

flexoelectricity
n-butyl-n′-methoxyazoxybenzene twisted struct. flexoelectric domains 1−34233
C-phase smectics, flexoelectric effect and spatial interaction of molecules *(Russian)* 1−42298
lipid bilayers, curvature induced conductive and displacement currents 1−48968
liquid crystal, ferroelec. smectic, dynamics of elec. field induced distortion, soft mode props. near T_c 1−52889
liquid crystals, optical, mech. and elec. props. rel. to mol. ordering, book contrib. 1−38271
MBBA, nematic, stripe domains in transverse elec. field 1−25161
nematic liquid cryst., flexoelectric effect, nonlinear 1−38269

flexural strength *see bending strength*

flicker noise *see random noise*

flip-chip devices
see also thin film circuits
No entries

flip-flops
frequency weighted flip-flop logarithmic ratemeters, logarithmic conformity for random pulses 1−23991

floating zone method (crystal growth) *see zone melting*

floating zone refining *see zone refining*

flocculation
see also colloids; sedimentation
No entries

floodlighting
photographic illumination, using triac controlled excess voltage cct. *(Spanish)* 1−36754
reflectors produced by vapour deposition method for floodlight appls. *(Japanese)* 1−33789

flow
see also boundary layers; chemically reactive flow; compressible flow; Couette flow; electrohydrodynamics; external flows; flow instability; flow measurement; flow through porous media; Knudsen flow; laminar flow; magnetohydrodynamics; multiphase flow; non-Newtonian flow; pipe flow; plasma flow; Poiseuille flow; pulsatile flow; rotational flow; shear flow; stratified flow; supersonic flow; transonic flow
interstellar ionisation fronts, depend. of flow struct. on boundary conditions 1−32742
sound radiation in uniformly flowing medium 1−1756

flow birefringence
Brownian particles, nonspherical, kinetic description, appl. to flow birefringence 1−50051
detergent solutions, viscoelasticity associated with molecular alignment 1−6838
liquids, viscoelasticity associated with molecular alignment, flow birefringence 1−6838
polymer solutions, Maxwell's effect at large vel. gradients *(Russian)* 1−48029
polystyrene in chlorinated biphenyl, stress meas. at start of shear flow 1−6880
Co, ferrofluid, magneto-optical effects 1−26175

flow control
fuel gas, comp. variations, on-line optimisation 1−27981
microprocessor-based flow controller functions and test results 1−27956
minimizing pressure loss of wafer type swing check valves 1−38024
pressurised superfluid He II control, calorimetry and loss analysis 1−44936
uniform flow distrib. anal., continuous model for large-scale appls. 1−29789

flow instability
p-n-alkyloxybenzoic acid homologues, threshold and electro-optical charcts., EHD instabilities 1−30049
annular gaps, wide and narrow, transition modes in adiabatiic spiral vortex flow 1−37940
annular pipe flow subject to axial motion of the inner boundary, stability 1−11471
atmosphere, baroclinic instability in mean zonal flow rel. to geostrophic turbulence 1−49326
atmosphere boundary layer, longitudinal instabilities and secondary flows review 1−36041
atmospheric Rossby-gravity waves on beta-plane in latitudinally sheared zonal flows 1−17674
baroclinic instability of flows along sloping boundaries 1−22414
baroclinic waves resulting from potential vorticity gradients at low Taylor number, expts. and calcs. 1−49329
Bickley jet, non-parallel, spatial stability 1−46794
boiling channel flow stability, multivariate hydrodynamic anal. from inherent noise meas. 1−19782
boundary layer, Blasius, including non-parallel flow effects, upper branch stability 1−42012
boundary layer growth on two separated cylinders in an unsteady plan flow 1−29651
boundary layer stability, surface wave effects 1−15472
boundary layer turbulent transition for Blasius flow and plane Poiseuille flow 1−42042
boundary layer with variable viscosity, hydrodynamic stability 1−24764
boundary layers, unsteady, large scale periodic solns. 1−1909
Boussinesq fluid, baroclinic stability with Ekman damping, eigenvalues 1−19674
capillary liquid, in slit, stability margin of equilibria states 1−2549
cascade flow, unsteady 2D, finite element anal. 1−24820
Cassiopeia A, Rayleigh-Taylor instability as source of high vel. knots 1−49783
centrifugal instabilities during spin-down to rest of cylinders 1−46725
channel, developing flow, vel. distrib. effects on stability, critical Re 1−46805
channel, two dimens. Couette flow, self-oscillatory regime initiation 1−29782
chaotic motion in Coulomb force driven instability, large aspect ratio expts. 1−11370
circular cylinder in crossflow, Karman vortex shedding and the effect of body motion 1−19723
climbing water films in experiments on Rayleigh-Taylor instabilities 1−2780
combined simultaneous flow visualization/hot-wire anemometry for the study of turbulent flows 1−38034
conducting viscous fluid layer surrounding solid rod, surface current, axially symmetric perturbations 1−2092
convection, nonlinear, Rayleigh-Benard, between poorly conducting boundaries 1−37911
convection in horizontal cylindrical annulus, stability 1−15493
convection instability, Benard cell, far from equilibrium perturbation formalism 1−40732
convective cellular structures, selection of wave numbers *(French)* 1−11368
convective instability with temp. gradient and rot. vector oblique to gravity, effects of diffusion 1−4760
density oscillator behaviour in pulsed flow through hole 1−37877
density-stratified turbulent shear flow, stability study 1−29751
dielectric liquid, nonisothermal electroconvection 1−51876
dielectric liquid in cylindrical annulus subject to unipolar charge injection, linear instability 1−42102
diphasic flow in heterogeneous porous medium, instabilities, nonlinear behaviour 1−34007
doubly diffusive fluid layer, rotation effects on stability 1−51736
EHD instability growth, inertial and equilib. shear retardation 1−19833
EHD instability of weakly conducting fluid between cylindrical electrodes, unipolar injection 1−2094
ferroliquids, magnetically stabilised, suppression of turbulence 1−29790
film boiling on horizontal plate 1−33880
fluidized bed, vibrational, fluidized bed, instabilities 1−15539
free shear layer, viscous stability, compressibility effects 1−24762
frictional resistance of low Reynolds number flows destabilised by heat transfer 1−1916

flow instability continued
front stagnation point of body in gas stream, heat transfer regime stability 1−19695
galaxy clusters formation, primordial flat layer fragmentation and development of internal cluster struct. 1−13859
gas, high-temperature, heat-releasing, mag. field effect on thermoacoustic stability 1−2087
gas, viscous, heat-conductive, in interaction with inner heat source, flow instability *(Ukrainian)* 1−15506
gas in open pipe, nonlinear oscills. 1−11467
growing boundary layers, 3-D stability 1−42036
HBAB, nematic, effect of destabilising fields on hydrodynamic instabilities 1−6844
Hele Shaw cell, surface tension effect on finger shapes 1−46807
horizontal ice cylinder encompassing max. density point, natural convection, thermal instability 1−24794
horizontal tube, flow stability, combined free and forced convection 1−24796
hydrodynamic stability and laminar to turbulent transitions 1−37882
hydrodynamic stability and laminar-turbulent transition, local criteria 1−37884
hydrodynamic stability tests and analytical model development for once-through sodium heated steam generator 1−28560
ideal fluid in uniform motion, stationary fundamental soln. 1−29653
inclined plane, stability of non isothermal flow of viscous liquid 1−1915
incompressible liquid, stability of class of axisymmetric flows 1−33945
interstellar diffuse clouds, nonlinear hydrodynamics of acoustic instabilities 1−22851
interstellar medium in NGC 7385, thermal instability assoc. with radio source rel. to H II region generation 1−40552
inviscid parallel flow stability with mean profile distortion 1−29652
Jeans's instability in expanding medium, soln. by two time-scale method 1−36168
jets, circular, under controlled excitation, vortex pairing, coherent structure dynamics 1−33995
jets, circular, under controlled excitation, vortex pairing 1−33994
jets with linear velocity profile, long wavelength stability, solid walls effect 1−19673
Kelvin-Helmholtz instability, wave energy 1−6843
Kelvin-Helmholtz instability in clusters of galaxies, rel. to galaxies interstellar gas stripp 1−4985
laminar boundary layer, interactions for regular patterns of turbulent spots 1−42043
laminar boundary layer stability on blunted plate in supersonic flow 1−42035
Laminar boundary layer turbulent transition, attachment line contamination and cross flow instability 1−42041
laminar boundary layers, Orr-Sommerfeld problem, asymptotic initial conditions for shooting methods 1−37871
laminar-turbulent transition, flow field and energy balance according to the spatial linear stability theory of the Blasius boundary layer 1−37892
laminar-turbulent transition in a circular Couette flow 1−42025
laminar-turbulent transition in Taylor-Couette flow 1−42024
laminar-turbulent transitions in plane Poiseuille flow, secondary instability 1−42019
leading edge, coupling between flow instability and incident disturbances 1−51738
linear stability theory for wave-packet disturbances in parallel and nearly parallel flows 1−42020
liquid, viscoelastic jet stability, mass flux effect at surface 1−11426
liquid crystal films, smectic, cholesteric, and Rayleigh-Benard order 1−34231
liquid droplet oscillation, extended Rayleigh theory for viscosity and external elec. field effects 1−51834
liquid extraction, large-scale surface instability development 1−48777
liquid-liquid mass transfer, interfacial instabilities and hydrodynamic interaction 1−19687
low Reynolds number supersonic jets, instability process 1−15522
low-velocity steady flow with heating, acoustic oscillation onset criteria 1−51741
magmas mixing, Rayleigh-Taylor instability rel. to mafic magma vesiculation during replenishment of silicic magma reservoirs 1−22309
magnetoatmospheric shear flow, stability, rectangle and semicircle theorems, eigenvalue bounds 1−6898
magnetostatic instabilities in plane layers of magnetizable liquids 1−19822
Marangoni convection effects on floating zone steady and oscillatory temp. distrib. 1−11392
Marangoni instability in chemical reaction, surface deform. effects 1−51770
MHD Kelvin-Hemlholtz instabilities in astrophysics, relativistic flows theory for plane boundary layer 1−13680
micropolar fluid, unsteady heat transfer in plane channel 1−6856
micropolar fluids with stretch, flow stability, energy method 1−2036
mixture in vertical porous layer, stationary convective flow stability 1−37903
modulated finite gap Taylor flow, nonlinear stability 1−1919
monatomic gases, flow instability behind intense shock waves 1−33982
natural circulation steam generators, hydrodynamic stability anal. 1−28566
natural convection flow above point heat source, stability 1−37910
natural flow-energy convertor concepts based on flow instabilities 1−39733
nematic liquid cryst., convective instabilities caused by elliptical shear flow 1−52054
non-Newtonian fluid displacement in an irregular annulus of axial symmetry 1−37973
non-Newtonian liq., with power rheological law, unsteady flow past flat penetrable plate 1−46784
nonlinear Helmholtz oscillations in harbours and coupled basins 1−51739
nonlinear Taylor vortices and their stability 1−46755
nonlinear wave interaction in boundary layer in turbulent transition 1−42033
nonlinear wave stability in boundary layers 1−37895
nonparallel axisymmetric stagnation point boundary layer flow, stability anal., vortices 1−11371
nonsteady flow with free surface, variation principle calcs. 1−46726
ocean, effect of topography on barotropic coastal current stability 1−54101
ocean, instability to Langmuir circulations 1−49282
flow instability continued
oil-water displacement process in heterogeneous porous medium, instabilities, nonlinear behaviour 1−34007
once through boiling system, flow instability, computer anal. modified DYNAM code 1−741
Orr-Sommerfeld eqn. solution in hydrodynamic stability theory 1−6845
oscillating aerofoils in transonic flow, flow separation and Bernoulli's eqn. 1−51802
oscillating boundary layer, laminar-turbulent transition mechanism 1−37893
oscillatory flow, 2-dimens. laminar boundary layer on flat plate, wall friction and local heat transfer 1−33955
planar channel, fluid periodic laminar motion stability 1−19810
plane Poiseulle flow, nonlinear instability, methods of amplitude expansions and of multiple scales 1−42092
Poiseuille flow, plane, rotation-modified, linear stability 1−19817
porous heat generating element, penetrative gas cooling stability 1−15495
porous media, convection, nonuniform thermal gradient and adiabatic boundaries effects 1−24793
porous medium, heated from below, thermal disturbances during natural convection 1−1969
porous medium, magnetothermohaline convection, oscillatory modes, overstability 1−37901
Rayleigh's electrified water drops, stability calcs. 1−42082
Rayleigh Benard problem, Lorenz model, effect of external random forces on static and dynamic behaviour 1−42051
Rayleigh-Benard convection, four-mode coupling model *(French)* 1−42050
Rayleigh-Benard convection, side wall effect on pattern formation 1−46749
Rayleigh-Benard convective state evolution to turbulence, thermoconvective oscillators *(French)* 1−51769
Rayleigh-Benard instability, full amplitude eqn. 1−1918
Rayleigh-Benard problem, two-component, tricritical behaviour 1−40733
Rayleigh-Taylor, hot liquid pool downward penetration into meltable solid 1−50824
Rayleigh-Taylor instability, vortex simulation 1−1917
Rayleigh-Taylor instability in Rosette nebula, rel. to elephant-trunk globules form. 1−9610
Rayleigh-Taylor instability in supernova remnants, effects of presupernova star struct. 1−49783
Rayleigh-Taylor instability in supernovae, two dimensional hydrodynamic study 1−44584
Rayleigh-Taylor stability with mass and heat transfer 1−51740
relaxing gas shock wave, nonequilibrium field systems, stability conditions 1−2031
review, stability and laminar-turbulent transition research 1−37883
rotating fluid masses, surface tension, ang. speed, ang. momentum and nonconnected shapes 1−44768
rotating liquid, vortex filament system formation, shear layer instability 1−33967
rotating radiating nongray fluid, convective instability, Bernard problem 1−24795
saturated porous cavity, Rayleigh-Bernard convection *(French)* 1−24779
shear flow with fine-scaled turbulent background, stability 1−1930
slow spherical motion of gravitating fluid, stability anal. 1−54353
solar magnetic flux tubes, hydrodynamic instability of buoyant fields rel. to sunspots 1−9445
spatial stability of concentric annular flow 1−11458
spiral density waves in flat galaxies, nonlinear interaction 1−44646
spiral Poiseuille flow, stability investigation 1−46724
stabilization of three-dimensional boundary layers by suction and cooling 1−42038
steam generating channel, vibr. instability from LF press. fluctuation 1−11369
steam generator, flow instability anal. 1−28562
steam generator, frequency domain anal. of void-flow instability 1−28563
steam generator, tube to tube excursive instability−sensitivities and transients 1−28564
steam generator stability at variable loads 1−28568
steam generators, dynamic stability limits, prediction using DYMEL code 1−28582
steam generators, expt. determ. of density-wave oscillations 1−28567
steam generators, feed flow limit cycling 1−28561
steam generators, prediction of dynamic stability limits 1−28565
Stokes' layer, thick, produced by torsionally oscillating circular cylinder, linear centrifugal instability 1−19730
stratified fluid, flow instabilities and penetrative vortices rel. to spin-up from rest 1−1994
swirl pipe flows, wall boundary layer instabilities, vortex pairs *(German)* 1−51765
Taylor experiment (flow between concentric cylinders), annulus length and transition to oscill. motion 1−24882
Taylor instability in an electromagnetic field 1−19819
Taylor instability in boiling, melting and condensation or evaporation 1−19702
Taylor instability of superposed fluids for wave numbers near linear cut-off wave number 1−33944
temperature disturbance growth in nonstationary velocity field *(Russian)* 1−32449
thermal convection problems, neutral stability curves, Benard types 1−33954
thermal instability in spherical liquid shells induced by surface tension 1−29689
thermoconvective instability of vibrating viscous gas in reactive environment 1−19675
thermohaline stratified fluids subject to horizontal flows, Rayleigh-Jeffreys instability 1−6884
thin fluid layer heated from below, turbulent convection and instabilities 1−11395
three-dimensional waves in a boundary layer 1−42039
Tollmien-Schlichting wave generation by plane, sound wave 1−42047
transonic swept wing with wall cooling, boundary layer stability, laminar instabilities 1−46770
tube flow developing from uniform inlet conditions, high Reynolds number 1−42094
tubes, vertical, gas-liquid flow transitions, phys. models 1−2057
two heated rot. cylinders, nonisothermal Couette flow, loss of stability 1−37938
two-component liq. layer heated from below, Soret-driven convective instability 1−24766
two-layer system, convection, finite difference calc. 1−19779

flow instability continued
two-phase flow, chemically reactive *(Russian)* 1−51863
unsteady separated flow behind nearly normal plate, discrete vortex simulation 1−33964
unsteady stagnation point heat transfer in non-Newtonian fluids 1−15515
unsteady transonic flow computations, improved LTRAN 2 1−19739
unsteady turbulent boundary layer in direct or inverse mode and reverse flow singularity anal. *(French)* 1−6849
upward gas-liquid flow, local characteristics in bubble and slug flow regimes 1−29761
vertical parallel plates, mixed convective flow stability, longitudinal pumping effects 1−19699
viscometric slow Couette flow, turbulent instability, extension to pipes and channels 1−19758
viscous buckling of thin fluid layers 1−37876
viscous flow stability between two concentric rotating spheres 1−51782
viscous fluids, superposed, with interfacial heat and mass transfer, Rayleigh-Taylor stability 1−20513
viscous liquid, stability of flow through rot. channel at low Rossby numbers 1−46809
viscous liquid curtain, stability of falling under gravity 1−51737
viscous reacting fluids in long tubes, laminar flow and heat transfer 1−34013
visualization of turbulent spots in the boundary layer along a flat plate in a water flow 1−37897
vortex, trailing line, inviscid stability, finite difference method 1−24823
vortex layer, expanding, circular, stability against small disturbances 1−46759
vortices, uniform, corotating, eqn. shapes 1−29706
wavepacket development in unstable flows 1−24765
weakly conductive liquid, EHD instability, weak injection effects 1−15553
X-ray binary stars, stability of accretion column flows 1−17819
H II regions ionisation-shock fronts, instabilities and star form. 1−44539
H_2O, heat-stabilised laminar boundary layers 1−51735
He forced cooling channels, flow instability, temp. and pressure oscillation obs. 1−46817
N_2O_4 relaxing gas, discontinuity and shock wave, instability 1−42105

flow measurement
see also anemometers; flow visualisation; flowmeters; laser velocimeters
aerodynamic flow, three dimensional measurements using pressure probes *(German)* 1−29813
aerodynamic flow meas. using pressure probes, correction factor estimation 1−51889
air flow velocity meas. among fan blades, using laser anemometer *(Slovak)* 1−46828
air/water mixtures, steady-state flow meas. using pitot tube and gamma densitometer 1−11480
anemometers, hot-wire, inclined, mounting systems effect on heat transfer in cross-flow 1−38026
anemometry, hot-film, in aqueous NaCl solns., calibration of cylindrical hot-film sensors 1−34025
biomedical flow cytometry, review 1−27022
blood, increasing the range of pulsed US Doppler systems 1−8936
blood flow through large vessel, determ. using computerised tomography 1−49101
boundary layer, heated, thermophoresis of particles, laser-Doppler velocimeter study 1−37872
bubble columns, gas hold-up 1−11443
bubbling two-phase cyrogenic flows, gas-content gauges, calibration and checking apparatus 1−6908
cerebral blood flow, determ. with the EMI CT scanner 1−22109
cerebral blood flow meas. in young and adult rats, appl. of ^{133}Xe bolus technique 1−53934
coannular jets, measurements to explain noise reduction 1−24593
constant temperature anemometers *(German)* 1−29806
convecting fluids, laser-Doppler velocity and temp. meas. 1−5870
cylinder, rectangular, under stationary and galloping conditions, near wake measurements 1−11408
Doppler laser anemometry *(Italian)* 1−46824
doppler velocimetry 1−19847
ducts, turbulent boundary layer, constant temperature hot-wire anemometry 1−11456
electro-optics/laser international conference, Brighton, England (March 1980) 1−40601
electrostatic probe for detecting charged particles in a gas-dynamic flow 1−34023
EM flow probes for mitral flow meas. *(Japanese)* 1−13306
fibre-optic liquid cryst. catheter for O_2 saturation and blood flow meas. 1−32227
flames, turbulent velocity fluctuations and mean particle radii, scatt. laser, power spectra meas. 1−33948
flattened Pitot tubes, viscosity effects at low flow vels., boundary layers vel. distrib. 1−19840
flow regime identification using a high-intensity X-ray system 1−29810
flowmeters, book, comment on review 1−29804
fluid flowmeter meas. systems, metrological anal. of mathematical models 1−24907
fluid velocity meas. using laser beam manifold and particle photography system 1−24902
gas in recirculation flow, time meas. using resonance absorption technique 1−24898
gas source-sink flow in rapidly rotating cylinder, velocity profile meas. using laser-Doppler velocimeter 1−15497
heat and momentum flux, unsteady, from flat plate 1−29662
holographic diagnostic system 1−10943
holographic interferometry, digital heterodyne, of flow fields 1−41623
holographic interferometry appl. *(Czech)* 1−10009
hot wire anemometers for low speed wind tunnels *(Italian)* 1−2115
hydrodynamic acoustics, optimised sensor design *(Croatian)* 1−29801
immersion weighing method for recording the flows through macroscopic membranes 1−13364
impedance probe, derivative signal thresholding for local void fraction meas. in two-phase flows 1−29809
instrument selection criteria, pertinence, indicator for choice of meas. equipment *(Rumanian)* 1−34031
intraoral air flow meas. during vowel phonation using array of hot wire anemometers 1−8884
Knudsen accommodation coefficients, pressure corrections in measurements 1−2106
laboratories, traceability using turbine flowmeter 1−2118

flow measurement continued
laminar flow in pipes, laser anemometer system for velocity meas. 1−24903
laser Doppler meas. of turbulent flow, stochastic velocity data analysis *(Slovak)* 1−46827
laser Doppler velocimeter, operational principles *(German)* 1−29805
laser Doppler velocimetry, velocity profiles above thin flat plate in low pressure flame 1−2051
Laser Doppler Velocimetry blood flow measurement *(Japanese)* 1−35857
laser flow meas. optical systems and signal analysis methods 1−42111
laser induced evaporating jet, structure anal. using rarefied gas dynamics 1−15514
laser velocimeter, multiple-beam, particle vel. distrib. meas. in fast fluidised bed 1−6595
liquid velocity meas. using interdigital transducers 1−38032
LMFBR subassembly coolant flow and power meas. by correlation method 1−18831
local wall vel. gradient and concentration, simultaneous meas. method, laminar and turbulent flow *(French)* 1−19841
loss of flow tests for pressurized water reactors using pressure transducers 1−14676
mass flow measurement devices in loss-of-fluid test facility (LOFT), pressurised water reactors appl. 1−10436
medical US Doppler blood-flow probes, directional charact. 1−53846
microflowmetry, ratio of flow rates meas. using two capillary tubes *(Japanese)* 1−19849
minimizing pressure loss of wafer type swing check valves 1−38024
molecular flow meas. with high-resolution stimulated Raman spectroscopy 1−42108
nonsteady 3-dimens. water flow, instantaneous press. and vel. meas., five hole probe 1−42110
nuclear reactor core coolant flow rate meas., utilization of thermocouple random signal correl. method, NZ-664 type flowmeter 1−28589
numerical convertor and procedure for direct conversion of fluid parameters *(Rumanian)* 1−15557
ocean currents, vector measuring current meter 1−27254
oils, polymer-thickened, hot, high shear rate normal stress measurement using jet thrust method 1−38030
optical Doppler turbulent-velocity meas. device, correlation function of photocurrent 1−46831
physical standards for the unit of flow rates and development of reference measuring equipment 1−19848
pipe flow turbulent boundary layer, exam. of coherent structures using laser-Doppler anemometry 1−2120
placental blood flow, human, meas. by elec. impedance techniques 1−22155
polymer EPDM (Nordel 1040), with and without C back, flow props. by capillary rheometry 1−33941
pulsed neutron activation meas., nonuniform tagging and flow struct. effects 1−51888
pyroelectric anemometers 1−42115
rectangular pipe with 180° bend, flow meas. *(Japanese)* 1−29776
respiratory flow, US meas., review 1−8929
retinal blood cell flow meas., using fundus camera laser Doppler velocimeter 1−39978
retinal blood flow meas. with laser Doppler velocimetry, clinical instrument development 1−43934
rheometer, elongational, suspended syphon 1−38029
river, flow rate meas. by EM technique 1−32548
rotating hot-wire prove for small vel. vector meas. 1−54286
rotating laminar flow, velocity gradient meas. by homodyne light scatt. 1−11481
rotating tube, using pressure transmission system 1−34028
rotational and vibrational gas temperature meas. using tunable CO_2 laser 1−24897
saline and thermal diffusion flow meas., evaluation using an open hydraulic model 1−53918
seal, labyrinth, incompressible flow 1−11462
shellside velocity measurements in a steam generator flow model 1−29811
shock waves around delta-wing semicone by electric discharge method 1−15556
slurry flow in-stream monitoring system of particle charact. and conc. meas., automatic meas. system 1−24905
small-tube laser anemometer system design and signal processing 1−42114
speckle method for flow vel. meas. 1−15561
standardisation of primary element size in flow instruments 1−2107
techniques of flow monitoring 1−2105
thermal anemometry bibliography 1−36472
thermistor anemometer for velocity meas. in variable temp. flow 1−34026
triaxial hot-wire probe, calibration using numerical search algorithm 1−2110
turbulence behaviour in shock wave boundary layer interaction 1−2032
turbulence in presence of temp. fluctuations using hot-wire anemometer 1−42109
turbulence measurement with a laser velocimeter 1−46829
turbulent boundary layer, coherent structure at low and high subsonic speeds 1−1932
turbulent boundary layer, measuring techniques and probe effects in near-wall region 1−2121
turbulent boundary layer, method for determ. surface friction 1−51762
turbulent boundary layer, perturbed, behind backward facing step, relaxation 1−19685
turbulent boundary layer, Reynolds stress tensor, meas. method using rotating slanting wire 1−34027
turbulent boundary layer research, experimental techniques 1−2119
turbulent boundary layer structure, inward and outward fluid flow *(French)* 1−1931
turbulent boundary layer with strong adverse pressure gradient, skin friction measurement 1−19846
turbulent boundary layers, experiments, theory and modelling, AGARD conf., The Hague, Netherlands, (Sep. 1979) 1−13
turbulent dispersed two-phase flow, propag. charact. 1−11483
turbulent flow in pipes, laser anemometer system for velocity meas. 1−24903
turbulent flow over a plane normal wall 1−33947
turbulent flow through tubes, hot film and laser Doppler anemometers meas., power density spectra comparison 1−39951
two phase flow, spatial distribution using scattered γ-radiation 1−751
two phase flow velocities meas. using image correlation 1−51891

flow measurement continued
two-phase flow, instantaneous void fraction meas. by dual-beam X-ray technique 1−29812
ultra low liquid mass flow rate measurement, orifice bridge meter design 1−15564
uniform flow distrib. anal., continuous model for large-scale appls. 1−29789
US wave propagation anal. of steady and unsteady fluid streams 1−29807
velocity in microscopic area using grating spatial filter, meas. method *(Japanese)* 1−46825
velocity measurement using microprocessor for implementation of on-line cross-correl. 1−24904
vertebral artery flow, non-invasive techniques recording 1−35844
vibrating Pitot tube approach to mass flow meas. *(Japanese)* 1−6911
viscometer, capillary, measurements at high pressure and high shear rate 1−38028
water and waste water treatment, instruments for flow measurement 1−6906
He, supercritical, friction factor for flow in straight tube 1−42106
N_2 supersonic jet, press. and temp. distribs. CARS meas. 1−29808
Na, liquid, vortex flow structure meas. by magnetic flowmeter 1−2112

flow resistance *see viscosity*

flow separation
abrupt pipe expansion, separated flow, downstream turbulent heat transport 1−42053
airfoil leading edge, laminar separation, transition and turbulent reattachment 1−15471
bifurcation of stable periodic flows in an Ekman layer and in a convection boundary layer 1−42049
boundary layer, laminar, separating, spontaneous generation of singularity 1−19672
boundary layer flow, 3-D, over surface irregularities, numerical soln. 1−15468
boundary layers, laminar, behaviour of mixed convection near point of zero skin friction 1−29645
cavitation at fluid-solid boundary, interface waves 1−11432
circular cylinder in crossflow, Karman vortex shedding and the effect of body motion 1−19723
conical diffusers, flow characteristics 1−24880
convex surface, separating flow, turbulent boundary layer 1−42030
creeping flow past two circular cylinders, separation 1−11430
cylinder impulsively started in still water, velocity field, outer potential flow 1−11376
cylinder impulsively started in still water, velocity field, unsteady boundary layers 1−11377
cylinder on flat plate, turbulent boundary layer, surface pressure distrib. and drag *(Japanese)* 1−15476
cylinders, bluff, vortex-induced oscillation 1−11414
discrete vortex method for the non-steady separated flow over an airfoil 1−46788
flow over blunt bodies with spikes and cavities 1−11431
half cone flat surface, heat flux redistrib., Re∼10^6, Mach no.6.1, separation regions 1−24777
heat transfer, review 1−33956
ideal fluid around solids of revolution, with leading detachment zone, supersonic flow calc. 1−42067
immersed jets with obstacles, numerical flow calc., hanging shock and separation flow regimes 1−19772
interface drag coefficient in separated two-phase flow 1−51855
jet interaction with counterstreaming supersonic flow, shock wave separation 1−19773
jets, circular supersonic-turbulent layer interaction, separation flow integral and difference eqns. calc. 1−2055
laminar boundary layer, asymptotic theory of nonstationary separation 1−24854
laminar boundary layer separation, integral method anal. 1−1910
laminar-turbulent transitions, mechanism of successive bifurcation and turbulence 1−42023
oscillating aerofoils in transonic flow, flow separation and Bernoulli's eqn. 1−51802
planar supersonic separated flows, convective transfer correlations, laminar and turbulent 1−24802
pseudo-direct soln. to boundary layer eqns., transonic flow 1−19760
rod bundles with spacer grids, press. drop, vel. distrib. 1−23737
separated and reattached flow, turbulent shear stress and heat flux meas. 1−46730
slender lifting surfaces with leading edge separation, vortex models *(German)* 1−29707
steady axisymmetrical stagnation-point flow impinging obliquely on a wall 1−37979
steps, two-dimens. recirculating separation flow; pulsed wire anemometer meas. 1−19737
stratified two-phase flow, two-equation model of turbulence 1−29759
strong blowing of gas into supersonic flow, separation and shocks 1−33976
subsonic flow, transverse, past circular cylinder 1−51800
subsonic viscous gas, ahead of step, Navier-Stokes eqns. numerical soln. 1−19761
supersonic viscous gas, ahead of step, Navier-Stokes eqns. numerical soln. 1−19761
transverse streamline air flow passed staggered banks of tubes vortex separation, flow rate fluctuation *(Russian)* 1−19728
transverse supersonic stream, jet interaction, separated zone, heat and mass transfer 1−15526
tubulent vortex ring, self-similar, generalised problem *(Russian)* 1−24821
turbulence behaviour in shock wave boundary layer interaction 1−2032
turbulent boundary layer characts. near separation prediction method, analytic treatment 1−24772
turbulent boundary layer mean flow meas. over body of revolution 1−51759
two-dimensional numerical bifurcation models, press. and flow calc. 1−32155
unsteady separated flow behind nearly normal plate, discrete vortex simulation 1−33964
unsteady turbulent boundary layer in direct or inverse mode and reverse flow singularity anal. *(French)* 1−6849
viscous fluid, rolling motion on and off a rigid surface 1−46790

flow separation continued
viscous recirculatory flows with separated eddies, finite element flow pattern prediction *(Japanese)* 1−6867
vortex-layer separation lines, local props., appl. to 3-D boundary layer 1−29739

flow through porous media
aerosols, convective deposition rel. to Knudsen number 1−2070
asymptotic MHD velocity profile on infinite porous flat plate 1−42101
axisymmetry Stokes flow near hole in wall, filtration flows 1−51859
bronze wire mesh screens, thermal regenerators, isothermal pressure drop 1−38005
buoyancy induced transport in low temp. water saturated porous media 1−19797
capillary osmosis of nonelectrolyte solns. in fine pores 1−53462
capillary porous wire mesh structures, heat transfer by evaporation 1−37912
channel with permeable walls, flow past slender profile 1−51799
colloidal capillary-porous bodies, internal heat and mass transfer accompanying convective drying *(Russian)* 1−6751
concentrated source in porous medium, steady thermal convection 1−24792
convection, cellular, finite-amplitude, in fluid-saturated porous layer 1−6888
convection, hydrothermal, around radiative waste depository in hard rock, math. model 1−793
convection, nonuniform thermal gradient and adiabatic boundaries effects 1−24793
cylinder, circular, porous, with second order surface reaction, mass transfer 1−24874
cylinders, concentric inclined, convective flow through porous media, successive over-relaxation method calc. 1−1987
Darcy's flow, three dimens., unconfined, boundary integral solns., appl. to pond seepage 1−36004
dimethoxysilicone fluid, capillary flow through filter paper 1−38625
diphasic flow in heterogeneous porous medium, instabilities, nonlinear behaviour 1−34007
displacement of immiscible, incompressible fluids in a porous cylinder *(French)* 1−15538
double-porosity medium, exact soln. for flow eqns. 1−19801
drag of porous cylinders in a viscous fluid at low Reynolds numbers 1−19796
effective diffusivity betwen Knudsen and continuum limits 1−33984
elastico-viscous fluid, steady state temperature distrib. in thermal boundary layer 1−51833
electrically conducting rot. fluid, hydromagnetic Ekman layer over an oscillatory porous plate 1−34017
fixed bed dispersion model, interstitial fluid at high Re numbers 1−29764
fluidised beds, rotating, dynamics of bubbles, entrained particles, Navier-Stokes eqns. anal. 1−2059
fluidized bed, moving, narrow grain size fractions of granular materials *(Czech)* 1−38010
forced-flow evaporative cooling of a volumetrically heated porous layer 1−10476
free convective viscous flow past a hot vertical plane wall with periodic suction 1−46750
gas and liquid filtration in deformable porous media *(Russian)* 1−29772
gas hydrate dissociation in porous medium, linear problem 1−38006
gas-adsorbate, collision effects, surface diffusion 1−2069
gases, mixing in porous media, tube model expt. 1−2074
gases, radioactive, from underground nuclear power plant, multidimensional flow through soil 1−795
groundwater filtering from one basin to another, nonstationary convective-diffusion problem *(Russian)* 1−15540
heat and mass transfer, finite element method 1−1801
heat exchange in coolant evaporation region within a heated porous wall, mathematical model 1−6748
heat exchanger, super compact, porous media enhances heat transfer 1−33871
heat transfer, boundary and inertia effects 1−38007
heat transfer, enhancement of simultaneous radiative and convective transfer in high porosity media 1−19798
heat transfer two phase model in porous media and packed beds 1−38008
Hele-Shaw viscous flow analogy validity 1−29768
high flux mass transfer in liquid fluidization 1−19794
hot dry rock, heat extraction, theory including deformation porosity, density changes 1−19549
HTGR, thermal insulation system, transient behaviour of gas flow 1−18718
hydraulic conductivity, inhomogeneous, piezometric determ. appl. to aquifer flow and heat transfer 1−36008
hydromagnetic oscillatory flow past infinite vertical porous plate, force convection and mass transfer effects 1−54356
hydrophilic porous medium, countercurrent capillary imbibition 1−52395
immiscible viscous displacement in porous medium, eqns. 1−46803
incompressible dissipative fluid, flow past accelerated porous plate, free convection effects 1−37902
incompressible viscous fluid, unsteady laminar flow through porous media in hexagonal channel 1−11366
infinite coaxial cylinders with anisotropic porous filling, convection, permeability anisotropy effects 1−34009
inhomogeneous media, type II, seepage motions, Dirichlet problem soln. 1−24875
interior penalty Galerkin procedures for miscible displacement problems in porous media 1−24877
internal heat transfer, nonequilibrium cases 1−29773
laminar hydromagnetic thermal boundary layer in fluctuating flow past porous limiting surface, temp. field 1−54355
layered, porous media, dispersion coeffs., approx. formulae 1−2071
layered, three-dimens. medium, multiphase flow, inverse problem, Fredholm integrals soln. 1−2073
layered double-diffusive convection in porous media 1−46742
LMFBR, thermal-hydraulic anal., porous medium formulation, computer code 1−23723
longitudinal vortex stability in mixed convective flow in porous media 1−37943
magnetothermohaline convection, oscillatory modes, overstability 1−37901
medium with double porosity, fluid displacement theory, method of charcts. soln. *(Chinese)* 1−2072
membrane, departure of sphere from contact 1−29767
miscible displacement, finite element anal. 1−24876

flow through porous media continued
mixed sub-supersonic flow in channels with permeable wall 1−29784
mixture in vertical porous layer, stationary convective flow stability 1−37903
multiphase immiscible fluids flow through porous media, simulation using numerical model *(Italian)* 1−34008
non-Newtonian flow with suction past infinite porous flat plate 1−42073
non-Newtonian liq., with power rheological law, unsteady flow past flat penetrable plate 1−46784
nonsimilar incompressible boundary layers, mass transfer 1−37873
nonstationary filtering problem, boundary variation method 1−19800
nuclear microfilters, micropore size determ. 1−11451
oil-water interface, 2-D porous media eqns., random choice method 1−51864
oscillatory flow past infinite vertical porous plate, effects of mass transfer and free convection currents 1−42056
osmosis, interaction with stirring 1−39678
packed bed of porous ceramic Raschig rings, meas transfer at low Peclet numbers 1−2075
parabolic problem with unknown boundary 1−29770
partly-moving surface, sucking or blowing, asymptotic solns. laminar boundary layers, compressible gas 1−19669
penetrable plate, turbulent boundary layer calc. in case of intensive injection 1−11380
permeable porous insulators, convective thermal transfers *(French)* 1−51689
pipe, porous, entrance region, uniform inlet velocity profile 1−11454
pipe with permeable walls, impurity, longitudinal diffusion 1−46804
porous heat generating element, penetrative gas cooling stability 1−15495
porous layer saturated with compressible ideal gas, natural convection 1−29685
porous macromolecule systems, book 1−36462
porous plate attached to plane surface, uniform shear flow, boundary layer vel. profile 1−37888
rarefied gas, electrically conducting, MHD fluctuating flow between 2 porous plates 1−6875
rarefied gas cylindrical Couette flow, with heat transfer and porous surface 1−19756
reservoirs, double-porosity, exact soln. for flow eqns. 1−19801
rod-bundle thermal-hydraulic analysis, overview porous medium formulation 1−23721
rotating fluid, free convection flow past vertical porous plate 1−1990
rough permeable surface, cooling, mass transfer and drag of compressible reacting gas 1−19694
saturated solid, thermomechanical theory, application 1−6905
self-similar condensing flows in porous media 1−19703
self-similar vortex flow in a porous half-space 1−37939
shock-like structure of phase-change flow in porous media 1−51865
solid-gas systems, channel flow under high gas back press. 1−2058
solids with bidispersed pores, transport phenomena, point sink approx. 1−38004
solute transport for radioactive wastes through the vadose zone, finite element model 1−43832
solute transport through fractured media, matrix diffusion effect appl. to hydrology 1−36009
sphere, porous, axisymmetric boundary layer with suction 1−42085
spheres, concentric spherical, natural convection heat transfer in porous media, numerical anal. 1−1988
spherical shell, porous, with variable permeability, flow using matched asymptotic technique 1−42084
spouted beds, hydrodynamics and heat transfer, particle circulation 1−6854
stainless steel, spheres, thermal regenerators, isothermal pressure drop 1−38005
suspension, sedimenting, Kozeny-Carman equation, Kozeny parameter variation with porosity and comp. 1−11447
suspensions, filtration, wave regime 1−8624
thermal problems in flow through periodic model of porous media 1−24873
thermal regenerators, isothermal pressure drop 1−38005
thermodynamics, irreversible, of steady state, collinearity and disequilibrium 1−208
three-dimensional convection modes in rectangular boxes of fluid saturated porous material 1−51771
till, fractured tracer Cl and Ca migration, column study 1−36010
transient condensing flow through porous medium 1−42086
tube with permeable walls, heat exchange in presence of internal heat sources, energy eqn. 1−46745
tube with porous elastic walls, contraction or expansion of walls 1−11455
two-phase flow in circular capillary tube bundle, model for relative permeabilities 1−42083
unsaturated porous medium, moisture migration caused by temp. differences 1−29765
unsteady dispersion flow in porous media 1−29769
unsteady laminar flow in a channel with porous bed 1−29777
vertical porous heat storage, transient characts. of heat transfer 1−17307
viscous flow between porous discs, parameter differentiation 1−34010
water flooding problem, finite element method 1−6887
Fe, whisker matrices, thermal regenerators, isothermal pressure drop 1−38005
H_2O, flow rate is affected by surface modification on low press. side of membrane 1−53467
H_2O-oil displacement process in heterogeneous porous medium, instabilities, nonlinear behaviour 1−34007
^3H to ^1H permeability ratio through Pd-Ag-Au alloy membrane 1−19799
Pd-Ag-Au alloy membrane, ^3H to ^1H permeability ratio 1−19799

flow visualisation
annulus, horizontal, gas-containing, with irregular boundaries, natural convection expts. 1−1986
boundary layer turbulent transition along flat plate, visualisation of turbulent spots 1−37897
cavity, visual study related to acoustic impedance of small orifices 1−19667
circular cylinder performing rotatory oscills., induced steady flow, visualisation 1−19844
coherent structure of axisymmetric turbulent mixing layer, flow visualisation 1−51743
combined simultaneous flow visualization/hot-wire anemometry for the study of turbulent flows 1−38034

flow visualisation continued
convection, three-dimensional, in tilted rectangular boxes, Galerkin and explicit finite difference calc., laser interferometer expts. 1−1979
convective flow between body and spherical enclosure 1−1964
cylinder on flat plate, turbulent boundary layer, surface pressure distrib. and drag *(Japanese)* 1−15476
cylinders, bluff, vortex-induced oscillation 1−11414
discrete heat transfer augmentation roughness element flow properties 1−11406
disperse phase in two-phase flow, vel. field determ., holographic method 1−38025
enclosures, inclined, air-filled, flow visualisation, laser-doppler anemometer expts. 1−6862
fluids, natural convection in low aspect ratio enclosures, flow patterns 1−6860
high velocity flow measurement using high speed Schlieren system *(Japanese)* 1−38023
interrupted jet, artificial excitation using spark 1−24900
jets, circular, under controlled excitation, vortex pairing, coherent structure dynamics 1−33995
jets, circular, under controlled excitation, vortex pairing 1−33994
laminar boundary layer separation, delay of turbulent transition by surface heating in water 1−42048
natural convection in enclosures, conf., Orlando, FL, USA (July 1980) 1−15
non-perturbative anemometric and flow visualisation technique 1−15559
optical shearing IT-144 interferometer for gas flow visualisation 1−38033
pipe flow turbulent boundary layer, exam. of coherent structures using laser-Doppler anemometry 1−2120
pulsed holography review, book contrib. 1−10947
reactor subassembly, local blockage, wake flow visualisation 1−23798
resonant Doppler velocimeter for hypersonic flow field meas. in He 1−38022
rotating blade row, tip region visualisation, vortices and turbulent boundary layer 1−19725
shock-heated jet, spurious light amplification effect 1−34033
slots, vertical, Hele-Shaw, containing silicone oil, holographic interferometry, temp. var., free convection expts. 1−1980
smoke flow visualisation of pattern around shrouded cylinder 1−11420
solar collectors, flow visualisation using thermographic analysis 1−39827
subsonic round jet, acoustic excitation, vortex rings, visualisation 1−2048
temperature tagging measurements of turbulent spots in a heated laminar boundary layer 1−42045
turbulent boundary layer research, experimental techniques 1−2119
turbulent boundary layer structure 1−2122
turbulent flow visualisation with high Reynolds number *(German)* 1−51890
turbulent spots, determ. of physical characts. 1−51745
two-dimensional water jet in rectangular channel, flow visualisation 1−42079
using flap configuration, boundary layer meas. 1−1941
visual study of the growth and entrainment of turbulent spots 1−42044
vortex shedding on cylindrical body, simulation using equivalent oscillator 1−33965
wake development behind impulsively, started cylinder 1−33963
water, irradiated, cooled by air flow, natural convection flow visualisation 1−6861
wind tunnel schlieren system, laser interferometer design 1−2108
Wollaston prism schlieren interferometry for axisymmetric flow fields 1−51884

flowmeters
see also anemometers; flow measurement; laser velocimeters
book, comment on review 1−29804
cross correlation flowmeters, principles and design 1−29802
Doppler US flow velocity meter, optimum freq. and ionisation angle 1−8932
electrocapillary flowmeter usable as a quantitative sweat detector 1−27020
EM and differential pressure meters 1−24896
EM flowmeter characts., computation from mag. field data 1−46830
EM flowmeter for remote meas. in large-diameter pipes, partial method, transient characts. anal. 1−2111
fluid flowmeter meas. systems, metrological anal. of mathematical models 1−24907
gas flowmeter calibration using both sound-velocity nozzle and movable L-tube 1−24906
holographic, fluid current recording 1−38031
hydraulic orifice bridge meters, precision measurement ultra low liquid mass flow rate appl. 1−15564
laser Doppler blood flow meter for use with optical plethysmograph 1−2114
laser Doppler flowmeter for tissue blood flow meas., evaluation 1−8952
LMFBR instrumentation development status 1−18732
momentum flowmeter dynamical principle and applicability 1−29816
NMR flowmeter, flat crossed-coil, blood flow detect. 1−35854
NMR flowmeter, ranging for individual artery flow 1−35877
nuclear reactor core coolant flow rate meas., utilization of thermocouple random signal correl. method, NZ-664 type flowmeter 1−28589
ONERA dynamic US liquid flowmeter performance 1−29817
physical standards for the unit of flow rates and development of reference measuring equipment 1−19848
range-gated US Doppler flow detector 1−38027
selection criteria, pertinence, indicator for choice of meas. equipment *(Rumanian)* 1−34031
turbine flowmeter for proving traceability of flow meas. laboratories 1−2118
turbine insertion flowmeters, appl. and accuracy factors 1−46826
ultrasonic flowmeters for use in pipe lines and open channels 1−2104
US pneumotachometer, design and construct. 1−8931
variable area flowmeter with conical float and diaphragm *(Bulgarian)* 1−34022
vibrating Pitot tube approach to mass flow meas. *(Japanese)* 1−6911
vortex flowmeters, physical bases *(Hungarian)* 1−24901
vortex shedding fluid flowmeter using optical fibre sensors 1−51883
water current meter of thermal conductivity type *(Japanese)* 1−15560
He gas flow monitor design for cryostats 1−14122
He refrigerator installed orifice flowmeter calibration and use 1−46834

fluctuations
see also Brownian motion; critical fluctuations; current fluctuations; noise; random processes
adsorbate surface diffusion, density fluctuation autocorrelation functions 1−2818
atmosphere, obs. of wind-wave-induced disturbances in marine surface layer 1−17673
atmosphere optical model, fluctuations rel. to information content of press. field remote sensing system *(Russian)* 1−9276
atmosphere water vapour content, meas. of fluctuations along given path *(French)* 1−13603
auroral electron fluxes in inverted V-events, fluctuations in simulated double layers 1−22607
E.Bering Sea, sea ice and temp. variability rel. to atmospheric fluctuations 1−44206
Bose system, zero-temperature transition, absence of dimensional crossover 1−23108
Bose-Einstein condensation and the canonical conjugates to the density fluctuations 1−32902
BWR, space cross-correlation of noise sources 1−33283
chemically reacting gases and mixed gases, fluctuating hydrodynamic equations 1−38019
cholesteric phase, magnetic field stabilisation, molecular orientation symm. breaking 1−15797
colloidal crystal, shear-induced melting, light scatt. study 1−35582
convection instability, Benard cell, far from equilibrium perturbation formalism 1−40732
cosmic microwave background, interferometric limits on very small-scale fluctuations 1−9740
cosmic microwave background, origin and amplitude of ang. fluctuations 1−9742
cosmic microwave background large-scale fluctuations, role of galaxies small-scale clustering 1−54665
cosmic microwave background radiation, quest for fine-scale anisotropy 1−9741
cosmic radio background fluctuations, search for antipodal correls. rel. to ghost images in Universe 1−32778
cosmic ray intensity fluctuations during Forbush decreases, results from Izmiran scintillation supertelescope 1−36136
CP^{n-1} model, multimeron soln. 1−18361
cylinder and layer in infinite medium, fluctuation EM field, thermal Green's functions 1−15054
density perturbations in flat gaseous systems, conditions for strong growth in nonlinear gravit. instability 1−44430
detonation front, pulsations caused by strong fluctuations in burning region 1−19835
Dirac equation, stochastic derivation, in terms of fluid of spinning tops 1−23047
disperse systems, homogeneous nucleation and dispersion, fluctuation effects *(Russian)* 1−17113
dispersive optical bistability with fluctuations 1−46435
exciton phases, long-range order destruction, pinning and fluctuation interband mechanism 1−2883
ferroelectric models, polarisation fluctuations 1−34991
flicker noise theory in terms of island charge fluctuations 1−25779
fluid dynamics, inertial flow dynamical cascade models 1−29640
fluids, equilib. theory, existence of fluctuation type solns. 1−38215
Fokker-Planck equations, multidimensional, exactly soluble, with nonlinear drift 1−40716
free particle motion, relativistic Hamilton-Jacobi equation self-fluctuating solns. 1−63
gas, equilib., hydrodynamic fields fluctuations distrib., Fokker-Planck eqn. *(Russian)* 1−2132
gas of isotropic molecules, dynamical Onsager approach to field fluctuations and light scatt. 1−51906
geometrical-optics rays in smoothly inhomogeneous media with refr. index fluctuation, transverse displacement dispersion 1−19271
gluons in multi-instanton background, quantum fluctuations 1−10075
gravitational quadrupole radiation resistance, radiation damping and field fluctuations 1−44810
Gulf of Cadiz, oceanic variability due to internal waves and globs 1−17601
hadron excited states in πN scatt., 2-9 GeV, Ericson fluctuations anal. 1−18514
harmonic oscillator, damped, time-dependent, constants of motion and non-stationary wave functions 1−5156
harmonic oscillator, stochastic frequency and driving force, equal-time second-order moments 1−44764
harmonically bound particle, Brownian motion 1−40712
heat flux, evolution and fluctuations, Ginzburg-Landau constitutive equations 1−23136
incommensurate-commensurate transition; influence fluctuations 1−25402
induction MHD pumps, velocity fluctuations, meas. of secondary inductance 1−299
inert gas, glow discharge parameters, fluctuations 1−38183
instrument science, fluctuation phenomena 1−218
interstellar medium irregularities, spectrum and nature *(Russian)* 1−4966
Josephson junction, resistively shunted, quantum noise theory 1−30889
light wave intensity fluctuations in randomly inhomogeneous medium, quasigeometrical-optics approx. 1−37414
liquid crystal, smectic-A phase, X-ray scattering, lower marginal dimensionality 1−7082
liquid crystal films, smectic, cholesteric, and Rayleigh-Benard order 1−34231
LMFBR subassemblies, detection of cooling anomalies, temperature noise analysis techniques 1−36985
LMFBRs, fluctuation monitor sodium ionisation detector for aerosol leaks 1−812
low dimensional systems and renormalisation group theory, phase transitions 1−7865
magnetic mirrors, finite bandwidth induced stochasticity 1−19936
mechanical oscillator, Brownian motion, first and second order statistics 1−178
mesospheric backscattering seen by VHF radar, depolarisation props. 1−22618
metal, disordered, quantum diffusion and divergent fluctuations 1−47599
metals, crystal growth, normal, fluctuation mechanisms during solidification 1−38311
molecular dynamics system with thermal wall, canonical ensemble and nonequilibrium states 1−46836

fluctuations continued
Moon rotational motion, periodic perturbations anal. using Poincare periodic solns. 1−13709
neutron noise analysis, correlation method of transit time estimation 1−23713
noise induced transitions, phase diagrams, results for external coloured noise 1−32914
non-equilibrium steady states, fluctuation theory, generalised time convolutionless projector formalism 1−177
nonequilibrium phase transition and chemical instabilities 1−40741
nonequilibrium steady states, fluctuations, Brillouin scatt. 1−50054
nonlinear pulse propagation, intensity fluctuations 1−11038
nonlinear systems near bifurcations, fluctuations 1−23113
ocean forced mean flow, Rossby wave action, enstrophy and energy 1−4512
one-dimensional physics, theory 1−42756
optical wave phase fluctuations rel. to atm. refr. index low-freq. fluctuations 1−37410
ordering in strongly fluctuating condensed matter systems, conf., Geilo, Norway (Apr. 1979) 1−5027
ordering in strongly fluctuating systems 1−7295
tropical Pacific Ocean, thermal variability scales 1−17598
phase transitions, theory, microscopic method 1−32945
plasma, anomalous transport due to drift wave turbulence 1−51952
plasma, ohmically heated, in Proto-Cleo torsatron, low frequency turbulent density fluctuations 1−29889
plasma, passive thermal stability control in ignited Tokamaks by ripple transport and radial motions 1−46877
pulsar pulses scattered by turbulent interstellar phase screen, fluctuation struct. 1−13793
quantum theory, stochastic interpretation, from Dirac ether with spin 1−23011
radio and optical wave refr. in surface-layer propag. links, expt. investigation 1−36040
radio interferometer, correlation-type, fluctuation sensitivity 1−9368
radio sources, extragalactic, flux variation components 1−44659
roughening transition 1−11968
shear flow fluctuations, statistical mechanics 1−19678
sine-Gordon chain, fluctuations at thermal equilib. 1−32929
smectic C phase, field induced domain like behaviour 1−52061
smectic liquid cryst. order and fluctuations 1−11852
smectic liquid crysts., bond orientational order, mean-field model 1−34232
solar diameter fluctuation measurements, comparison with power spectrum of differential atmospheric refr. 1−49593
solar luminosity variations, effects of mag. activity is convection zone 1−9461
solar millimetre wave burst assoc. with flare, 1978 September 22, periodic fluctuations obs. 1−36242
solar moving type IV burst, quasi-periodic short-term modulations obs. 1−36243
solar radio emission, fluctuations prod. by shock wave transit through transition region 1−4862
solar radio fluxes at cm wavelengths from small areas of Sun's disc, spectrum of fluctuations 1−4864
spherical magnetic dynamo models, electromotive forces prod. by fluctuating motions 1−9359
spinodal decomposition, dynamic correlation of fluctuations 1−7340
statistical mechanics of classical systems 1−50037
stochastic differential equations, ito versus Stratonovich 1−40713
Sun diameter fluctuations, recent obs. with SCLERA instrument rel. to global solar oscills. 1−27463
temperature fluctuations, wire tensors, influence of conduction *(French)* 1−262
troposphere refr. index fluctuations, limitation of phase meas. of source coordinates in astronomy 1−9384
turbulent gases, Liouville eqn. calcs. 1−5230
two-dimensional dynamic systems with limit cycles, external fluctuations effect 1−27877
Universe large scale structure, adiabatic perturbations theory 1−9755
Universe velocity perturbations, evolution *(Russian)* 1−32789
unstable system decay, transient fluctuations 1−182
weather fluctuations, in simple statistical model of present-day climate 1−22482
CdSe, electrical cond., large-scale pot. fluctuations effect 1−20742
GaAs, Gunn instability, voltage fluctuation calcs. 1−47661
^{3}He, liq., fluctuation effects in transport coeffs. 1−2756
InGaAsP laser, 1 Gbit/s modulated, intensity fluctuation noise improvement by light injection 1−19337

fluctuations in superconductors
used only for thermal (thermodynamic) fluctuations around the order parameter near the critical point
granular film, Kosterlitz-Thouless transition temp., charging energy effect 1−16409
granular film, phase transitions 1−42885
nonequilibrium state stability in supercond. irradiated by EM field 1−12237
rare earth compounds, phase diagram, fluctuation theory *(Russian)* 1−12238
superconducting transition temp., pair susceptibility and coherence length 1−12225
thin film, renormalisation of transition temperature 1−52684
thin wire, supercurrent decay rate 1−42907
Bi film, amorphous, temp. depend. of elec. resist., supercond. fluctuations *(Russian)* 1−20920
$Er_{1-x}Ho_xRh_4B_4$, supercond. phase diagram, fluctuation theory *(Russian)* 1−12238
$ErRh_4B_4$, oscillatory mag. fluctuations near superconductor-to-ferromag. transition, small-angle neutron scatt. study 1−30883
Nb/Ge layered composites, quasi-two-dimens. supercond. props. 1−3118
Pb granular film, Kosterlitz-Thouless transition temp., charging energy effect 1−16409
Pb, superconducting thin film, excess elec. cond. due to order parameters fluctuations 1−52706
Si (111)-SiO_2 MOS system, surface supercond., supercond. gap eqn. in weak coupling approx. 1−38886
V_3Ge, fluctuation cond. near second critical field *(Russian)* 1−52707

fluctuations of cross sections *see statistical theory of nuclear reactions and scattering*

fluid composition control *see chemical variables control*

fluid composition measurement *see chemical variables measurement*

fluid dynamics
see also aerodynamics; biological fluid dynamics; drag reduction; flow; hydrodynamics; liquid oscillations; Navier-Stokes equations; rarefied fluid dynamics; relativistic fluid dynamics; surface waves (fluid); turbulence; wakes
arbitrary squeezing of fluid from a tube at low squeeze numbers 1−42095
boundary element method appl., book contrib. 1−18025
classical few body problem, nonlinear dynamics, celestial mechanics and fluid dynamics 1−49936
complementary variational-iterative scheme for nonlinear eqns. 1−5107
computerised numerical analysis methods for fluid dynamics, book 1−17956
convection, stellar, multimode numerical soln. for convection in spheres 1−9468
dividing and combining flow manifolds, finite-difference modelling 1−42001
eigenvalue problems, fluid-structure and acoustic, finite element approach, reduction methods 1−14009
elliptic two-dimens. flows including heat transfer, finite difference method, book contrib. 1−19719
evolving stars 1−44544
filling an axial-symmetric cavity with a heavy incompressible viscous fluid *(Bulgarian)* 1−33992
finite element mesh generator, triangular, for fluid dynamic systems of arbitrary geometry 1−72
fluid flow problems, least squares residual fitting finite element appl. 1−23018
forces on small body with surface undergoing deformation in ideal incompressible fluid 1−51730
free boundaries, dynamics, volume of fluid method 1−49943
free-surface incompressible flow simulations, modified partial cell method 1−42003
disc galaxies, fluid dynamical flow model for rot. curve central peak 1−36390
heterogeneous fluid in unidimensional motion, conservation of energy equation *(French)* 1−24565
hyperbolic problems and mixtures of 1st order, variational method *(French)* 1−1908
ideal fluid, free boundary problem numerical solution 1−6840
ideal fluid in uniform motion, stationary fundamental soln. 1−29653
ideal fluid penetration through a bounded region, nonstationary problems 1−19666
inertial flow dynamical cascade models 1−29640
Kelvin-Kirchhoff eqns. of motion for body in inviscid bound fluid 1−36494
linear ADI method for the shallow-water equations 1−76
linear flow inside braked hollow ball *(German)* 1−36495
meteorology, appl. of fluid dynamics models to numerical weather forecasting through noise wave filtering *(German)* 1−9218
Neumann potential problems for thin circular annulus, appl. to fluid mechanics and elasticity 1−24761
Newtonian fluids as elastic materials with internal variables *(German)* 1−40656
nonlinear ocean model, numerical stability *(French)* 1−14018
plane fluid flow, two-dimens. vector algebra appl. 1−40655
propulsion of arbitrarily shaped body in a viscous fluid *(French)* 1−51733
radiation gas dynamics, exact analytical soln. 1−54504
simple fluids, inequalities 1−33943
singular internal eqns. soln. by discrete vortex method, incorrectness and regularisation *(Russian)* 1−36493
slit flow, viscous heat generation 1−37898
speck in bathtub trapping, modeling and dimens. reasoning, teaching 1−9811
Stokes' equations, appl. of monogen quaternion functions 1−29642
volume preserving flows, symmetries and invariants 1−74
water drop experiment for introductory laboratory course 1−9808
water drop experiment for introductory laboratory course 1−9809

fluid flow *see flow*

fluid instability *see flow instability*

fluid mechanics
see also capillarity; cavitation; compressibility of gases; compressibility of liquids; fluid dynamics; hydrostatics; Mach number
compressible fluid equation, numerical soln. *(French)* 1−32850
computing methods in applied sciences and engineering, conf., Versailles, France (Dec. 1979) 1−18
conference, heat transfer and fluid mechanics, Los Angeles, CA, USA, (June 1980) 1−27678
incompressible fluids, nonlinear constitutive laws *(French)* 1−32849

fluid theory, dense *see liquid theory*

fluid valves *see valves*

fluidic devices
electrofluidic accelerometer, airplane autopilot appl. 1−36635
high-temperature fluidic frequency-analogue humidity meas. systems 1−27989

fluidised beds
atmospheric fluidised bed combustor technology, Georgetown University's experience 1−51868
bubble diameter prediction in gas fluidised beds, two-phase theory 1−29766
combustion in pressurised systems, problems of reduction of atmospheric pollution by flue gases *(German)* 1−43668
countercurrent model of mixing particles *(Russian)* 1−51867
emulsion phase residence time, heat transfer model use 1−29665
heat store for power generation, assessment by computerised modelling 1−43810
high flux mass transfer in liquid fluidization 1−19794
horizontal smooth tube bundles immersed in large particle fluidised bed, heat transfer 1−19709
horizontal tube and gas-solid fluidised bed, heat transfer 1−19705
laser velocimeter, multiple-beam, particle vel. distrib. meas. in fast fluidised bed 1−6595
mass transfer between flowing liquid and wall or immersed surface in fixed and fluidised beds 1−19795
mass transfer from single bubble and dense phase of fluidised bed 1−51866

fluidised beds continued
moving, narrow grain size fractions of granular materials *(Czech)* 1−38010
reaction system, static charge reduction using glow discharge 1−39695
rotating, dynamics of bubbles, entrained particles, Navier-Stokes eqns. anal. 1−2059
spherical particles, hydraulic resistance 1−29771
spouted beds, hydrodynamics and heat transfer, particle circulation 1−6854
thermal energy storage using fluidised bed heat exchanges, technical and economic assessment 1−53687
vibrational fluidized bed, instabilities 1−15539

fluidised powders *see powders*

fluidity *see viscosity*

fluids
see also bubbles; classical theories of fluid structure; disperse systems; fluid mechanics; fluidised beds; gases; gravity waves; liquids; non-Newtonian fluids; quantum fluids; quantum theories of fluid structure
No entries

fluorescence
see also atomic fluorescence; fluorescent lamps; fluorescent screens; molecular fluorescence; nonradiative transitions; X-ray fluorescence analysis
absorptive optical bistability, fluorescent spectrum 1−15206
airborne laser induced fluorescence system for measuring trace gases, corrections 1−26793
alkali halides, point defects, two-photon spectroscopy 1−3440
alkaline earth fluorides, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
amino-N-methylphthalimides, fluoresc., directed energy transfer 1−16599
4-amino-N-methylphthalmide solid solns., fluoresc. spectral line shift due to directional energy transfer 1−35095
3-aminophthalmide solid solns., fluoresc. spectral line shift due to directional energy transfer 1−35095
amorphous hosts, homogeneous fluoresc. linewidths 1−21268
anthracene:naphthacene, amorphous film, fluoresc. spectra temp. depend. 1−8109
anthracene, annealing influence on fluorescence, dislocation generation *(Russian)* 1−31196
anthracene cryst., triplet exciton pair-charge carrier interaction 1−20635
anthracene crystal, annealing influence on low-temp. fluorescence, exciton *(Russian)* 1−35096
anthracene crystals, generation and annealing of dislocations, fluorescence spectra *(Russian)* 1−20207
anthracene crystals, with triplet exciton traps, temp. depend. of delayed fluoresc. lifetime 1−26254
anthracene derivative Langmuir-Blodgett films, struct. and optical props., mol. arrangement 1−6270
anthracene single cryst., triplet states, phosphoresc. and delayed fluoresc. mag. reson. 1−31063
anthracenes and its derivatives in solution, fluoresc. solvent viscosity effect 1−12566
benzene, in cyclohexane soln., indioluminesc., fluoresc. decay curves, quenching kinetics 1−43187
benzil-bibenzyl mixed crysts., excitation and emission spectra 1−39119
Chlamydomonas reinhardi, slow fluoresc. fluctuations following light transitions 1−13221
chlorophyll fluorescence induction rel. to H_2 photorelease in Chlorella cells 1−39896
chlorophyll solutions, fluoresc. quenching, maser eqn. approach 1−199
coherent transfer in presence of traps 1−8124
3,5-dichlorobenzoic acid, soft X-ray radiation damage, high resolution mol. X-ray fluoresc. study 1−8151
disordered system with Lorentzian transfer rate, spectral distrib. time development 1−21267
donor fluorescence in diffusion limit, theory 1−12575
dye, fluorescent, solvent matrix influence on overlapping of absorpt. and emission bands 1−26252
dye tagged macromols. and particles, electro-fluorescent light valve mechanism 1−41530
endoscopic system for simultaneous visual exam. and electronic detect. of cancer cell fluores 1−13310
fibre optic microfluorimetry for acute and chronic in-vivo animal studies 1−22177
films, reflectance characteristics, calculator assisted evaluation 1−48187
fluorophosphate glass, lasing and optical props. 1−1572
Forster's deactivation relation, inhomogeneous spatial distrib. and acceptor active behaviour effects 1−2904
germanate glass:Bi^{3+}, $^3P_1$ and $^3P_0$ excited states, time-resolved laser-induced fluoresc. band narrowing study 1−3483
GL 2688 (Cygnus Egg Nebula), bipolar nebula, reson. fluoresc. mol. emissions 1−32744
glass, rare earth doped, laser induced fluorescence line narrowing 1−3460
glasses:CrIII, radiationless relax. symm. luminescence lifetimes 1−1164
high-pressure, use for electronic phenomena studies in condensed systems 1−12563
isobutyl alcohol, dipolar orientational relax., fluoresc. probe investigation 1−16600
Kubelka-Munk light propag. theory extension to fluoresc. media, appl. to plant sensory pigments 1−1494
laser glass, optical props. 1−1661
laser induced do enhancement using Rockwell AIM-65 microcomputer data acquisition and control system 1−14106
leaves of higher plants, parallel meas. on fluoresc. life-time and intensity changes 1−22061
lidar, fluorescence for atmospheric trace constituents meas., SNR maximization 1−49406
lidar fluorescence for minor species monitoring in atmosphere 1−4647
liquids, picosecond relax. processes 1−16579
luminescing activated crystals, phonon spectroscopy, review 1−12553
MBBA with polymethine dye solution, absorpt. and fluorescence spectra *(Russian)* 1−3448
microscopy, instrumental problems, special reference to immunofluoresc. 1−33051
molecular crystal, exciton annihilation, fluorescence intensity 1−2882
multicomponent mixtures, self-absorpt. region determ., fluoresc. method 1−19131
naphthalene: chrysene mixed cryst., excitation spectra of delayed luminesc. 1−48131

fluorescence continued
naphthalene, lightly doped crystals, singlet exciton transport, correlated hopping model, fluoresc. meas. 1−3450
nebulae, static, efficiency of Bowen fluorescence mechanism 1−49484
optical fibre preforms, single-mode, fluoresc. profiling 1−41837
photosynthetic membrane pigments, self-absorpt. region determ., fluoresc. method 1−19131
photosynthetic systems, energy-transfer processes, role of conc. quenching 1−17358
photosystem II, chlorophyll a delayed fluoresc., mag. field-induced increase 1−53815
planar concentrator, generalised brightness theorem, thermodynamic limitations 1−31982
PMMA, fluoresc., directed energy transfer 1−16599
polar glasses, dipolar orientational relax., fluoresc. probe investigation 1−16600
polar liquids, dipolar orientational relax., fluoresc. probe investigation 1−16600
poly(N-vinylcarbazole) films, fluoresc., phosphoresc. and delayed fluoresc. at 77K 1−21253
polybenzimidazole dilute solns., props. 1−35063
polyvinyl alcohol, fluoresc., directed energy transfer 1−16599
pyrene, fluoresc. quenching by N,N-dialkylanilines, in liposome gels 1−8105
pyrene crystals, excimer and monomer emission, solid state phase transition 1−3452
pyrene films, evaporated at low temp., fluoresc. spectra, excimer emission 1−26261
pyrenedecanoic acid, fluoresc. quenching by N,N-dialkylanilines, in liposome gels 1−8105
quartz, S1-UV, stimulated fluoresc. by ArF laser radiation 1−16592
resonance fluorescence and spontaneous emission as tests of QED, book contrib. 1−14291
resonance scattering of hard synchrotron radiation and neutrons by nuclei in crystals 1−23616
rhodamine 6G, solvent effects on gain spectra 1−19328
ruby, fluorescence, R_1 line, macroscopic inhomogeneous broadening, obs. 1−12537
ruby, nonradiative resonance energy transfer, absence of Anderson transition 1−31187
ruby, optically generated pseudo-Stark effect obs. 1−12079
ruby, resonant nonradiative energy transfer, fast Stark shifting technique 1−31186
ruby fluorescence line, appl. to simultaneous meas. of temp. and press. in diamond cell 1−5336
sapphire, fluorescence, 4.4 to 300K, F-centre electronic struct. 1−26269
sapphire, UV grade, stimulated fluoresc. by ArF laser radiation 1−16592
semiconducting layer, fluoresc. efficiency calc. using Huygens principle 1−31201
solar energy conversion by fluorescent materials for utilization in space communication systems 1−17301
spectral radiance factors, calc. for luminesc. samples 1−21254
tellurite:Ho^{3+}, glass, 750 nm laser emission anal. 1−16584
tetrafluoroethylene powder, reflectance and fluorescent properties 1−26183
thin layer emitters, optical-environment-doped-spontaneous emission rates 1−12578
L-(−)-tryptophan−DMSO, fluorescence and phosphorescence quenching by Eu^{3+} 1−26271
uniaxial liquid crystals, photoselection, rot. Brownian motion effect on orientational distrib. function 1−8115
uniaxial liquid crystals, photoselection, rot. Brownian motion effect on orientational distrib. function 1−8116
uranine-DAMC dye mixture laser, N_2 laser pumped, gain studies 1−24416
X-ray diamond anvil cell and pseudo-Kossel line pattern 1−29997
BaF_2, stimulated fluoresc. by ArF laser radiation 1−16592
BaFCl-EuFCl, Eu^{2+} fluorescence and its application in medical X-ray intensifying screens, book contrib. 1−9014
Bi^{3+} in solids, luminesc. levels 1−8107
CaF_2, reflectivity, fluoresc. and photoelectron spectra, 20 to 100 eV 1−3466
CaF_2:Er, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
$CaF_2:Eu^{2+}$, ballistic propag. of phonons obs. by piezospectroscopic fluoresc. method 1−3487
$CaF_2:Eu^{2+}$, mode depend. of resonance absorpt. of ballistic phonons *(Russian)* 1−52248
$CaF_2:Eu^{2+}$, tunable optical phonon detector and generator 1−15979
$CaF_2:Sm^{2+}$, phonon spectroscopy, fluoresc. obs. 1−12553
$CaSO_4$:Dy phosphors, X-ray induced fluoresc. and phosphoresc. 1−39134
Cs_2KNdF_6, conc. quenching of Nd^{3+} fluorescence 1−3470
$CsMnF_3$, biexciton decay and multimagnon sidebands in fluroesc. spectra 1−30646
$DyPO_4$, Ising antiferromagnet, intrinsic fluoresc. in mag. field 1−43172
Er^{3+}: glass (phosphate, germanate, tellurite), radiative and nonradiative transition probabilities 1−26236
Er^{3+}:$LiYF_4$, $^4I_{11/2} \rightarrow {}^4I_{13/2}$ 2.8 μm laser transition, Stark level identification 1−29288
Eu^{2+} fluorescence and its application in medical X-ray intensifying screens, book contrib. 1−9014
Eu^{3+}:Y_2O_2S, luminesc., solid solution formation, thermal props. 1−39157
EuP_5O_{14}, optical spectra, Eu^{3+} energy levels 1−8089
Fe, neutral, in ISX-B, density and rel. distrib. by laser fluoresc. spectrosc. 1−25058
Gd complex, Gd (hexamethylphosphoramide)$_6$(ClO_4)$_3$:Eu^{3+}, crystal field parameters, fluoresc. spectra 1−25677
$GdAlO_3$:Cr^{3+}, chopper technique for meas. delayed fluoresc. superimposed on excitation spectrum 1−36739
Gd_2O_3:Eu^{3+}, fluoresc. spectrum, site-selective excitation, cryst. field anal., and energy transfer 1−39152
GeO_2 doped optical fibres and preforms, UV excited fluoresc., refr. index profiling appl. 1−46556
KCl, soft X-ray radiation damage, high resolution mol. X-ray fluoresc. study 1−8151
KCl(Br), additively and gamma coloured, lyoluminesc. in fluoresc. and chemiluminesc. solns. 1−26274
$KClO_3$, soft X-ray radiation damage, high resolution mol. X-ray fluoresc. study 1−8151
KI:NO_2^-, laser induced fluorescence and Raman studies 1−43171
K_2O_3-BaO-GeO_2:Ho^{3+}, glass, 750 nm laser emission anal. 1−16584

fluorescence continued
La complex, La (hexamethylphosphoramide)$_6$(ClO_4)$_3$:Eu^{3+}, crystal field parameters, fluoresc. spectra 1−25677
LaF_3:Gd^{3+}, two-photon absorption as a new test of the Judd-Ofelt theory, fluoresc. detection 1−43170
LaF_3:Pr^{3+}, transfer inside pairs of Pr^{3+}, up-conversion fluorescence study 1−48152
Li, polycrystalline, X-ray Compton profile 1−43213
$LiErP_4O_{12}$, growth and spectral props. 1−26380
Li_2O-CaO-Al_2O_3-P_2O_5:Mo^{3+} glasses, fluoresc. line narrowing and decay rates, site depend. 1−39148
$LiYF_4$, optical detection of exciton EPR 1−26079
MgF_2, stimulated fluoresc. by ArF laser radiation 1−16592
NaCl:Cu^{2+}, fluorescence spectra 1−3455
NaCl(Br), additively and gamma coloured, lyoluminesc. in fluoresc. and chemiluminesc. solns. 1−26274
$NaHCO_2$:NO_2^-, $^{1,3}B_1$-$^1A_1$ electronic transition, IR absorpt., fluoresc. and phosphoresc. spectra 1−30658
$Na_3La_{1-x}Nd_x(PO_4)_2$, $Na_3La_{1-x}Nd_x(VO_4)_2$, optical props. rel. to microlaser develop. 1−16595
$NaPO_3$:Ho^{3+}, glass, 750 nm laser emission anal. 1−16584
O I 8446 Å line in V1016 Cygni, absolute spectroscopy rel. to reson. fluoresc. excitation 1−54502
O III Bowen fluorescence in emission nebulae, anal. of O III oscillator strengths 1−13681
RbCl:Eu^{2+}, thermoluminesc., fluoresc., optical absorption 1−43194
Rb_2KNdF_6, conc. quenching of Nd^{3+} fluorescence 1−3470
$RbMnF_3$:Nd^{2+}, 10488 Å line position and width, thermal behaviour 1−52988
$ScTa_{1-x}Nb_xO_4$, struct. and luminesc. 1−13972
Sm^{3+} in $POCl_3$:$SnCl_4$, $^6H_{5/2}$ and $^4G_{5/2}$ states, near-resonance interactions between Stark components 1−26272
SrClF:Sm^{2+}, fluorescent spectrum, Stark components, cryst. field parameters 1−3491
SrClF:Sm^{2+}, fluorescence spectrum, Stark components 1−31192
SrF_2:Eu^{2+}, tunable optical phonon detector and generator 1−15979
SrO-Li_2O-P_2O_5:Mn, Ce system, luminesc. meas., composition depend. 1−48133
$ThBr_4$:Pr^{3+}, absorpt. and laser excited fluoresc. spectra, energy levels, crystal field parameters 1−48119
Y complex, Y (hexamethylphosphoramide)$_6$(ClO_4)$_3$:Eu^{3+}, crystal field parameters, fluoresc. spectra 1−25677
YAG:Nd, three-photon absorption, Nd energy levels, fluoresc. decay study 1−39131
YVO_4:Nb^{5+}, Eu^{3+}, luminescence processes, effect of Nb impurities 1−26273

fluorescence of atoms *see atomic fluorescence*

fluorescence of molecules *see molecular fluorescence*

fluorescent lamps
phosphor research developments, review *(Japanese)* 1−19398
phosphors, depreciative colour centre phenomena, review 1−48132
soda-lime glass envelope darkening by the low press. Hg discharge 1−29932
Ar-Hg mixtures, RF H discharges characts. obs. 1−15740

fluorescent screens
see also electroluminescence
angiography, asymmetric screen pair 1−17488
cathodophosphor screens, radiation characts. control, limiting energy yield 1−12586
MTF of screens excited by X-rays 1−23396
radiographic screen-film systems, large area contrast prediction 1−40916
radiographic screen-film systems, line spread function meas. and MTF calc. 1−40915
radiographic screen/film systems, comparison of methods used to measure characteristic curve 1−40913
radiographic screens, method for expt. determ. of detective quantum efficiency 1−40914
radiography, rare earth screens, compatibility with automatic exposure control systems 1−43981
rare-earth luminescent materials, use in high-definition intensifying screens 1−18345
YAG single cryst. phosphor screen for cathode ray tube, LPE grown 1−8241
ZnCdS:Ag screen, electron beam excited, absolute efficiency 1−8137

fluorimetry *see spectrochemical analysis*

fluorine
see also nuclei with .....
atom, HF values of atomic integrals useful in LCAO-MO calcs. 1−13940
atom+trifluoromethyl halides, CF_3XF free radicals form., matrix isolation IR detect. 1−6243
atom generators, combustion driven, for DF chem. lasers 1−37489
atomic etching of Si, chemiluminescence study 1−16615
atomic laser, charge transfer pumping from He_2^+ 1−37461
atoms, ground states, fine struct., spin-extended Hartree-Fock calcs. 1−45829
EXAFS meas. above K-edges, appls. to surface struct. determ. 1−28915
fission reactor fuel reprocessing, fluorination by F_2, thermochromatography and IR measurements 1−18848
gas, effect on ArF* fluorescence yield, quenching rate consts. 1−37251
geochemistry, upper mantle chem. composition 1−49240
ion+Ne, low vel. Ne ion prod., charge state correl. cross-sections 1−1359
isoelectronic series, mag. dipole and elec. quadrupole transition probabilities 1−28924
Kα X-ray satellite intensities, chem. bond effects 1−1160
laser transitions, discharge excitation using transverse electrodeless RF config. 1−1550
molecule, correlation energy, fourth order diamag. many-body Rayleigh-Schrodinger perturbation calcs. 1−41297
molecule, dissoc. energy, bond lengths, GO calcs. 1−10633
molecule, electron impact, vibr. excitation, rate const. determ. 1−1391
Ar-Kr-F_2 laser mixtures, kinetic processes 1−46309
F atom in F_2 molecule, localised atomic orbitals determ. 1−1076
F atom in HF molecule, appln. of localised atomic orbital construction method 1−1075
F I-like spectra, $2s^m2p^k$ (m=2, 1, 0) config. energy level compilation 1−37089
F VII, beam foil excitation, relative level populations 1−46095
F VIII, allowed and forbidden transition probability 1−37159
F^-, 3-body recomb. with inert gas cation, quasiequilib. theory 1−1315

fluorine continued
F^-, quadrupole antishielding factors, non-orthogonal Hartree-Fock perturbation theory 1−45831
F+acetylene reaction, matrix isolation spectra of products 1−28965
$F+H_2$, state-to-state reactive scatt. process, ang. distrib., DWBA study 1−35509
$F+H_2$, variational transition state theory, vibr. adiabatic transmission coeffs. 1−6343
$F+H_2 \rightarrow HF+H$, integral cross sections, infinite order approx., quantum mechanical calcs. 1−12972
F+HCl(HBr)(HI) reaction, HF vibr. rot. distrib. and IR chemiluminesc. 1−4062
F+methanol$(-d_1)$ $(-d_3)(-d_4)$, IR chemiluminescent reactions, vibr. and rot. relax., branching ratios and kinetic isotope effects 1−26750
$F+NH_3(ND_3)$, reaction, isotope effect, IR chemiluminesc. obs. 1−8538
$F+Na_2 \rightarrow FNaNa^{2+}* \rightarrow NaF+Na*$, chemiluminesc. obs. 1−35534
$F+O_2$ reaction in Ar matrix, FO_2 and O_2F_2 vibr. spectra and dissoc. 1−39615
$F+O_3(CO)(NO_2)(SO_3)(FSO_3)(NF_2)(ClO_2)(ClF)$, recombination const. calc. 1−8596
F+Si surface interaction, prod. from SF_6 multiphoton dissoc. 1−48730
F+vinyl radical, reaction, HF energy distrib. obs. 1−43655
F^-+Kr^+, in Ar, plasma shielding effects, appl. to excimer lasers, Monte Carlo calcs. 1−38057
$F^{7+}+He^{2+}$(He), one electron ion 2s-2p excitation cross section, plane wave Born approx. 1−15003
F_2, electronic struct. studied by self-consistent discrete variation Xalpha method, ionisation pot. calc. 1−6126
F_2, localised atomic orbitals determ. for F atoms 1−1076
α-F_2, solid, lattice vibr. calc., Raman and far IR spectra, intermol. forces 1−20326
F_2-methane, combustion, chemiluminescence study, visible emission, vibr. and rot. parameters 1−26749
F_2+B(Al)(Ga)(In)(Tl) reactions, chemiluminesc., beam-gas study 1−48667
F_2+ethylene, γ-electron mol. complex formation, MO CNDO/2 calcs. 1−35506
F_2+ethylene, vibr. excitation in cryogenic matrices 1−39611
F_2+H, variational transition state theory, vibr. adiabatic transmission coeffs. 1−6343
F_2+H_2, vibr.-rot.-translational relax. kinetics model for HF pulsed chem. laser 1−41677
$F_2+I_2(Br_2)$ (ICl), chemiluminescent reactions studied by crossed mol. beam technique 1−39644
$GeO+F_2$, Ar matrix reaction, IR spectra of $OGeF_2$ *(German)* 1−31850
H_2-F_2-O_2 mixture, photochemical induced combustion, appl. to chemical lasers 1−4088
Kr^++F^-+Ar, ion recomb., plasma shielding effects 1−29839
LiO_2-Al_2O_3-SiO_2:F, glass-ceramic, strengthening mechanism 1−43432
MgO:F, thermally stimulated luminescence, electron and hole traps 1−21282
MgO:F^-, sintered compact, charact. 1−39291
pt:F thin films, XPS characterization 1−16666
Si:F, amorphous, chem. bonding struct., IR absorpt. and XPS study 1−52942
Si:F, amorphous, RF sputtering prep., elec. and optical props. 1−53090
Si:F, H, amorphous, glow-discharge, electroreflectance and Raman scatt. studies 1−35044
Si:F, H, amorphous, MIS solar cells, high-efficiency, theory and expt. 1−43782
Si:F, H amorphous thin film as a MIS solar cell 1−39765
Si:F,H, amorphous, photocond., recomb. mechanisms, influence on solar energy conversion 1−42814
Si:F,H amorphous film, F atom behaviour to 900°C, gas evolution and IR absorpt. 1−48670
Si:F,H amorphous films, bonding of F, IR spectra study 1−39095
Si:F,H amorphous films, IR and photoemission spectra 1−53005
Si:F,H glow-discharge films, amorphous, electronic and vibr. props., electrolyte electrorefl. and Raman spectra 1−53006
a-Si:F RF sputtered film, annealing props. 1−3622
Si:H, F, As, amorphous, thermoelec. power and elec. cond. meas. 1−47691
Si:H, F films, amorphous, RF glow-discharge prep., dark cond. and photocond. props. 1−34595
Si-F,B sputtered films, amorphous, doping effect on cond., p-n junction form. 1−52562
a-Si:F, H glow discharge films, for solar cells, photovoltaic props. 1−4195
SnO_2:F film, impurities influence on struct. and opt. props. 1−39167
SnO_2:F sprayed film, light transmission and resistivity optimisation 1−52456
$UF_5+F \rightarrow UF_6$, RRKM calcs., decomposition rate const. 1−35516

fluorine compounds
difluorides and dioxides, rutile struct. in Earth interior, elasticity and phase transform. 1−32434
fluorides, octahedral, monosubstituted, perturbation theory and spin coupling const. 1−1146
fluorides, tetrahedral and planar trigonal, LCAO MO theory, perturbation extension, spin coupling const. 1−1145
$FClO_3$ optically pumped laser action, 16.3-17.7 μm region 1−6542
FH, correlation energy, equilib. geometry, spectroscopic consts, Rayleigh-Schrodinger perturbation theory 1−41301
FH, scaling parameters, electron correlation calcs. 1−41325
$FH+H_2C$, carbene complex formation, HF-Roothaan, STO calcs. 1−31851
FH+Li reaction, quantum mechanical collinear model 1−48669
$FH...H_2$, H bonded complex, stretching cubic and quartic force consts., ab initio SCF-MO calcs. 1−6158
FO_2, IR vibr. spectra and photodissoc., prod. from $F+O_2$ reaction in Ar matrix 1−39615
FSO radical, electronic struct., ab initio calcs. 1−18997
FSO radical, microwave spectra, spin-rot. and hyperfine consts. 1−45941
$F^{33}SO_2$, forbidden transitions, hyperfine interactions, magnetogyric ratios, EPR obs. 1−24176
FSO_3+F, recombination const. calc. 1−8596

flux (magnetic) *see magnetic flux*

flux (neutron) *see neutron flux*

flux creep
see also flux pinning
No entries

flux crystal growth *see crystal growth from solution*

flux flow
see also flux pinning
composite and hard superconductors, critical state stability and training phenomenon, theory 1−47824
film, current induced dissipative state, temporal struct. of flux-flow voltage 1−3117
flux lines driving scheme, by Lorentz force density 1−30896
helical vortex instability limits longitudinal current in type-II superconductors 1−3120
noise and isolated pinning structures, local correlation 1−12245
superconductors, type II, dissipation due to normal excitation motion along vortex cores 1−16418
thin film, flux-lattice melting, phase diagrams 1−3121
type II superconducting films, ideal, Johnson noise power spectrum 1−52727
In superconducting film, depend. of flux flow viscosity coeff. on Ginzberg-Landau parameter 1−16416
Nb foil, flux flow noise, influence of DC vortex vel. field 1−42932
Nb, thin film microbridge under vortex flux flow, IR radiation detection 1−18300
Nb_3Ge film, CVD, highest possible T_c and surface flux entrant field obs. *(Korean)* 1−12246
NbTi, Cu-clad, supercond. wire, AC losses, flux jumps, quench behaviour, under coil simulation conditions 1−47801
Pb film, flux-flow damping coeff. meas. 1−30892

flux-line lattice
flux pinning by voids and precipitates, proximity effect 1−7782
fluxoid quantisation in supercond. hollow cylinder, temp. depend., Ginzburg-Landau theory 1−12226
thin film, flux line penetration and lower crit. field, theory 1−3095
thin film, flux-lattice melting, phase diagrams 1−3121
type II superconducting films, ideal, Johnson noise power spectrum 1−52727
type II superconductor, dislocation mobility 1−3122
type II superconductors, surface barrier effects, penetration depth depend. 1−42931
Al, superconducting order-parameter enhancement, microwave-induced, mag. flux behaviour 1−52689

flux line motion *see flux flow*

flux pinning
see also flux creep; flux flow
hollow weakly coupled superconducting cylinder, induced current state *(Russian)* 1−42905
isolated pinning structures and flux flow noise, local correlation 1−12245
multifilamentary composites, coupling mechanisms, stress effects and flux pinning, review 1−47825
proximity effect in flux pinning by voids and precipitates 1−7782
thin film, flux-lattice melting, phase diagrams 1−3121
type II superconductors, metastable states and one-particle pinning near critical field *(Russian)* 1−30897
weak pin superconductors, pinning force density 1−38884
In dirty film, scaling law for pinning forces 1−16417
$(Mo_{0.6}Ru_{0.4})B_{18}$ metallic glass superconductor, fluxoid pinning, cold rolling effect 1−20933
Nb foil, flux flow noise, influence of DC vortex vel. field 1−42932
Nb single crystals, superconducting, preparation and analysis of Nb_2N precipitates 1−42928
Nb-Ti(Sn)(Ge)(Hf), flux pinning, strain scaling law 1−52726
$Nb_3(AlGe)$, superconductor alloyed with Cu, flux-pinning centres 1−25847
$NbSe_3$, superconductivity, mag. susceptibility crit. fields 1−38899
Nb_3Sn multifilamentary superconductor, upper crit. field 1−47823
Nb_3Sn, supercond. flux lines, pinning by grain boundaries 1−42930
Nb_3Sn superconductor, strain scaling law for flux pinning 1−42929
Pb film, flux-flow damping coeff. meas. 1−30892
Pb-Bi(In)(Sn)(Ni), effect of superconducting transitions on plasticity *(Russian)* 1−42879
Pb-Ge system, critical currents and pinning forces 1−52735
V_3Ga, flux pinning, strain scaling law 1−52726

flux vortex flow *see flux flow*

flux vortex lattice *see flux-line lattice*

fluxmeters
see also magnetic field measurement; magnetic flux
G77 milliteslameter for constant and alternating magnetic induction 1−18258

fluxoid array *see flux-line lattice*

foams
see also bubbles
cryogenic composite polystyrene insulation fabrication 1−8268
evaporation, heat and mass transfer 1−29680
foam-ceramic, strength study, porosity depend. *(Russian)* 1−16834
glass, foamed, cell size effect on strength 1−53236
homogeneous two-phase foam flow formation, LMMHD mixer 1−34006
mafic magma, vesiculation during replenishment of silicic magma reservoirs 1−22309
metal foam, vacuum applications 1−27997
Newtonian black film, rupture, nucleation mechanism, theory 1−16156
polymer foam formation, bubble, growth in viscous Newtonian liquid 1−33998
polystyrene, dielectric behaviour at microwave freq. 1−47997
polystyrene, foamed, compression shock wave propag. 1−41977
silicone foam for flat plate solar collector insulation 1−43804
spongy metals, geometrical studies, stereological anal. *(Japanese)* 1−53486
Au, sputtered, Kr bubble form. and growth 1−12004

focused collision sequences *see sputtering*

focusing
see also self-focusing
aberration changes due to focusing and their elimination 1−51593
camera electronic focusing systems, sonar autofocus, IR triangulation, passive Visitronic autofocusing *(German)* 1−33067
camera lens, automatic focusing methods *(French)* 1−23333
conflection lens, focused narrow oblique beam third order aberrations 1−19403
cyclotron, superconducting, fields calc. assuming uniform magnetisation of pole tips 1−10559
elastically anisotropic cryst., phonon focusing and phonon conduction 1−15981

focusing continued
electro-optical focusing device for flight simulator laser visual system 1−41819
electromagnetic focusing system, concentric, electron optics *(Czech)* 1−1479
electron beam, high-intensity, mag. periodic quadrupole focusing 1−15067
electron micrographs, high resolution, correction of artefacts 1−50281
electrostatic mirrors, improved focusing and energy resolution 1−24340
focal boundary layer in axisymmetric diffraction problems 1−29209
Fresnel images, periodic transparency error effects 1−6499
grating device for coupling and focusing in thin-film optical waveguide 1−37600
grating rhomb beam sampler, correcting inherent aberrations 1−11081
higher harmonic direct generation, optimum focusing conditions 1−1631
hologram, focused-image, high quality, for colour image preservation 1−41624
holography, focused-image, fringe localisation produced by recording plate rot. 1−19284
integrated autofocusing system and method of manufacture 1−24531
interferometer focusing accuracy effect, for density meas. of laser produced plasmas 1−15647
ion focusing effects on total reflection coeff. near semichannel direction 1−52195
laser, CO_2, for strengthening steel *(Russian)* 1−43593
laser beam concentration evaluation taking account of diffr. effects 1−19376
laser beam optimum focusing, spot size and beam waist depend. on modified Fresnel no. *(German)* 1−46418
laser beams focusing by flat flames, teaching 1−22983
laser doughnot mode propag. through single lens, focal region intensity distrib. 1−24443
laser facility, Del'fin high-power, for heating spherical thermonuclear targets 1−6596
lens, birefringent, HF enhancement by subtraction of focused, defocused images 1−46237
linear focusing systems, secondary conc., solar energy concentrator appl. 1−4158
linear proton accelerators, particle, loss due to channel focusing parameter errors 1−23927
liquid, light flash from focusing of converging shock wave in spherically symmetric collapsing vapour cavity 1−3493
meridional flux focusing in difference field 1−1472
mirror, metallic, high power laser beam interactions anal. 1−6590
multibeam laser alignment principles for thermonuclear purposes, Del'fin Nd:glass facility 1−6597
negative ion beam extraction from inverted sputter source, improvement 1−23917
neutralised ion beam focusing, Pierce instability effects 1−41553
neutron diffraction optics, lenses for neutron focusing *(Russian)* 1−6441
neutron scattering by imperfect crystals, appl. of focusing principles 1−41551
nuclear physics, imaging system, development of high-resolution demagnifying image tubes with mag. focusing *(Czech)* 1−45767
optical higher harmonic generation, focusing influence 1−6618
photograhic camera automatic exposure control and focusing technology *(German)* 1−28081
plane defect, diffr. focusing of X-rays, comparison with moire method *(Russian)* 1−7043
plasma optics, single particle approx., lenses and equilibrium 1−42148
RAIDEN spectrometer, magnetic, quadrupole-dipole-multipole-dipole-quadrupole type design and construction 1−10583
relativistic electron beam, transverse resistive wall instability, continuous external focusing 1−51017
scophony light valve with electronic focus shift for laser scanner use 1−46548
STEM images, method for displaying defocus and astigmatism 1−45078
three-dimensional wave fields in focal regions 1−40657
two-dimensional wave focusing 1−37387
visual depth of focus, eye size and visual acuity 1−8852
wave focusing and hydraulic jump formation 1−29710
wavefront reversal of focused beam, stimulated Brillouin backscatt. theory 1−6616
X rays, angular coherency and focusing problems *(Russian)* 1−36778
zoom lenses, focusing system with const. ang. field of view *(Japanese)* 1−50249
CO_2 CW focused laser beam, thermal blooming 1−41792
CO_2 TEA laser, focusing using axicon, long diffuse discharge prod. 1−7014
Ge, electron-hole droplet and ballistic phonon imaging 1−16237

focusing, particle *see focusing; particle optics*

fog
atmospheric laser transmission, influence of meteorological parameters 1−13573
Delhi, sodar detect. of fog layer top 1−4576
droplet evaporation retardation by air pollutants, laboratory expts. 1−17639
droplet sampler, description of linear impactor device 1−13586
droplets, growth by condensation, effect of radiative exchange 1−22388
EM wave absorption in range 5 to 17 cm^{-1} and its temp. depend., meas. 1−27229
IR extinction coeffs. rel. to liquid water content 1−9244
laser beam propagation through fog, absorpt. and scatt. coeffs. of droplets 1−40195
laser beam transmission in artificial fog, growth, evaporation and sedimentation effect modelling 1−19262
lidar multiple scattering in homogeneous fogs 1−9252
microstructure of fog rel. to condensation nuclei characts. 1−49343
radiation fog, condensation process microphysics 1−54202
radiational fog laser pulse propag. 1−19263
surfactant addition altering stochastic condensation in cloud and fog *(Russian)* 1−40162
thermal inversions capping fogs, radio acoustic meas. 1−54193
Venice, related diffusion potential 1−9202

foils
bulge test: a comparison of theory and experiment for isotropic and anisotropic films 1−35302
C foil, Cl ion beam impact, radiative electron capture 1−24236
electron microscopy, method of identifying planes 1−48605
metal foil-prism coupling system, complex refr. index, total absorpt. ATR meas. method 1−43198

foils continued
metal foils, ^3He implanted, local density meas. by Doppler shift attenuation method 1−34376
metal foils, electrochemically-deposited, ductility meas. using hydraulic deepdrawing test 1−26713
piezoelectric high polymer foils as physiological mech.-elec. energy convertors 1−35906
polycarbonate foils processed by the electrochemical etching technique, α-particle detect. appl. 1−18957
polypropylene foil, light intensity variation effect on photo-oxidation 1−48711
PVC, thin foils, ablative acceleration, thermal power fluxes in shock tube 1−51809
solar collectors, selective absorber coated foils 1−43803
thickness meas. from convergent beam diffr. patterns 1−50101
Ag surface, interfacial light scatt. and electrodynamics due to roughness 1−35108
Al foil, laser drilling with different pulse shapes 1−8168
Al foil in H_3BO_3-$N_2B_4O_7$ soln., excitation processes at the electrolyte-electrode interface 1−35098
Al foils for TEM, defects after high-freq. fatigue deform. 1−39566
Al, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
Al, subsurface struct. obs. by scanning laser photoacoustic spectroscopy 1−40866
Al-Mg foils, role of environmental conditions on irradiation damage in HVEM 1−2515
Au foil, ^3He implanted, local density meas. by Doppler shift attenuation method 1−34376
Au, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
Au:Sb, bulk impurity, surface segregation, XPS 1−42413
B, self supporting, film production by evaporation technique 1−25591
C, alpha-recoil and fission fragment induced desorption of secondary ions 1−31294
C, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
C thin foil, atomic impact, quasimol. formation inner shell charge transfer cross sections 1−16643
Cs, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
Cu foil, bulge test: a comparison of theory and experiment for isotropic and anisotropic films 1−35302
Cu foil, Fermi liquid exchange parameter determ. 1−16265
Cu foils, obs. of dislocation motion at 20K during microdeform., TEM 1−30232
Cu, scale factor manifestation in tension 1−16836
Cu-Ni (50 at.%) foil, bulge test: a comparison of theory and experiment for isotropic and anisotropic films 1−35302
Fe/Ni alloy foil electroforming, anode material effects 1−48697
Nb foil, ^3He implanted, local density meas. by Doppler shift attenuation method 1−34376
Nb foil, H_2 uptake rate, thin metallic overlayer effect 1−2633
Ta foil, H_2 uptake rate, thin metallic overlayer effect 1−2633
Tb thin foils, microstruct. and mag. domain struct., TEM study 1−47921
V superconducting foil, critical current, O_2 gas treatment 1−52737
Zr foil, ^3He implanted, local density meas. by Doppler shift attenuation method 1−34376
Zr, superconductivity enhancement after H(D) implantation 1−20899

Fokker-Planck equation
absorptive optical bistability, one-dimens. Fokker-Planck process long time evolution 1−46429
atomic velocity redistribution due to resonant light field *(Russian)* 1−42130
atoms interaction with laser radiation, kinetic eqn. *(Russian)* 1−33431
Brownian motion and quasi-Markov processes 1−5233
Brownian particles, nonspherical, kinetic description, appl. to flow birefringence 1−50051
charged particle beam propagation in inhomogeneous medium with radial force 1−24341
chemically bistable system, variational calc. of lower excited states 1−17026
coherent state, Fokker-Planck description, reson. fluoresc. 1−6197
convection instability, Benard cell, far from equilibrium perturbation formalism 1−40732
damped reactions, correlated charge and mass transport, statistical nucleon exchange 1−33252
dielectric relaxation processes based on diffusional mechanism 1−21124
disperse systems, kinetic theory from Fokker-Planck-Kolmogorov diffusion eqn. 1−37992
dispersive optical bistability with fluctuations 1−46435
dissipative collision expts., microscopic transport theory anal., book contrib. 1−50628
dissipative heavy ion collisions, transport theory, doorway configs. 1−50635
electron distribution functions, runaway production rate, 2-D Fokker-Planck code 1−19862
fine-particles, antiferromagnetic, stochastic props., susceptibility *(Russian)* 1−30990
fission dynamics as a dissipative process 1−50666
forward Hopf bifurcation with multiplicative gaussian white noise 1−27879
gas, equilib., hydrodynamic fields fluctuations distrib., Fokker-Planck eqn. *(Russian)* 1−2132
Ginzburg-Landau field, one-dimens., discrete, stochastic props. 1−40728
hard-sphere gases, bath to test particle masses ratio, self-struct. factors 1−32898
harmonic generation, sub/second, non-equilibrium transitions, quantum theory 1−46448
heavy ion collisions, inelastic, quantal fluctuations 1−23677
heavy ion reactions, statistical theory using Fokker Planck eqn., book contrib. 1−50630
high frequency wave scatt. due to density fluctuations 1−6962
inert gas ion penetration into metal, treated in glow discharge *(Ukrainian)* 1−38642
inertial confinement systems, multigroup soln., moving and stationary plasma 1−18881
inhomogeneous media and interacting particles, Brownian motion 1−32919

Fokker-Planck equation continued
ion diffusion coeffs. in electron-proton gas, Boltzmann-Fokker-Planck eqns. 1−49486
irreversible processes, Fokker-Planck stochastic processes, thermodynamic forces 1−14089
Josephson junction, radiation driven, nonequilib. phase transition, theory 1−47820
Langevin equations, coefficients of Fokker-Planck eqns., noise-induced, spurious drift 1−9927
Langevin equations, simplifications, noise-induced drift 1−9928
lasers, non-stationary processes 1−51441
limit cycles and detailed balance 1−32918
line radiation transfer in random mag. fields 1−4764
magnetic mirrors, classical ion confinement in tandem mirror plugs 1−34105
magnetic mirrors, particle and energy exchange between untrapped and confined populations 1−29899
Markov process, expansion of master eqn. containing critical point 1−5263
matrix continued fraction solutions of the Kramers equation and their inverse friction expansions 1−27883
motion in magnetic field, semi-quantum stochastic process model 1−32920
multidimensional exactly soluble, with nonlinear drift 1−40716
one-dimensional nonlinear system, linear response theory 1−9937
open system, nonequilibrium, contraction of state variables 1−5264
optical bistability, time depend. fluctuations 1−1623
optically bistable systems, fluctuations, in bad-cavity limit 1−46434
oscillators excited by weak external force, ensemble statistics 1−18055
plasma, charged particle transport, Fokker-Planck equation, discrete ordinates soln. 1−6933
Raman laser, quantum theory 1−46308
relativistic plasma, electron energy loss, covariant Fokker-Planck formalism 1−6999
rotational Brownian motion, Fokker-Planck-Langevin model 1−175
rotational Brownian motion, Fokker-Planck-Lengevin model, rel. to spectral band shapes 1−176
Rubin's model, Fokker-Planck like eqns. for Brownian particles 1−32912
semiconductors, hot photoexcited electrons, distrib. function in quantising mag. field 1−25739
sine-Gordon chain, freq. depend. mobility, Fokker-Planck eqn. soln. 1−44849
solution with and without manifest detailed balance 1−32917
stochastic systems, effect of nonlinear damping on probability characts. 1−44841
TFTR, Fokker-Planck transport processes 1−34101
trapped ions, light-pressure cooling in three-dimensions 1−194
trapped particles, laser cooling in fast particle limit 1−33429
turbulence, statistical dynamics 1−44840
two-level atom, extension of Einstein's model to relativistic frequencies 1−19042
α-particle slowing in thermonuclear plasma 1−51979
H atom problem, existence of const. stationary soln. 1−23043
H^+ ions, energetic, diffusion models of dechannelling in single crystals 1−25341
U(U,X), Fokker-Planck soln., mass distrib. shell effects 1−18681
^{235}U(n,f), mass distrib., transport model *(Chinese)* 1−18695

food processing industry
microwave-vacuum drying of sliced parsley root 1−36653
sugar content testing of beet, high-precision automatic polarimeter-saccharimeter 1−36723

forbidden gap *see energy gap*

Forbush decreases *see cosmic ray variations*

force
see also atomic forces; coercive force; Coriolis force; force measurement; molecular force constants; nuclear forces
collision between 2 columnar objects, impact force 1−56
elastic particles deformation and adhesion to rigid substrate or each other, surface forces influence 1−51722

force constants *see lattice dynamics; molecular force constants*

force measurement
see also dynamometers
10 MN force standard for testing of elastic-force calibrating devices 1−256
aerodynamic force and moment meas. with strain-gauge scales and electronic meas. equipment 1−5304
digital multicomponent force/torque meter for meas. during operation of intelligent robots *(Hungarian)* 1−28015
distractive force meas. system for tibial lengthening apparatus 1−32310
hand-grip force measurement, new appl. of strain gauges 1−32326
magnetoelastic properties of some ferrites as transducers for measuring compressive stresses 1−26009
metallic plate, forces produced by magnetic pulses meas. by ballistic pendulum *(French)* 1−46191
multi-directional force and moment transducer 1−23213
national force reference machine, 100 tonf, error of force value 1−23223
newton, unit of force measurement, introduction of COMECON ST 1052-78 in USSR 1−5269
programmable precision measuring instrument with standards class accuracy for strain gauge measurements 1−23214
resonant wire technology applied to process control instrument design 1−23256
strain gauge automatic data acquisition system using DC potentials for meas. of forces in transportation 1−5305
transducer calibration, least squares method for verification of results 1−23220
Ag thin film, intrinsic stress and bending force meas. by cantilevered plate technique 1−34402

force meters *see force measurement*

forecasting, technological *see technological forecasting*

forecasting theory
typhoon rainfall nonlinear prediction model *(Japanese)* 1−4577

forging
Cu, wire, swaged and drawn, difference hardness distribs. 1−3780
hot extrusion forging 1−21374
hot isostatic pressing as an alternative to forging 1−35213
Mar M200 powder compacts, flow behaviour during isothermal forging 1−16847
noise control using partial enclosures 1−41922

forging continued
steel, alloy, forgings, temp. field calc. for batch cooling 1−3798
steel, Bulat-Damascus, heat treatment effect on microstruct. and mech. props. 1−8353
steel, high speed, powder metallurgical technique using pre-alloyed powders 1−16717
steel, tool, high-speed, heat treated after forging without intermediate annealing, struct. and props. 1−48387
steel 0.6 wt.% C, high-speed die forging *(German)* 1−35291
steel forgings, form. of fine-grained struct. in 60KhN 1−16820
superalloys, heat resistant, hot workability *(Japanese)* 1−26509
Al-Zn-Mg-Cu alloy V93pch forgings, quenching water temp. effect on struct. and mech. props. 1−48392
CaF_2 laser windows, forged and isostatically hot pressed, scatt. levels and stress birefringence obs. 1−29354
Fe, cast, ductile, hot rolling and forging 1−48403
Fe powder, atomised, and hot forged materials, correl. of props. 1−53136
LiF laser windows, press forging and optical props. 1−29353
NaCl laser windows, forging, mech. and optical props. and sp. ht. obs. 1−29355
Ni-Zn ferrites, hot-pressed, composition and static and dynamic magnetic properties *(Russian)* 1−30979
Ti alloy, 679, thermal stability invest. *(Chinese)* 1−53254
Ti alloys, isothermal forging for manufacturing components 1−31380
W rods produced by various methods, struct. 1−53143

form factors, atomic *see atomic structure*

form factors (elementary particles)
see also form factors (nuclear)
baryons, weak and EM form factors at large momentum transfer 1−50435
charmed particles, semileptonic decay and weak form factors 1−10196
composite particle with one virtual component, relativistic eqn., pion form factors *(Russian)* 1−18448
composite quarks and leptons and the Higgs boson mass 1−5490
deuterons, magnetic moment and elastic EM form factors in relativistic quark model 1−33187
Drell-Yan pair transverse momentum distrib. in perturbation theory 1−36846
hadron EM form factors at large Q^2, confinement effects *(Russian)* 1−18481
hadronic lepton pair prod., quark form factors and leading double logarithms in QCD 1−45221
large momentum transfer exclusive interactions, form factors, scaling behaviour, perturbative QCD 1−14346
lepton+hadron, high-energy scattering, parton picture developed from impulse approx. 1−28325
neutron charge factor in quark model with colour hyperfine interactions 1−45283
nucleon form factors, asymptotics in QCD *(Russian)* 1−50437
nucleons, form factors and struct. functions from neutrino interactions, quark models 1−10217
nucleons, quark model and off shell form factors, bag model 1−10211
on-shell electron form factor, high energy behaviour 1−14388
pion form factor in space-like and time-like region, analytic parametrisation 1−40998
proton charge, magnetisation and hadronic matter densities 1−14383
proton magnetic form factor, electroproduction and photoproduction of L=1 supermultiplet, quark models 1−36839
pseudoscalar and vector meson radiative decays, form factors *(Russian)* 1−5626
pseudoscalar-meson decay constants and weak form factors in a relativistic quark model 1−45214
QCD, vertex function double log. asymptotic behaviour, quark form factors 1−14351
quark form factors, jet evolution equation, hard processes sensitive to infrared structure of QCD 1−597
quark form factors in QCD, exact second order calc. 1−507
quarks, EM form factors in instanton fields 1−560
spinning string model, local current *(Russian)* 1−40974
Sudakov form factor, correction computation algorithm 1−5622
superconvergence and the structure of current vertices 1−18401
two-nucleon forces and nuclear matter, particle exchanges, form factors, review 1−41064
d, quadrupole form factors from ed, tensor polarisation calcs. 1−28324
ed elastic scatt., n form factors scaling relations *(Russian)* 1−5623
e^+e^-, 1-2 GeV, below ψ resonance, results review 1−10238
e^+e^- annihilation, quark form factors and leading double logarithms in QCD 1−45221
$e^+e^-\rightarrow\eta'\gamma$ large energy reactions, η'-meson form factor, QCD calcs. *(Russian)* 1−41003
$e^+e^-\rightarrow K_S{}^0K_L{}^0$, 1.4 to 2.18 GeV, K^+, K^0 form factors 1−45330
$e^+e^-\rightarrow K^+K^-$, 1400 to 2060 MeV, cross section and kaon form factors 1−45329
eN elastic scatt., pol. e, P-odd asymmetry, Weinberg-Salam theory *(Russian)* 1−10225
$\eta\rightarrow\mu^+\mu^-\gamma$, branching ratio and EM form factor *(Russian)* 1−10221
$\eta'\rightarrow\mu^+\mu^-\gamma$, branching ratio and η' form factor *(Russian)* 1−10222
$\gamma n\rightarrow n\nu\bar{\nu}$, form factors, EM vertex, total cross-sections in Weinberg-Salam theory 1−36867
$\gamma p\rightarrow p\nu\bar{\nu}$, form factors, EM vertex, total cross-sections in Weinberg-Salam theory 1−36867
$K^+\rightarrow\pi^0\nu\mu^+$ decay, low energy spectrum anal. 1−40984
$K_L{}^0$ decay, $(\pi\mu)$ atoms, S-matrix element and form factor 1−40985
$K_L{}^0\rightarrow\pi^\pm e^\mp\nu$, K_{e3} form factor, K* dominance, Sirlin's relation 1−18471
$K_L{}^0\rightarrow\pi\mu\nu$, $K_L{}^0$ form factors from Dalitz plot and branching ratio 1−33184
n, charge form factor in quark model with hyperfine interaction 1−14393
NN interaction, S-wave, inverse scatt. with energy-dependent separable potentials 1−10246
NN scatt., form factors $\pi\pi$ dynamics, twice-subtracted dispersion relation 1−14384
$\omega\rightarrow\pi^0\mu^+\mu^-$, form factor in nonlocal quark theory *(Russian)* 1−40986
p, elastic form factor, possible structure 1−562
p electromagnetic, asymptotic behaviour, pion-exchange, ladder approx. 1−14389
π, EM form factor and wave functions *(Chinese)* 1−40996
π form factor, wave functions, evolution eqns. in QCD 1−50431
π form factors, asymptotic behaviour in QCD 1−10214
π form factors and asymptotic behaviour 1−45282
πN scattering, $\pi\pi$ dynamics, twice-subtracted dispersion relation 1−14384

form factors (elementary particles) continued
$\pi^- p \rightarrow e^+ e^- n$, 164 MeV, nucleon and pion form factors *(Russian)* 1−45289
$q\bar{q}$ annihilation, Drell-Yan formula, higher order QCD corrections 1−40964
$\tau \rightarrow K\pi\pi\nu_\tau$ weak decay structure functions from current algebra, form factors 1−33182
W boson, mass and propagator, leptonic and hadronic corrections, form factors 1−14319
Z boson, mass and propagator, leptonic and hadronic corrections, form factors 1−14319
K_{l3} decay form factor, nonlocal quark model *(Russian)* 1−50418
form factors (nuclear)
dueteron wave function and N-N interactions, meson theoretical potentials 1−41044
Goldberger-Treiman discrepancy, KNN and π decay form factors 1−50664
heavy ion collisions, two body dissipation in second order perturbation, dissipation form factor 1−50622
moments of distrib. of protons in relativistic nuclei *(Russian)* 1−41050
QCD, use in nuclear calcs., form factors wavefunctions, reactions and scatt. 1−50379
rotational nuclei, electron scatt., longitudinal and transverse form factors 1−18643
single nucleon transfer reactions, well-depth-method for deformed potential orbitals, Sturmian expansion 1−10309
(e,e), deformed nuclei, eikonal mag. scatt., diff. cross section, form factors 1−23645
(e,e), large q^2, exchange currents and form factors, optimal approx. 1−5772
^{A}C, A=12,13, M1 form factor, nuclear critical opalescence 1−45432
^{12}C, ground state parameters calc. using Young diagrams, higher harmonic role 1−14452
^{12}C, T=0 states, transition densities from 3 alpha resonating group wave functions 1−33239
^{12}C(e,e′), 15.11 MeV state excitation, π^{12}B^{12}C coupling constant, M1 form factor 1−18570
^{40}Ca(t,p)^{42}Ca, form factors, zero range distorted wave Born approx. 1−50595
^{2}H, EM form factors, Bethe-Salpeter eqn. one boson exchange model 1−18553
^{2}H(e,e′), bag state inelastic prod., form factors and cross-sections 1−23648
^{2}H(e,e)pol.e, polarisation transfer, charge and quadrupole form factors 1−41095
^{2}H(γ,pn), form factors from vector current hypothesis 1−23647
^{2}H(γ,π^+), form factors form vector current hypothesis 1−23647
^{2}H(p,p′), bag state inelastic prod., form factors and cross-sections 1−23648
^{2}H(π^-,γ)nn, capture rate and weak form factors 1−23647
^{3}H bound state, Coulomb energy difference, form factor Coulomb effects, Reid soft core pot. 1−41042
^{3}H, two-particle interactions with continuum bound states, charge form factor 1−50494
^{3}He bound state binding energy, form factor Coulomb effects, Reid soft core pot. 1−41042
^{3}He charge form factor, Δ-isobar contrib. 1−45415
^{3}He magnetic form factor, π- and ρ-exchange current effects 1−23555
^{4}He(^{3}He,^{3}He)^{4}He, generator coordinator method calc., and interpretation 1−28490
^{4}He(π,π), 1 GeV region, single scatt. optical pot. anal., form factors 1−41141
^{24}Mg, nucleon-nucleus folding potentials, inelastic collective formfactors *(Russian)* 1−627
^{60}Ni (e,e′), giant multipole resonance fine struct., microscopic shell model 1−50566
^{16}O(π,π), 1 GeV region, single scatt. optical pot. anal., form factors 1−41141
^{A}Pb(e,e′), A=206, 207, high multipolarity electroexcitation, form factors, high spin state transitions 1−50547
^{207}Pb, magnetic and transverse electric scatt. amplitudes, core pol. effects, form factors 1−14456
^{208}Pb high spin mag. states, full self-consistent description, transverse form factors 1−28369
^{208}Pb(p,t)^{206}Pb, form factors, zero range distorted wave Born approx. 1−50595
^{30}Si(p, α)^{27}Al, ang. distrib. of cross sections and anal. powers calc. using microscopic form factors 1−33262
^{181}Ta(e,e), ground state rot. band form factors, mag. current density 1−23646
^{68}Zn(d,^{6}Li)^{64}Ni, 27.2 MeV reaction, zero-range DWBA calcs. 1−45512
formal logic
nuclear reactor protective systems, anal. of fail-to-safe and fail-to-danger probabilities using SAFE program 1−817
formation, heat of *see heat of formation*
forming processes
see also casting; electroforming
bulk formability meas., effect of second phase particles 1−39405
electronograph spherical grid fabrication method 1−50277
extrusion presses, for metal processing, design and appl. 1−35198
FCC alloys, fracture under hot-forming conditions 1−39460
flange wrinkling, in Swift cup test, anal. 1−41958
formability limit prediction from texture data 1−43368
plastic components, prototype production techniques 1−21413
polymeric materials, cold forming, book contrib. 1−39305
PVC melts, extensibility, influence of acrylic processing aids 1−34390
steel, low-C sheet, formability improving by interstitial C content and temp. control 1−26513
viscoplastic deformation and heat transfer, coupled analysis 1−37813
Al, coupled analysis of viscoplastic deformation and heat transfer 1−37814
Ti alloy, superplastic forming for manufacture of press. reservoirs *(French)* 1−28012
Ti, superplastic forming/diffusion bonding, fabrication methods 1−31380
Foucault currents *see eddy currents*
fountain effect *see superfluid helium-4*
Fourier analysis
see also Fourier transforms; harmonic analysis; waveform analysis
bending of annular plate in presence of concentrated in-plane edge load 1−15393
Fourier analysis continued
butyne, spherically averaged momentum densities by Fourier analysis 1−41431
crystallite size determ. and strain values from X-ray diffr. line profiles using Fourier series, accuracy 1−29962
diatomic Toda lattice, nonlinear waves 1−44859
digital fast Fourier anal., leakage error 1−24603
eclipsing binary stars, Fourier techniques for light curves anal. 1−13802
eclipsing binary stars, Fourier techniques for light curves anal. 1−17866
eclipsing binary stars, light curve Fourier anal. 1−9571
elastic shell in form of elliptic paraboloid supported on ribs, bending *(Polish)* 1−15400
elliptic ducts, developing laminar flow characts. using Mathieu functions 1−29778
EM wave scatt. by three dimens. moving objects, Fourier anal. 1−41538
EM wave scatt. by three dimens. moving objects, Fourier anal. 1−41539
harmonic oscillator, excitation and resonance, Fourier anal. for teaching 1−27716
instantaneous power spectra 1−37710
linearised magnetic noise signal representation by Fourier series expansion *(Russian)* 1−16458
magnetic domains, field distrib. calc. by two-dimensional discrete Fourier series 1−12338
neutron resonance absorption in infinite homogeneous mixture of absorber and moderator 1−5825
optical performing of non-integer order derivatives 1−19279
Permalloy, I-bars and bubbles modelling fundamentals using Fourier series 1−52811
Riemannian normal coordinates, covariant path integral with quadratic lagrangian, evaluation by Fourier anal. 1−137
seismic sections, migration in time by wave eqn. method *(Rumanian)* 1−40230
shell roof, continuous circular cylindrical, Fourier series soln., finite element method comparison 1−6785
signal processing of radar and sonar hydrophone array outputs, Fredholm integral eqn. of first kind 1−51664
slots, vertical, Hele-Shaw, containing silicone oil, holographic interferometry, temp. var., free convection expts. 1−1980
square root operation by dynamic sampling 1−41591
lower stratosphere dynamics in wave number domain, harmonic and Fourier anals. rel. to monsoon activity 1−27230
stress concentration around rectangular crack in infinite elastic medium 1−33934
transport equation, upstream weighted collocation approx. 1−50072
turbulent diffusion, spectral anal. based on turbulent mixing of homogeneous turbulence 1−1950
turbulent transport, mixing of passive scalar stripes by a three-dimensional multi-mode vector field 1−29691
US spectroscopic scattering expts. 1−39584
ventricular emptying patterns, determ. from Fourier anal. of gated blood-pool studies 1−32233
vibrations of free circular plates elastically constrained along parts of edge 1−19605
wavefront reconstruction, two-dimens., from single plane intensity measurements, numerical algorithm 1−51386
Fourier series *see series (mathematics)*
Fourier transform optics
see also Fourier transform spectroscopy
Abbe's theory, Fourier anal. and knife-edge test 1−41606
acoustic field in air, spatio-temporal struct. anal. with aid of optical Fourier transform 1−15348
acousto-optic signal processing, real-time signal convolution and correlation 1−33630
acoustooptic spectral estimation, statistical analysis 1−46232
all-spherical-mirror system, imaging and Fourier transform props. 1−33783
autocorrelator, holographic, using controllable magnetooptic transparency 1−41645
cladded radially inhomogeneous sphere lens design for imaging, Fourier transform and optical disc reading 1−41806
colour storage and image processing through Young's fringes modulated speckle 1−46234
contouring by phase conjugation, Fourier transform hologram reconstruction 1−37434
deblurring with a positive only filter after further blurring 1−15084
deigmaidolon coherent optical system, impulse response improvement 1−1674
direct electronic Fourier transform camera 1−14196
directional analysis in Fourier spectra by Wiener filtering *(French)* 1−46241
directional content of Fourier spectra, processing meas. 1−37417
discrete wave system anal. by optical ray operators 1−1487
dynamic joint-Fourier-transform correlator by Bragg diffr. in photorefractive $Bi_{12}SiO_{20}$ 1−51384
eardrum of guinea-pig, acoustic response meas. by laser speckle vibrometry 1−44061
fatigue crack detection using an optical Fourier spectrum analyser 1−8492
finite extent data fourier spectrum continuation by the fast Fourier transform 1−37423
Fraunhofer diffraction pattern, Hilbert transform dispersion relations 1−1491
hologram lenses, computer-originated 1−15114
holographic computer-made image processing 1−15099
hybrid optical/digital image processor 1−24365
inverse problems, optical processing for information encoding 1−41603
inverse scattering problem, zero location 1−41569
inverse scattering problem soln., fast zero location from two measurements 1−10913
inverse source and scattering problems in optics 1−41568
inversion method for fibre-particle size distrib. from light scatt. data 1−23166
lamellar microstructures, applications of optical diffraction 1−31791
lenses, Fourier transforming, generalised treatment 1−19277
lensless matched spatial filter wavelength-scaling correlator with holographic elements 1−6638
liquid crystal device, variable grating mode, for optical processing 1−24478
liquid dispersion curve meas. with space-time Fourier holography 1−1527
miniaturization limits in optical systems 1−46208

Fourier transform optics continued
moire-grating photographs, optical processing 1−33626
multiplexed Fourier transform holography using parabolic mirrors 1−6503
neutron scattering by imperfect crystals, appl. of focusing principles 1−41551
object reconstruction for Fourier transform system, uniqueness and data characterisation 1−46242
ocean wave wavelength estimation from synthetic aperture radar recordings, Seasat images appl. 1−54139
open area ratiometer 1−5352
optics in four dimensions, conf., Ensenada, Mexico (Aug. 1980) 1−40589
pattern recognition using Fourier transform hologram *(Japanese)* 1−37421
perforated sheet open-area percentage meas. 1−27927
performing of non-integer order derivatives 1−19279
phase retrieval problem, object plane relations 1−41609
phase-reconstruction problem ambiguity 1−10935
processor for very large array radiotelescope, aberration anal. 1−54386
processor for very large array radiotelescope, encoding-depend. errors 1−54387
processor for very large array radiotelescope, system concept 1−54385
radiotelescope data optical processing architecture 1−17768
resonator, confocal unstable, analytical soln. in Fourier space *(Chinese)* 1−19366
SAW acousto-optical signal processing possibilities and limitations 1−24362
sea wave detection by optical Fourier transforms from Seasat SAR images, North Sea, JASIN area 1−54273
signal expansion into a discrete set of Gaussian beams 1−1504
signal expansion into discrete set of Gaussian elementary signals, Gabor's method 1−41599
signal recognition by pure phase filters 1−41618
small object size distrib. meas. by optical Fourier transform. 1−15087
solar material specularity meas., Fourier transform analysis 1−1662
speckle pattern elongated structure in polychromatic laser light 1−41580
spectrum analysis using optical processing 1−37429
staring mosaic sensor system design 1−24516
stellar speckle interferometer data, photon noise effect on image reconstruction, computer expts. 1−54394
thin phase imagery, necessary and sufficient conditions 1−1505
thin phase structure detect. under coherent illum., method classification 1−1506
thin planar surface lenses, primary aberrations, two-dimens. diffr. theory 1−1724
three dimensional inverse scattering problem solns., reconstruction from projections 1−41570
Vander Lugt filter optimisation in industrial and scientific research metrology 1−15100
vibration analysis with Young's fringes modulated speckle 1−6836
virtual Fourier transform of divergent lens, appl. in three dimens. display 1−41597
wave front reconstruction of object from its diffr. pattern 1−24373
wavelength diversity, holography and inverse scatt. 1−41602
Wigner distribution function, appls. to optics 1−41595
Wigner distribution function, optical setups for spectrogram prod., speech processing appl. 1−41596
Wigner phase space distrib. and radar ambiguity function, optical realization 1−41598

Fourier transform spectroscopy
acetonitrile in carbon tetrachloride dil. soln., far IR dispersion meas. 1−37186
adhesives on metal surfaces, dual-beam Fourier transform IR spectrosc. investig. 1−40877
air pollution studies, van-mounted IR system 1−4238
aminocyclophosphazene derivatives, ^{35}Cl NQR, variable temp. behaviour, FT-NMR meas. 1−26071
apodisation effects on bandshape and resolution 1−40863
astronomical near-IR spectral imaging Michelson interferometer 1−27398
atm. parameter determ. onboard Meteor-25 satellite 1−36065
binary mixtures, quantitative anal. by FT IR photoacoustic spectrosc. 1−53496
CIDNP, FT NMR appls. 1−14152
communication via electro-optic modulation of white light 1−46588
cyclopropane-HCl complex, geometry identification from rot. spectrum 1−51185
EM wave scatt. by three dimens. moving objects, Fourier anal. 1−41538
EPR simulation spectra by fast Fourier transform, numerical analysis 1−18269
Fabry-Perot, theory *(Japanese)* 1−10021
Fabry-Perot cavity pulsed Fourier transform microwave spectrometer with a pulsed nozzle particle source 1−50183
finite extent data fourier spectrum continuation by the fast Fourier transform 1−37423
free radicals in soln., EPR spectra, fast Fourier transform appl. 1−21055
free-standing grids wound from 10-μm-dia. W wire, submillimetre wave performance 1−50242
gas, appl. of pulsed Fourier transform microwave spectroscopy carried out in Fabry-Perot cavity 1−45027
heteronuclear J spectroscopy to enhance resolution of proton spectrum 1−318
high-resolution Fourier spectrometer, UFS-02, choice of diaphragms for premonochromator 1−350
ice:Ag, deuterated, electron spin echo modulation, Fourier transform spectrum 1−16480
insertion loss determ. by Fourier transform spectrometry, detector port radiation effect 1−36746
interferometer-spectrometer for environmental sensing, field-of-view compensation 1−4239
IR, appl. to study of natural and model membranes 1−13362
IR emission spectroscopy, condensed phase, sensitivity and limitations 1−40875
IR Fourier spectrometer, laboratory type LFS-1000, test results 1−359
IR spectra, dispersion-induced distortion elimination by photoacoustic Fourier transform techniques 1−12483
IR spectroscopy, appl. to aerosols inorganic compound speciation 1−26866
mass spectrometer with a superconducting magnet 1−5429
methane, $3\nu_3$ band, IR Fourier transform spectra, vibr. rot. consts. 1−6255
methane, adsorbed, rot. motion 1−11972

Fourier transform spectroscopy continued
methanol:Ag, solid, deuterated, electron spin echo modulation, Fourier transform spectrum 1−16480
microemulsions, Fourier transform NMR self-diffusion meas. 1−21784
mobile liquids, self-diffusion meas. by pulsed spin echo FT NMR spectra 1−38567
molecules, spin-lattice relax., delay time sequence by inversion-recovery 1−19112
NMR, Fourier transform, optimal filtering 1−314
NMR, relaxation time, statistical error, inversion-recovery Fourier transform expt., two-parameter least square anal. 1−313
NMR lineshape coupling consts., two-dimensional 1−14926
NMR spectroscopy in two frequency dimensions, 2-D Fourier transformation 1−6286
noise, source-intensity-depend. in Fourier spectroscopy 1−28076
optical fibre impulse response, subpicosecond coherent anal. 1−46567
optoacoustic effect in IR, appls. 1−23321
photoacoustic spectrometer using Michelson interferometer with step-and-integrate mirror motion 1−23316
polarised Fourier spectrometer of finite aperture, resolution function and optimal parameters 1−5408
polarising Michelson interferometer for FT IR, circular dichroism and reflectance ellipsometric IR spectrosc. 1−50194
poly(β-propiolactone)-poly(vinyl chloride) system, Fourier Transform IR studies 1−16563
polyethylene insulation water treeing obs., cross-linked 1−21654
polyethylene solid solns., struct. from vibr. spectroscopy and thermal anal. 1−15816
polymers, low loss, optical consts. meas. 4 to 40 cm^{-1} 1−49885
polymethylmethacrylate, ^{13}C Fourier transform NMR spectra, unresolved multiline reson., two-pulse sequence anal. 1−21062
polystyrene, ^{13}C Fourier transform NMR spectra, unresolved multiline reson., two-pulse sequence anal. 1−21062
pulsed Fourier transform microwave spectroscopy carried out in Fabry-Perot cavity 1−45027
solar granulation and umbral bright dots of sunspots, power spectra comparison *(French)* 1−27451
spectral noise component reduction in double-sided Fourier transform spectroscopy 1−40865
steel, stainless, surface oxides, Fourier transform IR spectroscopic studies 1−31158
sucrose, NMR spin-lattice relaxation time studied by magnetisation transfer 1−317
temperature-induced phenomena, automated FT IR obs. 1−50241
trapped ion cell for ion cyclotron resonance, use in Fourier transform spectroscopy 1−36766
two-dimensional FT NMR expt., superspin anal. 1−14145
variable temperature NMR spectra without variable temp. probe 1−18268
visible Fourier transform photoacoustic spectrosc. of solids and liquids 1−18301
water, pulse Fourier transform NMR double reson. suppression and decoupling in aq. soln. 1−41410
CO_2, IR spectra and mol. const. in 1.4-1.7 μm atmospheric window, Fourier transform spectroscopy 1−19090
$^{12}C^{17}O_2$, IR Fourier transform spectra, rot. vibr. anal. 1−1217
$^{12}C^{17}O^{18}O$, IR Fourier transform spectra, rot. vibr. anal. 1−1217
CdTe, far IR dielec. spectrum, multiphonon struct., crit. point anal. 1−31156
Fe(III) complexes, biogenic amines in aq. solns., ^{13}C NMR and spin-lattice relax. 1−33477
H^+ spin-echo data, two dimens. partially relax. J spectra 1−18270
HF+Ar(CO_2), HF J=0-1 rotational line shape and param. *(French)* 1−51245
$H_2{}^{17}O$ and $H_2{}^{18}O$ isotopic species, Fourier transform spectrum, ν_2 band analysis *(French)* 1−24129
I, absorption spectrum around 5915 Å, calibration and assignments 1−45888
I_2, eQq hyperfine parameters meas. for X, 1_g, $O_g{}^+$ and B states 1−6227
KrHF quasimolecules, rot. spectra, nuclear spin-spin coupling, nuclear quadrupole coupling and mol. struct. 1−33478
$(NH_4)_2SO_4$ powder, Fourier transformed IR photoacoustic spectra 1−8053
OC-HBr complex, microwave spectrum and mol. struct. 1−51192
OH(OD), reaction prod., excitation spectra, velocity distrib. scattered species, Fourier transform Doppler obs. 1−37244
Se_2, $b^1\Sigma_g{}^+$ state, fluoresc., mol. vibr. and rot. const. determ. 1−6305
Si, shallow impurity anal. by low temp. Fourier transform IR spectroscopy 1−12536
TiN, matrix isolation Fourier transform IR spectra 1−51193

Fourier transforms
see also fast Fourier transforms; Fourier analysis; Fourier transform optics
acetonitrile, dipolar interactions 1−34967
angular integrations, deform. density, crystal orbital calcs. 1−28859
bandlimited signal extrapolation, iterative coherent processor 1−51388
beams, uniform, restrained, wave eqn., existence and uniqueness of solns. 1−6809
computerised tomography, image reconstruction by direct Fourier methods 1−32246
dielectric layers, synthesis problem, analytic soln. 1−51366
distance distrib. functions, using SAXS obtained with Bonse-Hart instrument, indirect transform method 1−29971
elastic half-space Green's tensors for boundary integral eqn. method *(Japanese)* 1−24678
elastically anisotropic crystal, TEM images of small dislocation loops, black-white contrast calc. 1−42390
EM multipole field anal. and calc. 1−6443
frequency analysis of time window considering aural masking 1−19529
Galilei wave equations, Poincare wave eqns. as Fourier transforms 1−9844
image alignment system, microcomputer based 1−46584
ion beams, metastable peak shapes, apparatus broadening deconvolution and kinetic energy spread 1−1170
limited-angle 3-D reconstructions using Fourier transform iterations and Radon transform iterations 1−51392
NMR, dynamic range problem, alternate accumulation techniques 1−41403
plasma and laser diagnostics expts., image correction and restoration 1−15650

Fourier transforms continued
Poincare wave equations as Fourier transforms of Galilei wave equations 1−9844
pulsed moderator assemblies, fundamental mode decay consts., Fourier transform method 1−23705
radio interferometer data, adaptive calibration 1−54382
radioastronomy, Fourier reconstruction techniques 1−54381
SAW chirp transform processors, doubling analyzable bandwidth 1−33855
SAXS, from lamellar and cylindrical data, data eval. by indirect transformation method 1−34198
signal reconstruction from phase, iterative procedures 1−51390
solvent signal, ^1H correl. NMR, data processing 1−14149
spatial averaging transducers, transfer function derivation 1−32972
tomographic image reconstruction from limited projections, using iterative technique 1−40909
two-centre charge distrib. corresponding to arbitrary Slater-type orbitals, Fourier transforms 1−1066
two-dimensional ideal incompressible MHD turbulence, Gaussian solution 1−6897
Mg rough deposits, surface struct. autocorrelation functions and Fourier transforms 1−20527
Na+Ar, Na resonance line press. broadening, mol. dynamics simulation 1−1183

fractionation *see distillation*

fracture
see also brittle fracture; crack-edge stress field analysis; cracks; creep fracture; ductile-brittle transition; ductile fracture; embrittlement; fatigue; fracture toughness; stress corrosion cracking
anisotropic bodies, fracture criterion of flat ellipsoidal cracks 1−1892
Battelle Benchmark geometries, stress intensity factors determ. 1−1886
borosilicate glass bonded carborundum of high porosity, fracture induced melting effects 1−21581
α-β brass, bicrystals, two-phase, deform. and fract. 1−15901
brittle solid, statistical fracture anal., fundamental approaches 1−43524
C/C composites, influence of C fibre surface treatment 1−35305
cement-mortar plates, fracture under in-plane impacting load by an explosive, numerical simulation *(Japanese)* 1−3897
composite, DCB specimens, numerical stability and convergence criteria for dynamic fracture eqn. 1−48463
composite plates, with periodical edge cracks fracture 1−1888
composites, physics of strength and fracture, review 1−31604
composites, short-fibre and hybrid, mechanical props., book contrib. 1−39451
composites, stress intensity factors computation for cracks at interfaces by method of sections 1−29624
computational methods for local singularities 1−23013
concrete, deformation and fracture under impact and blast shock loading 1−43466
concrete, failure, crack initiation and propag. 1−43525
corrosion fatigue, lecture *(Japanese)* 1−1
corundum, freeze-drying prep., mech. props. 1−48306
crack extension, in creeping solids, anal. 1−37849
crack propagation, non-steady state in stress corrosion cracking, fracture kinetics anal. 1−37845
crack propagation, theory of non-steady state fracture kinetics anal. 1−37844
crazing-fracture-yield transitions, under hydrostatic pressure 1−8419
ductile material, design viewpoint 1−31666
Earth crust, fracture processes of Tangshan earthquake and mechanical anal. *(Chinese)* 1−9084
elastomers, elastic matrix detachment from rigid spherical inclusion 1−26525
elastomers, polar, relax. character of fracture process *(German)* 1−16892
epoxy-Al adhesive joints, environmental fracture, crack tip processes and adhesive-cohesive transition 1−16872
equivalent energy method, engineering approach 1−47158
FCC alloys, fracture under hot-forming conditions 1−39460
femur, mechanisms of fracture 1−17429
finite rectangular plate, Griffith crack, thermal stress singularities at tip 1−14650
flat design elements, crack growth eval. 1−35375
fractography, of fracture at high temp. *(Japanese)* 1−26611
glass, elastoplastic behaviour when exposed to plane shock wave *(French)* 1−38466
glass, fracture and flow 1−8402
glass, strength under contact micropressure 1−31560
glass fibre reinforced epoxy and polyester resins, fracture mechanisms, in monotonic loading 1−12851
glass fibre reinforced epoxy resin, fracture mechanisms 1−48507
granite, dependence of US vel. on axial load and fracture kinetics 1−19532
graphite fibre reinforced epoxy laminates, biaxial testing, expt.-theoretical comparison 1−12943
gypsum, strength in hydrostatic tension 1−31562
halogenate crystals, mechanoluminescence 1−52995
high strength materials, fractography *(Japanese)* 1−35462
Homalite 100, energy loss during crack propag. and arrest 1−38440
hydraulic fracturing, crack growth and numerical models of pore pressure 1−44173
hydro-fracture dilatancy in fault terrains 1−49261
hydrostatic tension-fracture strain rels., unexpected departures explanation 1−43444
Inconel alloy MA 754, oxide dispersion strengthened, creep and stress rupture behaviour 1−12808
Inconel MA 754, oxide strengthened, predeform. effect on creep and stress rupture 1−26559
jute fibre reinforced polyester, mech. props. 1−43471
jute fibres, mech. props. 1−43471
lattice trapping, computer simulation 1−52225
layered structures, cracking suppression of yielding by case hardening 1−48508
mechanical, mixed, method for resolving boundary value problem 1−6831
mechanically unstable test specimens, with finite differences in crack areas, J_{IC} meas. 1−1885
metal beam with surface crack, stress intensity coeff. determ. in three-point bending 1−1895
metals, acoustic emission for phys. exam. 1−8505
metals, electromagnetic effect, electron plasma model 1−20310
metals, fatigue crack growth, phenomenological plan 1−34408

fracture continued
metals, fracture at combined high strain and high strain rate 1−39459
metals, Misra effect, dislocation mechanism 1−30241
metals, strain criteria *(Russian)* 1−53296
metals and alloys, crack propagation under thermal and fatigue loading, review 1−34407
micromechanisms and elev. temp. mechanics, review 1−31663
mixed mode fracture angle and fracture loci under compressive loading 1−48460
mullite, freeze-drying prep., mech. props. 1−48306
Newtonian black film, rupture, nucleation mechanism, theory 1−16156
Nimonic 80A, rapidly solidified, precipitation and deform., comparison with APK 1 1−21589
nonlinear fracture mechanics, energy balance formulation 1−1885
nonsymmetric external loads relative to crack, local fracture criterion 1−24754
notch-tip strain, rel. to crack-opening displacement 1−29623
nuclear fuel failure mechanisms under reactivity initiated accident conditions, review 1−18746
optical fibre devices, for detection of plastic strain and cracking 1−43633
optical fibre end prep., perpendicular fracture prod. in glass, coated-glass and plastic-clad fibres 1−46598
plate, V-notched, fracture analysis, singular finite elements 1−67
plates, biaxially stressed, path stability, in fracture propag. 1−37847
plates, breakdown and strength, dynamic axisymmetric stress field 1−24745
PMMA, fracture transition correlation, fracture diagrams, elastoplasticity 1−24751
PMMA, mixed mode fracture angle and fracture loci under compressive loading 1−48460
PMMA, rupture kinetics, temp. effects for sub-μs rupture times 1−53294
polyaramid fibre reinforced epoxy laminates, biaxial testing, expt.-theoretical comparison 1−12943
polybutadiene, glass bead filled model elastomer, tear and tensile strength 1−43435
polycrystalline materials, dislocation plasticity, strain rate eqns., theory 1−52219
polyester, 3D body, elliptical planar crack, fracture criteria 1−48512
polyethylene, high-pressure, main, crack growth mechanism, role of breaks 1−12859
polymer adhesive joints, character of failure 1−48481
polymers, main crack growth mechanism, role of breaks 1−12859
polypropylene fibre reinforced cement composites, multiple cracking 1−39425
polystyrene, rubber reinforced, strengthening mechanism, delayed crack model appl. 1−12860
polystyrene-poly(2,6-dimethyl-1,4-phenylene oxide) mixture, compressive yield, fracture behaviour and yield stress 1−35352
pressure vessel design in Ariane launcher, fracture mechanics appl. 1−36156
PVC pipes, rigid, fracture study using SEM 1−8405
pyrocerams, nature of fracture 1−43507
quartz, crack propagation in presence of H_2O, chemomech. weakening 1−22336
quartz, natural, synthetic fluid inclusions, formation 1−47155
quartz optical fibres, graded index, primary polymer coating influence on strength 1−1713
ribbed reinforced shells, rational design based on initial rupture 1−30313
porous rock, effect of confining press. on fracture behaviour 1−22332
rock fracture orientation mapping in deep mines, appl. of terrestrial photogrammetry 1−22522
rock microcrack closure under uniaxial stress 1−44171
rock-breaking machine, 'Max', based on fracture mechanics 1−17022
rock-breaking machine, 'Max', excavation techniques and large scale expts. 1−17023
rocks, fracture azimuth—a shallow experiment to determine in-situ fracture geometry 1−44174
rocks, fracturing under pressure rel. to Rn and Tn emanations, exptl. results *(Chinese)* 1−9089
scale effects, review 1−26582
Sialon, micromechanisms for fracture and plasticity 1−8401
splitting fracture, crack growth, general mechanism 1−2563
steatite, freeze-drying prep., mech. props. 1−48306
steel, 1Kh18N9T, cyclic loading, endurance and ductility rel. to loading history 1−12821
steel, 21Cr-14Mn, grain-boundary precipitation and fracture behaviour 1−48502
steel, A302, micromechanisms of crack extension 1−43501
steel, alloy, fracture surface, method of prep. of thin foils *(German)* 1−8432
steel, alloy, microfractographic invest. of fracture surfaces coated with magnetite *(German)* 1−8431
steel, alloy, structural, work of fracture as criterion for hardenability determ. 1−43497
steel, austenitic, type 21-4N, grain boundary reaction nodules, tensile props., fracture, deform. 1−26538
steel, austenitic stainless, welded pipe, plastic deform. and fracture, struct. characts. 1−48432
steel, austenitic stainless, Z6 CND 17-12, oxidation of fatigue fracture surfaces at low crack growth rates 1−3904
steel, austenitic type 316, B content and distrib. effects on He bubble populations and stress-rupture props. 1−26595
steel, C-Mn and Nb-Al microalloyed, normalised, applicability of AE during deform. and fracture 1−12875
steel, corrosion product removal from fracture surfaces for metallographic exam. 1−31779
steel, Cr-Mo-V (0.5, 0.5, 0.25 wt.%), prior room temp. deform. effect on creep, rupture and cavitation 1−39401
steel, fracture dimorphism in local areas with cracks 1−3923
steel, fracture scanning images evaluation, by opt. struct. computer anal. 1−48604
steel, high-strength maraging, delayed fracture mechanism 1−3910
steel, hot-dipped galvanised, cracking of Zn spangles 1−48493
steel, intergranular fracture due to irreversible temper embrittlement in 50KhG *(Russian)* 1−3886
steel, low C, vessel wall fracture features due to surface crack under low-cycle loading 1−21660
steel, low-alloy, fatigue crack growth kinetics, intense strain influence 1−35371
steel, low-alloy, ferritic weldments, fractography and mechanisms of high temp. cracking 1−39436

fracture continued
steel, low-C, cast, electron fractographic anal. 1−43499
steel, martensitic transformation and struct. state, effect of implanted H, in 10Kh16N4B *(Russian)* 1−12741
steel, Ni-C (9, 0.1 wt.%), fracture path, microbeam Auger electron spectroscopy 1−21585
steel, Ni-Cr-Mo, crack branching in delayed failure, effect of pre-austenite grain size *(Japanese)* 1−26604
steel, prismatic specimen, fracture surface microstruct., loading type effects 1−31628
steel, stainless, adhesive bonds, contribution of metallic and oxide contact to static adhesion 1−48647
steel, thick-walled tubular welds, solidification cracking, appl. of modified transvarestraint-test 1−39437
steel, tool, fracture, rel. to microrelief of worn surface 1−48491
steel, tool, fracture surfaces, heat treatment and fracturing temp. effects, AES obs. 1−21580
steel, type U8, friction and wear features 1−31675
steels, fractography and fracture mechanics, welded parts *(Japanese)* 1−53262
steels, high tensile welded low alloy, sound emission obs. of cold cracking propag. *(German)* 1−8514
steels, low-alloy ferritic, compositional effects on reheat cracking 1−39438
steels, pipeline welds, initiation of heat-affected zone cracking in segregated bands 1−39434
steels, sintered, crack growth characts. 1−12867
steels, structural, mech. testing, features of deform. and fracture 1−31804
stereometry appl. to fractography, meas. of angles on fracture surfaces 1−31818
strain-rate depend. fracture initiation 1−1889
superalloy, fracture mechanics anal. of low cycle fatigue 1−1883
superalloys, heat resistant, hot workability *(Japanese)* 1−26509
supporting capacity, effect of uniform all-around compression 1−11357
thermally driven penny shaped crack enlargement, stability considerations 1−37851
thermo-plastic shear instability criterion applied to surface cracking in upsetting and related processes 1−48451
topokinetic model in solids 1−30314
transition correlation, fracture diagrams, elastoplasticity 1−24751
transverse shearing of singly-grooved specimens 1−11350
VC+Ni cermets, with controlled C-to-metal ratio, prep. and props. 1−8264
vertebrae, human, assessment of crit. shock rate causing fracture 1−32178
wedge, smooth, thin, non-uniform motion into elastic half-plane 1−19647
welds, mechanically nonuniform, resist. to fracture and deform. under one-time loading 1−12822
Zircaloy, plastic fracture mechanics field implications to PCI stress corrosion problem 1−26664
Zircaloy cladding, mech. restraint effect on deform. 1−48452
Al alloy, fractography and fracture mechanics, welded parts *(Japanese)* 1−53262
Al, anodised, oxide layer, electron and acoustic emission during coating fracture 1−12872
Al-B fibre reinforced composite, B fibre strength influence on mech. props. *(Russian)* 1−3887
Al-base binary alloys, fluidity, strength formation, cracking susceptibility anal. on basis of solid-liq. zone *(Japanese)* 1−31449
Al-Cu, type 2219-T851, fatigue crack growth, SIMS and AES study 1−31638
Al-Mg, type 5052, 5154 and 5083, deform. and fracture 1−8387
Al-Mg (2 wt.%), β-phase precipitates dissolution, internal strain effect, fracture charact. study 1−26473
Al-Mg (93, 6 wt.%), crack development under cyclic loading, prevention using surface plastic strain 1−3785
Al-Mg-Si, fracture mechanisms 1−3916
Al-Mg-Zn (5.6-6.1, 2.1-2.5 wt.%), deform. and fracture at elevated temp. 1−21560
Al-Si alloys, struct. heterogeneity influence on fracture mechanism *(French)* 1−48457
Al-steel fibre deformable composite, preparation, heat treatment *(Russian)* 1−16718
Al-Zn-Mg (5,2 wt.%), rupture activation energy meas. at low stress 1−3922
Al-Zn-Mg-Cu, type 7075-T651, fatigue crack growth, SIMS and AES study 1−31638
Al_2O_3, 3% glassy phase, high-temp. J-integral meas. and micromechanisms at crack tip 1−53272
BC, elastic modulus and fracture 1−39356
C fibre reinforced epoxide, failure under superposed press. in three-point bending 1−35339
C fibre reinforced Ni, uniaxially aligned composite, tensile and compressive strengths under high press. 1−35338
C-fibre reinforced epoxy and polyester resins, fracture mechanisms, in monotonic loading 1−12851
$Co_{94-x}M_xB_6$ (M=Hf, Zr, Ta, Ti, Nb), glass form. comp. ranges and mech. props. 1−35353
Cr coating, friction and wear features 1−31675
Cu-based composite materials, fracture laws and singularities *(Russian)* 1−3885
Cu-BrZr0.2-M2 bimetal transition layer combination on press. welding, struct. fracture *(Russian)* 1−3792
Fe alloy powders, resist. to shock comminution 1−53290
Fe, cast, torsion and tensile tests 1−3869
Fe coating, friction and wear features 1−31675
Fe, single crystal, deformation and fracture, influence of C in solid solution on the effects *(French)* 1−43474
Fe-C (0.2 wt.%), powder forged, yield and fracture prediction by NDT 1−53385
Fe-Cr-Mo amorphous alloys, H embrittlement, effect of corrosion resistance and metalloid additives 1−53257
Fe-group ion penetration into Si, fracturing of Si 1−26397
Fe-Si, transition correlation, fracture diagrams, elastoplasticity 1−24751
$Fe_{94-x}M_xB_6$ (M=Hf, Zr, Nb), glass form. comp. ranges and mech. props. 1−35353
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, dynamic compaction processing prep., mech. props. 1−35355
HfO_2, metastable, tetragonal, prep. and mech. props. 1−16743
Mo-Al_2O_3(ZrN) cermets, sintered, strength 1−35381
Mo-TiC, alloy 4605, effect of heat treatment of struct. and mech. props. 1−43384
fracture continued
$MoSi_2$ with oxide films, cracking kinetics anal. by acoustic emission method 1−35481
NaCl, effect of traces of Pb on crystal fracture *(Russian)* 1−7247
NaCl, mechanical activation mechanism, fracture, surface struct. 1−30308
Ni-Cr-Al-W-Mo-Ti-C-B, mech. props. depend. on deform. temp. and rate 1−35334
$Ni_{94-x}M_xB_6$ (M=Hf, Zr, Ta), glass form. comp. ranges and mech. props. 1−35353
Si, ion implanted, thermoelastic stress anal. of pulsed electron beam recrystallisation 1−7251
SiC, hot-pressed, strength, effect of Al and B additions *(Japanese)* 1−43306
Si_3N_4 hot pressed, grain-boundary sliding role in fracture at high temps. 1−26598
Ti-Al-Mo-Zr (6.7, 3, 1.7 wt.%), VT9, superplastic deform., improvement of mech. props. 1−16843
Ti-Al-V (6,4), with Widmanstatten $\alpha+\beta$ colonies, continuum anal. of fracture 1−31601
Ti-Nb-Si amorphous ribbons, superconductivity, mechanical props. 1−16394
TiC hard metals, interrel. between struct. and props. 1−12866
TiC overlay coating, friction and adhesive wear 1−31682
TiN overlay coating, friction and adhesive wear 1−31682
TiO_{2-x}, stoichiometry effects on fracture 1−26596
V-H, delayed failure 1−43516
W, wire, K conc. on fracture surface, AES study 1−20533
WC, mixed mode fracture angle and fracture loci under compressive loading 1−48460
Zn, textured sheets, brittle orthotropic material, mixed mode fracture 1−48461
Zr-Nb (2.5 wt.%), pressure tubes, fast fracture prediction using elastic-plastic fracture mechanics 1−48517
ZrO_2/Ni-Cr-Al-Y segmented oxide protective coating, mech. and thermally induced fractures 1−31631

fracture strength *see fracture toughness*

fracture strength testing *see fracture toughness testing*

fracture toughness
see also notch brittleness; notch ductility; notch strength
Astroloy superalloy, hot isostatically pressed, porosity effect on mech. props. 1−3667
bone strength, non-invasive determ. using US vel. meas., equine expts. 1−13281
borsic fibre reinforced Ti, crack-tip damage and fracture toughness, SEM obs. 1−48464
brittle material, structural and microstructural design 1−31664
cast iron, high Cr/Mo, white, fracture toughness 1−53259
ceramic, strength, stress state effect 1−16893
ceramic composites, brittle, micromechanisms controlling fracture toughness 1−31607
ceramics, design technology, for structural applications *(Japanese)* 1−38441
ceramics, effects of stresses on strength 1−39432
ceramics based on ZrO_2 inclusions, strengthening and toughening models 1−16797
Charpy specimen, pre-cracked, simple formula for dynamic stress intensity factor 1−24747
composite materials, viscoelastic and elastic, mode I delamination fracture toughness, determ. method 1−48473
compressed tubular wound rods, reinforcement arrangement effect on load bearing capacity 1−31629
ductile materials, fracture anal. 1−47166
elastic-plastic fracture toughness of US Navy structural alloys, J-integral as criterion 1−48642
elastomeric adhesive films, in triaxial stress state, strength 1−43425
fibres, optical, rupture mode under pulling conditions *(French)* 1−43528
fibrous composites, macroscopic fracture 1−21584
fracture mechanics, problems in expt. procedures 1−25365
glass, internal stresses effect, on fracture toughness 1−26599
glass laminates, effect of $HF+H_2SO_4$ etching on fracture 1−21572
glass-glass-ceramic composite system, simulated strength-grain size study 1−39426
graphite, HTGR, irradiation effects on thermal shock resistance and fracture toughness 1−36999
graphite, oxidation effects on toughness and slow crack growth 1−21568
graphite, reactor grade, combined mode fracture toughness at high temp. 1−3891
graphite fibre reinforced epoxy composite laminates, fracture toughness through intermittent interlaminar bonding 1−21579
graphite fibre/epoxy laminates, fracture toughness 1−8407
Inconel X-750 alloy, high temp. fatigue effect on fracture toughness 1−53277
maraging steel, 18Ni(350), ultra-high strength, aged, fracture mode transitions 1−43512
mechanical behaviour of materials, conf., Cambridge, England (Aug. 1979) 1−27673
oxynitride glasses, synthesis, struct., and props. 1−30074
particle-hardened alloys, micromechanisms, book 1−5040
plastics, fibre reinforced, impact compressive fracture, anisotropics props. *(Japanese)* 1−31610
plate, skew parallel cracks, interaction effects, critical stress of fracture 1−19646
PMMA, crack resist., influence of temp. and deform. rate 1−35379
PMMA, fracture toughness and crack growth rate relationship *(Japanese)* 1−43484
PMMA, tensile and Charpy impact tests, comparative study rel. to fracture mechanics 1−43503
PMMA-PMMA, welded, fracture mechanics study 1−39429
PMMA-SAN, welded, fracture mechanics study 1−39429
polycarbonate, cold rolling and residual stress effect on impact strength 1−48370
polycarbonate, fracture toughness, effect of stress cracking 1−48496
polycarbonate, tensile and Charpy impact tests, comparative study rel. to fracture mechanics 1−43503
polycarbonate films, effect of corrosive agents and temp. on physiomech. props. 1−26646
polymers, impact testing, crack-blunting mechanisms 1−43502
polypropylene, fractures, plane stress and plane strain 1−35362
polypropylene-low density polyethylene blends, mech. props. 1−39441

fracture toughness continued
PVC compounds, toughness and weatherability, morphology effects 1−31609
PVC-ABS blends, impact behaviour rel. to styrene-acrylonitrile/butadiene rubber/PVC comp. 1−21582
rubber-fibre composites, tensile strength and ultimate elongation 1−43427
SAN-SAN, welded, fracture mechanics study 1−39429
short cracks, stress analysis 1−29627
single-edge notched specimen, eval. of constraint factor and J-integral 1−46711
steel, 4340, fracture toughness reduction due to H_2, models 1−43518
steel, 5 Ni and 9 Ni, heat treatment effect on microstruct. and cryogenic fracture props. 1−8348
steel, alloy, commercial, sintering effect on fracture toughness and yield strength 1−53134
steel, alloy, quenched and tempered type 4340, microenergy release rate during fracture, AE, obs. *(Japanese)* 1−53260
steel, alloy, transition temp. characterisation using fracture toughness parameter 1−26584
steel, austenitic low-tempered structural, heat treatment for increased fracture toughness 1−31506
steel, austenitic weld metal containing 25% Ni, crack resist. variation with welding electrode type 1−26625
steel, C, abrasive wear and microstructure relationship 1−48529
steel, C, brittle fracture susceptibility using new fracture criteria 1−16888
steel, C-Mn-Cb, plate, fatigue and toughness props. 1−43513
steel, carbide coating process using molten borax bath 1−48586
steel, Cr(12 wt.%), heat treatment to improve toughness 1−53221
steel, critical fracture stress model for prediction of static and dynamic fracture toughness *(Czech)* 1−48484
steel, electroslag refined En 52, fatigue crack growth rates and fracture toughness 1−39420
steel, En25, relationship between shear lip size and fracture toughness 1−12857
steel, fibre reinforced polystyrene impregnated concrete, strength props. 1−43469
steel, fracture toughness determ. under conditions of plastic instability 1−48518
steel, high-strength, cyclic fracture toughness 1−35363
steel, high-strength heat-resistant 30Kh3NM3FTs, props. and appl. 1−8394
steel, hot rolled 1020, fracture initiation, loading rate and temp. effect 1−3880
steel, hot work tool type AISI H13, rapid heat treatment effect on mech. props. 1−53214
steel, hot-rolled, low-C, finished at high temps., microalloying effects 1−16879
steel, HSLA martensitic, thermomech. treatment, rel. between struct. and mech. props. 1−31513
steel, low alloys, mech. props., effect of precipitated VN and V(C,N) phases 1−16783
steel, low C, crack resist. rating by quantitative anal. of fracture struct. 1−35374
steel, low-alloy, 15GFD and 12KhGFD, cold resist., tempering effect 1−3909
steel, low-alloy, heat treatment effect on struct. strength 1−43379
steel, low-alloy, structural, Se effect on struct. and props. 1−8430
steel, low-C, SS41 and SM50C, stress triaxiality effect on ductile fracture initiation *(Japanese)* 1−3895
steel, low-C, X-ray diffr. study of ductile and brittle fracture *(Japanese)* 1−3894
steel, maraging, guide 300 and 350, effect of microstruct. on fracture toughness 1−39414
steel, martensitic, corrosion-resist., operation at temps. up to 650°C 1−16886
steel, martensitic, fracture toughness, effect of interstitial impurities 1−16883
steel, martensitic matrix with undissolved carbides, mech. props., effect of heterogeneity of austenite *(Czech)* 1−48483
steel, mild, fracture toughness and Charpy impact transition temp. relationship 1−3901
steel, Mn, ferritic, thermal processing for toughness at cryogenic temps. 1−16813
steel, Mn, wear resist. and strength-toughness, −196°C to room temp. *(Korean)* 1−12852
steel, Mn-Mo-Ni, SA533B class 1 plate, Charpy energy transitions for weld metal and HAZ 1−48514
steel, Mn-Ni-Mo, heat affected zone, mech. props. after simulated heat treatment *(Czech)* 1−12768
steel, Mo-Mn-Cr, weldable, heat treatment optimisation 1−48382
steel, nuclear pressure vessel, fracture toughness predictions 1−47165
steel, pressure vessel, crack growth and initiation characterisation 1−48643
steel, structural, fracture toughness, mech. twinning influence 1−35366
steel, structural, sheet, fracture toughness extreme values anal., under conditions of similarity of plastic instability 1−35373
steel, structural, strength and toughness, effect of thermomech. treatment *(Chinese)* 1−35286
steel, thermal shock cracking, elastic-plastic fracture mechanics study 1−48515
steel, tool, abrasive wear, effect of internal notches 1−16909
steel, tool, high-speed, heat treated after forging without intermediate annealing, struct. and props. 1−48387
steel, type En3B, diffusion bonded interfaces, impact and fracture toughness testing 1−21578
steel, ultra-high strength martensitic, fracture toughness and fracture strain *(Czech)* 1−8421
steel, unstable austenitic 1−3907
steel 12Kh1MF, long-time strength eval. using short-time mech. charact. 1−39391
steel armour plate, texture influence on mech. and ballistic props. 1−43367
steel powder, metal-infiltrated sintered, fatigue and fracture response 1−48511
steel welded joints, cracking resist. increasing with EM effect 1−34409
steel X20Cr13, mechanical props. optimization by simulating heat treatment *(German)* 1−8342
steels, austenitic, at cryogenic temps. mech., props. review 1−53191
steels, crack length and specimen thickness influence on fracture toughness 1−31598
fracture toughness continued
steels, microalloyed, types StE36 and St52-3, embrittlement phenomena, effect on welding behaviour *(German)* 1−43472
theoretical relation between dynamic fracture toughness and temp. t_{NDT} *(Czech)* 1−47163
warm prestressing, theory, expt. validation and implications for elastic-plastic failure criterion 1−47160
wear and grinding processes 1−8439
Al-Cu (33 wt.%), off-eutectic, unidirectional solidification *(Korean)* 1−16766
Al-Mg-(Zn), fracture toughness, intermetallic inclusions influence 1−53289
Al-Zn-Mg (6, 2.5 wt.%), rel. between ductility and fracture toughness 1−26535
Al-Zn-Mg Cu, type 7075-T6, relationship between shear lip size and fracture toughness 1−12857
Al-Zn-Mg-Cu, 7075, effect of ageing on props. 1−48402
Al-Zn-Mg-Cu alloy V93pch forgings, quenching water temp. effect on struct. and mech. props. 1−48392
AlN, based high-density ceramic, prep., mech., thermal and dielec. props. 1−31390
Al_2O_3, 3% glassy phase, high-temp. J-integral meas. and micromechanisms at crack tip 1−53272
Al_2O_3, bidisperse struct., fracture toughness and bending strength 1−53274
Al_2O_3, fracture toughness determ. using chevron-notch short bar specimens 1−26612
Al_2O_3, fracture toughness, room temp. to 1600°C 1−43520
Al_2O_3, hot-pressed, correl. of fracture toughness and crack lengths from Vickers hardness indentation *(German)* 1−35344
Al_2O_3, refractory boehmite, bonded, prep., modulus of rupture 1−31387
β-Al_2O_3, strength controlling flaws 1−43511
$2Al_2O_3.SiO_2$-Al_2O_3 mullite-corundum ceramic, heat resist. and strength rel. to fracture surface struct. 1−43476
BN based superhard materials, structural factors effect on mech. props. 1−12864
Be, fracture roughness determination from fractographic data 1−35367
CaO-ZrO_2, partially stabilized, mech. props. transformation toughened, aged 1−16894
CaO-ZrO_2 system, fracture mechanics study 1−21569
Cu, determination of strength upon dissociation of cumulative jet 1−26583
Cu-Ni-Si (corson) alloy, temper condition fracture toughness *(Japanese)* 1−21571
Fe, cast, abrasive wear, effect of internal notches 1−16909
Fe, cast, Ni additions, strengthening and toughening by heat treatment in eutectoid temp. range *(Japanese)* 1−53212
Fe, cast, nodular, SEM obs. 1−43522
Fe-Ni (12 wt.%), effect of Ti minor additions on fracture toughness 1−39430
Fe-P, spontaneous microcrack nucleation at grain boundaries and brittle fracture *(Russian)* 1−26590
Ge, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
K_2O-SiO_2 binary alkali glass, strength 1−3852
Li_2O-SiO_2 binary alkali glass, strength 1−3852
Mg-Al spinel, Al_2O_3 rich, precipitation strengthening *(Japanese)* 1−26485
Mg-Al-Zn-Mn, sheets, fatigue cracks development 1−53286
Mg-Li constructional alloys, fracture toughness 1−53287
$MgAl_2O_4$, polycrystalline, fracture, grain size effect 1−39431
MgO-ZrO_2, fully stabilized, mech. props. transformation toughened, aged 1−16894
Mo_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
Na_2O-SiO_2 binary alkali glass, strength 1−3852
NiTi-based shape memory alloys 1−39361
Si, fracture toughness 1−3873
Si, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
$Si_{2.9}Be_{0.1}N_{3.8}O_{0.2}$ hot pressed ceramic, thermomech. props 1−3871
SiC ceramic materials, fracture behaviour at high temp. 1−53273
SiC reinforced Al alloys, mech. props. 1−48509
Si_3N_4 ceramics, molten salt strength degradation 1−3943
Si_3N_4, fracture toughness determ. using chevron-notch short bar specimens 1−26612
Si_3N_4, hot pressed, processing effect on microstruct. and mech. props. 1−16738
Si_3N_4, hot-pressed and reaction-sintered, correl. of fracture toughness and crack lengths from Vickers hardness indentation *(German)* 1−35344
Si_3N_4 polyphase systems, fabrication, microstruct., props., review 1−8261
Si_3N_4, reaction sintered, porosity effect on thermal shock 1−16739
Si_3N_4, reaction-sintered, porosity effect on thermal shock behaviour 1−21570
Si_3N_4, sintered, mech. charact. 1−16741
β-Si_3N_4−β-SiC composites, fracture toughness obs. 1−26602
Ti alloy VT14, pressure vessel, spherical, correlation between mech. props. and failure stresses 1−3933
Ti alloy VT3-1, fracture toughness, rolling conditions effect 1−43498
Ti-Al-Mo-Cr (4.5, 5, 1 wt.%), CORONA 5, thermomech. processing-microstruct.-mech. props. rels. 1−48513
Ti-Al-Mo-Cr (4.5, 5, 1.5 wt.%), influence of processing and heat treatment on mech. props. 1−12767
Ti-Al-Mo-Zr (6.7, 3, 1.7 wt.%), VT9, superplastic deform., improvement of mech. props. 1−16843
Ti-Al-V-Cr-Zr-Mo, aged, thermal stability 1−26474
TiC hard metals, interrel. between struct. and props. 1−12866
TiO_{2-x}, stoichiometry effects on fracture 1−26596
U-Nb-Zr (7.5,2.5 wt.%), plastic deform. at low temp., identification of mechanisms 1−35336
W_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
WC-Co (10-30 wt.%) cemented carbides, effects of domain size of binder phase on high temp. strength 1−3912
WC-Co hard alloy boring tool bits, fracture ductility 1−26623
Zn-Al-Cu-Mg (3.5-4.5, 0.75-1.25, 0.03-0.08 wt.%), castings, mech. props. 1−43506
Zr_3Al-based, fast neutron irrad., effect on props. 1−20271
ZrC, creep and long-term strength 1−39386

fracture toughness continued
ZrO_2 based tetragonal material, phase retention and fracture toughness 1−43337
ZrO_2 particles, martensitic transforms., particle size effects and toughnening 1−39335

fracture toughness testing
see also notch testing
adhesive joint 1−21675
apparatus, for hot modulus of rupture, in controlled atmosphere *(French)* 1−8493
ceramics, fracture toughness testing and acoustic emission 1−8511
ceramics, strength assessment, appl. of indentation fracture 1−43624
Comsteel En25 compact tension specimens, inadequacy of plane-strain fracture toughness test 1−4012
crack stability 1−21674
critical crack opening determination in bending tests 1−21661
cryogenic metals, brittle fracture, notch testing 1−48471
cryogenic temperatures, LVDT displacement gauge 1−36665
cryogenic temperatures 1−36666
cylindrical samples with circular crack, results reliability 1−35478
disc specimen, crack growth stability 1−1893
fatigue precracking load, influence on fracture toughness test results *(Slovak)* 1−48619
metals, crack length measurement in fracture toughness testing, from potential field geometry changes 1−17001
metals, ductile, stress-rupture strength determ. 1−8503
metals, soft layers technique 1−4034
osteoclast for whole bone testing, appl. to aircraft ejection seat operations 1−13372
PMMA, method of multiple determ. of fracture toughness 1−17007
polymers, method of multiple determ. of fracture toughness 1−17007
Portland cement concrete, in situ, assessing compressive strength by internal fracture tests 1−35463
refractories, deformation-fracture under 3-point bend test, AE characts. *(Japanese)* 1−21686
steel, comparison of ASTM standard and short rod methods 1−26696
steel, embrittlement by H_2S gas 1−53281
steel, fatigue cracks production with specified depth for crack propag. resist. testing 1−26685
steel, high and medium C, crit. crack opening determ. in bending tests 1−21661
steel, impact toughness testing, sharp and ordinary notched specimens 1−17003
steel, low alloy, crack length meas. method using crack-opening displacement 1−8508
steel, nuclear pressure vessel, fracture toughness estimation, use of side-grooved Charpy-size specimens 1−12680
steel, stainless typ 316, welds, effect of specimen size on reproducibility of creep rupture test results 1−17011
steel, structural, comparison of J-testing techniques and correlation J-COD 1−48613
steel medium strength, 30 CrMnSiA plate, fracture toughness, using surface flaw test 1−39550
steels, 45 and 17KhG2SAFR, cyclic strength, welding effects, comparative testing 1−35494
Al alloys, comparison of ASTM standard and short rod methods 1−26696
Al alloys, cylindrical samples with circular crack, results reliability 1−35478
Al_2O_3, fracture toughness testing and acoustic emission 1−8511
Ti, comparison of ASTM standard and short rod methods 1−26696
Zr-Nb (2.5 wt.%) pipes from nuclear reactors, neutron irrad., fracture characts. determ. 1−21662

francium
see also nuclei with .....
atoms, D_2 optical reson. line, laser optical spectroscopy 1−19057

francium compounds
No entries

Franck-Condon factors
acetylene, photoionisation cross section, vibr. struct., photoelectron spectrum 1−33500
atom+atom inelastic scatt. amplitudes, Franck-Condon factors, uniform semiclassical evaluation 1−46063
β-carotene, reson. CARS line shapes via Franck-Condon scatt. 1−15046
crystals, excited impurities, nonradiative decay, localised modes, depend. on impurity conc. 1−47196
cytochrome-c, reson. CARS line shapes via Franck-Condon scatt. 1−15046
density of states weighted Franck-Condon factor, evaluation, freq. change effects 1−1280
dimethyl-s-tetrazine, rot. and vibr., predissociation, fluoresc. and absorption obs. 1−24118
diphenylbutadiene, $^1A_g^{*-}$ $\pi\pi^*$ state, two photon excitation spectra 1−29067
first-row hydrides, ground and core hole states, LCAO MO SCF calcs. 1−19028
halogen molecules+Sc(Y) reactions, monohalides laser induced fluoresc. 1−26721
hetero-aromatics, multiplicity-forbidden spectra, vibr. struct., non-Condon effects, vibronic interference 1−19082
ions and molecules in crystals under press., Franck-Condon principle 1−26169
Jahn-Teller band shapes in strong coupling limit, adiabatic and Franck-Condon calcs., pot. energy surface 1−19041
methanol, Franck-Condon factors, vibr. struct. and PES 1−51243
molecular spectral line press. broadening by neutral perturbers, quasi mol. treatment 1−37256
molecules, intervalence charge transfer and mol. tautomerism comparison 1−1052
nonorthogonal bound states, matrix elements evaluation, semiclassical approx. 1−45815
optical spectra of solids, effects of press. 1−21169
piecewise Langer-transformed vibr. wavefunctions 1−37266
polyatomic molecule, photodissoc. energetics theory 1−33524
polyatomic molecules, vibronic spectra calc., absorpt. coeffs., spectral distrib. curves, correl. for C-C and C-H bonds 1−28958
polyatomic molecules, vibronic spectra calc. using Franck-Condon and Herzberg-Teller approx. 1−28957
radiative and nonradive transition in crystals, electron phonon transition probabilities calc. 1−2580

Franck-Condon factors continued
triatomicmolecules, photodissoc., bound-free Franck-Condon factors calc. using R-matrix propagation methods 1−24199
vibrational wave function superposition integrals, exact calc. method 1−46028
CO_2, photodissoc., bound-free Franck-Condon factors calc. using R-matrix propagation methods 1−24199
CS_2, mol. rot. and vibr. energy disposal, photodissociation, transition moments, Franck-Condon factors 1−24113
CSe_2, mol. rot. and vibr. energy disposal, photodissociation, transition moments, Franck-Condon factors 1−24113
Cl_2, B-X $^1\Sigma_g^+$ state, Franck-Condon factors, mol. consts. and RKR long range pot. 1−1282
CrO_2Cl_2, vibronic activity and structure change after 580 nm electronic transition 1−10745
Cs_2, fluorescence, Franck-Condon principle, nuclear kinetic energy effect 1−1269
H_2, Franck-Condon factors, ab initio calcs. 1−51109
H_2O, vibr. struct. of photoelectron spectra, Franck-Condon factors, ab initio calcs. 1−51109
I_2, ground vibr. level, dissoc. energies, Franck-Condon factors, IR obs. 1−45951
LiH, Franck-Condon factors, ab initio calcs. 1−51109
N_2 + ions, ionisation collisions, N_2^+ excited vibr. level system 1−29110
N_2+He(s^3S), nonBoltzmann vibr. level populations determ. using Penning ionisation technique 1−41482
NO_2^-, vibr., photodetachment, cross sections, struct. consts., least squares approx. 1−37281
NaK, laser-induced fluoresc., dissoc., Franck-Condon calcs. 1−37235
O_2, binding energies, vibrational branching ratios photoelectron time of flight obs. 1−19133
OH(OD), B $^2\Sigma^+$ and C $^2\Sigma^+$ states, radiative props., Franck-Condon factors 1−29040
$Sr(PO_4)_3Cl:MnO_4^{3-}$, ligand-field excited state, Jahn-Teller effect, Franck-Condon factors 1−30687
Xe_2, fluoresc. spectra, synchrotron radiation study, pot. curves, Franck-Condon factors calc., vibr. 1−6274
ZrO, Morse potential Franck-Condon factors and r-centroids of bands of A(E-X) and B(D-A) systems 1−4754

Frank-Read sources
ferromagnets, magnetoelastic dislocation internal friction, magnon damping *(Russian)* 1−31004

Fraunhofer lines *see solar spectra*

free-electron approximation
amorphous metal, electron-phonon coupling const., free-electron theory 1−30735
Friedel sum rule, generalised 1−52463
mean free paths of very-low energy electrons, exchange and correl. effects 1−12100
metals, dispersion of high freq. extraordinary waves in Voigt config. 1−48042
Ga, amorphous, electron-phonon coupling const., free-electron theory 1−30735
semiconductors, dispersion of high freq. extraordinary waves in Voigt config. 1−48042

free electron lasers
Cherenkov and Cherenkov-Raman radiation sources 1−10963
coherence properties 1−15136
coherent radiation generation by relativistic electron beam in undulator 1−1470
collective free electron laser operated in stimulated Raman scatt. regime 1−15139
conference, free electron generators of coherent radiation, Telluride, CO, USA (Aug. 1979) 1−9768
coupled Maxwell and Boltzmann eqns., coherent transient effects 1−10957
development review *(Polish)* 1−10952
dynamics of electron beam in combined guide and pump magnetic fields 1−29247
efficiency enhancement, general nonlinear theory 1−10962
efficiency optimisation rel. to EM radiation intensity 1−15138
electromagnet design for undulators and free electron lasers 1−18261
electron beam parameters in free electron laser under strong saturation conditions *(Russian)* 1−10956
electron distribution function evolution, numerical calc. 1−10966
energy and momentum conservation for electron interactions with EM radiation 1−10898
energy exchange between free electrons and EM field 1−10899
enhanced energy extraction by resonant energy adiabatic decrease 1−10959
equations of motion for laser with transverse gradient 1−10975
experimental tests and appls. 1−6532
far IR free electron lasers, use of intercavity filters for optimisation 1−37452
far IR operation, single, collective particle and strong pump scatt. regimes 1−15143
FELIX: a proposal for a free electron laser experiment at Daresbury 1−24431
field-emission diodes for free-electron Raman lasers, relativistic electron beam energy distrib. 1−37451
finite length, absolute instability theory 1−46277
gain mechanism in low-gain laser systems 1−46276
gain-spread relation in multiphoton picture 1−41653
large gain operation 1−19316
linac technology based systems for far and near IR operation 1−46279
Maxwell's equations driven by single-particle currents 1−10964
multimode regime, single-particle theory 1−51438
new lasers and new laser measurement systems 1−29290
nonlinear wave interaction, white noise 1−1539
nonstationary generation, stationary and pulse injection regimes 1−46275
one-particle theory, exact 1−41655
particle simulation, ripple strength rel. to performance 1−10968
periodic longitudinal electrostatic bremsstrahlung based mechanism 1−10973
power series solutions 1−1541
pump produced by mag. diffusion 1−15173
radiation enhancement by applying DC elec. field 1−51442
relativistic electron beam and active mol. (maser) medium, resonant interactions 1−10954

free electron lasers continued
relativistic synchrotron radiation in medium, implications for stimulated EM shock radiation 1−10901
review *(Japanese)* 1−33644
review of fundamentals, expts., technology and appls. 1−46278
self-consistent Vlasov description of the free electron laser instability 1−10953
single particle and collective regimes, optimised operation 1−15140
single pass free electron laser, multimode small signal anal. 1−29245
space charge effect; single electron anal. 1−19315
stimulated EM shock radiation, arbitrary angle between electron vel. and field direction 1−10902
stimulated longitudinal electrostatic bremsstrahlung 1−19314
storage ring free electron laser, Monte Carlo anal. 1−19313
storage ring operation of free electron laser oscillators 1−1538
storage ring version, synchrotron radiation problems 1−10965
superluminal electron velocities, interaction of electrons and pump fields 1−10900
tapered wigglers, single-particle approach 1−10970
theory, two-dimensional 1−15137
theory in combined helical pump and axial guide fields 1−51440
time dependent properties, heuristic derivation 1−41654
TM and TE EM beams in free space, new free-electron laser type possibility 1−37389
transverse optical klystron and free electron laser, evolution eqn. exact soln. 1−51439
trapped particle dynamics and efficiency optimisation 1−1540
trapped particle orbits, sideband instabilities 1−10960
two-element, electron rebunching and radiation gain 1−10967
UV free electron lasers for synchrotron radiation sources 1−24425
variable parameter wiggler performance improvement 1−10958
variable period laser amplifier simulation 1−10974
variable pitch wiggler, laser interaction storage ring beam efficiency 1−15141
variable wiggler, theory and proposed expts. 1−10961
variable wiggler amplifier design, one-dimens. computer simulation 1−10969
variable wiggler optimization 1−15142
VEPP-3 storage ring, optical klystron expts. 1−23894
visible output LV laser, beam heating constraints 1−10972
warm-beam, predicted effect of mode cooperation and white-light lasing 1−29246
X-ray source with narrow electron energy spread 1−10971

free energy
^{3}He, superfluid, anisotropic phases, higher-order gradient terms in dynamics and statics 1−34540
ϕ^6-field theory in (1+1) dimensions, domain walls above transition point 1−28187
alkali metals, thermodynamics and vacancy characts., anharmonic effects 1−7281
alloys, thermochemistry, expts., review 1−43696
alloys and metals, entropy and free energy at HCP→BCC transformation temp. 1−25460
anharmonic crystal, statistical theory of vacancy formation, thermodynamic props. 1−2432
aniline derivatives in cyclohexanes (1:4 dioxane) soln., relax. time, permittivity and dielec. loss 1−43064
annealed and quenched gauge field models, spontaneous symm. breaking 1−33111
Ashkin-Teller model, phase transform. near decoupling limit 1−34902
3-azabicyclo[3.2.2]nonane, PMR spectra, conformational equilibration 1−6281
biaxial Lifshitz point in disordered phase, free energy calcs. 1−210
binary alloys, dilute, cell size of solidification front 1−11707
binary mixtures, quenched, phase separation dynamics, kinetic eqns. 1−52300
commensurate-incommensurate transform., coupling between phase solitons and strain 1−42508
commensurate-incommensurate transition in sine-Gordon fields 1−40745
complex free energies and metastable lifetimes 1−9959
concentration rules, linear, at const. partial molar quantity *(Chinese)* 1−38537
Coulomb plasma, statistical mechanics 1−32899
crystalline solids, specific surface free energy calc. 1−47362
diphenylcarbene fragment, energy relax. equilib. const., free energy difference, picosecond laser obs. 1−33520
disordered alloy, one-dimens., free energy and moments of density of states 1−30422
electrical double-layer interaction energy for two cylinders 1−39694
ethylammonium copper chloride, high-temp. phase transform., dielectric and optical props. 1−42533
fatigue crack propagation, energy considerations 1−46708
FCC metals and alloys, Hall-Petch relation appl., effect of prestrain 1−3845
ferroelectric models, order-disorder, six- and four-site, with tunnelling, thermodynamics 1−43076
ferroelectric pseudo-spin Hamiltonian, anal. by second order cumulant expansion 1−21138
ferroics, tertiary, symmetry constraints and free energy terms 1−7122
ferromagnetic finite system, real-space renormalisation group anal. 1−21004
ferromagnetic superconductor, magnetostatics, generalised Ginzburg-Landau theory 1−12229
ferromagnetic superconductors, re-entry phenomena 1−30875
fluid, second grade, temperature dependence of normal stress moduli 1−30287
Gaussian model, d-dimensional, differential real-space renormalisation 1−36577
Gibbs function based definition of fugacity, incorrectness 1−38037
Gibbs measures, stochastic inequalities 1−5258
Gibbs random fields, generating functionals 1−50088
gravitating fermions in an infinite configuration space 1−23103
p-halophenols in non-polar solvents, H bond intermol. assoc., dielectric relax. 1−12451
Heisenberg antiferromagnet, one-dimens anisotropic, finite temp. renormalisation-group theory 1−52789
ice, surface free energy, calc. 1−34552
inert gas non-registered monolayer and bilayers solid films, coexistence, statistical mechanics 1−25570

free energy continued
instanton+anti-instanton system, weakly interacting, structure and stability under external colour electric field 1−45123
ion in organic solvent, solvation free energy calc. 1−53458
ionic crystals intrinsic conductors, interfacial space charge and capacitance 1−39035
ionic liquids, restricted primitive model, upper bound on free energy 1−11654
Ising antiferromagnet, S=1, crit. temps., uniaxial anisotropy effect 1−25951
Ising antiferromagnet, square lattice, in external mag. field, soln. in anisotropic limit 1−25969
Ising linear chain with long- and short-range interactions 1−25949
Ising model, random-bond, exactly solvable, free energy calc., transition to spin glass phase 1−52794
Ising model, surface thermodynamic functions, renormalisation group calc. 1−3202
Ising model, two-dimensional, with frustrated squares, free energy, phase transition 1−20995
Ising models, continuous-spin, low temperature expansion 1−25857
Ising models without phase transitions 1−42980
Ising spin system with random interactions, phase diagram, mean field theory 1−3190
Ising systems, compressible, weakly first-order transitions, theory 1−18169
Ising systems with bond impurities, concentration expansion 1−32928
lattice models, finite cluster expansion for free energy, site renormalisation and star cluster expansion 1−23123
lattice systems with continuous symm., unbounded spins, free energy perturbation theory 1−27885
Lennard-Jones solid, cell-model prediction of melting 1−2593
linear transverse Ising model with four-spin interactions 1−7853
liquid alloy, structural disorder theory, band struct. 1−46987
liquid crystal, elliptic phase boundaries between nematic and smectic phases 1−38519
liquid metals, free energy, analytic model 1−42289
liquid-glass transition, model interpret. in terms of percolation 1−25412
living systems, Gibbs function flows from nucleotide pools 1−39863
membrane, semipermeable, particle and heat exchange, Gibbs eqn. and entropy flux 1−16150
metal, expanded, metal-insulator transition, thermodynamic singularities, Landau theory extension 1−25634
metals, Helmholtz free energy, quartic anharmonic contrib. 1−42500
metals, liq. and solid, free energy, melting temp. thermodynamic calc. 1−25462
metals, liq. and solid, rel. between melting temp., nearest neighbour separation and surface free energy 1−47211
metals, nuclear magnetism, thermodynamics and mag. reson. 1−52788
metals, one-dimensional, interchain coupling in linear conductors 1−42749
methane-propane mixture, phase equilibria, heat of mixing, vol. change on mixing, Gibbs free energies 1−9779
mixing, change of ΔG^F by hydration hydration complex form. *(German)* 1−31902
mixtures containing alcohols, vapour-liq. and liq.-liq. equilib., effective UNIQUAC eqn. 1−38490
molecular crystal, molecular translation and rot. dynamics, macroscopic and microscopic calc. 1−42330
molten alloys, regular solution theory, size effects, statistical mech. derivation 1−30396
monatomic FCC crystal, anharmonic contrib. to sp. ht. 1−30412
multicomponent reciprocal systems, solubility products, bond free energy, thermodynamic properties calcs. 1−34486
multicomponent systems, analysis of chemisorption 1−42632
naphthalene-pyromellitic dianhydride, heat capacity and thermodynamic functions, 5 to 300K 1−16057
naphthalene-tetracyanoethylene, orientational disorder, heat capacity and thermodynamic function meas. 1−16056
nematic liquid crystal, Euler's problem of density of free energy *(Rumanian)* 1−7075
nucleotides in aq. soln., intermol. association, ^{1}H NMR, microscopic equilib. const. and Gibbs energy determ. 1−21705
p 1−48325
Planck function, eqns. for calc. of change from ΔC_p° 1−31892
plane rotator model, low temperature asymptotic expansion 1−40717
polaron energy, strong-coupling limit 1−2892
polaron theory at finite temps. 1−7535
poly(ethylene oxide) single cryst., isothermal growth, thickening and melting 1−30102
polyethylene cryst. suspensions, heat of fusion, variation with crystn. temp. 1−7300
polymer chains, semi-flexible, absence of completely ordered phase in quasi-lattice model 1−18165
polymer crystal growth with chain folding, kinetic theory 1−30097
polymer crystal with emergent cilia, surface free energy model 1−38641
polymer solution in nematic, thermodynamics in limit of strong perturbations *(French)* 1−15784
polymer solutions, polydisperse, truncation theorems for spinodals and critical points of mean-field models 1−46982
polymers, condensed, short-range order, meander model 1−30025
polymers, inhomogeneous, in presence of solvent, free energy and microdomain size, theory 1−38238
polymers, reversible linear polymerisation, and mol. alignment, equilib., phase behaviour 1−39636
Potts model, first- and second-order phase transitions, renormalisation group calc. 1−21005
pyrene-pyromellitic dianhydride, heat capacity and thermodynamic functions, 5 to 300K 1−16057
random layered frustration models 1−34900
random site Ising model on Cayley tree, higher order susceptibility divergence 1−191
rare gas solids, crystal struct., statistical-mechanical calcs. 1−34286
renormalisation group equations for mean field theory of stable and metastable states 1−40740
residual resistance, quantum scattering and free energy 1−12083
secondary n-amine-n-alkane mixture, Gibbs energies and enthalpies interpreted by quasi-chemical group contrib. theory 1−47253
semiconductor, thermochemistry, book contrib. 1−47260
shape memory alloys, model free energy, mechanics and thermodynamics 1−25457
smectic two-dimensionally ordered S_A antiphase, escape from incommensurability 1−46994

free energy continued
solute equilib. intergranular segregation, applied stress effects 1−38544
spin glass, two-dimensional, Ising model, mag. correlations 1−3198
spin glasses, mean free energy as lower bound for quenched free energy 1−20999
spin glasses for Ising models, long and short ranged 1−12336
spin models, Van der Waals, differential renormalisation 1−38945
spin system, 1-D spherical model with oscillating potential 1−50089
spinless fermion model, charge order, order-disorder transform. 1−7293
square-well fluid, thermodynamic functions, integral eqn., perturbation method calcs. 1−51900
stable heterogeneous binary system kinetics 1−30408
steel, austenitic stainless, inhibition effect of 4,7-diphenyl-1,10-phenanthroline spectro-electrochem. studies 1−48557
superconducting film, critical characts. *(Russian)* 1−3123
superconductivity and helical spin order coexistence, interplay of exchange and EM effects 1−42889
superconductivity coexistence with long-range mag. order 1−34824
superconductor, demagnetisation of Ce impurities, zero-bandwidth limit 1−42893
superplastic materials, origin of high ductility, free energy for superplasticity and dislocation creep 1−52220
surface order for materials with a first order transition 1−16158
surface tension, mean field approx., penetrable sphere model, one and two density representations 1−20514
tetramethyl ammonium zinc chloride, model of successive phase transitions 1−39045
TGSe, press.-induced tricritical nature, dielec. const. and spontaneous polarisation meas. 1−26141
two-phase equilibrium, effect of field and surface curvature 1−16012
two-sublattice magnet model, domain wall motion *(Russian)* 1−42934
U-Pu-Zn system, binary and ternary phase diagrams, theoretical and exptl. study 1−21422
upper bounds on the free energy of random spin systems 1−42971
vapour-liquid equilibria in binary systems, model-free methods 1−34466
vibrating dislocations, thermal props. 1−38489
volatile liquid, statistical thermodynamics of formation of new phase during boiling up 1−36597
Ag salts, sparingly soluble, solute-solvent interactions and dissoln. in various solvent systems 1−38539
Ag, specific surface free energy calc., appl. to faceting 1−47362
Ag^+, preferential solvation in acetonitrile (acetonitrile-H_2O), transfer free energy, radiochem. determ. 1−21762
Ag-S dilute solns., Gibbs free energy 1−16061
Al-Si system, thermodynamic functions and phase diagram, optimisation using least squares method 1−53155
γ-Al_2O_3, lamellar porous microstructs., energetics of formation 1−35232
Bi-bearing binary substitutional solns., thermodynamics 1−30426
Bi-S, dilute solns., Gibbs free energy 1−16061
Bi-Tl, liq. alloys, activity of O 1−42553
Br_3^-, linear solvation energy relationships, free energies of form., solvent effects *(French)* 1−48717
$CaNi_5$-H, differential heat flow calorimetry 1−2655
$CaWO_4$, diffusion controlled crystal growth, kinetic parameters and thermodynamic props. studied by DTA 1−25184
Cd-bearing binary subsititutional solns., thermodynamics 1−7355
Cd-Sb, thermodynamic props., critical evaluation 1−16063
Cr_2O_3, Gibbs free energy meas. using dual electrochemical cells 1−11883
Cs-CsF(CsCl)(CsI) liq. mixtures, thermodynamic props. at 925K 1−30395
CsAu liquid alloy, structural disorder theory, band struct. 1−46987
Cu-S dilute solns., Gibbs free energy 1−16061
$CuFeS_2$, chalcopyrite, high temp. thermodynamic props. 1−26763
Fe alloy, ferromagnetic transition, thermodynamic treatment 1−16439
Fe binary alloys, dil., intergranular segregation, effects of ferromagnetism 1−39337
Fe-Cr, phase diagram determination from thermodynamic data 1−12719
Fe-Ni, phase diagram determination from thermodynamic data 1−12719
Fe-Ni alloy, austenitic, thermodynamics of dissolved C, ternary terms role 1−52314
Fe-S dilute solns., Gibbs free energy 1−16061
Fe-Si (3 wt.%), magnetisation curve calc., free crystal energy numerical minimisation 1−7880
Fe_3Al, ordered, equilibrium phases 1−35252
Fe_2B and FeB, thermodynamic props. 1−34490
Fe_2O_3-V_2O_5-VO_2 system cpds., press.-temp. diagram and thermodynamic characts. 1−43321
$FeWO_4$, enthalpy and Gibbs free energy of form. 1−2638
GaAs oxidation and equilibrium Ga-As-O condensed phase diagram 1−16762
GaN, thermodynamic props., temp. depend 5 to 300K 1−11882
H_2, high pressure melting curves, isotopic effect 1−20504
He, high pressure melting curves, isotopic effect 1−20504
^{3}He, liquid, small volume fluctuations, contrib. to thermodynamics props. 1−42599
^{3}He, superfluid, gap solns., perturbed, mag. susceptibility calc. 1−34537
^{3}He, superfluid, Ginzburg-Landau theory, application to helical textures in A-phase 1−30510
I_3^-, linear solvation energy relationships, free energies of form., solvent effects *(French)* 1−48717
K, Helmholtz free energy, quartic anharmonic contrib. 1−42500
K-Rb, liq., free energy and heat of mixing, ab initio calc. 1−42540
KH_2PO_4, neutron diffractometry study of tricritical point 1−52902
$KReO_4$-$CsReO_4$ system, excess Gibbs free energy, mass spectrometric determ. 1−25458
$LaNi_5$-H, differential heat flow calorimetry 1−2655
Li-Al, thermodynamic investigation by H_2 titration method 1−2656
Li-Pb, thermodynamic investigation by H_2 titration method 1−2656
Li_2O-TiO_2 system, standard free energies of form. of $Li_2Ti_3O_7$ and $Li_4Ti_5O_{12}$ 1−53452
Mg-Cd system, liq., thermodynamic functions and phase diagram 1−53154
$MnWO_4$, enthalpy and Gibbs free energy of form. 1−2638
Mo-Pd-Ru systems, fission products, thermodynamics and phase diagrams, calc. 1−43316
Na, Helmholtz free energy, quartic anharmonic contrib. 1−42500
Na-Cs(K), liq., free energy and heat of mixing, ab initio calc. 1−42540
Na-Tl, liq., thermodynamic props. 1−16065
NaBr+tetraethylammonium bromide mixed electrolyte solns., thermodynamic props. 1−39668
NaCl, Gibbs energy of transfer from D_2O to H_2O, meas. 1−21758
NaI, self-diffusion and ionic cond., Arrhenius law, vacancy contrib. 1−2679
Ni-Cr, phase diagram determination from thermodynamic data 1−12719
Ni-Cr (20 wt.%), high temp. oxidation behaviour with dispersions of various reactive metal oxides 1−53363
Ni-H, effect of H on surface and grain boundary free energies at 1573K 1−25550
Ni-S dilute solns, Gibbs free energy 1−16061
Pb-S, dilute solns., Gibbs free energy 1−16061
Pd-Si melts, short-range order and thermodynamic props. 1−30046
S dilute solutions in liquid metals, thermodynamic props. 1−16061
Sb-S dilute solns., Gibbs free energy 1−16061
Si:H, reactively sputtered, amorphous, kinetic anal. of H evolution 1−34574
$SiAl_2O_2N_2$(c) (β'), heats and free energies of formation, mass spectrometry 1−43695
$SiAl_4O_2N_4$(c) (15R), heats and free energies of formation, mass spectrometry 1−43695
Sn, grey to white, phase-transition, equilib. and thermodynamic props. 1−47259
Sn-bearing binary substitutional solns., thermodynamics 1−30425
Sn-S, dilute solns., Gibbs free energy 1−16061
$TaCl_n$ gaseous mols., thermodynamic props., mol. struct. and vibr., review 1−31895
TaV_2, solubility of H_2 1−20389
Te, liq., thermodynamics of O, electrochem. meas. 1−3698
Th-H system, thermodynamic study at 700K 1−30420
$TiCr_2$, high temp. C14 form, hydride form., phase diagram and thermodynamics 1−8275
Tl+Tl_2O, standard Gibbs energy, galvanic cell obs. of equil. partial press. 1−48718
UH_3, standard Gibbs energy and standard enthalpy of form., 450 to 750K 1−39669
UO_2-PuO_2 system, reaction with liq. Na, O_2 thresholds 1−50760
VO_2, metal-insulator ferroelastic transition, electron correlations and electron-lattice interactions 1−30633
V_2O_5, thermodynamics of chlorination in temp. range 850 to 930K 1−7357
W, oxidation kinetics and determ. of O diffusion in WO_3 1−53333
ZrC, nonstoichiometric, approx. of thermodynamic props., formal model 1−43324
ZrO_2 particles, martensitic transforms., particle size effects and toughening 1−39335

free field rooms *see anechoic chambers*

free induction decay (optical) *see optical coherent transients*

free radical reactions
n-alkane molecules, thermal degradation, kinetic parameters compilation 1−9777
1-amino-3-anthryl-(9)-propanes, electrogenerated chemiluminesc., intramol. exciplex form. 1−26751
aromatic free radicals, in vaseline oil, geminate recomb. kinetics 1−4051
dibenzylketone, photolysis, ^{13}C mag. isotope effect, viscosity and temp. depend. 1−31881
electrogenerated superoxide ion reaction with 2-phenylenediamine, obs. 1−13017
ethane, induction period in pyrolysis, radical reactions, rate constant 1−31833
methyl radical+CO, acetyl form., kinetics, UV absorpt. spectra 1−41391
methyl radical+NO, reaction rate const. meas. using photoionisation mass spectrometer 1−4058
methyl radical+O_2, reaction rate const. meas. using photoionisation mass spectrometer 1−4058
methyl radical+O(^{3}P), reaction rate const. meas. using photoionisation mass spectrometer 1−4058
methyl radicals+O_3, reaction rate constants determ. using photoionisation mass spectrometer 1−4059
methylperoxy radical+NO_2 reaction, laser photolysis-long path absorpt. kinetics study 1−12984
radical+cyanoalkene, nucleophilicity and electrophilicity effects 1−39626
recombination reactions, atom and radical, book contrib. 1−12997
styrene, radical polymerisation kinetics, termination, computer calcs. 1−48689
vinyl radical+F, reaction, HF energy distrib. obs. 1−43655
C_2+hydrocarbons(H_2)(NO), C_2 free radical intersystem crossing and reactions 1−1270
C_2+methane reaction, temp. depend. in 337 to 605K range 1−4067
CH+CH radical reaction, acetylene formation, VB theory 1−31836
NO+benzyl(methyl substituted benzyl), rate consts. at room temp. 1−43648
NO+methylperoxy radical, reaction kinetics, laser induced fluoresc. 1−53412
O_2++benzyl (methyl substituted benzyl), rate consts. at room temp. 1−43648
OH+acetylene, absolute reaction rate const., 228-413K, press. depend. 1−35523
OH+COS→ products, rate const. for troposphere conditions 1−36027
OH+formaldehyde reaction, rate const. at 228-362K 1−4064
OH+H_2→H_2O+H, reagent vibr. excitation effects, semiclassical trajectory calcs. 1−48660
SO_2+ peroxymethyl, reaction kinetics by flash photolysis and UV absorpt. spectra 1−39592

free radicals
see also free radical reactions; paramagnetic resonance of free radicals
acenaphthoquinone-$SnPh_nX_{4-n}$ (n=0-3), adducts free radicals, struct., activation parameters, ESR obs. 1−24178
acetyl radical, from CH_3+CO reaction, UV absorpt. spectra 1−41391
acetyloxy radicals, g-factor determ. by chem. polarisation of nuclei 1−19122
aliphatic formate radicals, long-range EPR couplings 1−14820
alkoxy radicals, γ H^+ hyperfine coupling 1−4106
allene cation radical, ESR spectra, Jahn-Teller distortion 1−14944
allyl radical, hyperfine splitting, pseudo-orbital, UHF, projected UHF and single excitation CI calcs. 1−1129
aromatic free radicals, in vaseline oil, geminate recomb. kinetics 1−4051
ascorbic acid, electronic struct. of free radicals 1−10663
benzene, muonium free radicals, muon spin rotation spectra 1−33581
benzosemiquinone radical anion, struct. and spin densities, INDO calcs. 1−4103

free radicals continued
1,2-benzosemiquinone radical anion, struct. and spin densities, INDO calcs. 1−4104
benzo[2,1-b;3,4-b']dithiophen-4,5-dione-$SnPh_nX_{4-n}$ (n=0-3), adducts, free radicals, struct., activation parameters, ESR obs. 1−24178
bis-biphenylene allyl radical, quenching of aromatic hydrocarbon triplet states 1−10769
t-butyl radical, heat of form., dissoc. electron capture meas. 1−4118
t-butyl radical, struct., ab initio RHF calcs. 1−10654
t-butyl-d, radical, EPR spectra, high order effects 1−21054
chlorofluorocarbene radicals, reactions studied by laser induced fluoresc. 1−48691
cyclopropyl radical, hyperfine splitting, pseudo-orbital, UHF, projected UHF and single excitation CI calcs. 1−1129
diimide radical, in-plane vibr., Green's function anal., pot. energy, Coriolis and rot. distortion const. determ. 1−37167
dimenthylnitramine, single cryst., UV photolysis effects, ESR and INDO investig. 1−38984
dimethyl aluminium halide radical anions, struct. and ESR spectra 1−45995
dimethylsulphide dimer radical cation, reson. Raman spectra 1−41384
electrogenerated superoxide ion reaction with 2-phenylenediamine, obs. 1−13017
electron transfer, CIDEP, time-resolved flash photolysis ESR obs. 1−10762
EPR spectra, in soln., fast Fourier transform appl. 1−21055
ethyl radical, hyperfine splitting, pseudo-orbital, UHF, projected UHF and single excitation CI calcs. 1−1129
ethynyl radical (C_2H), interstellar, detect. in cold dark clouds 1−9602
Flavin radicals, ab initio molecular orbital studies 1−10644
fluoranthenyl radical cation conductor crystal, ESR spectra 1−34941
fluorinated alcohols −NO free radical hydrogen bonding dynamics 1−47974
t-2-fluorovinyl free radical from F+acetylene reaction, IR vibr. spectra in solid Ar 1−28965
formaldehyde, radical cation, near-degenerate rearrangement, calcs. 1−39613
formyl radical, hyperfine splitting, pseudo-orbital, UHF, projected UHF and single excitation CI calcs. 1−1129
formyl radical isomers, pot. energy surface, ab initio CI calcs. 1−4048
fulvalenes, anion and cation radicals, doublet instabilities of Hartree-Fock solns. 1−28870
haloethane plasma etchants, radical prod., transient species spectra 1−34124
heterocyclic amine N-oxides radical anion, spin density distrib. by UHF calc. 1−37108
hydroxymethylene, radical cation, near-degenerate rearrangement, calcs. 1−39613
α-hydroxytetronic acid, electronic struct. of free radicals 1−10663
ionisation energies, unrestricted MINDO/3 method 1−51129
Koelsch's radical, reduction in nonaq. aprotic solvents, electrode wave anal. method 1−21740
malonate-d, anion radical in single cryst., α-D quadrupole tensor, ENDOR 1−43037
metalloporphyrins radical anions, electronic spectra interpretation using cyclic polyene model 1−41365
methyl radical, hyperfine splitting, pseudo-orbital, UHF, projected UHF and single excitation CI calcs. 1−1129
methyl radical, vibr. energy distrib. 1−10711
methyl radical+CO, acetyl form., kinetics, UV absorpt. spectra 1−41391
methyl radicals, abnormal, on silicon surfaces, ESR studies 1−17098
methylene, singlet-triplet splitting rel. to C atom energy levels, relativistic corrections 1−6180
N-methylene group hindered internal rot. in nitroxide radicals, conformational study by ESR 1−33481
methylene kinetics, direct meas. of removal rates of $\tilde{a}^1A_1$, $\tilde{b}^1B_1$ CH_2 and CD_2 1−51264
methylperoxy radical+NO_2 reaction, laser photolysis-long path absorpt. kinetics study 1−12984
molecular orbital electronegativity, semiempirical CNDO LCAO MO calcs. 1−51121
1,4-naphthosemiquinone radicals, CIDEP and kinetics during photoreduction 1−13022
nitroxide radical D_2O(methanol) frozen solns., paramag. complexes 1−7949
NMR spectra from chemical polarisation of nuclei for RF pumping 1−29002
pairs, CIDNP, high field, electron spin exchange relaxation effects 1−14935
pentacarbocyanine dyes, form. of short-lived radicals by Nd laser 1−8588
perfluoro-t-butanol-NO complex, H-bonding studied by DNP and ^1H and ^{19}F relax. meas. 1−14949
phenanthrene, cryst., radiation-induced radicals, optical absorpt. and EPR study 1−52973
phenoxy radicals in soln., longitudinal spin-lattice relax., CIDEP 1−29004
phototropic liquids, form. of short-lived radicals by Nd laser 1−8588
n-propyl formate radicals, EPR study 1−1260
radical+cyanoalkene, reaction, nucleophilicity and electrophilicity effects 1−39626
semiquinone radicals in soln., longitudinal spin-lattice relax., CIDEP 1−29004
stilbene, photoisomerisation and radical ion recomb., ^1H and ^{19}F CIDNP 1−12971
tetrahydrofuran in ortho-carborane plastic cryst., free radical prod. by gamma-ray irrad. 1−8584
tetramethylethylene liquid, muonium free radicals, muon spin rotation spectra 1−33581
2,2,6,6-tetramethylpiperidine-1-oxide radical, solvation, electron spin echo study, modulation effects 1−6291
2-thiouracil, ESR and hyperfine coupling tensor 1−43012
trichlorofluoromethane, γ-irradiated frozen solns., prod. of alkene and diene cation radicals, ESR studies 1−31029
1,2,3-trifluorobenzene radical cation, laser induced fluoresc. spectra 1−37249
trifluorobenzene radical cations, low temp. gas phase and matrix isolation spectra 1−4107
trifluorochlorine radical cations, low temp. gas phase and matrix isolation spectra 1−4107
trifluoromethyl radical, in SF_6 matrix, EPR spectra, statistical anal. 1−37228
free radicals continued
triphenylarsine-methyl radical adduct, identification and struct., ESR investig. 1−10763
triphenylbromogermane radical anion, ESR spectra and X-irrad. 1−52844
vinyl radical, hyperfine splitting, pseudo-orbital, UHF, projected UHF and single excitation CI calcs. 1−1129
BH_2 radicals, correl. energy, maany-body Rayleigh-Schrodinger perturbation theory in restricted Roothaan HF formalism appl. 1−19039
BO free radical, laser induced fluoresc., vibr. levels, quenching, radiative lifetimes 1−10772
BO_2, laser induced fluoresc., vibr. levels, quenching, radiative lifetimes 1−10772
BaF, $^2\Sigma$-radical, form., microwave spectra, rot. transitions, pot. and vibr. const. 1−10725
BeF radical in Kr(Ar) gas matrix, ESR and isolation spectra 1−24173
C, tetracoordinate planar, singlet biradical, struct. calcs. 1−45821
C_2+methane reaction, temp. depend. in 337 to 605K range 1−4067
CF_3XF, matrix isolation IR obs., prod. from F+trifluoromethyl halides 1−6243
CH radical, multiconfig. SCF theory, simplified orbital optimisation by single value decomposition 1−6157
CH_3 radicals, fragmentation energy, ion beam expt. 1−37322
CN, electron affinity, electron propagator calcs. 1−37368
CS($X^4\Sigma^+$) radical, Penning ionis., CS^+ ($B^2\Sigma$-$X^2\Sigma^+$) emission 1−10748
Co complex, $Co_2(CO)_6$di(tri-n-butyl phosphide) anion radical 1−33381
DO_2, EPR and laser mag. reson. spectra, ground state parameters determ., mol. geometry 1−37230
DSO, vibronic transitions obs. using Doppler-limited dye laser excitation spectroscopy, rot., centrifugal and spin rot. const. 1−37172
F_2NO, in SF_6 matrix, EPR spectra, statistical anal. 1−37228
FSO radical, electronic struct., ab initio calcs. 1−18997
FSO radical, microwave spectra, spin-rot. and hyperfine consts. 1−45941
HBO^-, localised mol. orbitals, ab initio calc. 1−19013
HCC→H+C=C, model dissoc., product energy partitioning, ang. momentum constraints 1−8558
HCN^-, localised mol. orbitals, ab initio calc. 1−19013
HCO, localised mol. orbitals, ab initio calc. 1−19013
H_2O, free radical form. under high power laser UV radiation, two-photon mechanism 1−29049
H_3O radical, fragmentation energy, ion beam expt. 1−37322
HOO, struct. and bonding, CNDO/2 and INDO calcs. 1−45850
HOS (HSO), struct. and bonding, CNDO/2 and INDO calcs. 1−45850
HSO, chemiluminesc., laser-induced fluoresc. spectra, lifetime meas., visible spectra, stretching modes 1−8572
HSS, struct. and bonding, CNDO/2 and INDO calcs. 1−45850
NF_2, hyperfine splitting, pseudo-orbital, UHF, projected UHF and single excitation CI calcs. 1−1129
NH_2, $^2A_1$ state, electronically excited, form. from H+HN_3 reaction 1−31829
NH_2, hyperfine splitting, pseudo-orbital, UHF, projected UHF and single excitation CI calcs. 1−1129
NH_2 radicals, correl. energy, maany-body Rayleigh-Schrodinger perturbation theory in restricted Roothaan HF formalism appl. 1−19039
NH_3^+ CH_2 free radical in α-glycine single cryst., EPR spectra, trapping matrix effect 1−26038
NH_4 radical, fragmentation energy, ion beam expt. 1−37322
NO radical spin label in glycerol-water-ethanol soln., EPR with isotropic motional averaging 1−21053
NO radicals, X-ray excited states, ab initio calcs. 1−24058
NO+benzyl(methyl substituted benzyl), rate consts. at room temp. 1−43648
NO_2, hyperfine splitting, pseudo-orbital, UHF, projected UHF and single excitation CI calcs. 1−1129
NO_3 free radical, photodissociation quantum yields 1−22397
NO_3, visible absolute cross sections, kinetics and photochem., prod. from O_3+NO_2 1−13024
NS radical, IR diode laser spectroscopy 1−37194
$Na^+furil^-Na^+$, radical triple ion, Na hyperfine splitting const. 1−6405
O_2 radicals, X-ray excited states, ab initio calcs. 1−24058
O_2++benzyl (methyl substituted benzyl), rate consts. at room temp. 1−43648
O_3^-, hyperfine splitting, pseudo-orbital, UHF, projected UHF and single excitation CI calcs. 1−1129
OD, $A^2\Sigma^+$ state lifetimes and predissoc. meas. 1−46029
OH, A-X system prod. from electron dissoc. of water vapour, time resolved spectra 1−4113
OH, $A^2\Sigma$-$X^2\Pi$(0,0) band, spectral line parameters of atm. and high temps. 1−33507
OH, cosmic, weak neutral currents and anomalous polarisation 1−41508
OH free radical, $A^2\Sigma^+$ state quantum-beat spectroscopy 1−5410
OH in H_2-O_2-N_2 flame, balanced cross-rate model for saturated laser-induced fluoresc. 1−10768
OH in ionosphere, radiowave emission at 80-100 km altitude rel. to ionosphere absorpt. 1−4688
OH, nightglow emission mechanism and seasonal changes 1−49437
OH, tropospheric, laser optical meas. 1−54285
OH+acetylene, absolute reaction rate const., 228-413K, press. depend. 1−35523
OH+COS→ products, rate const. for troposphere conditions 1−36027
OH+H_2→H_2O+H, reagent vibr. excitation effects, semiclassical trajectory calcs. 1−48660
SD free radical, IR laser mag. reson. detection 1−24148
SD radical, IR laser mag. reson. obs. 1−24149
SO_2+ peroxymethyl, reaction kinetics by flash photolysis and UV absorpt. spectra 1−39592
SO_3F radical, visible fluoresc. 1−37248
XeF radical, decomp. kinetics in polycryst. XeF_2 (XeF_4) matrices 1−39658
$Y(CN)_2$, in inert gas matrix, form. and ESR investig. 1−37229
YF_2, in inert gas matrix, form. and ESR investig. 1−37229

freezing
see also refrigeration
alloy binary, solidification 1−16759
disperse systems, freezing, problems *(French)* 1−52262
finned tube, conduction-controlled or natural-convection-controlled heat transfer 1−37780
ice VI-ice VII-water coexisting state, high press., supercooling, phase transitions obs. 1−11847
Lake Kuttara, Japan, climatic freezing index required for surface waters freezing *(Japanese)* 1−9188

freezing continued
liquid jet impingement region, simultaneous melting and freezing in stagnation region 1−42515
lubricants, struct. anal. rel. to friction props., cryotechnology method 1−12888
natural gas liquids plant methanol dehydration and freeze protection, m.pt. meas. 1−44937
nozzle blockage by freezing, mathematical model 1−37990
oxycobalt-myoglobin, freezing induced change in ligand orientation 1−21982
Stefan problem, morphological stability 1−11845
vertical flat plate, natural convection during freezing, interferometric observation 1−24808
water, behaviour near surface of an illite, low temp. calorimetric study *(French)* 1−42544
water, supercooled, heterophase fluctuations and thermodynamic properties 1−42518
water crystallisation in plant specimens 1−35743
wire regelation at low temperatures 1−16023
H_2O, jet freezing of pure liq. and aq. solns. 1−25409
^3He, melting and freezing in high mag. fields 1−2770
$Hg_{3-x}AsF_6$, one-dimensional liq., fluctuations and freezing 1−7304
K, free electron liquid, freezing, Wigner crystn., struct. factor 1−42519
Na, free electron liquid, freezing, Wigner crystn., struct. factor 1−42519
Si floating zone melting, gravity influence on thermocapillary convection 1−3615

Frenkel defects
alkali halide, Frenkel defect generation efficiency, temp. depend. 1−25263
alkaline earth halides, vol. of formation of Frenkel pairs 1−52132
characteristic parameter thermodynamics 1−42376
fluorite crystals, superionic transition temp. correlation with Frenkel energy 1−7328
ionic crystal, melting theory, correl. with defect energies and fast ion cond. 1−25410
ionic crystals intrinsic conductors, interfacial space charge and capacitance 1−39035
molecular crystal, exciton annihilation, fluorescence intensity 1−2882
pair formation by irrad. with fast particles, cross section and mean energy 1−2435
radiation-induced athermal diffusion, cross-recomb. mechanism 1−42417
Ag halides, defect press., formation vol., temp. depend. of formation props. of point defects 1−2429
Ag, point defect clustering during heavy ion irrad. 1−52186
AgCl, Frenkel defects, characteristic parameter thermodynamics 1−42376
AgCl:Cd^{2+}, ionic cond. and defect parameters 1−30452
Al, point defect clustering during heavy ion irrad. 1−52186
CaF_2, impurity centre resonance line inhomogeneous broadening 1−26248
CaF_2:Pr, high temp. thermoluminesc. peak, diffusion controlled, obs. 1−26287
CaF_2-type crystals, anti-Frenkel defect form. enthalpy 1−20192
CdS, luminescence and photoelectric props. changes on annealing, defect formation *(Russian)* 1−21274
CsBr, exciton decay into defects, polarised luminescence *(Russian)* 1−20637
Cu, point defect clustering during heavy ion irrad. 1−52186
α-Fe, modelling of defect displacement peak annealing *(Russian)* 1−47078
KBr, Frenkel defect accumulation efficiency, temp. depend. meas. 1−20198
MgO crysts., radiation defect form. at high excitation densities 1−25320
RbBr, exciton decay into defects, luminescence spectra 1−12038
SrF_2, anti-Frenkel defect density and mobility 1−25260
Zn, electron irradiated, defects study by X-ray scatt., lattice parameter and elec. resist. meas. *(German)* 1−7210
ZnS:Co, impurity centre resonance line inhomogeneous broadening 1−26248

frequency changers *see frequency convertors*

frequency control
see also automatic frequency control
laser, photochemical holes as stable references for frequency locking lasers 1−46413
microwave spectrometer, frequency control system, study of SO_2 linewidth *(French)* 1−44960
precise control and selection, bibliography 1−22964
symposium, Atlantic City, NJ, USA (May-June 1979) 1−13932

frequency convertors
see also frequency dividers; frequency multipliers; mixers (circuits); optical frequency conversion
harmonic, metal-semiconductor junctions appl. 1−20869

frequency dividers
digital seconds counter for photography *(Spanish)* 1−364
frequency weighted flip-flop logarithmic ratemeters, logarithmic conformity for random pulses 1−23991
synchrotron radiation use for freq. division from laser to microwave freq. 1−24338

frequency division multiplexing
fibre optic data channel multiplexer investigation 1−33829

frequency doublers *see frequency multipliers*

frequency measurement
see also atomic clocks
absolute frequency reference grid in 28 THz range 1−23190
absolute laser frequency measurements in IR region 1−36632
electrical measuring periodic-comparison instruments, freq. errors *(Russian)* 1−305
gas cell Rb^{87} freq. standard, microwave power depend. wall coating and buffer gas effects 1−5288
gas laser frequency and length standards 1−36634
inductance measurement with frequency counter, using resonance effect *(German)* 1−44951
laser radiation frequency measurements in submillimetre and IR ranges, phys. standard precision, meas. errors 1−24442
lasers with iodine measuring cell, frequency stabilised *(Czech)* 1−51449
methane-stabilized laser, for metre definition 1−36631
microwave absorption cell, helicoidal guide, as passive freq. standard *(French)* 1−27936
monomode glass fibres, meas. of cut-off wavelength *(German)* 1−19460
monomode opt. fibres, determination of cut-off freqs. *(German)* 1−24504
multiplier chain for precise freq. meas. up to 20 THz 1−18199
optical wavelength and frequency meas. precision compared *(German)* 1−28048
piezoelectric transducers, moving phase-frequency characteristics 1−46652
precision frequency control and selection, bibliography 1−22964
ratemeters with two integrating circuits for meas. pulse frequency of nuclear radiation detectors 1−14775
resonant two-terminal network meas. by FM signal transmission 1−28033
stabilization of phys. standards and reference/working meas. with USSR state standard 1−27935
stabilized CO_2 and He-Ne IR lasers 1−36633
VLF, digital meas. by microprocessor *(Spanish)* 1−22159
CO_2 laser lines, freq. difference meas. using harmonics of X-band microwave freq. *(Japanese)* 1−19322
$^{12}C^{18}O_2$ isotope laser sequence bands, absolute freq. meas. of 53 CW laser lines 1−51446
Cs beam tube utilising hexapole/double-dipole optics as freq. standard 1−18198
Cs clock, standard time and freq. in USSR, meas. system 1−44889
Cs standard development 1−23191
H maser for freq. standards 1−18200
H maser for freq. standard 1−23192
Hg ion frequency standard, freq. stability 1−44872
Rb standards, wall-coated and buffer-gas-filled passive, freq. depend. on microwave power 1−18197
^{87}Rb atomic freq. standard light shift reduction *(Chinese)* 1−50107

frequency meters
digital frequency meter dynamic properties 1−27960
electrical measuring periodic-comparison instruments, freq. errors *(Russian)* 1−305
post-deflection acceleration CROs, technology, DVM, frequency meter facilities 1−44900

frequency modulation
see also frequency shift keying
cyclotron-resonant-maser mixer with electron beam low FM 1−10950
far IR laser, using external variable reactance 1−37518
far IR lasers, different timing and modulation techniques comparison 1−19372
far IR lasers, fast freq. modulation using Schottky barrier diode 1−11030
molecular subMM lasers, fast modulation techniques 1−33725
optical fibre, FM to AM conversion by material dispersion 1−41858
resonant two-terminal network meas. by FM signal transmission 1−28033
solid laser, Q-controlling mode-locked high power, simultaneous active AM plus passive FM 1−51533
stimulated Raman scatt., linewidth and temp. meas., freq. modulation 1−15215

frequency multipliers
metal-dielectric metal thin-film struct., fabrication, interaction with EM radiation 1−34806

frequency regulation *see frequency control*

frequency response
amplitude-frequency response correction in sound monitoring systems, radio/TV reception in public places appl. *(French)* 1−33852
basilar membrane nonlinear model, two-tone suppression meas. *(Japanese)* 1−49000
colour vision, spatio-temporal freq. response, colour difference discrimination 1−43879
electro-optical spatial light modulator MTF, exposure-induced charge distrib. effects 1−24489
human visual system suprathreshold contrast perception model 1−8848
infrasound detection by acoustic system, lumped and distributed equiv. cct. 1−6728
Fe polycrystalline electrode impedance at 298K, obs. 1−8576
Ti diaphragm boronising process and loudspeaker performance *(Japanese)* 1−24643

frequency shift keying
slide projector US remote control system, using FSK modulation 1−10032

frequency stability
see also frequency control; laser frequency stability
gas cell Rb^{87} freq. standard, microwave power depend. wall coating and buffer gas effects 1−5288
relativistic charged particle beams, automatic control of unstable fast processes *(Russian)* 1−979
string; nonlinear theory, stability of model vibrations 1−18049
H maser, cold, wall shift and atomic line meas. 1−19310
H masers, passive 1−24383
H masers, passively operated, construction and meas. 1−24382
Hg ion frequency standard, freq. stability 1−44872
^{87}Rb atomic freq. standard light shift reduction *(Chinese)* 1−50107

frequency synthesizers
see also frequency convertors
machine noise simulator for synthesizing random signals with bispectral characts. 1−37737

frequency synthetizers *see frequency synthesizers*

frequency triplers *see frequency multipliers*

friction
see also internal friction; lubrication
adhesive wear model based on variations in strength values 1−38446
ascending gas-liquid flow, frictional stress at wall 1−15536
atmosphere boundary layer, geostrophic friction coeffs. calc. from meteorological mast data 1−22469
BCC metals, friction at low temps. 1−12887
boride layers, on steel, dry sliding friction, invest. of failure mechanism 1−12894
bronze-WSe_2-Pb-Ni, sintered material containing solid lubricants alloying effect on friction charact. 1−31678
Brownian particle, translational motion, Stokes-Einstein behaviour, friction coeff. 1−50049
coating, tribological, friction and wear reduction 1−31680
coating wear resistance evaluation for bulk metal forming 1−31685
coatings, adhesion determ., scratch test technique, model 1−42662
colloids, dynamic friction for particles interacting via inverse square law 1−31917
composite materials, antifriction, stress distrib. 1−21596
CVD coatings, corrosion and wear resistant, exploitation 1−53365
cyclones, influence of β-effect in boundary layer friction field on vertical motions 1−22472
deep drawing, lubrication mechanisms 1−26627

friction continued
diamond, frictional anisotropy due to surface and sub-surface damage 1−31673
diamond in contact with transition metal, adhesion and friction 1−31671
elastic wedge contact problem in presence of friction 1−1832
FCC metals, friction at low temps. 1−12887
FCC metals, texture changes in running surfaces as result of frictional stress 1−12891
fluid in cooled vertical tubes, friction factor 1−1916
fuel element pin cluster, effective friction calc., dimensional var. effect 1−5836
glass, protective and lubricious coatings, mech. props. 1−53327
graphite fibre reinforced Al alloy, friction and wear props., effect of sliding time and speed 1−39473
graphite particle reinforced Al composite alloys, bearing performance 1−26634
HCP metals, friction at low temps. 1−12887
lubricants, struct. anal. rel. to friction props., cryotechnology method 1−12888
machine tool plastics slideway, characts. 1−3937
mechanism, effect of surface texture 1−38444
metal, internal damage calc., caused by drawing, cylindrical specimen, several passes *(French)* 1−3774
metal films in parallel motion, dynamic corrections to Van der Waals potentials 1−30797
metal powders, coefficient of external friction in pressing 1−12684
metallurgical coatings, wear and corrosion performance in Na 1−21598
metals, failure in contact with abrasive particles, test installation 1−16989
metals, mech. characts. change by ion implantation *(Hungarian)* 1−16897
metals and alloys, strength, conf., Aachen, Germany (Aug. 1979) 1−5030
microstructural models, for friction and wear 1−31688
nonisothermal surfaces, viscous flow stress, friction coeff., temp. depend. *(Russian)* 1−2039
nylon, contact surface, friction props. and temp. effect *(Japanese)* 1−48523
oils with tribopolymer forming additives, engaging action mechanism 1−31674
oscillatory flow, 2-dimens. laminar boundary layer on flat plate, wall friction and local heat transfer 1−33955
phosphate esters, frictional characteristics 1−26633
piston-cylinder device, friction corrections 1−32997
plane porous slider of optimum profile 1−19656
plane strain compression test, meas. of flow stress of material *(French)* 1−37859
polyacrylamine gel deswelling at semipermeable membrane interface under reverse osmosis 1−13040
polyamide 6, study on influence of friction on various props. of surface layer *(German)* 1−39462
polymeric films, thin, shear strength props., effect of periodic loading 1−31668
polymers, eval. of wear and friction in aggressive media *(German)* 1−8438
porous materials, cold pressing, high-speed, theory of dimens. for calc. density 1−21377
PTFE, Cu-Sn filler effect on friction and wear 1−53301
rough bodies, elastic deform., depth of propagation under frictional contact 1−37857
slider, computation of worn shape 1−25368
sliding contact, dynamic rigid indentation induced in presence of Coulomb friction 1−24757
sliding friction pairs, incrasing durability with TsIATIM-201+10% Cu lubricant 1−12880
solid body heating by friction, wear 1−33935
solid lubricant coatings, depend. of durability on depth of vac. 1−31676
steel, 2Z 1−31564
steel, austenitic stainless, friction and wear, H adsorpt. influence 1−35399
steel, austenitic stainless, friction at low temps. 1−12887
steel, boundary lubrication by various oils at low vapour pressure 1−48532
steel, C, rolling/sliding conditions, relation between scuffing resist. and increase in surface hardness 1−39474
steel, C, wear resistance, friction-hardening treatment influence 1−3939
steel, cold rolling theories based on equilib. approach 1−12757
steel, cutter, contact fatigue, friction hardening treatment effect 1−26679
steel, grade-45, structural state during friction, lubricant action 1−21595
steel, influence of friction-strengthening treatment on struct., phase comp., wear resist. *(Russian)* 1−48521
steel, low C, Ni and Cu implanted plates, frictional props. 1−43539
steel, martensitic, cyclic wear behaviour of tempered 4130 steel 1−12881
steel, pearlitic, wear and friction behaviour 1−12885
steel, pearlitic and spheroidised, wear and friction 1−31689
steel, spheroidised, wear and friction behaviour 1−12885
steel, surface deform. and frictional heating during machining 1−39403
steel, type U8, friction and wear features 1−31675
steels, Cr-Ni, wear and debris transport relation, 950°C 1−16904
surface, rough isotropic, simulation of lubrication using Monte Carlo method 1−29629
testing method 1−31788
thermodynamic model 1−38445
TiC diffusional coatings on C steel, wear resist. 1−8483
3d transition metals in contact with Cu, electronic struct. influence on friction in vac. 1−26635
turbulent boundary layer, method for determ. surface friction 1−51762
two bodies rolling over one another under technically dry friction 1−48528
unsteady laminar laser heated boundary layers at a three-dimensional stagnation point 1−24763
wear, fracture mechanics approach, stress intensity assoc. with subsurface crack 1−11809
wear and friction, at high sliding speeds 1−43536
wood based composite, antifriction props. 1−48522
Zircaloy cladding, unirradiated, coeff. of friction meas. with UO_2 and Al_2O_3, SEM obs. 1−33298
Al, cold rolling theories based on equilib. approach 1−12757
Al cylinder, axial compression, stress and flow patterns 1−34403
Al-Si alloys, friction and wear, study using SEM and microhardness testing 1−12886
Al_2O_3, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
Al_2O_3-Cu, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
friction continued
Au and Mo/Au ion-plated layers on stainless steel, friction props. in vacuum at elevated temps. 1−12878
Au-Ag/steel sliding couples, running props., fundamental aspects and technological implications 1 solubility concept 1−26636
B carbonitride against Mo, high-temp. vac. friction and wear 1−35401
CO_2-N_2-He gasdynamic laser, nozzle cascade losses, friction effect 1−41656
Co-Ag-MoS_2 powder metallurgical composite, mech. props. 1−39464
Co-Ag-$NbSe_2$ powder metallurgical composite, mech. props. 1−39464
Cr coating, friction and wear features 1−31675
Cu, sliding friction, lubricating action of polyethylene film 1−12879
Cu-C (graphite), hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
Cu-MoS_2-Ni-Pb sintered material containing solid lubricants alloying effect on friction charact. 1−31678
Cu-Sn porous skeleton, PTFE impregnated, antifriction props. 1−35400
Cu-Sn-WSe_2-(graphite)-Pb powder metallurgical composite, mech. props. 1−39464
Fe base materials, sintered, frictional props. in Na liq. and vapour 1−21597
Fe coating, friction and wear features 1−31675
α-Fe, friction stressed single crystal, X-ray obs. 1−53299
Fe-C-Cu-S sintered material, mech. friction and linear props., depend. on Fe powder prep. method 1−21385
He, supercritical, friction factor for flow in straight tube 1−42106
Mo against B carbonitride, high-temp. vac. friction and wear 1−35401
MoS_2 film, sputtered, tribological props. rel. to film morphology 1−30319
Ni-Mo-MoS_2 powder metallurgical composite, mech. props. 1−39464
Pd-Ag/steel sliding couples, running props., fundamental aspects and technological implications 1 solubility concept 1−26636
SiC abrasive grit, friction and wear of metals and Fe binary alloys 1−43537
SiC, controlled nucleation thermochemically deposited, friction and erosive wear 1−16903
Si_3N_4, CVD deposited, friction and erosive wear 1−16903
Ti alloys, electrospark alloying, for increasing durability in lubricated friction assemblies *(Russian)* 1−43538
Ti-Al-V (6, 4 wt.%), friction and wear, ion plating effect 1−31686
TiC coatings to steel, modified RF sputtering process and coating characterisation 1−39239
TiC overlay coating, friction and adhesive wear 1−31682
TiN coating, reactively sputtered, tribological appls. 1−31683
TiN overlay coating, friction and adhesive wear 1−31682
W-C alloy, controlled nucleation thermochemically deposited, friction and erosive wear 1−16903

friction, internal *see internal friction*

frictional electricity *see triboelectricity*

FSK *see frequency shift keying*

fuel
see also coal; fission reactor fuel; pulverised fuels
325-MWe plantships, projected costs of electricity generation and/or chemical or fuels production 1−53647
adapting geothermal energy to produce ethanol for automotive fuel 1−48794
aggregate energy demand and fuel choice anal. 1−21836
alcohol fuels, production and use, global picture 1−53527
analysis instrumentation, conf., Baton Rouge, LA, USA (Apr. 1980) 1−27682
boiler start-up consideration in utility use of a refuse derived fuel 1−53530
closed loop combustion control, flue gas analysis 1−31863
ethanol, a clean burning bio-solar fuel−its production and utilization 1−17148
ethanol fuel production as gasoline replacement, terrestrial resource potential 1−53680
ethanol fuel production from biomass, lignocellulosic conversion, energy requirements 1−53681
ethanol production by acid hydrolysis of biomass, economic eval. 1−35671
fossil fuel consumption, CO_2 emission and global warning 1−53706
fossil fuel consumption forecasts for electric utilities 1−4149
fossil fuel fired combustion, air/fuel ratio, thermal efficiency 1−32064
fossil fuel resources and their impacts on environment and climate 1−43748
fossil fuels, plasma chemistry, book contrib. 1−34179
fusion reactors power cycles, high efficiency, overview 1−50941
gas, future supply of natural and alternative gases 1−53524
gasoline demand modelling 1−21835
jet, internal struct., X-ray pulse method investig. 1−46795
kelp processing and biomethanation technology 1−53531
liquefied natural and petroleum gas carrier spillage and leakage, explosion hazards 1−48787
liquefied natural gas, marine transportation at intermediate temp. 1−48786
liquefied natural gas fuels, risk evaluation for present and future systems 1−39729
liquefied natural gas market and trade trends 1−48784
liquefied natural gas project planning, shipping and terminal considerations 1−48785
liquefied petroleum gas fuels, risk evaluation for present and future systems 1−39729
liquid, airblast atomisation, mean drop size, linear scale effects 1−24869
methane production by marine biomass energy project 1−43806
MHD power generation using coal/oil fuel, near term commercialisation 1−53630
oil to coal switch for elec. utilities, President Reagan faces energy challenge with new programmes 1−26805
organic, formaldehyde and methanol prod. by solar photoreduction of CO_2 and H_2O 1−8695
plasma chemistry, book 1−32811
raw materials and energy conservation, research and development 1−4167
refuse-derived solid fuels, parametric considerations of utilisation in boiler furnaces 1−39727
renewable fuel utilisation in the rural development of India 1−17149
residential heating in Nova Scotia: wood vs. oil 1−48780
solar gasification of coal, activated carbon, coke and coal and biomass mixtures 1−8687
solid wastes, energy recovery using fluidised bed combustion 1−39728
SRC II fuel oil, characterisation and combustion 1−26748

fuel continued
synthetic fuel production, development of falling-bed fusion blanket system 1−53534
thermal/electric conversion systems using wood fuel, cost effectiveness 1−53644
wood-based energy conversion and appliance design 1−35599
World energy conference report, critical summary *(Spanish)* 1−31970
H_2 as alternative fuel 1−4215
H_2 as future fuel, technical challenges 1−26856
H_2, liquid automotive fuel storage 1−48919
H_2, review of H_2 energy potential as a universal fuel 1−4217
H_2, safety aspects 1−43831
NH_3 synthesis gas prod., alternative biomass feedstock for synthesis gas from manure process 1−35669
fuel batteries *see fuel cells*
fuel cells
aggregate, with WC anode catalyst *(German)* 1−35646
attractiveness for electric utilities 1−21872
commercialisation of new energy technologies, socioeconomic impact 1−21873
development of molten carbonate fuel cells for power generation 1−53607
electrical energy storage for network load balancing *(German)* 1−48911
electrochemical energy storage systems, status for electric vehicle, solar and electric utility applications 1−53586
high performance, through stacking structure improvements by using U-shaped and spiral structures 1−48832
metal/ceramic interface, electrochem. nature 1−17195
methanesulphonic acid, electrochem. props. rel. to use as fuel cell electrolytes 1−35541
molten carbonate, gas-fuelled, kinetics of O_2/CO_2 reaction and reaction orders for O_2 and CO_2 on NiO 1−48738
molten carbonate fuel cell, natural gas fuelled, potential energy savings in industrial cogeneration, determ. 1−48829
solid electrolyte, high temperature, fabrication and results of electric power generation 1−48830
H_2, economic impact *(French)* 1−43755
H_2, energy source, prod. by fusion electrolysis 1−35715
H_2 production for off-peak power utilisation 1−53700
H_2/air, alkaline, electrodes and other improvements for transportation applications 1−48831
H_2/halogen fuel cell model systems heat rejection and thermal efficiency 1−48828
H_2/O_2 and H_2/air, for electricity generation *(German)* 1−43829
H_2-O_2 alkaline cells, effect of contact press. on performance of supported gas diffusion electrodes 1−4171
H2/O2 fuel cells, high power, modular units, charcts. *(German)* 1−13116
$LaNi_5H_x$ fuel cell, appl. in vehicular propulsion 1−21874
$LiAlO_2$ sintered electrolyte testing in molten carbonate fuel cells 1−4172
NH_3 burning fuel cell, electricity and NO cogeneration 1−4173
NO producing from NH_3 burning fuel cell 1−4173
Ni-H_2 batteries, use of $LaNi_5H_x$-type hydrides 1−21875
Pt paste electrodes on $(CeO_2)_{0.9}(Gd_2O_3)_{0.1}$, diffusion-limited charge transport 1−48827
fugacity
see also kinetic theory of gases
Gibbs function based definition analysis, incorrectness, ideal gas eqn. soln. 1−38037
spinels from Earth upper mantle, O_2 fugacities rel. to mantle oxidation state and primitive atmosphere comp. 1−17569
steel, austenitic stainless, acidification in crevices, effect on H_2 evolution 1−53336
Ni-Cr alloy tubes, acidification in crevices, effect on H_2 evolution 1−53336
Pt tubes, acidification in crevices, effect on H_2 evolution 1−53336
full wave rectification *see rectification*
function approximation
see also Chebyshev approximation; interpolation
enclosures, cylindrical, heat radiation, spherical harmonic approx. 1−1811
nonlocal fluid mechanics description of wall turbulence 1−19682
radiation-convection problems, thermally developing flow, including radiation scatt., spline collocation soln. 1−1970
shell, complete spherical, polar dimpling, asymptotic soln. 1−6805
shells, clamped circular cylindrical, under torsion, buckling and postbuckling behaviour, perturbation anal. 1−6806
shells, linear theories, validity domains 1−6774
function generators
see also pulse generators; signal generators; time bases
biomedical microprocessor-based complex waveform generator 1−32293
specially shaped signal design and application to electronic system testing 1−27962
functional analysis
see also harmonic analysis
boundary layers, laminar, parametric eqns. 1−29648
Brownian motion, infinite dimensional, functional anal. of Dirichlet problem 1−18156
Brownian motion, infinite dimensional, functional anal. of Dirichlet problem 1−18157
coherence theory, inverse source problem 1−10911
dimensional and regression anal. methods *(Spanish)* 1−40641
dynamical systems, differential forms and invariant sets 1−52
elasticity, spherical lune, axisymmetric problem *(Ukrainian)* 1−29544
front stagnation point of body in gas stream, heat transfer regime stability 1−19695
generalised Slobodezki space and semi-infinite space *(German)* 1−5088
Gibbs random fields, generating functionals 1−50088
gravitation, quantum theory, topology and renormalisability 1−153
hypergeometric functions, confluent, sequence of zeros characterised by nonlinear eqns. 1−13993
initial value problem, dynamical formulation interrelationships, nonlinear functional analysis 1−18106
lattice statistics and statistical mechanics, generating function techniques 1−18168
object and image relations for partially coherent and quasi-monochromatic illum. 1−41611
phase-reconstruction problem ambiguity 1−10935
quantization and point canonical transformations in phase-space functional integrals 1−5155
quantum field theory, coupling limit of interaction of gauge field and fermion field, generating functional expansion 1−423
functional analysis continued
statistical mechanics, Bogolyubov equation, topological structure of solutions 1−5221
stresses and strains for nonisothermal loading processes, scalar properties of relationship 1−19594
strong electrostatic turbulence, functional calculus. 1−34077
Taylor and Laurent expansions of general spatial analytical functions *(German)* 1−5089
turbulence, space-time boundary-value problem 1−29658
functions
see also Bessel functions; Boolean functions; describing functions; Green's function methods; random functions; recursive functions; transfer functions; vertex functions; Walsh functions
Airy function product integral solution *(Chinese)* 1−49963
conditionally periodic functions, appl. to representation of solns. of three-body problems 1−13676
exploded point, definition, stability, recursive formula 1−40642
Fermi-Dirac functions, calc. program 1−50041
heredity functions, calc. using inverse Laplace transforms 1−46682
meromorphic functions, distribution of values 1−22992
pixel proximity function, for spatial postprocessing of spectrally classified Landsat data 1−40201
Riemann zeta function for complex experiment, computation program 1−17987
fundamental constants *see constants*
fundamental law tests
perihelion shift, light deflection, light ray delay time new theory of gravitation 1−54363
fundamental particles *see elementary particles*
fundamental physics concepts *see physics fundamentals*
fundamentals of physics *see physics fundamentals*
furnaces
see also electric furnaces; refractories
atomizers for atomic absorption spectroscopy, interference reduction using autosampler 1−13050
blast furnace burden surface temp. distrib. monitoring using Spirotherm IR sensor 1−27980
blast furnace inner-states meas. using magnetometers, disturbance of mag. field by coke and ore layers 1−28042
combustion chamber, thermal operation efficiency *(Russian)* 1−265
glass microballoons for laser fusion, shaping process using microlevitating furnace, collimated hole struct. 1−37016
high temperature high vacuum evaporation furnace design 1−27983
light-beam heating furnaces 1−18232
quartz furnace tube for semicond. technology, universal ending construction 1−32989
radiative heat transfer in combustion chambers, based upon effective temp. concept 1−29519
radio-gas chromatography, modified furnace tubes 1−35590
solid fuel, combustibility testing in laboratory furnace 1−26747
temperature controlled, for neutron single-crystal diffractometer 1−50135
three-zone Bridgman-Stockbarger crystal growth furnace 1−26381
wrap around furnace elements, production by photolithography 1−27982
Zn-Pb blast furnace, developments 1−9757
Furry theorem *see quantum electrodynamics*
fuses, electric *see electric fuses*
fusion *see melting*
fusion, nuclear *see nuclear fusion*
fusion-fission reactors *see hybrid reactors*
fusion reactor ignition
see also fusion reactor materials; plasma heating; plasma production
15X-B, H_2 pellet injection in ohmically and neutral-beam heated discharges 1−33346
ablatively accelerated targets, vel. profile, laser beam nonuniformity effect 1−38125
accelerators, magnetic-gradient and electrostatic, launching 0.1 g projectiles to hypervelocities 1−889
ASTERIX III, an iodine laser for nuclear fusion *(German)* 1−898
burn control via regulated ripple, appl. to reactor grade plasmas 1−28699
CO_2 laser capital costs and efficiencies for ICF commercial applications 1−41245
controlled fusion using charged particle accelerators, ignition conditions *(French)* 1−50935
cylindrical shell, elec. explosions, high energy prod. 1−45727
Doublet III neutral beam injector test tank cryopanel design 1−6018
emerging nuclear energy systems conf. Lausanne, Switzerland, (Apr. 1980) 1−3
energy-flow approach to gyrotron (electron cyclotron maser) large-signal operation 1−6980
excimer lasers and inertial confinement fusion *(French)* 1−10520
fast electron preheat in laser-plasma interactions, parametric obs. 1−29893
fusion-fission microspheres, laser initial confinement nuclear-thermohydrodynamic anal. 1−18897
heavy ion beam filamentation in inertial confinement fusion reactor vessel 1−11569
heavy ion driven inertial fusion, energy accounting for various accelerators 1−18894
heavy ion inertial confinement fusion, power generation, economic feasibility 1−18878
high field ohmically heated Tokamak, thermonuclear ignition 1−51978
high power lasers, industrial and fusion appls. 1−37535
HYPERFUSE: a novel inertial confinement system utilizing hypervelocity projectiles for fusion energy production and fission waste transmutation 1−885
ICF research 1−6993
ICF target, multiple-shell, Rayleigh-Taylor instability 1−10523
ICF targets, high-gain, low-intensity, for charged particle beam fusion driver, review 1−45728
ignition and combustion, D-T mixtures, integral time function calcs. *(Russian)* 1−24975
impact fusion, reducing minimum impact velocity 1−886
inertial confinement, target yield depend. on input energy profile 1−28701
inertial confinement fusion, nonuniform pellet, Rayleigh-Taylor instability 1−41229
inertial confinement fusion research in Japan, progress report 1−890
inertial confinement fusion systems based on linear accelerators, feasibility 1−18879

fusion reactor ignition continued
inertial confinement pellet fusion problems, pert. theory 1−10526
inertial fusion by laser *(French)* 1−50934
intense ion beams, in mag. field, stability, Vlasov-Maxwell eqns. 1−51016
intense neutral beams, impurity conc. meas. 1−50270
interactions and implosion experiments at Limeil *(French)* 1−10518
ion accelerators, use in fusion research 1−18877
ion beams, pulsed, intense, generation and appl. to fusion research, review 1−33348
JXFR RF wave launcher above lower hybrid frequency 1−6024
laser coupling to spherical targets, incident-wave expansion 1−51534
laser facility, Del'fin high-power, for heating spherical thermonuclear targets 1−6596
laser facility, Del'fin Nd:glass, multibeam laser alignment principles for thermonuclear purposes 1−6597
laser fusion, glass microballoon shaping process using microlevitating furnace, collimated hole struct. 1−37016
laser fusion experiments, double cryst. diffractometry for target characterisation 1−29977
laser fusion target microfabrication and microcharacterisation techniques 1−5992
laser fusion targets levitation and transport 1−19926
laser fusion viability 1−45730
laser technology and applications, book 1−9782
laser-dense plasma interactions, absorpt., scatt. and energy transport, review 1−29894
laser-driven ablative implosions, time-resolved X-ray shadowgraphy obs. 1−29915
laser-imploded targets, multifreq. X-ray backlighting 1−38142
laser-matter interaction experiments at different wavelengths *(French)* 1−11577
laser-produced plasmas, optical diagnsotics with ultra-short pulses 1−19959
lasers, inert gas halide, versatile 0.5 TW electron beam facility for power conditioning studies 1−29292
lasers for fusion review, book contrib. 1−11020
lasers for inertial confinement research 1−33349
lasers for plasma research 1−29897
layered targets, 0.53 μm radiation interaction, X-ray spectrosc. diagnosis 1−29916
magnetic linear accelerator for hypervelocity acceleration in impact fusion 1−5991
Medusa laser compression simulation, eqn. of state 1−28703
MFTF neutral beam source, accel. current and voltage limits, computer calcs. 1−6022
modulator/regulator for neutral beam injection power supply system, overall control system 1−33352
moving ring field-reversed mirror reactor plasma, fueling methods 1−902
multi-channel ion beam overlap for inertial confinement fusion 1−51965
negative ion sources, Brookhaven autoconditioning system 1−10538
neutral beam power production using 8 MVA modulator/regulator 1−33351
neutral beam sources, protection and fault detection system 1−10537
neutral injection heating, intelligent fault detection system 1−10536
nonlinear plasma dynamics at high intensity laser interaction 1−34172
Nova, progress to fusion at Lawrence Livermore *(French)* 1−10517
nuclear pumped lasers, $O_2(^1\Delta)$ energy storage type, fusion drivers, hybrid reactor appls. 1−18896
ohmic ignition, plasma column, reversed field pinch config. 1−25050
Omega laser fusion system, multiple laser path length equalisation using white light AC interferometry 1−28058
Particle Beam Fusion Accelerator (PBFA II) preliminary design 1−28753
PBFA-I, design, construction and efficiency and cost effectiveness 1−28752
pellet, laser irradiated, ablation nonuniformity and collisional hot electron filamentation 1−10522
pellet grain optimization of particle beam fusion with Au shell and DT fuel target 1−50927
plasma, pumping of kinetic energy into thermal energy by strong RF or laser radiation 1−29888
plasma science conference, Madison, WI, USA (19-21 May) 1−13930
pulsed high-current ion beams 1−1482
RF cavity mode heating of gas 1−5996
Shiva, progress to fusion at Lawrence Livermore *(French)* 1−10517
Shiva laser fusion research system target alignment and viewing instrum. 1−33737
shock wave focusing walls and advanced fusion fuels for thermonuclear microexplosion *(German)* 1−888
solid H pellet ablation, magnetic shielding 1−34088
spherical target suspension by TEM_{01}* mode laser beam 1−1613
target requirements and laser arrangement parameters for ignition *(Russian)* 1−18884
thermonuclear fusion by high-power lasers 1−25009
thermonuclear fusion machines, microwave power for plasma heating, amplitrons, klystrons and gyrotrons, appls. *(German)* 1−34093
thermonuclear ignition by laser beam, laser conversion to fast electrons *(Russian)* 1−41230
thermonuclear reaction ignition by super ion beam accelerator 1−896
Tokamak research, 1955-1980, appl. to fusion reactors 1−6994
transmission line, cylindrical, mag. press. acceleration by pulse generators for relativistic electron beams 1−2211
ZEPHYR expt. limiter design, particle fluxes and sputtering 1−29925
CO_2 fusion-research laser, Antares, 40 kJ, Los Alamos 1−33707
CO_2 high-energy short-pulse laser system, fusion appls. 1−19361
CO_2 laser system at Los Alamos *(French)* 1−10519
CO_2 lasers for inertial-confinement fusion research, transmissive component and mirror material selection 1−11017
D neutral beam injection into PLT Tokamak, fusion neutron production 1−45729
D, neutral injector based on negative deuterons 1−10552
D-T filled inertial confinement fusion targets, deformation meas. using microsphere thermal deformeter 1−14140
D-T reaction, α-particle anisotropic distrib. rel. to asymmetric elec. field round laser imploded target 1−15630
D_2 gas, explosion-induced compression in conical system, numerical calc. 1−37018
DT ice pellet injection system 1−19925
DT inertial fusion fuel, tracer element meas. 1−33344
DT neutron-induced activity in glass-microshell laser fusion targets 1−14692
KrF lasers, electron-beam-excited, laser fusion appls. 1−29270

fusion reactor ignition continued
LiD fusion ignition using fission induced shock waves *(German)* 1−887
Nd:glass high-power laser systems for fusion research 1−15190

fusion reactor materials
see also fission reactor materials; radioactive waste
armour plate protection system for Doublet III vacuum system 1−6019
ATJ graphite, first wall material, evaporation yield for heat pulses 1−25420
blanket design, high temp. scoping nucleonics study 1−18889
BWR refueling cavity liner surface finish, radiological selection basis 1−18763
clad materials for fusion applications 1−18892
cylindrical shells, suddenly heated, dynamic instability, short and long term modes 1−19632
deuterium, separation by catalytic isotope exchange 1−936
direct energy conversion and waste heat reduction 1−50943
Doublet III, limiter design, material props. temp. depend., thermal stress anal. 1−907
energy conversion technology, high efficiency 1−50942
first wall lifetime estimates, linear damage summation, strain range partit. 1−905
first wall materials, low-Z, trapping and re-emission study of energetic ions *(Japanese)* 1−28698
fuels, advanced, neutron-poor, for thermonuclear microexplosion, inertial confinement *(German)* 1−888
fusion neutron interactions, basic reactor components and materials *(Rumanian)* 1−14696
fusion reactor, blanket, martensitic stainless steel, magnetics 1−906
graphite, ion implantation, trapping, detrapping and replacement of H isotopes 1−25303
graphite, limiter or first wall materials, thermal shock tests 1−4032
graphite, neutron emission spectra following 14 MeV neutron irrad. 1−28695
graphite, PLT limiters, topographical changes due to thermal loading 1−50928
graphite, pyrolytic, hyperthermal H atom trapping 1−25555
graphite plasma wall, D and He release by pulsed electron and furnace heating 1−25325
Hastelloy B, blistering and D trapping induced by D^+ bombardment 1−25336
high temperature blankets and power cycles for high efficiency power conversion 1−6008
Inconel, C(O)(S) impurities, H discharge cleaning 1−26342
Inconel 600, blistering and D trapping induced by D^+ bombardment 1−25336
inertial confinement fusion reactors, cavity wall protection 1−18880
inertial fusion targets, wall nonuniformity meas. using rolling technique 1−23853
INTOR, first wall components, heat removal problems 1−41251
Irradiation Test Facility, projected workload 1−2530
ISX-B Tokamak, arcing studies, sulphur detection 1−25085
Large Coil Task, Japanese test coil, mech. study 1−45724
laser fusion target eccentricity detect., image analysis technique 1−10516
laser fusion targets, plastic coatings 1−5997
liquid metal boiling in a magnetic field 1−927
low-Z materials, saturation and isotopic replacement with D 1−25301
low-Z refractory coatings, for fusion reactor limiters 1−23849
MFTF superconducting yin-yang magnets for fusion, elastic buckling 1−45725
micromanipulation for fusion target assembly 1−5993
Monel-400 boiler tube from CANDU reactor corrosion products props. 1−23773
neutron multiplier alternatives for fusion reactor blankets 1−50920
Nimonic alloy PE 16, blistering and D trapping induced by D^+ bombardment 1−25336
optical coating preparation for fusion lasers 1−19406
optical coatings, high band gap oxides, for 0.25 and 1.06 μm fusion lasers 1−19395
optical coatings for laser fusion applications 1−19405
plasma chemistry, book 1−32812
plasma surface interactions in controlled fusion devices, proceedings of the Fourth International Conference 1−22941
plasma wall Z 1−24999
PLT edge plasma, D-ion fluxes meas. using secondary ion mass spectrometry and nuclear reaction anal. 1−25055
poloidal plasma limiter in TEXTOR Tokamak 1−45732
postirradiation fatigue crack growth testing, miniature specimen technology 1−4042
radioactive inventories and material recyclability in a tokamak power reactor 1−18888
remote handling features of the fusion materials irradiation test (FMIT) facility 1−50940
self-sustaining, low-Z wall coatings for reactors 1−23850
shielding, problems *(Japanese)* 1−894
shielding materials, (n,xγ) and (n,xn) reaction cross sections 1−18890
stainless steel, D and He release by pulsed electron and furnace heating 1−25325
stainless steel, PLT limiters, topographical changes due to thermal loading 1−50928
stainless steel, S impurity cleaning by H^+ impact desorption 1−25558
stainless steel, type 304, CO adsorbed layer, ion-induced desorption cleaning 1−25559
stainless steel, type 316L, blistering and D trapping induced by D^+ bombardment 1−25336
stainless steel blistering under D^+ and He^+ simultaneous irrad. 1−25335
stainless steel plasma walls, adsorption and absorption processes 1−30555
stainless steel surface, D impurity, surface recomb. rates and D_2 emission 1−25504
steel, austenitic stainless, for thermonuclear reactors, ferromag. phase precipitation 1−35259
steel, ferritic, C and N transfer during exposure to Na environment 1−42561
steel, stainless, first wall pulsed radiation effects 1−18887
steel, stainless, high purity, void form., influence of tensile stress in early stages 1−11792
steel, stainless type 306, postirradiation fatigue crack growth testing, miniature specimen technology 1−4042
steel, type 304, arcing studies, sulphur detection 1−25085
SULTAN superconductor test facility 1−50923
superconducting fusion-magnet materials, radiation effects 1−52173

fusion reactor materials continued
superconducting magnet, toroidal field, 12 T 1−50925
superconducting magnet reliability through design 1−50924
superconducting magnetic energy storage, electric utility appl., current induction in fusion devices 1−48920
superconducting magnets safety, for fusion, thermal anal. of large cryostable magnets 1−50922
superconducting toroidal field coil, 12 T, for fusion engineering test facility, scoping study 1−50926
surface damage study 1−5999
technological advances 1−41234
TEXT iron yoke, bonded centre leg design 1−931
TEXT TF coil bonding system 1−6012
TFTR, first wall thermostructural and material considerations 1−6016
TFTR, TF coil fabrication aspects 1−930
TFTR, TF coil manufacture 1−929
TFTR poloidal field coils, mechanical and elec. design 1−6010
TFTR TF coils, detailed anal. 1−928
thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
thermonulcear fusion reactors, mag. confined, plasma-materials interactions and impurity control 1−34090
Tokamak fusion test reactor, impurity control 1−25023
Tokamaks, stainless steel wall cleaning by H RF glow discharge 1−23851
Tokamaks, tritium related surface effects, diagnostic devices 1−25026
ZT-40, ceramic toroidal vacuum chamber 1−6013
Al_2O_3, limiter or first wall materials, thermal shock tests 1−4032
B coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
B_4C, limiter or first wall materials, thermal shock tests 1−4032
C film, RF magnetron sputtering prep., fusion reactor appl. 1−21349
C, vitreous, limiter or first wall materials, thermal shock tests 1−4032
Cr-Mn austenitic steel, thermonuclear reactor material, ferromag. layer form. 1−41231
Cs surface, H^- (D^-) prod. by H(D) backscatt. 1−26332
Cu, annealed and prebombarded surface, ion-induced desorpt. of adsorption layers 1−25557
Cu surface, He^+ and H^+ irrad., gas bubble superlattice and surface struct. 1−25333
Cu_3Au, displacement cascade damage produced by fast particle irrad. 1−42428
D-T fusion reactors, safety, reliability and environmental aspects *(Dutch)* 1−18882
D-T recycling, vol. distrib. and permeation in Tokamak wall materials 1−25045
Eu, neutronic analysis for appl. as neutron multipliers for hybrid and fusion blankets 1−41239
$Fe_{40}Ni_{40}P_{14}B_6$ metallic glass, proton irradiation effects, blistering 1−7214
Fe(n,X), up to 40 MeV, cross section calcs. 1−18654
Gd, neutronic analysis for appl. as neutron multipliers for hybrid and fusion blankets 1−41239
H recycling, from stainless steel, plasma-wall interaction simulator 1−24993
H recycling on type 304L stainless steel, mechanism, plasma-wall interaction 1−24994
^3H to ^1H permeability ratio through Pd-Ag-Au alloy membrane 1−19799
He-cooled fusion reactor, thermal and hydraulic anal. 1−18883
Li aluminates, vaporisation and thermochem. stability 1−52267
Li droplet divertor collector for ions and heat 1−10544
Li isotope separation, axial flow in plasma centrifuges *(Japanese)* 1−45726
$LiAlO_2$, $LiNbO_3$, Li_2TiO_3, Li_4SiO_4 and Li_2O, synthesis conditions and physicochem. props. 1−43301
LiF-BeF_2 mixture, fusion reactor blanket, effect of Pb, Bi multiplication zones on ^{232}Th, ^{235}U fission rates 1−10525
LiH fuel, initiation of fusion chain reactions, inertial confinement *(German)* 1−888
LiO_2, ^{18}O self-diffusion, gas-phase anal., rel. to cryst. struct. 1−893
Li_2O, neutron irrad., tritium release, const. heating rate 1−20270
Li_2O, vaporisation, thermochem. study using mass spectrometric Knudsen effusion method 1−13032
Mo, (n,xγ) and (n,xn) cross sections for 15 MeV sections 1−28697
Mo, first wall material, evaporation yield for heat pulses 1−25420
Mo, H(D) interaction with radiation defects 1−25316
Mo, ion implantation, trapping and mutual release of D and ^3He 1−25304
Mo, limiter or first wall materials, thermal shock tests 1−4032
Mo, sputtering of low energy He^+ bombardment 1−52185
Mo, surface erosion of polycrysts. by He ion bombardment, SEM obs. 1−42435
Nb, ion-irradiated, void form., depend. on dil. O conc. 1−52184
Nb, metallic, heat capacities, 80-1000K Debye temps. *(Japanese)* 1−38547
Nb, redistrib. of C by Ar^+ ion bombardment 1−25332
Nb-Zr (1 wt.%), He^+ ion implanted, blister formation, SEM 1−34377
Ni, (n,xγ) and (n,xn) cross sections for 15 MeV sections 1−28697
Ni first wall material, evaporation yield for heat pulses 1−25420
Ni, H diffusion under 10-100 keV ion bombardment *(Japanese)* 1−18744
Ni, H(D) interaction with radiation defects 1−25316
Ni surface, H^- (D^-) prod. by H(D) backscatt. 1−26332
Ni-Al (Ti, Mo, Si), Ni^+ ion bombardment, effect on void nucleation and growth 1−52183
SiC, fast reactor irradiated temp. monitors, calibration using length meas. technique 1−897
SiC, limiter or first wall materials, thermal shock tests 1−4032
Si_3N_4, limiter or first wall materials, thermal shock tests 1−4032
^{149}Sm, neutronic analysis for appl. as neutron multipliers for hybrid and fusion blankets 1−41239
T recovery from tritiated water using hydrogen isotope exchange reaction in a hydrophobic catalyst bed 1−5855
T separation by chemical exchange and plasma separation *(Japanese)* 1−33339
Ta, metallic, heat capacities, 80-1000K Debye temps. *(Japanese)* 1−38547
Ti, (n,xγ) and (n,xn) cross sections for 15 MeV sections 1−28697
Ti coated plasma walls, H adsorption and absorption processes 1−30555
Ti, H_2 absorption and desorption 1−42629
Ti surface, He^+ and H^+ irrad., gas bubble superlattice and surface struct. 1−25333
Ti-based coatings for TFTR, D trapping and release 1−25556
TiB_2 coated limiters in tokamak fusion devices 1−18891
TiB_2 coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
TiB_2 coatings, sputtering under D^+ and $^4He^+$ ion bombard. 1−21321
TiB_2, limiter coating for ISX-B Tokamak, testing 1−23848
TiB_2, on polycryst. Mo substrate, surface charact. 1−25583
TiB_2 thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
TiC coated limiters in tokamak fusion devices 1−18891
TiC coating, on Poco graphite, limiter and protective plate appl. in Tokamaks, thermal testing 1−18893
TiC coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
TiC, coatings on pyrolytic C, by electron beam induced C/Ti interdiffusion, characterisation 1−25584
TiC, coatings on stainless steel, Inconel 600 and Mo, prod. and testing 1−26662
TiC, D and He release by pulsed electron and furnace heating 1−25325
TiC limiter coating for ISX-B Tokamak, testing 1−23848
TiC thermal-shock- and fatigue-resistant coatings for magnetically confined fusion environments 1−20267
V cladding on Cu, limiter and protective plate appl. in Tokamaks, thermal testing 1−18893
V, metallic, heat capacities, 80-1000K Debye temps. *(Japanese)* 1−38547
V(-C), yield stress and microstruct., effect of irrad. and post-irrad. annealing 1−43429
VB_2, thin film coating on V, reduced T inventory in controlled fusion devices 1−21647
W, first wall material, evaporation yield for heat pulses 1−25420

fusion reactors
see also fusion reactor ignition; fusion reactor materials; hybrid reactors; plasma heating
1.5 MJ pulsed supercond. ohmic heating coil for Tokamak fusion reactor 1−45735
Alcator-A Tokamak, passive-limiter pumping efficacy of neutral particles 1−42197
alpha particle deceleration, mag. field effect 1−42196
blanket, martensitic stainless steel, magnetics 1−906
boundary plasmas, surface interactions and appl. to large fusion devices 1−25025
bumpy torus, fast wave heated, neoclassical transport 1−41236
bundle divertor design study for LPTT 1−10543
CAMAC highway, fibre-optic high-voltage isolation 1−11123
capillary fusion, dense plasmas, pinch and recoil effects 1−19927
chemical aspects, review 1−28694
cold gas blanket expt., electron temp. profiles from hydrogen line spectra 1−51985
component failure limits through availability goals 1−6034
concentric liquid annuli, isochoric heating motion, inertia confinement fusion reactor design 1−14694
controlled fusion charact. and reactor operating conditions *(French)* 1−50929
controlled fusion collision strengths for $\Delta n=0$ transitions produced by electron impact on He-like ions 1−49500
controlled fusion intermediate coupling collision strengths for $\Delta n=0$ transitions produced by electron impact on Be-like ions 1−49501
controlled fusion intermediate coupling collision strengths for $\Delta n=0$ transitions in $1s^22s^2$, $1s^22p^2$ and $1s^22s2p$ configurations in Be-like ions 1−49502
controlled fusion research, history *(French)* 1−49931
controlled thermonuclear fusion reactor options with magnetic confinement 1−41226
cryogenic laser-fusion target chamber engineering technology 1−45734
dee-shaped plasmas using single-null poloidal divertor 1−15637
developments in technology, 1960-1980 1−5994
direct energy conversion and waste heat reduction 1−50943
divertor design, efficiency requirements 1−10542
Doublet III, limiter design, material props. temp. depend., thermal stress anal. 1−907
Doublet III, neutral beam shielding 1−908
Doublet III, radiation shielding design considerations 1−18885
Doublet III, real-time diagnostic data acquisition processing and archiving 1−6006
Doublet III, vacuum system interlocks, programmable controllers appl. 1−10528
EBT, plasma diagnostics using microwave interferometry, hyperbolic lens design 1−51990
EBT-P, one-dimens. gamma-ray shielding calcs. 1−18886
electricity generation prospects 1−903
energy conversion technology, high efficiency 1−50942
energy deposition calorimeter for pulsed energy sources in fusion reactors 1−6003
engineering conference, Madison, WI, USA (Aug. 1979) 1−44718
experiments in the USA *(Dutch)* 1−45723
first wall lifetime estimates, linear damage summation, strain range partit. 1−905
fissile fuel by-product of fusion synfuel factories 1−41237
fuel cycles, second law anal. 1−14693
fusion by magnetic mirror confinement *(French)* 1−50933
fusion neutron interactions, basic reactor components and materials *(Rumanian)* 1−14696
fusion neutron interactions, reaction mechanisms and models *(Rumanian)* 1−14697
high temperature blankets and power cycles for high efficiency power conversion 1−6008
high yield lithium injection fusion energy reactor chamber, design modifications 1−10541
HYFIRE, fusion-high temperature electrolysis system, for H_2 production 1−50944
HYFIRE blanket design for commercial fusion Tokamak reactor high-temp. electrolysis system 1−41238
hyperfuse reactors of fissile breeding and waste transmutation 1−41249
ICF research 1−6993
imploding liner reactors, design 1−33350
inertial confinement, USA research general and economic aspects 1−5995
inertial confinement fusion power plant, reactor design concept, military and commercial appls. 1−37017
inertial confinement fusion targets, fuel density-radius product determ. by neutron activation 1−41227

fusion reactors continued
inertial confinement fusion targets, fusion target debris fraction determ. using radioactive tracer 1−41228
inertial confinement systems, Fokker-Planck eqn. multigroup soln., moving and stationary plasma 1−18881
INTOR, reactor for development of fusion technology *(Dutch)* 1−50921
INTOR-J, numerical calc. of He ash enrichment and exhaust by simple divertor 1−11587
ion fusion targets (πR) meas. with fast-proton beam probe 1−25053
ISX-B, neutral beam injectors, Princeton Large Torus upgrades 1−990
JET, Western Europes fusion program 1−14698
JET project, aims and progress 1−28692
JET project for controlled thermonuclear fusion expt. 1−33343
JFT-2 Tokamak, plasma position, direct digital control 1−2226
JT-60, eddy currents, finite element circuit method 1−911
JT-60, fusion reactor poloidal field power supply, CAMAC control system 1−10535
JT-60, plasma control system CAD 1−917
JT-60, plasma current excitation by inductive energy storage 1−7008
JT-60 fusion reactor, control and monitoring system 1−926
large European projects, conference, Rome, Italy (Mar. 79) 1−13925
laser fusion reactors, thermal stress waves 1−901
light-ion fusion, prod. of ion beams with mass greater than that of proton 1−6987
liquid Li circulating system for Tokamak type reactor 1−6009
liquid wall inertial confinement, fluid mechanics 1−10540
lithium-cooled blanket, MHD convection, finite-element anal. *(Japanese)* 1−895
low cost optical isolation systems 1−919
magnetic confinement, heating methods 1−14695
magnetic fusion, plasma techniques, computerized data analysis techniques 1−28693
magnetic fusion reactor concepts recent design advances 1−41233
magnetic mirror fusion research 1−41232
magnetic plasma confinement by Tokamak, physical aspects *(French)* 1−50930
magnetically confined fusion plasmas, atomic and mol. processes, impurities and wall effects, temp., density 1−6985
maintainable superconducting magnet system for Tokamak fusion reactors 1−45736
MFTF, control consoles, hardware and software 1−10530
MFTF, local control and instrumentation system foundation 1−10533
MFTF, local control and instrumentation system software 1−10529
MFTF, supervisory control and diagnostic system 1−10532
MFTF, supervisory control and diagnostics system, distributed operating system 1−10531
MFTF external vacuum system design 1−934
MFTF supervisory control and diagnostics system hardware 1−10534
MFTR, integrated cooling system, process control 1−904
Mirror Fusion Test Facility operator consoles and graphic control panels 1−6035
Mirror fusion test facility supercond. magnet thermal control 1−45737
multifoil collision supercompression, theory, inertial confinement fusion 1−891
national fusion research programmes and international collaboration *(French)* 1−50936
neutral beam first wall low energy interaction 1−909
neutral beam injection, control theory 1−914
neutron angular flux spectra, Li, graphite slabs, D-T source, comparison of expts. amd theory 1−892
neutron streaming in laser fusion electric power generating stations , Monte Carlo calcs. 1−41246
optimization of fusion plasma parameters 1−6000
p 1−28696
particle confinement in asymmetric-cell multiple-mirror systems 1−51973
PDX, fast ion diagnostic apparatus, mechanical aspects 1−923
PDX, neutral beam injectors, Princeton Large Torus upgrades 1−990
PDX, neutron shield anal. and design 1−6033
PDX, ohmic heating current reversal system 1−6020
PDX, single point Thomson scatt. expt. 1−6004
PDX gas injection system control electronics design and testing 1−10527
PDX multichannel TV Thomson scatt. apparatus design 1−920
PDX pulse discharge cleaning electrical system 1−6025
PDX Thomson scattering electronics 1−6005
PDX toroidal field coil and structural instrumentation 1−10539
plasma, thermonucl. reaction secondary particles, total yield and energy spectra *(Chinese)* 1−19913
plasma, thermonuclear research development, mag. confinement *(Russian)* 1−37015
plasma chemistry, book 1−32812
plasma cooling, wall boundary-layer convection calc. *(German)* 1−6002
plasma equilib. static and dynamic control, self-consistent method 1−913
plasma optimal control 1−25830
plasma position feedback control, effective mode approx. 1−912
plasma science conference, Madison, WI, USA (19-21 May) 1−13930
plasma surface interactions in controlled fusion devices, proceedings of the Fourth International Conference 1−22941
plasma transport, kinetic theory of convective ripple transport in Tokamaks 1−51915
plasma transport, RF current drive efficiency, nonlinear Fokker-Planck calc. 1−51914
plasma viscosity anomalies, collisions, turbulence, stress tensor, imploding target plasma 1−24934
plasma-wall interactions, review *(Japanese)* 1−19933
PLT, ICRF heating, wide bandwidth phase monitor 1−925
PLT, multiple wave guide window for RF heating 1−6023
PLT, ohmic heating current reversal system 1−6020
pLT stellarator proposal 1−6011
point detector problem, infinite variance elimination in neutron transport Monte Carlo calc. 1−730
power, President Reagan faces energy challenge with new programmes 1−26805
power cycles, high efficiency, overview 1−50941
pressure waves in ICF reactor blankets 1−41247
Princeton Tokamak, cryogenic system 1−6017
PULSATOR Tokamak, limiter damage 1−25074
R and D 1−41235
radiation-effective charge number of ions in a fusion plasma 1−6001
radioactive inventories and material recyclability in a tokamak power reactor 1−18888
fusion reactors continued
radiological safety design considerations for fusion research experiments 1−6026
remote systems requirements for tandem-mirror fusion power reactors 1−50939
research, 1955-80 *(Dutch)* 1−10524
research developments in framework of applied physics, review *(Japanese)* 1−23852
reversed field pinch reactor, 1-D thermonuclear burn computations 1−41244
review of technological approaches 1−45733
safety related research required to support future fusion research reactors 1−6027
safety research requirements 1−6032
sample system for time-resolved Tokamak plasma impurity analysis 1−2248
spheromak plasma configurations, quasistatic formation 1−46916
superconducting fusion magnet systems, for Tokamak reactors, safety end reliability 1−37014
superconducting magnets for torroidal fusion reactors 1−46908
superconductor, internally cooled cabled, development 1−20934
synthetic fuel production, development of falling-bed fusion blanket system 1−53534
synthetic fuel production plant, high temperature fusion blanket 1−50946
tandem mirror next step−remote maintenance 1−50938
testing fusion components in existing nuclear facilities 1−41240
TETR plasma control system analysis with power supply dynamics and diagnostic filtering 1−916
Texas Tech Tokamak, probe sheath materials test 1−2247
TFR, isotope exchange expt. 1−25057
TFR 600, bolometric appls. 1−29907
TFTR, diagnostic remote drive requirements 1−918
TFTR, feedback control design 1−910
TFTR, Fokker-Planck transport processes 1−34101
TFTR, ohmic heating electrical system 1−6021
TFTR, remote handling methods development program 1−6030
TFTR, remote maintenance challenges 1−6031
TFTR, remote maintenance status 1−6028
TFTR, support structures, design features 1−6029
TFTR, thermal responses of large area toroidal limiters 1−25076
TFTR torus vacuum vessel shell, finite element anal. 1−932
TFTR vacuum vessel bellows cooling system heat transfer and flow distribution tests 1−933
TFTR vacuum vessel heating/cooling systems 1−6015
TFTR vacuum vessel structural analysis and design 1−6014
thermal hydraulics of flowing-particle bed-type fusion reactor blankets 1−41248
thermonuclear fusion reactor, magnetic and inertial confinement 1−28702
thermonulcear fusion reactors, mag. confined, plasma-materials interactions and impurity control 1−34090
TMX, fibre optics in neutral beam control 1−11122
TMX, Heavy Ion Beam Probe primary beam detector 1−924
TMX east mirror plug, Thomson scatt. diagnostic system 1−921
TMX Thomson scatt. diagnostic, optical design 1−922
Tokamak, D-T fueled, major plasma disruption, thermal consequences to first wall 1−899
Tokamak, first wall neutron flux, tritium breeding, Monte Carlo calc. 1−729
Tokamak, plasma radial motion, stability 1−5998
Tokamak, quick response thyristor power supply for vertical magnetising coil, DDC 1−6988
Tokamak, supercond. torus, elastic vibrs. and waves 1−10521
Tokamak burn extension by radial electric field control 1−41241
Tokamak installation, plasma column position control 1−2222
Tokamak limiter surface, edge temp. and self-sputtering, self-consistent calcs. 1−29883
Tokamak plasma, d-^{3}He fusion reactions obs. 1−46917
Tokamak reactor costs, scaling laws 1−33347
Tokamak reactors, shielding design and materials for bundle divertor coils 1−50937
Tokamak research, 1955-1980, appl. to fusion reactors 1−6994
Tokamak scaling laws based on TFR results, confinement time, temperature, review 1−15636
Tokamak type controlled fusion reactors, engineering problems *(French)* 1−50932
Tokamak type controlled fusion reactors, three current projects *(French)* 1−50931
Tokamaks, boundary plasmas, surface interactions and appl. to large fusion devices 1−25025
Tokamaks, dynamic behaviour of cylinder due to EM force, finite element anal. 1−900
Tokamaks, toroidal field ripple transport, computer model 1−41242
toroidal plasma nonlinear equilib. and stabilty 1−915
United States fusion programme, future issues 1−28700
wall ion impurities, magnetic divertor system 1−51971
World energy conference report, critical summary *(Spanish)* 1−31970
ZT-40 reversed field pinch, control and data acquisition system 1−6007
α-particle slowing in thermonuclear plasma 1−51979
^{9}Be(n,2n), 14 MeV neutron multiplication process in fusion reactor Be blankets 1−5774
D-T fusion reactors, safety, reliability and environmental aspects *(Dutch)* 1−18882
H_2 production, thermochemical water splitting cycle, fusion reactor design considerations 1−50945
H_2 production, thermochemical cycles applied to fusion energy sources 1−53696
H_2 production from H_2O, appl. of fusion reactors 1−4216
He-cooled fusion reactor, thermal and hydraulic anal. 1−18883

fuzzy set theory
atmospheric experimental data, sampling and interpretation 1−49434
circulation systems, fuzzy cluster anal. 1−27232
fission reactor failure analysis and diagnosis, fuzzy sets and systems theory 1−23793

g-factor
see also gyromagnetic ratio; Zeeman effect
acetyloxy radicals, g-factor determ. by chem. polarisation of nuclei 1−19122
alkoxy radicals, γ H^+ hyperfine coupling 1−4106
atomic g_J-factors, spin-extended Hartree-Fock calcs. 1−1089

g-factor continued
citrine, natural, smoky quartz centres, EPR, IR spectra, thermoluminesc. meas. 1−26035
deformed odd-odd nuclei, up to 2p-1f shells, mag. dipole moments 1−45420
diamond, GR transitions, mag. field meas. 1−21176
electron, meas. procedure 1−10213
ENDOR spectroscopy, nucl. spin decoupling 1−10002
fermion substructure limits due to anomalous mag. moment 1−14390
glass:Fe^{3+} ESR signal g-value correlation investigation 1−3243
glass, ferromagnetic resonance of fine grained precipitates 1−31032
glass systems, ESR and opt. obs. of Nd^{3+} complexes behaviour 1−52842
molecule, Zeeman effect in IR spectrum, tunable diode laser obs. 1−14957
muon g-factor expts. at CERN 1−45288
nonrelativistic calculation of the electron g factor, book contrib. 1−14286
palladium porphin, lowest triplet state, Zeeman and optical effects 1−10779
sodalite, ESR of Mn^{2+} 1−16476
TCNQ salt, HMTTF-TCNQ, g-value decomposition of mag. susceptibility 1−12256
TCNQ salts, g-factor anisotropy and charge transfer, ESR study 1−31013
transmission CESR, anisotropic g-factor effects, theory 1−47949
trifluoromethyl radical, in SF_6 matrix, EPR spectra, statistical anal. 1−37228
TTF-TCNQ, g-value decomposition of mag. susceptibility 1−12256
yttrium ethyl sulphate:Nd^{3+}, temp. depend. of g-shift 1−52534
^{105}Ag high spin isomeric states, lifetimes and g-factors from ^{103}Rh(α,Zn) 1−50481
Al, g-factor of cond. electrons, calc. and appl. to CESR 1−25616
$AlPO_4$, α cristobalite, ESR of V^{4+} ions 1−26020
^{207}At high spin states, transitions, J^{π} and $T_{1/2}$ from ^{204}Pb(^{6}Li, 3nγ) 1−41034
Au-Yb, dil., Kondo effect, g-value shift, ESR study 1−12261
^{A}Bi, A=202, 204, 10^- isomeric state magnetic moments, g-factor from Tl(α,xn) 1−10318
$CaF_2:Dy^{3+}$, MCD optical detect. of EPR for Dy^{3+}-O^{2-} trigonal centre ground state 1−43040
$CaF_2:Nd^{3+}$, EPR 1−3255
$Ca(OH)_2$, electron irrad. prod. O_2^- centre, ESR, ENDOR, optical absorpt., and Raman study 1−11789
$Cd_{1-x}Mn_xSe$, EPR and photoconductivity spectra, spin depend. cond. electron scatt. 1−7667
CdS, determ. of excitonic parameters of A polariton from magnetoreflectance spectroscopy 1−8092
CdS, ESR of shallow donors 1−34925
CeP excited state EPR, g-shift and linewidth, theory 1−26033
^{138}Ce, nuclear g-factor of $I^{\pi}=10^+$ isomers deduced from ^{130}Te(^{12}C,4nγ) 1−5691
Co complex, $Co_2(CO)_6$di(tri-n-butyl phosphide) anion radical 1−33381
Co complex, N,N′-ethylenebis(acetylacetonatiminato)Co II, electronic struct., EPR and ENDOR study 1−38976
$CsCoCl_3$, ground state props., Raman spectra 1−39083
Cu-Er (0.04 at.%), EPR spectra of Er^{3+} ions, uniaxial stress effect 1−47944
D_2, magnetisability calcs., rot. vibr. and isotopic substitution effect 1−24056
^{160}Dy(^{86}Kr, ^{86}Kr′), 350 MeV, high spin state g-factors 1−18559
^{A}Eu, A=145, 147, 149, isomeric $^{11}/_{2}$-states, g-factors by TDPAD method 1−23561
F_2NO, in SF_6 matrix, EPR spectra, statistical anal. 1−37228
$Gd(Co_xAl_{1-x})_2$ compounds, mag. props. and reson. studies 1−52847
$Gd_{1-x}R_xAl_2$ (R=Dy, Ho, Er), ESR spectra, g-factor and thermal broadening 1−34935
p-Ge:Ga, resonant recombination of photo-excited light holes *(Russian)* 1−34750
H_2, magnetisability calcs., rot. vibr. and isotopic substitution effect 1−24056
HD, magnetisability calcs., rot. vibr. and isotopic substitution effect 1−24056
HeH^+, mag. susceptibility and rot. g-factor calc. 1−45928
^{A}Hf, A=172-174, 178, K-isomer g-factors and $T_{1/2}$ from Yb(α,2n) 1−18557
$n\text{-}Hg_{0.89}Mn_{0.11}Te$, stimulated spin-flip scatt., photoluminesc., magnetoabsorpt. 1−29335
$Hg_{1-x}Mn_xTe$, EPR and photoconductivity spectra, spin depend. cond. electron scatt. 1−7667
^{A}Hg, A=194,196, high spin isomer g-factors, 10^+ states, cranking model anal. 1−18561
Ho^{3+} compounds, mag. props., crystal field splitting, calc. 1−3155
InSb, collision narrowing of ESR line 1−34940
^{111}In high spin isomeric states, lifetimes and g-factors from ^{109}Ag(α,Zn) 1−50481
^{116}In(n,γ)^{116}Sn, observed excited states, magnetic properties studied by perturbed angular correlation measurement 1−41055
$IrCl_6^{2-}$, negative isotropic g-factor, Raman meas. 1−24286
KBr:$Ag(Tl^{2+})$, g-factor sign shift 1−30683
KCl:$Ag(Cd^+)(Hg^+)(Ga^{2+})(Tl^{2+})(Pb^{3+})$, g-factor sign shift 1−30683
KI:Tl^+, A_x emission, decay time, symmetry and g-value, mag. field effects 1−48164
K_2SeO_4, incommensurate phase, EPR lineshape study 1−47932
$LaCl_3:Ho^{3+}$, crystal field energies of electronic ground state, absorption spectra 1−31172
$Li_2O\text{-}Al_2O_3\text{-}SiO_2\text{-}TiO_2\text{-}SnO_2$ system glasses, γ-irrad., ESR obs. of Sn^{3+} additions effect on crystn. 1−52829
$MgTiO_3:Co^{2+}(Ni^{2+})(Mn^{4+})(Cr^{3+})$, fine struct. parameters, ESR study 1−26021
NH_3, Zeeman effect in IR spectrum, tunable diode laser obs. 1−14957
NH$_4$Cl:Rh, γ-irrad., stabilisation, EPR investig. of Rh^0 and Rh(II) centres 1−31024
^{140}Nd, nuclear g-factor of $I^{\pi}=10^+$ isomers deduced from ^{128}Te(^{16}O,4nγ) 1−5691
^{11}Ne(5/s_1^+), lifetimes and g-factor meas 1−45801
$NiCl_2$-graphite intercalates, ESR study 1−34931
OH, $^2\Pi_{1/2}$ state, g-factors and Zeeman effect, microwave spectra obs. 1−24189
OPF_3, symmetric top, avoided crossing mol. beam elec. reson. spectrosc. 1−45986
^{A}Sb, A=115, 117, high spin isomeric states, lifetimes and g-factors from In(α,Zn) 1−50481
g-factor continued
Si MOSFET on sapphire and spinel, magnetocond. oscillations, (100) inversion layer obs. 1−12205
Si:Al(B)(Ga)(In)(Tl), acceptor bound excitons in mag. and uniaxial stress fields 1−47484
$Sn_{1-x}Cr_xTe$, structural phase transition, spin reson. study 1−52831
$TiBe_2$, exchange enhancement evidence from ESR 1−26014
^{A}Yb(^{86}Kr, ^{86}Kr′), A=170, 174, 350 MeV, high spin state g-factors 1−18559
ZnSe, ion-implanted, optically detected donor electron g shifts 1−21086
ZnTe, impurity states, ground and excited, Zeeman splitting, selective pair luminesc. 1−47595
ZnTe, valence-band parameters and g-factors from free-exciton magnetorefl. 1−3374
$ZrSiO_4:Nb^{4+}$, ESR, g-values and hyperfine splittings 1−12396
^{100}Zr first excited 2^+ state g-factor, deformation onset 1−18560

gadolinium
see also nuclei with .....
atoms, radiative lifetimes of optical levels 1−24083
critical mag. susceptibility temp. modulation of AC susceptibility study 1−12260
electron orbit struct. and A_3-A_2 phase transition 1−25196
electrowinning below 1000°C 1−26409
film, optical spectra, 5p threshold study 1−31165
magnetoelastic effects, mag. phase diagram, 170 to 300K 1−26003
neutronic analysis for appl. as neutron multipliers for hybrid and fusion blankets 1−41239
oxidised surface, matrix effects, comparative SIMS and sputtered neutral mass spectrometry 1−31293
passivation by electtopolishing, Auger depth profile anal. 1−31736
preparation by Gd_2O_3 electrolysis, deposition morphology and chemical purity 1−35219
preparation from Gd_2O_3 electrolysis, thermodynamic charact. of molten fluoride salts 1−26407
rare earth hydroxides, $R(OH)_3:Gd^{3+}$ (R=La, Eu, Ho, Y), EPR spectra, host lattice effects 1−26034
rare earth orthophosphates:Gd^{3+}, monazite-type, EPR study, appl. to radioactive waste disposal 1−43006
thin films in contact with Al, spin polarised tunnelling, mag. suppression 1−42923
transport and thermophysical props., 300 to 3000K, carrier mean free path influence 1−2940
US propag. rate anisotropy, 80 to 700K, rel. to elec. cond. anisotropy *(Russian)* 1−11816
zone refining high purity metal 1−26383
$CaF_2:Gd^{3+}$, $Li^+(Na^+)(K^+)(Rb^+)(Cs^+)$, zero-field splitting of $4f^7$ state 1−20676
$CaF_2:Gd^{3+}$, $Li^+(Na^+)(K^+)(Rb^+)(Cs^+)$, zero-field splitting of $4f^7$ state, electrostatic model 1−20677
$CeF_3:Gd^{3+}$, EPR 1−47942
$CsCaF_3:Gd^{3+}$, superhyperfine interaction and zero field splittings, EPR study 1−31025
Gd^{3+} ion, S-state splitting mechanism in low symmetry crystals 1−2926
^{144}Gd, elec. field gradient in Gd metal 1−34963
KCl:Ga^{2+}, g-factor sign shift 1−30683
$LaF_3:Gd^{3+}$, EPR 1−47942
$LaF_3:Gd^{3+}$, two-photon absorption as a new test of the Judd-Ofelt theory, fluoresc. detection 1−43170
$MgO:Gd^{3+}$, ESR study 1−34934
$NH_4Ce(SO_4)_2.4H_2O:Gd^{3+}$, EPR and IR spectra, phase transitions, spin-lattice relax. 1−34936
$NdF_3:Gd^{3+}$, EPR 1−47942
$Pb_5Ge_3O_{11}:Gd^{3+}$, effect of hydrostatic press. on EPR spectrum 1−52841
$PrF_3:Gd^{3+}$, EPR 1−47942
$PrVO_4$:Gd, exchange and dipolar interactions, EPR study 1−12398
$RbCaF_3:Gd^{3+}$, superhyperfine interaction and zero field splittings, EPR study 1−31025
$RbCdF_3:Gd^{3+}$, superhyperfine interaction and zero field splittings, EPR study 1−31025
Si:Au, Gd, Czochralski growth, optical nuclear polarisation and NMR study of Au cluster formation 1−2492
$SrCl_2$:Gd, transition to superionic state, impurity effect 1−38819
$ZrSiO_4:Gd^{3+}$, trapping and emission centres, thermolum.. obs. 1−39163

gadolinium alloys
$(Gd,Y)_4Co_3$, magnetic and transport props. 1−25898
Gd-Cd, thermopower, s-f scatt. models *(Portuguese)* 1−25710
Gd-Co, amorphous, thermal stability, crystn. study by DSC and X-ray diffr. 1−30091
Gd-Co, amorphous thin film, perpendicular anisotropy, influence of O_2 adsorption 1−38926
Gd-Co amorphous films, bulk and surface reson. props. 1−12363
Gd-Co amorphous mag. film, domain wall dynamics, in-plane field effects, expt. 1−12370
Gd-Co amorphous RF sputtered films, perpendicular anisotropy and magnetostriction, origin, expt. 1−52810
Gd-Co/Permalloy, amorphous multilayer films, mag. props., meas. 1−12362
Gd-Co/Tb-Fe, amorphous multilayer films, mag. props., meas. 1−12362
Gd-Co-Mo sputtered films, perpendicular anisotropy rel. to oxidation during annealing 1−12281
Gd-Co-Z (Z=Fe, Mo, Cu, Au, Cr, etc.) amorphous films for magnetic bubbles, book contrib. 1−30999
Gd-Fe, amorphous thin film, perpendicular anisotropy, influence of O_2 adsorption 1−38926
Gd-Fe amorphous films, electron beam deposited, uniformity of mag. props. 1−47918
Gd-Fe films with weak magnetic anisotropy transverse and planar Hall effect *(Russian)* 1−42744
Gd-Fe(Co), amorphous sputtered thin films, TEM study *(Japanese)* 1−21018
Gd-Ga system, Ga rich, phase diagram determ. 1−53156
Gd-Ge, phase diagram 1−31425
Gd-Lu(Y), mag. phase diagram, search for Lifshitz points 1−12292
Gd-Tb alloys, magnetostriction meas. 1−21029
Gd-Zn, thermopower, s-f scatt. models *(Portuguese)* 1−25710
$GdAl_2$, magnetisation in ferromag. phase 1−47909
$Gd(Al_{1-x}Cu_x)_2$, magnetoresistance and band struct. near Curie temp. 1−7589
$(Gd_{75}Au_{25})_{100-x}B_x$, elec. and mag. props. 1−3149
GdCd, magnetically ordered, elec. resistivity and thermal props. 1−30721

gadolinium alloys continued
GdCd single cryst., ferromag., transport props., critical behaviour 1−25702
GdCo film, amorphous sputtered, substrate bias effect on O contamination 1−25587
GdCo film, RF sputtered, spatial uniformity, O distrib. influence 1−12364
GdCo film, sputtered amorphous, growth induced perp. mag. anisotropy *(Korean)* 1−12365
GdCo sputtered amorphous films, effect of Ar gas press. 1−25586
$GdCo_3$, magnetostrictive strains, 77K to room temp. 1−21023
$GdCo_3$ sputtered amorphous film, domain struct. depend on anisotropy 1−34913
$GdCo_5$, domain nucleation obs. 1−16457
$Gd_{21}Co_{79}$ amorphous films, induced mag. anisotropy, mag. field annealing effect *(Russian)* 1−25993
$Gd_{67}Co_{33}$, metallic glasses, defect struct., positron studies 1−43205
Gd_xCo_{1-x} films, mag. and magneto-optical props., mag. field intensity and chem. comp. influence *(Russian)* 1−3223
Gd_xCo_{1-x}, $Gd_x(Co_yNi_{1-y})_{1-x}$, amorphous films, charged wall form. 1−7914
$Gd(Co_xAl_{1-x})_2$ compounds, mag. props. and reson. studies 1−52847
$Gd(Co_xAl_{1-x})_2$, ESR study 1−7946
$Gd_xCo_{1-x}(Cu_{1-x})$, amorphous, mag. anisotropy 1−25927
$Gd_2(Co_{1-x}Fe_x)_{17}$, mag. anisotropy, NMR study 1−31061
$GdCo_5H_x$, hyperfine field at ^{59}Co nuclei, NMR spin echo study, H conc. effect 1−3292
$Gd(Co_xNi_{1-x})$ ($0 \leq x \leq 0.3$), transport and mag. props. 1−25701
$Gd_{0.2}(Co_xNi_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
$Gd_{1-x}Dy_xAl_2$, ESR spectra, g-factor and thermal broadening 1−34935
$Gd_{1-x}Er_xAl_2$, ESR spectra, g-factor and thermal broadening 1−34935
$Gd_{1-x}Fe_x$, amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
$(Gd_xFe_{1-x})_{0.9}B_{0.1}$, amorphous films, charged wall form. 1−7914
GdFeBi-CdS:Cu,Cl photoconductor sandwich, thermomagnetic switching effect 1−25944
$Gd_{0.2}(Fe_xCo_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
$Gd_{0.2}(Fe_xNi_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
$(Gd_{0.26}Fe_{0.74})_{1-y}Sn_y$ amorphous films, mag., magneto-optical and switching props. 1−12346
Gd_5Ge_3, elec. and mag. props. 1−20704
$Gd_{1-x}Ho_xAl_2$, ESR spectra, g-factor and thermal broadening 1−34935
Gd_xIr_3, Gd_3Ir_2, cryst. struct. 1−34289
$GdMn_2$, X-ray absorption spectroscopic study 1−43219
$Gd_6Mn_{23}H_{22}$, magnetisation meas., search for mag. ordering 1−12356
$Gd_3Pd_{4-x}Pt_x$, transition to spin glass state, mag. props. 1−34886
Gd_7Pt_3, mag. props. meas., 4.2 to 300K 1−30923
$Gd_{70}Y_{30}$, double ferromagnetism, susceptibility, elec. resist., and sp. ht. meas. 1−3153
Ir-Gd, dil., ferromag. props. 1−12272
$LaGdAl_2$, conduction electron asymmetric scatt. 1−34685
$La_{1-x}Gd_xAl_2$, spin glass, freezing temp. freq. depend. 1−34898
Mg-Gd-Y-Mn, mech. props., effect of Mn, Y and other alloying additions 1−16818
Os-Gd, dil., ferromag. props. 1−12272
Pt-Gd, dil., ferromag. props. 1−12272
Pt-Gd, dil., fine structure EPR spectra meas. 1−12397
Rh-Gd, dil., ferromag. props. 1−12272
Ru-Gd, dil., ferromag. props. 1−12272
Sc-Gd (3 at.%), spin glass, sp. ht. at very low temp. 1−42970
$Sm_{2-x}Gd_xCo_{10}Cu_{1.5}Fe_{3.2}Zr_{0.2}$ magnet 1−7901
$Sm_{2-x}Gd_xCo_{17-y}Mn_y$, magnetic props. 1−25930
Tb-Gd, mag. phase diagram, search for Lifshitz points 1−12292
Tb-Y(Gd), giant magnetostriction deform. *(Russian)* 1−42991
TbGd, magnetically ordered, elec. resistivity and thermal props. 1−30721
Ti alloys, microalloying, effect of Y, Gd, Dy, Zr, Hf and Re on mech. props. 1−16844
$Y_{1-x}Gd_xAl_2$, spin glass, freezing temp. freq. depend. 1−34898
$Y_{1-x}Gd_xCo_5$, magnetocrystalline anisotropy *(Russian)* 1−25926

gadolinium compounds
see also gadolinium alloys
Gd_2O_3-UO_2 distributed turnable absorbers in PWR core 1−45655
synthesis kinetics 1−35512
$[Gd(H_2O)_0]^{3+}$, M_2O exchange, kinetic consts., EPR and ^{17}O NMR obs. 1−33483
$Ba_4Gd_3F_{17}$, cryst. struct., electron diffr. study 1−20145
$(CeO_2)_{0.9}(Gd_2O_3)_{0.1}$, solid electrolyte, diffusion-limited charge transport at Pt paste electrodes 1−48827
GIG, Faraday effect rel. to applied field 1−35018
Gd complex, Gd (hexamethylphosphoramide)$_6(ClO_4)_3$:Eu^{3+}, crystal field parameters, fluoresc. spectra 1−25677
Gd IG, optical reflectivity and thermoreflectivity 1−31117
Gd^{3+} complexes of polyaminocarboxylate ligands, electron-nuclear relax. meas. for ^{15}N and ^{13}C 1−16494
$GdAlO_3$, Mossbauer effect, hyperfine parameters, mag. ordering, relaxation 1−12434
$GdAlO_3$:Cr^{3+}, chopper technique for meas. delayed fluoresc. superimposed on excitation spectrum 1−36739
$GdAlO_3$-$YAlO_3$-$LuAlO_3$, Nd activated, spectroscopic props. 1−26244
$GdCl_3$, ferromagnetic, renormalisation calcs., susceptibility 1−42951
$GdCl_3$, prep. from Gd_2O_3 and purification 1−26399
$GdCl_{3-x}I_x$, mixed halide phases, X-ray powder diffr. patterns 1−26439
GdGa garnet single crystals, defects *(Chinese)* 1−7162
$Gd_3Ga_5O_{12}$, defect studies using X-ray topography *(Chinese)* 1−25257
$Gd_3Ga_5O_{12}$ garnet, positron annihilation study 1−21291
$Gd_3Ga_5O_{12}$, lattice parameter changes of facets, X-ray double cryst. meas. 1−20152
$Gd_3Ga_5O_{12}$ substrate for mag. bubble domain device, lattice constant meas. and standard value *(Japanese)* 1−2399
$Gd_3Ga_5O_{12}$ thin film preparation, by Czochralski method, for magnetic bubble storage *(Polish)* 1−8214
$Gd_3Ga_5O_{12}$, two inch dia. crysts., growth economical, technical and scientific aspects 1−8213
$Gd_3Ga_5O_{12}$:Er, garnet, molecular light scatt., photoelasticity 1−21221
$GdMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
$Gd(MoO_4)_3$, improper ferroelec., optical props. meas. 1−21230
$Gd_2(MoO_4)_3$, electrical transport, 650 to 1075K 1−25725
$Gd_2(MoO_4)_3$, ferroelastic and ferroelectric, pol. reversal and field induced phase transform., electron microscopy 1−39049
$Gd_2(MoO_4)_3$, ferroelec.-ferroelastic, phase transform., soft modes, acoustic phonons, Raman and Brillouin scatt. study 1−8049

gadolinium compounds continued
$Gd_2(MoO_4)_3$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
$Gd_2(MoO_4)_3$ single cryst., luminesc. during mech. switching 1−8144
$GdMo_6S_8$, antiferromag. superconductor, spin density waves, supercond. crit. props., theory 1−12232
GdO, dissoc. energies mass spectra results correl. 1−17044
Gd_2O_3, chlorination to form $GdCl_3$ 1−26399
Gd_2O_3 homogeneous thin film, optical constant determ. by refl.-transmission method 1−12593
Gd_2O_3 in molten LiF-GaF_3, for electrowinning of Gd 1−26409
Gd_2O_3, L_{III} X-ray absorpt. discontinuity 1−48196
Gd_2O_3, thermophysical props. in solid phase 1−42551
Gd_2O_3:Eu^{3+}, fluoresc. spectrum, site-selective excitation, cryst. field anal., and energy transfer 1−39152
Gd_2O_3-H_2O-CO_2 system, hydrothermal phase equilibria, phase diagrams 1−3703
Gd_2O_3-P_2O_5 system, phase diagrams, solid-state reactions and quenching studies 1−31436
GdOF-$CaF_2(SrF_2)(BaF_2)$ solid solns., phase diagrams and cryst. growth by Bridgman technique 1−35241
$GdPO_4$, sintering reaction with Na_2CO_3, intermediate products 1−26404
Gd_4Sb_3, thermal expansion coeff. determ. 1−16070
$(GdY)_3(FeGa)_5O_{12}$ film, bubble-lattice reson. spectrum and lineshape 1−7951
$Gd_xZr_{1-x}O_{2-(x/2)}$ ceramic, ionic cond., grain boundary effects meas. 1−47291
HfO_2-Gd_2O_3, Raman scatt. study of high-temp. phase transform. 1−12509
$KGd(WO_4)_2$:Nd^{3+} laser, free lasing dynamics 1−46357
$La_{1-x}Gd_xB_6$, spin glass, freezing temp. freq. depend. 1−34898
$(Li,Na,K,Cs)(Eu,Tb)_{1-x}(Gd,\gamma)_x[(Mo,W)O_4]_2$, luminescence props. 1−39136
$(Lu,Y,Gd)_3(Fe,Mn,Ga)_5O_{12}$ film strip domains, large magnetostriction constants under influence of in-plane fields 1−12368
$Mg(Gd_xYb_{1-x})_2S_4$, struct. and mag. props. 1−38356
$Mn_xMg_{1-x}Gd_2S_4$, solid soln., magnetic behaviour and substitution effect 1−34855
$(Na,K)_5(Eu,Tb)_{1-x}(Gd,\gamma)_x[(Mo,W)O_4]_4$, luminescence props. 1−39136
$(Nd_xGd_{1-x})_{3-y}S_4$, electrical resistivity, mag. ordering effects 1−25747
PbO-Gd_2O_3 binary systems, phase diagram 1−3709
$Sm_{1-x}Gd_xS$, low field mag. susceptibility determ. 1−12273
UO_2-Gd_2O_3 fuel for light water reactor, standardized industrial product 1−14638
$(YGdYbBi)_3Fe_{5-x}Al_xO_{12}$, ferrite garnet epitaxial film, noncollinear mag. state 1−25995
$(YGdYbBi)_3(FeAlGa)_5O_{12}$ magnetic garnets, epitaxial films and non-through domains 1−30996
$(YSmErGdLuCa)_3(FeGe)_5O_{12}$ bubble films with collapse-field temp. coeffs. from −0.3 to 0%/°C 1−7906
YSmErGdLuCaGeIG, bubble garnet films, collapse field temperature characts. 1−42987

gain (amplification) *see amplification*

gain control
see also automatic gain control
eye movement physiological functions and control mechanisms *(Japanese)* 1−26901

gain measurement
A-mode US equipment, gain characteristics display system 1−51675
selective level meter, microcomputer control facility, meas. accuracy of 0.1 dB, automatic calibration 1−44958

gain regulation *see gain control*

galactic cosmic rays
abundance of Ne, Mg, Na and Al neutron rich isotopes 1−13649
acceleration and propagation mechanisms 1−36119
antiprotons in modified closed galaxy model 1−40290
asymmetry at Earth, modulation by solar coronal holes magnetic field extension 1−40288
Cassiopeia A supernova envelope, cosmic ray particle accel. 1−36123
composition and origin from shock wave accel. of interstellar grains 1−27348
electron energy spectrum and galactic X-ray and gamma-ray emission 1−27347
electrons, diffusion-convection eqn. soln. and energy spectra *(Russian)* 1−22643
electrons, distrib. from gamma-ray flux 1−9335
energy spectrum after second order Fermi accel. in interstellar space 1−44394
excess emission 1−27346
intensity oscillation, anisotropic as viewed from Earth, of Oct. 27-28 (1977) 1−4728
intensity variation due to interaction with solar flare cosmic rays shock wave 1−36137
intensity variations, phase lag with quiet time O component, O ionic charge determ. 1−40287
interplanetary propagation, anisotropic diffusion theory 1−36125
interplanetary propagation, nonstationary diffusion-convection model rel. to behaviour during solar cycles 19 and (20) 1−36144
interplanetary propagation eqn., numerical soln. rel. to modulation region size and diffusion coeff. 1−36126
interstellar clouds interaction, COS-B obs. of high-energy γ-ray emission from Orion cloud complex 1−22865
isotopic anomalies in the galactic cosmic-ray source 1−49463
isotopic composition anomalies, implications for stellar nucleosynthesis models 1−54335
NP 0532, Crab pulsar, cosmic ray electrons energy distrib. and nebula emission spectrum 1−36317
nuclei (B to Fe), energy spectra to above 100 GeV per nucleon 1−9338
nuclei with $Z \geq 110$ in meteoric olivines *(Russian)* 1−32587
origin, accel. and propag. models rel. to secondary nuclei/primary nuclei ratio 1−44395
origin, rel. to isotopic anomalies in meteorites 1−22641
origin and propagation from binary stars 1−36120
origin from galaxy halos 1−36118
origin in supernova envelope, particle accel. and energy spectrum 1−36121
proton and α-particle fluxes, Venera 11 and 12 meas. 1−4731
radiation from relativistic ions due to transition scattering in random magnetic fields 1−32656

galactic cosmic rays continued
relativistic cosmic rays, energy density rel. to galactic spiral shocks vertical gas struct. 1−9647
relativistic electrons, convection effect on propag., appl. to NGC 891 and NGC 4631 1−9334
solar latitude variations from Innisfree chondrite radioactivity data on meteor orbit 1−36122
solar modulation, effect of wavy interplanetary current sheet using heliospheric mag. field model 1−54333
solar modulation by coronal holes, three dimens. nature 1−40289
solar wind influence on galactic cosmic ray propag. 1−4722
source distrib. 1−13648
steady state propag., force field soln. 1−49460
suprathermal particles in interstellar medium 1−4724
ultra-high-energy cosmic rays from clusters of galaxies 1−22642
^{10}Be, abundance rel. to cosmic rays age 1−4730

galactic nuclei
active, optical counterparts to X-ray sources, UV and visible spectra 1−49859
active galaxies, radiogalaxies and Seyferts, forbidden emission line regions, appl. of photoionisation models 1−40561
angular momentum generation by radiation pressure 1−36172
black holes or magnetoid, distinguished by neutrino/gamma ray flux 1−36431
3C 390.3, radiogalaxy, high resolution obs. at 5 GHz 1−13851
central parsec, motion and distrib. of ionized gas in compact clouds 1−36382
formyl ion emission in galactic centre, 3.4 mm obs. 1−36383
Galaxy, K-band obs., polarisation mapping 1−54633
Galaxy, mol. form. in shock wave propag. from nucleus 1−54632
hydrodynamics, implications for nuclei of gas flow round high vel. star 1−40542
JHK observations, criterion for Seyferts, IR excess interpretation 1−54612
M87 central luminosity spike, visible spectrum 1−13852
M 31, IR photometry of semistellar nucleus 1−22877
M 31, M 81 and M 94, Fe-peak abundances in nuclei, IR spectra 1−22876
Markarian 10, struct. and brightness, halo search, IR, UV and visible obs. 1−54615
Markarian 308, spectrophotometry of type II Seyfert nucleus 1−36397
Markaryan 534 (NGC 7679), electron parameters, luminosity and abundances, visible obs. *(Russian)* 1−22899
massive galaxies, radiosource comoving density evolution fuelled by stellar mass loss 1−49840
NGC 1068, extended 20 μm emission from nucleus of Seyfert galaxy 1−22895
NGC 1275, Seyfert galaxy, nucleus origin of X-rays., flux and variability 1−49811
NGC 2146, peculiar spiral galaxy, nucl. region radio struct. interpretation 1−54645
NGC 253, detect. of formyl cation, emission line profile and intensity, EHF obs. 1−54613
NGC 4151, Seyfert galaxy, black hole gamma ray emission mechanism 1−9664
NGC 4151, Seyfert galaxy, luminosity profile and flat spectrum nucl. continuum radiation 1−54630
NGC 4151, spectrum and polarization of type 1 Seyfert 1−22875
NGC 5128 (=Centaurus A) detect. of HCO^+ emission at 89 GHz 1−54595
plasma, ultraelativistic, neutrino, gamma ray, electron and positron prod. 1−49488
pyrrole, search for EHF and SHF transitions in galactic centre 1−32731
radiation sources, relation to quasars and radio sources *(French)* 1−27620
relativistic jet collimation in quasars and active nuclei 1−22920
Seyfert, interstellar absorpt. lines in line of sight to determine Galaxy gas halo existence 1−49754
X-ray emission from Galaxy, 26-560 keV obs. 1−49852

galactic radio waves *see radiofrequency cosmic radiation*

galaxies
see also BL Lacertae-type objects; clusters of galaxies; galactic nuclei; H I regions; H II regions; intergalactic matter; Magellanic Clouds; Markarian galaxies; nebulae; radiogalaxies; Seyfert galaxies; The Galaxy
in Abell 2255, distorted radio sources as evidence of intergalactic gas 2.5-5 Mpc from cluster centre 1−9682
Abell 754, 993, 1904, multiple red shifts meas. using Medusa spectrograph 1−49521
absolute mags. of brightest galaxy, gr photometry of Abell clusters 1−22878
active galactic nuclei, effect of surrounding star cluster on magnetoid 1−44641
active galactic nuclei, model of inhomogeneous accretion onto massive black holes 1−44626
active galaxies, nuclear burning in massive accretion discs around central black holes 1−32722
active galaxies energy source, role of stellar tidal disruption by massive binary black hole 1−36323
active galaxies nuclei, gas kinematics 1−44645
active galaxies nuclei, thick accretion discs with super-Eddington luminosities 1−49706
active nuclei, temporary hypermassive states model based on material vacuum hypothesis 1−13892
American Astronomical Society, Dynamical Astronomy Division meeting, College Park, Maryland (1980 June 18 to 20) 1−36446
anemic spirals, possible deficiency in H I from comparison with normal spirals 1−49800
angular momentum coupling in differentially rotating galactic systems 1−40562
arm formation theory from nucleus, rot. dynamics and galaxy struct. 1−40560
astrometry, comparison of accuracy of meas. of star and galaxy images *(Russian)* 1−49476
background light, energy density depend. on form. epoch and luminosity evolution 1−44674
background X-ray spectrum, Kα lines due to interstellar matter *(Russian)* 1−22897
barred galaxies, ring like struct., variable mass field dynamical model 1−32756
barred spiral galaxies, stellar orbits in weak and strong bars 1−27566
galaxies continued
bars, equilib. configurations for rot. polytropic stellar system 1−9651
bars with structure of uniformly rot. polytrope, nonaxisymmetric config., analytic method 1−36385
black hole nuclei, astrophysics, book contrib. 1−22830
black holes in galactic nuclei *(Chinese)* 1−9674
blue compact galaxies, H I halo, star form. source material 1−54614
blue objects, pairing investigation in and outside clusters 1−40563
bright spirals with strong radio sources, nature, 4885 MHz obs. 1−49799
3C 206, quasar in giant elliptical galaxy belonging to cluster, spectrum and photometry 1−9709
3C 273, quasar, discovery and red shift of assoc. nebulosity 1−49847
cannibalism in clusters, correls. between clusters dynamical time scales and Bautz-Morgan types 1−44651
cD and related galaxies in poor clusters, radio emission meas. using VLA obs. at 20 cm 1−40555
cD galaxy in cluster Abell 754, upper limits to radio and X-ray luminosity 1−22905
chemical composition, red supergiants and Wolf Rayet star number ratio as indicator 1−13847
close bright galaxies link with quasars in CTIO Curtis Schmidt Survey 1−9704
cluster galaxies, turbulent wakes rel. to cluster mag. field morphology 1−49825
cluster members of A2029, redshifts and dynamics, cluster rot. possibility 1−49824
clustering, large scale, in Universe, determ. from n-point correl. functions 1−9692
collisionless relaxation of stellar systems, dynamical theory 1−17880
colour related props. on deep Schmidt plates 1−36410
colours of faint field galaxies, interpretation 1−32749
in Coma cluster, turbulent wake of galaxies as intergalactic mag. field origin 1−40569
compact objects in metagalactic field in Lynx 1−36395
compact objects near cluster Abell 2255, BV photometry and distrib. 1−9662
coronae heating, self-gravitating cond. stratified gas threaded by mag. fields 1−4753
correlation functions of low order, explained by gravitational instability 1−44679
cosmic dust content from dark cloud complex distrib. 1−27607
counts and evolution at faint magnitudes 1−32750
Cygnus field faint galaxy search, used to determine interstellar extinction 1−17891
dark clouds size distrib. used to determine galaxy distance and dust content 1−44648
dark mass rel. to Hubble type 1−36411
diameter-luminosity relation for elliptical and lenticular galaxies *(French)* 1−9665
disc galaxies, fluid dynamical flow model for rot. curve central peak 1−36390
disc galaxies nuclei, superdense gaseous cores form. 1−54617
disc galaxies structure, normal modes of gas sheets and discs 1−13679
disc galaxy, mass density and oblateness anal. *(Chinese)* 1−40566
disc galaxy, response of gas to ovally deformed gravitational potential 1−36415
disk, collision of interstellar clouds 1−54590
disk, interstellar gas ablation and interaction with intergalactic gas 1−17892
disk, multicomponent, short-wave Jeans instability *(Russian)* 1−49823
disk galaxies, masses and mass-luminosity ratios 1−13853
disk galaxies, struct. and rot. statistics *(Chinese)* 1−40567
disk galaxy, dynamical behaviour of gaseous halo 1−54629
distribution of galaxies and universal evolution *(Russian)* 1−5010
distribution within Ursa Major Supercluster 1−4986
double galaxies as indicators of large scale structure 1−9641
double galaxies with large redshift discrepancies, visible obs. 1−9642
double radio galaxies, radio variability in nuclei 1−4992
Draco dwarf galaxy, metal abundance range 1−22886
dust shrouded galaxies as IR sources, luminosity functions 1−49785
dwarf galaxies, nearby, planetary nebulae as distance indicators, [O III] photometry 1−54616
dwarf irregular galaxies theory, stochastic self-propagating star form. model 1−44624
dwarf spheroidals, stellar content 1−32751
dynamical evolution of spherical inhomogeneous perturbations in Friedmann background 1−36436
dynamics, tunnel effect on density waves, and 'waser' mechanism 1−22900
dynamics of gravitating stellar systems, kinetic instabilities 1−13819
dynamics of stellar systems, collision integral divergence in discontinuous random process scheme *(Polish)* 1−32729
early type galaxies, rot. curves and vel. dispersion profiles anal., visible obs. 1−54627
early-type isolated galaxies, H I obs. 1−4954
elliptical galaxies, causes of low gas content 1−22889
elliptical galaxies, mass/luminosity (M/L) ratios 1−27601
elliptical galaxies, minor axis orientations compared with double-lobed radio sources 1−54605
elliptical galaxies, triaxial models 1−27612
elliptical galaxies, vel. dispersion anisotropy effect of internal struct. *(Russian)* 1−54636
ellipticals, analytical prolate models from ang. momentum and energy 1−49786
ellipticals, prolate models analytical solns. generalisation by self consistent field method 1−49787
ellipticals with published H I upper limits, statistical anal. 1−49802
ellipticities, apparent and true, for Second Reference, Catalogue galaxies 1−44639
emission line dwarf galaxies, O, Ne, He abundances, H I mass determ. 1−49788
ESO-366-G 05, discovery of supernova in nearly anonymous galaxy 1−32716
evolution, evidence from optical obs. 1−9680
evolution, examples of star clusters as touchstones for theories 1−40537
evolution, implications of cosmology with material vacuum 1−17918
evolution of 5000 test star galaxy over 3 rotations, computer model *(German)* 1−32761
faint galaxies, distrib. in 15 square degree field near South Galactic Pole 1−4975
faint galaxies, photometry of complete sample 1−9667

galaxies continued
flat disc passage through cD cluster, collisional effects on galaxies morphological evolution 1−54601
flat-gaseous systems, nonlinear stage of gravit. instability 1−44430
Fomax dwarf elliptical galaxy, C stars comps. rel. to nucleosynthesis in intermediate-mass stars 1−49608
formation, adiabatic model 1−54666
formation, adiabatic perturbations theory rel. to Universe large scale struct. 1−9755
formation, damping of relativistic shock waves in expanding Universe 1−13891
formation, implications of massive neutrinos 1−49865
formation, in intergalactic medium dominated by explosions 1−54619
formation, locally inhomogeneous solns. in Robertson-Walker background 1−49864
formation, primordial flat layer fragmentation and development of internal cluster struct. 1−13859
formation, whirl theory of origin of struct. in Universe 1−9756
formation and rotation of disc galaxies with haloes 1−4976
formation epoch, theoretical models 1−9681
formation in relation to cosmological microwave background 1−54667
in Fornax cluster, morphological types determ. 1−44649
Fornax dwarf spheroidal galaxy, IR spectroscopy of C stars 1−22792
G1, gravit. lens galaxy assoc. with double QSO 0957+561 A, B, coincident radio source obs. at 408 MHz 1−17905
galactic neighbourhood within 9.1 Mpc 1−9676
giant ellipticals, population synthesis, composite approach 1−4974
giant galaxies embedded in massive invisible coronae, missing mass problem soln. *(Italian)* 1−44640
globular cluster systems in galaxies, review 1−36361
gravitational lens effect with QSO 0957+561, intervening galaxy 1−54657
gravitational lens for QSO 0957+561 AB, evidence for intervening galaxy heavy halo 1−49789
gravitational lens image formation, Q0957+561 AB features caused by z=0.39 galaxy 1−22924
halo gas existence from interstellar Ca and Na lines obs. 1−49754
halo properties inferred from galaxy warp, theory 1−9671
halos, origin for cosmic rays 1−36118
halos formation, N-body simulation of galaxies slow tidal encounters 1−44628
high redshift galaxies, predicted colours and magnitudes 1−9669
HR diagrams, rel. to ages and stages of evolution 1−22901
Hubble law, statistical invalidation 1−49820
in Hydra I cluster, morphological types 1−44649
hypergalaxies 1−9675
IC 1613, recent evolutionary history, star formation pattern 1−32752
IC 342, detect. of CO J=2→1 line 1−9608
IC 4296, elliptical galaxy, spectroscopic obs. 1−27613
inner disk region, Poisson equation approx. analytical solns. 1−32760
inner rings, dimensionless systematics, use as distance indicators 1−54621
interacting galaxies, radial vels. determ. 1−32754
intergalactic medium interaction, theory of flow past massive object and gravit. drag 1−13864
interstellar gas stripping in galaxy clusters, role of Kelvin-Helmholtz instability 1−4985
intervening galaxy producing Ca II absorpt. lines in QSO 0446-208 spectrum 1−44668
irregular galaxies, gas density rel. to star form. rate 1−13858
isolated galaxies, radial vels. 1−22888
jets, propag. through inhomogeneous media, appl. to radiosources, galaxies and quasars 1−54624
jets, shape and stability, hydrodynamics 1−54625
large scale distribution of extragalactic objects, results obtained by method of statistical reduction 1−9693
late type, vel. fields from Hα Fabry-Perot interferometry 1−49526
lens galaxy to twin QSO 0957+561, intervening galaxy nature, visible obs. 1−49849
LGS 3, CCD obs. of total luminosity and star resolution, R photometry obs. 1−49795
Local Group galaxies, space motions rel. to Galaxy overall mass distrib. determ. 1−17896
luminosity functions of Coma cluster galaxies 1−49826
luminosity of Sc galaxies rel. to supernova frequency 1−9542
M100 (NGC 4321), radio emission obs. from SN 1979c 1−54527
M101, giant spiral, radial vel. struct. 1−36404
M101, spectra and luminosities of of A-type supergiants 1−22884
M31, M32, control region vel. dispersions from visible spectra obs. 1−49794
M31, mol. clouds as tracers of spiral arm struct., CO obs. 1−36402
M31, review of studies 1−54637
M31, search for globular clusters, BV obs. 1−17882
M31 (Andromeda Galaxy), globular clusters photoelectric UBV photometry *(Russian)* 1−4946
M31 (Andromeda Nebula), photometry of central region 1−44644
M33, distance and luminosity calibration for brightest supergiants 1−22883
M33, radio obs. of three supernova remnants 1−27593
M51, spiral galaxy, mag. field bisymmetric open spiral config. 1−27602
M81 spiral galaxy, mag. field bisymmetric open spiral config. 1−27602
M82, detect. of CO J=2→1 line 1−9608
M82, discovery of nearby cluster of quasi-stellar objects 1−49846
M82, medium resolution spectra from 16 to 30 microns 1−49810
M82, photographic UBV surface photometry and gross struct. of halo 1−49815
M82, structure of compact nuclear radio source 41.9+58 in irregular 1−22908
M83, M101, spiral galaxies, implications of surface brightnesses for dust/gas ratio in outer regions 1−44629
M83, stellar populations and associations, age and brightness determ., UBV obs. 1−54610
M83, struct. and comp. 1−4983
M87, origin of radio, optical emission-line, and X-ray struct. 1−40553
M87, X-ray meas. of mass of giant elliptical 1−22881
M 31, IR photometry of 40 globular clusters 1−22842
Maffei 1, identification of nearby nebulous blue object as galactic refl. nebula 1−27597
Magellanic Clouds, obs. of red stars in globular clusters 1−9493
Magellanic Clouds, spectral classification of C stars in globular clusters 1−9494
galaxies continued
Magellanic irregular galaxies, CO abundances and comparison with spiral galaxies 1−9614
Magellanic type galaxies, barred, star form. regions location 1−9655
Markarian 108, NGC 2805, 2814 , 2820, vel., H I and H II distrib. 1−9683
Markaryan galaxies with double nuclei, spectra and radial rels. *(Russian)* 1−4982
mass determination from velocity dispersion-radius anal., appl. to NGC 3379 1−36413
massive neutrinos and the large-scale structure of the Universe 1−27619
MCG 6-2-22a (Cartwheel), tidal remnant 1−9677
models, interactions between disc and halo star populations 1−9663
narrow-line X-ray galaxies, optical spectra 1−9648
nearby E and S0 galaxies, radio obs. at 408 MHz 1−36401
nearby galaxies, discovery during high-sensitivity survey of high vel. H I clouds 1−9619
nearby galaxies, search for H_2O maser emission 1−27582
nearby objects, large-scale asymmetries 1−4978
new optical and radio obs. 1−13856
NGC 1023, surface photometry from composite photographs *(Russian)* 1−13863
NGC 1109, elliptical, supernova identification 1−36312
NGC 1199, superimposed QSO, ejection from galaxy 1−27615
NGC 1255, supernova, discovery, light vars., spectrum and precursor mass 1−27546
NGC 1300, barred spiral, kinematics from emission line vel. field 1−49801
NGC 1313 and 6822, composition of H II regions in southern galaxies 1−4961
NGC 1316, type I SN spectrum and photometry 1−36313
NGC 1316 (Fornax A), spectrum and JHK magnitudes of Evans's supernova 1−54532
NGC 1316 (Fornax A), supernova discovery, approximate position and photographic magnitudes 1−27544
NGC 147, M31 companion galaxy, globular clusters photoelectric UBV photometry *(Russian)* 1−4946
NGC 1532, probable supernova discovery magnitudes and approximate position 1−44582
NGC 1532, supernova identification as type II object 1−54530
NGC 1532, supernova photometric obs., (1981 March 2 to 4) 1−49697
NGC 2377, spiral galaxy, high-resolution obs. of H I absorpt. of background radio source (3C 178) 1−9699
NGC 2403, H II region identification by multicolour photometry 1−27609
NGC 2403, spectra and luminosities of A-type supergiants 1−22884
NGC 2805, 2814, 2820, Markarian 108, vel. H I and H II distrib. 1−9683
NGC 2859 companion galaxies, nearby high-redshift objects discovery 1−9711
NGC 2903, brightening of optical hot spots in Sc galaxy 1−13857
NGC 2976, rotation and mass of peculiar edge-on spiral *(French)* 1−27606
NGC 3379, NGC 4472, elliptical galaxies, IUE obs. 1−54608
NGC 3379, photometric standard galaxy, shape parameters from isophotes 1−36386
NGC 4038/39, peculiar pair, superassociation multicolour photometry 1−27610
NGC 4111, 4762, lenticular galaxies, photometry and struct. 1−9668
NGC 4258 (M106), high resolution H I 21 cm obs. of possible barred spiral 1−13850
NGC 4314 and 4321, central region hot spots, UV and visible anal. 1−32757
NGC 4449, radio obs. of time variability and spectrum of luminous supernova remnant 1−54585
NGC 4472, giant elliptical galaxy corona, nature from UV spectra 1−40564
NGC 4472, NGC 5813, elliptical galaxies, spectroscopic obs. 1−27613
NGC 4490/4485, 3109 and 4618/4625 extended H I envelopes 1−27603
NGC 4536, spectroscopic obs. and mags. for type I supernova, 1981 March 1−49699
NGC 4536, supernova discovery and photographic magnitude, (1981 March 2) 1−49696
NGC 4536, supernova JHK photometry and visual magnitude estimate (1981 March 12 to 22) 1−54531
NGC 4536, supernova spectrum, photometry and precise position (1981 March 11 to 24) 1−54533
NGC 4565, edge on spiral, luminosity distrib., BV surface photometry 1−54631
NGC 4631 and 891, relativistic galactic cosmic ray electrons propag., convection effects 1−9334
NGC 5090, interacting galaxy, supernova discovery and photographic magnitude (1981 March 2) 1−49698
NGC 5128 (Centaurus A), H II regions spectroscopic obs. and radial vels. 1−36376
NGC 5194/s (MSI=VV 1), tidal interacting system 1−9677
NGC 5236(M83), SAB(s)c galaxy, mass-luminosity ratio anal. 1−22887
NGC 5548, Seyfert X-ray spectrum, Fe line emission and variability 1−4979
NGC 5929, emission line galaxy, preliminary spectrophotometric investigation of nucleus *(Russian)* 1−9672
NGC 628, luminosity function and Hα luminosity of H II regions 1−22854
NGC 6503, 6643, 7331, 7479, imaging photon counting system, visible obs. 1−13848
NGC 6822, recent evolutionary history, star formation pattern 1−32752
NGC 6946, IUE spectra and UBV photometry of supernova 1−13790
NGC 6946, spectral and UBV photometric evidence for type II supernova 1−17860
NGC 6946, spectrophotometry of supernova, (1980 October 31 to November 4) 1−13789
NGC 6946, supernova discovery and photovisual magnitude (1980 October 28) 1−9543
NGC 6946, supernova photographic magnitude, 1980 November 1, from Damon patrol plate 1−44581
NGC 6946, supernova precise position with UBV photometry (1980 November 4 to 12) 1−17861
NGC 6946, supernova radio detect. at 4885 MHz and precise radio position 1−32717
NGC 6946, supernova visual magnitude estimates (1980 November 18 and December 4) 1−27545

galaxies continued
NGC 7339 and 7537, binary galaxies, rot. and mass from visible spectra obs. *(Russian)* 1−22898
NGC 7448, supernova discovery, approximate position and 1−22826
NGC 7469, type I Seyfert, vel. field, visible spectra obs. 1−4973
NGC 7793, Sculptor group Sd spiral galaxy, surface photometry 1−9645
NGC 7793, spiral, vel. field, mass and H II regions catalogue 1−49535
NGC 972, NGC 4433, irregular M82 type galaxies, spectrophotometric investigation 1−27600
nuclei, adiabatic numerical models of star clusters with central black hole 1−49740
nuclei MHD disturbances, double radio source and galactic bubble form. 1−4981
number density, zodiacal light effect on magnitudes of faint galaxies 1−36215
number-magnitude count for galaxies at South Galactic Pole, obs. 1−17895
optical luminosities, contrib. to cosmic background radiation in optical range *(Polish)* 1−32776
origin, primordial globular cluster hypothesis for form. of first stars 1−17917
outer rings, UVB photoelectric meas. 1−22882
pairs, masses and radial vels. visible obs. *(Russian)* 1−54634
pairs, relative velocity, orbital mass-total luminosity ratio determ., visible obs. 1−49806
pairs of galaxies, new radial vels. 1−49817
parent galaxies of supernovae, radial vels. determ., optical and radio obs. *(French)* 1−40568
Perseus supercluster galaxies, redshifts and classifications rel. to supercluster struct. 1−54639
physical cosmology, proceedings of Les Houches summer school, session XXXII, Les Houches, France (1979 July 2 to 27) 1−27684
potential in central bar struct., calc. from stellar orbits 1−9646
primeval, search for high redshift objects in red light using CCD 1−32762
primordial galactic matter gravitational fragmentation 1−9594
protogalactic explosions and intracluster chemical enrichment 1−13865
protogalaxy formation within a world model, spherical condensations 1−44686
QSO relativistic ejection from galaxies, NGC 1199 case 1−27615
QSOs, UBV colours and spectral indices rel. to presence of extended nebulosities 1−22919
quasar-galaxy associations, model for QSOs anomalous redshifts 1−9710
quasars Lyman alpha absorbing clouds, possible nature 1−44662
radio galaxies, dynamical importance of mag. fields in beam models 1−4989
radio galaxies, optical identifications rel. to large scale distrib. 1−9703
radioastronomy, recent developments, review 1−27742
ram-pressure stripping of spiral galaxies in dense clusters, computer simulations 1−44627
redshifts, Hubble const. determ. *(Russian)* 1−13854
reference objects for stellar proper motions meas., Tautenburg programme *(German)* 1−22667
rotating, collisionless shock waves and star mean free paths 1−54622
rotation, role of gas-dynamic processes in protoclusters 1−22904
rotation providing energy for molecular clouds turbulent vel. field 1−49758
Sc galaxies, steep luminosity-vel. relation 1−49814
Sculptor system, dwarf elliptical, struct. from star count obs., isophote anal. 1−36387
Seyfert galaxies spectra, asymmetry of permitted line profiles *(Russian)* 1−9673
SIT and CCD surface photometry of brightest galaxy of Abell clusters 1−22879
small-scale clustering, rel. to cosmic microwave background large-scale fluctuations 1−54665
SMC, UBV photoelectric photometry for 105 stars 1−4912
smooth-arm spirals, H I 21 cm obs. 1−22891
space distribution of galaxies within 80 Mpc, north galactic density anomaly 1−44622
spatial distribution, obs. rel. to galaxy superclusters struct. and formation 1−13867
spectral classification, using low dispersion objective prism spectra from UK 1.2 m Schmidt telescope 1−49532
spherical, mass distrib. and form. model 1−9657
spiral density wave, modulation instability anal. 1−49807
spiral density waves in flat galaxies, nonlinear interaction 1−44646
spiral galaxies, differential UBV photometry in central regions 1−36389
spiral galaxies, dust-to-gas ratio in outer regions 1−44629
spiral galaxies, early-type, photometric props., fully corrected colours and standard magnitudes 1−9652
spiral galaxies, props. of spiral arm spurs 1−40554
spiral galaxies, role of interstellar gas *(Chinese)* 1−40565
spiral galaxies, role of slowly growing elliptical galaxy in density wave generation 1−36392
spiral galaxies surface photometry, theoretical colour var. and surface brightness across spiral arms 1−54606
spiral galaxy, form. by accretion of intracluster material onto elliptical system 1−36409
spiral galaxy gravitational field, dispersion of a group of OB stars *(German)* 1−32730
spiral shocks, vertical struct., thermal phase effects and self-gravity 1−9647
spiral structure, 3-D density wave theory, local soln. and stability *(Chinese)* 1−32755
spirals, arm form. mechanism combining galaxy rot. and star form. processes 1−36412
spirals, bright early-type, colour absolute magnitude relation 1−9653
spirals, H I distrib. survey, UHF obs. 1−9654
spirals, mass-angular momentum density relation 1−4977
spirals, nearby, 2.8 cm radio continuum distrib., SHF obs. 1−49808
spirals, radio continuum props. comparison with optical props. 1−36403
star formation density in Universe, rel. to cosmic gas density evolution 1−44678
stellar orbits near 2/3 resonance, theory 1−27565
supernovae in external galaxies, rel. to birthrate of galactic supernovae 1−54526
three-dimensional distribution, evidence for Universe cell struct. 1−9694
three-dimensional models, Poisson eqn. soln. *(Japanese)* 1−13862
travelling density waves in thin layer galaxy model 1−36400

galaxies continued
triaxial stellar system in dynamical equilib., star orbits and distrib. function 1−40534
UV excess objects, third Kazaryan list 1−36394
variable masses, dynamics 1−55
velocity dispersion profiles, de Vaucouleurs and King model comparisons 1−36413
Virgo Cluster direction, deep BV photometric anal. of background field 1−40559
VV 565 (NGC 1741), emission line galaxy, spectroscopic obs. with Digicon system of Cima Ekar Observatory 1−22687
winds, star formation rel. to giant shells around normal elliptical galaxies 1−9670
in X-ray clusters of galaxies, radio and IR spectra prediction 1−36405
I Zw 1, compact galaxy, periodic components in light variations *(Russian)* 1−54638
H I 21 cm line as an extragalactic distance indicator 1−49528
H I regions in invisible galaxies, SHF obs. 1−49813
H II regions in late-type galaxies, radio obs. of thermal emission and star form. 1−22863
H II regions in nearby galaxies, visual interstellar extinction meas. 1−4950
H_2O maser sources, catalogue 1−9388
M33, survey of H_2O maser emission in H II regions 1−27582

gallium
see also nuclei with .....
adsorbed on GaAs (110), bonding and adatom-adatom interaction 1−16172
adsorbed on Mo, W, field evaporation, binding states 1−30570
amorphous, electron-phonon coupling const., free-electron theory 1−30735
amorphous, electron-phonon coupling constant, Eliashberg function 1−34444
amorphous and recrystallised films, sound vel., shear stiffness breakdown 1−7278
amorphous film, Hall effect and elec. resist., temp. depend. *(Russian)* 1−12097
atom, two-photon transitions, direct and hybrid 1−6223
atom seed in flame, rate eqn. soln. for three-level system temporal behaviour 1−10688
chemisorbed on diamond (111), surface electronic struct. 1−12166
chemisorption on GaAs (110) surface, calc. 1−16171
diffusion in CdS, conc. and orientation depend. 1−20465
electrical conductivity, steady-state, vol. nonlinear effect *(Russian)* 1−20697
electrodes, photocurrents in NO_3 solns. 1−43689
electron mean free path, energy depend., ESCA obs. 1−20293
EXAFS, on liq. and solid, temp. and anisotropy effects 1−31231
isoelectronic series, sp^2 config., photoabsorption, HF calcs. 1−28904
liq., struct. and elec. resist., 303-573K 1−30031
liquid, double hard sphere model 1−30040
liquid, quadrupolar relaxation rate, temp. depend. 1−25133
liquid, resistivity between 303K and 573K, struct. factor meas. 1−30039
liquid, struct. and thermodynamic props. from pair pot. 1−25150
liquid, struct. props. determ. by diffr. of various radiations at temp. between 163K and 1303K *(French)* 1−46985
liquid, structure factors and pair correlation functions 1−30047
liquid, transport coeff. calc. from effective interatomic pot. 1−30692
liquid and noncrystalline solid, structure factors, X-ray diffraction study 1−30034
liquid and solid, electron momentum distrib. determ. by Compton scatt. 1−48192
solid solubility in pulsed laser-annealed Si 1−11865
a-As_2Se_3:Ga film, time resolved dark injection 1−20886
CaO:Ga, photolum. and cathodolum. decay obs. *(Russian)* 1−16612
$CdCr_2Se_4$:Ga, mag. domain. struct. and hysteresis, photoinduced changes meas. 1−52799
CdI_2:Ga, optical props., absorpt. and emission bands *(Russian)* 1−43148
CdS:Ga, highly doped, optical props. and high excitation phenomena 1−52591
Cu-Ti alloy, influence of alloying with Ga on precipitation 1−43347
Ga liquid struct., temp. depend. 1−38257
Ga, resistivity, thermal cond. and ultrasound vel. in temp. range 300 to 1000K 1−52541
Ga V, in Cu III to Ge VI isoelectronic series, electric dipole transitions 1−19059
Ga-Mo interface, field ion microscopy, struct. of Ga, field emission current *(Japanese)* 1−31319
Ga-Mo interface, field ion microscopy, temp. depend. of evaporation field *(Japanese)* 1−31320
Ga-W interface, field ion microscopy, struct. of Ga, field emission current *(Japanese)* 1−31319
Ga-W interface, field ion microscopy, temp. depend. of evaporation field *(Japanese)* 1−31320
Ga+F_2 reactions, chemiluminesc., beam-gas study 1−48667
GaAs:Ga, Ge, dual implantation, Hall mobility and elec. resist. 1−38394
GaI, hyperfine struct. and isotope shifts 1−45871
Ge:(B,Ga), lattice deformation 1−30256
Ge:Ga, lightly doped, US hole-burning of acceptors 1−15964
p-Ge:Ga, resonant recombination of photo-excited light holes *(Russian)* 1−34750
KBr:Ga^+, trap depth, Jahn-Teller coupling constants 1−12076
KCl:Ga^+, optical absorpt., mag. circular dichroism, A and B bands 1−21222
KI:Ga^+, Jahn-Teller coupling in ^1T_u excited level of Ga^+, emission bands obs. 1−35091
KI:Ga^+, trap depth, Jahn-Teller coupling constants 1−12076
MgO:Ga, photolum. and cathodolum. decay obs. *(Russian)* 1−16612
$Pb_{0.78}Sn_{0.22}Te$:Ga, photoconductivity with relaxation times, temp. depend. 1−3022
Si:Ga, acceptor bound excitons in mag. and uniaxial stress fields 1−47484
Si:Ga, diffusion, solid solubility, neutron activation anal. and SIMS meas. 1−38594
Si:Ga, electromigration of liq. inclusions 1−42577
Si:Ga,B, joint implantation, surface resistance 1−30255

gallium alloys
see also gallium compounds
rare earth-$(Al,Ga)_2$, alloys, unit cell consts. and comp. ranges 1−25201
rare earth-$(Cu,Ga)_2$ alloys, unit cell consts. and comp. ranges 1−25201
Ag-Ga (3.55%), Fourier X-ray line shape analysis of lattice defects from a single reflection 1−42372

gallium alloys continued
Al-Cu-Ga system, phase diagram *(Chinese)* 1−48323
Al-Ti-Ga alloys, superplastic behaviour after grain boundary enrichment with Ga 1−16857
$AuGa_2$, intermetallics, valence band struct., plasmon energies 1−25624
Bi-Ga, preparation in quasi-weightless conditions *(Russian)* 1−16712
Bi-Ga-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
Bi-Ga-Zn, partial free energy, liquidus surface, enthalpies of form. 1−53456
Ce-Ga system, Ga rich, phases, structs., solid solubility determ. 1−21424
CoGa, dilatometric study of vacancy mobility 1−52133
CoGa, ordered, self-diffusion coeffs. and mechanisms, triple defect concept 1−38578
$Co_{100-x}Ga_x$, thermal and constitutional vacancies 1−25258
$Co_2Ga_{2-x}Fe_x$, vacancies and site occupation, Mossbauer, X-ray diffr., and density meas. 1−7984
$Co_{2-x}Ge_{1-y}Ga_y$, β and η phase, struct. study *(French)* 1−30137
$Cu\text{-}V_3Ga$ superconducting multifilamentary composites, coupling mechanisms, stress effects and flux pinning, review 1−47825
$DyGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
$ErAl_xGa_{2-x}$, lattice consts. and phases, X-ray diffr. and microprobe anal. 1−20128
$ErGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
$ErTi_2Ga_4$, crystal structure by X-ray diffraction *(Ukrainian)* 1−20117
EuGa garnet film, domain wall velocity 1−12372
Fe-Ga, dil., nuclear spin-lattice relaxation time 1−34953
Fe-Ga alloy, struct. facets in order-disorder transform. *(Russian)* 1−38319
$Fe_{2-x}Ge_{1-y}Ga_y$, β and η phase, struct. study *(French)* 1−30137
Ga-Cd, struct., X-ray high angle scatt. and ultrasonic vel. and absorpt. meas. 1−7073
Ga-Cd, struct., X-ray small-angle scatt., critical points 1−7074
Ga-Ge-Sn liquid alloys, liquidus surface phase diagrams and enthalpy of formation 1−21761
Ga-Te liquid alloy, reflectivity meas. using FIR laser 1−5362
Ga-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
$Ga_{1-x}Al_xSb$:Te, LPE on p-GaSb substrates 1−35193
Gd-Ga system, Ga rich, phase diagram determ. 1−53156
$HoGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
In-Ga eutectic electrodes, photocurrents in NO_3 solns. 1−43689
La-Ga, amorphous, negative temp. coeff. of elec. resist. 1−7579
$La_3Ga_2Ni_4$, cryst. struct. 1−30140
$LaNi_{4.6}Ga_{0.4}H_x$, H_2 dissoc. press., effect of Ga 1−31855
$LuGa_2$, cryst. struct. by X-ray methods *(Ukrainian)* 1−20116
Mg-Ga, hydrogenation reaction rate 1−21714
Mg-Ga metallic glass, formation and decomp., thermodynamic investigations 1−43319
$(Mo,W)_3Ga$, obtained by high press. treatment cryst. struct. and supercond. temp. 1−38330
Mo-Ga, crystallisation under high press. and temp. 1−34463
Na-Ga, liquid, two-phase region, press. variation 1−30376
Na_xGa_{1-x} liquid mixtures, conc. fluctuation depend. on press. 1−20403
Nb-Ga-Cu, metallographic struct. and supercond. transition temp. *(German)* 1−34821
Nb-Ga-Mn system, phase equilib. at 900°C, X-ray diffr. and electron microprobe study 1−31423
Nb-Hf/Cu-Sn-Ga, flux pinning, strain scaling law 1−52726
Nb-Hf/Cu-Sn-Ga composite-processed high-field superconductors, stress and diffusion effects 1−52724
Nb_3Ga, A15 struct., press. effects on phase limits 1−34475
Nb_3Ga, nucl. relax., ^{93}Nb NQR study, rel. to supercond. transition temp. 1−26075
$Nb_{80}Ga_{20-x}Co_x$, superconducting props., effect of Co impurities 1−38893
Nb_3SnGa filamentary cond., crit. temp., synergism between strain and neutron irrad. 1−16392
Nd-Ga system, Ga rich, phases, structs., solid solubility determ. 1−21424
$NdAl_xGa_{2-x}$, $0 \leq x \leq 2$, lattice consts. and phases, X-ray diffr. and microprobe anal. 1−20128
Ni-Ga cast microconductors, elec. props. 1−47608
$Ni_{13}Ga_3Ge_6$, crystal struct. 1−38334
$PtGa_2$, intermetallics, valence band struct., plasmon energies 1−25624
Pu(-Ga), elastic constants, noncontact meas. at elevated temps. 1−53223
Sc-Ga, crystallisation under high press. and temp. 1−34463
$ScGa_2$, cryst. struct. by X-ray methods *(Ukrainian)* 1−20116
SmGa garnet film, domain wall velocity 1−12372
$Sm_{26}(Ga_{0.35}Co_{0.65})_{17}$, X-ray cryst. struct. determ. 1−2396
SmTbGa garnet film, domain wall velocity 1−12372
Ta-Ga, crystallisation under high press. and temp. 1−34463
$TbGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
$TmGa_2$, cryst. struct. by X-ray methods *(Ukrainian)* 1−20116
$TmGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
UGa_2 single crystal, anisotropy of power spectrum of Barkhausen noise 1−47903
V-Ga, A15 phase prep. by direct precipitation, microstruct. and supercond. props. 1−47832
V-Ga-Cu, metallographic struct. and supercond. transition temp. *(German)* 1−34821
V_3Ga, flux pinning, strain scaling law 1−52726
V_3Ga microcomposite wires, powder metallurgical prep. and supercond. props. 1−48296
V_3Ga multifilamentary superconductors, fabrication techniques and props. 1−52731
V_3Ga multifilamentary wire, metallurgical processing and props. 1−53129
W-Ga, crystn. at high press., cryst. struct. of intermediate phases 1−38330

gallium arsenide
(100) surface substrate for $GaAs_{1-x}Sb_x$, photodiodes, performance depend. on mismatch 1−16343
(110), clean and oxidised, surface band bending, Raman spectra 1−38829
(100) MBE surface props., H_2S adsorption effects 1−16175
(110) surface anion vacancies, bound-state energy level calc. 1−16332
activation analysis with low energy charged particles 1−31937

gallium arsenide continued
adsorption of Al on (110) surface, angle-resolved photoemission study 1−39222
adsorption of CO, CO_2, interaction mechanisms, surface atomic structs., meas. 1−25578
amorphous film, EXAFS study of disorder effects 1−35118
amorphous film/crystal sputtered junctions for electroluminescent diodes 1−16608
anodic oxide films, 1.5 to 6 eV cathodoluminescence obs. 1−16611
anodic oxide interface formation obs. 1−16372
anodised MOS capacitor, effect of CW laser irradiation on interface props. 1−25805
antireflection coatings vac. deposited on GaAs items 1−37570
Auger recombination, impurity assisted 1−47676
Auger recombination at B centre 1−35133
band gap, average, microscopic theory 1−7516
bistable optical device on monolithic GaAs chip 1−37630
Bloch electrons in external fields, study by evolution operator 1−12078
bonding and adatom-adatom interaction of column III and V elements 1−16172
breakdown voltage orientation depend. 1−7718
carrier mobility limited by ionised impurity scatt. with nonlinear screening, calc. 1−47637
carrier trapping, shallow level struct. evidence, TSC meas. 1−7636
chemical analysis using no-standards quantitative EDS method *(Chinese)* 1−53497
chemisorption of Al and Ga 1−16171
chemisorption of Al on (110) surface, adsorption mechanisms and bond calcs. *(Chinese)* 1−47364
chemisorption of Cl on (110) surface, two-dimens. band struct., angle-resolved photoemission spectra study 1−38828
cleared surface, (110), charge transfer to chemisorbed O_2 1−16174
conductance oscillations in two-dimens. transport in impurity band 1−7631
conference, Wurzburg, West Germany (Oct. 1979) 1−44702
crystal growth, modified Bridgman and synthesis solution diffusion methods 1−8210
crystal growth mechanism and kinetics in gas phase epitaxy 1−26375
crystals, resonance-enhanced transient reflectivity via exciton polaritons 1−48111
CVD, rate processes, book contrib. 1−39248
deep centres studied by capacitance spectros., review 1−25661
deep defects, optical and ESR spectroscopy, review 1−30676
deep level optical spectroscopy 1−47543
deep levels, anal. of thermal and optical transients 1−12059
deep levels, EL2 and EL3, uniaxial stress dependence 1−2918
deep levels, optical cross sections, calc. 1−47542
deep luminescence centres, recomb. props. and vibr. spectra, plastic deform. effect 1−21271
deep-level transients, electric field effect 1−7550
degenerate, emission near absorpt. edge 1−21259
degenerate n-type, quantum efficiency and radiative lifetime 1−43158
degradation and luminesc., effect of intrinsic defects 1−21252
diamond-machined IR window, optical and surface physical characteristics 1−29359
dielectric function theory, gain spectra 1−16246
dielectric functions, integral, resolution into component parts 1−31115
diffusion of Se, electron-pulsed, form. of n^+ regions 1−7187
direct anodisation at extemely low substrate temp. by O plasma *(Japanese)* 1−31702
dislocation glide enhancement by electron beam irrad. 1−52141
doped, quantitative anal. by quadrupole SIMS 1−31951
doped, VPE invest. *(Chinese)* 1−53096
doping by ion implantation, review 1−25313
electroabsorption at high illumination intensities 1−43098
electroluminescent structs., DH and variable gap, nonradiative current component increase due to defect form. 1−19343
electron capture at B centre, multiphonon process, calc. 1−16298
electron capture at B-centre, radiative mechanism contribution 1−16299
electron irradiation induced defects, annealing study 1−2426
electron mobilities from linearised Poisson eqn. for impurity-ion pot. 1−2964
electron transport props. at high elec. field 1−7629
electronic charge densities, pseudopot. method 1−47465
electronic states associated with 3d transition metal impurities 1−25657
epitaxial, oblique sections with specified taper by chem. etching 1−16917
epitaxial (111) B films, adsorption of Cs and Cs+O, ellipsometric obs., photocathode sensitivity 1−30547
epitaxial film, on reusable substrate, production technique 1−8229
epitaxial film, surface elec. and struct. props., vacuum heating effect 1−47768
epitaxial film growth by RF sputter deposition 1−31343
epitaxial films, galvanomag. props., low-resist. inclusion effects 1−25814
epitaxial growth by CVD, carrier conc. and Hall mobility meas. *(Japanese)* 1−43270
epitaxial growth during forced cooling of soln. in melt, mass and heat transfer influence 1−43280
epitaxial layer, growth, mech. in hydride method with trimethylgallium 1−38315
epitaxial layer, high-purity, prep. and elec. characts. 1−43274
epitaxial layer, phonon optics, carrier relaxation and recombination 1−16390
epitaxial layer, struct. defects rel. to Schottky diode reverse current excess component 1−20588
epitaxial layers, dopant conc. profile automatic determ., photoelec. props. meas. of Schottky contact 1−7481
epitaxial layers, elastobirefringence study of dislocations and strain fields 1−3361
epitaxial layers, electron velocity in high elec. fields 1−34714
epitaxial layers, LPE growth by Fe- and Cr-doping 1−39256
epitaxial layers, physico-chemical origin of majority and minority carrier traps, Schottky barrier capacitance techniques 1−30763
epitaxial layers and bulk crysts., etching rate of $NH_4OH\text{-}H_2O_2$ etch 1−21608
epitaxial layers for photoelastic optical directional couplers 1−51639
etching, local, in Br_2-dimethylformamide soln. 1−39484
F 1−52559
film, amorphous, MBE prep., elec. and optical props. 1−25585
film, electron diffusion length, dislocation and ionised impurity effects 1−30855
film, submicron growth defect form. in CVD 1−20591

gallium arsenide continued
free carrier concentration, four-wave polarisation CARS study 1−46440
free carrier dispersive dielectric function 1−47517
GaAs: Si(Ge)(Sn)(Se)(Te), liq. encapsulation Czochralski growth rel. to other techniques, elec. props. 1−3608
GaAs:Cr, phonon scatt. by Cr ions 1−15997
GaAs:Si+Sn(Ge)(Se), amphoteric dopants site distrib. and solubility 1−2491
n-$GaAs_{1-x}P_x$, Schottky-barrier photodiodes with energy gap gradient, spectral characteristics, photocurrent 1−3011
GaAs-GaAlAs non-self-pulsing and weakly self-pulsing injection lasers, nonliner current modulation distortions 1−6589
GaInAs lattice matched to InP, high-speed photoconductive detectors to 1.6 μm 1−45016
grain boundaries, band bending and passivation studies 1−34650
Gunn instability, voltage fluctuation calcs. 1−47661
Hall probes, preparation technology, application to high magnetic fields measurement at high temps. 1−50174
heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
heavily doped, negative magnetoresist. 1−47681
heavily doped, photoluminesc., hydrostatic press. depend. 1−48134
heavily doped epitaxial layers, pulse electron beam annealing effects 1−15928
high pressure metallic phase, EXAFS and K-absorpt. edge spectrum 1−35121
high-field transport, Monte Carlo method and pseudopot. band struct. 1−47659
highly excited, exciton electron-hole plasma system, optical studies 1−52592
homojunction laser, uniaxial press. influence on long delay critical temp. 1−6556
hot carrier relax. rates, time resolved reflectivity spectra *(Portuguese)* 1−7628
hot electron anal. from electron distrib. function 1−47663
hot electron transport, electron-electron interaction, screening effect 1−2971
hot electrons, transient and high frequency response in high fields, Monte Carlo calc. 1−38785
hot photoelectron energy relaxation in surface region 1−52606
hot photoluminescence spectrum and polarisation 1−48147
hybrid solar cell systems conversion efficiency and costs 1−21879
III-V semiconductors, electronic struct. using simple orbitals 1−20629
impact ionisation of free exciton 1−16290
impurity analysis by SIMS 1−20254
impurity photoconductivity peak chemical shift 1−20819
InGaAsP-InP heterojunction laser with corrugated waveguide laser 1−51484
interface with metal, far-IR radiation generation by difference-freq. mixing of surface waves *(Chinese)* 1−46442
inversion layers, subband struct., electron-phonon interaction effect 1−12177
ion implantation and IC fabrication applic., review *(Japanese)* 1−25312
ion implantation review, book contrib. 1−47107
ion implanted, carrier removal and charge compensation, annealing effects 1−12125
ion implanted, recrystn. induced by laser annealing, Raman spectra study 1−52072
ion-beam etching 1−3947
ion-implanted, struct. and elec. profile meas. 1−11779
L-band cryogenically cooled FET amplifier, used for radio astronomy 1−36182
large wavevector acoustic phonon propagation 1−47184
laser, cleaved-substrate DH regenerative amplifier, amplification meas. 1−1566
laser, optically pumped, with ultrashort cavity, picosecond pulses 1−51529
laser array and fibre-optic detector array for disc appl. 1−46371
laser coupling into spherical-ended fibres for optimum power coupling 1−51623
laser induced damage, optical heating 1−15925
laser technology, review *(Japanese)* 1−6559
liquid junction solar cells, suppression of electrode photocorrosion by sulphonated anthraquinones 1−32019
low-temperature contacts using welded Au microwire 1−47744
LPE growth, book contrib. 1−48285
LPE layers, residual impurities, photoluminesc. and IR photocond. meas. 1−2474
luminescence of high density electron-hole plasma 1−8117
MBE, book contrib. 1−48266
MBE films, origin and elimination of macroscopic defects 1−34592
MBE heat-cleaned surface, nearly ideal Al contacts, Schottky barrier props. 1−47733
MBE layers, {100} surface crystallography, electronic props., and chem. reactivity, stoichiometry effects 1−7439
MBE of III-V compounds, review 1−21354
MBE with gas source for AS 1−35179
melt growth techniques, review 1−43257
MESFET, determ. of shallow defect levels using TSC in implant-layer/substrate junctions 1−30818
MESFET, for high gain optical detection 1−45003
metallisation, thermal stability of metallic layer 1−16209
MIS structure, electrical anal. 1−42863
model TC-8101 magnetometers for high mag. fields 1−33011
monolithic optical bistable devices, integration of directional coupler switch with output channel detector on single chip 1−11185
MOS interface states and bulk energy levels, transient capacitance spectra 1−16377
MOS polycrystalline solar cells with grain boundary passivative using oxidising etch technique 1−48847
MOS Schottky-barrier solar cells, morphology, fabrication and efficiency improvement methods 1−26837
MOS structure, internal photoemission 1−47748
MOS system, interface states density and dynamic props., photocapacitance and deep level transient spectra 1−12209
n-i-p-i type periodic doping struct., MBE study 1−2849
$n-n^+$ layer-substrate interface, LPE, high resist. layer removal by in situ etch-back 1−43554
n-type, carrier reduction by Cr ion implantation 1−47103
n-type, current instability and microwave transmission oscillations, transverse mag. field 1−20891
n-type, current noise due to impact ionization of shallow neutral donors 1−20752
n-type, cyclotron-resonance-induced cond., carrier mobility and relax. time 1−3263
n-type, electrolyte electroreflectance spectra and space-charge region obs. 1−16359
n-type, hot electron phenomena, population inversion, calc. for polar optical phonon scatt. 1−30755
n-type, photoanode, protection with photoelectrochem. generated polypyrrole film 1−21735
n-type, polycrystalline layers evaluation for solar cells using electrochemical technique 1−26833
n-type, Schottky barrier, proton bombarded, anal. of defect states by transient capacitance methods 1−30671
n-type, stimulated Brillouin scatt. of laser radiation 1−46454
n-type, surface irregularities induced by anodic oxidation 1−16919
native oxide interface chemical depth profiling 1−16378
neutral-vacancy levels, ideal, hydrostatic press. depend. 1−12065
nonequilibrium, coupled electron-hole plasma-phonon system, time evolution calc. 1−34733
nonradiative states, photoacoustic spectroscopy 1−21261
ohmic contacts formation, elec. modelling 1−34792
optical activity, self-induced, obs. in GaAs crystals 1−19392
optical activity induced by plastic deform. 1−12473
optical communication systems *(Czech)* 1−11053
optical cross sections associated with deep levels 1−21257
optical detection of cyclotron reson. via band-gap luminesc. 1−31030
optical reflectance as simple nondestructive method for surface damage detect. 1−48589
oxidation and equilibrium Ga-As-O condensed phase diagram 1−16762
oxide film growth by anodization in O plasma, appl. to fabrication of devices and ICs 1−12915
oxide film growth by plasma anodisation 1−16924
oxide layer chemical reactions 1−16373
oxide layers, surface and interface roughness and morphology determ. 1−30532
$p^+-n_0-n^+$ structure, VPE fabrication, injected carrier distrib., photoluminesc. spectra obs. 1−34786
p-n junction, avalanche and field emission breakdown, SHG 1−3049
p-type, Au/Zn/Au multilayer ohmic contacts 1−3062
p-type, carrier drag by photons, spectral charact. meas., scatt. mechanisms 1−30781
p-type, circular polarisation of luminesc. in mag. field, Mott transition effects 1−52923
p-type, influence of screening on deform. pot. and piezoelec. scatt. 1−34709
p-type, semiconductor electrode in photoelectrochem. in aq. soln. 1−7728
p-type fine grained powder, compacted, piezoelec. effect 1−21129
parametric interactions under high-power EM radiation fields, instability anal. 1−1642
peeled-film solar cells 1−48842
phonon magnification for infinites 1−15980
phonon pulse propag., spatial and temporal charact. 1−15989
phonon source near 10 Å, intense tunable, vel. bunching of near-zone-edge phonons 1−42489
photoacoustic spectra in strong absorption region 1−47174
photocathode, electron spin polarisation meas. 1−48223
photocurrent noise observed by resonant photoexcitation 1−52602
photoelectron diffr. effects., XPS angular distribs. 1−53050
photoexcited carriers, distrib. functions, instabilities, theory 1−20825
photoluminescence of transition metal II and III series impurity ions, internal radiative transitions 1−48138
photoluminescence spectra, complexes due to donor-acceptor type transitions 1−8113
photovoltaic cells, efficiency and multiple cells structure *(Italian)* 1−35650
picosecond nonequilibrium carrier transport 1−47638
plasmon magnification and Gaussian curvature of slowness surface, detector shape effects 1−25389
plates, optical orientation *(Czech)* 1−11714
point defects in doped single crystals of A^3B^5 compounds, review 1−25264
polycrystal Schottky barriers, grain boundary effects 1−16365
positron annihilation, search for free arthopositronium atoms *(Russian)* 1−3532
preparation book contrib. 1−39241
radiation defects, effect on properties, review 1−25319
radiative recombination rate coeff., excitation level depend. *(Japanese)* 1−39132
Raman scattering, reson. forbidden, theory 1−31137
reactive ion etching in $CCl_2F_2/Ar/O_2$ 1−43546
refractive index depend. on free carriers 1−3347
resonant electronic Raman scatt. 1−35034
Schottky barriers with metal or electrolyte contacts under forward bias, capacitance-voltage behaviour 1−7732
Schottky gate FET, cond. oscillations in two-dimens. impurity bands 1−47745
Schottky gate FET, noise spectrum described by time const. distrib. 1−7681
selective etching, GaAs with $Ga_{1-x}Al_xAs$ epitaxial layers, window prep. 1−43555
semi-insulating, characterisation using galvanomagnetic meas. *(Slovak)* 1−20767
semi-insulating substrates, characterization, key parameters, deep acceptor/donor level, accurate values 1−38742
semiconductor characterisation by SIMS 1−31955
semiconductor detectors of nuclear radiation 1−1029
semiinsulating, single cryst., prod. by three temp. boat method *(Japanese)* 1−48251
SHG in in-plane waveguide, enhancement with deposited amorphous Si film 1−19387
solar cell arrays, 300-1000 kW, cost-effective design and performance for Low Earth Orbit application 1−53624
solar cells, development for space appls. 1−39793
solar cells, grain boundary and interface investigations using AES and complementary surface anal. techniques 1−21884
solar cells, MOS, effect of anodic-oxide layer thickness on performance 1−32014
solar cells, thin film polycrystalline semicond. p-n junction, efficiency calc. 1−13118

gallium arsenide continued
solubility and diffusion coeff. in Pb, appl. to LPE growth of Ge on GaAs 1−11864
sputtered neutral mass spectrometry using microwave plasma 1−28123
strain-electrical phenomena in degenerate p-n junctions and Schottky barrier diodes 1−25798
stress birefringence dispersion, temp. depend. 1−21166
structural evaluation by chem. etching, dopant effects 1−11754
substrate, InAs heteroepitaxial layer deposition using MBE, elec. and struct. props. 1−3081
substrate, InAs MBE film, cross-sectional TEM study, dislocation props. 1−11987
substrate, semi-insulated, highly compensated, characteris. and effects on device performance 1−34646
substrate, thermally annealed anodic films, oxide-substrate and oxide-oxide reactions 1−35570
substrate, $ZnSe_{1-y}S_y$ epitaxial layers, $ZnS/ZnSe_{1-y}S_y$ multilayers, VPE, lattice matching 1−12667
substrate for $Ga_{1-x}Al_xAs$ epitaxial layers, elastobirefringence study of dislocations 1−3362
surface, (001), As-stable, MBE prepared, angle resolved photoemission 1−35142
surface, (110), clean and oxidized, band bending, Raman, LEED and Auger study 1−52624
surface, (110), electron states, defects and chemisorbed Al, cluster calc. 1−52623
surface, (110), electron states, optical detection at energies above gap, H_2 and O_2 exposure effects 1−52626
surface, (110), surface atomic geometry, LEED obs. 1−20521
surface, C free, prep., AES and RHEED study 1−48539
surface (100), Al reactions 1−42651
surface (100), vacancy electronic struct., scatt. theoretic method 1−7697
surface (110), cond. band surface plasmons in EELS 1−48202
surface (110), defect gap states 1−7696
surface (110), elastic LEED intensity profiles, energy-dependent exchange pots. 1−7052
surface (110), electron affinity and ionisation energy, temp. depend. 1−38838
surface (110), optical detection of surface states, fractional change of external refl. 1−8096
surface (110), relaxed, electronic struct., nonlocal pseudopot. calc. 1−3035
surface and cryst. physics studied by MBE 1−2848
surface charging during adsorpt. of various molecules 1−7454
surface cleaning in vacuo by high power laser pulses 1−21603
surface exciton interactions 1−2877
surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
surfaces, structure, electron states and electrophysical properties, review 1−25789
switch, picosecond, for active mode-locking of coumarin dye lasers 1−15199
thermal oxidation of GaO_xN_y covered surface, Auger-sputtering study 1−21612
thermally annealed plasma-oxidized films, interfacial reactions, thermodynamically driven 1−21765
thin epitaxial structures, meas. of doping profiles 1−20252
thin film optical waveguide, fabrication of chirped gratings 1−15256
thin film solar cells with grain boundary edge stabilisation, thermal anodisation 1−48835
thin films, plasma-assisted deposition for solar cell appls. 1−8238
thin films, polycrystalline, high-resolution optical methods for characterisation 1−25812
thin layer epitaxial deposition ~1 μm thick on various substrates, techniques *(Italian)* 1−53088
three-valley model, microwave noise, coupling const. between Γ and L valleys 1−30796
time resolved phonon spectroscopy with picosecond time resolution 1−45036
TSC spectra, differential anal., recomb. mechanism 1−12122
two-dimensional electron gas, lattice scatt. mobility 1−25723
two-dimensional impurity band, electron state quantisation at low carrier conc. 1−30659
two-dimensional plasma, charge carrier excitations, reson. inelastic light scatt. 1−12517
unrelaxed (110) surface Ga core exciton effects 1−16330
wafer, ion-implanted, semi-sealing capless anneal 1−21490
X-ray band charge model for reevaluation of quasiforbidden reflections 1−42336
(Al,Ga)As DH injection lasers with Ga(As,Sb) active layer LPE growth, 0.87 μm, reliability 1−37507
(Al,Ga)As DH laser, accelerated facet erosion form. and degradation 1−15170
(Al,Ga)As system, diode and laser structs., p-n junctions grown by LPE, interfacial layer form due to S compensation 1−38841
Al-GaAs (110) interfacial layers, photovoltage saturation and recomb. 1−38814
AlAs/GaAs superlattice electronic state localisation and complex bulk band structures 1−16351
AlGaAs buried heterostructure lasers on Cr-doped semi-insulating substrates 1−41718
AlGaAs constricted DH diode lasers, low-threshold, high-T_0 1−24419
AlGaAs DH injection laser, single-growth embedded epitaxy, low threshold currents 1−37503
AlGaAs DH laser, direct modulation anal. with inhomogeneous-gain-broadening consideration 1−33692
AlGaAs DH laser, feedback stabilised, freq. stability meas. 1−46363
AlGaAs DH laser, injection locking characts. 1−11031
AlGaAs DH laser, single longitudinal mode, linewidth meas. using Fabry-Perot interferometer 1−46352
AlGaAs DH lasers, LPE growth, low CW threshold current structs. 1−41748
(AlGa)As DH lasers, stripe geometry, MBE growth, source appls. in optical communication systems 1−41747
AlGaAs DH lateral field coupling control laser, active Q-switching 1−6573
AlGaAs Fabry-Perot cavity type laser amplifier, signal gain, saturation power and noise bandwidth 1−15171
AlGaAs heterojunction laser coherent emission, waveguide layer with continuous refractive index variation 1−33690
AlGaAs heterostructure injection laser SCR 1−1582
AlGaAs heterostructure LPE on profiled substrate 1−21371
AlGaAs laser, carrier density depend. of refr. index 1−11003
AlGaAs laser amplifiers, noise characts. 1−33682
AlGaAs laser diode, hermetically encapsulated 1−37506
AlGaAs laser diodes, single mode, structure and communication appls. 1−41733
AlGaAs proton-delineated stripe laser, self-induced intensity modulation, statistics 1−6588
AlGaAs semicond. laser, single-mode operation of 500 Mbit/s modulated by injection locking 1−1603
AlGaAs superlinear laser diode, elec. interactions with its external circuit 1−19335
AlGaAs TJS laser, mirror coating by Si/SiO_2 reflector 1−15250
AlGaAs tandem-type TJS laser, self-Q-switched picosecond optical pulse generation 1−37504
AlGaAs transverse junction stripe lasers having low failure rate for 400000 hour operation 1−11023
AlGaAs variable gap heterostructure, solar cell design 1−21883
AlGaAs/GaAs, backside illuminated, imaging CCD 1−33052
AlGaAs/GaAs concentrator solar cells, organometallic VPE grown 1−8706
AlGaAs/GaAs concentrator solar cell illuminated with curved groove Fresnel lens, distrib. resist. model 1−39773
AlGaAs/GaAs DH laser diodes, coating film-mirror facet interface stability determ. 1−15249
AlGaAs-GaAs CW planar stripe-geometry heterojunction lasers, current-power characts., nonlinear and discontinuous 1−51481
AlGaAs-GaAs CW planar stripe-geometry heterojunction laser, elec. characts. 1−51482
$Al_{0.25}Ga_{0.75}As$-GaAs heterojunctions, growth conditions to achieve mobility enhancement 1−3624
$Al_{1-x}Ga_xAs$ twin-stripe leaky mode injection laser 1−41694
$n\text{-}Al_{grad\,x}Ga_{-grad\,x}As$, graded-gap crystal, nonadditivity of elec. cond. 1−20793
$Al_xGa_{1-x}As$, epitaxial growth during forced cooling of soln. in melt, mass and heat transfer influence 1−43280
$Al_xGa_{1-x}As$ epitaxial layer, struct. defects rel. to Schottky diode reverse current excess component 1−20588
$Al_xGa_{1-x}As$ epitaxial layers, deep electron traps 1−30761
$Al_xGa_{1-x}As$, epitaxy of varizone layers in temp. gradient field, forbidden bandwidth 1−43281
$n\text{-}Al_xGa_{1-x}As$ graded-gap crysts., electron redistrib. effect on conductance, Hall e.m.f. obs. 1−16309
$Al_xGa_{1-x}As$ growth by organometallic VPE for laser devices 1−48270
$n\text{-}Al_xGa_{1-x}As$, Hall coeff., resistivity temp. anomaly 1−42794
$Al_xGa_{1-x}As$, indirect-gap semicond., photolum., excitons and electron-hole plasma 1−3477
$Al_xGa_{1-x}As$ LPE growth, layer thickness 1−21373
$Al_xGa_{1-x}As$, MBE of III-V compounds, review 1−21354
$Al_xGa_{1-x}As$ pulsating DH laser, self-focusing effects 1−41699
$Al_xGa_{1-x}As$, Raman spectra in strong and weak fields, phonon replicas 1−39082
$Al_xGa_{1-x}As$, thick epitaxial layers, influence of growth conditions on perfection 1−30580
$Al_xGa_{1-x}As$, variable gap film, isothermal LPE mathematical diffusion model 1−42653
$Al_xGa_{1-x}As$, variable-gap semicond., photoluminesc. 1−35092
$Al_xGa_{1-x}As$:Be LPE layers, doping characts., elec. props. 1−15914
$Al_xGa_{1-x}As$:Cr(Te), MBE, study of dopant distrib. SIMS 1−42647
$Al_xGa_{1-x}As$:Ge, LPE grown, photoluminesc. 1−43156
$Al_xGa_{1-x}As$:Sn, deep radiative transitions, photoluminesc. study 1−43173
$Al_xGa_{1-x}As$:Sn, MBE grown, transport props. 1−7609
$Al_xGa_{1-x}As$:Sn(Te), donor related centre, symmetry, ballistic phonon attenuation 1−16257
$Al_xGa_{1-x}As$-AlAs-GaAs, cluster free quantum well heterostructure laser 1−46340
$Al_xGa_{1-x}As$-GaAs, III-V heterostructure devices for integrated optics 1−1725
$Al_xGa_{1-x}As$-GaAs heterojunction layers, current/voltage characts. in high elec. fields, surface acoustoelectric effects 1−34778
$Al_xGa_{1-x}As$-GaAs high-radiance LEDs for optical communications, improved MBE growth 1−48263
$Al_xGa_{1-x}As$-GaAs laser, with V-shaped active region, grown by metalorganic CVD 1−1580
$Al_xGa_{1-x}As$-GaAs modulation-doped single-period heterojunctions, carrier mobility meas. 1−42848
$Al_xGa_{1-x}As$-GaAs quantum-well heterostructures, alloy clustering, spontaneous and stimulated emission 1−29281
$Al_xGa_{1-x}As$-GaAs solar cells with high efficiency, open-circuit voltage and fill factor 1−13124
AlGaAsSb/GaSb DH laser, fabrication, temp. depend. of threshold current 1−19336
AlGaAsSb-GaSb, DH laser characteristics, lattice matching 1−24422
Au/GaAs, out-diffusion of GaAs, ambient effects, AES study 1−30487
$Au/n\text{-}GaAs_{0.6}P_{0.4}$ anode, illuminated, quasi-Fermi level and flat band pot. meas. method 1−34745
Au-Al/GaAs (110) interface atomic interdiffusion meas. and modulation 1−16103
$Au\text{-}Ga_{1-x}Al_xAs$(GaAs) variable-gap structs., photoelec. props., 77 to 370K 1−20812
Au-GaAs Schottky barrier solar cells, effect of excess temp. on conversion efficiency 1−32023
Au-GaAs Schottky barriers, Richardson const. meas. 1−34796
Au-Ge/Pt ohmic contacts to Ga As by pulsed electron beams and furnace heating 1−7731
Au-oxide-n-GaAs structure, long-wave photocond. involving semicond.-dielec. interface states 1−52660
CdS-GaAs heterojunctions, deep level defects study using transient capacitance spectroscopy 1−2921
$Cd_{1-x}Zn_xS$/GaAs heterostructs., prepared by vapour phase, chem. transport, cryst. defects 1−35186
GaAl-As, double-heterostructure, visible emission laser diodes *(Japanese)* 1−46353
GaAlAs actively mode-locked diode laser, bandwidth-limited picosecond pulse generation 1−51526
(GaAl)As buried heterostruct. laser with buried optical guide, transverse mode control 1−15288
(GaAl)As CW DH proton bombarded stripe lasers, MBE grown, high temp. device characts. meas. 1−46338

gallium arsenide continued
GaAlAs DH laser as heterodyne receiver, coherent radiation detection 1−1615
GaAlAs DH lasers, transverse-mode-stabilised, transient spectra, dynamic characts. 1−41701
GaAlAs diode laser, modified strip buried heterostruct., picosecond pulse generation by passive mode locking 1−1606
GaAlAs diode lasers, mode-locking 1−19342
GaAlAs, epitaxial layers, elastobirefringence study of dislocations and strain fields 1−3361
(GaAl)As, heterojunction laser with composition charge in active layer plane 1−37498
GaAlAs, hyperfine field and spontaneous oscill. of polarisation in optical orientation of electrons and nuclei 1−3300
GaAlAs integrated optoelectronics, review 1−15289
GaAlAs LED, Au-Sn-Al metallizations, interfacial void struct. 1−16195
GaAlAs, LPE growth, book contrib. 1−48285
GaAlAs laser, GHz analogue modulation and differential delay, temp. and current behaviour 1−11001
GaAlAs laser struct., gain broadening mechanism 1−46350
GaAlAs modified strip buried heterostruct. diode laser, passively mode-locked, picosecond pulse generation 1−51525
GaAlAs proton bombarded stripe laser, optical confinement provided by Zn diffusion, dynamic props. 1−29302
GaAlAs, Schottky barrier formation, anion vacancy electron states 1−52644
(GaAl)As/GaAs solar cells−dopant study of Zn and Be 1−8719
GaAlAs/GaAs solar cells, saturated-melt LPE growth, ohmic contacts using multimetallic layers 1−39776
GaAlAs-GaAs DH laser, self-aligned, single longitudinal mode, by metal-organic CVD 1−1576
$Ga_{1-x}Al_xAs$ (110) surface anion vacancies, bound-state energy level calc. 1−16332
$Ga_{1-x}Al_xAs$, conduction band struct., deep levels, high-press. Hall effect meas. 1−2987
$Ga_{1-x}Al_xAs$ epitaxial layers, elastobirefringence study of dislocations 1−3362
$Ga_{1-x}Al_xAs$ epitaxial layers on GaAs, selective etching of GaAs window prep. 1−43555
$Ga_{1-x}Al_xAs$, Raman scatt. spectra, lattice dynamics 1−48085
$Ga_{1-x}Al_xAs$, refractive index dispersion relations, theory and expt. 1−3356
$Ga_{1-x}Al_xAs$:Ge, Te p-n struct., variable-gap selective photocells 1−42855
$Ga_{1-x}Al_xAs$/GaAs DH LED, abrupt high temp. degradation 1−21256
$Ga_{1-x}Al_xAs$-GaAs interface strain characterisation by electrolyte electroreflectance 1−16349
$Ga_{1-x}Al_xAs$-GaAs LPE interface structure and composition, STEM and cathodoluminescence obs. 1−16350
$Ga_{0.7}Al_{0.3}As_{1-y}P_y$-GaAs heterojunction, misfit dislocation imaging 1−20223
GaAlAsSb quaternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
GaAlAsSb-GaSb system, Zn diffusion, Sb overpressure effects 1−52347
$Ga_{1-x}Al_xAs_{1-y}Sb_y$ Schottky barrier avalanche photodetectors 1−12189
GaAs (110) surface, O_2 adsorption, photoemission obs. 1−16173
p-GaAs, conduction electron spin relax. 1−47978
n-GaAs epitaxial film, influence of elec. field on negative magnetoresistance 1−42798
n-GaAs epitaxial film, photoactive surface electron states 1−38833
n-GaAs, epitaxial layer, persistent photoconductivity, illumination dose dependence 1−3003
GaAs, growth of {111} and $\{\bar{1}\bar{1}\bar{1}\}$ faces, by CVD, study of growth parameters 1−2368
n-GaAs, Gunn effect threshold field decrease in strong mag. field *(Russian)* 1−42782
n-GaAs, heavily doped, Debye screening length doping depend. 1−16249
GaAs ingots, with high free electron concs., horizontal gradient-freeze technique growth 1−3607
GaAs, LPE, anal. of dislocations creating monomolecular growth steps 1−34267
GaAs, LPE, X-ray topography of growth step sources 1−2456
GaAs, LPE layer growth, improvements in theory and interpretation of expts. 1−2369
GaAs, MBE grown, Ge doping, thermodynamic aspects 1−2481
GaAs MBE layer ultrashort laser, with perpendicular-to-film optical excitation and emission 1−29275
p-GaAs, phonon thermoelectromotive force and entrainment *(Russian)* 1−2574
GaAs semiconductor-oxide-electrolyte interface 1−34801
GaAs:Al, synthesis, photoconductivity and luminescence spectra 1−35162
GaAs:An, heavily doped, intra- and inter-valence-bands electronic Raman scatt. 1−3407
GaAs:Ar(Si) epitaxial layers and monocrysts., ion implanted, electrophys. and luminesc. props. 1−7663
GaAs:B,Cr, low temp. Cr redistrib. and gettering in absence of encapsulant stress 1−15916
GaAs:C, electron scatt. at localised impurity pots. 1−47635
GaAs:Cr, As antisite defect, submillimetre EPR evidence 1−7941
GaAs:Cr, B, Si_3N_4-capped, annealing of damage and redistrib. of Cr 1−20248
GaAs:Cr, cathodoluminescence spectrum, zero-phonon multiplet 1−31205
n-GaAs:Cr, charge transfer induced by hydrostatic press., Hall effect meas. 1−47547
GaAs:Cr, current induced transition from high to low resistivity state 1−20828
GaAs:Cr, EPR, photoinduced changes, Cr^{4+} second-acceptor state 1−12393
GaAs:Cr, effect of plastic deform. on EPR spectrum 1−3250
GaAs:Cr, electron beam irrad., EPR meas. 1−38978
GaAs:Cr, heat treated semi-insulating, Raman spectra meas., thermal conversion 1−43103
GaAs:Cr, impurity photocond., hole capture cross section 1−25760
GaAs:Cr, Mg ion implant distrib., elec. props. 1−7202
GaAs:Cr, phonon-assisted electron tunnel emission from Cr level 1−47548
GaAs:Cr, photoluminescence, 0.839 eV and 0.574 eV lines 1−35085
GaAs:Cr, role and thermal redistrib. of Cr, review 1−30265
GaAs:Cr, semi-insulating Cr profile after annealing in H_2-As_4 atmosphere 1−2490
GaAs:Cr, semiinsulating, ultrafast magnetophotocond. meas. 1−52608
GaAs:Cr, temperature and compensation dependence of threshold voltage for switching effect 1−20751
gallium arsenide continued
p-GaAs:Cr, Zn, electron irrad., EPR spectra 1−43000
GaAs:Cr and undoped, energy structure parameters determ. by thermal effect of short light pulser *(Russian)* 1−52487
s-GaAs:Cr junction diodes, I-V characts. 1−47740
GaAs:Cr n-ν-n^+ structs., current-voltage characts., photosensitivity 1−20863
GaAs:Cr^{2+}, Cr^{3+}, dynamical Jahn-Teller model 1−52533
GaAs:Cr^{2+}, level splitting, Jahn-Teller interactions, theory 1−42728
GaAs:Cr^{2+}(Cr^{3+}), d-electron interaction matrices, energy level calc. 1−42729
GaAs:Cr^{3+}, EPR, Jahn-Teller centre with stress dependent reorientation field 1−7940
GaAs:Cr(Fe), MESFET, doping profile determ. by SIMS 1−30264
GaAs:Fe, doping by MBE 1−47394
GaAs:Fe, high-resistivity LPE layers, photocapacitance 1−39253
GaAs:Ga, Ge, dual implantation, Hall mobility and elec. resist. 1−38394
GaAs:Ge, As, dual implantation, amphoteric activity, Hall effect and elec. resist. 1−38395
GaAs:Ge, ion implanted, elec. props. and photoluminesc. 1−47646
GaAs:Mn, thermal conversion, photoluminescence spectra 1−8114
GaAs:N, SIMS studies of dopant profiles, review 1−30268
n-GaAs:O, electron states of local centres 1−34659
GaAs:O, ion implantation, deep level prod., LCAO-MO calcs. 1−7552
n-GaAs:O^+, carrier compensation 1−7638
GaAs:P^+, ion implanted, defect and impurity distrib., He^+ backscatt. study 1−11777
GaAs:S(Se) VPE layers, doping behaviour, elec. and luminesc. meas. 1−47408
GaAs:Se ion implanted, impurity profiles, diffusion, luminescence spectra 1−2479
GaAs:Si, radiation annealing 1−43373
n-GaAs:Si, recombination centres, spontaneous emission 1−52991
GaAs:Si layers, LPE, self-compensation of donors due to Si incorporation 1−38741
GaAs:Si+Ge(Sn), IR absorpt., plasma resonance and Hall effect meas., impurity effect on props. 1−3381
GaAs:Si; LPE, VPE and gradient-freeze growth, doping effect on lattice parameters 1−2402
GaAs:Si(S)(Se)(Te), ion channelling study 1−34380
GaAs:Sn, LPE, ion implantation, cathodoluminesc. 1−39160
GaAs:Sn, MBE growth, doping, elec. props. 1−2834
GaAs:Sn, surface struct. oscills. during MBE growth 1−47413
n-GaAs:Sn(Si), growth by mol. beam epitaxy, lateral uniformity 1−12660
GaAs:Te, implanted, He backscatt., laser annealing effects, carrier conc. 1−38391
GaAs:Te, VPE grown, incorporation of Te using Ga-$AsCl_3$-H_2 technique 1−2482
GaAs:Te electron-beam pumped CW laser 1−37512
GaAs:Te(Cr), MBE, SIMS study of dopant distrib. 1−42647
GaAs:Te(Sn)(Cr), fast neutron irrad. effects on props. 1−25331
GaAs:Ti(Zr), LPE growth, influence of additions 1−39250
n-GaAs:V, optical absorption and photolum. obs. 1−12580
GaAs:Zn, heavily doped, photoluminesc., temp. and hole conc. depend. 1−3479
GaAs:Zn, heavily doped, photoluminesc., hydrostatic press. depend. 1−3480
p-GaAs:Zn, heavily doped, optically pumped electron spin relax. through virtual photon 1−35090
GaAs:Zn MOS diode, piezoelectric effects 1−3336
GaAs/AlGaAs heterostructure, negative cond., real space electron transfer 1−16342
GaAs/AlGaAs MBE heteroface solar cell on Ge, high-efficiency 1−48834
n-GaAs/electrolyte photoelectrochemical system, surface charge and specific ion adsorption effects 1−42858
GaAs/GaP negative electron affinity photocathodes, MBE 1−26389
GaAs/n-AlGaAs heterojunction interface, two-dimensional electron mobility 1−34775
GaAs-(Al,Ga)As laser diodes, luminesc. during degradation 1−41704
GaAs-(AlGa)As heterojunction superlattices, modulation doping 1−52155
GaAs-(Ga,Al)As DH LPE, final wipe-off improvement 1−8245
GaAs-(GaAl)As epitaxial structures, dopant phase diagrams 1−32030
GaAs-$Al_{1-x}Ga_xAs$ superlattices and quantum wells, two-dimens. confined carriers, electron-phonon coupling, reson. magneto-phonon effect 1−7725
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, inelastic light scatt. obs. of multilayer two-dimens. electron gas 1−12516
GaAs-Al_xGa_{1-x} heterostruct. lasers mirrors, ion-plasma treatment 1−51518
GaAs-$Al_xGa_{1-x}As$, optically pumped quantum wells, photoluminesc. 1−3478
GaAs-$Al_xGa_{1-x}As$ diode laser in pulsed mode, lifetime estimation 1−41705
GaAs-$Al_xGa_{1-x}As$ DH laser, Q-switching with picosecond light pulses 1−51528
GaAs-$Al_xGa_{1-x}As$ heterostructure, electronic props. of two-dimens. system 1−7723
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, electronic props. and multi-interface structs., two-dimens. electron gas 1−12186
GaAs-$Al_xGa_{1-x}As$ heterojunction interface two-dimensional hole gas obs. 1−16354
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, modulation doped, MBE growth 1−34777
GaAs-$Al_xGa_{1-x}As$ high mobility single period modulation-doped heterojunctions, MBE growth 1−42849
GaAs-$Al_xGa_{1-x}As$ heterojunction layers, hot-electron cond. and real-space transfer 1−47736
GaAs-$Al_xGa_{1-x}As$ layers, liq. and solid comp. at LPE growth, ambient gas atm. influence 1−30585
GaAs-$Al_xGa_{1-x}As$ multilayers, two-dimens. elec. transport at high mag. fields 1−7724
GaAs-$Al_xGa_{1-x}As$ multiquantum well superlattice interface disorder, photoluminescence and absorption obs. 1−16353
GaAs-$Al_xGa_{1-x}As$ multi-quantum well struct., radiative recombination from quantum states 1−52990
n-GaAs-$Al_xGa_{1-x}As$-GaAs graded interface barrier conductivity 1−16347
GaAs-AlAs (110) interface deep substitutional sp^3-bonded impurity levels and Frenkel core excitons 1−16344
GaAs-AlAs multilayer heterostruct. laser electron beam transversely pumped 1−33684
GaAs-AlAs superlattices, Raman scatt., phonon folding and anisotropy 1−52940

gallium arsenide continued
GaAs-AlGa$_{1-x}$As superlattice, heavily doped subband struct., band bending, low temp. mobilities 1−7721
GaAs-AlGaAs heterojunction superlattices, inelastic light scatt. spectroscopy of confined carriers 1−16355
GaAs-AlGaAs lasers, anal. for characterising devices of various cross-sectional geometries 1−1567
GaAs-AlGaAs superlattice, Coulomb interactions, intersubband spectroscopy 1−7719
GaAs-AlGaAs superlattices, light scatt. spectra of electron gas 1−52960
GaAs-electrolyte contact props., effect of discontinuous Au film 1−38848
GaAs-Ga$_{1-x}$Al$_x$As, semiconductor superlattices, review 1−30817
GaAs-Ga$_{1-x}$Al$_x$As field effect semicond. laser 1−29294
GaAs-Ga$_{1-x}$Al$_x$As semiconductor superlattices by MBE and their characterization 1−2417
GaAs-Ga$_{1-x}$Al$_x$As-GaAs heterostructure electron tunnelling transmission 1−16348
GaAs-Ga$_{1-x}$Al$_x$As-Ga$_{1-x}$Al$_x$As, n$^+$-i-n heterostruct., optical emitter degradation 1−7716
GaAs-Ga$_x$Al$_{1-x}$As double quantum well struct., collective modes of two-dimensional plasma 1−47519
GaAs-GaAlAs DH laser wafer, improvement by Ga$_{1-x}$Al$_x$As buffer layer 1−11002
GaAs-GaAlAs DH lasers, stripe geometry, current spreading and resistance effects calc. 1−41696
GaAs-GaAlAs DH lasers, acoustic signal obs. 1−41702
GaAs-GaAlAs DH struct., optically induced dislocation glide, mechanism 1−47090
GaAs-GaAlAs edge-emitting LED for medium capacity digital optical links, >1 mW launched power 1−11170
GaAs-GaAlAs integrated struct. for mode locking a diode laser 1−41754
GaAs-GaP heterostructures, residual stresses determ. by photoluminesc. 1−21255
GaAs-Ge (110) interfaces, heterojunctions and overlayer systems, electronic struct., scatt. theoretic method 1−7697
GaAs-Ge interface, Al interlayer-controlled diffusion, XPS study 1−38600
GaAs-In$_y$Ga$_{1-y}$P$_z$As$_{1-z}$-In$_x$Ga$_{1-x}$As grading heterojunction form., LPE equilib. and step-cooling methods 1−21372
n-GaAs-K$_2$Se-K$_2$Se$_2$-KOH/C photoelectrochemical cells, role of interface states 1−43787
GaAs-Pd Schottky contacts, comparison with InP and Si Schottky diodes 1−34795
GaAs-SiO$_2$-Au, light transmittance, intermediate layer effect 1−7742
GaAs-Yb junctions, tunnelling props. under press. semimetal-semicond. transition 1−7733
GaAsP, electron-core-hole interaction, energy derivative reflectance spectra 1−3430
GaAsP, electron-hole plasma luminescence above direct-indirect crossover 1−47696
GaAsP integrated optics optron, characts. 1−24535
GaAs$_{0.62}$P$_{0.38}$, extended defect, DLTS, capacitance transient meas. 1−30672
GaAs$_{1-x}$P$_x$ 1−39082
GaAs$_{1-x}$P$_x$ (x=0.4, 0.65), minority lifetime enhancement by N ion implantation 1−38788
GaAs$_{1-x}$P$_x$, deep energy levels associated with substitutional defect pairs 1−16252
GaAs$_{1-x}$P$_x$, electron-hole liquid luminesc. 1−12574
GaAs$_{1-x}$P$_x$, final-state interactions in core excitations, photoelectron spectra 1−48219
GaAs$_{1-x}$P$_x$, ion implanted, annealing by swept line electron beam, luminescence study 1−3453
GaAs$_{1-x}$P$_x$ modulated struct., tetragonal lattice distortions and elec. props. 1−42362
GaAs$_{1-x}$P$_x$, refractive index dispersion relations, theory and expt. 1−3356
GaAs$_{1-x}$P$_x$, SIMS studies of dopant profiles, review 1−30268
GaAs$_{1-x}$P$_x$ solid soln. crystal, light birefr. induced by external uniaxial deform. 1−31123
GaAs$_{1-x}$P$_x$ VPE layers, dislocation density and lattice const. mismatch, cathodolum. 1−7487
GaAs$_{1-x}$P$_x$ vacuum deposited film, X=0.3-0.9, successive evaporation method, characterisation 1−53095
GaAs$_{1-x}$P$_x$:N, phonon sidebands in emission spectra 1−48144
GaAs$_{1-x}$P$_x$:N, photoluminesc. spectra at various excitation levels and N doping 1−26266
GaAs$_{1-x}$P$_x$:N trap states, zero-phonon excitonic struct., luminesc. and reson. excitation study 1−47538
GaAs$_{1-x}$P$_x$:Te epitaxial layer, radiation defect features 1−42379
GaAs$_{1-x}$P$_x$-Mo Schottky diodes, effect of vacuum annealing cleaning on elec. characts. 1−34794
GaAs$_{1-x}$Sb$_x$ photodiodes on GaAs (100) substrate, effect of mismatch on performance 1−16343
GaAs$_{1-x}$Sb$_x$ solid solutions structs. for photocathodes 1−26370
GaAsSbP variable-gap struct., absorpt. edge profile 1−39174
(GaAs)$_x$(ZnSe)$_{1-x}$ solid solns., electrophys. props., prep. method depend. 1−42769
GaAs(110)-Al(Au), interface electronics struct., Schottky barrier form., photoemission study 1−8198
GaAs(110)-p(1×1)-Al surface, at. geometry obs. 1−42612
(GaIN)(AsP)DH lasers with Zn doping, temp. dependence of threshold current 1−51480
GaInAs PIN photodiodes, use as detector element in PIN-FET (preamplifier) hybrid fibre optic receivers 1−11173
GaInAs, Schottky barrier formation, anion vacancy electron states 1−52644
GaInAs-InP avalanche photodetectors, low dark-current high gain 1−45014
n-Ga$_{0.47}$In$_{0.53}$As, alloy scattering effects and calc. Hall mobility 1−42791
Ga$_{0.47}$In$_{0.53}$As-InP heterophotodiode with reduced dark current, good photoresponse 1.0 to 1.65 μm 1−45013
Ga$_{1-x}$In$_x$As PIN photodiodes, high-speed photodetector appl. in hybrid PIN-FET fibre optic receiver 1−11172
Ga$_{1-x}$In$_x$As solidus isotherms developed by the step-grading technique 1−16205
Ga$_{1-x}$In$_x$As:Te, LPE layers, doping behaviour, transport props. meas., 1−20884
Ga$_x$In$_{1-x}$As, direct gap, electron transport study 1−42792
Ga$_x$In$_{1-x}$As layers, MBE, As$_4$ stabilization of InP substrates 1−3633
GaInAsP avalanche photodiode for guided wave optical signal processing 1−37634
gallium arsenide continued
GaInAsP layers lattice matched to InP substrates, phase diagram for LPE growth 1−48278
GaInAsP/InP DH stripe laser with reactive-ion-etched mirror facets 1−24428
GaInAsP/InP heterostructure laser for guided wave optical signal processing 1−37634
GaInAsP/InP low-dark-current avalanche photodetector, noise characts., avalanche multiplication 1−33053
GaInAsP/InP terraced substrate lasers, single transverse mode operationat 1.3 μm wavelength 1−19354
GaInAsP-InP 1.3 μm CW laser grown by LPE, threshold current density 1−46344
GaInAsP-InP buried heterostructure lasers fabricated by selective etching and meltback process, 1.6 μm wavelength 1−11021
GaInAsP-InP buried heterostruct. laser, 1.6 μm, refractive index variation with injected carrier density and temp. 1−19333
GaInAsP-InP DH lasers with chem. etched facet 1−15183
GaInAsP-InP LEDs for 140 Mb/s and 280 Mb/s fibre optic communication systems 1−11171
GaInAsP-InP laser with chemically etched mirror, CW operation 1−1581
GaInAsP-InP lasers with good temp. dependence grown by low pressure metalorganic VPE 1−41719
GaInAsP-InP narrow-stripe injection laser emitting at 1.3 μm, CW and pulsed operation 1−46345
GaInAsP-InP proton-bombarded stripe-geometry DH laser, gain spectra 1−46343
GaInAsP-InP T-laser on semi-insulating substrate, 1.2 μm operation 1−46377
Ga$_{1-x}$In$_x$As$_{1-y}$P$_y$-InP DH laser sources for 1.3 μm fibre-optic communications 1−41742
Ga$_x$In$_{1-x}$As$_y$P$_{1-y}$, crystallisation path to phase diagram, rel. to LPE 1−48333
Ga$_x$In$_{1-x}$As$_y$P$_{1-y}$ films, VPE, refractive index vs. wavelength meas. data 1−35106
Ga$_x$In$_{1-x}$As$_y$P$_{1-y}$, shallow hydrogenic donors, IR photocond. and transmission meas., mag. field depend. 1−48054
Ga$_x$In$_{1-x}$As$_y$P$_{1-y}$:Zn, valence band spin-orbit splitting 1−47459
Ga$_x$In$_{1-x}$As$_y$P$_{1-y}$-InP DH strip waveguides with Ga$_{x'}$In$_{1-x'}$As$_{y'}$P$_{1-y'}$ side bounding layers, single-mode guiding conditions 1−6568
GaInPAs-InP buried mesastripe CW room-temp. heterojunction lasers, 1.24 to 1.28 μm range 1−46390
Ga$_x$In$_{1-x}$P$_y$As$_{1-y}$, III-V heterostructure devices for integrated optics 1−1725
GaP-InP-GaAs-InAs solid solns., energy band spectra and band gap depend. on comp. 1−20630
GaP$_{1-x}$As$_x$, mixed zincblende cryst., critical point phonon composition depend. 1−2577
GaP$_z$As$_{1-z}$ mixed crystals, vibr. props., localised states calc. and Raman scatt. meas. 1−34446
GaSb-AlGaAsSb, heterojunctions 1−25800
Ge:GaAs(110) heterostructure formation, LEED, AES and work function obs. 1−16345
Ge/GaAs/CuBr heterojunction interface energy band discontinuity transitivity test 1−16346
Ge-GaAs (110) heterojunction, overlayer systems for ARUPS interface study 1−42852
Ge-GaAs heterojunction avalanche transit diodes, recombination props., elec. characts. 1−38847
Ge-GaAs polar (100) interface, electronic and struct. props., total energy, calc. 1−52647
Ge-GaAs(110) segregated overlayer system, electronic struct., tight binding calc. 1−52628
Ge$_{1-x}$In$_{x-y}$P$_y$, epitaxial struct., radiative recomb. emission intensity 1−8139
GuAs JFET, radiation effects 1−2505
(In,Ga)(As,P), VPE growth, n- and p-type doping, photolum., mobility and electron diffusion lengths 1−48267
In-Ga-P-As, LPE growth in vertical furnace of double heterostructures 1−35195
In$_{0.72}$Ga$_{0.28}$ As$_{0.6}$P$_{0.4}$, absorption, emission and gain spectra, calc. 1−43155
InGaAs LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InGaAs VPE, suppression of InP substrate thermal damage and PH$_3$ contamination 1−48277
InGaAs/InP Zn-diffused back-illuminated p-i-n photodiodes, MBE growth 1−26388
InGaAs-InAsP heterojunction, VPE growth, long wavelength transferred electron photocathode appl. 1−3628
InGaAs-InP avalanche photodiodes with separated absorpt. and multiplication regions, improved characts. 1−45011
InGaAs-InP avalanche photodiode with LPE and VPE layers, separated absorpt. and multiplication regions 1−45012
InGaAs-InP p-i-n photodiodes for lightwave communications, 0.95 to 1.65 μm wavelength 1−45009
p-In$_{0.53}$Ga$_{0.47}$As, fast photocond. detector with response to 1.7 μm 1−45004
In$_{0.53}$Ga$_{0.47}$As photodiode characts. 1 to 1.7 μm, low dark current and low junction capacitance 1−45008
In$_{0.53}$Ga$_{0.47}$As, photoexcited, hot carrier relaxation 1−3449
In$_{1-x}$Ga$_x$As, MBE surface electronic and crystallographic props. 1−7491
In$_{1-x}$Ga$_x$As-GaSb$_{1-y}$As$_y$ semiconductor superlattices by MBE and their characterization 1−2417
In$_{1-x}$Ga$_x$As-GaSb$_{1-y}$As$_y$, semiconductor superlattices, review 1−30817
In$_{1-x}$Ga$_x$As-GaSb$_{1-y}$As$_y$ superlattices, electroreflectance, band struct. 1−52916
In$_x$Ga$_{1-x}$As$_1$ LPE growth on GaAs, elec. current controlled 1−35191
InGaAsP BH laser emitting at 1.3 μm, CW electrooptical props. 1−46346
InGaAsP buried-waveguide heterostruct. injection lasers, fabrication, elec. props., optical characts. 1−41707
InGaAsP CW heterolasers, wide resonator and strip type designs 1−1578
InGaAsP DH lasers fabrication, stripe-geometry, high-efficiency, with chemically-etched mirrors 1−11014
InGaAsP DH laser, internal SHG 1−29280
InGaAsP DH pulsating-beam lasers, 1.3 μm, optical and elec. characts. 1−41708
InGaAsP diode lasers, mode-locking 1−19342
InGaAsP double heterostructure lasers, self-sustained pulsations, negative resistance 1−33681

gallium arsenide continued
InGaAsP, energy band struct., virtual cryst. model and electrorefl. spectra 1−2871
InGaAsP epitaxial layers, lattice mismatch determ. 1−38675
InGaAsP, equilibrium calcs. for vapour phase epitaxial growth 1−34598
InGaAsP heterostructure, synthesis by LPE with Be doping 1−39255
InGaAsP LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InGaAsP LPE layers, electrorefl. meas. band edge energy and spin-orbit splitting 1−48053
InGaAsP laser, 1 Gbit/s modulated, intensity fluctuation noise improvement by light injection 1−19337
InGaAsP layer lattice-matched to InP, contact with AuZn, comp. depend. 1−3063
InGaAsP p-n junction photodetectors, LPE prep. and props. 1−13125
InGaAsP phase diagram and LPE growth conditions, for lattice matching on InP 1−43279
InGaAsP photodiodes noise *(German)* 1−19448
InGaAsP/InP buried crescent diode lasers, 1.3 μm, transverse mode stabilization 1−33730
InGaAsP/InP DH laser, facet degradation caused by oxidation 1−46337
InGaAsP/InP photodiodes, wavelength demultiplexing 1−6681
InGaAsP-InGaAs p-i-n detectors for 1.3-1.6 μm fibre optic systems 1−18294
InGaAsP-InP aged laser diodes, self-oscillations and dynamic behaviour 1−46347
InGaAsP-InP buffer-layer loaded planoconvex waveguide lasers, high temp. CW operation, 1.5 micron 1−51501
InGaAsP-InP buried heterostruct. laser on p-InP substrate 1−15185
InGaAsP-InP burried-heterostructure DH laser characts., effect of cavity length 1−51479
InGaAsP-InP channelled substrate buried heterostructure laser emitting at 1.55 micron 1−15180
InGaAsP-InP DH laser degradation in water due to facet deterioration 1−19355
InGaAsP-InP DH laser, dark defects rel. to degradation under accelerated operation 1−41703
InGaAsP-InP DH lasers, self-sustained pulsation appearance during accelerated operation 1−41755
InGaAsP-InP DH laser emitting at 1.1 to 1.65 μm, wave confinement, beamwidth and threshold current 1−46342
InGaAsP-InP LPE layers, etching characts. of defects 1−20213
InGaAsP-InP narrow stripe buried heterostructure lasers, fabrication, characterisation 1−1585
InGaAsP-InP photodiode monolithic 1×10 array, small dark current and uniform responsivities 1−45010
InGaAsP-InP separated multiclad layer stripe geometry lasers emitting at 1.5 micron 1−33704
InGaAsP-InP wafers, surface morphology improvement, using dummy layer technique 1−53107
$In_{1-x}Ga_xAs_yP_{1-y}$ CW three-layer lasers, stripe geometry devices for 1.5 μm operation, LPE growth 1−11022
$In_{1-x}Ga_xAs_yP_{1-y}$, electroreflectance study 1−21172
$In_{1-x}Ga_xAs_yP_{1-y}$ laser, efficiency and threshold current, intervalence band absorpt. 1−11004
$In_{1-x}Ga_xAs_yP_{1-y}$-InP LPE and VPE layers, transport props., defects and device considerations 1−47766
$In_xGa_{1-x}As_yP_{1-y}$ photodiodes with dark current limited by diffusion, generation recomb. and tunnelling 1−45007
$In_xGa_{1-x}As_yP_{1-y}$ submicron layers, LPE growth and evaluation for microwave FETs 1−2845
InGaPAs heterostructures, thin-layer LPE, non-diffusion-limited cryst. growth 1−47409
$In_{1-x}Ga_xP_{1-y}As_y$ lattice matched LPE layers on GaAs, photoluminesc. 1−31178
$In_{1-x}Ga_xP_{1-z}As_z$ (z≤0.01), LPE on GaAs (100), lattice consts. and photoluminesc. 1−48282
$In_{1-x}Ga_xP_{1-z}As_z$ visible-spectrum (~6700 Å) LPE laser, continuous room-temp. photopumped operation 1−46368
$In_{1-x}Ga_yP_yAs_{1-y}$, LPE growth and photolum. meas. 1−26396
InP-GaInAs buried heterostruct. laser, low threshold current CW operation 1−46376
InP-GaInAsP buried heterostructure lasers on semi-insulating substrates 1−33703
InP-$In_{0.58}Ga_{0.42}As_{0.84}P_{0.16}$ wavelength division solar cells, diode struct., conversion efficiency calcs. 1−13123
InP-$In_{1-x}Ga_xAs_yP_{1-y}$ embedded mesa stripe laser, two-step LPE fabrication and props. 1−15181
InP-InGaAs heterojunction phototransistors, photoresponse 0.95 to 1.6 μm 1−45015
InP-InGaAsP heterojunction laser, emission polarization, internal strain effect 1−51483
InP-InGaAsP-InP double heterostructure laser, with inhomogeneous excitation, bistable operation 1−41695
n-InP-n-$Ga_{1-x}In_xAs_{1-y}P_y$-p-$Ga_{1-x}In_xAs_{1-y}P_y$ emitting diodes, stability study 1−34779
n-InSb-i-GaAs film Hall convertors, characteristics 1−44906
MBE surface electronic and crystallographic props. $GaSb_{1-y}As_y$, MBE surface electronic and crystallographic props. 1−7491
Mo-GaAs contact, Schottky barriers 1−12179
n-type, heavily doped and compensated, electron transport, 4.2-300K 1−12112
Pd-Ge-n-GaAs as-deposited contacts study 1−7735
semiconductor lasers, zinc blende struct., optical transitions, stress effects *(Portuguese)* 1−33683
Si_xGe_{1-x}-GaAs heterojunction avalanche transit diodes, recombination props., elec. characts. 1−38847
SiO_2/GaAs sputter deposited system, interface layer formation 1−38671
ZnSe-GaAs heterojunctions, DLTS study, majority carrier trap assignment 1−38745
ZnSe-GaAs heterojunctions, close-spaced prep., photoelec. props., Zn vapour treatment effect 1−39774
ZnSe-Si(-GaAs) p-n heterojunction solar cells, photoelect. props. 1−8717

gallium compounds
see also gallium alloys; gallium arsenide
$(Bi_{0.4}Sm_xTm_{2.6-x})(Ga_{0.8}Fe_{4.2})O_{12}$ ferrite-garnet epitaxial films, domain struct. *(Russian)* 1−3224
InGaAsP-InP heterojunction laser with corrugated waveguide laser 1−51484
$V_{1-x}Ga_xO_2$, metal-insulator transition, press. effect 1−25635

gallium compounds continued
AgGa $(S_xSe_{1-x})_2$ solid solutions, band struct. calcs. *(French)* 1−12028
$AgGaS_2$, photolum. and cathodolum., edge and broad emission bands interpret. *(French)* 1−52981
$AgGaS_2$, Raman mode press. depend., phase transitions 1−21201
$AgGaS_2$, reflectance near bandgap 1−52912
$AgGaS_2$-$AgInS_2$, solid solutions, growth of single crystals, phase diagram 1−35163
AlGaAsSb/GaSb DH laser, fabrication, temp. depend. of threshold current 1−19336
AlGaAsSb-GaSb, DH laser characteristics, lattice matching 1−24422
$Al_xGa_{1-x}P$ graded heterojunctions, LPE 1−34599
AlGaSb-AlGaAsSb semicond. laser, laser oscills. obs. 1−24420
$Al_xGa_{1-x}Sb$, lattice consts., composition depend., X-ray diffr. study 1−7149
$Al_xGa_{1-x}Sb$ solid solns., oscill. strength of optical transitions, comp. depend. 1−21160
$Al_xGa_{1-x}Sb$:Te, doping of solid solutions in LPE 1−42652
Au/n-$GaAs_{0.6}P_{0.4}$ anode, illuminated, quasi-Fermi level and flat band pot. meas. method 1−34745
$Ca_3Ga_2Ge_3O_{12}$, garnet substrate, for mag. films, prep. 1−21338
$CdGa_2S_4$ single crystals, birefr. in 0.4-2 μm region 1−43096
$(CuCr_2S_4)_x$-$(Ga_{2/3}Cr_2S_4)_{1-x}$, spin glass state destruction, metal-insulator transition, mag., elec. props. *(Russian)* 1−3209
$CuGa_xIn_{1-x}Se_2$ thin films for solar cells prepared by flash-evaporation 1−13132
$CuGaS_2$, Raman mode press. depend., phase transitions 1−21201
$CuGaSe_2$, donor-acceptor transition, cathodoluminescence spectra 1−43188
$CuGaSe_2$, edge luminescence spectra, impurity levels 1−8138
$CuInS_2$-GaP heterostructure prep. by LPE 1−52447
$ErCl_3$-$GaCl_3$, high temp. vapour complexes, laser-induced fluoresc. and Raman spectra 1−14950
Eu Ga YIG film growth, LPE, wafer holder 1−39252
Ga_2-Se_3-FeSe, phase diagram, DTA, metallographic and X-ray diffr. study *(French)* 1−3708
$Ga_{0.7}Al_{0.3}As_{1-y}P_y$-GaAs heterojunction, misfit dislocation imaging 1−20223
GaAlAsSb-GaSb system, Zn diffusion, Sb overpressure effects 1−52347
$Ga_{1-c}Al_cP$, imperfect crystals, two-phonon bound states 1−15967
$Ga_{1-x}Al_xP$, refractive index dispersion relations, theory and expt. 1−3356
GaAlSb ternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
$Ga_{1-x}Al_xSb$ avalanche photodiodes, resonant impact ionisation 1−47737
$Ga_{1-x}Al_xSb$ photodiodes, impact ionisation resonant enhancement 1−34715
$Ga_{1-x}Al_xSb$, Raman scatt. spectra, lattice dynamics 1−48085
$Ga_{1-x}Al_xSb$, resonant enhancement of intrinsic impact ionization involving spin-orbit split-off valence band states 1−52572
$Ga_{1-x}Al_xSb$, UPS and XPS photoemission spectra *(French)* 1−48225
$Ga_{1-x}Al_xSb$, variband struct., liq. phase epitaxy 1−52455
GaAs/GaP negative electron affinity photocathodes, MBE 1−26389
GaAs-AlGaAs heterostructure superlattices, far IR emission of 2D electron gas 1−52941
GaAs-GaP heterostructures, residual stresses determ. by photoluminesc. 1−21255
GaAsP, electron-core-hole interaction, energy derivative reflectance spectra 1−3430
GaAsP, electron-hole plasma luminescence above direct-indirect crossover 1−47696
GaAsP integrated optics optron, characts. 1−24535
$GaAs_{1-x}P_x$ 1−39082
$GaAs_{1-x}P_x$ (x=0.4, 0.65), minority lifetime enhancement by N ion implantation 1−38788
$GaAs_{1-x}P_x$, deep energy levels associated with substitutional defect pairs 1−16252
$GaAs_{1-x}P_x$, electron-hole liquid luminesc. 1−12574
$GaAs_{1-x}P_x$, final-state interactions in core excitations, photoelectron spectra 1−48219
$GaAs_{1-x}P_x$, refractive index dispersion relations, theory and expt. 1−3356
$GaAs_{1-x}P_x$, SIMS studies of dopant profiles, review 1−30268
$GaAs_{1-x}P_x$ solid soln. crystal, light birefr. induced by external uniaxial deform. 1−31123
$GaAs_{1-x}P_x$ VPE layers, dislocation density and lattice const. mismatch, cathodolum. 1−7487
$GaAs_{1-x}P_x$ vacuum deposited film, X=0.3-0.9, successive evaporation method, characterisation 1−53095
$GaAs_{1-x}P_x$:N, phonon sidebands in emission spectra 1−48144
$GaAs_{1-x}P_x$:N, photoluminesc. spectra at various excitation levels and N doping 1−26266
$GaAs_{1-x}P_x$:N trap states, zero-phonon excitonic struct., luminesc. and reson. excitation study 1−47538
$GaAs_{1-x}P_x$-Mo Schottky diodes, effect of vacuum annealing cleaning on elec. characts. 1−34794
$GaAs_{1-x}Sb_x$ solid solutions structs. for photocathodes 1−26370
$Ga_{2/3+x}Cr_{2-x}S_4$, cation-deficient spinel, crystallographic and mag. props. 1−34321
GaInAsP, reproducible LPE growth method 1−21368
GaInAsP/InP DH stripe laser with reactive-ion-etched mirror facets 1−24428
GaInAsP/InP terraced substrate lasers, single transverse mode operationat 1.3 μm wavelength 1−19354
GaInAsP-InP T-laser on semi-insulating substrate, 1.2 μm operation 1−46377
$Ga_xIn_{1-x}As_{1-y}P_y$/InP heterostructures, thickness depend. of lattice parameter and band gap 1−52115
$Ga_xIn_{1-x}As_yP_{1-y}$ films, VPE, refractive index vs. wavelength meas. data 1−35106
$Ga_xIn_{1-x}As_yP_{1-y}$-InP DH strip waveguides with $Ga_xIn_{1-x}As_yP_{1-y}$ side bounding layers, single-mode guiding conditions 1−6568
(GaIn)P LPE process, simple numerical simulation method 1−20587
GaInP, Schottky barrier formation, anion vacancy electron states 1−52644
$Ga_{0.5}In_{0.5}P$, optical cooling of nuclei spin system, luminescence 1−21076
$Ga_{1-x}In_xP$ (0≤x≤0.10), epitaxial layers, precise chem. comp. by electron probe anal. *(French)* 1−35587
$Ga_{1-x}In_xP$:N LPE layer, scanning cathodolum. using EPMA with band filters 1−43189
$Ga_xIn_{1-x}P$ (n) semiconducting alloys studies in photoelectrochemical cells 1−32033

gallium compounds continued
$Ga_xIn_{1-x}P$, Raman spectra in strong and weak fields, phonon replicas 1−39082
$Ga_xIn_{1-x}P$:Si(Zn) LPE layers lattice-matched to GaAs, growth and elec. props. 1−21370
$Ga_xIn_{1-x}P_yAs_{1-y}$, III-V heterostructure devices for integrated optics 1−1725
GaN, CVD of layer at low temp., elec. cond. 1−31359
GaN, epitaxial growth on oriented sapphire in $GaCl/NH_3/He$ and $GaCl/NH_3H_2$ systems 1−53099
GaN, epitaxially grown, SHG coeffs. meas. 1−24453
GaN film growth by reactive sputtering, elec. resist. meas. 1−31350
n- GaN, influence of screening on deform. pot. and piezoelec. scatt. 1−34709
GaN, lattice parameter variation with growth conditions 1−20161
GaN n-i structure, luminescence props. 1−21277
GaN, thermodynamic props., temp. depend 5 to 300K 1−11882
GaN:C, pure and doped, yellow luminesc. mechanism 1−48148
GaN:Zn, radiative recombination kinetics 1−39155
Ga_2O_3, additive to $Ni_{0.89}Fe_{2.11}O_4$, effects on phase equil., stoichiometry and lattice parameter 1−38505
Ga_2O_3-M_2O, M=Na, K, Rb, Ag, Tl, superionic cond., lattice vibr. modes, IR and Raman spectra 1−3404
GaP (110), defect gap states 1−7696
GaP (110), optical detection of surface states, fractional change of external refl. 1−8096
GaP, adsorption of CO, CO_2, interaction mechanisms, surface atomic structs., meas. 1−25578
GaP, amorphous film, EXAFS study of disorder effects 1−35118
GaP and GaAs amorphous film/crystal sputtered junctions for electroluminescent diodes 1−16608
GaP cleavage surface, electronic struct., pseudopot. calc. 1−47721
GaP crystal growth, modified Bridgman and synthesis solution diffusion methods 1−8210
GaP crysts., elec. props. meas. by IR absorpt. 1−47645
GaP, Debye-Waller factor determ. by X-ray diffr. 1−42499
GaP, deep defects, optical and ESR spectroscopy, review 1−30676
GaP, deep-level transients, electric field effect 1−7550
GaP, elastic behaviour and force constants, press. depend. 1−38431
GaP electrode-metallic ion soln., photoelectrochemical imaging system, photoelectrochromic characts. 1−4099
GaP, electron irradiation, optical absorption and photocond. meas. 1−38812
GaP, electron-hole droplet condensation, crit. points and ground states 1−52493
GaP, electronic struct. using simple orbitals 1−20629
GaP, energies of electrons bound to N pairs. 1−30666
GaP, epitaxial growth during forced cooling of soln. in melt, mass and heat transfer influence 1−43280
GaP, epitaxial layers, elastobirefringence study of dislocations and strain fields 1−3361
GaP, gas-phase synthesis, representation by partial pressure diagrams 1−16673
GaP, homogeneous stress at high press., metallic phase transition 1−34421
n-GaP, impurity-phonon resonances, low temp. photo- and magneto-transport 1−30788
GaP, integral dielec. functions, resolution into component parts 1−31114
GaP, LPE growth, book contrib. 1−48285
GaP LPE layer, residual donors, elec. characterisation 1−7761
GaP, lattice expansion due to proton bombardment, X-ray diffr. study 1−20276
GaP, lattice thermal cond., scatt. mechanisms *(Russian)* 1−7400
GaP, liq. encapsulated Czochralski grown crysts., photoelastic meas. of residual stress 1−2371
GaP monocrystals for optical communication systems *(Czech)* 1−11053
GaP, optical cross sections associated with deep levels 1−21257
GaP, photoacoustic spectra in strong absorption region 1−47174
GaP picosecond switch, active mode-locking of coumarin dye lasers 1−15199
GaP, positron annihilation, search for free arthopositronium atoms *(Russian)* 1−3532
GaP, resonance Raman scatt. at the indirect gap 1−52937
GaP single cryst., elastic moduli and press. derivatives 1−34398
GaP single crystal electrodes, anodic photodissolution in aqueous media, dislocation effects 1−13144
GaP, solubility limit of N during zone melting, entropy effects role 1−52294
GaP, stress birefringence dispersion, temp. depend. 1−21166
GaP, substrate, thermally annealed anodic films, oxide-substrate and oxide-oxide reactions 1−35570
GaP, superconductivity at high press. 1−30635
GaP, surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
GaP, temperature gradient soln. growth 1−21337
GaP, US wave velocity and elastic consts. 1−34396
n-GaP, uniaxially deformed, IR absorpt. spectra 1−21207
GaP, vapour phase epitaxial growth, influence of NH_3 on growth rate 1−3634
GaP with transition metal II and III series impurity ions, internal radiative transitions, photoluminesc. study 1−48138
GaP:Cr, electron beam irrad., EPR meas. 1−38978
GaP:Fe, deep traps, photoluminesc. study 1−12569
GaP:Fe, Sn impurity distrib. and behaviour of Fe during LPE 1−42404
GaP:Ge, donor state, role of high band minima in impurity theory 1−47534
GaP:Mn, hyperfine interactions of Ga neighbours around Mn^{2+}, ENDOR study 1−12427
GaP:Mn(Cu), electron-bombarded, ESR study 1−31023
GaP:N, decay kinetics of excitons and electron-hole plasma 1−3484
GaP:N, excitonic molecule bound to N trap, uniaxial stress effect 1−25643
GaP:N, N-bound excitons, stress depend., zero-phonon luminesc. and absorpt. spectra 1−26268
GaP:N, phase separation of carriers, electron-hole plasma models 1−12134
GaP:N, photoluminesc. decay time meas., exciton bound states 1−39146
GaP:N, radiative combination at NN_1 isoelectronic centre 1−3496
GaP:N, valley-orbit splitting of N-bound exciton from stress-optical spectra 1−47485
gallium compounds continued
GaP:N,S, nonradiative recomb., emitted phonon detection by calorimetric absorpt. spectroscopy 1−47181
GaP:N,Zn(N,Zn-O), LPE films, photoluminesc., heat treatment 1−3489
GaP:N crystal, prep., N_2 solubility and resistivity 1−38392
GaP:N donor centres, compensation 1−38743
GaP:O, ODMR, two electron trap 1−31064
n-GaP:S(Te), radiative recombination, photoconductivity 1−21272
GaP:S(Te)(Si), optical excitation of electrons bound to shallow donors, IR absorpt. lines 1−8100
GaP:Te; deform. pot. constant determ. *(Russian)* 1−7522
GaP:Zn, LPE, heterogeneous equil. and mass transfer in Zn-Zn-Ga gas-liq.-liq. system 1−42539
GaP:Zn(O), LPE layers, photoluminescence spectra 1−39144
GaP-Au Schottky barrier, photoresponse obs. of oxidised surfaces, subband gap energy region 1−34793
GaP-CdS-CdSe-Ni heterostructures, surface electron states and surface charge, optical memory effects 1−47741
GaP-CdSb(CdHgTe) heterojunction formation by laser melting 1−31338
GaP-Cr, photoluminesc., mag. field and uniaxial stress depend. 1−48139
GaP-InP-GaAs-InAs solid solns., energy band spectra and band gap depend. on comp. 1−20630
GaP_zAs_{1-z} mixed crystals, vibr. props., localised states calc. and Raman scatt. meas. 1−34446
GaS, elec. strength, lifetime-under-load 1−26124
GaS layer semiconductor, Brillouin and Raman scatt. 1−16577
GaS, layered crysts., electronic spectrum, press. effects, optical absorpt. and photoluminesc. meas. 1−52915
GaS, optical props. and phonon modes, high press. phase transform 1−48060
GaS, phonon modes and stability up to 200 kbars, Raman spectra and absorpt. meas. 1−12503
GaS, Raman spectrum up to 235 kbar at 300K 1−35059
Ga_2S_3, energy bands and optical props. 1−47455
Ga_2S_3:Mn^{2+}, crystal struct., stacking faults, ESR obs. *(German)* 1−21037
GaSb (110), defect gap states 1−7696
GaSb (110) surface, electronic states induced by surface defects, calc. 1−16337
GaSb (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
GaSb and solid solns., p-n junctions, avalanche multiplication and impact ionisation 1−34783
GaSb, Auger recombination, impurity assisted 1−47676
GaSb, conduction electron spin relax. 1−47978
GaSb, electronic struct. using simple orbitals 1−20629
GaSb, energy gap temp. depend., electroreflectance spectra 1−48037
GaSb, energy-band dispersions, crit. points, and spin-orbit splittings, angle-resolved photoemission 1−12629
GaSb film, amorphous-cryst. transform., elec. props. 1−34704
GaSb, L-band spectroscopy, Shubnikov-de-Haas effect in high mag. field under uniaxial stress 1−47456
GaSb laser, band-to-band Auger effect 1−1568
GaSb, low net donor conc., LPE growth for detector appls. in 1.3 to 1.6 μm region 1−48279
GaSb, MBE on GaAs, surface reaction phenomena *(Japanese)* 1−31356
GaSb pulled crystals, Czochralsi method, microscopic growth rates, mech. vibr. effects 1−47030
GaSb, substrate, thermally annealed anodic films, oxide-substrate and oxide-oxide reactions 1−35570
GaSb substrate CVD heteroepitaxial growth of ZnTe 1−48268
GaSb, surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
GaSb, thin film Pirani resistance gauge 1−36671
GaSb:Se,Te, conduction band minima, elec. props., hydrostatic press. effects meas. 1−30631
GaSb:Te, inversion of Γ and L cond. bands under hydrostatic press. 1−47457
GaSb:Te pulled crysts., micron sized facets on growth interface and impurity striations 1−47390
GaSb-InAs interface, electron-hole subbands 1−7722
GaSb-InAs superlattices, ion backscatt. and channelling 1−38673
GaSe amorphous films, charge transport processes 1−47655
GaSe, cathodoluminescence spectra, kinetics 1−3499
GaSe crystals, optical props. of band edge exciton, 10K 1−35002
GaSe, elec. resist. under press. 1−47648
GaSe, elec. strength, lifetime-under-load 1−26124
GaSe, exciton phonon interaction *(Russian)* 1−2887
GaSe, excitonic emission, direct and indirect, photoluminesc. 1−48161
GaSe layer semiconductor, Brillouin and Raman scatt. 1−16577
p-GaSe, layer semiconductor single crystal, anomalous photocond. *(Russian)* 1−47700
β-GaSe, layered, calc. of elastic moduli 1−3817
GaSe, layered crysts., electronic spectrum, press. effects, optical absorpt. and photoluminesc. meas. 1−52915
GaSe, magneto-optic effects in exciton absorpt. spectra obs. in megagauss fields 1−48039
GaSe metal-semicond.-metal struct., phototrigger effect 1−3020
GaSe, photoelectron spectra, core-level peak intensity, extended fine struct. 1−8192
ε-GaSe, preresonance multiphonon Raman light scatt. 1−21208
Ge-GaSe, Raman spectra, hydrostatic press. influence 1−3417
GaSe, thermal-electrical instability, low-freq. oscills. of current 1−3021
GaSe thin film, exciton absorpt. spectrum 1−34634
ε-GaSe, two-photon photoemission, band symm. 1−42686
GaSe:Mn^{2+}, ESR spectra, axial cryst. field 1−31022
Ga_2Se_3, energy bands and optical props. 1−47455
Ga_2Se_3 in Al-Ga_2Se_3-SiO_2-Si and Al-Ga_2Se_3-Si MS'DS structures, effect of interface states electrostatic characts. 1−52655
GaSe(S), ODMR, bound and free triplet excitons 1−31064
$GaSe_{1-x}S_x$, mixed crystal, polytype depend. of intralayer bond length 1−47038
$GaSe_xTe_{1-x}$:Sn, residual photocond. and current-voltage characts. 1−20811
$GaSxSe_{1-x}$, $0 \leq x \leq 1$, spiral growth from vapour *(Russian)* 1−47026
GaTe, Raman scatt. press. effects 1−8073
Ga_2Te_3, energy bands and optical props. 1−47455
Ga_xTe_{1-x}, glass, switching effect, in strong electric field 1−3028
$GaTe_xSe_{1-x}$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
$Ge_{1-x}In_{x-y}P_y$, epitaxial struct., radiative recomb. emission intensity 1−8139

gallium compounds continued
$Ho_3Ga_5O_{12}$, surface vici nal features and dislocations, neutron topography study 1−47089
In-Ga-P-As, LPE growth in vertical furnace of double heterostructures 1−35195
InAs/GaSb superlattice electronic state localisation and complex bulk band structures 1−16351
InAs/GaSb(110) lattice-matched interface intrinsic and extrinsic states 1−16352
InAs-GaSb heterojunction superlattices, electronic props., fabrication and characts. 1−7720
InAs-GaSb heterojunction superlattices, spatially separated plasmas, anomalous acoustic plasmon form. 1−12137
InAs-GaSb semimetallic superlattices, far IR magnetoabsorpt. and cyclotron reson. 1−31131
InAs-GaSb semimetallic superlattices to heterojunction limit, Shubnikov-de Haas investigation 1−47735
InAs-GaSb superlattices, collective modes of two-dimens. plasma 1−47519
InAs-GaSb superlattices, semiconductor-semimetal transition 1−52609
InAs-GaSb superlattice, IR magnetoabsorption and luminescence study 1−52920
$In_{0.72}Ga_{0.28}$ $As_{0.6}P_{0.4}$, absorption, emission and gain spectra, calc. 1−43155
$In_{1-x}Ga_xAs$-$GaSb_{1-y}As_y$ semiconductor superlattices by MBE and their characterization 1−2417
$In_{1-x}Ga_xAs$-$GaSb_{1-y}As_y$ superlattices, electroreflectance, band struct. 1−52916
InGaAsP, composition, refr. index and lattice mismatch 1−11990
InGaAsP, energy band struct., virtual cryst. model and electrorefl. spectra 1−2871
InGaAsP heterostructure, synthesis by LPE with Be doping 1−39255
InGaAsP LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InGaAsP laser, 1 Gbit/s modulated, intensity fluctuation noise improvement by light injection 1−19337
InGaAsP layer lattice-matched to InP, contact with AuZn, comp. depend. 1−3063
InGaAsP/InP DH laser diode, with single transverse mode, accelerated ageing test 1−46339
InGaAsP-InP buried heterostruct. laser on p-InP substrate 1−15185
InGaAsP-InP DH laser degradation in water due to facet deterioration 1−19355
InGaAsP-InP DH laser, dark defects rel. to degradation under accelerated operation 1−41703
InGaAsP-InP DH lasers, self-sustained pulsation appearance during accelerated operation 1−41755
InGaAsP-InP LPE layers, etching characts. of defects 1−20213
$In_{1-x}Ga_xAs_yP_{1-y}$ laser, efficiency and threshold current, intervalence band absorpt. 1−11004
$In_xGa_{1-x}As_yP_{1-y}$ submicron layers, LPE growth and evaluation for microwave FETs 1−2845
$In_{1-x}Ga_xP$, lattice thermal cond., scatt. mechanisms *(Russian)* 1−7400
$In_{1-x}Ga_xP$, mixed zincblende cryst., critical point phonon composition depend. 1−2577
$In_{1-x}Ga_xP$, temperature gradient soln. growth 1−21337
$In_{1-x}Ga_xP$:Zn, hole transport props., Hall mobility 1−47686
$In_xGa_{1-x}P$ surface, Schottky barrier heights for Au, compositional depend. 1−16363
InGaPAs heterostructures, thin-layer LPE, non-diffusion-limited cryst. growth 1−47409
$In_{1-x}Ga_xP_{1-y}As_y$ lattice matched LPE layers on GaAs, photoluminesc. 1−31178
$In_{1-x}Ga_xP_yAs_{1-y}$, LPE growth and photolum. meas. 1−26396
$In_{0.5}Ga_{0.5}Sb$ film, amorphous-cryst. transform., elec. props. 1−34704
$In_xGa_{1-x}Se$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
InP-InGaAsP heterojunction laser, emission polarization, internal strain effect 1−51483
n-InP-n-$Ga_{1-x}In_xAs_{1-y}P_y$-p-$Ga_{1-x}In_xAs_{1-y}P_y$ emitting diodes, stability study 1−34779
InSb/GaSb multilayer struct., diffusion enhancement due to ion bombardment during deposition 1−3621
InSe-GaSe heterojunctions, elec. props. in darkness 1−20865
InSe-GaSe heterojunction, formed by optical contact, I-V characts., luminescence 1−42853
$Li_{0.5}Ga_{2.5-x}Cr_xO_4$, correlation between crystalline struct., optical props., vibration spectra 1−30125
Na-βGa_xO_3 thin film, high ionic cond. 1−34503
$NaGaHP_3O_{10}$, prep. and characterisation 1−35164
$Na_2O.Ga_2O_3$-Ga_2O_3 system, phase diagram, rel. to $Na_2O.Al_2O_5$-Al_2O_3 system 1−26430
Nd^{3+}:$La_2S_3.3Ga_2S_3$ glass, radiative transition probabilities and stimulated cross-sections 1−26237
$PbGa_2Mo_6S_8$, superconducting coatings, props. and struct. 1−30871
Rb-Ga double phosphates, prep. and characterisation 1−35164
Sb_2Te_3-Ga_2Te_3 system solid solns., thermal cond. and electrophys. props., 300-800K, complex valence band obs. 1−47308
Si/GaP(110) interface and superlattice electronic struct. 1−52635
Si-GaP heterojunction V-groove multijunction solar cells 1−53612
$SnGa_2Mo_6S_8$, superconducting coatings, props. and struct. 1−30871
$SnGa_4Se_7$, lattice const. and phase diagrams, X-ray study *(French)* 1−16760
$TlGaS_xSe_{2(1-x)}$, near-band-edge optical props., 6 to 200K 1−26231
$TlGaSe_2$, transmission spectra, excitonic transitions 1−48113
YGaIG, float zone growth, cryst. defects and microwave characts 1−8222
Zn-Ga-P, phase equilib., temp. depend. 1−31431
$(ZnSe)_x$-$(GaP)_{1-x}$, nonlinearity and laser beam self-action *(Russian)* 1−8036
$(ZnSe)_x$-$(GaP)_{1-x}$ mixed semicond. crystals, dynamic hologram recording and erasure 1−33640

galvanomagnetic effects
see also Hall effect; magnetoresistance; Suhl effect; thermomagnetic effects
compound semiconductors, electron transport, book 1−32813
degenerate semiconductor, nonparabolic, generalised Einstein relation under mag. quantisation 1−20771
ferromagnetic conducting plate, collective excitations, surface impedance in mag. field *(Russian)* 1−3159
n-Ge, galvanomagnetic recombination effect, temp.-depend. 1−42799

galvanomagnetic effects continued
many-valley semiconds., thermomagnetic and galvanomagnetic coeffs. in classically strong mag. fields 1−34729
piezoelectric semicond., electrical cond. in crossed strong electric and mag. fields 1−34719
scattering mechanism and galvanamagnetic effect in crystals with non-parabolic band 1−7573
semiconductor, free carrier absorption in quantising mag. fields, nonpolar optical phonon scatt. 1−42793
semiconductor, hot electron galvanomagnetic phenomena under population inversion conditions, theory 1−52583
semiconductor, nonlinear HF conductivity in quantising mag. fields 1−2999
semiconductor, transit resonance, mag. field influence, inelastic carrier scattering 1−2966
semiconductor hot-electron distrib. function in quantising mag.fields 1−16303
semiconductor with closed isoenergetic surfaces, transverse reluctance in strong nonquantizing mag. field 1−20779
semiconductor with superlattice in mag. field, quantum oscillations 1−20778
semiconductors, nonintrinsic, magnetoconcentration and other galvanomag. effects 1−20770
semiconductors, thermophysical props. determ. by meas. superposed galvano- and thermomag. effects 1−12133
superlattice semiconductors, quantum theory 1−52584
n-CdTe, impurity-phonon resonances, low temp. photo- and magneto-transport 1−30788
Dy_3Co, metamagnetic phase transition, mag. hysteresis and galvanomag. effect 1−52781
Fe-Cr-Ni system, elec. and galvanomag. props., 4.2 to 10K *(Russian)* 1−2942
$FeCr_2S_4$ film, elec. and galvanometric props. 1−38795
GaAS epitaxial films, galvanomag. props., low-resist. inclusion effects 1−25814
n-Ge, cascade capture of nonequilibrium carriers 1−2988
Ge, nonintrinsic, magnetoconcentration and other galvanomag. effects 1−20770
n-InSb, electron runaway in strong mag. fields and breakdown 1−25743
K, open orbits, struct. in induced torque rotation pattern obs. 1−2860
$(Nd_xGd_{1-x})_{3-y}S_4$, electrical resistivity, mag. ordering effects 1−25747
Si, electron-phonon interaction, photolumin. and transport phenomena 1−42493
n-Si, impurity-phonon resonances, low temp. photo- and magneto-transport 1−30788
α-Sn, n-type, acceptor resonances and electrically active point defects, galvanomagnetic and thermoelec. meas. 1−34657
U_3As_4, cubic, ferromag. anisotropy and elec. resistivity 1−47690
U_3P_4, cubic, ferromag. anisotropy and elec. resistivity 1−47690

galvanomagnetism *see electromagnetism*

galvanometers
null detector, electronic 1−44743
self balancing photogalvanometer, highly sensitive 1−23204

galvanothermomagnetic effects *see thermomagnetic effects*

game theory
see also information theory
gamma-ray spectrometry, channel pulse overlap elimination 1−51024
particle-range simulation in solids, Monte Carlo damage simulation using game theory, RADDI 1−15938
transport processes, variance and efficiency of Monte Carlo calculations 1−14569

gamma fission reaction *see photofission*

gamma radiation *see gamma-rays*

gamma-ray absorption
A=150-190 photoabsorption cross sections, quadrupole moments, deformation, giant resonance widths 1−28463
concrete slab shields, slant incidence, gamma-ray buildup factors 1−943
di-chromatic differential absorptiometry for assessment of lymphedema 1−26983
glass, gamma ray buildup factors, PIPE code 1−14701
metals, X-ray and gamma-ray photoeffect cross sections 1−48195
pulmonary perfusion, meas. using a digitised ECG-triggered γ-ray absorpt. technique 1−49118
Au-Cs melt, struct. and density, γ-absorpt. method obs. of density 1−25351
Fe, slabs, empirical formulae for build-up factor calcs., wide conical beams 1−20261
^{18}O, photonuclear cross-section, pygmy and giant resonances, open-shell linear response model 1−28443
Pb glass, gamma ray buildup factors, PIPE code 1−14701
S, X-ray and gamma-ray photoeffect cross sections 1−48195

gamma-ray angular distribution
see also gamma-ray spectra
Daresbury Nuclear Structure Facility, isotope and recoil separators, nuclear spectroscopy meas. 1−10579
steel, penetration of 6 MeV photons angular props., shielding 1−28706
(p,γ) resonance levels, J=1/3 assignments from γ-ang. distribs. 1−28447
^{70}Se, level structure from gamma-ray studies, produced from $^{58}Ni(^{14}N,pn\gamma)$ and $^{60}Ni(^{12}C,2n\gamma)$ 1−663
^{106}Ag levels from $^{96}Zr(^{14}N,4n)$, 49 MeV, J, π, γ mixing, two particle+rotor calcs. 1−45409
^{71}As excited states, lifetimes and γ-ray ang. distribs. from $(^{12}C,pn)$, $(^{14}N,2pn)$ 1−45423
$^{12}C(\pi^-,\gamma\gamma)X$, stopped π, photon energy spectra, ang. distribs. and branching ratio 1−14556
^{140}Ce level struct., multipole mixing ratios, J^π and transitions from ^{140}La decay 1−33219
^{A}Er, A=152,153, high spin single particle states from $^{144}Sm(^{12}C,xn)$, 65-95 MeV, γ-γ coincidences 1−45408
Gd γ-ray angular distrib., polarisation, dipoles, quadrupoles and multipoles from $^{170}Pd(^{36}Ar,xn)$ 1−10377
^{128}I levels from $^{128}Te(p,n)$, 2.8-5.0 MeV, lifetimes, J^π assignments 1−28412
^{108}In bands, levels, transitions, γ-ray ang-distribs. and polarisation from $(^{14}N,4n\gamma)$, $(^3He,p2n\gamma)$ 1−28365
^{A}Ir, A=179, 181, 183, 185, 187 levels, β-γ spectra, prolate triaxiality effect from Pt decay 1−10351
$^{A}Kr(\alpha,n\gamma)$, A=80, 82, $^{83,85}Sr$ lifetime and linear polarisation meas. by Doppler shift attenuation 1−666

gamma-ray angular distribution continued
^{82}Kr(α,2nγ), ^{84}Sr lifetime and linear polarisation meas. by Doppler shift attenuation 1−666
^{83}Kr, low-lying levels, transition strengths, multipole mixing ratios and branching ratios 1−23586
^{A}Nb, A=94, 96, from (p,n) 1−14493
^{58}Ni(^{14}N,pnγ), ^{70}Se level structure from gamma-ray studies 1−663
^{60}Ni(^{12}C,2nγ), ^{70}Se level structure from gamma-ray studies 1−663
^{237}Np, gamma rays from ^{237}U parent, perturbed angular distribution 1−10343
^{20}O states from ^{18}O(t,pγ), p-γ ang. correl., J$^{\pi}$ assignments, E2/M1 ratio, shell model predictions 1−45455
^{208}Pb(n,γ), fast neutrons, γ-ray angular distrib., pure resonance and direct-semidirect models 1−18650
^{A}Po, A=206, 208-210, isomeric levels, γ-perturbed ang. distribs., radiation damage effects from Pb(α,2n) 1−36923
^{A}Sr, A=83, 85, lifetimes of high-spin states, recoil-distance measurements 1−41078
^{87}Sr, gamma-ray spectrosc. and energy-B(E2) rule 1−23587
^{A}Tc, A=97, 98, 100, γ-, $\gamma\gamma$-coincidence conversion electron spectra, level schemes J$^{\pi}$, from (p,n) 1−14493
^{A}Te(n,n'γ), A=124, 126, 128, 130, γ-transition multipole mixtures, low lying states 1−45447
^{116}Te decay schemes from ^{116}Sn(^{3}He, 3n), ^{116}Sb levels 1−50509
^{91}Zr(n,n'γ), gamma photon ang. distrib., transition multipolarities 1−33235

gamma-ray applications
see also radiation therapy
activation of nuclear isomers, appl. 1−43720
complex profile parts, radiometric inspection, automated multichannel γ-ray inspection unit 1−31812
flue dust emission meas. *(German)* 1−13208
side scatter gamma technique, local void fraction measurement in two-phase flows appl. 1−15563
thickness measurement meter, portable, for metal plates 1−23386

gamma-ray astronomical observations
burst detection by Konus expt. on Venera 11 and 12 probes 1−9731
burst detection by SNEG-2MZ instrument on Venera 11 and 12 probes 1−9732
bursts on 1978 Nov. 4 and 1979 April 6 and 18, source *(Russian)* 1−49860
3C 273, Γ-radiation detect. using likelihood method 1−44631
3C 273, high energy gamma-ray emission confirmation 1−36429
cosmic background from 1-20 MeV, distinguishment from vertical atm. component 1−9737
Cygnus X-3, gamma-ray flux obs. *(Russian)* 1−17908
Cygnus X-3, gamma-ray obs. at energies of 10^{12} eV 1−44672
Cygnus X-3, gamma-ray spectrum rel. to gamma-ray generation mechanism *(Russian)* 1−17909
extragalactic objects, search for γ-radiation using likelihood method 1−44631
galactic centre region, positron annihilation gamma ray line detect. 1−49809
galactic cosmic ray electron distrib. from gamma-ray flux, SAS 2 data 1−9335
Galaxy centre, gamma ray lines and continuum radiation obs. 1−9726
neutron stars with strong mag. fields, gamma ray line obs. *(Russian)* 1−22929
Orion cloud complex, COS-B obs. of high-energy gamma-ray emission 1−22865
PSR 0833−45, gamma-ray emission, COS-B obs. 1−13792
Sun E>100 MeV, flux upper limit from quiet Sun 1−36245
supernovae, high energy γ-rays, prompt transient emission 1−9727
ultrahigh-energy sources, Crimean Astrophysical Observatory search 1−22928

gamma-ray astronomy
see also gamma-ray sources (astronomical)
angular resolution of gamma-ray telescopes, methods of improvement 1−17769
electron precipitation bremsstrahlung effects on gamma-ray astronomical obs. 1−27350
galactic X-ray and gamma-ray emission rel. to interstellar electron spectrum 1−27347
review of gamma-ray spectral line studies 1−5004
scintillation time-of-flight systems, for modern telescopes for recording cosmic gamma radiation 1−36185
Seyfert galaxies and active galactic nuclei, black hole gamma ray emission mechanism 1−9664
space observatory trends, optical, structural and control technological problems 1−49475
telescope spark chamber photographic data processing by desktop calculator 1−4777

gamma-ray detection and measurement
see also gamma-ray spectrometers; radioactivity measurement
4π multidetector γ-spin spectrometer at Holifield heavy ion research facility 1−45771
activation detectors and their gamma spectrum analysis 1−18991
angular distribution of gamma dose rate at deep penetrations 1−28714
automatic control of spectra measurement for annihilation α quanta 1−51065
bremsstrahlung beam anal. for neutron contamination 1−41265
cellulose nitrate γ-irradiated, solid-state track detection 1−51052
Cherenkov counter, lead glass, 194-element array, γ-ray and photon energies in K_L^0 decay 1−28803
Cherenkov gamma-ray scintillation telescope, characts. 1−4638
coincidence counting (β-γ), corrections 1−6110
conference on nuclear behaviour at high ang. momentum, Strasbourg, France (April 1980) 1−44695
corundum, thermolum. props., dopant and growth method influence, γ-ray detect. appl. 1−26288
Darmstadt-Heidelberg crystal ball modularised NaI detector 1−45782
dead time effects of time jitter and metastable gamma-transitions in coincidence systems 1−45802
dosimetry system using PIN diode and RPL glass for neutrons and gamma rays 1−6049
dual type gridded ionisation chamber using liq. Xe 1−1027
EM shower detector at Fermilab using MWPCs with cathode plane delay-live readout 1−10609
EM shower spread, pair production and multiple Coulomb scatt. influence 1−50440

gamma-ray detection and measurement continued
energy release, neutron and gamma components, Gray chamber meas. 1−28596
environmental exposure measurement, Ge(Li), NaI(Tl) detectors, ionisation chamber comparison 1−1001
environmental gamma-ray dosimeter 1−18915
high-energy cosmic gamma ray burst, ground-based detection system 1−13650
imaging, real time, three dimens., of X-ray and γ-ray objects 1−5447
inorganic scintillation counters, light yield dependence on energy 1−51037
intense pulsed proton beam, duration and intensity from ^{19}F(p,$\alpha\gamma$) 1−45778
inversion collimated gamma-gamma probes, optimum parameters determ. *(Russian)* 1−27277
ionisation chambers with master-slave dose-rate monitoring system 1−937
irradiated/fuel pin data acquisition and control for gamma scanning nuclear 1−23840
luminescence method for X-ray, gamma-ray and neutron detect. 1−23978
LWR irradiated fuel assemblies, examination using ion chambers 1−18970
lyoluminescence phosphors, radiation quality and gamma dose, response function 1−6045
microcomputer based shelf system to monitor special nuclear materials in storage 1−14629
microprocessor-controlled nuclear sample counter 1−45797
narrow W slit, distribution, Geiger counter meas. 1−1019
nondestructive gamma-ray spectrometry of reactor spent fuels for Pu safeguards 1−41173
nuclear materials safeguards, FBR fuel drawer scanner 1−18762
nuclear materials safeguards, scintillator for spent fuel monitoring 1−18753
nuclear spectroscopic method *(Slovenian)* 1−1002
peak fitting analytical functions for Ge detectors 1−28800
pocket warning γ-dosimeter with numerical display 1−50977
points on annihilation lifetime spectrometer, influence of geometry on resolution 1−991
polyethylene terephthalate film, ion track selectivity, γ-ray effect 1−23982
pulse height analyser, for high counting rate in Mossbauer spectroscopy 1−28815
pulsed Cherenkov γ detector time resolution 1−37061
resonance interaction of γ rays with nuclei, pulsed source and installation 1−51023
scintillation counter parameter calc. 1−10602
scintillation gammacamera with computer based data processing system 1−45776
secondary standard dosimeters for X-rays and gamma-rays up to 2 MeV, calibration factors 1−41271
short lived activities, γ-ray precision energy meas. 1−28416
solid state detectors, efficiency evaluation method 1−1024
superconducting γ-ray detector, superheated, in scintigraphic medical imaging, cryostat design 1−8978
time-modulation γ camera collimator optimisation 1−404
tissue-equivalent medium irrad. by neutron radiotherapy sources, γ-ray spectra meas. 1−53817
TLD, energy dependence of LiF, $CaSO_4$:Dy, $CaSO_4$:Tm 1−950
TLD, photon counting system, monitoring personnel exposure 1−965
TLD, three element sandwich type, LiF:Al, extremity dose meas. 1−6086
TLD for measurement of $\beta\gamma$, γ and neutron dose 1−6054
TLDs, ^{7}LiF, gamma detection in reactor mixed radiation field 1−6099
TLDs, CaF_2:Mn, gamma detection in reactor mixed radiation field 1−6099
TLDs, natural fluorite, gamma-ray dosimetry at 250°C in PFR 1−6092
VVER, experiment of channel, dosimetry, thermal neutron capture, radiation therapy expts. *(Czech)* 1−942
wide range survey meter for estimating γ- and β-dose rates 1−50978
wire chamber hodoscope calibration for 50-90 MeV γ-ray detection 1−37064
e^+e^- annihilation photon detection *(Slovak)* 1−1020
γ-γ coincidence matrix from (n, γ) reactions, direct decomposition calc. method 1−28827
CdTe detectors, medical appls. *(Italian)* 1−53856
CsF_2 scintillators, γ-ray time and energy resolution 1−28805
Ge detector energy resolution improvement with pulse shape discriminator 1−37077
Ge, empirical polynomials for γ-ray interaction cross sections 1−37072
Ge, planar detectors, absolute photopeak efficiency values in 30-600 keV region 1−37071
Ge, ultrapure, detector array for quantitating 3D distrib. of a radionuclide 1−13317
Ge(Li) γ-ray detectors, attenuation factors, expt. and calc. values 1−23973
Ge(Li) spectrometer, environmental aquatic studies 1−23934
LiF, dose re-estimation using UV photo-transfer, effect of LET 1−951
LiF, TLD, radiation-induced colour centres at high absorbed dose rates 1−944
LiF TLD, response of peak 5 and peak 6 to ion irradiations 1−1043
LiF TLDs high-temp. peaks, linear energy transfer depend. 1−50956
LiF thermoluminesc. dosimeters, efficient use in mixed neutron gamma fields 1−23956
NaI-detectors, absolute photopeak and total pair prod. efficiency values in 1.5 to 15 MeV region 1−37070
NaI(Tl) 4$\pi\gamma$ crystals for activity meas. of radionuclides with complex decay schemes *(German)* 1−6102
NaI(Tl) counter for ^{226}Ra low-level activity in water 1−28811
NaI(Tl), empirical polynomials for γ-ray interaction cross sections 1−37072
NaI(Tl), low cost shower detectors for low energy γ-rays 1−28793
NaI(Tl) scintillometer calibration technique for archaeological gamma dose rate meas. 1−6079
NaI(Tl) spectrometer, monochromatic nuclear photon scattering experiment 1−37053
Pb electroplated collimator for gamma-ray imaging 1−35909
Pu contaminated waste, passive γ-ray monitoring using Ge(Li) detector 1−50990
^{240}Pu assay of waste materials for safeguards anal. 1−14601
Ra daughters in air, gamma activity meas. 1−18983
U ore segregation in transport containers, effect on rapid gamma anal. 1−28686

gamma-ray diffraction
distorted crystal, dynamic scatt. by bent reflecting planes *(Russian)* 1−7041
twinned crystals, differential γ-ray diffractometry technique 1−20036
KH_2PO_4 twinned crystals, ferroelec., differential γ-ray diffractometry 1−20036
UAs, lattice distortion, γ-ray diffr. investig. 1−47060
UO_2, lattice distortion, γ-ray diffr. investig. 1−47060

gamma-ray effects
see also biological effects of gamma-rays; radiolysis
aggregate colour centres for optical memories, prod. by ion implantation, X-ray, γ and electron irrad. 1−42380
air, radiated EM field produced by collimated gamma rays 1−33609
alkali chlorides:V, isotropic EPR spectra, paramagnetic centres 1−43004
anthracene isologues, single crysts., SCL currents and injection phenomena, γ-irrad. effects *(French)* 1−25736
beryl, positron annihilation lifetime spectra, changes on dehydration 1−16624
chloroprene rubber, deterioriation of mech. props. under various conditions 1−39485
cordierite, positron annihilation lifetime spectra, changes on dehydration 1−16624
dimethyl aluminium halide radical anions, struct. and ESR spectra 1−45995
durene, single crysts., SCL currents and injection phenomena, γ-irrad. effects *(French)* 1−25736
electrical conductivity of highly dosed air 1−34036
epoxy resin, fibre reinforced epoxies, mechanical strength, effect of low temp. irradiation 1−31526
fibre transmission losses obs., in high-radiation fields 1−11120
fluorite, synthetic, absorption spectra, radiation effects 1−25266
fluorophlogopite, neutron irrad., optical props., EPR meas. 1−20274
glycine, γ-irrad. crystals, paramag. radiation defects form. and stabilisation 1−47945
α-glycine cryst., NH_3^+ CH_2 free radical EPR, trapping matrix effect 1−26038
metals, electric-spark doping, adsorption phenomena influence *(Russian)* 1−47100
mica, high γ-ray dose effect on track registration props. 1−2509
microprocessor chip failure following γ, X-ray and electron irrad. 1−2508
naphthalene single crystals, space-charge limited currents and injection phenomena *(French)* 1−47665
5-nitro-6-hydroxythymine, γ-irrad. at 77K, EPR single cryst. investigation 1−31880
optical fibre γ-radiation damage, subtraction interferometry study 1−1708
polyacetylene films, IR spectra, oxidative and radiative stability 1−16620
polyethylene, cryst., thermal energy storage material use and eval., physicochem. props. improvement *(Japanese)* 1−8759
polyethylene adipate, irrad., cation-electron pair recomb. by long-range tunnelling, isothermal luminesc. study 1−31206
polyethylene terephthalate, irrad., cation-electron pair recomb. by long-range tunnelling, isothermal luminesc. study 1−31206
polyethylene terephthalate film, ion track selectivity, γ-ray effect 1−23982
polyimide, mechanical strength, effect of low temp. irradiation 1−31526
polymer-plasticised piezoelectric, γ-radiation effects on dielec. and piezoelec. props. 1−31093
polymers, irradiated, physical props. 1−7209
potassium hydrogen oxalate, gamma-irradiated, radicals studied by EPR, ^{13}C hyperfine tensor 1−38985
quartz, smoky, γ-irrad., dielec. relax. meas. down to 4 mK 1−31085
quartz, swept Premium-Q, radiation effects 1−15927
quartz and devitrified glasses, thermal expansion measurements and hard radiation effects 1−30279
quartz and quartz glass, gamma radiation-coloured, classification and fracture by laser beam 1−30278
quartz crystals, negative transient freq. shifts due to X- and γ-ray irrad. 1−12459
quartz resonators and oscillators, radiation effect 1−15927
radiolysis processes, high temp. irradiation *(Russian)* 1−48706
rhamnose, irrad., form. of alkoxy radical, ESR spectra, two proton hyperfine coupling obs. 1−12403
ruby, cryst. γ-irrad., EPR line widths 1−3244
sodium acetylacetonate, elec. and spectral props., gamma irrad. effects 1−47639
spark counter fission fragment registration efficiency degradation 1−1010
steel, C and stainless, gamma radiation effect on corrosion products in high temp. water 1−780
styrene-acrylonitrile co-polymer impregnated mortar, effect of radiation on props. 1−39373
superconducting fusion-magnet materials, radiation effects 1−52173
TGS, γ-irrad. crystals, paramag. radiation defects form. and stabilisation 1−47945
TLD, local energy transfer by neutrons and photons 1−946
Au, K-shell photoelectrons, transverse polarisation, prod. by 662 keV unpolarised photons 1−12626
BaH_2 powder, UV photodecomposition kinetics 1−4108
$Ca(ClO_3)_2$ crystals, gamma-ray radiation damage, isothermal annealing 1−11787
$Ca(ClO_3)_2.2H_2O$ crystals, gamma-ray radiation damage, isothermal annealing 1−11787
CaH_2 powder, UV photodecomposition kinetics 1−4108
$CaSO_4$:Dy, thermoluminescence depend. on stopping power 1−26285
CdTe, irrad. induced defects, photoluminesc. study 1−8112
$CsUO_2(NO_3)_3$, γ-irradiated, long wave luminesc. centre 1−12573
β-Cu-Zn, γ irradiated, order-disorder transform. and elec. resist. *(Russian)* 1−38405
Ge, radiation defect annealing, photoluminescence study 1−20262
Ge, US absorpt., γ-irrad. effect 1−25382
GeO_2:OH reduced glasses, OH effect on UV optical absorpt. 1−31173
I_2 in aqueous solutions, chemical effects of gamma radiation 1−8587
KCl, irradiated with X-rays and γ-rays, ionic cond. 1−11899
KCl:Ca^{2+}(Sr^{2+})(Eu^{2+}), gamma irrad. effects on lattice parameter and colour centre conc. 1−52176
$KClO_3$, thermal decomp., effect of defect struct. due to doping and irradiation, semicond. props. 1−26727
K_2SeO_4, incommensurate phase, EPR lineshape study 1−47932
LiCl:Fe, γ-ray irradiation effect, defect struct., X-ray diffr. and Mossbauer meas. 1−43047

gamma-ray effects continued
LiF, TLD, radiation-induced colour centres at high absorbed dose rates 1−944
LiF:OH, IR absorpt. spectra, hydrogen bond formation on γ-irrad. 1−20263
Li_2O-Al_2O_3-SiO_2-TiO_2-SnO_2 system glasses, γ-irrad., ESR obs. of Sn^{3+} additions effect on crystn. 1−52829
Li_2O-La_2O_3-R_2O_3-P_2O_5 glasses (R=Nd, Sm, Eu, Er), Γ-irrad. paramag. centres, ESR spectra 1−43010
$MgAl_2O_4$-metal contact, photoemission, photocond., irrad. effects, band struct. 1−3017
MgH_2 powder, UV photodecomposition kinetics 1−4108
NH_4Cl:Rh, γ-irrad., stabilisation, EPR investig. of Rh^0 and Rh(II) centres 1−31024
$NH_4UO_2(NO_3)_3$, γ-irradiated, long wave luminesc. centre 1−12573
NaCl, gamma irrad., holograms recorded with radiation from He-Ne laser, diffr. efficiency 1−51407
NaCl:Fe, γ-ray irradiation effect, defect struct., X-ray diffr. and Mossbauer meas. 1−43047
Na_2O-B_2O_3-SiO_2 glasses, high SiO_2, radiation-optical stability rel. to prod. conditions 1−42421
Na_2O-Nb_2O_5-P_2O_5 glasses, crystn. tendency, optical props., and density 1−42319
Nb, positron interaction with γ-ray irrad. defects *(Russian)* 1−12597
P_2O_5.Al_2O_3.MO:Mn (M=Mg, Ca, Sr, Ba), X and gamma ray radiation induced struct. defect 1−52969
RbCl, thermoluminescence glow, optical absorpt. and emission 1−53002
n-Si, γ-irrad., electrically active interstitial defects 1−2510
n-Si, photocapacitance study in γ-irrad. Schottky diodes 1−42819
p-Si, recomb. props. of O complexes after annealing and γ-ray irrad. 1−20765
Si, US absorpt., γ-irrad. effect 1−25382
n-Si:Cu(Ag)(Au), impurity states, solid solution precipitation, γ-irrad. effects 1−42718
Si-SiO_2 interface state field generation in γ-irrad. MIS struct. *(Russian)* 1−3043
SiO_2, amorphous, geminate recomb. of γ-ray excited electron-hole pairs 1−2982
SiO_2, glassy, γ-irrad., ESR study of E′-centres, ^{17}O, ^{1}H, and very weak ^{29}Si superhyperfine struct. 1−21048
SiO_2, vitreous, doping elements influence on γ-radiation resist., colour centre absorpt. band obs. 1−52978
SiO_2-GeO_2 core optical fibres, effect of γ-radiation 1−19439
SrH_2 powder, UV photodecomposition kinetics 1−4108
$Sr(NO_3)_2$, annealing of chemical gamma ray damage 1−25324
W, redistrib. of C in γ-irradiated single crysts. *(Russian)* 1−7208
$Zn(OH)_{2-x}(N_3)_x$, γ irradiated, thermal decomp. 1−48679
ZrF_4-ThF_4-BaF_2, mid-IR transmitting glass, gamma-irradiation effect 1−46471

gamma-ray interactions
see also gamma-ray scattering
pair production in the field of atomic electrons 1−24101

gamma-ray lasers
cosmic sources 1−9364
nuclear Raman effect for γ-laser excitation *(Russian)* 1−6534
pumping thresholds, spontaneous decays, overheating *(Russian)* 1−10955
thermal expansion influence on gamma-ray laser action feasibility 1−6533

gamma-ray polarisation
^{70}Se, level structure from gamma-ray studies, produced from $^{58}Ni(^{14}N,pn\gamma)$ and $^{60}Ni(^{12}C,2n\gamma)$ 1−663
Er γ-ray angular distrib., polarisation, dipoles, quadrupoles and multipoles from $^{124}Sn(^{40}Ar,xn)$ 1−10377
^{18}F parity mixing due to NN potential 1−5690
Gd γ-ray angular distrib., polarisation, dipoles, quadrupoles and multipoles from $^{170}Pd(^{40}Ar,xn)$ 1−10377
$^{A}Kr(\alpha,n\gamma)$, A=80, 82, ^{83,85}Sr lifetime and linear polarisation meas. by Doppler shift attenuation 1−666
$^{82}Kr(\alpha,2n\gamma)$, ^{84}Sr lifetime and linear polarisation meas. by Doppler shift attenuation 1−666
^{83}Kr, low-lying levels, transition strengths, multipole mixing ratios and branching ratios 1−23586
$^{58}Ni(^{14}N,pn\gamma)$, ^{70}Se level structure from gamma-ray studies 1−663
$^{60}Ni(^{12}C,2n\gamma)$, ^{70}Se level structure from gamma-ray studies 1−663
^{87}Sr, gamma-ray spectrosc. and energy-B(E2) rule 1−23587

gamma-ray production
angular distribution from Si crystal following electron beam deflection 1−34384
large-scale, from fission products, viability under diff. fuel-cycles 1−23926
resonance interaction of γ rays with nuclei, pulsed source and installation 1−51023
γp→γX, large p_T, parton transverse momentum effects, QCD calc. 1−14398
(n,γ) and (n,n′γ) cross sections, gamma-ray strength functions from spectrum-fitting method, ^{197}Au appl. 1−771
^{145}Pr decay, absolute intensities of γ-rays emitted 1−10341

gamma-ray scattering
see also Compton effect; gamma-ray interactions
bone, trabecular, mineral conc. assess. by coherent γ-ray scatt. 1−26992
special relativity, energy-momentum relationship using gamma ray Compton scatt., demonstration 1−27720
Bi atoms, Rayleigh γ-scatt. cross section, anomalous energy depend. 1−45921
Fe, slabs, empirical formulae for build-up factor calcs., wide conical beams 1−20261
MgF_2 elec. field gradient meas. on nuclei 1−38758
Pb atoms, Rayleigh γ-scatt. cross section, anomalous energy depend. 1−45921

gamma-ray sources *see gamma-ray production*

gamma-ray sources (astronomical)
burst detection by Konus expt. on Venera 11 and 12 probes 1−9731
burst detection by SNEG-2MZ instrument on Venera 11 and 12 probes 1−9732
burst source, trigger for X-ray pulsar, spectra, neutron star interpretation 1−36435
burst sources, 1978 Nov. 4 and 1979 April 6 and 18 *(Russian)* 1−49860
burst sources, one dimensional hydrodynamic theory of asteroid-neutron star collisions 1−44587
bursts from neutrous stars with strong mag. fields, line interpretation *(Russian)* 1−22929
3C 273, Γ-radiation detect. using likelihood method 1−44631

gamma-ray sources (astronomical) continued
3C 273, high energy gamma-ray emission confirmation 1−36429
CG 135, possible optical counterpart LS I 61° 303 1−36428
2CG 136+01, anal. of proposed identifications using likelihood method 1−44631
CG 195+4, emission nature, energy spectrum comparison with models 1−49857
CG 295+0, obs. of two nearby pulsating X-ray sources 2S 1145−619 and (1E 1145.1−6141) 1−9721
CG 312÷1, SAS-3 obs. of nearby galactic X-ray source 1−32773
CG 333+0, proximity to compact X-ray source at centre of supernova remnant (RCW 103) 1−4995
Circinus X-1, high-energy inverse Compton gamma rays theory 1−49858
COS-B second catalogue sources, galactic, two populations from log N-log S graph 1−49854
cosmic gamma-ray bursts, prod. by collisions of asteroids with neutron stars 1−44586
Cygnus X-3, gamma-ray flux obs. *(Russian)* 1−17908
Cygnus X-3, gamma-ray generation mechanism *(Russian)* 1−17909
Cygnus X-3, gamma-ray obs. at energies of 10^{12} eV 1−44672
Cygnus X-3, high-energy inverse Compton gamma rays theory 1−49858
extragalactic gamma-ray sources, contribs. to diffuse gamma-ray background in Hoyle-Narlikar cosmology 1−32775
extragalactic objects, search for γ-radiation using likelihood method 1−44631
galactic, diffuse and discrete, comparison with radio emissions, origin in stellar medium 1−44657
galactic centre region, positron annihilation gamma ray line detect. 1−49809
Galaxy centre, gamma ray lines and continuum radiation obs. 1−9726
laser sources 1−9364
neutron star, accreting in binary X-ray source, gamma-ray line emission 1−13801
neutron star accreting in binary system, gamma-ray spectral lines origin 1−40577
neutron stars as galactic sources *(Russian)* 1−13796
Orion cloud complex, COS-B obs. of high-energy gamma-ray emission 1−22865
plasma, ultraelativistic, neutrino, gamma ray, electron and positron prod. 1−49488
space distribution, effect of variability on V/V_{MAX}-test 1−9378
spectra, statistical evaluation of gamma-ray line obs. 1−49492
supernovae, high energy γ-rays, prompt transient emission 1−9727
ultrahigh-energy sources, Crimean Astrophysical Observatory search 1−22928

gamma-ray spectra
see also gamma-ray angular distribution; gamma-ray spectra of liquids and solids; nuclear decay theory
area estimation for filtered gamma ray spectra 1−5728
background subtraction in Ge(Li) gamma-ray spectra 1−51072
clinical dosimetry, spectroscopy of neutrons and γ-rays 1−9023
energy calibration, IUPAP standards 1−17946
fast flux test facility, initial loading, criticality, neutron and gamma-ray spectra 1−18807
gain-shifts in gamma-ray transmission method, convection of count-rate variations 1−37048
Gaussians, overlapping peaks, modification of intervals *(Spanish)* 1−50288
hadronic interactions of high energy cosmic-ray observed by emulsion chambers 1−14437
high resolution spectra from γ activation products 1−50550
hot nuclear fluorescence induced by synchrotron radiation *(Russian)* 1−23641
internal bremsstrahlung accompanying beta decay, theory, spectral shapes and total yields 1−670
line intensity reference ratios 1−33232
MARY, γ-ray analysis code following (n,n′) scattering 1−50551
neutron deficient isotopes, excitation functions 1−10349
nonLorentzian environmental broadening in Mossbauer spectra 1−51028
positron annihilation line, detect. from galactic centre region 1−49809
remeasurement of gamma-ray reference lines, review 1−36920
response curves automatic interpolation method and application to radiation spectral data processing 1−23400
spent fuel, nondestructive testing by γ-ray spectrometry and neutron radiography 1−50916
γ-γ coincidence matrix from (n, γ) reactions, direct decomposition calc. method 1−28827
^{198}Au, decay gamma intensities, precision determ. 1−10344
^{A}Br, A=75, 74, in-beam gamma spectra, excitation energy, cranking model anal., collective props. 1−10301
$^{12}C(\pi^-,\gamma\gamma)X$, stopped π, photon energy spectra, ang. distribs. and branching ratio 1−14556
^{63}Cu γ-ray strength function from ^{62}Ni(p,γ) 1−5727
^{153}Eu, spectra of γ-transitions from ^{154}Sm(d, 3n) *(Russian)* 1−45453
^{154}Eu, spectra of γ-transitions from ^{154}Sm(d, 2n) *(Russian)* 1−45453
^{56}Fe gamma transitions and excited energy levels from ^{56}Co decay 1−28413
^{154}Gd, excited states, γ-ray transitions 1−5694
^{154}Gd(n,γ), deformed nuclei, expt. test of quasiparticle-phonon model *(Russian)* 1−41114
^{A}Hf(n,n′γ), fast n, A=176, 177, 178, level excitation and gamma spectra 1−635
^{180}Hf^{m}, E2 transition γ-ray intensities 1−5737
^{180}Hf(n,n′γ), fast n, level excitation and gamma spectrum 1−634
^{150}Ho decay, gamma-ray spectra and isomerism 1−18598
^{166}Ho^{m}, multiaxis nuclear spin structs. determ. using γ-ray emission from orientated nuclei 1−26102
^{A}I, A=115, 117, 118, neutron deficient isotopes, excitation functions from Ag(^{12}C,X) 1−10349
^{A}Kr, A=80, 78, in-beam gamma spectra, excitation energy, cranking model anal., collective props. 1−10301
^{82}Kr, excited states, lifetimes and levels from ^{82}Br β-decay 1−5693
^{82}Kr, from ^{82}Br decay, level struct., gamma-ray transitions and spins 1−14460
^{83}Kr, low-lying levels, transition strengths, multipole mixing ratios and branching ratios 1−23586
^{7}Li(γ,γ′), 27-31 MeV, radiative transitions in photofission *(Russian)* 1−41101
^{177}Lu isomeric state, gamma ray intensity decay meas. 1−50543
^{52}Mn, decay gamma intensities, precision determ. 1−10344

gamma-ray spectra continued
^{99}Mo→^{99}Tc 140.5 keV gamma ray absolute intensity 1−10345
^{14}N(n,γ)^{15}N, precise gamma-ray energies 1−10383
^{23}Na(n,γ)^{24}Na precise gamma-ray energies 1−10383
^{90}Nb, decay gamma intensities, precision determ. 1−10344
^{96}Pd decay, 2.0 min. half-life, isomers and gamma-ray spectra 1−662
^{239}Pu(n,f), short lived fission products absolute yields 1−18690
^{239}Pu(n,f), yields of short-lived fission products produced by thermal neutron fission 1−45548
^{81}Rb, levels, J^{π}, transitions and $T_{1/2}$ from ^{81}Sr β^+ decay 1−14496
^{185}Rb(n,γ), deformed nuclei, expt. test of quasiparticle-phonon model *(Russian)* 1−41114
^{A}Sm, A=157, 158, fission product from ^{252}Cf course, gamma-rays and half-life 1−28411
^{87}Sr, gamma-ray spectrosc. and energy-B(E2) rule 1−23587
^{145}Tb isotope identified from X-ray and γ-ray spectra of daughter nucleus formed by electron capture and β-decay 1−45464
^{152}Tm decay, gamma-ray spectra 1−18598
^{235}U(n,f), short lived fission products absolute yields 1−18690
^{240}U, from ^{244}Pu alpha decay, γ spectrum, decay schemes 1−50549
^{A}Yb(n,γ), A=171,173, deformed nuclei, expt. test of quasiparticle-phonon model *(Russian)* 1−41114

gamma-ray spectra of liquids and solids
see also Mossbauer effect
absolute Mossbauer fraction determ., method appl. to $Na_4Fe(CN)_6.2H_2O$, $Na_2[Fe(CN)_5NO].2H_2O$, YIG 1−12436
diamond, channelled electrons, γ-spectra, energy depend. 1−2547
diamond crystal, effect of channelling on γ-radiation spectra of 870 MeV electrons 1−48191
graphite containing $FeCl_3$ and $MoCl_5(WCl_6)$, layer compounds, synthesis, gamma-resonance spectra and struct. 1−7147
liquid metals, thermal cond. coeffs. determ., penetrating γ-emission method 1−20694
metal foils, ^{3}He implanted, local density meas. by Doppler shift attenuation method 1−34376
prompt gamma-ray spectrometry with charged particles 1−13056
rare earth-Al Laves phases, pure and doped RAl_2, growth and characterisation 1−3605
resonance-excited nuclei in crystals, neutron and gamma emission spectra, calc. 1−26099
resonant and non-resonant amplitude modulation of Mossbauer gamma-quanta 1−7977
TDPAC experiments, data reduction methodology 1−34960
tissue-equivalent medium irrad. by neutron radiotherapy sources 1−53817
U isotopic abundance analysis by fine γ spectrometry 1−31962
vibrating resonant medium, Mossbauer gamma radiation spectrum 1−7976
Ag, TDPAC study of internal oxidation of impurities 1−47986
Ag-Pd-In, dil., In-Pd impurity interaction effects, gamma ray ang. correlation study 1−34359
Ag-Rh(Ir), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
Au foil, ^{3}He implanted, local density meas. by Doppler shift attenuation method 1−34376
Au-Pd(Pt)(Rh), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
$CdCr_2Se_4(S_4)$, ^{111}In (^{111}Cd) hyperfine interactions, TDPAC meas. 1−26093
Cu-Rh(Pt), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
Cu_2MnAl, Heusler alloy, ^{65}Cu nuclei hyperfine interaction with external mag. field 1−26082
Fe, K-shell polarisation of O ions by spin depend. electron promotion 1−16513
Gd, elec. field gradient for ^{144}Gd 1−34963
^{166}Ho^{m}, multiaxis nuclear spin structs. determ. using γ-ray emission from orientated nuclei 1−26102
In-Sn alloy, liq., TDPAD obs. of quadrupolar spin relax. rate and short-range order 1−31072
In-Tl(Pb)(Cd) binary alloys, effect of temp. and conc. on elec. field gradient, PAC study 1−52536
Lu-Os, dil., elec. field gradient meas. by nucl. orientation technique 1−12081
Lu-Re, dil., elec. field gradient meas. by nucl. orientation technique 1−12081
Mg_2Ni, Debye temp., nucl. reson. scatt. of gamma rays study 1−52252
$Mg_2NiH_4(D_4)$, Debye temp., nucl. reson. scatt. of gamma rays study 1−52252
Mo, corrosion resistance mechanism 1−53347
Nb foil, ^{3}He implanted, local density meas. by Doppler shift attenuation method 1−34376
Ni, corrosion resistance mechanism 1−53347
Ni, K-shell polarisation of O ions by spin depend. electron promotion 1−16513
Ni-Mo, corrosion resistance mechanism 1−53347
$Ni_{1-y}In_yH_x$, ion implanted, mag. props., TDPAC spectra study 1−21099
^{147}Pm, 91 keV state, mag. dipole moment, in metallic Nd, TDPAC meas. 1−14458
Si, channelled 1.2 GeV electrons, γ-emission 1−2546
Sn-Sb alloy, liq., TDPAD obs. of quadrupolar spin relax. rate and short-range order 1−31072
U assay using gamma spectrometric techniques for materials safeguards 1−14600
Zr foil, ^{3}He implanted, local density meas. by Doppler shift attenuation method 1−34376
ZrO_2-Y_2O_3, nuclear quadrupole relaxation, O_2 motion 1−16500

gamma-ray spectrometers
see also gamma-ray spectra
4π multidetector γ-spin spectrometer at Holifield heavy ion research facility 1−45771
automated nuclear geophysical instrument parameters 1−32560
Compton suppression spectrometer for γ-γ coincidence meas. 1−23931
curved crystal type, design for high resolution (n,γ) experiments, at Grenoble High Flux Reactor 1−10584
electrostatic cylindrical mirror spectrometer for conversion electron Mossbauer spectroscopy 1−37052
environmental exposure measurement, Ge(Li), NaI(Tl) detectors, ionisation chamber comparison 1−1001
fine gamma spectrometry, multiple meas. channel facility, real-time operation, possibilities 1−23943

gamma-ray spectrometers continued
fission reactor fuel enrichment, gamma-spectroscopic method *(Ukrainian)* 1−23855
gain-shifts in gamma-ray transmission method, convection of count-rate variations 1−37048
HEAO 3 gamma-ray spectrometer 1−32623
line intensity reference ratios 1−33232
liquid Ar Compton γ spectrometer 1−37050
Mineral-3 microprobe analyzer, adjustment indicator 1−45097
Mossbauer effect, surface study instrumentation *(Japanese)* 1−3311
Mossbauer spectrometer moving system control unit for velocity zero stability 1−994
Mossbauer spectrometer performances *(Japanese)* 1−5450
Mossbauer vibrator movement accuracy verification method 1−993
nuclear gamma-resonance spectrometer, velocity calibrator using laser methods 1−51025
nuclear spectroscopic method *(Slovenian)* 1−1002
points on annihilation lifetime spectrometer, influence of geometry on resolution 1−991
positron annihilation lifetime spectrometer, resolution, influence of source 1−33082
prompt gamma-ray spectrometry with charged particles 1−13056
pulse overlap in spectrometer channels, elimination using game matrix theory 1−51024
quantitative gamma spectroscopy at very high counting rates 1−28786
resonance interaction of γ rays with nuclei, pulsed source and installation 1−51023
sample to detector distance setting device for gamma spectroscopy 1−28142
semiconductor spectrometer data digital-window selection and compression device 1−996
source movement system 1−45093
synchrotron radiation spectroscopy methods using SOR-RING source *(Japanese)* 1−18953
e^+e^- annihilation, angular correlation spectrometer with programmable multicycle algorithm 1−37080
e^+e^- annihilation photon detection *(Slovak)* 1−1020
(n,n'γ) cross-section meas. using pulsed neutron beam 1−10587
Al, impurity determ., neutron activation anal. 1−8632
Ge-NaI(Tl) Compton suppression spectrometer, response prediction by Monte Carlo code 1−6074
Ge(Li) gamma-ray spectra, background photopeaks, correction 1−23941
^{3}He refrigerator for Mossbauer experiment ^{4}He cryostat 1−10055
NaI(Tl) spectrometer, monochromatic nuclear photon scattering experiment 1−37053
^{121}Sb Mossbauer spectrometer velocity calibration hybrid compound 1−997

gamma-ray transport *see photon transport theory*

gamma-rays
atmosphere, hard gamma-rays at airplane altitudes 1−13554

gamma transition *see glass transition*

Gamow-Teller transitions *see beta-decay*

garnets
includes ferrimagnetic insulators, $M_3Fe_5O_{12}$; for rock-type garnets, $MM'(SiO_4)_3$, see minerals
see also ferrimagnetic properties of substances
$(Bi_{0.4}Sm_xTm_{2.6-x})(Ga_{0.8}Fe_{4.2})O_{12}$ ferrite-garnet epitaxial films, domain struct. *(Russian)* 1−3224
bubble automotion channels by laser annealing 1−52812
bubble film, coercivity meas. method 1−7909
bubble films, AC susceptibility an optical interference meas. 1−7908
bubble films, domain wall dynamics, theory 1−38961
bubble garnet films, mag. transition temp., ion-implantation, and annealing effects 1−38958
crystal growth, conf., Matrafured, Hungary (Mar. 1979) 1−5012
crystal growth at the Central Research Institute for Physics 1−8209
crystalline films for magnetic bubbles, book contrib. 1−30998
epitaxial films, for bubble domain memory devices, meas. methods and set-ups *(Polish)* 1−5343
ferrite-garnet epitaxial film with submicron domain struct., magnetooptical study 1−52817
ferrogarnet film bubble dynamic behaviour, high-speed photography and optical microscopy 1−21020
ferromagnetic materials, props., book 1−27687
film, (100) fourfold symmetric, charged domain walls 1−7874
film, ion implanted, magnetization angles, effect of material parameters and drive field 1−7917
film, ion-implantation conditions and annealing effects for contiguous disk bubble devices 1−7918
film, laser annealed, mag. props., ferromag. reson. and bubble statics meas. 1−12367
films, (111) oriented, ferromag. reson. 1−16483
films, absorption spectra by guided-wave optical spectroscopy 1−48179
films for micron and submicron mag. bubbles with low damping consts. 1−47920
garnet film props. control 1−52813
growth mechanism in high temp. solns. revealed by induced striations 1−21336
laser, CW with nonplanar ring cavity rotating beams obs. 1−33724
LPE bubble garnet films, automated spatial filtering for rapid characterisation 1−28039
LPE film, defect generation during annealing 1−20590
LPE layers, induced striations rel. to growth rate 1−7484
LPE using vertical dipping, solutal convection 1−53109
magnetic bubble circuit, ion implanted, annealing 1−7915
magnetic loss meas., reson. cavity method 1−7888
magnetic properties, book contrib. 1−30916
magneto-optic light deflector, stripe domains in garnet film, three mirror cavity 1−11078
rare-earth Fe film, magnetostriction meas. using double-axis X-ray diffractometer 1−405
rare-earth iron garnets, $R_3Fe_5O_{12}$, Mossbauer study, Fe^{3+} dynamic and hyperfine characts. above Neel temp. 1−52876
rare-earth-Fe mag. bubble garnets, Ca, Ge substituted, rel. between uniaxial anisotropy and comp. 1−21019
rare-earth-FE superexchange interaction 1−20973
YAG, growth from melt, purity and doping possibilities 1−53083
YAG crystal optical strength, irradiation with Er^{3+}:YAG giant laser pulses λ=2.94 μ 1−33732

garnets continued
$(BiNdYb)_3Fe_5O_{12}$, garnet film stripe domain control, laser beam deflection 1−11077
$(BiTm)_3(FeGa)_5O_{12}$ epitaxial films, domain struct. investigation in spin reorientation region 1−25997
$Ca_3Ga_2Ge_3O_{12}$ substrate, growth of $(SmLuCa)_3(SiLuFe)_5O_{12}$ mag. bubble film 1−8240
$Ca_3Ga_2Ge_3O_{12}$, substrate, for mag. films, prep. 1−21338
Er IG, optical reflectivity and thermoreflectivity 1−31117
$Er_3Al_{5-x}Ga_xO_{12}$, film 1−34588
$Er_3Fe_5O_{10}$, non-collinear mag. structure, assoc. with compensation temp., neutron diffr. study *(French)* 1−52747
$Er_3Fe_5O_{12}$ garnet, Faraday rotation meas. 1−26176
$(Eu,Y)_3(Ga,Fe)_5O_{12}$ film, LPE grown, mag. damping and wall mobility 1−7919
Eu-CaGe substituted garnet films, bubble domain vel. and mobility, mag. field effects *(Japanese)* 1−7921
$Eu_3Fe_5O_{12}$ garnet, spin echo enhancement 1−21083
EuGa garnet film, domain wall velocity 1−12372
EuGa YIG, LPE film growth, wafer holder 1−39252
Fe garnet film, initial stage of magnetisation switching, meas. 1−21013
GIG, Faraday effect rel. to applied field 1−35018
Gd IG, optical reflectivity and thermoreflectivity 1−31117
GdGa garnet single crystals, defects *(Chinese)* 1−7162
$Gd_3Ga_5O_{12}$, defect studies using X-ray topography *(Chinese)* 1−25257
$Gd_3Ga_5O_{12}$ garnet, positron annihilation study 1−21291
$Gd_3Ga_5O_{12}$, lattice parameter changes of facets, X-ray double cryst. meas. 1−20152
$Gd_3Ga_5O_{12}$ substrate for mag. bubble domain device, lattice constant meas. and standard value *(Japanese)* 1−2399
$Gd_3Ga_5O_{12}$ thin film preparation, by Czochralski method, for magnetic bubble storage *(Polish)* 1−8214
$Gd_3Ga_5O_{12}$, two inch dia. crysts., growth economical, technical and scientific aspects 1−8213
$Gd_3Ga_5O_{12}$:Er, garnet, molecular light scatt., photoelasticity 1−21221
$(GdY)_3(FeGa)_5O_{12}$ film, bubble-lattice reson. spectrum and lineshape 1−7951
Ge garnet substrate, for mag. films, prep. 1−21338
$Ho_3Al_5O_{12}$ garnet, field induced mag. moment and anisotropy 1−34876
$Ho_3Fe_5O_{17}$, non-collinear mag. structure, assoc. with compensation temp., neutron diffr. study *(French)* 1−52747
$Ho_3Ga_5O_{12}$, surface vici nal features and dislocations, neutron topography study 1−47089
HoIG, Faraday effect at 1.15 μ in strong mag. fields 1−52924
$(LaLuSm)_3(FeGa)_5O_{12}$, submicron bubble garnets, development and characts. 1−7905
$(LaSmLu)_3(GaFe)_5O_{12}$, $(LaSmTm)_3(GaFe)_5O_{12}$, epitaxial films, bubble states and other mag. props. 1−7907
$(LaTmCa)_3(FeGe)_5O_{12}$, garnet films, magnetic loss, domain wall motion 1−16465
$(Lu,Y,Gd)_3(Fe,Mn,Ga)_5O_{12}$ film strip domains, large magnetostriction constants under influence of in-plane fields 1−12368
$NaCa_2Ni_2V_3O_{12}$, canted mag. struct., exchange interaction and effective single-ion anisotropy 1−47862
Nd garnet, positron annihilation study 1−21291
(Sm, Y, Ca)$_3$(Ge, Fe)$_5O_{12}$, magnetic bubble parameters, temp. depend. 1−21021
(Sm, Y)$_3$(Ga, Fe)$_5O_{12}$, magnetic bubble parameters, temp. depend. 1−21021
Sm-CaGe substituted garnet films, bubble domain vel. and mobility, mag. field effects *(Japanese)* 1−7921
SmCaGe garnet film, domain wall velocity 1−12372
$Sm_xEr_{3-x}Ga_yFe_{5-y}O_{12}$ thin films, high coercivity, thermomag. writing 1−25943
SmGa garnet film, domain wall velocity 1−12372
$(SmLuCa)_3(FeSi)_5O_{12}$ epitaxial films on CaGeGa garnet, mag. and struct. characts. 1−42988
$(SmLuCa)_3(SiLuFe_5)O_{12}$ epitaxial film, domain wall resonance 1−3226
$(SmLuCa)_3(SiLuFe)_5O_{12}$ bubble film growth on $Ca_3Ga_2Ge_3O_{12}$ substrate, mag. props. 1−8240
SmLuYCaGeIG system, bubble collapse temp. coeff., ion implantation and annealing effect 1−38959
SmTbGa garnet film, domain wall velocity 1−12372
$Tb_3Al_5O_{12}$ garnet, field induced mag. moment and anisotropy 1−34876
TbIG, single crystal, elastic constants 1−7232
$(Y,Sm)_3(Fe,Ga)_5O_{12}$ garnet epitaxial film, domain wall dynamic props. *(Russian)* 1−38955
$(Y,Sm)_3(Fe,Ga)_5O_{12}$ LPE films, roughness and rate anisotropy of growth steps 1−20593
Y ferrite-garnet crystals, laser radiaton diffr. by laminated domain struct. 1−48045
Y-Sm-Lu-Ca-Ge garnet film, ion implanted bubble circuit, drive layer thickness effect 1−7916
YAG, excitation dragging in strong noncoherent interaction of Er^{3+} and Yb^{3+} ions 1−12583
YAG, pure and doped, X-ray irrad., thermoluminesc. study 1−21281
YAG rare earth doped, optical detection of EPR 1−34937
YAG single cryst. phosphor screen for cathode ray tube, LPE grown 1−8241
YAG single-mode pulse-periodic oscillator-amplifier system with wavefront reversal 1−51494
YAG, ultrasonic velocity, elastic consts. under press. 1−34428
YAG:Er, garnet, molecular light scatt., photoelasticity 1−21221
YAG:Nd, Czochralski cryst. growth, needle-like stress zones and dislocations due to constitutional supercooling *(Chinese)* 1−52095
YAG:Nd, three-photon absorption, Nd energy levels, fluoresc. decay study 1−39131
YAG:Nd^{3+}, excitation transfer and intracentre relax. many-phonon processes 1−12560
YAG:Tb^{3+}, thin films, electronic Raman spectra 1−16553
$Y_3Al_5O_{12}$ crysts., cleavage during polishing 1−3959
$(YBi)_3(FeGa)_5O_{12}$ epitaxial garnet film, domain wall reson., light effect 1−30997
$Y_{3-x}Bi_xFe_5O_{12}$, single cryst. growth from Bi_2O_3-PbO-B_2O_3 flux systems *(Chinese)* 1−48245
$(YErCa)_3(FeGe)_5O_{12}$, garnet films, magnetic loss, domain wall motion 1−16465
$Y_3Fe_{5-x}Ga_xO_{12}$, Curie temp. meas. by differential thermal gravimetric anal. in mag. field *(Russian)* 1−7829
$Y_3Fe_{5-x-y}Ga_xSc_yO_{12}$, Curie temp. meas. by differential thermal gravimetric anal. in mag. field *(Russian)* 1−7829

garnets continued
$Y_3Fe_{5-x}In_xO_{12}$ garnet, refractive indices *(Russian)* 1−39061
$Y_3Fe_{5-x}Sc_xO_{12}$, ferrite garnets, mag. struct. 1−20961
$Y_3Fe_{5-x}Sc_xO_{12}$, mag. phase transitions and mag. structs., X-ray diffr. study 1−52780
YGaIG, float zone growth, cryst. defects and microwave charact 1−8222
$(YGdYbBi)_3Fe_{5-x}Al_xO_{12}$, ferrite garnet epitaxial film, noncollinear mag. state 1−25995
$(YGdYbBi)_3(Fe.Al)_5O_{12}$ ferrite-garnets mag. bubbles, elliptical distortions, dynamic switching 1−25999
$(YGdYbBi)_3(FeAlGa)_5O_{12}$ magnetic garnets, epitaxial films and non-through domains 1−30996
YIG, asynchronous domain wall oscill. excitation by RF mag. field 1−34906
YIG, Bloch line, free and forced oscillations 1−52815
YIG, critical thermal expansion near Curie point *(Russian)* 1−11889
YIG crysts., flux growth, using $PbSO_4$ instead of PbO 1−31326
YIG disc, FMR magnetostatic modes, retroaction on microwave field 1−52763
YIG, EM resonance press. and force moments *(Russian)* 1−21034
YIG, electrostriction and magnetoelec. effect 1−31005
YIG epitaxial film, low-field damped surface modes in FMR spectra 1−7954
YIG, Faraday effect rel. to applied field 1−35018
YIG film, interaction between domain wall and dislocation, magnetostriction *(Russian)* 1−42986
YIG film, linearly tapered, guided magnetic waves, dispersion relation and group delay time 1−42954
YIG film, magnetostatic bulk wave propagation, ray optic approach 1−3161
YIG film between permalloy strips, magnetostatic surface modes with nonuniform in-plane fields 1−12382
YIG, LPE grown, magnetostatic forward volume wave to spin wave conversion by etched grating 1−12383
YIG near IR detector elements with Ge-As(Sb)-S(Se) two layer antirefl. coatings *(Russian)* 1−41800
YIG, polycryst., initial permeability components and anisotropy meas. 1−52804
YIG, positron annihilation study 1−21291
YIG, resonance Bloch line generation *(Russian)* 1−3213
YIG single cryst., ferrimag. reson. field, photoinduced decrease 1−47956
YIG slab, mag. surface-wave propagation, theory 1−7931
YIG specimen, single crystal, theoretical and expt. results on precession *(German)* 1−31033
YIG, spin wave parametric excitation, domain struct. effects 1−25922
YIG thick epitaxial film, FMR study of damped surface modes 1−16484
$YIG:Co^{2+}$, magnetoelastic props., FMR and static capacitance 1−26006
YIG:Si, comp. depend. spin reorientation, Mossbauer effect meas. 1−12440
YIG:Si, photomagnetic effect, recombination 1−52825
$YIG:Si^{4+}(Nb^{4+})(Sn^{4+})(Zr^{4+})(Ti^{4+})(Th^{4+})$, site occupancy of Fe^{2+} ions, optical absorpt. and MCD study 1−48122
$(YLaEu)_3(FeGa)_5O_{12}$ epitaxial films, growth induced anisotropy, FMR 1−7920
$(Y_{1-x}Lu_x)_3Al_5O_{12}:Mo^{3+}$, EPR and NMR study 1−26030
$(YLuSmCa)_3(FeGe)_5O_{12}$, mag. bubble garnet, LPE growth, simultaneous multiple dipping 1−8242
$(YSmCa)_3(FeGe)_5O_{12}$, LPE bubble garnet wafers, mag. props. postgrowth modification by etching 1−7904
$(YSmCa)_3(FeGe)_5O_{12}$, epitaxial garnet films, displacement of cylindrical bubble domains 1−42989
$(YSmErGdLuCa)_3(FeGe)_5O_{12}$ bubble films with collapse-field temp. coeffs. from −0.3 to 0%/°C 1−7906
YSmErGdLuCaGeIG, YSmLuCaGeIG and YSmErCaGeIG, bubble garnet films, collapse field temperature characts. 1−42987
$(YSm)_3(FeAl)_5O_{12}$, $(YSmLu)_3(FeGaSc)_5O_{12}$, $(YSmLu)_3(FeAlSc)_5O_{12}$, submicron bubble garnets, development and characts. 1−7905
$(YSm)_3(FeGa)_5O_{12}$-SiO-Permalloy multilayer film, bubble stability, spacing effects, theory and expt. 1−16467
$Y_{2.6}Sm_{0.4}Ga_{1.2}Fe_{3.8}O_{12}$ epitaxial film, mag. bubble lattice, dynamic collapse 1−25998
$(YSmLuCa)_3(FeGe)_5O_{12}$, 2 μm bubble propag. on asymm. chevron patterns, three-dimens. continuum magnetostatic energy model 1−7913
$(YSmLuCa)_3(FeGe)_5O_{12}$, garnet film stripe domain control, laser beam deflection 1−11077
$(YSmLuCa)_3(FeGe)_5O_{12}$ garnet films, magnetic loss, domain wall motion 1−16465
$Y_{1.62}Sm_{0.21}Lu_{0.27}Ca_{0.5}Fe_{4.1}O_{12}$ garnet film, stripe domain width 1−16466
$(Y_{1-x}Tb_x)_3M_5O_{12}$, M=Al,Ga, garnet oxide phosphors, cathodoluminesc. efficiency determ. 1−39161
Yb IG, optical reflectivity and thermoreflectivity 1−31117
ZnO-YIG-GGG thin-film waveguides, hybrid modes optical propag. and conversion props. 1−24536

gas *see gases*

gas analysis *see chemical analysis*

gas blast circuit breakers
see also air blast circuit breakers
arc interruption performance, flow geometry influence 1−15695
arc-supported boundary layer, arc layer thickness and elec. field meas. 1−11622
bas blast circuit breaker arcs, scaling laws during high current phase 1−34155
gas-blast circuit breaker, press. transients at high current levels 1−34158
haloethane, arc interruption performance meas. 1−15696
haloethane-SF_6 mixture, arc interruption performance meas. 1−15696
interaction between gas flow and arc in double nozzle system, theoretical investigation 1−15697
interruption capability of gases and gas mixtures in a puffer-type interrupter 1−34156
model circuit breaker, thermal area and press. var. at current levels 1−15691
nozzle clogging effect on current zero region 1−15689
SF_6 arcs, physical mechanisms affecting transient response 1−15692
SF_6 blast switching arcs, stochastic behaviour 1−34154
SF_6 circuit breaking arcs, quenching processes 1−34153
SF_6 circuit breaking arc, short line fault interruption 1−34162
SF_6, gas blast arc interruption and low current arc behaviour 1−15688
SF_6 high current discharge study 1−15699
SF_6 interrupter, experimental, current effect on gas flow and performance 1−11439

gas blast circuit breakers continued
SF_6 model circuit breaker, dielectric recovery study 1−11619
SF_6, post arc performance study 1−11617
SF_6 puffer breaker arcs, operating mechanism 1−34151
SF_6 puffer circuit breaking arcs, expt. investig. 1−34152
SF_6 puffer circuit-breaker, arc behaviour between nozzle and downstream electrode 1−15690
SF_6 puffer interrupters, full size, thermal limiting curves 1−11620
SF_6-N_2 mixture 1−11620

gas breakdown *see electric breakdown of gases*

gas bubbles *see bubbles*

gas-discharge displays
display devices, book 1−22962
plasma displays, constricted negative glow, engineering and graphical approach 1−15659
Al evaporation of spacer strips, method 1−53092
Ne gas discharge displays, basic kinetic processes 1−38186
Ne kinetic processes analysis and obs. 1−11631

gas discharge lamps *see discharge lamps*

gas-discharge tubes
see also gas-discharge displays; ion sources; thyratrons
coaxial line type microwave CW discharge tube, radial distrib. of excited atoms 1−15645
fast discharge flash tubes, plasma Z-pinch effect, I-V charact. 1−7015
gas-filled diode with a pulsed discharge 1−25095
panel backfill process, pump efficiency improvement 1−272
plasma sheath expansion in positive column, effect on current multiplication 1−15622
soda-lime glass envelope darkening by the low press. Hg discharge 1−29932
He-Ne laser tubes, reconditioning 1−46372
Ne discharges, positive columns in curved discharge tubes 1−15670

gas discharges *see discharges (electric)*

gas dynamics *see aerodynamics*

gas ionisation *see ionisation of gases*

gas lasers
see also chemical lasers; excimer lasers; gasdynamic lasers; ion lasers
absolute laser frequency measurements in IR region 1−36632
acetylene-d_2 laser development, high energy, line-tuned and ^{13}C isotopic operation 1−46316
amular recombination laser using electron-ion recomb. 1−46381
bromomethane-d_3, CW opt. pumped far-IR emissions and assignments 1−24401
carbon tetrafluoride laser, emission frequencies 1−19325
carbon tetrafluoride laser optically pumped by CO_2 laser, action and superfluorescence 1−24405
carbon tetrafluoride laser tuning curves, $\nu_2+\nu_4$ combination vibr. absorpt. spectrum 1−46310
CO_2 laser capital costs and efficiencies for ICF commercial applications 1−41245
CO_2 pulsed RF pumped waveguide laser, gain-switched output 1−46385
coaxial line type microwave CW discharge tube, radial distrib. of excited atoms 1−15645
collisional processes in optically pumped laser gases 1−46318
continuous high-power gas lasers *(French)* 1−10977
difluoromethane-d_2, optically pumped, efficient CW FIR laser, 120.5 to 1714.1 μm region 1−51463
echelette grating, electrically deformable, appl. to tunable laser resonators 1−24484
electrical discharge lasers, electron ionisation rates 1−37480
electroionization laser with a cooled active region 1−24389
electron mobilities, attachment ionisation coeffs., and electron transport coeffs. 1−33671
electronic transition lasers, electron collisions, theory 1−37466
far IR laser, standing wave and travelling wave resonator comparison 1−11025
far IR laser stabilization by injection locking 1−37517
far IR lasers, different timing and modulation techniques comparison 1−19372
far IR lasers, fast freq. modulation using Schottky barrier diode 1−11030
far IR lasers, optically pumped, intracavity double reson. 1−10991
far IR lasers, optically pumped, lossless passive isolators 1−24434
far IR lasers, pumped with tunable narrow band CO_2-TEA lasers 1−6572
fibre-optic coupled pressure transducer, dynamic pressure meas. is transverse discharge laser 1−11096
flow fields, digital heterodyne holographic interferometry 1−41623
fluoroform-d subMM-wave laser, optically pumped 1−6543
fluoromethane DFB 496 μm waveguide gas lasers 1−33719
fluoromethane laser, optically pumped, short far-IR pulses using EQ-switched CO_2 laser pump source 1−29264
fluoromethane laser molecules, optically pumped, vibr. equilibration double-reson. study using time resolved CO_2 laser technique 1−41670
fluoromethane optically pumped submm. laser, Stark effect 1−33664
forced mode synchronization in gas ring lasers 1−1593
formic acid, CW opt. pumped far-IR emissions and assignments 1−24401
formic acid 403.7 GHz laser line, modulation by external variable reactance 1−37518
formic acid laser, optically pumped, short far-IR pulses using EQ-switched CO_2 laser pump source 1−29264
formylfluoride, pumped with CO_2 laser, intense far IR laser action 1−41664
frequency and length standards 1−36634
frequency reference grid in 28 THz range 1−23190
frequency stabilization system using ICs 1−46408
fusion reactor laser driver system review, book contrib. 1−11020
gaseous electronics conference, Oklahoma, USA (1980) 1−36457
gaussian beam width *(French)* 1−29305
Group II elements, lasing in vap., discharge-optical method 1−24408
high power lasers, industrial and fusion appls. 1−37535
inert gas plasma, electron-beam-produced, emission spectra and short-pulse lasing obs. *(Japanese)* 1−24392
IR laser power monitor 1−37501
IR lasers, conf., Los Angeles, CA, USA (Dec. 1980) 1−44716
IR lasers, props. and appls. 1−37536
LASL ANTARES CO_2 laser system, design of low inductance 300 kJ, 1.2 MV Marx generator for pulse generation 1−33659
light and its uses for amateur scientists, book 1−44721
linear and ring gas lasers with high excitation level, pumping modulation 1−33720

gas lasers continued
methane-stabilized laser, frequency measurements for metre definition 1−36631
methanol, far IR lasers, optically pumped, intracavity double reson. 1−10991
methanol, mol. vibr., in far IR laser, Stark effect, IR obs. 1−14883
methanol, optically pumped, CW far IR laser action by Stark timing 1−29258
methanol(-d) laser, optically pumped, short far-IR pulses using EQ-switched CO_2 laser pump source 1−29264
methanol far IR laser gas, CW laser pumped, gain saturation 1−15156
methanol laser (λ=70.5 μ) freq.-phase locking to a $^{13}C^{16}O_2$ laser 1−33666
methanol optically pumped waveguide far IR laser, operating charact. 1−15158
methanol sub mm laser, 118.8, 70.5 and 96.5 μm lines, Stark effect meas. 1−46302
methanol-d, optically pumped, CW far IR laser action by Stark timing 1−29258
methanol-d, standing wave and travelling wave resonator comparison for far IR laser 1−11025
mode interactions due to adjacent transitions in gas lasers 1−51443
molecular laser system simulation, stiff differential eqn. soln. 1−51444
molecular lasers, optically pumped, Stark effect for collisional linewidth meas. 1−19324
molecular subMM lasers, fast modulation techniques 1−33725
optically pumped laser lines, CW λ>9 μm, ordered list 1−49886
optically pumped subMM lasers, elec. field effects on efficiency 1−1551
optoacoustic effect in IR, appls. 1−23321
precision frequency control and selection, bibliography 1−22964
propyne, optically pumped 16 μm laser action, tunable output 1−46317
ring gas laser with nonlinear absorpt., generation regimes 1−51514
ring laser with plane mirrors, effect of gain and loss spatial inhomogeneity on meeting wave nonreciprocity 1−6581
saturation induced anisotropy in gas laser 1−1609
segmented-plasma-excitation-recombination laser using electron-ion recomb. 1−46381
strip-line multichannel-surface-spark-gap-type Marx generator for fast discharge lasers 1−33662
submillimetre-wave lasers and their appls. *(Japanese)* 1−33645
supersonic flow excitation by electron beam stabilised discharge, UV and IR laser emission 1−41673
systems approach to laser utilisation under industrial conditions, increased efficiency 1−6567
t, book contrib. 1−11029
thermal interaction of high-power laser radiation with gases, self-focusing 1−29348
trioxan, near-MM wave emission 1−24406
waveguide lasers, optical propag. and vibr. energy loss 1−46283
waveguide lasers 1−29303
Ar-Kr-F_2 laser mixtures, kinetic processes 1−46309
Ar-Xe, fission fragment pumped lasing at 2.65, 2.62 μm 1−41663
Ar-Xe lasers, fission fragment nuclear pumping 1−24391
Au vapour laser using free transitions of Au atoms 1−33670
Au-Cu-inert gas laser, four-colour emission 1−33669
Ba vapour IR laser line press. depend. 1−29260
Ba vapour laser kinetics investigation using interferometric method 1−51457
CO, analytical theory of steady generation of overtone 1−46303
CO CW sealed-off laser at high temp. 208-348K operation 1−29261
CO electroionization laser with a cooled active region 1−24389
CO electron-beam-controlled laser utilising vibr.-rot. first overtones, time-resolved spectral charact. 1−46312
CO electron-beam-controlled laser utilising vibr.-rot. first overtones, energy charact. 1−46313
CO laser discharges, effects of O_2 addition on plasma kinetics 1−38157
CO lasers, high-power, efficient, electrically-excited, book contrib. 1−10993
CO waveguide laser with 3 W output 1−1552
CO-N_2-He laser kinetics from COLASE code 1−19317
CO_2 16 μm TE laser, gas effects 1−46291
CO_2 amplifier active medium of rectangular metal waveguide, gain determ. of 10.6 μm signal 1−33657
CO_2 amplifiers with two band oscillators, increased efficiency 1−46292
CO_2, CW electroionisation laser with turbocompressor gas cooling for cryogenic temp. 1−33716
CO_2 CW electron-beam-controlled laser with cooled active mixture 1−6578
CO_2 CW electron-beam-controlled laser, output power, active-medium charact. influence 1−33655
CO_2 CW focused laser beam, thermal blooming 1−41792
CO_2 CW laser material surface treatment 1−8460
CO_2 CW laser press. laser design, single axial mode, freq. stabilisation 1−37505
CO_2 CW TE high power laser, electron-beam pre-ionised, operating with N_2, He and CO additives, numerical investigation 1−1544
CO_2 CW waveguide laser design 1−29303
CO_2 compact high-pressure laser, excitation with surface corona stabilised glow discharge 1−41736
CO_2 compact sealed-off pulsed TEA laser, trigger wire discharge initiation 1−41738
CO_2 continuously excited laser, gas storage technique for repetitively pulsed operation 1−46369
CO_2, coupled plasma tubes, simultaneous striking circuit 1−19346
CO_2, discharge excitation using transverse electrodeless RF config. 1−1550
CO_2 discharge transversal laser, wire-triggered, electron conc. and temp. *(Rumanian)* 1−15148
CO_2 double-electrode-pair-pulsed laser 1−15177
CO_2, effect of easily ionised admixtures on CO_2-N_2-He mixtures 1−33658
CO_2 electrodynamic laser, fast axial flow, kinetic modelling 1−37457
CO_2 electroionization laser with a cooled active region 1−24389
CO_2, electron mobilities, attachment ionisation coeffs., and electron transport coeffs. 1−33671
CO_2 electron-beam-controlled laser, pumping with max. efficiency of electron beam utilisation 1−46290
CO_2 fast-flow closed-cycle processing laser, AC discharge pumping prospects 1−1590
CO_2 frequency stabilised hybrid laser, single-mode operation 1−46387
CO_2 fusion-research laser, Antares, 40 kJ, Los Alamos 1−33707
gas lasers continued
CO_2 heterodyne CW laser Doppler backscatter anemometer 1−49405
CO_2, high freq. opto-galvanic laser stabilisation 1−37458
CO_2 high power laser system, TROJAN 1−29299
CO_2 high pressure reinjection oscillator, design and performance, Q-switch optimisation 1−46386
CO_2 high-energy short-pulse laser system, fusion appls. 1−19361
CO_2 high-gain laser power amplifier, parasitic oscill. suppression method 1−33709
CO_2 high-power laser amplifiers, plasma instability 1−46288
CO_2 high-repetition-rate TEA laser, UV-preionised, design and charact. 1−11015
CO_2 high-repetition-rate pulsed TEA laser, discharge geometries 1−33706
CO_2 high-repetition-rate pulsed laser, gasdynamic disturbance influence on self-sustained discharge stability 1−41658
CO_2, inertial fusion appls. *(French)* 1−50934
CO_2 isotopic species, laser transition absolute frequencies 1−19320
CO_2 laser, effect of easily-ionised vapour additives 1−41661
CO_2 laser, electron beam controlled, H_2O vap. effects 1−41660
CO_2 laser, externally sustained microwave discharge appls. 1−25099
CO_2 laser, sealed, optogalvanic stabilisation 1−29298
CO_2 laser, TE, role of additives *(Rumanian)* 1−15150
CO_2 laser, TEA, kinetic modelling 1−15147
CO_2 laser, wire-triggered, TEA, improved excitation by triple discharge 1−37454
CO_2 laser amplifier, energy and temporal charact. 1−51447
CO_2 laser beam propag. through cloud medium, secondary condensation 1−44297
CO_2 laser broadband modulation using electro-optic CdTe crystals 1−41757
CO_2 laser control with Stark cell devices 1−41714
CO_2 laser devices and appls., conf., Washington, DC, USA (April 1980) 1−40596
CO_2 laser doughnot mode focal region intensity distrib. 1−24443
CO_2 laser excited by preionised transverse discharge through a dielectric 1−33650
CO_2 laser five-colour sequence by cavity length tuning 1−46388
CO_2 laser freq. doubling in Te to give freq. stabilised CW source in 5 μm region 1−37545
CO_2 laser gas discharge, recombination coeff. meas. 1−46281
CO_2 laser induced boiling of liq. cyclohexane 1−42524
CO_2 laser injection locking, INJLOK code 1−24384
CO_2 laser light backscatter from an overdose Z-pinch plasma 1−46907
CO_2 laser line selection using reflecting diffr. interferometer 1−33708
CO_2 laser lines, freq. difference meas. using harmonics of X-band microwave freq. *(Japanese)* 1−19322
CO_2 laser medisum, volumetric photo-preionisation meas. by VUV radiation 1−15152
CO_2, laser pulse self-focusing in low-pressure SF_6 1−51570
CO_2 laser pulsed radiation energy source for power meas. standard units in USSR 1−5274
CO_2 laser pumping by self-sustained gas discharge with preliminary electron beam ionisation 1−25096
CO_2 laser radiation, temporal charact. orthogonally polarised wave competition effects 1−6540
CO_2 laser radiation polarisation, intracavity plate anisotropy influence 1−6593
CO_2 laser radiation stimulated Raman scatt. in multiple pass cell 1−46458
CO_2 laser range-finder using heterodyne detect. and chirp pulse compression 1−33738
CO_2 laser system at Los Alamos, fusion appl. *(French)* 1−10519
CO_2 laser with metallised polymer thin film mirror resonator 1−24474
CO_2 laser with multifold resonator, material processing appl. *(Japanese)* 1−33736
CO_2 laser with SF_6 intracavity nonlinear absorber, bistability, transient effects 1−33651
CO_2 lasers, electric discharge convection lasers, ionic and thermal instabilities 1−33653
CO_2 lasers, ultra-short pulse generation 1−19371
CO_2 lasers for inertial-confinement fusion research, transmissive component and mirror material selection 1−11017
CO_2 light-weight flyable laser beacon development, modulation rate capability 1−41734
CO_2, medium pulse-repetition freq., UV preionized TEA 1−41722
CO_2 mini-TEA laser, long life operation 1−41737
CO_2 miniaturised waveguide laser, design and output charact. 1−41735
CO_2, modulation by mol. gases, tuning Stark const. estimation method *(Rumanian)* 1−51522
CO_2 multiline TEA laser with hot CO_2 intracavity absorber, theoretical and expt. study 1−19321
CO_2, performance, production of LiH plasma *(Korean)* 1−46384
CO_2 pulse-periodic closed-cycle laser, radiation charact. 1−33654
CO_2 pulsed elec.-discharge high-press. laser for laboratory use 1−33712
CO_2 pulsed mode-locked laser, spectral content investigation using Fabry-Perot interferometer 1−6591
CO_2 pulsed mode-locked laser 1−33710
CO_2 pulsed TEA laser for monitoring atm. trace constituents and process control 1−17703
CO_2 Pyrex waveguide laser, 10 W single line power, single mode, purity 1−29296
CO_2 repetitively pulsed laser, mean power output in excess of 30 kW 1−46380
CO_2 sequence laser, pump for 12 μm NH_3 laser 1−29266
CO_2 single-mode laser intracavity coupling modulation 1−46406
CO_2, stabilized, absolute frequency measurements in IR region 1−36633
CO_2, Stark modulation in Lorentz broadened mol. gas 1−46282
CO_2 TE laser, tunable heliumless operation 1−46293
CO_2 TE laser amplifier, gain limitations, rot. and vibr. temps. 1−15145
CO_2 TE laser upper level relaxation rate and gain, effect of xylene and tripropylamine additives 1−6539
CO_2 TE lasers, injection mode locked, pulse train evolution 1−19319
CO_2 TE waveguide laser operation 1−29297
CO_2 TEA laser, focusing using axicon, long diffuse discharge prod. 1−7014
CO_2 TEA laser, freq. stabilised compact high repetition rate 1−1583
CO_2 TEA laser, line narrowed, for optical pumping of molecular gas lasers 1−29295
CO_2 TEA laser, tunable single longit. mode output using intracavity selective absorbers 1−51512

gas lasers continued
CO_2 TEA laser, UV-preionisation by trigger wire discharge, output characteristics *(Korean)* 1−46383
CO_2 TEA lasers, selective absorbers for single-mode operation 1−19389
CO_2 TIR-1 laser system, nanosecond 100 GW pulse form. 1−33711
CO_2 transversely excited atmosphere laser oscill., spectral distrib. press. depend. 1−15146
CO_2 waveguide laser, stimulated emission cross section meas. 1−33656
CO_2 waveguide laser, transverse RF discharge plasma characts. 1−41659
CO_2 waveguide laser cooled by a Peltier thermoelectric module 1−19353
CO_2 waveguide laser for saturation optoacoustic spectroscopy 1−51445
CO_2 waveguide laser operating in Gaussian mode, max. power output 1−51516
CO_2 waveguide lasers, gain, saturation and tunability *(Rumanian)* 1−15151
$^{12}C^{16}O_2$ isotope laser 1−51448
$^{12}C^{18}O_2$ isotope laser 1−51448
$^{12}C^{18}O_2$ isotope laser sequence bands, absolute freq. meas. of 53 CW laser lines 1−51446
$^{13}C^{16}O_2$, isotope laser 1−51448
$^{13}C^{16}O_2$ laser, sequence bands 1−10985
CO_2/HeNe laser two wavelength interferometer, electron density meas. on Doublet III large fusion research Tokamak 1−15649
CO_2-N_2 energy transfer high-gain laser using conical nozzle 1−46366
CO_2-N_2 mixture, kinetic cooling theory 1−46849
CO_2-N_2-He mixture, transversal discharge, laser radiation amplification coeff., meas. method *(Rumanian)* 1−15149
CO_2-N_2-He-CO electric discharge convection lasers, thermal and ionic instabilities 1−46288
CO_2-N_2-He-CO gas mixture, electric discharge convection lasers, ionic and thermal instabilities 1−33653
CO_2-TEA laser spark gaps triggering *(Rumanian)* 1−15677
$^{12}C^{16}O^{18}O$ isotope laser 1−51448
cO_2 long pulsation high power laser *(French)* 1−10984
Cu halide vapour lasers, Cu atom recomb. kinetics 1−51459
Cu vapour laser, plasma parameters meas. in afterglow 1−6544
Cu vapour laser, pulse repetition freq. limiting mechanism 1−33665
Cu vapour laser, transverse-discharge, energy characts. 1−46311
Cu vapour laser, upper laser level kinetic investigation 1−51456
Cu vapour laser, vapour produced by electrical explosion of conductors, vap. density meas. 1−24407
Cu vapour laser radiation, pulsed, in ADP crysts., SHG 1−51554
D_2CO, CW opt. pumped far-IR emissions and assignments 1−24401
D_2O, 385 μm emission, far IR laser resonator configs. 1−46400
D_2O telescopic resonator mode struct. 1−19364
F atomic laser, charge transfer pumping from He_2^+ 1−37461
F, discharge excitation using transverse electrodeless RF config. 1−1550
$FClO_3$ optically pumped laser action, 16.3-17.7 μm region 1−6542
H plasma, recombining, quasi-steady laser oscillation 1−11541
H_2 gas, IR tunable Raman laser 1−19326
H_2-SF_6 lasers, discharge-pumped, electron beam preirradiation effect 1−15161
HCl-Ar mixture externally sustained discharge, energy characts. and stability 1−42248
HCl-He mixture externally sustained discharge, energy characts. and stability 1−42248
HF gas, IR tunable Raman laser 1−19326
HF-DF optical reson. transfer laser, DF CW laser oscill. obs. 3.8 to 4.0 μm 1−1548
HF-HCN optical reson. transfer laser, HCN CW laser oscill. obs. 3.85-3.9 μm 1−1548
HN_3, Stark tuned, CW FIR laser action, ν_2 band Stark FIR lasing spectroscopy 1−10990
H_2O vapour, flashlamp-pumped, superfluoresc. obs. on far IR lines 1−46320
He laser plasma, atom metastable state population *(Russian)* 1−1140
He, pulsed discharge, temporal and spatial variations of population of excited state atoms 1−29939
He-Cd crossing signals in zero mag. field, strong EM field effect 1−33433
He-Cu hollow cathode laser with multiple electrodes 1−29293
He-Hg, crossing signals in zero mag. field, strong EM field effect 1−33433
He-N_2CO_2-UF_6 high-power nuclear pumped laser system 1−24390
He-Ne, axial mode selection, longit. mag. field effects 1−15155
He-Ne, determ. of mutual coherence of field in glass fibre 1−29401
He-Ne, high-amplification, transient processes 1−29256
He-Ne, I_2 stabilised, at 612 nm 1−36613
He-Ne, LG-75-1 multiple mode laser 1−19350
He-Ne, reconditioning discharge tubes 1−46372
He-Ne, stabilized, absolute frequency measurements in IR region 1−36633
He-Ne, two-mode laser, freq. response, transitions 1−51451
He-Ne 0.633-μm longit. Zeeman laser, freq. stabilisation 1−6569
He-Ne 1.15 μm laser single mode selection and stabilisation 1−41740
He-Ne annular laser, pulsation freq. stability, active medium parameter effect 1−15154
He-Ne CW laser, type LG-126, interference study of laser radiation spectral comp. 1−37460
He-Ne frequency stabilised lasers with iodine measuring cell *(Czech)* 1−51449
He-Ne gas laser, ZnO, photoreceptor for xerography 1−24468
He-Ne glow-discharge laser, dynamic resist. 1−29255
He-Ne internal mirror laser, 6328 Å, freq. stabilisation *(Korean)* 1−46382
He-Ne internal-mirror lasers, freq. stabilisation using polarisation props. 1−19368
He-Ne internal-mirror laser beam acousto-optical modulation, polarisation induced noise obs. 1−46412
He-Ne laser, commercial, type LG-149-1, emission wavelength stability investigation 1−50109
He-Ne laser, commercial wavelength stabilised, wavelength calibration *(Japanese)* 1−46295
He-Ne laser, He^*-Ne electronic transfer, one electron model pot. calcs. 1−1342
He-Ne laser, light output depend. on acoustic press., use as hydrophones 1−19530
He-Ne laser, longit. mode-locking by nonlinear absorpt. in Ne 1−33726
He-Ne laser, reson. freq., relativistic effect correction 1−51453
He-Ne laser, resonator and self-locking demonstration 1−9806

gas lasers continued
He-Ne laser, testing of parameters and optical element quality *(Czech)* 1−46373
He-Ne laser, transverse mode spatial self-locking 1−51523
He-Ne laser, Zeeman-type, self-selecting modes *(Czech)* 1−51450
He-Ne laser anal. of CO_2 1−4135
He-Ne laser mode structure control by phase-shifting masks 1−51537
He-Ne laser output, RF elec. field effect, freq. depend. 1−46294
He-Ne laser resonator, off-reson. dispersion profile 1−33718
He-Ne laser use in medicine *(Czech)* 1−32225
He-Ne lasers, high-vol. appls. 1−24445
He-Ne lasers, measuring deformations using electronic detectors *(Czech)* 1−50100
He-Ne lasers stabilized by saturated absorption in iodine at 612 nm 1−36612
He-Ne ring laser with $^{129}I_2$ absorbing medium, high-contrast nonlinear reson. 1−46399
He-Ne/methane ring laser, power reson. shift, pump current effect 1−29257
He-Xe, two-mode laser, freq. response, transitions 1−51451
He-Xe 3.5 μm unilateral ring laser, intensity fluctuation around oscill. threshold 1−46403
He-Xe IR laser interferometry for length meas. 1−36725
He-Xe laser, formaldehyde stabilised, wavelength meas. at 3.51 microns 1−29252
He-Xe lasers, fission fragment nuclear pumping 1−24391
He-Xe two-wavelength IR laser, stabilization method 1−33702
^{3}He-Ar, large volume multiple path nuclear lasing at 1790 nm 1−15153
^{3}He-Ar nuclear pumped multiple-path large-volume for increased output 1−37459
I laser, basic features *(French)* 1−11013
I laser pulse absorpt. in K and Cs vapours 1−11509
I_2 stabilized He-Ne laser, portable 1−36614
K neutral, XUV lasers by quartet to doublet energy transfer 1−46301
Li neutral, XUV lasers by quartet to doublet energy transfer 1−46301
N CW supersonic recombination laser, theory 1−46306
N_2 laser, IR ($B^3\Pi_g$-$A^3\Sigma_u^+$) transition, excitation process 1−24404
NH_3 12 μm laser pumped by sequence CO_2 laser 1−29266
NH_3, interaction of far IR and mid IR laser transitions 1−46315
NH_3 laser, interaction of far-IR and mid-IR laser transitions 1−33663
NH_3 laser system, optically pumped, calc.-expt. gain/absorpt. spectra evaluation 1−29263
NH_3 laser with optical pumping, mol. relax. processes 1−46304
NH_3 optically pumped laser system 1−6575
$^{15}NH_3$, optical pumped FIR laser, two-photon light shifts and Autler-Townes splittings obs. 1−46314
$^{15}NH_3$ optically pumped waveguide far IR laser, operating characts. 1−15158
NSF molecular laser, tunable, optically pumped, laser isotope separation 1−15178
Na vapour, two-photon pumping, IR laser emission 1−37465
Ne, red laser transition investigated using mode-crossing and zero-field level crossing methods 1−10986
Ne-H_2 laser, high press., 585.3 nm Ne transition obs. 1−46296
Ne-He laser tube, discharge development 1−41662
O_2-I potential laser, electrically pumped, theoretical anal. 1−41675
PH_3 laser with optical pumping, mol. relax. processes 1−46304
PH_3, phosphine, far IR CW laser transitions, optically pumped more than 100 MHz from reson. 1−46300
Pb neutral vapour laser, compact long-life high pulse repetition freq. at 722.9 nm 1−41720
Rb two-photon optically pumped laser 1−51458
SO_2, CO_2 laser pumped, subMM lasing on rotational transitions 1−46319
UF_6-fueled, self-critical direct nuclear-pumped laser, conceptual design 1−24395
Xe, discharge excitation using transverse electrodeless RF config. 1−1550
Xe laser, freq. crossing effect, oscill. synchronisation of 2 independ. transitions 1−33661
Xe laser amplifier, slightly saturated, 3.5 μm line-shape parameter anal., pulse propagation method 1−41759
Xe-He, laser, saturating amplified-spontaneous emission source, intensity fluctuation and spatial coherence 1−1545

gas permeability *see permeability*

gas phase electron diffraction
bisacetylacetonato beryllium, gas phase, mol. struct., electron diffr. 1−6387
bromoacetyl bromide 1−1404
bromoacetyl chloride, mol. struct. and conformation, gas phase electron diffr. 1−1404
carbonyl bromide, mol. struct., gas phase electron diffr. 1−46123
carbonyl chlorofluoride, gas phase mol. struct. 1−24249
cycloheptanone, mol. struct. determ. by gas phase electron diffr. 1−51295
cycloheptene oxide, gas, mol. struct., electron diffr. investig. 1−6382
cyclohexene oxide, gas, mol. struct., electron diffr. investig. 1−6382
1,2-cyclononadiene, struct. and conformation, gas electron diffr. 1−29134
cyclopentene oxide, gas, mol. struct., electron diffr. investig. 1−6382
2,3-dichloro-1-propene, mol. struct., gas phase electron diffr. 1−46122
dichloroacetyl chloride, struct. and conformation, gas phase electron diffr. 1−46120
p-dichlorobenzene, mol. struct., ring distortion, electron diffr. obs. 1−10842
1,2-dimethyl-1,2,-diazetridine, mol. struct., electron diffr., microwave, IR and Raman spectra, force fields 1−45947
N,O-dimethylhydroxylamine, mol. struct., gas phase electron diffr. 1−46121
methylhydroxylamine (O and N forms), mol. struct., gas phase electron diffr. 1−46121
microdensitometry, device for oscillating or rotating photographic plates 1−362
monofluoroethane, mol. struct., gas phase electron diffr. 1−46124
pentafluoroethane, mol. struct., gas phase electron diffr. 1−46124
phosgene, mol. struct., isotope effects, bond lengths, rot., electron diffr. obs. 1−15008
seleno difluoride, mol. struct. and rot. consts., electron diffr. 1−1405
silyl chloroacetylene, gas phase mol. struct., electron diffr. obs. 1−46125
silyl formate, gas phase mol. struct., electron diffr. 1−1402
tetraethynyltin, mol. struct., gas phase electron diffr. 1−1401
tetrakis(trifluoromethyl) stannane, vibr., config., electron diffr., Raman and IR obs., normal coordinate anal. 1−45961

gas phase electron diffraction continued
tetramethylurea and tetramethylthiourea, mol. struct. determ. by electron diffr. 1−51293
tetraphenyltin, geometrical parameters determ. by gas phase electron diffr. 1−51294
thioacetamide, mol. struct., gas phase electron diffr. 1−46119
thiocarbonyl difluoride, mol. struct. and rot. consts., electron diffr. 1−1405
thiocarbonylbromide, mol. struct., electron diffr. 1−1406
2-thiophenesulphonyl chloride, conformation and geometry, electron diffr. 1−1403
triatomic molecules, large amplitude bending motion, electron diffr. anal. 1−29115
triethynyltin iodide, mol. struct., gas phase electron diffr. 1−1401
N,N,O-trimethylhydroxylamine, mol. struct., gas phase electron diffr. 1−46121
BaI_2, equilib. geometry, force field and vibr. freq., electron diffr. determ. 1−29116
CF_3SCF_3, geometry and internal rot., gas electron diffr. 1−29140
COF_2, mol. struct., electron diffr. 1−10841
$ClSCF_3$, geometry and internal rot., gas electron diffr. 1−29140
$FSCF_3$, geometry and internal rot., gas electron diffr. 1−29140
PF_2HSe, mol. struct. gas electron diffr. and liq. cryst. NMR determ. 1−46142

gas pressure cables
HV power transmission cables, compressed gas insulated improved structure using bundled conductor arrangement 1−37769
SF_6 compressed-gas insulation transmission systems, particle contamination effect, particle control and elimination method 1−20001
SF_6 gas insulated 500 kV cables, test results 1−15713
SF_6 gas-insulated systems, particle traps 1−20002

gas-surface interactions *see sorption*

gas technology, natural *see natural gas technology*

gas turbine power stations
290 MW gas turbine power station with underground compressed-air storage reservoirs *(German)* 1−8757
electrical energy storage for network load balancing *(German)* 1−48911
nuclear powered gas turbine plant, direct contact heat recuperation 1−33341
residential/commercial cogeneration using Stirling engines and externally-fired open and closed-cycle gas turbines, technological and economic issues 1−53533
thermionic topping of combined cycle powerplants and cogeneration applications 1−48889

gas turbines
see also gas turbine power stations; turbogenerators
ceramic coating development for industrial and utility gas turbines 1−31366
ceramic thermal-barrier coating, corrosion-resistant, for gas-turbine engine air-cooled components 1−39530
combustion, airblast atomisation, mean drop size, linear scale effects 1−24869
combustor film turbulence 1−24767
convective amplification of internal noise sources 1−51660
droplet combustion, gas phase particulate formation in gas turbine combustors 1−26746
soot emission from spray combustion flame at high ambient press. *(Japanese)* 1−17055
Co-Cr-Al-Hf(-Pt) second generation turbine airfoil coatings in marine service 1−30596
Co-Cr-Al-Y(-Ni)(-Si) superalloy overlay coating, hot-corrosion-resistant, for gas turbine engines 1−31760
H_2 combustion 1−8768

gasdynamic lasers
advanced concepts, survey 1−24388
conference, gas flow and chemical lasers, Marseille, France (Sept. 1980) 1−36451
developments, hardware efficiency increase, extended CO_2 wavelengths and other lasing media 1−37455
molecular laser system simulation, stiff differential eqn. soln. 1−51444
nozzle parameters, effect on gain 1−24862
plasma-dynamic laser, atomic level population inversion in thermally heated recombining plasma 1−24402
polyatomic gases, inverse mixture, flow in resonator, gasdynamic model 1−46284
review of chemical and gasdynamic lasers, book contrib. 1−10995
spectral region extension and efficiency increase 1−41669
systems approach to laser utilisation under industrial conditions, increased efficiency 1−6567
unstable resonators with tilted spherical mirrors, optical quality 1−46394
CO CW gasdynamic laser, microwave excitation in supersonic flow 1−24396
CO CW gasdynamic laser with microwave excitation in supersonic flow 1−41725
CO gasdynamic chemical laser using air and CS_2 1−33717
CO_2, gain, intensity and power output, kinetic theory calc. *(Chinese)* 1−1542
CO_2 gasdynamic laser, effect of $CO+H_2+N_2O$ on CO_2 vibrational temperature 1−10983
CO_2 gasdynamic laser, high temperature, without flow stagnations, small signal gain coeff. and power output calcs. 1−46285
CO_2 high gain laser, N_2 and CO_2 gas effective mixing 1−41724
CO_2, high-power 16 μm emission simulation 1−37456
CO_2 laser, closed-cycle, employing a gas separator 1−1589
CO_2 vibrational-transition laser emissions in low temp. supersonic flow excited by pulsed electron beam stabilised discharge 1−46286
CO_2/Ar CW 18.4 μm gasdynamic laser, nozzle geometry and stagnation condition analytical modelling 1−41657
CO_2-He-N_2, optical gain optimisation in supersonic stream on mixing vibr. excited N_2 1−46289
CO_2-N_2, gain optimisation study, lineshape effects 1−33652
CO_2-N_2 gasdynamic laser study using synchronised operation of two shock tubes 1−46378
CO_2-N_2 gasdynamic mixing lasers, expt. investigation 1−46287
CO_2-N_2-CO-H_2O-H_2 mixture, amplification and power of gas dynamic laser 1−10982
CO_2-N_2-He, gain, intensity and power output, kinetic theory calc. *(Chinese)* 1−1542
CO_2-N_2-He gasdynamic laser, nozzle cascade losses, friction effect 1−41656

gasdynamic lasers continued
D-O_3-CO_2 mixture for gasdynamic chemical laser, expt. results 1−33673
D-O_3-CO_2 mixture for gasdynamic chemical laser, calc. model 1−33674
H-O_3-CO_2 mixture for gasdynamic chemical laser, expt. results 1−33673

gaseous insulation
air, breakdown voltage of gas gaps, polarity effect 1−11613
c-C_4F_8-SF_6-N_2 gas mixture, impulse breakdown study 1−7035
compressed-gas insulation, conducting particle attached to epoxy resin, influence on breakdown voltage 1−20000
dielectric gases, environmental effect aspects 1−15687
dielectrics, electron swarm data relevant to HV insulation 1−6920
dielectrics, symposium, Knoxville, USA (Sept. 1980) 1−5031
dielectrics, unitary and multicomponent 1−7030
discharge phenomena and their appl., conference, Edinburgh, Scotland (Sept. 1980) 1−13934
electric breakdown carbonisation prediction of gases and gas mixtures 1−20004
electric field-induced electron detachment rate from mononegative ions calc. 1−11494
electric strength of gases and gas mixtures 1−7031
electronegative gases, compressed, ion mobility and recombination study 1−15577
electronegative gases or gas mixtures, surface defect effect on breakdown evaluation 1−19994
gases and gas mixtures in uniform and nonuniform field, breakdown behaviour 1−11614
HV large conductor-tower air gaps, switching surge discharge charact. 1−15683
intrinsic insulating strength, test electrodes for meas. 1−20006
large scale gas-insulated systems, expt. study of breakdown charact. 1−15684
multicomponent gas mixtures in concentric cylinder geometries, DC breakdown strengths 1−7032
octafluorocyclobutane-SF_6 gas mixture, impulse breakdown study 1−7035
particle control electrostatics in gas-insulated apparatus 1−20003
particle traps in gas-insulated system 1−20002
power arcs dynamics study in co-axial electrode geometry 1−15686
SF_6, breakdown reliability 1−52021
switchgear, partial discharge location 1−20007
switchgear, SF_6 insulated, breakdown behaviour under impulse stress 1−52020
transformer windings, compressed SF_6 gas-impregnated, polymer film-insulated, partial discharge inception and breakdown studies 1−15685
He, cold, breakdown mechanism in sharply non-uniform field 1−15589
SF_6 and SF_6-N_2 mixtures, breakdown charact. 1−11498
SF_6 and SF_6-N_2 mixtures, negative point breakdown and prebreakdown corona process 1−11624
SF_6 arc discharge, stationary state and decay obs. 1−15724
SF_6 binary mixtures, discharge parameters meas. 1−15578
SF_6, compressed, conductive particle influence on spacer DC-voltage strength 1−19999
SF_6, compressed, corrugated coaxial electrodes impulse breakdown 1−7034
SF_6, compressed, electrical breakdown between highly polished electrodes 1−7029
SF_6, compressed, negative corona thresholds in space charge fields, mathematical model 1−11626
SF_6, compressed, surface discharges at condensation state 1−15712
SF_6 compressed gas insulation, effect of regular electrode surface roughness on breakdown strength 1−11501
SF_6 compressed-gas insulation transmission systems, particle contamination effect, particle control and elimination method 1−20001
SF_6, DC and AC voltage strength meas. of thermoplastic materials in compressed gas 1−16524
SF_6 DC apparatus, flashovers over insulator surface 1−12455
SF_6 gas, charact. of elec. breakdown in short gaps 1−11496
SF_6 gas, triggered and untriggered breakdown, time lags 1−11497
SF_6 gas gap, epoxy resin spacers with high resistive contamination, flashover voltage meas. 1−12454
SF_6 gas insulated 500 kV cables, test results 1−15713
SF_6 gas insulated equipment, power arc effects 1−11630
SF_6 gas insulation system, statistical breakdown charact. 1−11500
SF_6 gas mixtures, breakdown voltage calculation *(German)* 1−38164
SF_6 gas plant for 30 MV Van de Graaff generator 1−10557
SF_6 impulse and AC breakdown, polished and rough electrodes coating influence 1−19995
SF_6, impulse breakdown and prebreakdown corona processes 1−7027
SF_6 insulated HV equipment, dielectric coatings 1−11503
SF_6 insulated spacer surfaces, flashover caused by conducting particles 1−11629
SF_6 insulated system, dependency of V-T curves on front steepness of testing voltage 1−11495
SF_6, ionic and elec. processes 1−11493
SF_6, mobility of ions, gaseous discharges charact. 1−11625
SF_6, particle contaminated, generalised breakdown criteria under DC, AC and impulse voltages 1−11506
SF_6, positive and negative DC corona, partial-discharge pulse height distrib. and freq. 1−20005
SF_6, relation between luminous phenomena and discharge mechanism 1−7028
SF_6-CO_2-fluorocarbon mixtures, electric breakdown studies 1−7033
SF_6-insulated system, breakdown-volume and statistical time lag at impulse voltage stress 1−11499
SF_6-N_2 mixtures, breakdown process between parallel plates 1−15717
SF_6-N_2 mixtures, electrode-area and surface-roughness effects 1−19996
SF_6-N_2 mixtures, flashover studies using direct applied voltages 1−19997
SF_6-N_2 mixtures, impulse breakdown and prebreakdown corona processes 1−7027
SF_6-N_2 mixtures, positive and negative DC corona, partial-discharge pulse height distrib. and freq. 1−20005

gases
see also aerodynamics; compressibility of gases; density of gases; dielectric properties of gases; diffusion in gases; electric breakdown of gases; electrical conductivity of gases; equations of state of gases; ionisation of gases; kinetic theory of gases; liquefaction of gases; luminescence of gases; Scott effect; Senftleben-Beenakker effect; specific heat of gases; thermal conductivity of gases; thermal diffusion in gases; viscosity of gases
No entries

gauge field theory
see also Weinberg model; Yang-Mills theory
σ-model, 4-dimens. with instantons *(Russian)* 1−10088
σ-models, CP(n), HP(n), complex and quaternionic analyticity in gauge and chiral theories 1−411
ϕ_6^3, IR, UV and mass regularisation in asymptotically free field theories 1−50312
$(\phi^4)_2$ theory, kinks, real Hopf bundle and Morse theory 1−5469
A(4) gauge theory of gravitation, underlying fibre bundle struct. 1−9911
Abelian lattice theories, geometric approach 1−14225
advanced institute, common trends in particle and condensed matter physics, Les Houches, France (Feb. 1980) 1−27645
annealed and quenched gauge field models, spontaneous symm. breaking 1−33111
anomaly constraints in chiral gauge theories 1−14232
antisymmetric tensor gauge field, quantised, third rank, counting of ghosts from effective Lagrangian 1−417
antisymmetric tensor gauge field in general covariant gauges 1−432
antisymmetric tensor gauge theories and non-linear σ-models, supersymmetric analogues 1−28177
axial gauge, gauge identities 1−45110
axial gauge gluon propagator, gauge coupling constant IR props., colour confinement 1−5588
b-flavoured mesons, electromagnetic mass difference, MIT bag model calc. 1−14382
background electric field in 1+1 dimens. 1−45164
bag model derivation from gauge invariance principle 1−491
bags and membrane problem, gauge theory, surface depend. phase factor 1−5587
baryon number nonconservation, selection rules, partial unification 1−45196
baryon number nonconservation 1−10134
Bethe-Salpeter equation with generalised ladder kernels 1−50298
Bloch-Nordsieck regularization of Altarelli-Parisi equations 1−23412
bound states, gluon expectation value, chromodiamagnetism QCD theory 1−28220
Brans-Dicke scalars, quantum field theoretic origin, scalar-tensor theory of gravitation 1−36551
broken gauge theories, renormalization program 1−5498
broken supersymmetry, algebraic struct., local gauge algebra 1−457
BRS transformation in covariant canonical formalism 1−5485
charged particle moving in EM field, quantum interference and the classical limit 1−10111
chiral gauge theories and generalised Slavnov-Taylor identities, dimensional regularisation 1−45120
chromodynamics, SU(3) gauge theory, ϕ^4 model, generally invariant theories, classical solns. 1−18356
classical magnetic poles, modified Cabibbo-Ferrari theory 1−5501
Coleman Weinberg's model, gauge depend. of effective action and measurable quantity *(Russian)* 1−483
colour triplet diquark condensation, colour gauge theory in hadron physics 1−18441
composite quarks and leptons and the Higgs boson mass 1−5490
composite vector fields and tumbling gauge theories 1−36805
conference, geometrical and topological methods in gauge field theories, Montreal, Canada (Sep. 1979) 1−32802
conference, Mexico City, Mexico (Dec. 1979) 1−44691
conference on field theory and strong interactions, Schladming, Austria (Feb. 1980) 1−17925
conference on high energy physics, Geneva, Switzerland, (June-July 1979) 1−5026
conference on particle physics, Manoa, HI, USA (Aug. 1979) 1−13929
constant gauge fields and their quantum fluctuations 1−50314
cosmological constant, grand unification and symmetry behavior in the early universe 1−27641
coupling limit of interaction of gauge field and fermion field, generating functional expansion 1−423
CP^{n-1} model, multimeron soln. 1−18361
CP^{N-1} models, QCD instanton gas, quark fluctuations in multi-instanton background 1−28210
curvature and covariant derivatives, field copy problem 1−23405
cylindrically symmetric configurations of gauge fields, exact solns. *(Russian)* 1−36791
Dirac equation on a Kaluza-Klein bundle, pseudo-Riemannian manifold, SU(2) case 1−10117
double-θ vacuum structure and the functional integral in the Schwinger model 1−18370
dynamical fermion mass generation constraints in simple gauge theories 1−14247
dynamical stability of instantons 1−36802
E6 group symmetry breaking, fermion mass relations 1−5548
early Universe evolution, spontaneously broken gauge theory phase transitions, SU(2)×U(1)→U(1) 1−32787
effective action, gauge depend. 1−45134
electric multipole transitions, role of EM field potential gauge 1−19043
electron in time-dependent EM field, gauge-invariant non-relativistic limit 1−467
electroweak symmetry breakdown, subgroup alignment in hypercolor theories 1−33140
electroweak unification of leptons with SU(4) gauge symmetry 1−5554
EM field, vacuum state and particle creation 1−9895
Euclidean space, general gauge fields and gravitational field 1−50318
exact multimonopole solutions in the Bogomolny-Prasad-Sommerfield limit 1−45131
exact SU(2) two instanton soln., functional measure 1−28182
extended BRS symmetry, superfield formulation for lagrangian gauge theories 1−28236
f-gravity coupled to SO(3) gauge field 1−27847
Faddeev-Popov ghost particles, geometrical interp. 1−28168
false vacuum at finite temp., first order phase transitions in spontaneously broken gauge theories 1−50326
fermion determinants, precise definition 1−23423
fermion masses in grand unified theories, effective Yukawa terms 1−45191
fibre bundle connections, prolongation structure without prolongation 1−18036
fibre bundle definition of gauge groups 1−32888
fibre bundles, gauge field and gravitation appls. 1−18136
field theories with fermion degrees of freedom, Monte Carlo calcs. 1−40678
gauge field theory continued
finite temperature gauge theories, first and second order phase transitions 1−33095
flavour dynamics, mass problem 1−14364
flavourdynamics, SU(3)×SU(2)×U(1) gauge theory phenomenological aspects review 1−14258
forces between elementary particles, gauge theories 1−440
four dimensional, virtual stationary points 1−14242
free massless fields with arbitrary spin, gauge form, supersymmetry transformations *(Russian)* 1−5508
Fried-Yennie gauge, IR-free renormalisation constants 1−23404
frustration model, Ising and periodic 1−9948
Galilean quantum gauge theories in c→∞ limit, related to relativistic quantum gauge theories 1−36793
gauge boson formal decompositions, $W^{\pm}$, Z, A and gluons 1−421
gauge conditions for higher spin fields in an external gravitational field *(Russian)* 1−40699
gauge transformations, space, homotopy groups 1−33120
generalized ghost-free gauges 1−14235
geometric aspects of gauge theory 1−5456
geometric group structure, kinematic elements 1−45142
geometric interpretation using fibre bundles 1−27845
geometric method in mathematical physics, conf., Lowell, MA, USA (March 1979) 1−22951
geometrical theory of ghost and Higgs fields and SU(2/1) 1−5457
glueballs, spectra, production, decay 1−45240
gluering excitations in QCD 1−23418
gluon+gluon scattering, Regge behaviour of symmetric octet exchange amplitude 1−45199
gluon propagator, nonAbelian gauge theory, IR properties 1−45242
gluonic two-particle potential based on gauge group SU(N) 1−23479
graded algebra SU (l|m|n) and gauge models *(Chinese)* 1−50302
graded Riemannian metrics, fibre bundles, local super-gauge theories 1−33118
grand unification, gauge hierarchy problem, renormalisation group improved study 1−28260
grand unified theories, gauge and renormalisation scheme depend. 1−45175
gravitation, de Sitter gauge theory 1−40697
gravitation, fibre-bundle approach, Poincare group theory 1−44827
gravitation, gauge theory, relativity and equivalence principles 1−44830
gravitation, Poincare gauge field theory, quadratic Lagrangian 1−18125
gravitational instanton, CP^2, eigenfunctions and $spin^c$ structures 1−23087
gravitational instantons, Feynman integrals and spaces in complex general relativity 1−44826
gravitational instantons and 2-D Kahler Einstein spaces 1−18133
gravitational monopoles with classical torsion, SL(2,C) gauge theory 1−149
gravity form Poincare gauge theory of fundamental particles, weak field approx. 1−32894
gravity from Poincare fundamental particle gauge theory, eqns. of motion 1−14057
gravity from Poincare fundamental particle gauge theory 1−14056
gravity from Poincare gauge theory of fundamental particles, mass and energy spectrum, Klein-Gordon equation 1−50026
group actions on principal bundles and invariance conditions for gauge fields 1−28166
hadron jets, parton model, perturbative QCD model, review 1−14356
hadron photoproduction, large p_T, QCD tests, gluon jet prodn. 1−18487
hadron-quark 'phase transition', statistical bootstrap model 1−18451
hadronic collisions, particle prodn., gluon jets, perturbative QCD 1−18392
hadronic wave equations from lattice gauge theories, heavy quark systems 1−23431
Heisenberg spin system, N-dimensional, equations of motion in terms of particle field and gauge field 1−16421
hierarchies and mass bounds, weak symmetry breaking, Higgs boson 1−5559
Higgs boson, hadronic decay width, perturbative QCD corrections 1−14348
Higgs boson, light, cosmological consequences 1−40928
Higgs field origins 1−10081
Higgs fields, geometric characteris. of spontaneous symmetry breaking 1−33122
Higgs mechanism, hypercolour dynamic schemes 1−45148
Higgs model, $S^1 \times R^3$ gauge fields, symmetry breaking critical length 1−5478
Higgs particle virtual effects in gauge theory, weak processes, Weinberg-Salam model 1−50371
Higgs particles, mass spectrum from gauge theory spontaneous symmetry breakdown 1−5455
Higgs phenomenon without a symmetry breaking order parameter 1−18377
Higgs representations for SU(n) gauge theories 1−5461
high density, low temperature quark-gluon gas phase, superconducting analogy 1−18389
holomorphic gauge theory 1−23449
hypergravities and high spin vierbein gauge fermions 1−5201
induced classical gravity, pure massless SU(2) gauge model, quantum corrections 1−5212
induced Higgs couplings and spontaneous symmetry breaking 1−10078
infinitesimal fibre bundles, connections 1−33121
instanton+anti-instanton system, weakly interacting, structure and stability under external colour electric field 1−45123
instanton contribution to string tension in SU(2) theories 1−50339
instanton determinants, multi-, approximate forms, SU(2) theory 1−425
instanton struct. of scalar theories *(Russian)* 1−18384
instantons, physical significance 1−33112
instantons and the Ising model below T_c 1−187
instantons in 1/N expansion, anharmonic oscillator, inverse scatt. in 1-D 1−5492
instantons in the heated quark plasma 1−50384
integrability condition in loop space 1−14245
interacting instantons, 1/N expansion and the gluon condensate 1−50319
internal gauge theories, gauge invariant treatment 1−45104
International School of Subnuclear Physics, Erice, Italy (July-Aug. 1977) 1−27646
International seminar on quantum chromodynamics, Jaca, Spain (June 1980) 1−13904
invariance, symmetry and periodicity in gauge theories, mag. monopoles 1−18357
invariance conditions, group actions on principal bundles 1−33119

gauge field theory continued
invariance test, charged harmonic oscillator in EM field 1−18369
Ising gauge theory at negative temps., spin glasses 1−7858
isospin 1/2 Dirac particles, selfconsistent solns. in constant SU(2) gauge pots. 1−10070
large ang. momentum hadron pair acoplanarity distrib., double log summing 1−14421
large momentum transfer exclusive interactions, form factors, scattering amplitudes, perturbative QCD calc. 1−14346
lattice fermion problem, weak coupling of perturbation theory, chiral invariance 1−28213
lattice gauge fields, recursive eqns., cluster and contour expansions, phase-space struct. 1−28207
lattice gauge theories, Monte Carlo simulations 1−28188
lattice gauge theories, phase diagrams, first order transitions, β functions, 1/N expansions 1−23428
lattice gauge theories, string tension, β-function calcs. 1−28190
lattice gauge theories, string tension and vortex free energy, high temp. expansions 1−40967
lattice gauge theories, transition patterns, large dimens. expansions 1−28189
lattice gauge theories, Z_4 and $Z_2 \times Z_2$ equivalence 1−33108
lattice gauge theory, chiral symmetry breaking, pion spin waves, compact QED 1−40936
lattice gauge theory, classical solns. and large-N limit 1−45115
lattice gauge thories on subgroups of SU(2), phase struct., Monte Carlo calcs. 1−23429
lattice like gauge theory invariant under translation and rot., integral form 1−36801
lattice QCD, approx. SU(6)×SU(6)×U(1) symmetry 1−516
lattice QCD, gluonic sector, strong coupling $1/N_c$ expansion, high order 1−18385
lattice Yang-Mills theory, Wilsons action alternative 1−14243
left-right symmetric gauge model, Dirac neutrino mass 1−14304
left-right symmetric gauge theory for electroweak theory, P violation 1−480
lepton number nonconservation 1−10134
Lie algebra extended to higher order equivalent group space gauging 1−5459
light baryons, QCD models, spectra, SU(6) breaking 1−45241
light composite fermions from extended technicolour models 1−497
local gauge-invariant formulation of quantum electrodynamics, book contrib. 1−14290
long-range interactions in hadron separation with quark confinement, two-body potential model 1−45248
loop space chiral eqns. for gauge theories, integrability conditions 1−28179
low energy parameters in grand unified theories 1−478
massless, half-integer-spin fields in de Sitter space 1−5216
maximal local symmetry gauged from global symmetry 1−50346
mechanics, dynamical gauge invariance and Helmholtz conditions 1−419
MIT bag model, pion polarisability calc., hadronic interactions, PCAC calc. 1−14359
momentum-space representation for propagation functions in pseudoparticle fields 1−23439
monopoles crossing phase boundary, topology and homotopy arguments 1−36806
multi-instanton calcs., review 1−10092
multiphoton transition probabilities, gauge invariant interpetation 1−6222
N=1 supergravity, axial gravitational superfield, torsion and curvature, normal gauge *(Russian)* 1−5208
N=2 supergravity, chiral superfields for vector gauge multiplet 1−150
N=4 supersymmetric monopoles and the vanishing of the β function 1−45130
N=8 supergravity, cosmological constant 1−36800
neutrino masses and mixing in unified gauge models with spontaneous parity violation 1−45182
non-Abelian, zero-point oscillations, local stability, and the effective action 1−23442
non-Abelian gauge field with scalar coupling and nonlinear σ-model of Grassmann manifold 1−33102
non-Abelian gauge theories, fibre bundle approach, symmetry breaking 1−45106
non-Abelian gauge theories, Lanczos-type potentials, variational approach 1−5484
non-Abelian gauge theories, resumming leading logarithms at short distances, QCD 1−14236
non-Abelian gauge theories, SU(2) gauge field strengths, axially symmetric solns. 1−50317
non-Abelian gauge theories, vacuum channel and Lipatov eqn. 1−14237
non-Abelian zilch, free field conserved tensors 1−33107
non-perturbative contributions in models with a non-analytic behavior at infinite N 1−45118
nonAbelian, factorisation, scattering amplitude zeros 1−14255
nonAbelian gauge fields, disorder parameter-loop operator duality 1−23407
nonlinear internal symmetry 1−10067
nonrelativistic electric charge system, magnetic monopoles, local QED treatment 1−18404
nontrivial spatial and bundle topology, 3+1 construction program for building spacetimes 1−36784
O(3) nonlinear σ-model, instanton-anti-instanton interaction, exactly soluble fermion theory 1−40933
O(3) sigma model, three-dimens., vortices and duality transforms 1−10077
O(n) confined preons, quarks and leptons as composite states 1−14331
particle physics developments 1979, gauge appreciation 1−10094
path integrals, use in gauge theory quantisation 1−18355
photon structure function, perturbative, QCD calc., sensitivity to coupling const. definition 1−14391
plasmons in classical non-Abelian gauge theory 1−36808
Poincare group gauging, gravity and supergravity, unification 1−18124
p-positronium decay into $\gamma\gamma$, radiative corrections 1−24290
Potts models in 1+1 dimens., self-dual renormalisation group anal., confinement 1−28175
Prascad-Sommerfield monopole in supersymmetric SU(2) gauge field, zero modes, bound states 1−50309
prototype models for particle structure in gauge supersymmetry 1−45155
pure gauge theories, asymptotic freedom, charge renormalisation factor 1−18376
gauge field theory continued
q-state gauge matter Potts models in Lagrangian form., large q expansions 1−28173
QCD, chiral SU(n)×SU(n) symmetry, boundary conditions, CP-violation 1−28222
QCD, Coulomb gauge IR singularities 1−45224
QCD, dynamical symmetry breaking of chiral invariance and collective coordinates in Fermi systems 1−50373
QCD, external field problem in large N limit, lattice, gauge theories 1−18438
QCD, factorisation, chiral symm., current algebra, quantisation, transformation, renormalisation 1−14259
QCD, factorisation, hadron static properties, leading log approx. 1−14360
QCD, gravitational equivalent analogy 1−14262
QCD, hadronic interactions, renormalisation, quark mass, large-p_T behaviour 1−14261
QCD, inclusive and large momentum transfer processes, perturbative theory 1−14362
QCD, infrared structure, rel. to quark confinement, running coupling const. 1−28211
QCD, instantons and the 1/N expansion 1−5579
QCD, large N chiral dynamics 1−23402
QCD, loop average eqns. of motion, perturbative anal. *(Russian)* 1−50401
QCD, mass problem 1−14364
QCD, multigluon exchange, IR divergences, Regge behaviour 1−28268
QCD, multiplicity distrib. and inter-particle correl. *(Russian)* 1−50399
QCD, perturbative, beyond leading order, appls. 1−14358
QCD, possible ground state tensorial condensate from SU(2) gauge theory 1−23477
QCD, semiclassical methods, hadronic struct. 1−14260
QCD, U(1) problem, anomalous Ward identities chiral symm. limit, η' mass, CP violation 1−45149
QCD, vacuum as dielec. and paramag. medium bag model, instantons 1−18391
QCD, vertex function double log. asymptotic behaviour, quark form factors 1−14351
QCD and generalised Abelian models, Green's function methods, instantons, screening, confinement 1−28214
QCD and instantons at finite temperature, review 1−40940
QCD bag, nonperturbative effects, instanton density and chiral symmetry breaking 1−501
QCD chiral symmetry breaking, effective lagrangian θ parameter 1−36800
QCD improvements, complex coupling const. rel. to quark confinement 1−28201
QCD phase transition, vacuum permeability from interquark pot. 1−50388
QED, scalar, free propagator one loop radiative corrections 1−5478
QED, semiclassical representation using nonlinear Maxwell's eqn. 1−28249
QED, spectral functions and gauge transformations 1−33132
quantisation, covariant and noncovariant, equivalence 1−50323
quantized gauge fields, geometry, Yang-Mills formulation, lattice models confinement, phase transform. 1−28206
quantum flavourdynamics, experimental verification, spontaneous symm. breaking, currents, γ-ω^0 mixing, proton decay 1−14361
quark confinement, gauge theories, duality transform., excitations, coupling consts. 1−18390
quark confinement potentials, bound and confined states, analytic continued fraction technique 1−492
quark geometrodynamics, hadron struct. and dynamics 1−28291
quartic scalar self-interactions, charge renormalisation in general gauge theory 1−23448
radiatively induced spontaneous symmetry breaking and phase transitions in curved spacetime 1−23450
real Goldstone bosons associated with spontaneously broken lepton number, massive Majorana neutrinos 1−28261
relativistic two-particle bound state energies, gauge invariance, perturbation theory invariant subsets 1−5483
relic θ-matter, θ gauge interaction, confinement *(Russian)* 1−40587
renormalisable arbitrarily broken gauge theories, reggeisation for broken global symmetry 1−463
renormalisation, dimensional, with non-anticommuting γ_5, preserving canonical Ward identities 1−40930
renormalization of $\sin^2\theta_W$ in gauge hierarchies 1−28250
Riazuddin's weak interaction gauge model, comments on renormalisabiity 1−33105
scalar supersymmetric theory characterisation, functional integration measures, supersymmetric gauge theories 1−36825
Schrodinger equations, stochastic differential equations on fibre bundles, path integral solns. 1−28153
self dual gauge fields, field strength bilinear, ground state expectation value, gluon pairing 1−28176
self-dual gauge fields, linear eqn. 1−23440
singular gauge fields in inclusive and differential cross sections 1−45138
skew-symmetric tensor gauge field theory dynamically realized in the QCD U(1) channel 1−50377
small lattice gauge theories, U(1), SU(2) and SU(3) exact solns. 1−28198
SO(10) unified gauge theory, phase transitions and mag. monopoles 1−18411
SO(14), inclusion of generations 1−40956
SO(3) gauge group broken to U(1), CP-violation in charged sector of Georgi-Glashow model 1−50316
SO(3) gauge theory, soliton quantisation 1−5513
space-time symmetry, gauge theories, symm. breaking 1−32891
spaces with arbitrary torsion, gravity treated as local SL(2, C) gauge theory 1−14059
spherically symmetric gauge fields with compact gauge group over 4-D Minkowski space 1−50304
spin $^1/_2$ fermion scatt., one loop diagram, lowest order electroweak gauge corrections 1−18408
spinning particles, superfield approach 1−14266
spontaneous symmetry breaking and gauge theories *(Chinese)* 1−5507
spontaneously broken gauge theories, low-energy predictions from grand unified theories 1−28256
spontaneously broken non-Abelian gauge theory, high energy behaviour, reggeons, T_{s-m} corrections 1−18367
stability criterion for tumbling patterns 1−45129
static, self-dual, finite action SU(3) gauge fields in the de Sitter space 1−14234

gauge field theory continued
static solution for SU(2), SU(3) theories in presence of static extended source *(Chinese)* 1−45146
string particular solns. of SU_2 gauge field *(Chinese)* 1−23406
string tension and scale parameter relation pure SU(3) and lattice gauge theories 1−14333
string tension in SU(2) gauge theory in (3+1)-D continuum, instanton contrib. 1−23419
string variables, dynamical eqns., general gauge group and QCD 1−28218
stripping operators, gauge-invariant field formulation 1−40927
$SU(2)_H$, lowest mass horizontal gauge boson limits from μ, τ and K decays 1−28265
$SU(2)_L \times SU(2)_R \times U(1)$ gauge theory, minimal, horizontal symmetries 1−40929
$SU(2)_L \times SU(2)_R \times U(1)$ model, V-A hypothesis modification 1−28267
$SU(2)_L \times U(1)$, extended electroweak gauge model, Hung-Sakurai factorisation 1−50369
SU(2), gauge theory with topological charge 3/2, exact self-dual soln. 1−40938
$SU(2) \times U(1) \times G$ gauge theories, neutral current structures 1−5560
$SU(2) \times U(1)$ gauge scheme, quark mass matrix, 2×2 form 1−33109
$SU(2) \times U(1)$ model, triple boson vertex, charged Higgs particle prod. 1−10126
$SU(2) \times U(1)$ theory, in constant EM field, restoration of broken symm. by strong mag. field 1−14309
$SU(2) \rightarrow U(1)$ spontaneous symm. breaking, vector. boson mass operator in mag. field *(Russian)* 1−50333
SU(2) gauge fields on Euclidean space, self-dual solns. 1−18373
SU(2) gauge theory, gauge vacuum effects *(Chinese)* 1−18379
SU(2) lattice gauge model, correlations and specific heat, string tension 1−23416
$SU(3)_{colour} \times U(1)_{EM}$ lattice gauge theory, coloured monopoles 1−45117
$SU(3)_C \times SU(3)_H$ gauge theory based rishon model, dynamical theory, quarks and leptons 1−28280
$SU(3) \times SU(2) \times U(1)$ invariant effective gauge theory, grand unification, superheavy vector boson mass 1−50356
SU(3) Hamiltonian lattice gauge theory, string tension, confinement, roughening 1−28183
SU(4) supersymmetric non-Abelian gauge theory, three loop charge renormalisation function vanishing 1−14268
SU(5), review of fully unified gauge theories 1−28254
SU(5) decouplet quark and lepton model, particle generations *(Russian)* 1−40960
SU(5) grand unification, Higgs and gauge coupling relations, hierarchical symmetry breaking 1−14301
$SU(6) \times SO(3)$ quark and lepton, symm., unification by exceptional groups, origin 1−28240
SU(L) unification, gauge hierarchy structures 1−476
SU(N) gauge theories, kinematics of periodic structures, holonomy group 1−10076
SU(N) gauge theory, 1/N expansion, graph counting 1−40939
SU(N) group, Lagrangian model, large N and non trivial dynamics 1−23420
SU(N) instanton density at finite temp. 1−18372
SU(N) invariant quantum Hamiltonian, singlet spectrum planar limit quantum collective field method 1−28184
SU(N) Landau and Coulomb gauges, vacuum struct. 1−18368
SU(N) non-Abelian gauge theories, confinement and topology, Z(n) spontaneous breakdown 1−18430
SU(N)/Z(N) gauge theory, 't Hooft non-Abelian mag. flux, zero classical energy, Yang-Mills solns. 1−18375
Sudakov form factor, correction computation algorithm 1−5622
super unified gauge theory, generation unification, Cabibbo angle, Higgs bosons, O(14) model 1−28257
superalgebra b(0,1) and explicit integration of the supersymmetric Liouville equation 1−14269
superconducting vortices, interaction 1−34827
superconductor, BCS, gauge symmetry and its breakdown 1−30873
superfluids, charged, unified theory of gravitation and electromagnetism 1−52390
supergravity, exact solns. from plane symmetric metric and spin-$^3/_2$ gravitino ansatz 1−18121
supergravity, normal gauge *(Russian)* 1−5207
supergravity, review 1−14055
supergravity, transversality of the Rarita-Schwinger self-energy, Ward identities, and dimensional regularization 1−23092
superheavy magnetic monopole search, Big Bang prod., unified gauge theories 1−50365
supersymmetric exceptional gauge unification, quark-lepton generations, symmetry breaking 1−23468
supersymmetric gauge theory, superanomalies *(Russian)* 1−50335
symmetries and conservation laws 1−410
tensor product gauge fields, multi-instanton determinants for covariant laplacian, SU(n), Sp(r) and O(n) groups 1−14227
ternon theory, quantum properties of composite gauge field 1−5491
topless gauge theories, neutral currents, SU(2), CP violation and neutral gauge bosons 1−14317
topological charges in guage theories 1−36790
topological excitations and Monte Carlo simulation of Abelian gauge theory 1−23458
topological solitons and mag. monopoles, non abelian gauge field theory 1−5502
topologies from partially ordered sets 1−9909
torsion field coupled to charged spinor field, gauge invariance 1−44829
two-dimensional perturbative QED, gluon propagator, asymptotic completeness 1−18405
two-dimensional U(N) gauge theory, Wilson loop average for arbitrary contour 1−45119
U_1 problem in a two- and in a four-dimensional model, analogies with Schwinger model 1−40925
U(1) lattice gauge theory, α-dimens., universal props., confinement, mag. monopoles 1−28172
U(1) problem and Higgs mechanism, bosonised Schwinger model, 2-D Stueckelberg model 1−5488
U(4) gauge field theory, local inner symm., metric vector, mass spectrum physical fields 1−10084
U(N) and SU(N) lattice gauge theories in two space-time dimensions 1−50325
U(N) gauge theory, 2-D, effective potential and bound states, ϕ^4 term and symmetry breaking 1−443
U(N) gauge theory, N→∞, nonlinear strings 1−23413
gauge field theory continued
U(N) gauge theory on small lattices, large N limit, nonAbelian toy models 1−33091
U(N) QCD, 2-D, path integral approach to large-N expansion 1−23411
unified gauge models, radiative corrections and gauge hierarchies 1−33139
unified gauge theories, spontaneously broken, decay of the false vacuum in the very early Universe 1−40584
vacuum structure, principal fibre bundles 1−50307
vertex function in gauge theories, analytic props. 1−23435
vertex function in gauge theories, three gluon in QCD 1−23436
very early Universe, monopole prod. suppression in SU(S) grand unified gauge theory 1−32783
weak, EM and unified interactions, gauge symmetry appl. 1−10091
weak interactions, book 1−17950
weak interactions using Higgs' mechanism, effect on early Universe expansion rate 1−9743
weak neutral currents, coupling constants, Weinberg-Salam model comparison, review 1−10136
weakly canonical transformations and the path integral quantization, QCD appl. 1−28277
Wilson's surface roughening in 4-D lattice gauge theories 1−5487
Wilson loop and related strings for the instanton and their variational derivatives 1−33094
winding number and gauge condition *(Chinese)* 1−18380
Z_2 lattice gauge theory, connection to Ising spin glasses 1−30965
Z_N gauge theories, phase structure 1−45105
Z(2) gauge and matter theory, phase struct. 1−28191
Z(2) lattice gauge system, critical props. in strong coupling expansions 1−431
Z(2) lattice gauge theory, variational method 1−23441
Z(N) lattice gauge theories, continuum limit, Hamiltonian and Lagrangian approach 1−28212
Z(N) theories, phase transitions 1−5462
$e^+e^- \rightarrow h$, gluon effects, expt. evidence for QCD predictions 1−23507
$e^+e^- \rightarrow h$, perturbative QCD appl. in large momentum transfer interactions 1−14357
$e^+e^- \rightarrow h$, quark scatt. off non-perturbative gluonic fields, cross section, coupling consts., QCD calc. 1−18499
$e^+e^- \rightarrow hX$, energy-momentum distrib., QCD calc., gluon distrib. approx. 1−18502
$e^+e^- \rightarrow$hadron jets, perturbative QCD, experimental verification 1−28336
$e^+e^- \rightarrow$hadrons, QCD tests in hadronic final states, non-perturbative effects, weak interaction phenomena 1−50453
$e^+e^- \rightarrow hx$, QCD predictions, experimental verification and PETRA 1−14363
$e^+e^- \rightarrow W^+W^-$, same helicity e^- and e^+, gauge theories and sum rules 1−18463
eN, deep inelastic scatt., scale breaking in broken colour gauge theory 1−45298
eN elastic scatt., polarisation effects, gauge theory test, $SU(2) \times U(1)$, $SU(3) \times U(1)$ *(Russian)* 1−5629
$e\nu \rightarrow e\nu$, polarised electrons, gauge theory predictions 1−33171
$\gamma\gamma \rightarrow \gamma\gamma X$, structure functions, QCD calc. 1−14441
$\gamma p \rightarrow \gamma X$, large p_T, parton transverse momentum effects, QCD calc. 1−14398
$\gamma p \rightarrow \pi^0 X$, large p_T, parton transverse momentum effects, QCD calc. 1−14398
hh→X, perturbative QCD appl. in large momentum transfer interactions 1−14357
$\mu \rightarrow e\gamma$, suppression in model with horizontal SU(2) gauge symmetry, one loop level 1−33147
μN deep inelastic scatt., scale breaking in broken colour gauge theory 1−45298
n-p mass difference, QCD calc., radiative contrib. 1−45281
νN elastic scatt., polarisation effects, gauge theory test, $SU(2) \times U(1)$, $SU(3) \times U(1)$ *(Russian)* 1−5629
νN→X, parton model QCD 1−14369
$\bar{\nu}^{\pm}N \rightarrow \mu^+X$, c and b prodn., charmed hadron final states, QCD calc. 1−18469
$pp \rightarrow \mu^+\mu^+$, perturbative QCD appl. in large momentum transfer interactions 1−14357
QQ, gauge invariant multipole expansion scheme in QCD, colour gluon interaction 1−50394
$q\bar{q}$ states, ^3p_j decay rates, exactly solvable quarkonium model, QCD calc. 1−23475
θ particles, theta strings and thetons, gauge interaction and confinement 1−494
$Z^0 \rightarrow q\bar{q}g$, spherocity, thrust, quark mass, QCD Weinberg-Salaam model calc. 1−14347
SU_3 gauge groups, equations of motion in Euclidean space, numerical and exact solns. 1−14253
Zn and U(1) Abelian lattice gauge theories, roughening transition and confining string 1−40966

Gaussian noise *see random noise*

Gaussian orbital calculations *see GO calculations*

Gaussian-type orbital calculations *see GTO calculations*

Ge-Si alloys
amorphous, H incorporation, effects on electronic and struct. props., review 1−52067
crystalline and amorphous, vibr. props. 1−52245
electronic and optical props., effect of short range order 1−34615
films on Si, solid-phase epitaxial growth, struct. and uniformity 1−47414
heteroepitaxial growth by transient heating of Ge-coated Si substrates 1−42643
IR spectra, local and quasi-local vibr. modes 1−16572
thermoelectric conversion efficiency at high temp., effects of grain size 1−13150
thermoelectric figure of merit, theoretical anal. 1−8731
thermoelectricity, phase diagrams and imperfection struct. 1−52589
Ge-Si:Se, solid solution, activation energy of upper donor level, Hall effect meas. *(Russian)* 1−47531
Ge-Si:Sn, Mossbauer spectra of Sn impurity atoms 1−52875
$Ge_{1-x}Si_x$, imperfect crystals, two-phonon bound states 1−15967
$Ho_{11}Ge_{8.75}Si_{1.25}$, magnetic struct. determ. by neutron difr. 1−25893
$Si_{0.10}Ge_{0.4}$, highly resistive films, acoustoelectric meas. 1−47713
$Si_{1-x}Ge_x$:H glow discharge films, amorphous, struct. props., IR absorpt. and H evolution meas. 1−52071

Ge-Si alloys continued
$Si_{70}Ge_{30}$ alloy, heavily doped, hot pressed, electron mobility determination procedure 1−30740
Si_xGe_{1-x}-GaAs heterojunction avalanche transit diodes, recombination props., elec. characts. 1−38847
gegenschein *see zodiacal light*
Geiger counters
exoelectron detection by delayed pulses in organic-quenched Geiger-Muller counter 1−14211
gamma-rays, from narrow W slit, distribution, Geiger counter meas. 1−1019
microcomputer based shelf system to monitor special nuclear materials in storage 1−14629
photon dosimeter, response for 100 keV to 19 MeV neutrons 1−41253
UV and X-ray Geiger counters with spatial resolution of 0.3 mm 1−1017
Geiger Muller counters *see Geiger counters*
gelatin
see also gels
dichromated gelatin, holographic devices, tuning, quality control 1−15110
dichromated gelatin, utilisation in holography 1−15111
dichromated gelatin, volume hologram form. mechanism 1−10946
dichromated gelatin films, laser holographic wavelength selectors 1−19297
dichromated gelatin holograms in appls. 1−6514
dichromated gelatin holographic gratings, spectral characts. 1−51409
dichromated gelatin optical element for demultiplexing in fibre optic systems 1−15118
dichromated gelatin reflection holograms, colour control 1−15116
impurities and their removal by sorption refinement *(Russian)* 1−28107
photographic, redox potential meas. 1−17116
solution, aq., dielec. props. *(Russian)* 1−39034
solution, surface tension, dynamic, meas. method 1−16149
UV film filter optical props. and photodegradation resistance 1−46538
Ag halide gelatin holograms 1−15128
gels
concentrated gels, diffusion cell of shear type, Rayleigh scatt. 1−36727
condensation of multifunctional units, limit of high functionality 1−39867
electrostatic forces in muscle and cylindrical gel systems 1−8792
fatty acid, phase transition on lattice, random walk model 1−48753
fibrin gels, oriented, formed by polymerisation in strong mag. fields 1−32181
haemoglobin, sickle cell, kinetic studies on photolysis-induced gelation 1−8798
haemoglobin gels, unsheared, solid-like behaviour in sickle cell disease 1−26932
ionic gels, polymer network phase transitions 1−15786
LNG, gel production, yield stress meas. 1−39689
peptides, solid (gel) phase synthesis, ^{13}C NMR obs. 1−45992
phospholipids, phase transition on lattice, random walk model 1−48753
polyacrylamide, critical elasticity above gel point 1−17053
polyacrylamide gels, in acetone-water mixtures, vol. collapse transition 1−43707
polyacrylamide gels, press.-induced deswelling 1−48754
polyacrylamide gels, sol.-gel transition region, effect of varying crosslinking density 1−43706
polyacrylamine gel deswelling at semipermeable membrane interface under reverse osmosis 1−13040
polydisperse branching polymers, viscosity calc. near gel point 1−11893
polyethylene oxide, swollen crosslinked gels., dynamic struct., NMR investig. 1−26774
polymer, branched, sol-gel transition and percolation analogy, stat. field theory and polymer size distrib. 1−53423
polymer gelation in solvent, approx. treatment 1−24297
polymer gelation kinetics 1−2342
polymerisation kinetics, rate equation and gelation theories 1−13001
polystyrene spherical particles, n-hexane type II diffusion 1−52352
polyurethane networks, form. by gel point method 1−48319
polyvinyl acetate, swollen network, gel, elasticity and compression meas. 1−53227
polyvinyl alcohol, swollen network, gel, elasticity and compression meas. 1−53227
PVC/diethylhexyl phthalate gel, dynamic mechanical and dielectric meas., simultaneous 1−39358
pyrene, fluoresc. quenching by N,N-dialkylanilines, in liposome gels 1−8105
pyrenedecanoic acid, fluoresc. quenching by N,N-dialkylanilines, in liposome gels 1−8105
rheological equation of state, sound dispersion 1−25399
silica, adsorption of N_2 and methane from H_2, temp. effect −129° to −101°C 1−52439
silica gel surface, ^{29}Si NMR spectra of cross polarisation and magic angle spinning 1−53483
sol-gel processes in glass science and technology 1−31410
solution-gel transition in polycondensing system, anal. 1−39690
water, low temperature behaviour, percolation and gelation effects 1−38241
Al_2O_3-H_2O 1−21783
$Al(OH)_3$, hydrothermal modification, X-ray and thermographic investigation 1−21783
MgO-Al_2O_3-SiO_2-H_2O, hydrothermal treatment products, phase comp. 1−53070
SiO_2-B_2O_3 glass synthesis by hot-pressing of gel 1−31411
SiO_2-P_2O_5 glass synthesis by hot-pressing of gel 1−31411
SiO_2-TiO_2 glass synthesis by hot-pressing of gel 1−31411
ThO_2, washing of NH_4NO_3 in wet chem. fuel particle manufacture 1−5986
ThO_2-UO_3 sol-gel process, role of U(VI) 1−28682
ZrO_2-SiO_2, coprecipitation with radioactive Ru at $6<pH<10$, high level waste processing *(Japanese)* 1−18778
ZrO_2-SiO_2 gels, X-ray diffraction and DTA studies rel. to temp. *(Japanese)* 1−18778
general purpose computers
for computer applications see under relevant applications e.g. administrative data processing; CAD; natural sciences computing
optical digital computer design, logic unit, interconnection array and latching unit 1−51598
general relativity
see also cosmology; gravitation; gravitational red shift; Schwarzschild metric; space-time configurations; unified field theories
a coordinate-invariant description of Riemannian manifolds 1−44804
general relativity continued
acceleration and rotation as parallel transport in space-time with torsion 1−9888
algebraic computing, general relativity appls. 1−18145
angular momentum, asymptotically flat spaces, near and far field regions 1−18101
anisotropic and inhomogeneous relativistic cosmologies 1−22939
anisotropic sphere models, Einstein eqns., heuristic solns. 1−50000
astrometry, relativistic corrections to obs. of planets *(Russian)* 1−32608
asymptotically flat space-times, spin coeff. formalism 1−18099
axially symmetric electrovac solns. for isolated charged mass 1−5181
Bianchi V cosmological models, diagonal, filled with perfect fluid, canonical quantisation 1−9750
bimetric, field eqns. in static form, appl. to astrophysics 1−5168
bimetric general relativity and cosmology 1−9882
bimetric relativity, spherically symmetric space-times, vacuum solns. 1−32878
bimetric relativity theory, axially symmetric vacuum solns. 1−23063
black hole, thermal evaporation, null geodesic propag., Hawking radiation 1−40691
black hole, third law of mechanics 1−17865
black holes have no superhair 1−23081
book 1−17948
book 1−17949
book 1−17952
canonical gravity, book contrib. 1−18092
Carnot cycles for rigidly moving fluid 1−44801
Cauchy problem, 3+1 formulation for Einstein's eqn. solns., stability, initial value problem 1−18093
celestial mechanics 1−32611
charged body motion through external EM and grav. fields 1−9892
charged dust equilibrium configurations 1−131
charged particle motion in EM fields surrounding black holes, general relativistic anal. 1−44816
charged rotating systems, charged Tomimatsu-Sato sources, Einstein-Maxwell eqns. 1−23069
charged singularities, causality violation 1−18087
charged spherically symmetric space-times, algebraic isometric embeddings 1−44792
complex variables, complex analytic functions, use in general relativity 1−18102
composite fluid sphere with two density distribs. 1−18083
computer applications in analytic calculations, review 1−50
conformal invariance, microscopic physics, and the nature of gravitation 1−5193
constraints hierarchy in general relativity, Yang-Mills and gravitational fields 1−9881
coordinate-dependent 3+1 formulation of the general relativity equation of motion 1−130
cosmic censorship, black holes, particle orbits 1−44805
cosmological models, global rotation 1−13888
cosmological redshift, time depend. in Friedmann universes 1−9744
cosmological spaces and closed conformal infinitesimal transformations *(French)* 1−49866
cosmology, general relativity models, review, book contrib. 1−22936
cosmology, inhomogeneous magnetohydrostatic model, Petrov type 1D 1−22934
cosmology and gravitation, (spin, torsion, rot. and supergravity), conference, Erice, Italy (1979 May 6 to 18) 1−44714
covariant 2+2 formulation of the initial-value problem in general relativity 1−5190
covariant framework for a mass monopole as a field structure in general relativity 1−5191
curved space, quantum field theory, four and two-dimensional models 1−18135
cylindrically symmetric rotating metric soln. to Einstein eqns. 1−44800
dynamical subquark model of pregauge and pregeometric interactions 1−14339
dynamics of extended bodies and polarised media, source density due to eccentrically placed particle 1−36537
Einstein's equation, branching of solns. 1−23075
Einstein's equations, generation methods of axially symmetric stationary solns., nonrelativistic analysis 1−50013
Einstein's equations, generation methods of exact axially symmetric stationary solns. *(Russian)* 1−50012
Einstein's field eqns. for static spherically symmetric distrib. of charged fluid spheres 1−40680
Einstein's field equations, Kerr-NUT type solns. 1−36437
Einstein's field theory with teleparallelism and Dirac electrodynamics 1−123
Einstein's Hermitian theory of relativity as unification of gravo- and chromodynamics *(German)* 1−147
Einstein equations, locally inhomogeneous solns. in Robertson-Walker background 1−49864
Einstein gravitational theory, natural scalar field, Riemannian space-time 1−5174
Einstein spaces and their global props. 1−36542
Einstein-Maxwell eqns., axially symmetric stationary, Backlund transform. 1−136
Einstein-Maxwell field equations, solns. for eqns. of motion of charged particles 1−32875
electro-scalarly charged fluid spheres in general relativity 1−18085
electrodynamics, nonlinear, and anisotropic space-time 1−40954
electrodynamics, time-symmetric 1−5118
electron as wormhole, in Einstein's field theory with teleparallection and Dirac's electrodynamics 1−36535
energy and linear momentum of space-times, positive mass conjecture 1−49999
energy-transport by radiative diffusion, general relativistic Fourier eqn. 1−5173
exact inhomogeneous cosmologies with eqn. of state $p=\gamma\mu$ 1−17920
exact multimonopole solutions in the Bogomolny-Prasad-Sommerfield limit 1−50015
experimental tests, review, book contrib. 1−18142
experimental verification of parameterised post Newtonian formalism, book contrib. 1−18143
(F, g, r, S)-structure in general relativity 1−5180
Finsler spaces, theory of fields, physical aspects induced by internal variable 1−50007
Finslerian relativity theory 1−40686
Finslerian relativity theory 1−50009

general relativity continued
flat space-time gravitational theories, Lagrangian theorem 1−44793
fluids, relativistic, slowly rotating, uniqueness of equilibrium configurations 1−11479
gas of particles with spin, internal state, generalised phase space 1−44794
generalised cosmological Friedmann equations without gravitational singularity 1−36440
geometric method in mathematical physics, conf., Lowell, MA, USA (March 1979) 1−22951
geometrical equivalence of metrics in general relativity 1−36539
geometry classification by computer 1−32880
gravitation, Einstein theory, post-Newtonian equations of motion *(Russian)* 1−9880
gravitation, gauge theories and differential geometry 1−23073
gravitation, gauge theory, relativity and equivalence principles 1−44830
gravitation, Poincare gauge field theory, quadratic Lagrangian 1−18125
gravitation, scalar-tensor theories, vacuum and EM field, Birkhoff's theorem 1−18119
gravitation and cosmology, local and global aspects, book 1−27690
gravitation theory, conformastat flat solution, energy-momentum pseudo-tensor normality *(Chinese)* 1−50019
gravitational and sound waves in stiff matter 1−5196
gravitational field, asymptotic structure, spatial infinity group, book contrib. 1−18100
gravitational field, generalised Kerr solution, force and relativistic drag on free particle 1−9889
gravitational field, linear covariant eqns. 1−32882
gravitational field local energy content calcs. *(Chinese)* 1−49997
gravitational instantons, Feynman integrals and spaces in complex general relativity 1−44826
gravitational instantons and 2-D Kahler Einstein spaces 1−18133
gravitational radiation energy loss in scattering problems and the Einstein quadrupole formula 1−23076
gravitational red shift as general relativity test, history 1−32827
gravitational shocks, interacting, in vacuum plane-symmetric cosmologies, numerical anal. 1−44425
gravitational singularities, elimination within framework of Einstein general theory of relativity 1−54359
gravitational wave, cylindrical, in Melvin universe 1−18110
gravitational wave detection, book contrib. 1−18141
gravitational waves, interactions with matter and fields 1−18112
gravitational/electromagnetic conversion scattering on fixed charges in the Born approximation 1−44815
gravitationally bound systems, quadrupole formula and balance eqns. 1−27373
gravity in flat space-time, field theoretic approach, convergence to general relativity, review 1−5217
h-spaces, description, null foliation geometry, complex generalisation 1−18103
Hamilton-Jacobi equation, Einstein spaces, separation of variables, no ignorable coordinates 1−36540
Hamilton-Jacobi geodesic equation, separability, general relativity appls. 1−18096
Hamiltonian structure, gravitational and Yang-Mills fields, supergravity, book contrib. 1−18123
harmonic coordinate system, abstract hyperbolic eqn. uniqueness 1−9890
harmonic oscillator clock behaviour near gravitational field singularity 1−132
historical background and current situation 1−18105
Hoenselaers-Kinnersley-Xanthopoulos spinning mass fields 1−50002
homothetic motions and the Hauser metric 1−9891
hyperbolic static space-times, deterministic dynamics 1−27834
hyperfunction solutions of the zero-rest-mass field equations 1−40695
hypersurfaces, isotropic, admitting inner groups of motions 1−23059
infinities in slow-motion expansions 1−9886
initial value problem, dynamical formulation interrelationships 1−18106
interior metrics matching the Kerr metric *(French)* 1−5171
invariant transformations, conservation laws, and energy-momentum, book contrib. 1−18098
Kerr metric, perturbations, Maxwell and Dirac eqns. soln., black holes 1−18108
Killing tensor and metric, vacuum type-D space-time 1−27832
Killing tensors, conserved quantities of spinning test particles 1−40684
Killing vectors in a algebraically special vacuum space times 1−5177
Killing-Yano tensors and separability structures in vaccum type-D space-times without acceleration 1−40681
Killing-Yano tensors classified according to valence 1−44806
kinks, topologically distinct metric classification problem 1−18084
light velocity meas., Romer method, fact and illusions, teaching 1−27725
local Lorentz invariance effect on Einstein's general relativity 1−50014
localisation of energy 1−27833
magnetohydrodynamics in projective relativity 1−128
magnetoviscous fluid, non-degenerate Petrov type I model 1−36538
mass positivity, approaches to proof, book contrib. 1−18094
maximal hypersurfaces and foliations of constant mean curvature in general relativity, review 1−23072
metrics with indefinite signature on given manifold, canonically defined distance function existance 1−44791
MHD Universe in general relativity, anisotropic spatially homogeneous nondegenerate Petrov type I model 1−13889
mirror boundaries, spherical, expanding with uniform acceleration 1−5184
momentum, field, inertial and gravitational, post-Newtonian approx. *(Russian)* 1−9879
momentum mappings, symmetry and bifurcations 1−40921
multipole moments of static space time 1−23061
neutrino gravitational coupling to matter vorticity 1−44813
neutrino waves, gravitational interaction 1−50010
neutrinos, Fermi-degenerate, self-gravitating 1−9362
neutron stars, general relativistic effects on cooling curves 1−9549
non-inertial systems, quantum mech. effects 1−27804
nonsymmetric unified field theory and flat space-time 1−23083
observer frame rotation rates and magnetic fields in spatially homogeneous universes 1−50001
one-electron atom as a probe of spacetime curvature 1−9913
Palatini variation of a generalized Einstein Lagrangian 1−129
perfect fluid exact spatially homogeneous cosmologies, Bianchi type VIII soln. 1−49867
Petrov type-N gravitational wave solns. and vacuum metrics, curvature collineations 1−5194
phase space formulation, canonical quantisation, book contrib. 1−18095
point masses, mathematical meaning *(French)* 1−32877
general relativity continued
post-Newtonian approximation, equation of motion for extended bodies 1−50005
post-Newtonian approximation, metric and local equations of motion 1−50004
post-Newtonian metric tensor, approx. Poincare invariance and gauge conditons 1−5183
post-Newtonian theory, motion of extended bodies in fully conservative theories of gravity 1−50006
post-post-Newtonian deflection of light by the Sun 1−23070
quantum field theory in curved space-time, unquantised gravity, cosmology, black hole appls. 1−18118
quantum gravity expts., Einstein theory test 1−9908
radiating fluid spheres, evolution 1−23067
radiative effects in relativistic gravity, gravit. radiation reaction and energy loss in nearly Newtonian systems 1−49497
radioastronomy, recent developments, review 1−27742
Reissner Nordstrom field with $|q|>m$, interior solutions 1−50008
relativistic equilibrium of corpuscular and continuum systems *(Italian)* 1−5100
relativistic gravitational collapse, equilibrium configuration explosion and reorganisation 1−23074
relativistic reference frames, rotation and precession, Minkowskian space-time, Clifford algebra 1−49998
relativistic star, internal struct. *(Russian)* 1−22789
review, general theory of relativity 1−5172
Riemannian manifolds, local isometric embedding, Einstein's equations influence 1−18097
Riemannian normal coordinates, covariant path integral with quadratic lagrangian, evaluation by Fourier anal. 1−137
rigidly rotating disc, Einstein's treatment, historical aspects, book contrib. 1−17983
Robertson-Walker background, local inhomogeneities, general framework 1−22931
Robertson-Walker metrics expressible in static form 1−9885
Rosen's bimetric theory, nonexistence of axially symmetric fields 1−124
rotating black hole in a strong magnetic field 1−44817
rotating charged dust in general relativity 1−5186
rotating polytropes in rapid rotation 1−54478
rotating sphere, space-time and spatial geodesics 1−133
rotation and acceleration as parallel transport in a space-time with torsion 1−9888
rotational perturbations of Friedmann universes 1−27639
second- and fourth-order invariants on curved manifolds with torsion, supergravity 1−5182
second-order contribution to the gravitational deflection of light 1−23071
self dual de-Sitter solns., Prasad-Sommerfield limit, linear deformations 1−23068
self-dual space-times with cosmological constant 1−23060
self-gravitating static massive vector field in general relativity 1−40687
shearfree congruences of null geodesics and Killing tensors 1−9884
singularities, regular solns. of Einsteins eqns. 1−125
singularities, removed, existence of fundamental rest frame in Universe 1−18082
singularities and horizons, review, book contrib. 1−18115
singularities in general relativity 1−40682
sixteen dimensional superspace in indefinite metric QFT of general relativity 1−5211
slow motion approx., finite reduced hydrodynamic eqn., first post-Newtonian eqns. 1−5176
slow motion approx., finite reduced hydrodynamic eqns. 1−9883
small body motion through external field, matched asymptotic expansion calc. 1−14051
small distance behavior in Einstein theory of gravitation 1−18091
Solar System barycentric ref. frame, coord. time transform. 1−40312
Solar System barycentric reference frame coord. time-expression 1−40311
soliton solutions of the Einstein equations generated from cosmological solutions with additional symmetry 1−27836
space-borne hydrogen maser, test of relativistic gravitation 1−27855
space-time manifolds, kinematic groups *(Chinese)* 1−49996
spinning mass solns. for Einstein vacuum gravitational fields 1−23062
spinning mass solutions, new family 1−18090
spontaneous subspace compaction, Einstein field-calibration field interactions *(Russian)* 1−40685
star, slow rot. collapse, gravitational radiation, exact Green's function 1−17812
star collapse, end point according to bimetric general relativity theory 1−9538
state triads, asymptotic behaviour, unified field theory with teleparallelisms and Dirac's electrodynamics *(German)* 1−36547
static equilibrium configuration extraction method 1−139
static general relativity, force on matter inside closed surface 1−134
static gravitational field near spatial infinity, Einstein eqn. solns. 1−5175
static Lyttleton-Bondi sphere, relativistic field eqns. 1−36549
stationary axially symmetric Einstein-Maxwell scalar and Brans-Dicke-Maxwell fields 1−50003
stationary Maxwell-Einstein fields 1−44808
supergravity, gravitational aspects, book contrib. 1−18127
supergravity, usefulness to general relativity 1−23094
Szekeres's quasi-spherical spacetimes, gravitational radiation 1−5195
tachyon causality paradoxes, quantum mechanics and general relativity 1−36544
tangentially stressed charged cylinders in general relativity, interior soln. 1−18086
tetrad formalism, structure in general case 1−127
time, effects of motion and gravitational potential 1−14052
time asymmetry, macroscopic processes, rel. to singularities 1−18109
topology of covering space defined by Hawking, derivation of singularity theorems 1−135
torsion and related concepts, anholonomic basis 1−9887
twistors, cohomology and massless fields, review 1−32892
twistors theory, flat and curved space-time, hypersurfaces 1−18104
uncertainty relations, the wave-particle dualism and timeless paths in spacetime 1−36543
unified field theory, non-symmetric, identification of metric tensor, Palatini variational principles 1−18120
universal upper bound on the entropy-to-energy ratio for bounded systems 1−44814
Universe, size diameter and curvature *(Russian)* 1−27644
vacuum axisymmetric space-times, Petrov classification 1−14050
vacuum Einstein spaces, N-type, struct. 1−36545

general relativity continued
vacuum field equations, regular and asymptotic characteristic initial value problem 1−40683
vacuum general relativistic field equations 1−36541
world potential, Friedmann universe and world potential, theory 1−54671
Yang Mills fields, classification for general relativity 1−5169

generator coordinate method
see also nuclear structure theory
collective modes 1−33225
collective potential and mass, generator coordinate method 1−50480
dibaryon resources, retarded decay, quark model, GCM calc. 1−50427
maximum overlap, atomic coherent states and the generator coordinate method 1−50496
$^4He(^3He,^3He)^4He$, generator coordinator method calc., and interpretation 1−28490

generators, acoustic *see acoustic generators*

generators, electric *see electric generators*

geochemistry
see also Earth structure; geology
Afar volcanic rock Rb-Sr ratios, mantle source region 1−13425
Ahaggar volcanic suite (African shield area), Pb-Nd-Sr study 1−40085
andesitic magmas from partially melted basaltic eclogite, REE systematics 1−40087
apatite/rock melt equilibria at 25 kbar 1−32395
Archaean meta-igneous rocks in Lake Despair area, NW.Ontario 1−35952
Archaen gneiss from W.Greenland Pb isotope study of crust contamination 1−40094
Atlantic Ocean, ^{13}C distribution 1−4536
banded-iron formations, deep-seated iron ores 1−22339
basaltic magma, redox state of CE 1−40096
Bay of Bengal, major nutrient source for deep Indian Ocean 1−4539
British Tertiary Volcanic Province lavas, crust contamination using Th-Hf-Ta data 1−13418
carbonates, ^{13}C and ^{18}O behaviour during contact metamorphism rel. to isotope systematics in impure dolomitic limestones 1−40126
carbonic metamorphism, Precambrian, rel. to granulites form. and crustal growth 1−17568
continental crust sources, Nd isotopic evidence from Sierra Nevada and Peninsular Ranges 1−27127
continental flood basalts generation, evidence for crustal influence from Nd and Sr isotopic comps. 1−35980
crust growth and mantle evolution, isotope and geochem. model 1−22280
crustal deep processes and structure, physico-chemical models 1−13429
crustal rock Cd, Bi, Tl, Pb, Zn Rb contents 1−40095
cumulate gabbro of mid-Atlantic Ridge, cryst fractionation model 1−22289
Dalma greenstone belt, Singhbhum, India, geology and tectonic history 1−44135
Devonian-Mississippian shales, S isotopes in iron sulphide deposits rel. to sedimentation rate 1−32388
diamonds with silicate inclusions, inclusion trace element composition from microprobe anal. 1−44143
dolomite karst hydrochemistry, Bruce Peninsula, Ontario, Canada 1−44216
dyke metamorphism in high grade basement terrains, trace element mobility 1−32439
earthquakes, geochemical precursors 1−32385
fallout radionuclides in Pacific Ocean, vertical and horizontal distribs. from GEOSECS stations 1−9180
Franciscan intrusive gabbros, California, geology of oceanic basaltic magmas 1−32386
Franciscan metagraywackes of Nacimiento block, mineral paragenesis and chem. anal. 1−44183
gabbroic rocks from northern Oman Mountains, geochemistry 1−13434
geochemical samples, determ. of elements using computerised monochromator in atomic emission spectrometry 1−49399
geothermal waters anal., molybdenum blue appl. to As and P determs. in fluoride and SiO_2 rich waters 1−54259
granophyre hydrothermal Sr contamination, Isle of Skye, Scotland 1−22265
Greece, Pelagonian zone volcanic flows of Upper Palaeozoic *(French)* 1−49245
halogen composition of upper mantle, principal reservoirs 1−49240
Hawaiian igneous rock origin, Ar and He isotope study 1−9138
history of Earth and planetary dynamics, cross-disciplinary methods of study 1−27049
hot springs at Puchuldiza, Chile, chem. and temp. of water 1−44223
hot springs at Tuja, Chile, chem. and temp. of water 1−44223
Icelandic geothermal systems influenced by seawater, S isotope study 1−22365
igneous systems, petrogenetic study using rare earth elements 1−13458
inert gases absorbed from primordial atmos. 1−13576
intrusive rock Sr isotope geochemistry of Puerto Rico 1−13422
Japan, volcanic rock Nd and Sr isotopes and tectonic structure 1−54082
Lewisian granulite complex of NW.Scotland, geochem. and Archaean petrogenesis 1−32393
Los Chocoyos Ash, Guatemala, ash correl. in three oceans, geochemical obs. 1−17584
magmatic melts, crystal growth kinetic model, isotopic fractionation 1−27102
magnetism in NE.Africa and Saudi Arabia 1−44150
upper mantle, oxidation state and implications for primitive atmosphere 1−17569
mantle deep processes and structure, physico-chemical models 1−13429
mantle metasomatism-precursor to alkaline volcanism 1−49236
marine sediment, mag. and chem. variations, anal. methods 1−13398
meta-igneous granulitic xenoliths of French Massif Central, petrology and geochem. 1−13419
Metchosin Eocene Volcanics, Vancouver Island, geochem. and origin 1−44134
meteoric waters, changes of ^2H and ^{18}O enrichment during Pleistocene glaciation 1−54194
midocean ridge lava and chem., Ninetyeast Ridge, Indian Ocean 1−13430
Mount Etna magmas, evidence for cryst. differentiation in low vel. zone beneath volcano 1−9140
Mount St. Helens, USA, volcanic plume, gas chem. composition 1−4481
neutron activation analysis methods, appl. to geochemistry 1−22506

geochemistry continued
Newfoundland Appalachians basaltic rocks (Snooks Arm Group), geochem. and origin 1−40083
North Atlantic Deep Water, isotopic fractionations during O_2 consumption and carbonate dissolution 1−4537
nuclear reactor (natural) at Oklo, Gabon, Lu isotope study *(French)* 1−40131
oceanic crust of E.Pacific, evidence for gabbroic rocks fractionation 1−4490
oceanic islands, basaltic rock Pb isotopes and mantle evolution 1−54021
oceans, aspects of particulate transport of trace elements and radionuclides 1−4508
Oklo natural nucl. reactor, fission yields and retention of fission products 1−13424
ophiolite gabbroic complex petrochemistry, Ti-content anal. 1−40089
orthopyroxene, solubility of Al_2O_3 in $MgO-Al_2O_3-SiO_2$ system, geothermobarometric appl. to mantle 1−44144
N.Pacific Ocean, ^{210}Pb residence times from meas. in GEOSECS water profiles 1−4531
deep Pacific Ocean, alkalinity distrib. rel. to $CaCO_3$ dissolution 1−4538
N.Pacific Ocean, CO_2 gas exchange rate rel. to T and radiocarbon distrib. at GEOSECS station (347) 1−4534
peridotite melting model, P as incompatible element 1−32395
petrological and geochemical diagrams generator, interactive, Telecino 1−49412
plagiogranites from oceanic crust, rare earth elements abundances and comparison with ophiolites 1−44185
Pleistocene lacustrine episode in SE.Libya, Th/U dating and isotopic palaeohydrology 1−54150
Precambrian sediment, S isotope ratio, implication for early life 1−9137
Red Sea, chemical investigations of Atlantis II and Discovery brines 1−54103
REE and TH abundances in sedimentary rocks and continental crust 1−49237
regional metamorphism in mobile belts, two models rel. to origin of granitoid magma 1−4496
Reykjanes Peninsula basalts, Nd and Sr isotopes indicating mantle inhomogeneities 1−40088
Riga Gulf, distrib. of Sc, Hf, Th, Ln, Ce, Eu, Mn, Fe, Co in bottom sediments and suspended matter *(Russian)* 1−13449
rock composition rel. to meteorite parent bodies and lunar rocks, accretional heating cause 1−22699
sanidine+forsterite system, stability under upper mantle conditions 1−22271
sea bed geothermal springs, chem. processes, W.Florida continental shelf 1−54066
sedimentary rock, trapped noble gas composition 1−49238
deep-sea sediments, RA, Th, U and ^{210}Pb in N.Equatorial Pacific sediments and pore waters 1−44163
single-pyroxine thermobarometry, new obs. of Cr-Al ratios in peridotite 1−40105
South Mountain batholith, Nova Scotia, Sr isotope geolog. 1−22279
spinel peridotite xenoliths in Ethiopia, REE abundances 1−49239
sulphide precipitates at 21°N on E.Pacific Rise, ^{226}Ra, ^{210}Pb and ^{210}Po activities 1−17577
ultrafamic rocks from northern Oman Mountains, geochemistry 1−13434
underground water samples, multielement neutron activation anal. 1−49291
volcanic arc magmas melting-mixing model 1−54031
whole-rock analysis, plotting program, PRP, in FORTRAN IV 1−49411
Yenisei Range, Siberia, Riphean volcanic belt, zoning and metallogeny 1−54036
Ba cycle in open ocean, evidence from obs. of discrete suspended particles of barite ($BaSO_4$) 1−4509
C in solid solution in forsterite 1−27101
CO_2, fossil fuel, transport into deep-sea source regions, use of bomb-produced ^{14}C as tracer 1−4535
CO_2 from fossil fuel, absorpt. by ocean 1−26864
$CaO-MgO-CO_2-H_2O$, solidus relationships to 40 kbar, geophysics appl. 1−39321
$CaO-MgO-SiO_2-CO_2-H_2O$, solidus relationships to 10 kbars, geophysics appl. 1−39321
Cd, concs. and aquatic chemistry in heavy metal contaminated lake 1−13193
Cm, mobilisation by erosional processes rel. to content in Columbia River sediments 1−8777
La and Y determ., correction of results using rel. between analytical signal and two arcing half-periods 1−54272
$MgSiO_4-MgO-H_2O$ in Earth mantle, phase changes at high press. and temp. 1−32405
Mn deposit in Eolian Island Arc volcanic seamount, chemistry and mineralogy 1−35971
Na thermometry for pyroxenes in garnet and spinel lherzolites 1−9149
$NaAlSi_3O_8-KAlSi_3O_8-H_2O$, albite-orthoclase water, high press. phase relations 1−44182
Nd and Sr isotopes of Namibian rocks, study of Damara orogenic event 1−40101
Nd isotope composition and mantle evolution 1−54034
Os-Ir-Ru alloys and deep mantle history 1−22290
P composition of upper mantle, principal reservoirs 1−49240
P in upper mantle, conc. set by peridotite melting model 1−32395
PbO_2, orthorhombic-cubic transform., transform. rate and phase boundary, X-ray obs. 1−38528
Pu, transport to and deposition and immobility in Irish Sea intertidal sediments 1−43834
Rb/Sr geochronology and geochem. of Archaean polymetamorphic gneisses of SW.Greenland 1−13423
Sn content determination using AAS 1−53502
Sn mineralisation of metamorphased pluton zones 1−44152
T, rates of input to world oceans 1−4533
Th-HF-Ta diagram for identical of igneous rock crustal contamination 1−13417
Th-Hf-Ta diagram for tectonomagmatic classification of rocks 1−13418
Zn, concs. and aquatic chemistry in heavy metal contaminated lake 1−13193
Zn solution in river estuaries, results of double radio-tracer tagging of mud in Gironde estuary *(French)* 1−27207

geochronology
see also radioactive dating
E.Alps, U-Pb ages of metamorphosed tonalite 1−13421

geochronology continued
Antarctic snows trace metal content vars. since 1880s, influence of global pollution and volcanic eruptions 1—44220
Aqulhas Basin, magnetic bight discovery and Late Cretaceous mag. and tectonic chronology 1—9081
Archaean polymetamorphic gneisses of SW.Greenland, Rb/Sr ages and geochemistry 1—13423
Archaean succession at Rainy Lake, Ontario, inversion and age relations 1—54080
N.Armorican Massif (France), geochronological study *(French)* 1—49233
Atlantic Ocean, var. of depth through time 1—54071
Baja California, Mexico, marine terraces, geomorphology, chronology and deform. 1—17585
Bermuda sea level during the last interglacial from $^{230}Th/^{244}U$ dating 1—44207
Blake Event geomagnetic reversal, dating of marine core drilled off Italy 1—13386
Caledonian Jotun nappe of S.Norway, U-Pb and Rb-Sr age study 1—4466
S.Carolina Piedmont, deformed Hercynian granitic rocks 1—44130
Char ophiolite belt, E.Kazakhstan, geological struct. and history 1—13455
Chukotka Peninsula, Siberia, evidence for Mesozoic rheomobilisation of metamorphic rock complex 1—9150
climatic history, selected events and lessons 1—4604
Damara orogenic event, Nd and Sr isotope study of Namibian rocks 1—40101
dating, spontaneous and induced fission tracks in apatites 1—9136
diabase dikes, early Mesozoic, of Avalon Peninsula, Newfoundland, K-Ar isochron ages 1—54081
East Pacific Rise, homogeneous basalts relative ages rel. to steady state magma reservoirs 1—27151
ESR dating, present status, reply 1—27302
fission track annealing and application to the dating of Austrian sphene 1—44307
Geikie River area, geology and geochronology, N.Saskatchewan 1—44138
geomagnetic secular variation, palaeomag. curves back to 13400 yr BP from Lac de Joux, Switzerland, sediments 1—35933
Glacial Lake Algonquin, USA, sediment study of Nipissing glacial transgression 1—40145
glauconite Rb/Sr dating method for Cretaceous rock of N.Jersey, USA 1—54022
granite batholiths of Sierra Nevada and Peninsular Ranges, provenance age of continental crust component 1—27127
Greece and Turkey, K-Ar ages of ophiolite complexes 1—54047
Grenville Belt, radiometric evidence for two orogenies 1—54033
Holocene palaeoclimate, relative departures in July temps. in N.Canada for past 6000 yr 1—36052
Indian orogenic belts, palaeo-uplift and cooling rates 1—35970
intrusive rock Sr isotope geochemistry of Puerto Rico 1—13422
Iran, ophiolites and melange terrane, geochronology and palaeotectonic implications 1—22303
Jersey 8 metre raised beach age, U-series and amino acid racemisation dates 1—35955
Kemess porphyry Cu-Mo deposit, BC, Canada, geology and age 1—32437
Late Wisconsin Cordilleran Ice Sheet in British Columbia, advance since 22000 BP 1—17631
loess in S.England, Late Devensian, thermoluminescent dating 1—44184
marine sediment dating by thermoluminescence method 1—44164
mass spectrometer system using tandem electrostatic accelerators, geochronological appls. 1—23361
NE.Massachusetts, geochronology of stratified metamorphic rocks 1—54020
meteorite impact crater at Lappajarvi, Finland, Ar isotope age of Cretaceous feature 1—4498
microprocessor-based magnetic mass spectrometer characts. *(Hungarian)* 1—36075
miliolite deposits of Saurashtra coast, Gujarat, India, age and origin 1—27125
mixtite-bearing formations (Precambrian to Palaeozoic) in Namibia, palaeomagnetism of Nama Group and Blaubeker Formation 1—40047
S. New Mexico, evidence for Palaeozoic plutonism from Florida Mountains 1—22278
Newfoundland trans-Avalon aeromag. lineament, crust struct. study 1—44140
oceanic sulphide precipitates at 21°N on E.Pacific Rise, ages from ^{210}Pb and ^{210}Po activities 1—17577
Ordovician-Devonian geologic time scales, reassessment of isotopic data 1—22263
Ordovician-Devonian time scales, reassessment of Rb/Sr isotopic data 1—22264
palaeoclimatology, freq. sensitivity of deep-sea sediments record, bioturbation effects 1—9240
paleomagnetism, Miocene, of ceyssatite of Shanwang formation in Linqu County, Shandong, China *(Chinese)* 1—49200
Pleistocene lacustrine episode in SE.Libya, Th/U dating and isotopic palaeohydrology 1—54150
Pratt-Welker seamount chain, NE.Pacific, origin and geochronology 1—27118
Proterozoic era, palaeomag. polar wander paths for Venezuela and Africa rel. to transcurrent tectonics 1—35967
Quarternary time scale from deep sea sediment, comparison of methods 1—17571
quartz, thermoluminescence, dose-rate dependence for dating 1—6093
quartzite from Keno Hill, mineralisation date from K-Ar model age 1—35953
Quebec, geology of layered gneiss and migmatite of Superior Province 1—44141
radiometric dating in geology 1—27739
Red Sea igneous rocks rel. to magnetism in NE.Africa and Saudi Arabia 1—44150
Red Sea opening and uplift of Sinai, fission track study 1—40110
Rio Grande rift, New Mexico, USA, K-Ar ages and evolution of rift 1—32394
River Nile, Late Quaternary history 1—17628
S.Rockall Trough, age and structure seismic profile study 1—40086
Siberian platform, post Triassic volcanism from volcanite age determ. 1—22310
Sinai Peninsula vertical crustal motion, and Red Sea opening 1—40110
South Mountain batholith, Nova Scotia, Sr isotope geolog. 1—22279
stalagmites age determ. by ESR in Belgian caves 1—54280
Taupo eruption, New Zealand, new date 1—22306

geochronology continued
SW.Utah, Late Cainozoic mafic volcanism 1—44178
vein mineral ages of old oceanic crust 1—44148
Vietnamese Late Palaeozoic magmatism, geochronological study 1—54037
Yukon Crystalline Terrane, geochronology, U/Pb study 1—44137
Mn nodules, growth rate by fossil diatom inclusions 1—9145
^{210}Pb geochronology in marine and lacustrine sediments 1—35973
Sm-Nd technique, Nd ion formation effects 1—17124
W skarn deposits, Selwyn Mountains, Yukon, Canada, isotope geochronology 1—32436

geodesy
see also gravity
astrofix in rectangular co-ords., Bhattacharji and Dollen methods *(French)* 1—17693
astrolabe observations, FK4 catalogue *(French)* 1—44075
atmosphere refraction, calc. of terrestrial and astronomical refr. zenith distances *(Russian)* 1—54239
Calaveras fault, California, geodetic, obs. of motion 1—54060
S.California, aseismic uplift due to geodetic errors 1—53956
Canada, contemporary vertical crust motion map 1—49255
Canadian Shield, gravity anomaly, geoidal height and deflection from vertical 1—13376
Caribbean region, gravity anomalies, model *(Russian)* 1—22184
Carpathian-Balkan region, vertical crust movements 1—54057
collocation and analytical spline functions *(German)* 1—40044
complete determination of local crust movement 1—53962
crust movements, detection with high-precision geodetic methods 1—53959
crust strain determination with tiltmeters sited in caves 1—17708
crustal at Pades-Gorj and Craciunesti-Deva, Rumania, effects of atmospheric press. field vars. *(Rumanian)* 1—44071
crustal movements, geodesy and cartography aspects *(German)* 1—17554
crustal strain, method of computation from geodetic measurements 1—53963
crustal strain determ. from microgeodetic network obs. 1—36067
deflection of vertical derived from horizontal gravity gradient by local gravity meas. *(German)* 1—9070
Earth's crust movement studied by geodetic meas., anal. methods 1—22550
Earth rotation, conf., San Fernando, Spain (May 1978) 1—40606
earthquake sources, crustal stress, deform. and tilt fields *(Chinese)* 1—9087
EDOC-2 campaign, appl. of new Doppler telemetry station at Cagliari Observatory *(Italian)* 1—9374
ephemeris reference frame for astrometric work 1—44083
Finland, crustal uplift during modern times 1—54059
geodetic stars, preliminary catalogue (CGS) *(Russian)* 1—13702
geodynamics contrib. *(German)* 1—17553
geoid change rel. to Holocene estuary shore level tilt in Senegal River area 1—53955
geoid height versus age for symmetric spreading ridges 1—44069
geoid odd zonal harmonics from satellite orbits 1—32341
geoid undulations from analysis of Geos 3 altimeter data 1—44068
geometry and gravity space, dual relations 1—9071
geopotential and geoid shape, odd zonal harmonics from satellite orbits 1—32341
W. Germany, vertical crust motion and height change maps 1—54058
global analytic treatment of photogrammetric networks *(French)* 1—49181
global geodetic network, design and error characts. 1—53958
gravimetry, inverse problem parameterisation construction 1—22186
gravity, accuracy of transformed anomalous gravitational fields 1—53954
gravity, deflection of local vertical at Herstmonceaux, England, due to Earth tides 1—49192
gravity anomaly, measurable by astro-geodetic method *(German)* 1—40045
gravity variations with periods in excess of a few hours, amplitudes *(German)* 1—40041
height controlled space computations, formulae 1—17549
Iceland, current rifting process, gravity and height obs. 1—54063
Indian geodetic datum, in absolute GRS 67 terms 1—17550
NE. Indian Ocean, 3-D gravity model *(Russian)* 1—22183
Indian Ocean area geoid, comparison of altimeter and gravimetric geoids 1—17546
International Spheroid 1930, redefinition using satellite data 1—27052
inverse astro-gravimetric-geodesic problem, soln., uniqueness 1—32338
isostasy of whole Earth in geoid deviation study *(Russian)* 1—22185
Izu Peninsula, Japan, crustal tilt obs. (made since 1979) *(Japanese)* 1—44133
Kern County earthquake (1952) California, assoc. strain changes 1—54000
LAGEOS and VLBI studies of crustal dynamics 1—22342
laser ranging, distance corrections for single and dual-colour lasers 1—27298
laser technique appl. in geodesy, mine and civil engineering *(Czech)* 1—49420
leveling, technique operation, review 1—13617
local movements of Earth's surface, simulation of levelling network 1—40037
long distances on two different projections 1—13383
longitude difference between Merate and Milano, Italy, astrolabe obs. 1—44081
maximum likelihood-estimation for repeated EDM observations 1—44349
mid-ocean ridge, driving force rel. to geoid anomaly 1—32424
Middleton Island, Gulf of Alaska, vertical deformation movements 1—54046
Mosel valley, Germany, gravity anomaly measurable by geodetic method *(German)* 1—40045
multivariate hypothesis test for detecting crustal movements 1—53964
NAVSAT, satellite ranging errors due to ionosphere 1—44357
non-tectonic effects in models of crust movements 1—53965
observation eqns. for horizontal adjustment in height-controlled space 1—17548
oceanic undulation difference accuracies, using gravity anomalies and disturbances 1—17545
Ojiya active crustal folding area, Niigata, Japan, vertical movements *(Japanese)* 1—44161
Owens Valley, California, crustal deformation study 1—32391
Pacific Ocean, bathymetry and geoid vars. rel. to planform of mantle convection 1—22318
photographic zenith tube observations, (α-2L) terms 1—44074
Potsdam gravity system, correction with respect to International Gravity Standardisation Net 1—13380

geodesy continued
radio interferometric techniques to determine Earth rot. 1−44351
reference systems for meas. of Earth's motion in space 1−49194
repeatedly measured geodetic network, statistical test for network movements 1−53966
Rio Grande rift near Socorro, geodetic meas. of horizontal deformation 1−44067
rotation of Earth, by lunar laser ranging method 1−44088
rotation of Earth, determination using VLBI of spacecraft navigation system 1−49195
rotation of Earth, radioastronomy monitoring method 1−49393
rotation of Earth meas. by lunar laser ranging, EROLD program 1−49198
rotation of Earth radioastronomical determination, NAVOBSY/NRL program 1−49196
rotational kinematics of Earth, in non-rotating frame of reference 1−49191
rotational variations of Earth, Lageos satellite obs. 1−49197
San Andreas fault, slip and creep, alinement survey obs. 1−32392
San Gabriel fault, S.California, 1953 to 1964 subsidence obs. 1−35929
satellite, contribution to Earth dynamics research *(German)* 1−22190
satellite geodesy, geoid determ. 1−13375
satellite geodesy, least squares estimate, recurrent algorithm error anal. *(Chinese)* 1−40035
satellite laser ranging system, performance anal. 1−17692
satellite laser ranging system, with automatic tracking *(German)* 1−40216
satellite-to-satellite tracking method for gravity geopotential 1−22187
Shelter Cove, California, crust motion, geodetically derived strain 1−22262
short-arc method appls. in satellite geodesy *(German)* 1−17552
statistical, optimal estimation 1−17555
Switzerland, recent crust movement and geophys. interpretation 1−54039
Terrameter for baseline meas. (two-colour laser device) 1−53960
tilt measurements made in borehole, aperiodic tilt in aseismic area 1−53961
tilt meter array, performance of shallow borehole array 1−13597
tilt of crust due to meteorological variations in aseismic area 1−53961
tiltmeter obs. at Cape Yakataga, Alaska, before 1979 Feb. 28 St. Elias earthquake 1−49180
time and frequency standards in USSR 1−44889
Tonga Trench area geoid, comparison of altimeter and gravimetric geoids 1−17546
trilateration with approximately known heights, theory of 3-D adjustment *(German)* 1−40043
United States, National Geodetic Vertical Datum readjustment 1−13378
UT1 determination using VLBI technique 1−44086
very long baseline interferometry methods, estimability of geodetic quantities 1−32533

geodetics *see geodesy*

geoelectricity *see terrestrial electricity*

geography
S. Atlantic Ocean origin, Late Cretaceous Palaeo-oceanology and palaeobiogeography 1−35968
remote sensing, impacts on US geography 1−35987
systems analysis in Earth sciences, appl. to geological-geographical research 1−44345
Troy, geomorphic reconstructions of environs during last 10000 years 1−27164

geology
see also geomorphology; rocks; topography (Earth)
Afar volcanic rock Rb-Sr ratios, mantle source region 1−13425
Afghanistan, plate tectonics, sutures and Mesozoic ophiolites 1−54048
Ahaggar volcanic suite (African shield area), Pb-Nd-Sr study 1−40085
Alaska, tectonic stress map using fault and volcano data 1−44160
Upper Amur region, USSR, geological and tectonic conditions assoc. with Ogoron earthquake, (1977 August 16) 1−9110
anastomosed river deposits, modern and ancient examples in Alberta, Canada 1−54147
andesitic magmas from partially melted basaltic eclogite, REE systematics 1−40087
Archaean granulite-facies metamorphism, rocks of W.Greenland 1−13420
Archaean polymetamorphic gneisses of SW.Greenland, Rb/Sr ages and geochemistry 1−13423
Archaean sedimentation, geological context 1−13457
N.Armorican Massif (France), geochronological study *(French)* 1−49233
mid-Atlantic Ridge, cumulate gabbro cryst. fractionation model 1−22289
N.W.Australia, geology of Exmouth and Wallaby Plateaux, seismic sequences 1−13446
Australian crust struct. and mineral deposits, conf., April 1980, Australia 1−40128
Avalon Peninsula, Newfoundland, early Mesozoic diabase dikes petrochemistry, mineralogy and origin 1−54081
N Baikal mountain region, Precambrian domes discovery 1−9151
Baikal-Amur pipeline, appl. to petrology *(Russian)* 1−13454
basalt flows in Big Desert Area, Idaho, Landsat data 1−9301
bedrock mapping using river sediment minerals 1−44136
Bermuda Seamount, palaeomagnetism and geology, deep drill 1972 results 1−44099
Brazilian mafic-ultramafic complex at Pien, origin and evolution 1−9130
Cambrian Slate Belt of Wales, deform. giving to geol. structs. 1−9133
S.Carolina Piedmont, deformed Hercynian granitic rocks 1−44130
Char ophiolite belt, E.Kazakhstan, geological struct. and history 1−13455
N.China, geodetic results is earthquake regions rel. to Earth crust stress field *(Chinese)* 1−54018
Chukotka Peninsula, Siberias tectonic nature of metamorphic rock complex 1−9150
climate and landscape zones during Earth's history 1−54083
continental geology and plate tectonics 1−27145
continental margin drilling project (OMDP) 1−49392
Cordilleran suspect terrane, character, distrib. and accretionary history 1−22292
cosmic ray muons, appl. to geological prospecting and techniques *(Russian)* 1−17747
Cretaceous-Tertiary boundary, siderophile-enriched sediments 1−32441
Cretaceous-Tertiary boundary meteorite impact, sediment chemistry record 1−32442
Cretaceous-Tertiary species extinction, element abundance and asteroid impact? 1−9157
cryptoexplosion structures, origin rel. to roles of impact and volcanism in planetology 1−4787

geology continued
cumulate gabbro of mid-Atlantic Ridge, cryst fractionation model 1−22289
Czechoslovakia, geological mapping, history, rel. to mining 1−5061
Dalma greenstone belt, Singhbhum, India, geology and tectonic history 1−44135
data content of Seasat imagery 1−54290
Late Devensian loess in S.England, thermoluminescent dating 1−44184
Devonian and Permian orogenic magmatism of N.Mongolia 1−44188
Devonian-Mississippian shales, S isotopes in iron sulphide deposits rel. to sedimentation rate 1−32388
dikes showing coexistence of acidic and basic magma, Mount Desert Island, Maine, USA 1−27122
dunite, recrystallised-grain size, stress depend. 1−35981
earthquake focal region, geology rel. to seismic waves radiation pattern and tectonic stress directions *(Chinese)* 1−4434
Elberton pluton, Georgia Piedmont, USA, age, palaeomag. and tectonics 1−27063
fault motion, power dissipation and stress levels 1−27111
fault zone cataclastic rock formation, of San Andreas fault 1−13438
fault zone rocks, deformation induced microstructures 1−27113
faulting process causing shear heating and metamorphism 1−27107
field investigations using laser microsampler 1−9283
Folkestone Beds (Lower Cretaceous), SE. England, cross-bedding with mud drapes rel. to tidal regime 1−44186
formation classification, Bayesian strategy for recognition of classes from indirect images 1−13619
Franciscan intrusive gabbros, California, geology of oceanic basaltic magmas 1−32386
Geikie River area, geology and geochronology, N.Saskatchewan 1−44138
Getic Nappe, seismic sections migration in time by wave eqn. method *(Rumanian)* 1−40230
Grand Manan Island, Bay of Fundy, glacial terrain description 1−49275
granophyre hydrothermal Sr contamination, Isle of Skye, Scotland 1−22265
gravity, geological significance and local variations 1−27741
Greece, Pelagonian zone volcanic flows of Upper Palaeozoic *(French)* 1−49245
Greece and Turkey, K-Ar ages of ophiolite complexes 1−54047
Grenville Belt, radiometric evidence for two orogenies 1−54033
Gulf of Suez, bottom sediments 1−13448
Higashi-Izu-oki submarine volcanoes, Japan *(Japanese)* 1−44158
hydrocarbon accumulation in Indian region, rel. to tectonic plate junctions 1−53526
hydrocarbons in Texas coastal Tertiary strata 1−21837
Iceland, synthetic aperture radar imaging, Seasat/Landsat comparison 1−54295
induced polarisation sounding, geophysical contribs. to negative anomalies *(Rumanian)* 1−44107
intrusive rock Sr isotope geochemistry of Puerto Rico 1−13422
SE Irana, Konarak, Makran Coast, hydro-fracture dilatancy in fault terrains 1−49261
Jamaica, West Indies, near-surface geology rel. to earthquake risk assessment 1−17564
Japan, volcanic rock Nd and Sr isotopes and tectonic structure 1−54082
Kapuskasing line, Ontario, Canada, crust struct. and origin 1−40082
Kemess porphyry Cu-Mo deposit, BC, Canada, geology and age 1−32437
kimberlite intrusions due to mantle hotspots 1−13426
Labrador, Canada, bedrock maps determined from river sediment minerals 1−44136
Landsat multispectral data analysis, appl. 1−32550
Lewisian granulite complex of NW.Scotland, geochem. and Archaean petrogenesis 1−32393
lherzolite complexes orogenic, implications for mantle convection 1−22266
lherzolite xenolith, Ichinomegata crater, Japan, petrology 1−49235
Limpopo Belt, southern Africa, deep struct. from surface geology and gravity obs. 1−22301
lithosphere stress magnitude inferred from rheomorphic petrology 1−27114
magma, double-diffusive processes, laboratory expts. with glycerine-H_2O 1−9169
magma ionic diffusion processes at depth, press. and H_2O effects 1−54023
NW.Manitoba, seismic study of Thompson nickel belt and Churchill Tectonic Province 1−40084
mantle metasomatism-precursor to alkaline volcanism 1−49236
marine sediment dating by thermoluminescence method 1−44164
NE.Massachusetts, geochronology of stratified metamorphic rocks 1−54020
meta-igneous granulitic xenoliths of French Massif Central, petrology and geochem. 1−13419
metamorphic terrain, medium-press., Funeral Mountains in California, petrology 1−17590
Metchosin Eocene Volcanics, Vancouver Island, geochem. and origin 1−44134
meteorite in Ordovician limestone deposit from Sweden 1−40442
mid-ocean ridges, geology rel. to transform zones geometry 1−22319
midocean ridge, chem. alteration by hydrothermal seawater circulation 1−54024
midocean ridge lava and chem., Ninetyeast Ridge, Indian Ocean 1−13430
miliolite deposits of Saurashtra coast, Gujarat, India, age and origin 1−27125
mobile belts, two models of regional metamorphism and origin of granitoid magma 1−4496
Moon recession, tidal forces, variable G effect geological evidence 1−49549
More Gneiss Region, S.Norway, evidence for subduction of Iapetus Ocean crust 1−22320
Namibia, palaeomagnetism of Late Pre Early Palaeozoic mixtite bearing formations 1−40047
New Caledonia, crust and mantle struct. from peridotite-gabbro nappe 1−32413
S. New Mexico, evidence for Palaeozoic plutonism from Florida Mountains 1−22278
Newfoundland (south-central), geology and evolution of Iapetus margin 1−44129
Newfoundland Appalachians basaltic rocks (Snooks Arm Group), geochem. and origin 1−40083
Nicoya Ophiolite Complex, Costa Rica, geologic and tectonic history 1−17574

geology continued
nuclear reactor (natural) at Oklo, Gabon, fission products study 1−13424
nuclear reactor (natural) at Oklo, Gabon, Lu isotope study *(French)* 1−40131
Nyurol'sk Basin (W.Siberian Plate), Palaeozoic deposits 1−54038
oceanic crust, geology rel. to seismic vel. struct. and comparison with ophiolite belts 1−35957
oceanic island basaltic rock Pb isotopes and mantle evolution 1−54021
Okhotsk Sea continental crust off Central Sakhalin, deep-seated geological struct. 1−13456
Oklo natural nucl. reactor, fission yields and retention of fission products 1−13424
olivine, recrystallised-grain size, stress depend. 1−35981
Ontario province, N.W.-S.E. regional folding and mineralisation patterns 1−9120
ophiolite gabbroic complex petrochemistry, Ti-content anal. 1−40089
Ordovician-Devonian geologic time scales, reassessment of isotopic data 1−22263
Ordovician-Devonian time scales, reassessment of Rb/Sr isotopic data 1−22264
Ox Mountain granulites of Ireland, seismic velocity study 1−9098
E.Pacific Ocean, gabbro, serpentinite and mafic breccia props. 1−4490
Pacific Ocean are belt, geological history and rel. to seismology, tectonics and volcanology *(Russian)* 1−32440
palaeostress determining by obs. of mineral mechanical twinning 1−27297
pelitic schists from south-central Maine, comparative obs. of geothermometers and geobarometers 1−17586
peridotite xenoliths, cryst. struct., inferences about mantle rheology 1−35969
petroleum and petroleum gas deposits, geological and geophysical characts. *(Russian)* 1−43735
petroleum geology, gravity prospecting, amplitude anomalies *(Russian)* 1−13612
Pleistocene, digital shallow marine high resolution marine seismic reflection profiling, central Texas coast study 1−32563
Poiana Rusca Mountains, Romania, vertical distrib. of mag. susceptibility of epimetamorphic schists *(Rumanian)* 1−40124
polyhedral bodies, uniformly magnetised, mag. fields rel. to geomag. anomalies *(Chinese)* 1−53968
Quebec, geology of layered gneiss and migmatite of Superior Province 1−44141
radionuclide migration into bedrock, radioactive waste disposal study 1−13459
Rainy Lake, Ontario, inverted Archaean succession 1−54080
rare earth mineral deposits and their geological domains 1−27159
Red Sea, submarine geology and geophysics Red Sea and Aden Rifts *(Russian)* 1−32433
REE and TH abundances in sedimentary rocks and continental crust 1−49237
remote sensing, examples of appl. to geological mapping and mining research *(French)* 1−9272
remote sensing, optimum spectral bands for rock types discrimination 1−44335
ring-complexes in crust due to upward force of magma chamber, model 1−9131
rock type and temp. from space obs. using thermal IR bands 1−13615
salt dome, origin of contained water, ^{18}O abundance study 1−13433
sedimentary rock, trapped noble gas composition 1−49238
Sette-Daban Lower Carboniferous deposits, Siberia, USSR 1−44154
Shanwang formation (Miocene) in Linqu County, Shandong, China, paleomag. study on ceyssatite *(Chinese)* 1−49200
Shoo Fly formation, California, geology of Devonian rocks 1−9132
Sierra La Primavera volcano, Mexico, caldera giant size pumice blocks 1−35966
Sierra Nevada-Great Basin boundary zone earthquakes rel. to structure and tectonics 1−49216
SIMS applications, conference, Stanford, CA, USA, (Aug. 1979) 1−27666
single-pyroxine thermobarometry, new obs. of Cr-Al ratios in peridotite 1−40105
South Mountain batholith, Nova Scotia, Sr isotope geolog. 1−22279
spinel peridotite xenoliths in Ethiopia, REE abundances 1−49239
stratigraphic correlation techniques, new methods 1−27303
subsurface complicated structres, seismic modelling *(Chinese)* 1−54255
systems analysis in Earth sciences, appl. to associations of geological landscape formations 1−44345
Taimyr folded region, USSR, nappe struct., fault tectonics 1−22298
Texas coastal hydrocarbon bearing strata, hydrocarbon migration 1−21837
thermoluminescence dating, appl. to archaeology and geology, review 1−17691
Topsails igneous complex of Newfoundland Appalachians 1−44139
E. and central Transbaikalia, endogenic ore mineralization rel. to subsurface faults 1−40127
NE.Tunisia, Fortuna sedimentary series, late Alpine activity 1−44179
N Tunisia, magnetostratigraphy of Upper Mesozoic 1−53975
Upper Siwalik sediments, Bhittani Range, Pakistan 1−49203
SW.Utah, Late Cainozoic mafic volcanism 1−44178
Vietnamese Late Palaeozoic magmatism, geochronological study 1−54037
volcanic arc magmas melting-mixing model 1−54031
Vourinos Ophiolite Complex, Greece, tectonic history 1−35961
Werner, A.G., geological theories, importance of regional geology 1−5062
Whig historiography of science, rel. to geological work of Sir Archibald Geikie 1−5069
Wind River uplift, Wyoming, effects of complex geology on basement refls. on (Wind River Line 1) 1−22277
Woodlawn orebody, New South Wales, Australia, geophysical case study 1−44729
Yenisei Range, Siberia, Riphean volcanic belt, zoning and metallogeny 1−54036
Yukon Crystalline Terrane, geochronology, U/Pb study 1−44137
Au in conglomerate sample, identification of native Au by radioisotope method 1−44344
Fe ore deposits of Labrador, Canada, prospecting methods *(Hungarian)* 1−32546
Na thermometry for pyroxenes in garnet and spinel lherzolites 1−9149
Rb/Sr dating of glauconite from Cretaceous rocks of N.Jersey, USA 1−54022
S isotope ratio in Precambrian sediments, implication for early life 1−9137

geology continued
S isotopes in shale Fe sulphides, controlled by sedimentation rate 1−32388
Sn mineralisation of metamorphased pluton zones 1−44152
Th-HF-Ta diagram for identical of igneous rock crustal contamination 1−13417
Th-Hf-Ta diagram for tectonomagmatic classification of rocks 1−13418
U in Pine Creek geosyncline, Australia, conf., June 1979, Sydney, Australia 1−9772
U-Pb isotopic age of metamorphosed tonalite in E.Alps 1−13421
W skarn deposits, Selwyn Mountains, Yukon, Canada, isotope geochronology 1−32436
Zn mineralisation in marbles of Mont-Laurier Basin, Quebec 1−9121

geomagnetic storms *see magnetic storms*

geomagnetic variations
see also micropulsations
A_p-index at interplanetary mag. field sector boundaries, variations anal. 1−54329
A_p-index during solar cycle 20, rel. to cosmic ray intensity modulation 1−54334
abnormal quiet days and sunspot max. magnitude prediction 1−40456
activity indices, descriptions and dependence on sunspot numbers 1−49456
annual wave of hemispheric geomagnetic activity 1−54328
Ap-index, search for correl. with stratospheric O_3 content 1−22396
archaeomagnetism, mag. field data from Jiangzhai relic (3900 BC) of Neolithic epoch *(Chinese)* 1−49199
Arctic Ocean, Podvodnik basin, local mag. var. sounding of crust struct. 1−4419
bay disturbances, some statistical regularities 1−54325
Cascade volcanic belt, assoc. var. anomaly 1−22214
causes, lightning discharges between Earth and ionosphere/magnetosphere 1−17675
Charvak Reservoir, Tashkent, USSR, geomag. vars. due to filling 1−22364
coastal effect around Cuba, magnetotelluric study 1−22199
core convection, geomagnetic evidence for motion of whole of core 1−4476
disturbance generation by acoustic pulses, gravity effect 1−22585
DP-2 disturbances rel. to auroral equatorial boundary vars. 1−22564
Earth dipole moment, rate of decrease from Magsat vector data 1−17557
earthquake precursory variations at Kakioka, Japan 1−4450
Eocene, Palaeocene and Cretaceous, mag. reversal time scales *(French)* 1−49206
equatorial electrojet field diurnal variations rel. to geomag. activity 1−54306
France, archaeomagnetic field direction, last 2000 years *(French)* 1−49202
global geomagnetic activity indices, response to interplanetary mag. field sector boundary passage 1−13391
heliospheric current sheet crossings 1−22634
intensities during July 1968 to December 1969 from Ottawa Magnetic Observatory 1−40061
intensity modulus variations, meas. using buoy-based autonomous mag. variational station *(Russian)* 1−27264
ionosphere, seasonal and geomag. control of equatorial scintillations in two longitudinal sectors 1−27338
Khiva, Uzbekistan, USSR, geomag. variations since 1550, study of bricks 1−22209
kp-index rel. to cosmic ray intensity variations (1958 to 1975) 1−44393
lunar daily variations, harmonic coeffs. determ. from long series of hourly geomag. data 1−17559
lunar semidiurnal variation field, annual and semiannual variations 1−53979
magnetic map for France (1978 July 1) *(French)* 1−9073
magnetosphere, effects of mag. activity on motion of charged particles 1−54323
magnetotelluric sounding, interpretation procedure for transitional processes with sharp field var. 1−44108
mid latitude variations affected by interplanetary field N-S component 1−13730
Nakaizu, transfer function changes rel. to 1978 Izu-Oshima-Kinkai earthquake 1−9075
Pleistocene geomagnetism, and Brunes geomag. epoch *(Russian)* 1−32349
polar cap, effect of changes in interplanetary mag. field on geomag. data reduction 1−17558
polar cap mag. variations, dawn-dusk component dependences 1−54330
polar wander curve for N.America, 800-1500 MYr BP 1−40050
regional anomalies and secular var., radial dipoles and current loops 1−53981
reservoir filling causing local variations 1−22364
reversal of geomag. field polarity, stochastic approach 1−49205
Scotland, natural EM field time variations 1−40060
secular, annual and semiannual changes in baseline level of N.American locations 1−27064
secular variation, palaeomag. curves back to 13400 yr BP from Lac de Joux, Switzerland, sediments 1−35933
secular variation forecast model, solar activity effects 1−22200
secular variation obs. and core radius determ. 1−32403
secular variations and dynamo theory development 1−13389
seismomagnetic effect of Tangshan earthquake 1−32350
Slovakia, secular var. (1952-1975) 1−4412
solar activity correlated to geomag. activity 1−22625
solar daily variations, harmonic coeffs. determ. from long series of hourly geomag. data 1−17559
Somali Basin, Mesozoic mag. anomalies, Antarctica-Africa-Madagascar reconstruction *(French)* 1−44097
Sq(H) on abnormal quiet days 1−36097
Sq(H) variability on normal quiet days 1−36098
Sq and L variation elec. currents, location within ionosphere 1−27327
Sq focus position affected by interplanetary mag. field quiet days 1−27328
Sq-variation, rel. to crustal conductivity homogeneities 1−4413
stormtime variation (D_{st}), phase drift and coherence 1−4718
substorm associated mag. seasonal perturbations at synchronous orbit 1−40278
ten-year vars., spherical harmonic analyses 1−22195
time series analysis, orthogonal polynomials for long period component 1−22201

geomagnetic variations continued
time series analysis using computerised curve typisation *(German)* 1−40055
time series data analysis, complex demodulation technique 1−27308
Vassouras, Rio de Janeiro, field potentials spectra determ. using max. entropy method 1−53984
Z-variations during near-noon equatorial counterelectrojet in Indian zone 1−13632
Zo-Se, China, short period induction field during mag. storms rel. to upper mantle elec. cond. *(Chinese)* 1−53967

geomagnetism
see also geomagnetic variations; magnetic storms
$\alpha\omega$-dynamo model, subcritical solns. in spectral nonlinear model 1−49499
S.Africa, conductive structs. in crust or upper mantle 1−9077
E.Alps, transition zone with Pannonian Basin, seismic active zones from magnetotelluric sounding *(Hungarian)* 1−40058
angular components of geomag. field, meas. with aid of quantum magnetometers *(Russian)* 1−27263
anomalies, interpretation and transformation, correl. methods 1−54265
anomalies, interpretation through pot. field regularity at infinity 1−9069
anomalies, mag. field interpretation for sphere in wavenumber domain 1−22218
anomalies, mag. fields of uniformly magnetised polyhedra *(Chinese)* 1−53968
anomalies analysis, content and significance of mathematical models *(Rumanian)* 1−44338
anomalies assoc. with subducting tectonic plate topographic irregularities 1−9074
anomalies due to constant and variable magnetisation, appl. to plate tectonics 1−32351
anomalies due to two-dimensional bodies, Hilbert transform appl. 1−17694
anomalies of Avalon Peninsula, Newfoundland, identification with early Mesozoic diabase dikes 1−54081
anomalous two-dimens. field interpretation, analytical continuation 1−4415
anomaly, depth determination method *(German)* 1−40054
anomaly, random source in horizontal layer, pot. field autocorrelation functions 1−9280
anomaly data interpretation (combined mag. and gravity data), interaction computer graphics method 1−32543
anomaly due to buried cylinder (horizontal), math. expression 1−9076
anomaly due to buried prism, calc. 1−44065
anomaly due to long horiz. ore body 1−32345
anomaly due to prism or prism ensembles, lower boundary determination *(German)* 1−40053
anomaly interpretation by gradient method (cylinders, dykes and steps) 1−27065
anomaly mapping using satellite magnetometer method 1−40049
anomaly of buried magnetised two-dimens. body, theory 1−9080
Aqulhas Basin, magnetic bight discovery rel. to Lace Cretaceous continental drift 1−9081
archaeomagnetism, mag. field data from Jiangzhai relic (3900 BC) of Neolithic epoch *(Chinese)* 1−49199
archaeomagnitude determ. for 1645 AD clay pipes 1−44105
array data in the plane, spectral anal. and autoregressive modeling 1−36071
S.Atlantic anomaly, assoc. anomalous ionospheric struct. Japan satellite research 1−40299
auroral current system mag. field, three dimens., from field aligned and ionosphere currents 1−40250
Australia, mag. anomalies of long wavelength, model 1−22193
Backus effect of geomagnetic potential, confirmed by Magsat obs. 1−35932
W.Canada, anomaly mapping using satellite magnetometer method 1−40049
Canadian Magnetic Observatory Network, 1978 annual report 1−32520
core convection, geomagnetic evidence for motion of whole of core 1−4476
core model, EM field due to circular loop in conducting medium 1−53970
cosmic rays geomagnetic variations, investigation using generalised spectrographic methods 1−36150
Cowling anti-dynamo theorem, proof using kinematic dynamo theory 1−4761
dayside cusp auroral morphology related to nightside magnetic activity 1−4715
disturbed days, stratosphere horizontal elec. fields at middle latitude *(Japanese)* 1−22385
Dufek mafic intrusion, Antarctica, aeromag. survey and sub-ice topography 1−35960
dynamo theory, Rikitake two-disc dynamo system 1−32347
dynamo theory development 1−13389
dynamo with anisotropic resistivity 1−44104
EM induction, time depend. of transfer functions and assoc. with tectonic activity 1−22240
EM induction in Earth and Moon, workshop, (Murnau, Germany, 1978 September 7 to 13) 1−17928
EM induction in oceans, rel. to inferences on constitution of Earth 1−22323
EM methods in applied geophysics, review 1−22519
EM sounding, appl. of special functions for investigation of nonstationary EM fields 1−40062
EM sounding, Cauchy integral analogues for separation and continuation of EM fields within conducting matter 1−22206
EM sounding, use of type EVIP-601 apparatus for pulse methods of exploration *(Russian)* 1−27270
equatorial mapping, anomaly interpretation 1−22198
F-region during diffuse aurora, mag. shear effect on current convective instability 1−40249
field components measurement, effects of nuclear-precessional magnetometer errors *(Russian)* 1−27268
field mapping by tethered satellite, noise source effects 1−9287
field origin time palaeomagnetic obs. of Archaean rock 1−22219
field pots., spectral anal. using maximum entropy method 1−53984
field vector deviation on board ship, determ. of Poisson using T-magnetometer *(Russian)* 1−27267
fluctuations, evolution of Earth, review 1−44193
Gorda plate, E.Pacific, geomag. anomalies and plate motion 1−22192
Gorda plate motions, deduced from geomag. anomalies 1−22192

geomagnetism continued
Gulf of Aden, floor evolution, seismic, gravity and mag. survey 1−13451
Gulf of California (mouth region), bathymetry and mag. survey 1−32428
helicity, linkage and dynamo action 1−54365
HF fading on high latitude radio path, freq. spectra, mag. activity effects 1−22581
horizontal conducting cylinder in uniform inducing field, inductive response 1−27055
hourly geomagnetic data, determ. of harmonic coeffs. of solar and lunar daily vars. 1−17559
Indian Ocean triple plate junction position, mag. and bathymetric data 1−9143
induction anomalies in continental nd buried oceanic crust, possible assoc. 1−35950
initial geomagnetic field model, determ. from Magsat vector data 1−17557
interior mag. pot. of magnetised body, four-vector theory 1−53971
inverse astro-gravimetric-geodesic problem, soln., uniqueness 1−32338
inverse geophysical problems, ill-posed, solns. 1−9277
ionosphere, refractive index for rays in magneto-ionic theory 1−24976
Japan, pseudomag. anomalies derived from gravity data (assuming common sense) 1−44096
Khiva, Uzbekistan, USSR, geomag. variations since 1550, study of bricks 1−22209
Lake Kinneret (Sea of Galilee), mag. anomaly survey 1−32478
LF radiowave fading link with geomag. activity and major meteor showers 1−9310
Macherla-Agnigundala region in N.Cuddapah basin, mag. survey 1−22217
magnetic azimuth and field components measurement, using meter with single mag. system 1−27266
magnetic sounding, of conductivity anomalies in lower crust and uppermost mantle 1−22204
magnetic sounding with mag. field generation, possible use of superconductive magnetometer 1−44346
magnetoelectric logging for borehole electrometry 1−22552
magnetoelectric logging method, appl. to anisotropic beds study 1−13620
magnetometer, calibration of instrument capable of sensing mag. pulsations 1−4639
magnetometer for use in marine surveys, MPM-5 proton magnetometer 1−54277
magnetopause reconnection, influence of interplanetary mag. field B_x-component 1−22637
magnetosphere, auroral field lines with trapped and backscattered electrons, prod. mechanisms 1−22640
magnetosphere, effect of mag. field non-dipolar distortions on charged particle motion 1−54323
magnetosphere, refractive index for rays in magneto-ionic theory 1−24976
magnetosphere storms, mag. activity rel. to geoelectric field var. 1−4712
magnetostatic field, approx. models calc. *(Slovenian)* 1−53973
magnetotail, mag. field line equilib. in steady-state geomag. tail model 1−17736
magnetotelluric data processing, M-fitting, anal. method 1−13590
magnetotelluric field assoc. with geomag. pulsations, local struct. 1−13390
magnetotelluric sounding, aereal obs. spatial anal., existence of vertical elec. field 1−22220
magnetotelluric sounding, appl. of data polarisation and coherence meas. 1−36062
magnetotelluric sounding, interpretation procedure for transitional processes with sharp field var. 1−44108
magnetotelluric sounding curves for S.Caspian depressions, E.Kamchatka and Palaeozoic basement *(Hungarian)* 1−40059
magnetotelluric soundings of lower crust and uppermost mantle, recent work 1−22205
magnetotelluric studies of horizontally heterogeneous media, appl. of normalisation of impedance to internal mag. field 1−44109
MAGSAT satellite, Earth's mag. field measurement 1−9346
mantle EM induction operational problem solving method 1−22197
mid-ocean ridge, mag. anomalies of slow-spreading centre *(French)* 1−53972
multicoil induction focusing probes, radial characts. in anisotropic medium 1−40232
Newfoundland trans-Avalon aeromag. lineament, crust struct. study 1−44140
oceanic magnetic anomalies at transform zones, anal. using steady state geometry 1−22319
Okhotsk Sea continental crust off Central Sakhalin, mag. anomalies rel. to deep-seated struct. 1−13456
ore bodies, area data interpretation, transitional process method 1−44342
GE Pacific, plate tectonics south of Isla Guadalupe 1−49250
particle angular momentum, Stormer's const. 1−36116
plasmasphere, mid latitude, ions on force lines motion and continuity eqns. soln. 1−22515
Pleistocene geomagnetism, and Brunes geomag. epoch *(Russian)* 1−32349
Poiana Rusca Mountains, Romania, vertical distrib. of mag. susceptibility of epimetamorphic schists *(Rumanian)* 1−40124
polar cap, effect of changes in interplanetary mag. field on geomag. data reduction 1−17558
Qinghai-Xizang plateau, China, geophys. fields and plate tectonics *(Chinese)* 1−22311
rapidly rotating α^2 dynamo model anal. 1−27054
regional anomalies and secular var., radial dipoles and current loops 1−53981
reversal of geomag. field polarity, stochastic approach 1−49205
rock magnetisation effect of crustal stress *(French)* 1−49262
Sanriku coast to E.Japan Trench, mag. field balloon obs. *(Japanese)* 1−22191
Scandinavia, geomagnetic inductive response function determ. from magnetometer array data 1−35934
Scotia Sea, back-arc spreading in Miocene, mag. anomaly evidence 1−4482
spherical dynamo models, mean-field approach 1−9359
sulphide ore prospecting, by mag. anomalies due to lightning strikes *(Russian)* 1−22208
survey accuracy during a profile meas. affect of navigation and sensor characts. 1−4631
surveying in presence of variable geomag. field, control method 1−4632
surveying of geomag. field, data processing technique for use in field 1−4628
Transdanubia geomag. anomaly detect. *(Hungarian)* 1−40057

geomagnetism continued
transfer functions, source-field bias, S.Cape Conductive Belt example 1−53980
transient EM method, sign reversal field occurrence near Cloncurry, Queensland 1−22513
turbulent convective dynamos, upper bounds for ohmic dissipation 1−49201
Uglovaya anomaly, appl. to determ. of resolution of artificial magnetisation method 1−40236
Ukraine, anomalies rel. to Precambrian tectonics and crustal structure *(Russian)* 1−27058
Ukrainian crystalline massif, magnetotelluric obs. 1−9079
water movement in limitless sea, EM field study 1−22196
West Hawk Lake, Manitoba, impact struct., geomag. survey and resist. anal. 1−32348
world ocean, EM induction review 1−22207
Zo-Se, China, short period induction field during mag. storms rel. to upper mantle elec. cond. *(Chinese)* 1−53967

geometrical optics
aberration coefficients, optical, automatic computation 1−19272
acrylic underwater windows, optical geometry and properties 1−19416
arbitrary ray optical EM field diffraction by smooth convex surface, uniform GTD anal. 1−1446
axicon-type high energy laser components, geometrical optics 1−46221
book, basic text in geometrical and physical optics 1−17960
bursting bundle raytrace, definitions and design appls. 1−46219
camera viewfinder using tilted concave mirror erecting elements 1−45057
catadioptric magnifiers, basic principles and geometry 1−37580
cavity absorber, efficiency upper bound 1−41942
circular aperture, Gaussian beam boundary diffr. wave, asymptotic representation 1−29186
composite parabolic trough, design stage ray-optical assessments 1−19402
conic skew-ray tracing with the TI-59 1−19401
dielectric, transparent, thermal instability caused by quasi-CW laser pulse 1−43225
diffraction grating use in demonstrations 1−40613
diffraction integral, semiuniform asymptotic expansions 1−1455
diffraction losses in optical cavity 1−41752
discrete wave system anal. by optical ray operators 1−1487
dynamic crack propag., optical method of caustics anal. 1−2561
elliptical graded-index fibres, whispering and bouncing modes, asymptotic numerical soln. 1−41853
EM wave diffr., spherically curved surface edges, canonical problems of geometrical theory of diffr. treatment 1−6436
EM wave diffr. by perfectly-conducting wedge, uniform geometrical theory of diffr., high-freq. soln. 1−6435
EM wave scattering by non-Gaussian random surfaces, shadowing properties, backscatter function 1−29174
energy conservation test for scatt. approx. 1−10926
evanescent wave structure for Gaussian beam total refl. at plane interface 1−19261
eye, statistical anal. of refractive error 1−8849
fibres, noncircular-cross section, uniform, large-aperture 1−1710
fovea, convexiclivate, optical function rel. to notosudid deep-sea teleosts 1−4264
glass self-focusing plate, imaging props. *(Chinese)* 1−51569
graded-index fibres, time dispersion characts., effect of central dip, ray optics apal. 1−6676
gradient-index lens, caustic surface analysis 1−11060
hexagonal columns and plates, light scatt. calcs. using geometrical ray tracing 1−6483
ideal light collector, optical flow 1−19400
image formation, problems in geometrical and physical optics 1−41593
lens design and geometrical optics teaching 1−44744
light wave intensity fluctuations in randomly inhomogeneous medium, quasigeometrical-optics approx. 1−37414
Luneburg lens, graphical construction of rays 1−46533
Mandelshtam-Brillouin scattering, laser plasma, geometric optics approx. calcs. *(Russian)* 1−24937
multi-interface variable-index media, illuminance and caustic surfaces, theory 1−10908
multi-interface variable-index media, radial depend. singlet, illuminance and caustic surfaces 1−10909
multi-interface variable-index media with imbedded source, illuminance and caustic surfaces 1−10910
non-spherical particles of size comparable to wavelength, scattering, semi-empirical theory 1−6477
nonhomogeneous material, investigation of EM field diffusion using geometrical optics 1−10890
optical fibres, homogeneous, cylindrical, refr. index determ. 1−29397
optics in four dimensions, conf., Ensenada, Mexico (Aug. 1980) 1−40589
phase object mapping by incoherent method based on moire effect 1−28051
phosphor, spherical particle, luminesc. intensities, geom. optics calc. 1−43160
plasma flow, electromagnetic wave propagation, electron thermal motion, geometric optics approx. *(Russian)* 1−24960
plasmas, propagation of longitudinal and transverse waves, particle density, stabilisation, geometric optics calcs. *(Russian)* 1−24965
plasmas with nonHermitian dielec. tensors, geometrical optics theory 1−6931
point EM source on perfectly conducting finite cylinder, high-freq. radiation, geometrical theory of diffr. appl. 1−29177
rapid scan phase modulator for interferometric applications 1−40839
ray models of concave mirrors and convex lenses 1−27754
ray trace conventions, alternate surface intersection points 1−46220
ray-tracing program for the HP-97 1−33787
ray-tracing programs for spherical and aspherical surfaces, calc. of intercept coordinates on focal surface of optical system 1−33785
rays in smoothly inhomogeneous media with refr. index fluctuation, transverse displacement dispersion 1−19271
refracting afocal systems in thermal imagers 1−33788
screen image formation, Kirchhoff-Frenel scalar theory *(Russian)* 1−15092
self-focusing in nonlinear optics, geometrical-optics solution 1−37558
solar collectors, raytracing and tolerancing using computational techniques 1−46520
solar concentrator, high temp., design 1−46526
stack of parallel media, reflectance, transmittance and absorptance, recursive formulae 1−37400

geometrical optics continued
surfaces with errors of fit, ray tracing model *(German)* 1−29219
thermal imaging scanners, ray tracing programs for analysing moving lenses and mirrors 1−41873
three dimensional inverse scattering problem solns., reconstruction from projections 1−41570
three-dimensional refractive index distribution meas., review *(Japanese)* 1−18288
unstable laser resonators, book contrib. 1−11028
unstable resonator, ray-optical method 1−11026
volume holographic collector, large factor wavelength scaling 1−41628
wave electromagnetics, geometry 1−41562
Wigner distribution function, appls. to optics 1−41595
$LiNbO_3$:Ti diffused anisotropic waveguide, leaky-mode loss coeffs., approx. calcs. 1−29387

geometry
see also space time configurations
amorphous structural model using regular tessellation of curved spaces 1−25168
C^∞ functions,ion algebra on connected manifold, local cohomology 1−18079
conference, geometrical and topological methods in gauge field theories, Montreal, Canada (Sep. 1979) 1−32802
Dirac equation on a Kaluza-Klein bundle, pseudo-Riemannian manifold, SU(2) case 1−10117
Einstein's equation, branching of solns. 1−23075
gauge theories, non-Abelian, fibre bundle approach, symmetry breaking 1−45106
gauge theories, topological charges 1−36790
geometric method in mathematical physics, conf., Lowell, MA, USA (March 1979) 1−22951
gravitation, gauge theories and differential geometry 1−23073
jet bundles, Lagrangian and Hamiltonian formalism 1−22994
Lie algebra, first cohomology spaces, applications *(French)* 1−33126
Lie groups, unitary representations constructed using K-orbits and quantisation *(French)* 1−33124
Markovian representation, geometric theory, analogies with system theory *(French)* 1−50048
measurement theory, problems of applying higher geometry principles to measuring technique 1−23149
nonlinear elasticity, global bifurcation, geometric aspects 1−23017
nonlinear field theory, 2-D models, differential geometry, review *(German)* 1−10062
optics in four dimensions 1−41554
quantum mechanics, commutation relations realised in phase space 1−27820
shells, surface rigidity, as differential geometry problem 1−6768
space-time with Kottler-Weyl-Trefftz metric, geometry *(German)* 1−9360
supergravity and graded Lie algebra cohomology 1−44824
torsion and related concepts, anholonomic basis 1−9887
wave propagation, appl. of distributional derivatives 1−23022

geomorphology
see also topography (Earth)
agricultural land struct. in Lithuanian SSR, influence of natural and socio-economic factors *(Russian)* 1−13460
Alberta, Canada, glacial history and glacial sediments 1−44215
N.America, glacial erosion depth estimated from Atlantic sediments 1−49277
anastomosed rivers in Alberta, Canada, morphology and assoc. sedimentary facies 1−54147
Baja California, Mexico, marine terraces, geomorphology, chronology and deform. 1−17585
Baltic Sea, morphological variations of littoral zone *(Russian)* 1−13450
beach accretion and erosion processes, Valiathura, Trivandrum, India 1−17578
beach and coastal sediment behaviour, expts. using tagged sand 1−54075
beach morphology changes rel. to groundwater level and tides 1−17579
cliff and beach erosion supplying particles to World Ocean 1−54074
Costa Rica, recent crustal uplift obs. at coast 1−49252
debris flows at Mt. Thomas, New Zealand, erosion and deposition 1−13492
drainage basin development, effect of variable rainfall 1−32470
El Asnam, Algeria, implications of post-earthquake geomorphological changes for earthquake prediction 1−49226
fault scarp morphology rel. to earthquake recurrence along Wasatch fault zone, Utah 1−49210
geological period climate and landscape zones 1−54083
Glacial Lake Algonquin, USA, sediment study of Nipissing glacial transgression 1−40145
Grand Manan Island, Bay of Fundy, glacial terrain description 1−49275
Greenland, glacial erosion depth estimated from Atlantic sediments 1−49277
Kerala coast, India, shoreline deforms. rel. to shore protection structs. 1−54067
landslide data collection, radio system 1−36078
landslide zone, Narao district, Nagano Prefecture, Rn conc. in underground water 1−9182
miliolite deposits of Saurashtra coast, Gujarat, India, age and origin 1−27125
Nadym River, USSR, calc. of volume of wind transport of sediments on river channel formations 1−22375
planet surfaces, terrestrial, implications for Earth surface 1−13715
Qinghai-Xizang Plateau, periglacial phenomena 1−27163
relief compared to Moon, devel. *(Russian)* 1−17777
rock glaciers of N.Spitsbergen, mechanism 1−27162
rock labyrinth feature of Rocky Mountains, Alberta, Canada 1−40130
Sahara, wind blown sand features, METEOSAT images *(French)* 1−49273
Sahel, wind blown sand features, METEOSAT images *(French)* 1−49273
sand dunes, nonlinear evolution 1−54085
shorelines (sandy) of Victoria, Australia, changes from mid-nineteenth century to present 1−35972
Sierra La Primavera volcano, Mexico, caldera giant size pumice blocks 1−35966
slope movement determ. by probe inclinometer data filtering 1−32556
solifluction lobes, movement rate determ. in Ruby Range, Yukon Territory 1−17592
stalagmites age determ. by ESR in Belgian caves 1−54280
Sventoji river valley, biogenetic deposits of Butenai interglacial period *(Russian)* 1−22366

geomorphology continued
systems analysis in Earth sciences, appl. to associations of geological landscape formations 1−44345
Troy, geomorphic reconstructions of environs during last 10000 years 1−27164
Walker Creek, Californian coastal stream, Holocene profile changes 1−13493
S.Yukon, drainage and physiography, evolutionary study 1−40144
Zin valley badlands, Negev, runoff and erosion processes 1−13491

geons *see gravitons*

geophones *see seismometers*

geophysical aspects of cosmic rays
anisotropy of cosmic rays, long-period vars. 1−36138
atmosphere gamma ray vertical component at 1-20 MeV, distinguishment from cosmic background 1−9737
Cerenkov light from extensive air showers, arrival time struct. 1−4732
Cerenkov radiation produced in large cosmic ray showers at 1500 m above sea level 1−17744
Cherenkov light in atmos. due to 10^{14} eV primary 1−13651
eleven-year cosmic ray cycle, effect of Earth heliographic latit. and rel. to , solar activity indexes 1−36143
equatorial annular current devel. in mag. storm 1−36103
excess radiation at heights of 200 to 300 km, excess radiation at heights of 200 to 300 km, contrib. to stratosphere albedo particles flux 1−36141
extraterrestrial variations spectrum anal., investigation of atmospheric, geomag. and extraterrestrial vars. 1−36150
geological applications of cosmic ray muons *(Russian)* 1−17747
geomagnetic cutoff latitude of solar protons during strong mag. disturbance 1−4727
hard gamma-rays at airplane altitudes 1−13554
intensity modulation during solar cycle 20, rel. to solar and terrestrial activity indices 1−54334
latitude effect reality, debate between Millikan and Compton 1−32823
long-term variations, investigation on basis of cosmogenic radiocarbon via multichannel scintillation arrangement 1−36188
lunar variations of neutron and meson components of cosmic rays, anal. 1−36140
neutron monitor data from polar and equatorial sites, spectral anal. model 1−4721
odd N production in stratosphere and mesosphere, cosmic ray prod. source strength 1−44253
quasi-trapped electron fluxes with energies >80 MeV at height of 200-250 km, meas. 1−36142
riometer absorption associated with geomagnetic pulsation 1−4720
rock irradiation history, long term variations 1−44401
secondary cosmic ray intensity, rel. to solar activity HL-index 1−36147
secondary cosmic rays, integral generation multiplicities and coupling coeffs. in atmosphere of Earth and planets 1−36149
sediments of sea-floor, cosmic-ray produced ^{59}Ni 1−54430
solar cosmic ray burst of 1977 Nov. 22, and interaction with terrestrial atmos. 1−4726
solar flare cosmic ray protons penetration into polar caps 1−36135
solar proton event, 1972 August, stratosphere temp. changes from rocket sonde data 1−54166
tridiurnal variation origin, possible mechanism 1−49461
wind causing muon asymmetry, theory 1−49462
^{7}Be in stratosphere, due to bombs and cosmic rays 1−49368
^{12}C/^{13}C primary cosmic ray isotopic composition, atm. effect 1−40292
^{14}C, prod. and transport model including diffusion in stratosphere 1−36019
^{41}Ca produced by solar neutrino irrad. of crust 1−54337
^{16}O/^{17}O/^{18}O primary cosmic ray isotopic composition, atm. effect 1−40292

geophysical equipment
see also atmospheric measuring apparatus; geophysical prospecting; geophysical techniques; meteorological instruments; oceanographic equipment; seismometers
acoustic logging device, for data recording, reproduction and entry in computer *(Russian)* 1−27280
acoustic well logging, pulse triggering selector *(Russian)* 1−27282
active bandpass filter for well logging application *(Russian)* 1−27296
airborne radiometers based on superhet. cct. with input mixers, 1.5, 0.8 and 0.3 cm bands, atmosphere and surface meas. appls. 1−9290
automated nuclear geophysical instrument parameters 1−32560
automatic recorder, for emission of acoustic pulses from rocks *(Russian)* 1−27281
autonomous magnetic variational station, buoy-based, for geomag. field intensity vars. *(Russian)* 1−27264
blasting cord, potential appl. in seismic prospecting activity in Rumania *(Rumanian)* 1−40077
borehole instruments for very great depth, heat resistant design technique *(Russian)* 1−27291
borehole probe thermostat device, based on evaporative cooling *(Russian)* 1−32535
cameras, close-range, metric, multiple focal setting self-calibration technique 1−44070
chart recorder display for secularly varying phenomena *(Japanese)* 1−44305
conductivity meter with radio link, soil meas. appl. *(Polish)* 1−5339
current transducer, magnetically-controlled *(Russian)* 1−27272
Doppler telemetry station at Cagliari Astronomical Observatory, rel. to EDOC-2 campaign *(Italian)* 1−9374
electrical well logging, checking and calibration of instrumentation *(Russian)* 1−27283
ERS-67 station, appl. to aerial prospecting using long cable *(Russian)* 1−27275
EVIP-601 type apparatus, for pulse methods of electrical geophysical exploration *(Russian)* 1−27270
flux-gate magnetometer, as used in EM deep sounding survey of China *(Chinese)* 1−22499
gas research unit for petrological and geophysical appls., 15 kbar 1500°C operation 1−32558
geodetic satellite laser ranging system, with automatic tracking *(German)* 1−40216
geomagnetic surveying at sea, MPM-5 proton magnetometer 1−54277
gravity meters with quartz-mechanisms, calibration procedures 1−4625
groundwater profile sampler for spatial sampling of solutes in shallow groundwater systems 1−36083
heat flow, probe, for use in ocean floor borehole, computerised device 1−44314

geophysical equipment continued
inductive primary conductivity transducers, practical design *(Russian)* 1−27271
inversion collimated gamma-gamma probes, optimum parameters determ. *(Russian)* 1−27277
land observation satellite, Japanese project 1−32599
laser microsampler for geological field investigations 1−9283
Lulea Image Processing System for Earth resources data processing 1−9298
magnetic azimuth meter, employing single mag. system 1−27266
magnetic tape data store, portable, two channel, based on MK 43 tape recorder, for field work *(German)* 1−22498
magnetometer, calibration of instrument capable of sensing mag. pulsations 1−4639
magnetometer, vibrating sample, magnetometric study of Korean magnetite, Fe_3O_4 *(Korean)* 1−49425
marine seismic streamer systems, response from equivalent circuit anal. 1−22509
marine towed hydrophone cable, electrical charcts. and compensating amplifier 1−40221
mass spectrometer system using tandem electrostatic accelerators, geochronological appls. 1−23361
microprocessor-based magnetic mass spectrometer charcts. *(Hungarian)* 1−36075
mining geophysics, activities of the Swedish firm Atlas Copco ABEM AB *(Russian)* 1−27293
multichannel scintillation arrangement, for investigating cosmic ray var. on basis of cosmogenic radiocarbon 1−36188
multichannel seismic profiling system development 1−36077
multicoil induction focusing probes, radial charcts. in anisotropic medium 1−40232
nuclear-precessional magnetometer, errors over range of intensities rel. to geomag. components meas. *(Russian)* 1−27268
photogrammetric equipment, for rock fracture orientation mapping in deep mines 1−22522
pressure sensor, downhole, for oil and gas wells 1−40226
proton magnetometer, amplifier Q-factor multiplication *(Russian)* 1−27265
quantum magnetometer, small transducer using optical absorpt. cell *(Russian)* 1−27262
quantum magnetometers, appl. to geomag. field ang. components meas. *(Russian)* 1−27263
radio data collection system applied to landslide areas 1−36078
radio signal spectral analyser (shortwave), real time computer method for Doppler spectra 1−4630
radiocarbon device, stabilised, employing integrated microcircuits and active protection 1−40206
ratiometer for two nonstationary signals, for use in method of stray currents *(Russian)* 1−27269
remote sensing 4-channel photometer, for airborne spectral refl. obs. 1−32528
remote sensing by spectral reflectance, mobile laboratory for examination of special targets 1−32529
sediment corer, double PVC tube device 1−13592
sediment interaction with water column, design of reaction chamber 1−36085
seismic air gun performance, 2000 and 6000 psi devices 1−40211
seismic FM recording system description and circuit diagram *(Japanese)* 1−49433
shock parameters, measurement 1−13593
superconducting instruments, appls. in EM methods of applied geophysics 1−22519
superconductive magnetometer, use in geophysical sounding with mag. field generation 1−44346
surveying instrument, microprocessor controlled 1−49429
T-magnetometer, determ. of Poisson parameters of geomag. field deviation for mag. induction meas. *(Russian)* 1−27267
TAU-VP digital automatic apparatus, for meas. of Earth induced polarisation transients time consts. *(Russian)* 1−27274
telluric observation electrodes, Pb-$PbCl_2$ type 1−40215
Terrameter for baseline meas. (two-colour laser device) 1−53960
tilt meter array, performance of shallow borehole array 1−13597
TIROS-N advanced very high resolution four-channel scanning radiometer for remote sensing appls. 1−27317
US transmitter cct. for location of underground streams *(German)* 1−27309
VHF antenna, directional, ferrite-loaded 1−27255
well logging, X-ray radiometric method for ore anal., choice of targets *(Russian)* 1−27294
well logging by acoustic method, type AKN1 apparatus *(Russian)* 1−27292
well logging by nucl.-geophys. methods, averaging of depth interval data *(Russian)* 1−27289
well logging electrical probe, for pseudo-lateral logging (5 electrode device) *(Russian)* 1−27285
well logging gamma spectrometer (continuous recording), design and performance *(Russian)* 1−27290
well logging gamma spectrometer (SGSL-2), angle-channel analyser charcts. *(Russian)* 1−32534
well logging scintillation detectors, emission peaks and shape of secondary spectra *(Russian)* 1−27286
well logging sensor, digital azimuth convertor with continuous monitoring *(Russian)* 1−27284
well water sampling package, meas. of pH, elec. cond. etc. 1−36084
X-ray radiometric analyser, type RK-103, for rocks anal. under field conditions *(Russian)* 1−27276
Fe ore prospecting by γ-γ well logging, calibration of RSR-3 apparatus *(Russian)* 1−27295
Rn content, scintillation detector for groundwater and environmental radioactivity *(Japanese)* 1−44316

geophysical prospecting
see also minerals
acoustic well logging, pulse triggering selector *(Russian)* 1−27282
acoustic well logging, seismic impedance modeled by Markov chains 1−27259
aerial prospecting using long cable, appl. of type ERS-67 station *(Russian)* 1−27275
anomalies, interpretation through pot. field regularity at infinity 1−9069
anomaly, random source in horizontal layer, pot. field autocorrelation functions 1−9280

geophysical prospecting continued
apparent resistivity calc. methods for two-layer section 1−44343
area data interpretation, transitional process method 1−44342
artificial magnetisation method, resolution according to evidence from Uglovaya anomaly 1−40236
borehole instruments for very great depth, heat resistant design technique *(Russian)* 1−27291
borehole logging, selective γ-γ probe device 1−32557
borehole resistivity curve near spheroidal mass (in-situ fossil fuel extraction site) 1−40209
borehole vertical seismic profile method 1−40066
N.Chile, groundwater graben struct., detect. by gravity and seismic expts. 1−4407
coal gasification in situ, remote induction sounding method 1−36072
coal mining, in-seam seismology using noise from coal cutters 1−9101
coal prospecting, interpretation of gravity and electrodrilling data in Kathib El Makhazin, Sinai Peninsula 1−13604
coal seam synthetic seismogram, linear props. of thin layer 1−27073
continental margin drilling project (OMDP) 1−49392
cosmic ray muons, appl. to geological prospecting and techniques *(Russian)* 1−17747
Cuba, regional electrical prospecting *(Russian)* 1−13394
dipole soundings interpretation using resist. transform function 1−54267
electric conductivity models, two dimens., surface and borehole EM data inversion 1−22514
electric sounding (DC) of buried cylinder, using linear source *(Hungarian)* 1−53982
electrical conductivity sounding, practical design of inductive primary cond. transducers *(Russian)* 1−27271
electrical exploration, use of type EVIP-601 apparatus in pulse methods *(Russian)* 1−27270
electrical prospecting for anomalous body in 3-D case, comparison with planar case *(French)* 1−54269
electrical well logging, checking and calibration of instrumentation *(Russian)* 1−27283
EM (frequency) sounding, equivalence phenomena 1−40214
EM methods in applied geophysics, review 1−22519
EM modeling apparatus, new electrolytic tank wire arrangement 1−40210
EM sound system (wideband), using pseudo-noise source 1−27258
EM sounding, appl. of special functions for investigation of nonstationary EM fields 1−40062
EM target with given gravity anomaly, probabilitistic evaluation model 1−17697
excitation of lateral waves and scatt. radiation fields by rough surfaces 1−32552
explosion seismology, shear waves generated by explosion in deep vertical wave tests 1−27075
frequency independent constant beamwidth sonar techniques, project FLYEYE, geophysical prospecting appl. 1−32565
gamma-gamma logging probes for U exploration, anal. 1−22554
gamma-ray logging of borehole, application of discrete Fourier transform 1−9268
gamma-ray surveys from aircraft, design parameters 1−27260
gamma-ray well logging, determination of system response function 1−22518
geoelectric time-varying sounding, book 1−5038
geomagnetic anomaly due to buried prism, calc. 1−44065
geomagnetic anomaly of prism(s), estimation of lower boundary *(German)* 1−40053
geomagnetic deep sounding data anal. by complex demodulation technique 1−27308
gravity, anomaly due to buried prism, calc. 1−44065
gravity anomalies (Bouguer), analysis by regional-residual separation techniques 1−27050
gravity anomalies interpretation, density contrast estimation for homogeneous body 1−4408
gravity anomaly of buried object, data interpretation using Hankel transform 1−40038
gravity data, ambiguous interpretation of crust struct. when using surface geology as well 1−22182
gravity prospecting, inverse problem, soln. using optimisation method 1−9279
gravity prospecting in petroleum geology, amplitude anomalies *(Russian)* 1−13612
horizontal conducting cylinder in uniform inducing field, inductive response 1−27055
hydrocarbon exploration, model elec. resist. anomaly of anticline 1−44106
hydrocarbons in Texas coastal Tertiary strata 1−21837
induced polarisation sounding, explanation of negative anomalies *(Rumanian)* 1−44107
induced polarisation sounding, model expts. for layered Earth 1−40213
induced polarisation sounding, transients time consts. meas. by TAU-VP digital automatic apparatus *(Russian)* 1−27274
inverse geophysical problems, ill-posed, solns. 1−9277
inverse interpretation of ambiguous problems, approx. solns. 1−40205
Kazakhstan, Earth crust, seismic and gravity two-dimens. inhomogeneous model 1−22272
lateral logging sounding, penetration zone influence *(Russian)* 1−13395
Lord Howe Rise, Tasman Sea, crustal struct. and oil prospects 1−40081
Macherla-Agnigundala region in N.Cuddapah basin, mag. survey 1−22217
magnetic anomalies due to two-dimensional bodies, Hilbert transform appl. 1−17694
magnetic anomaly, depth determination method *(German)* 1−40054
magnetic anomaly interpretation by gradient method (cylinders, dykes and steps) 1−27065
magnetic sounding with mag. field generation, possible use of superconductive magnetometer 1−44346
magnetic survey data, field processing technique 1−4628
magnetoelectric logging for borehole electrometry 1−22552
magnetotelluric sounding, interpretation procedure for transitional processes with sharp field var. 1−44108
magnetotelluric studies of horizontally heterogeneous media, appl. of normalisation of impedance to internal mag. field 1−44109
metal deposits prospecting, appl. of type RK-103 field portable X-ray radiometric analyser *(Russian)* 1−27276
multilayered medium intersected by well, electric charge at boundaries, surface density 1−22551
neutron logging in homogeneous zones *(Russian)* 1−27160
oil and gas reservoirs delimitation, autoregressive pattern recognition appl. 1−22511
geophysical prospecting continued
oil exploration in Tabasco region of Mexico, seismic data anal. in FORTRAN 1−49414
oil shale RF dielec. props. depend. on oil yield, laboratory expts. 1−40117
Ontario province, N.W.-S.E. regional folding and mineralisation patterns 1−9120
petroleum gas-bearing structure, inverse gravity prospecting problem *(Russian)* 1−13613
pore-pressure in borehole, estimation methods *(Hungarian)* 1−32544
Raguba oil field, Libya, Bouguer gravity anomaly map 1−17551
reflection profiling over complex geology, stacking rel. errors 1−40065
remote sensing using advanced synthetic aperture radar, Earth resources appl. 1−32568
resistivity log interpretation charts, discrepancies 1−4629
resistivity methods, anomaly modeling from localised voids under irregular terrain 1−17696
resistivity sounding, model expts. for layered Earth 1−40213
resistivity sounding, multilayered Earth with transition layer 1−40212
resistivity sounding, two electrode system, digital linear filter for computing type curves 1−22512
resistivity sounding measurements, mag. field of two-electrode system 1−4416
resistivity sounding of half space with resist. var. with depth 1−53974
resistivity sounding of multilayered Earth with one exponentially varying cond. layer 1−4418
seismic common depth point method, apparent front curvature for reflected waves *(Russian)* 1−13407
seismic common depth point prospecting, waveguide surface interference *(Russian)* 1−13409
seismic exploration, calc. of bed vels. and wave front curvature in three-dimensional stratified homogeneous medium 1−40080
seismic exploration signal generation, basic parameter in field stage, computational *(Rumanian)* 1−40076
seismic phase vel. dispersion estimation, controlling algorithms for Love waves *(Russian)* 1−13610
seismic profile determ., vel. isolines from refr. seismic wave travel time curve 1−9278
seismic prospecting, economic aspects *(Rumanian)* 1−44124
seismic prospecting, seismic modelling for complicated subsurface structs. *(Chinese)* 1−54255
seismic prospecting activity in Rumania, appl. of blasting cord as seismic energy source *(Rumanian)* 1−40077
seismic reflection amplitudes, digital processing *(Russian)* 1−13607
seismic refraction shooting, use of law of parallelism 1−40067
seismic S-wave generation, trench detonations in dry soil 1−40079
seismic sounding, migration in the presence of noise 1−4442
seismic sounding, normal movement velocity mapping of non-reflecting vel. interface 1−4441
seismic sounding, partial coherence matching of synthetic seismograms with seismic traces 1−4440
seismic sounding for thermal props. of ground *(German)* 1−40069
seismic sounding source array (marine), interaction between sources in multiple array 1−4439
seismic surface travel-time curve transformation for reflected waves *(Russian)* 1−13608
seismic surveys disjunctive dislocations, role in prospecting of tectonically screened oil traps 1−9275
seismic transverse wave method, W.Siberian plain appl. 1−40231
Siberian Platform Cambrian deposits, seismic refl. models and geophys. prospecting 1−40078
signal compression by freq. transformation, parametric approach 1−27261
Sirotem microprocessor based prospecting instrument 1−13595
subterranean cavity detection by seismic refl. 1−22517
sulphide ore prospecting, by mag. anomalies due to lightning strikes *(Russian)* 1−22208
telluric observation electrodes, Pb-$PbCl_2$ type 1−40215
Texas coastal hydrocarbon bearing strata, hydrocarbon migration 1−21837
thermal conductivity of rocks, meas. by needle probe method 1−1815
transient EM method, sign reversal field occurrence near Cloncurry, Queensland 1−22513
vibratory seismic exploration, freq. method, noise resistance 1−44341
VLF anomalies from a perfectly conducting half plane below an overburden 1−4417
well electrometry, three-electrode lateral method soln. for anisotropic inhomogeneous medium *(Russian)* 1−27059
well logging, new shear-wave method 1−40208
well logging, X-ray radiometric method for ore anal., choice of targets *(Russian)* 1−27294
well logging by acoustic method, type AKN1 apparatus *(Russian)* 1−27292
well logging by nucl.-geophys. methods, averaging of depth interval data *(Russian)* 1−27289
well logging by X-ray radiometric method, probe theory *(Russian)* 1−27288
well logging by X-ray radiometric method, scattering of single quanta *(Russian)* 1−27287
well logging electrical probe, for pseudo-lateral logging (5 electrode device) *(Russian)* 1−27285
well logging gamma spectrometer (continuous recording), design and performance *(Russian)* 1−27290
well logging gamma spectrometer (SGSL-2), angle-channel analyser charact. *(Russian)* 1−32534
well logging profiles, computerised relative depth correlation method *(Hungarian)* 1−32545
well logging scintillation detectors, emission peaks and shape of secondary spectra *(Russian)* 1−27286
well logging sensor, digital azimuth convertor with continuous monitoring *(Russian)* 1−27284
Au in conglomerate sample, identification of native Au by radioisotope method 1−44344
$CuFeS_2$ (copper pyrite) ores prospecting, determ. of optimum parameters for inversion collimated gamma-gamma probes *(Russian)* 1−27277
Fe ore deposits of Labrador, Canada, prospecting methods *(Hungarian)* 1−32546
Fe ore prospecting by γ-γ well logging, calibration of RSR-3 apparatus *(Russian)* 1−27295
Rn movement in overburden, theory 1−22508
Th deposits in SE.USA monazite belt 1−35982
U borehole logging by gamma-ray spectrometry 1−9124
U deposits in SE. Missouri, USA 1−44189

geophysical prospecting continued
U in Pine Creek geosyncline, Australia, conf., June 1979, Sydney, Australia 1−9772
U prospecting method, Rn adsorption onto activated charcoal (ROAC) 1−9292
W skarn deposits, Selwyn Mountains, Yukon, Canada, isotope geochronology 1−32436
Zn mineralisation in marbles of Mont-Laurier Basin, Quebec 1−9121

geophysical techniques
see also atmospheric techniques; hydrological techniques; ionospheric techniques; oceanographic techniques
abyssal fractures in Ukrainian shield correl. with mineral deposits, gravity and geomag. techniques 1−54026
acoustic logging, device for data recording, reproduction and entry in computer *(Russian)* 1−27280
acoustic logging, elastic wave propag. in fluid-containing cylindrical bore hole *(Chinese)* 1−54254
acoustic well logging, seismic impedance modeled by Markov chains 1−27259
aerial prospecting using long cable, appl. of type ERS-67 station *(Russian)* 1−27275
amino acid racemisation technique, appl. to Jersey 8 metre raised beach age determ. 1−35955
anomalies, interpretation and transformation, correl. methods 1−54265
apparent resistivity calc. methods for two-layer section 1−44343
area data interpretation, transitional process method 1−44342
array data in the plane, spectral anal. and autoregressive modeling 1−36071
artificial magnetisation method, resolution according to evidence from Uglovaya anomaly 1−40236
autoregressive moving average spectral model of stationary time series 1−40220
autoregressive pattern recognition applied to the delimitation of oil and gas reservoirs 1−22511
bedrock mapping using river sediment minerals 1−44136
borehole data processing, classification techniques *(German)* 1−40218
borehole instruments for very great depth, heat resistant design technique *(Russian)* 1−27291
borehole resistivity curve near spheroidal mass (in-situ fossil fuel extraction site) 1−40209
borehole vertical seismic profile method 1−40066
Canadian Magnetic Observatory Network, 1978 annual report 1−32520
coal gasification in situ, remote induction sounding method 1−36072
coal gasification underground, remote EM sounding method applicability 1−9281
coal mine roof struct., low freq. cond. probing techniques review 1−32553
coal mining, in-seam seismology using noise from coal cutters 1−9101
coal seam synthetic seismogram, linear props. of thin layer 1−27073
coal seams, channel wave mapping in UK 1−17695
continental margin drilling project (OMDP) 1−49392
crust deep structure from seismic refl. obs., review 1−13622
crust movements, detection with high-precision geodetic methods 1−53959
crust strain determination with tiltmeters sited in caves 1−17708
crust strain estimation from orientation distrib. of linear markers 1−49254
crustal strain determ. from microgeodetic network obs. 1−36067
crustal thickness prediction using isostasy principle 1−40233
data acquisition system used on Italian buoy 1−49398
data interpretation by correlation self-adjustment 1−54283
data interpretation by linear eqns. with rectangular matrices soln. 1−4634
data processing, computerised self setting filtration method 1−49407
deflection of vertical derived from horizontal gravity gradient by local gravity meas. *(German)* 1−9070
digital processing of seismic reflection amplitudes *(Russian)* 1−13607
dipole soundings interpretation using resist. transform function 1−54267
Earth's crust movement studied by geodetic meas., anal. methods 1−22550
Earth crust, appl. of fracture mechanics 1−13624
Earth surface nonhomogeneity remote sensing, effect of atmospheric conditions 1−44299
Earthnet programme of ESA, experience and prospects *(Italian)* 1−4622
earthquake epicentre determination from seismological station network 1−13591
earthquake focal mechanism determination, from regional network S to P amplitude ratios 1−27253
earthquake foci zones detect. by high and low freq. spectra of focal radiation 1−4635
earthquake hypocentre determination by mixed inverse problem method 1−9103
earthquake location using three local seismic stations 1−49208
earthquake P-waves at small array used to find crustal parameters 1−22539
earthquake prediction, effect of confining press. on fracture behaviour of porous rock 1−22332
earthquake prediction, exptl. results on Rn and Tn emanations from rock specimen under press. *(Chinese)* 1−9089
earthquake prediction, implications of meas. after El Asnam, Algeria, earthquakes 1−49226
earthquake prediction, implications of stress vars. before and after 1976 Tangshan earthquake *(Chinese)* 1−9085
earthquake prediction, low-freq. atmospheric press. waves as short-term earthquake precursors *(Chinese)* 1−49209
earthquake prediction, obs. of atmospheric microbaromic waves as aftershock precursors *(Chinese)* 1−9090
earthquake prediction, precursory changes in Earth resistivity *(Chinese)* 1−9088
earthquake prediction, precursory spatial and temporal changes in t_s/t_p at Monticello reservoir, South Carolina 1−22242
earthquake prediction, techniques based on nature of change in seismicity of whole Earth 1−44125
earthquake prediction, time depend. of Earth EM transfer functions assoc. with tectonic activity 1−22240
earthquake prediction, use of automatic recorder for meas. of acoustic pulses emission from rocks *(Russian)* 1−27281
earthquake prediction, use of b-value is recurrence relation 1−35949
earthquake risk assessment in Jamaica, West Indies, problems of seismicity and seismic intensities 1−17564
earthquake site stress field determination methods 1−13411
earthquake sources, seismic moment and magnitude determ. from vertical deform. data *(Chinese)* 1−9087

geophysical techniques continued
earthquke source mechanism deduction procedure for region of differing source mechanism 1−27069
EDOC-2 campaign, appl. of new Doppler telemetry station at Cagliari Observatory *(Italian)* 1−9374
electric conductivity models, two dimens., surface and borehole EM data inversion 1−22514
electrical conductivity sounding, practical design of inductive primary cond. transducers *(Russian)* 1−27271
electrical exploration, use of type EVIP-601 apparatus in pulse methods *(Russian)* 1−27270
specific electrical resistance meas. in boreholes, appl. of sealed magnetically controlled current transducer *(Russian)* 1−27272
electrical resistivity sounding methods, to study Jharia coalfield faults, India 1−22203
electrical sounding, use of ratiometer for two nonstationary signals in method of stray currents *(Russian)* 1−27269
electrical well logging, checking and calibration of instrumentation *(Russian)* 1−27283
EM (frequency) sounding, equivalence phenomena 1−40214
EM induction in lower mantle, operational problem solving method 1−22197
EM methods in applied geophysics, review 1−22519
EM modeling apparatus, new electrolytic tank wire arrangement 1−40210
EM ocean bottom sounding using the EM field of currents, theory 1−22516
EM sound system (wideband), using pseudo-noise source 1−27258
EM sounding, appl. of special functions for investigation of nonstationary EM fields 1−40062
EM sounding, Cauchy integral analogues for separation and continuation of EM fields within conducting matter 1−22206
EM target with given gravity anomaly, target evaluation technique 1−17697
exploratory data analysis techniques, appl. in geophysical sciences 1−36063
explosion seismology, shear waves generated by explosion in deep vertical wave tests 1−27075
forest fires caused by lightning, mag. direction finding method 1−44302
gamma-ray logging of borehole, application of discrete Fourier transform 1−9268
gamma-ray surveys from aircraft, design parameters 1−27260
gamma-ray well logging, determination of system response function 1−22518
geodesy, very long baseline interferometry methods, estimability of geodetic quantities 1−32533
geodetic astrofix in rectangular co-ords., Bhattacharji and Dollen methods *(French)* 1−17693
geodetic baseline meas. using two-colour Terrameter 1−53960
geodetic electro-optical distance measurement, max. likelihood error estimates 1−44349
geodetic leveling, technique operation, review 1−13617
geodetic measurements calc. of atmospheric refr. at large zenith distances *(Russian)* 1−54239
geodetic network (global scale), design and error characts. 1−53958
geodetic satellite laser ranging system, performance anal. 1−17692
geoelectric models in engineering geophysics 1−54266
geoelectric time-varying sounding, book 1−5038
geologic pressure determ. from fluid inclusions in crystals 1−13623
geological comparison Landsat, Seasat data for Iceland, photolineament mapping, synthetic aperture radar imaging appl. 1−54295
geological faults, observed by side looking airborne radar method 1−36079
geological formation classification, Bayesian strategy for recognition of classes from indirect images 1−13619
geological materials, automated X-ray fluoresc. anal. 1−22555
geological Na thermometry of igneous rocks 1−9149
geological sample Sn content determination using AAS 1−53502
geomag. and gravity anomaly data interpretation, interaction computer graphics method 1−32543
geomagnetic anomalies analysis, content and significance of mathematical models *(Rumanian)* 1−44338
geomagnetic anomaly due to buried prism, calc. 1−44065
geomagnetic anomaly of prism(s), estimation of lower boundary *(German)* 1−40053
geomagnetic data anal., effect of changes in interplanetary mag. field on reduction of data from polar cap 1−17558
geomagnetic deep sounding data anal. by complex demodulation technique 1−27308
geomagnetic field angular components, meas. with aid of quantum magnetometers *(Russian)* 1−27263
geomagnetic field components measurement, effects of nuclear-precessional magnetometer errors *(Russian)* 1−27268
geomagnetic field measurements on board ship, determ. of Poisson using T-magnetometer *(Russian)* 1−27267
geomagnetic induction, response function determ. in Scandinavia from magnetometer array data 1−35934
geomagnetic mapping at equatorial latitudes, anomaly interpretation 1−22198
geomagnetic sounding, of conductivity anomalies in lower crust and uppermost mantle 1−22204
geomagnetic variations, meas. using buoy-based autonomous mag. variational station *(Russian)* 1−27264
geomagnetic variations, time series analysis using computerised curve typisation *(German)* 1−40055
geophone response characteristics, for geophones with differing mass and Earth contact 1−27257
glacial events sequences, methods appl. to Vashon Stade (Late Pleistocene) 1−17630
gravimetry, inverse problem parameterisation construction 1−22186
gravity, anomaly due to buried prism, calc. 1−44065
gravity anomalies (Bouguer), analysis by regional-residual separation techniques 1−27050
gravity anomalies analysis, content and significance of mathematical models *(Rumanian)* 1−44338
gravity anomalies interpretation, density contrast estimation for homogeneous body 1−4408
gravity anomaly, measurable by astro-geodetic method *(German)* 1−40045
gravity anomaly of buried object, data interpretation using Hankel transform 1−40038
gravity anomaly separation in mountain areas 1−40234

geophysical techniques continued
gravity data, ambiguous interpretation of crust struct. when using surface geology as well 1−22182
gravity geopotential, satellite-to-satellite tracking method 1−22187
gravity meas., tidal corrections for precise meas. in Izu peninsula, Japan 1−4409
ground elec. props., VLF ground mode method 1−13596
ground motion determ. from propagating stress relax. 1−22502
heavy cations imaging in silicates, stabilisation of zeolites under electron irradiation 1−36076
holographic computer-made image processing 1−15099
hydrocarbon exploration, model elec. resist. anomaly of anticline 1−44106
ice and frost thickness meas. with FM-CW radar 1−27315
ice pack transport measurements in Arctic 1−4517
ice sheet sounding with radio waves, polarisation phenomena 1−36069
image processing with Seasat SAR image correlated with Landsat scene 1−54291
induced polarisation sounding, explanation of negative anomalies *(Rumanian)* 1−44107
induced polarisation sounding, model expts. for layered Earth 1−40213
induced polarisation sounding, transients time consts. meas. by TAU-VP digital automatic apparatus *(Russian)* 1−27274
inverse geophysical problems, ill-posed, solns. 1−9277
inverse imaging methods in exploration seismology 1−9294
inverse interpretation of ambiguous problems, approx. solns. 1−40205
inverse problem for lossless layered Earth, available soln. methods 1−9102
inverse scattering techniques in geophysics 1−27252
Jharia coalfield, India, electrical resistivity methods applied to study of faults 1−22203
LANDSAT data transform. procedure for green and soil brightness indicators 1−4666
Landsat multispectral data analysis, max. likelihood technique 1−32550
laser ranging, distance corrections for single and dual-colour lasers 1−27298
laser technique appl. in geodesy, mine and civil engineering *(Czech)* 1−49420
linear programing in modelling, application of one-norm misfit measure 1−13598
lithosphere stress magnitude inferred from rheomorphic petrology 1−27114
Love wave phase vel. dispersion estimation, controlling algorithms *(Russian)* 1−13610
M-fitting, comparison with least squares method 1−13589
magnetic anomalies analysis, mag. fields of uniformly magnetised polyhedra *(Chinese)* 1−53968
magnetic anomaly, depth determination method *(German)* 1−40054
magnetic anomaly interpretation by gradient method (cylinders, dykes and steps) 1−27065
magnetic anomaly mapping using satellite magnetometer method 1−40049
magnetic azimuth measurement, using meter with single mag. system 1−27266
magnetic field mapping by tethered satellite, noise source effects 1−9287
magnetic sounding with mag. field generation, possible use of superconductive magnetometer 1−44346
magnetic survey data, field processing technique 1−4628
magnetic surveying (meas. along a profile), accuracy rel. to navigation and sensor charcts. 1−4631
magnetic surveying in presence of variable geomag. field, control method 1−4632
magnetic variation sounding of crust, determ. of distance to source of mag. variation 1−4420
magneto-telluric sounding beneath seafloor by gradient method 1−36073
magnetoelectric logging for borehole electrometry 1−22552
magnetoelectric logging method, appl. to anisotropic beds study 1−13620
magnetotelluric data processing, M-fitting, anal. method 1−13590
magnetotelluric sounding, appl. of data polarisation and coherence meas. 1−36062
magnetotelluric sounding, direction anal. of pulse variations 1−53985
magnetotelluric sounding, interpretation procedure for transitional processes with sharp field var. 1−44108
magnetotelluric soundings of lower crust and uppermost mantle, recent work 1−22205
magnetotelluric studies of horizontally heterogeneous media, appl. of normalisation of impedance to internal mag. field 1−44109
magnetotellurics, latest methods and techniques *(Hungarian)* 1−17560
magnetovariational sounding of layered Earth in auroral zone, modeling of source 1−22210
marine sediment, mag. and chem. variations, anal. methods 1−13398
marine sediment analysis using ultrasonic methods *(French)* 1−27310
marine sediment dating by thermoluminescence method 1−44164
maximum entropy, method appl. to geomag. field potentials spectra determ. 1−53984
maximum entropy method for geophysical data processing *(Russian)* 1−13611
Milos automatic weather station *(Dutch)* 1−49364
mining geophysics, activities of the Swedish firm Atlas Copco ABEM AB *(Russian)* 1−27293
multispectral CCD sensor (MOMS) on Shuttle pallet satellite 1−4746
NAVSAT, satellite ranging errors due to ionosphere 1−44357
neutron activation analysis, of rock and sediment standard material 1−49409
neutron activation analysis methods, appl. to geochemistry 1−22506
neutron logging in homogeneous zones *(Russian)* 1−27160
nuclear track technique, appl. to Earth Rn flux meas. 1−44323
ore microscopic technique in the identification and study of uranium ore minerals 1−36086
palaeoclimatology appl. of transfer function eqns. to July temps. in N.Canada for past 6000 yr 1−36052
palaeomagnetic pole position for oceanic plates, calculation procedure 1−27057
palaeostress determining by obs. of mineral mechanical twinning 1−27297
Pb isotope data, diagrammatic representation methods 1−4626
petromagnetic methods, appl. to mag. susceptibility study of Romanian epimetamorphic schists *(Rumanian)* 1−40124
photogrammetry, height interpolation by finite elements, computer method *(German)* 1−4411
photogrammetry, multiple focal setting self-calibraton of close-range metric cameras 1−44070
geophysical techniques continued
point position determ. from stations, space intersection adjustment 1−13377
Polar Cap Absorpt. (PCA) determ. from solar flare radio burst data 1−22575
probe inclinometer data filtering for slope movement determ. 1−32556
radar remote sensing from satellite, from satellite, wide swath synthetic aperture method 1−49418
radio signal spectral analyser (shortwave), real time computer method for Doppler spectra 1−4630
radiocarbon measurement, appl. to stabilised device employing integrated microcircuits and active protection 1−40206
radiowave ground mode propag. for subsurface charcts. 1−53983
Rayleigh wave attenuation coeffs., regional var. in Pacific, appl. of two new methods 1−4651
Rayleigh wave measurement with seismometer array, dispersion of higher modes 1−4443
reflectance factors determ. using two simultaneous radiometer meas. 1−4654
reflection seismology, charcts. of methods of multiple noise waves suppression for W Siberian platform 1−9111
remote sensing, examples of appl. to geological mapping and mining research *(French)* 1−9272
remote sensing, optimum spectral bands for rock types discrimination 1−44335
remote sensing, spatial postprocessing of spectrally classified Landsat data 1−40201
remote sensing, topographic effect on spectral response from nadir-pointing sensors 1−40228
remote sensing data handling and processing by microprocessor and computer methods *(French)* 1−49395
remote sensing from satellite, geographic location of individual pixels 1−35988
remote sensing of mountainous terrain, radiative transfer model 1−54087
resistivity log interpretation charts, discrepancies 1−4629
resistivity methods, anomaly modeling from localised voids under irregular terrain 1−17696
resistivity sounding, model expts. for layered Earth 1−40213
resistivity sounding, multilayered Earth with transition layer 1−40212
resistivity sounding, two electrode system, digital linear filter for computing type curves 1−22512
resistivity sounding measurements, mag. field of two-electrode system 1−4416
resistivity sounding of multilayered Earth with one exponentially varying cond. layer 1−4418
resistivity sounding over complex geological structs., finite element modelling 1−27066
resolving power of Burgs max. entropy method 1−246
rock demagnetisation data, graphical methods for vector anal. 1−53978
rock electrical parameters, in-situ meas. method *(Russian)* 1−9269
rock internal friction measurement, by stress-strain curve method 1−9146
rock porosity, vacuum assisted impregnation technique using coloured epoxy 1−36068
rock thermobarometry, single-pyroxene method 1−40105
rock type and temp. mapping from space, choice of optimum IR bands 1−13615
rocks, torsional creep test methods 1−22338
rocks chemical analysis, appl. of type RK-103 field portable X-ray radiometric analyser *(Russian)* 1−27276
rotation of Earth, by lunar laser ranging method 1−44088
rotation of Earth, Doppler satellite techniques 1−44091
rotation of Earth, radioastronomy monitoring method 1−49393
rotation of Earth meas. by lunar laser ranging, EROLD program 1−49198
rotation of Earth radioastronomical determination, NAVOBSY/NRL program 1−49196
rotational motion of Earth, radio interferometric determination methods 1−44351
satellite remote sensing, Earth albedo contrib. to photometer data, empirical determ. method 1−13614
satellite-borne synthetic aperture radar image processing, Seasat, mountain topography, coastal air current studies 1−54289
satellite-borne synthetic aperture radar imagery, Seasat-A, landuse, geological data evaluation, UK example 1−54290
sea floor impedance measurement, effects of EM induction in oceans on inferences of Earth constitution 1−22323
sediments, computerized characterisation of microfabric and texture 1−49422
sediments, radiometric dating using conodont fission tracks 1−22293
seismic, velocity depth struct. estimation from wide angle reflection arrivals 1−9261
seismic absorption and dispersion meas., check shot surveys 1−22524
seismic air gun performance, 2000 and 6000 psi devices 1−40211
seismic array configuration performance, for surveillance of shallow activity 1−9267
seismic data, S/N ratio estimation technique, appl. to stacking 1−22510
seismic data analysis, adaptive deconvolution appl. to nature of deep basement refls. on Wind River Line 1, Wyoming 1−22277
seismic data analysis, separation of interfacing exchange waves 1−54012
seismic data processing and interpretation, analytical signal appl. *(Rumanian)* 1−44340
seismic exploration, chracteristic method for numerical soln. of inverse kinematic problems 1−35948
seismic exploration signal generation, basic parameter in field stage, computational *(Rumanian)* 1−40076
seismic far field wavelet shape, deconvolution by source array scaling 1−54264
seismic fault dimensions determ., anal. of far-field displacements from rectangular fault 1−9109
seismic migration velocity field improvement using Common Offset Plane Migration algorithm 1−54262
seismic moment determ. for earthquakes 1−54288
seismic moment tensor recovery technique appl. to Oaxaco earthquake (1978, November 24) 1−22503
seismic network established at Minnesota, USA 1−32523
seismic p-τ curve in slant stack wave field, Wiechert-Herglotz technique 1−22229
seismic profile determ., vel. isolines from refr. seismic wave travel time curve 1−9278
seismic prospecting, economic aspects *(Rumanian)* 1−44124

geophysical techniques continued
seismic prospecting, seismic modelling for complicated subsurface structs. *(Chinese)* 1−54255
seismic prospecting activity in Rumania, appl. of blasting cord as seismic energy source *(Rumanian)* 1−40077
seismic pulsed source, wave propagation in anisotropic medium with free boundary 1−27085
seismic ray tracing, two-point, in heterogeneous media, and travel time data inversion 1−9295
seismic reflected and refracted waves recording on time section and seismograms 1−22553
seismic reflection profiling over complex geology, stacking rel. errors 1−40065
seismic reflection sounding, data inversion methods 1−54008
seismic refraction data, slant stacking method 1−44317
seismic refraction shooting, use of law of parallelism 1−40067
seismic risk assessment, appl. of Tashkent-California system of earthquake spectra 1−13403
seismic S-wave generation, trench detonations in dry soil 1−40079
seismic S-waves, trench shot sources, type I directional diagram, obs. method 1−22257
seismic sea bubble pulse oscillations, debubbling generalised linear inverse method 1−54261
seismic sections, migration in time by wave eqn. method *(Rumanian)* 1−40230
seismic sections migration, using scalar wave eqn. *(Rumanian)* 1−44339
seismic shooting data processing by special purpose processing 1−9099
seismic short period waves second order autoregressive representation, computer based automatic signal processing 1−54287
seismic signal compression by freq. transformation, parametric approach 1−27261
seismic sounding, CDP moveout vel. for transversely anisotropic media 1−9096
seismic sounding, comparison of signal trace summation methods 1−9273
seismic sounding, correction of long-period components of static corrections in common-depth point shooting 1−9113
seismic sounding, migration in the presence of noise 1−4442
seismic sounding, normal movement velocity mapping of non-reflecting vel. interface 1−4441
seismic sounding, partial coherence matching of synthetic seismograms with seismic traces 1−4440
seismic sounding, theoretical and exptl. evaluations of effectiveness of trench source 1−9112
seismic sounding for thermal props. of ground *(German)* 1−40069
seismic sounding source array (marine), interaction between sources in multiple array 1−4439
seismic source wavelet extraction and removal from refl. seismogram 1−54263
seismic stacking velocity from refl. seismograms, optimised technique 1−54260
seismic surface travel-time curve transformation for reflected waves *(Russian)* 1−13608
seismic surveys disjunctive dislocations, role in prospecting of tectonically screened oil traps 1−9275
seismic time domain methods, t_p* and t_s* values across USA 1−22504
seismic transverse wave method, W.Siberian plain appl. 1−40231
seismic velocity section prediction *(Russian)* 1−13609
seismic velocity struct. by mixed inverse problem method 1−9103
seismic waveform pattern recognition 1−54299
seismogram digital data processing, for broad band data 1−4640
seismograms inversion, expression of deHoop-Knopoff representation theorem as linear inverse problem 1−17565
seismograph stations of Canada, history of operation (1897-1955) 1−32524
seismological station network of East Germany, review *(German)* 1−40199
seismology, algorithm for accelerated transform. of freq. seismograms into impulse seismograms 1−13621
seismology, calc. of bed vels. and wave front curvature in three-dimensional stratified homogeneous medium 1−40080
seismology, soln. of elastic wave propag. problems in inhomogeneous media 1−35947
seismology autoregressive estimation of complex eigenfreqs. in low-freq. spectra 1−27077
seismometer array deployment to obtain optimum data on strong motion 1−32368
sign reversals near Cloncurry, Queensland, transient EM method, field occurrence 1−22513
signal processing, noise elimination by multi-channel-array processing 1−36638
signal processing by use of two-dimens. filters, incompletely specified signal case 1−5292
silica heat flow interpretation technique: assumptions and applications 1−40222
soil boundaries studies using image enhancement and spectral eigenvalue classification 1−9300
soil fabric, electron micrograph analysis using digital computer techniques 1−49423
soil microwave emission, influence of soil texture 1−9154
soil moisture, remote sensing using L-band imaging radar 1−9153
soil moisture content, microwave remote sensing over bare and vegetated fields 1−17627
soil moisture of tilled field, remote sensing microwave radiometry 1−9152
soil remote sensing by microwave backscattering 1−35983
soil salinity detection, Landsat data 1−9302
soil surface, moisture and evaporation, thermal IR satellite remote sensing technique 1−36082
sonic well logging, abnormal formation press. deduction *(Chinese)* 1−22500
stalagmites age determ. by ESR in Belgian caves 1−54280
stereoscopic phase diagram plotting 1−49408
stratigraphic correlation techniques, new methods 1−27303
Sturm−Liouville problems, uniformly valid approx. of eigenvalues 1−9274
subterranean cavity detection by seismic refl. 1−22517
synchrotron radiation uses with diamond anvil cells, high press. appl. in geophysics 1−27305
synthetic aperture radar imaging, SEASAT-SAR processor workshop, Frascati, Italy (Dec., 1979) 1−49882
synthetic seismogram computation, slowness approach to reflectivity method 1−27083

geophysical techniques continued
synthetic seismograms computation using 'reflectivity method', particle scheme *(Chinese)* 1−54253
synthetic seismograms of layered media, new computation method 1−44118
systems analysis in Earth sciences, review 1−44345
teleseismic event location accuracy by seismic network based in Hungary 1−40064
telluric observation electrodes, Pb-$PbCl_2$ type 1−40215
terrestrial heat flow calculation, topographic correction method 1−9129
terrestrial photogrammetry, appl. to deep-mine rock struct. studies 1−22522
tilt meter array, performance of shallow borehole array 1−13597
time and frequency standards in USSR 1−44889
time series analysis, orthogonal polynomials for long period component 1−22201
UT1 determination using VLBI technique 1−44086
vertical electric sounding methods 1−4660
vertical fault problem in geoelectrics interpretation using Hankel integral 1−54268
vibratory seismic exploration, freq. method, noise resistance 1−44341
VLF anomalies from a perfectly conducting half plane below an overburden 1−4417
volcanic eruptions prediction, vars. of ground Rn concs. with activity of Kilauea Volcano, Hawaii 1−17591
wavetilt for EM waves, for elec. props. of ground 1−13596
well electrometry, three-electrode lateral method soln. for anisotropic inhomogeneous medium *(Russian)* 1−27059
well logging, new shear-wave method 1−40208
well logging, X-ray radiometric method for ore anal., choice of targets *(Russian)* 1−27294
well logging by nucl.-geophys. methods, averaging of depth interval data *(Russian)* 1−27289
well logging by X-ray radiometric method, probe theory *(Russian)* 1−27288
well logging by X-ray radiometric method, scattering of single quanta *(Russian)* 1−27287
well logging electrical probe, for pseudo-lateral logging (5 electrode device) *(Russian)* 1−27285
well logging EM wave propagation tool, theory 1−40219
well logging in clastic rocks, mathematical models for computer processing of data *(Rumanian)* 1−44306
well logging profiles, computerised relative depth correlation method *(Hungarian)* 1−32545
well logging scintillation detectors, emission peaks and shape of secondary spectra *(Russian)* 1−27286
well logging sensor, digital azimuth convertor with continuous monitoring *(Russian)* 1−27284
wind speed fluctuation measurements, pulse height analysis 1−22534
Woodlawn orebody, New South Wales, Australia, case study of response to geophysical techniques 1−44729
X-ray diffraction high press. studies with synchrotron radiation source 1−32547
X-ray fluorescence analysis, of rock and sediment standard material 1−49409
Au in conglomerate sample, identification of native Au by radioisotope method 1−44344
$CuFeS_2$ (copper pyrite) ores prospecting, determ. of optimum parameters for inversion collimated gamma-gamma probes *(Russian)* 1−27277
La and Y determ., correction of results using rel. between analytical signal and two arcing half-periods 1−54272
^{210}Pb geochronology in marine and lacustrine sediments 1−35973
Rb/Sr dating of glauconite from Cretaceous rocks of N.Jersey, USA 1−54022
Th-HF-Ta diagram for identical of igneous rock crustal contamination 1−13417
Th-Hf-Ta diagram for tectonomagmatic classification of rocks 1−13418
U borehole logging by gamma-ray spectrometry 1−9124
U prospecting method, Rn adsorption onto activated charcoal (ROAC) 1−9292
U-Pb isotopic age of metamorphosed tonalite in E.Alps 1−13421

geophysics
see also Earth; erosion; geochronology; geodesy; geology; geomagnetism; geophysical aspects of cosmic rays; geophysical techniques; hydrology; meteorology; oceanography; radiation belts; rocks; seismology; solar-terrestrial relationships; space research; terrestrial atmosphere; time and latitude; upper atmosphere
conference, Cambridge, England, (April 1981) 1−54084
conference, Potsdam, Germany (Nov. 1979) *(German)* 1−36449
geophysics in America, symposium, Ottawa, Canada (1976 September 27 to October 1) 1−44700
high pressure effects in rocks and minerals, rel. to physics of Earth deep interior 1−13452
high pressure geophysics 1−32416
history of Earth and planetary dynamics, cross-disciplinary methods of study 1−27049
India and surrounding oceans, microwave brightness temp. pattern, satellite radiometer obs. 1−27166
wave motions in rapdily rotating spherical shells, non-magnetic case 1−54030
Woodlawn orebody, New South Wales, Australia, geophysical case study 1−44729

geophysics computing
see also computerised instrumentation
acoustic logging data recording, reproduction and entry in computer, digital device *(Russian)* 1−27280
air-sea interaction, Satellite Data Acquisition System (SATDAS) using satellite telemetry 1−54249
ARANO, computer program for assessment of radiological consequences of atmospheric radioactive releases 1−39856
atmosphere, O_3 concentrations in SE.Virginia, predictions from photochemical model compared with measured O_3 1−26862
climatology, quality control and archiving of world surface data 1−49396
conductivity, calc. for transient electromagnetic (coincident loop) method with HP-67 calculator 1−17556
data base, system considerations 1−22497
Earthnet Heat Capacity Mapping Mission data processing system 1−32532
exploration seismology, inverse imaging methods 1−9294

geophysics computing continued
geomag. and gravity anomaly data interpretation, interaction computer graphics method 1−32543
interactive digital anal. system, geometric correction and registration procedure, LANDSAT MSS data appl. *(Italian)* 1−4665
knowledge based recognition system of weather chart 1−54230
Meteorological Office archive of machinable data 1−54251
Meteosat image preprocessing and image navigation system 1−36061
microprocessor system of operational data processing for geophysical experiments *(Russian)* 1−49401
mineral assemblages, MANTLE program to calculate 30 kbar norm assemblage in FORTRAN IV 1−49413
multichannel seismic profiling system development 1−36077
numerical weather prediction and data processing *(Japanese)* 1−27237
oil exploration in Tabasco region of Mexico, seismic data anal. in FORTRAN 1−49414
petrological and geochemical diagrams generator, interactive, Telecino 1−49412
photochemical air pollution form. in UK, computer modelling of impact of vehicle exhaust emission controls 1−53731
photogrammetry, height interpolation by finite elements, computer method *(German)* 1−4411
plotting program, PRP, in FORTRAN IV 1−49411
prospecting, using Sirotem microprocessor based instrument 1−13595
radio data collection system applied to landslide areas 1−36078
ray tracing, two-point, in heterogeneous media, and travel time data inversion 1−9295
recognition algorithms for strongest earthquake location studies in Pacific 1−13402
remote sensing data exploratory classification *(Italian)* 1−4624
remote sensing data handling and processing by microprocessor and computer methods *(French)* 1−49395
remote sensing satellites, data management 1−4623
rock fracture orientation mapping in deep mines photogrammetric data processing 1−22522
satellite geodesy, least squares estimate, recurrent algorithm error anal. *(Chinese)* 1−40035
sediments, computerized characterisation of microfabric and texture 1−49422
seismic prospecting, seismic modelling for complicated subsurface structs. *(Chinese)* 1−54255
seismic shooting data processing by special purpose processing 1−9099
seismic velocity distribution, two dimens., rays and travel times 1−4457
seismic wave dispersion computational algorithms, relative computer speeds 1−32367
seismograph system for detection of microearthquakes *(German)* 1−40217
seismology, algorithm for accelerated transform. of freq. seismograms into impulse seismograms 1−13621
signal processing, noise elimination by multi-channel-array processing 1−36638
software image processing system CIPS *(Italian)* 1−4667
soil fabric, electron micrograph analysis using digital computer techniques 1−49423
stereoscopic phase diagram plotting 1−49408
synthetic seismograms computation using 'reflectivity method', particle scheme *(Chinese)* 1−54253
underwater camera system, image components determ. from computer model 1−22545
unified automation system for experiments on expeditions, portable data processor based Elektronika-60 microcomputer *(Russian)* 1−49400
weather reports, semantic interpretation based on language-picture correspondence 1−4601
well logging profiles, computerised relative depth correlation method *(Hungarian)* 1−32545
well logs obtained in elastic rocks, mathematical models for computer processing *(Rumanian)* 1−44306

geopotential *see geodesy*

geothermal power
adapting geothermal energy to produce ethanol for automotive fuel 1−48794
alternative energy sources, possibilities of utilisation *(German)* 1−43732
analysis of binary thermodynamic cycles for a moderately low-temperture geothermal resource 1−53554
aquifer storage of chilled water for air conditioning, economics 1−53693
convection, cellular, finite-amplitude, in fluid-saturated porous layer 1−6888
Czechoslovakia, energy resources and their utilisation *(Czech)* 1−32001
Earth heat exchangers, use of the Earth as natural heat source for heat pumps 1−21841
economics of optimal geothermal-resource extraction for electric power 1−43740
electric power generation using low temperature geothermal resources and wood residues 1−48798
energy analysis of four geothermal technologies: liquid dominated, hot dry rock, geopressure and vapour dominated 1−48791
Federal Geothermal Energy Program, United States 1−48792
financing considerations and problems 1−48800
Hawaii geothermal project 'A' Wellhead Generator Feasibility Project 1−48799
heat pump components, technical exam. 1−8742
heat pumps in low temperature applications 1−48795
hot dry rock, heat extraction, theory including deformation porosity, density changes 1−19549
hot dry rock geothermal energy development program 1−43741
hot water, economic use *(German)* 1−13079
Klamath Falls district heating network, United States 1−48793
natural convection promotion in geothermal wells 1−8666
potential of Azores and mainland Portugal *(Portuguese)* 1−39734
power production from geothermal brine with the rotary separator turbine 1−53553
preheatic unconfined aquifer heat storage for space heating using heliogeothermy method 1−53692
R&D in United States 1−26814
resources location, economics and applications 1−26816
seasonal thermal energy storage of chilled water in aquifers 1−53690
second law analysis of economics 1−17150
sources, problems and applications 1−26815
space hating, utilising geothermal heat sources for heat pumps *(German)* 1−35684

geothermal power continued
thermal energy storage in aquifers and interpretation and simulation using numerical modelling 1−53689
water pollution from geothermal sources at Waikato catchment, New Zealand 1−13191
World energy conference report, critical summary *(Spanish)* 1−31970

geothermal power stations
5-MW(e) pilot plant, design and technical details 1−48796
10 MW, prototype, design and operational details 1−48797
1000 kW pilot plant operating on binary cycle system, in Japan 1−4155
Azores, first in Portugal *(Portuguese)* 1−39734
binary cycle system, condensation film coefficients for mixtures of isobutane and isopentane 1−53550
coatings in geothermal energy production 1−13078
corrosion and materials selection for energy recovery facilities 1−53551
direct contact heat exchanger, heat transfer characts. and appls. 1−53643
economics of optimal geothermal-resource extraction for electric power 1−43740
geopressurised geothermal fluid utilisation in energy conversion plant, performance prediction 1−53555
Hawaii geothermal project 'A' Wellhead Generator Feasibility Project 1−48799
Imperial Valley, California, air quality impact assessment 1−39853
mass transfer processes in geothermal power cycles with direct contact heat exchange, computer simulation 1−53552
R&D in United States 1−26814

germanate glasses
alkali metal oxide-GeO_2, alkali ion mobility 1−16085
high GeO_2 content, material dispersion and Rayleigh scatt., low-loss optical fibre waveguide appl. 1−33782
microhardness, cation field strength depend. 1−43508
optical homogenous linewidths of Nd^{3+}, comp. depend. 1−43141
optical properties and glass-forming regions of glasses containing Bi_2O_3 or PbO 1−42320
AgI-Ag_2O-GeO_2, superionic cond. glass, IR spectra 1−39084
Bi^{3+} ions in germanate glass, $^3P_1$ and $^3P_0$ excited states, time-resolved laser-induced fluoresc, band narrowing study 1−3483
Er^{3+}: glass (phosphate, germanate, tellurite), radiative and nonradiative transition probabilities 1−26236
GeO_2 doped optical fibres and preforms, UV excited fluoresc., refr. index profiling appl. 1−46556
GeO_2:OH reduced glasses, OH effect on UV optical absorpt. 1−31173
GeO_2-B_2O_3-SiO_2 graded-index fibre-optic preforms, UV absorpt. spectra 1−41840
GeO_2-P_2O_5-SiO_2 core multimode fibres, coated and bare, spectral depend. of UV induced loss 1−29400
GeO_2-P_2O_5-SiO_2 graded-index fibre-optic preforms, UV absorpt. spectra 1−41840
K_2O_3-BaO-GeO_2:Ho^{3+}, glass, 750 nm laser emission anal. 1−16584
Na_2O-GeO_2, alkali ion diffusion correlation effects 1−20446
Na_2O-GeO_2 glass melts, thermodynamic functions, 1330 to 1540K 1−42552
Na_2O-GeO_2 glasses, crystn. characts. 1−42322
$XNa_2O.(100-X)GeO_2$ glasses, elec. cond. meas. by thermally stimulated polarization current 1−30742
Nd^{3+} complexes in glass systems, ESR and opt. obs. 1−52842
PbO-GeO_2, optical absorpt. in near UV region *(Japanese)* 1−21234
SiO_2:GeO_2-P_2O_5 high-bandwidth graded-index fibres, profile dispersion characts. 1−11090
SiO_2-GeO_2-F-P_2O_5 fibres, material for core and cladding, long wavelength performance 1−33807
SiO_2-GeO_2-P_2O_5 core graded index multimode fibres, attenuation performance 1−33806

germanium
see also nuclei with .....
10.6 μm piezo-optical polarisation modulator 1−46546
(111) surface, elastic-wave static displacement 1−33843
(111) surface struct. after pulsed laser annealing 1−7433
(111) surface reconstruction origins and mechanisms 1−16329
absorption edge in direct transition region after fast neutron bombardment 1−30283
acoustic-optical phonon interactions in solids 1−15992
amorphous, filamentation of current, sample geometry influence 1−3027
amorphous, negative differential resistance, geometry effects 1−47668
amorphous, neutron diffr. study 1−30069
amorphous, pure and hydrogenated, for IR absorption 1−12502
amorphous films, 575 kV high-resolution electron microscope obs. 1−15800
amorphous thin films, sputtered and evaporated, DC cond. 1−12108
amorphous/metal system, short range order modelling and bonding 1−25169
amplified phase-conjugate reflection through degenerate four-wave mixing at 10.6 μm 1−41767
artificial epitaxy (diataxy) on amorphous quartz substrates 1−7482
atom, gas phase high temp. photoelectron spectroscopy, relativistic config. interaction calc. 1−33436
atomic X-ray emission excited by mol. ions 1−1355
avalanche photodiode, n^+np, low-noise, performance in 0.8 to 1.5 μm region 1−45006
axial dechannelling, diffusion calc. 1−52199
ballistic phonon imaging, heat-pulse method 1−34439
band gap, average, microscopic theory 1−7516
bicrystal, partial secondary dislocations in grain boundaries, periodic network case 1−42396
bicrystal, partial secondary dislocations in grain boundaries, reactions between external dislocations and boundary 1−42397
bound exciton level fine struct. in multiexciton complexes *(Russian)* 1−2878
carrier mobility, effect of surface recombination rate in presence of mag. field 1−42800
carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
channelled electrons energy levels and channelling radiation in planar case 1−47128
chemisorption of Cl on (111) surface, adsorbed site determ. *(Chinese)* 1−47363
clean surface, electrical conductivity, Hall mobility 1−52640
coatings, mech. props. meas. 1−12784
compensated, elec. transient processes 1−38786
core-exciton shifts, XPS spectra 1−16235

germanium continued
crystal growth of bulk crystals, purification, doping and defects, review, book contrib. 1−48253
crystal substrate H_2O and D_2O adsorption, slow surface states, charge exchange, isotope effect 1−42845
Czochralski crystal growth, heterogeneous impurity incorporation, lateral microscopic growth model 1−38312
dangling bonds during laser irrad. 1−12060
Debye-Waller factor calcs., 1-1000K 1−16004
deformed, electron-hole liquid formation and props. 1−20639
detector array, ultrapure Ge, for quantitating 3D distrib. of a radionuclide 1−13317
diamond-machined IR window, optical and surface physical characteristics 1−29359
dielectric function expansion into elementary parts, intrinsic absorpt. spectra 1−16578
diffusion of Cu stimulated by H atom recombination at low temp. 1−38603
diode low-temp. transducer and liquid cryogen level indicator 1−9980
direct gap semicond., direct gap, temp. depend., pseudopot. calc. 1−47470
dislocation path distrib., evolution in crysts. *(Russian)* 1−34350
dislocation states, shallow, thermal treatment effects after deformation 1−52522
dislocations in semiconductors, elec. props. 1−2445
divacancy prod. and annealing, electron beam irrad., orientation depend. determ. 1−47081
doped, far-IR and photocond. obs. of impurity bands 1−48126
doped, NMR in impurity bands, metal-nonmetal transition region 1−47959
elastic uniaxially strained, band gap collapse 1−42684
electron and phonon spectra, press. depend. 1−34607
electron mean free path, energy depend., ESCA obs. 1−20293
electron mobilities from linearised Poisson eqn. for impurity-ion pot. 1−2964
electron scattering cross sections, high energy, 1.2-3 MeV 1−30007
electron transport in germanium at high pressures 1−30766
electron-hole drop, far IR magneto-oscills. 1−48041
electron-hole drop drag by deform. pulse due to laser irrad. *(Russian)* 1−2973
electron-hole drop recomb. time, theory 1−12124
electron-hole droplet and ballistic phonon imaging 1−16237
electron-hole droplet cloud, effect of phonon flux singularities 1−47491
electron-hole droplet interaction with dislocations, luminesc. obs. 1−12579
electron-hole droplets dragged by laser-induced deform. pulse 1−47492
electron-hole drops, free excitons, free carriers, magnetoplasma resonance study 1−20638
electron-hole drops, static friction mechanism 1−42698
electron-hole liquid under ⟨111⟩ stress, phase separation, time resolved luminesc. spectra 1−34632
electron-hole system outside droplet formation region, thermodynamical props. 1−26264
electronic charge densities, pseudopot. method 1−47465
electronic structure in solid and liq. state by γ-ray Compton scatt. 1−31223
electroreflectance spectra, influence of quantisation in sub-surface region *(Russian)* 1−3369
energy parameter estimates of defect complexes 1−42720
equations of state, pseudopotential calcs. *(Chinese)* 1−2587
excited hole state of donor bound excitons and parity selection rule 1−3457
excitonic binding, free carrier screening, spectroscopic search 1−3416
extinction contour in electron microscopic images 1−11643
faulted dipoles, constricted segments 1−2452
field-emission props., O adsorption influence 1−3582
film localised laser damage site identification by photoacoustic spectroscopy 1−37525
forbidden reflections, synchrotron radiation meas. 1−11641
GaAs: Si(Ge)(Sn)(Se)(Te), liq. encapsulation Czochralski growth rel. to other techniques, elec. props. 1−3608
GaAs:Si+Sn(Ge)(Se), amphoteric dopants site distrib. and solubility 1−2491
Hall effect studies in liquid N_2 cryostat, novel electromagnet design 1−14126
heat conductivity in low temp. range, internal boundary scattering 1−2716
heavily doped, hopping conduction, radiative tunnel transition contrib. 1−20723
heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
heavily doped, negative magnetoresist. 1−47681
heavily doped and compensated, elec. cond., degree and method of doping effects 1−30749
heavily doped compensated, metal-insulator transition 1−34628
high-intensity picosecond photoexcitation techniques 1−15234
hot electron phenomena, microscopic models 1−47662
hot-hole transport theory and expt. 1−16296
impurities and excitons, far IR spectroscopy *(Japanese)* 1−3447
impurity optical absorpt. and photoionisation spectra *(Russian)* 1−43150
interband Faraday rot. at L-point 1−26173
ion bombard., secondary ion and electron emissions, relax. effect 1−53034
IR absorpt. spectroscopy developments 1−48067
laser, photodissociation of GeI_4, stimulated emission obs. on 326.9 nm line 1−15164
laser induced damage, optical heating 1−15925
lattice thermal cond., boundary scatt. 1−47309
lens performance improvement for use in thermal IR 8-13 μm waveband 1−6632
light hole band nonparabolicity, extrinsic photocond. meas. 1−47701
liquid, double hard sphere model 1−30040
melt growth, Mg-O reactions for reduced O conc. 1−31336
metal-insulator transition in electron-hole system, calc. 1−16233
n-type, galvanomagnetic recombination effect, temp.-depend. 1−42799
n-type, lightly doped, chemical shift and donor-electron radius 1−34656
noncrystalline, liquid-liquid phase transitions, metal-insulator transition 1−7316
nonintrinsic, magnetoconcentration and other galvanomag. effects 1−20770
nonlinear optical absorption and ultrafast carrier relaxation physics 1−15211
p-n junction, avalanche and field emission breakdown, SHG 1−3049
germanium continued
p-n junction, lifetime of minority charge carriers and X-ray effects, struct. defects form. 1−16357
p-n junction, secondary breakdown, current channelling, effect of external reactances on channelling stability 1−20867
p-type, absorption saturation around 10.6 μm, temporal and spectral characts., theory 1−46460
p-type, hot electron phenomena, population inversion, calc. for deform. optical phonon scatt. 1−30755
p-type, nondegenerate magnetoplasma, ATR spectrum due to surface polaritons, temp. depend., 8 mm region 1−16552
Pendellosung fringes, for X-ray spherical-wave diffr. in perfect cryst. 1−15751
phase-conjugate forward-travelling wave generation at 1.06 μm 1−6608
phonon wind, ballistic phonons in heat pulse, interaction with e-h liquid 1−16239
photoacoustic spectra in strong absorption region 1−47174
photocathode, field-emission and spectral characts., adsorption phenomena effect 1−12621
photodielectric effect obs., acceptor excited states *(Russian)* 1−20804
photodiodes noise *(German)* 1−19448
photoelectron diffr. effects., XPS angular distribs. 1−53050
photomagnetoelectric effect, least-squares fitting, semiconductor parameters determ. 1−52604
piezoreflectance study of E_1 and E_2 transitions, deform. potentials 1−3365
poly-epi simultaneous deposition, on oxide-Si, reproducible technique 1−8236
profiled single-crystals exposed to pulsed CO_2 laser, surface damage 1−31242
proton irradiated, damaged surface obs. using backscatt. *(Japanese)* 1−20528
radiation defect annealing, photoluminescence study 1−20262
radiation detector operating stability improvement 1−1014
refractive index and its wavelength and temp. derivatives 1−9778
Renninger peak intensities in forbidden (222) reflection *(Russian)* 1−2287
self-consistent electronic struct. LMTO-ASA calcs. 1−20621
shallow acceptor spectra, even parity excited states, central cell effects, calc. 1−47533
shallow acceptors, photoionisation cross section calc. 1−35078
shallow donors, valley-orbit splitting of 1s states, mag. field depend. 1−47581
solid phase epitaxial growth, review, book contrib. 1−47415
solubility and diffusion coeff. in Pb, appl. to LPE growth of Ge on GaAs 1−11864
substrate, ZnS epitaxial layer cryst. struct. 1−42649
substrate for GaAs/AlGaAs MBE heteroface solar cell, high efficiency 1−48834
superconductivity at high press. 1−30635
surface, (111), struct., c-2×8 unit cell 1−47340
surface (001), 2×1 reconstruction, LEED spectra, dimer models 1−38631
surface (100), atomic steps, RHEED study 1−11964
surface interaction with S vapour, mol. processes, etching, sulphide film form. 1−38669
surface recombination in 10^{-8} torr vacuum, chemisorbed H_2O effects 1−30805
surface self-diffusion and struct. determ. by LEED refl. intensity profiles 1−25542
thin films, laser annealed, Raman scatt. for diagnostics 1−21285
two-component electron-hole liq. in ⟨110⟩ stressed crysts., calc. 1−47514
two-photon absorption, band effects 1−1624
ultra-pure, physics, review 1−52518
ultrapure, shallow O-H donor complex, photocond., stress effects, H tunnelling 1−2912
US absorption, γ-irrad. effect 1−25382
US absorption, amplitude and orientation depend. 1−25381
warm carrier cond. freq. depend. 1−2997
X-ray scattering, six-wave config., reflection, fine struct. *(Russian)* 1−7129
X-ray thermal diffuse scatt., rapid meas. using linear position sensitive proportional counter, high power X-rays *(Japanese)* 1−38202
$Al_xGa_{1-x}As$:Ge, LPE grown, photoluminesc. 1−43156
C-Ge:B, double layer struct., implanted ion distrib. backscattering meas. 1−7201
Cu-Ti alloy, influence of alloying with Ge on precipitation 1−43347
$Fe_{80}B_xGe_{20-x}$, Mossbauer study, distribution of hyperfine fields 1−31073
$Ga_{1-x}Al_xAs$:Ge, Te p-n struct., variable-gap selective photocells 1−42855
GaAs, MBE grown, Ge doping, thermodynamic aspects 1−2481
GaAs:Ga, Ge, dual implantation, Hall mobility and elec. resist. 1−38394
GaAs:Ge, As, dual implantation, amphoteric activity, Hall effect and elec. resist. 1−38395
GaAs:Ge, ion implanted, elec. props. and photoluminesc. 1−47646
GaAs:Si+Ge(Sn), IR absorpt., plasma resonance and Hall effect meas., impurity effect on props. 1−3381
GaAs-Ge (110) interfaces, heterojunctions and overlayer systems, electronic struct., scatt. theoretic method 1−7697
GaP:Ge, donor state, role of high band minima in impurity theory 1−47534
Ge autoepitaxial layers, deformation elimination by B and Ga doping 1−30256
n-Ge, cascade capture of nonequilibrium carriers 1−2988
p-Ge, components of the even photoelectromagnetic effect 1−42820
Ge, electron-hole plasma resistivity, Fermi surface anisotropy influence 1−20739
Ge I, high resolution VUV Rydberg state spectroscopy 1−28912
Ge VI, transitions between low-lying configurations 1−19059
Ge:(B,Ga), lattice deformation 1−30256
Ge:Ag(Li), impurity effects in crystn., elec. and struct. props. 1−34365
Ge:As, electrical resist. and carrier conc., polycrystallinity effect 1−7610
n-Ge:As, heavily doped, compensated, elec. cond. 1−20743
Ge:As(Bi)(P), even parity excited donor states from bound exciton two-electron transitions 1−48143
n-Ge:As(P), neutron irrad., ESR study 1−26015
Ge:As(Sb), far IR donor absorpt. and photocond., saturation 1−52970
Ge:Au, fast electron irrad., defect formation, annealing 1−20265
Ge:B, exciton condensation kinetics at high excitation levels *(Russian)* 1−30648
Ge:B, ion implanted, disturbed surface layer struct., X-ray diffr. study 1−20247
Ge:B, mag. field depend. of far IR photothermal cond. spectra 1−3008

germanium continued
Ge:B(P), ion implanted, lattice location of impurity ions after laser annealing 1−11778
n-Ge:Cu, elec. cond. and anomalous magnetoresist. near semicond.-metal transition 1−25744
Ge:Cu, internal friction in dislocation cores 1−25371
Ge:Cu(Sb), impurity energy level press. depend., elec. props. 1−20661
Ge:D^-, isolated D^- states and D^- complexes long-wavelength photocond. study 1−47535
Ge:Fe, in-beam implantation, Mossbauer effect study 1−16507
Ge:Fe, in-beam implantation, in external mag. field, Mossbauer spectra study 1−16508
Ge:Ga, lightly doped, US hole-burning of acceptors 1−15964
p-Ge:Ga, resonant recombination of photo-excited light holes *(Russian)* 1−34750
Ge:GaAs(110) heterostructure formation, LEED, AES and work function obs. 1−16345
Ge:H(D)(F), amorphous, acoustic local mode, IR and Raman spectra meas. 1−12497
Ge:Hg, neutral impurity scatt., hole mobility 1−2963
Ge:In, quenched shallow acceptor ionisation energy 1−2910
Ge:$In^+(Sb^+)$, radiogenic Sn impurity defects 1−38365
Ge:Li, thermal conductivity down to 0.06K, internal strain effect 1−16120
Ge:P, electronic thermoelec., power, 1-5K 1−38801
Ge:P, light ion beam enhanced P-diffusion 1−11915
Ge:P(As)(Sb), electron phonon interaction in intermediate conc. region 1−2579
Ge:Sb, ballistic heat-pulse attenuation, mag. field depend. 1−16443
Ge:Sb, compressed, acoustic wave attenuation, mag. field effect 1−34751
Ge:Sb, heavily doped, resist. and Hall maxima in metallic range, degenerate electron gas model 1−47683
Ge:Sb, impurity cond., elec., thermal, and mag. props. 1−47641
Ge:Sb, very shallow photoconduction, trapping centres 1−12149
Ge:Sb single crystal growth by Stepanov method, impurity distrib., resist. meas. 1−2359
n-Ge:Sb(As), thermal phonon scatt., mag. field and uniaxial stress effects 1−15985
Ge:Sn, Mossbauer spectra of Sn impurity atoms 1−52875
Ge/GaAs/CuBr heterojunction interface energy band discontinuity transitivity test 1−16346
Ge-Au IR receiver, liquid N_2 cooled *(German)* 1−5313
Ge-electrolyte surface barrier height, ferrocene group addition effects 1−34790
Ge-GaAs (110) heterojunction, overlayer systems for ARUPS interface study 1−42852
Ge-GaAs heterojunction avalanche transit diodes, recombination props., elec. characts. 1−38847
Ge-GaAs interface, Al interlayer-controlled diffusion, XPS study 1−38600
Ge-GaAs polar (100) interface, electronic and struct. props., total energy, calc. 1−52647
Ge-GaAs(110) segregated overlayer system, electronic struct., tight binding calc. 1−52628
Ge-Mo wire structure, LPE 1−53113
Ge-ZnS dichroic dielectric IR mirror 1−41808
Ge+Ni, K-vacancy prod. probabilities from nearly symmetric collision, rot. coupling model calcs. 1−1321
Ge(Li) planar diode X-ray spectrometer and cryostat construction 1−995
GeTe, homogeneity region 1−20411
InP:Ge, elec. characts. 1−12113
p-InSb:Ge, US attenuation at low temps. 1−15962
$LiNbO_3$-Ge, piezoelectric-semicond. layer system, SAW generation 1−25547
Nb/Ge layered composites, quasi-two-dimens. supercond. props. 1−3118
Pd-Ge-n-GaAs as-deposited contacts study 1−7735
Si-Ge p-n heterojunctions, current-voltage characts. 1−52651
Si-Ge:Bi, double layer struct., implanted ion distrib. backscattering meas. 1−7201
SiO-Ge-Al solar selective absorber produced by optical multilayer coatings *(Japanese)* 1−21899
SiO_2:Ge, silica-core optical fibre waveguides, effect of Ge, B, P and OH on radiation response 1−6657
Si(111)-Ge heterojunction interface, band discontinuity investigation 1−7689
n-SnO_2-n-Ge, heterojunction diodes, minority-carrier injection 1−42850

germanium alloys
see also Ge-Si alloys
Ag-Ge eutectic, liq.-solid nucleation behaviour 1−26442
Ag-Ge eutectic alloys, nucleation behaviour 1−2370
Ag-Ge eutectic liq. alloy, self-diffusion coeffs. meas. *(French)* 1−52324
Ag-Ge system, metastable phase, enthalpy of form. determ. *(German)* 1−31896
Al-Ge dilute alloy, magnetoresistance meas. after neutron irrad. 1−47614
Al-Ge eutectic, liq.-solid nucleation behaviour 1−26442
Al-Ge eutectic alloys, supercond. transition temp. enhancement, cond. electron tunnelling into negative-U centres 1−20905
Al-Ge granular superconductors, upper crit. field 1−20932
Au-Ge, amorphous evaporated films, stability, optical props., electronic struct. 1−31213
Au-Ge, liquid alloy, supercooling and thermodynamic props. *(German)* 1−8282
Au-Ge dilute alloy, dopant-vacancy interactions *(French)* 1−2500
Au-Ge metallic glass, formation and decomp., thermodynamic investigations 1−43319
Au-Ge system, energetics of formation of metastable phases *(German)* 1−8280
Au-Ge/Pt ohmic contacts to Ga As by pulsed electron beams and furnace heating 1−7731
Ba-Ge, thermionic emission props. rel. to phase state 1−31298
Ca-Ge, thermionic emission props. rel. to phase state 1−31298
Ce-Ge-B system, phase comp. at 600°C 1−31421
Co-Ge, dil., ^{59}Co NMR, influence of short range order and screening *(Russian)* 1−31060
$Co_{2-x}Ge(Ge_{1-y}Ga_y)$, β and η phase, struct. study *(French)* 1−30137
Cr-Ge alloys, dil., antiferromagnetism and elec. resist. 1−25697
α-Cu-Ge, thermodynamic factor and rel. chem. potential of impurity component 1−20421
Cu-Ge (12.46%), Fourier X-ray line shape analysis of lattice defects from a single reflection 1−42372

germanium alloys continued
Cu-Ge (5 at.%), neutron diffr. topographic obs. of layer substruct. 1−52127
Cu-Ge alloys, solid solution hardening, conc. depend. of stress equivalence 1−16796
Dy_5Ge_3, elec. and mag. props. 1−20704
Er_5Ge_3, elec. and mag. props. 1−20704
Fe-Ge (5 wt.%), BCC, surface topography changes during cyclic deform. early stage 1−21527
$Fe_{100-x-y}B_xGe_y$ glasses, microhardness, embrittlement and crystn. temps., comp. depend. 1−35354
FeGe, helical mag. struct., phase transition, theory 1−16429
$Fe_{2-x}Ge(Ge_{1-y}Ga_y)$, β and η phase, struct. study *(French)* 1−30137
$Fe_{100-x-y}P_xGe_y$ glasses, microhardness, embrittlement and crystn. temps., comp. depend. 1−35354
Ga-Ge-Sn liquid alloys, liquidus surface phase diagrams and enthalpy of formation 1−21761
Gd-Ge, phase diagram 1−31425
Gd_5Ge_3, elec. and mag. props. 1−20704
Ge-Pb system, diffusion coeffs., appl. in Ge cryst. growth on GaAs 1−11864
Ge-Sb, liq., elec. resist. and thermoelec. power 1−30706
$Ge_{1-x}Au_x$, amorphous, metal-insulator transition, electron tunnelling meas. 1−42692
$Ge_{1-x}Au_x$, disordered, metal-insulator transition 1−34754
Ho-Ge system, phase diagram from thermal and X-ray anal. *(Ukrainian)* 1−16757
Ho_5Ge_3, elec. and mag. props. 1−20704
$K_{1.25}Pt_4Ge_4$, prep. and cryst. struct. *(German)* 1−34288
La-Ge, amorphous, negative temp. coeff. of elec. resist. 1−7579
$LaNi_{4.6}Ge_{0.4}H_x$, H_2 dissoc. press., effect of Ge 1−31855
$Li_{22}Ge_5$ solutions in liq. Li, elec. resist., solubility, and chemistry 1−30708
Mg_2Ge, low-temp. lattice thermal cond., phonon scatt. from crystal boundaries 1−2717
Mn-Ge, crystal and mag. struct., X-ray and neutron diffraction anal. 1−3144
Mn-Ge antiferromag. alloys, invar characts. *(Japanese)* 1−42556
MnGe amorphous film, conc. spin glass behaviour 1−12321
Mn_3Ge_2 amorphous film, conc. spin glass behaviour 1−12321
Mo-Ge, crystallisation under high press. and temp. 1−34463
$NaPd_3Ge_2$, prep. and cryst. struct. *(German)* 1−34288
Nb-Ge-Cu, metallographic struct. and supercond. transition temp. *(German)* 1−34821
Nb-Ge(-Si), high T_c phases 1−52679
$Nb_3(AlGe)$, superconductor alloyed with Cu, flux-pinning centres 1−25847
$Nb_3(AlGe)$ tapes, critical current density meas. 1−3125
Nb_3Ge, A15 struct., press. effects on phase limits 1−34475
Nb_3Ge, A15 supercond. film prep. by reactive evaporation 1−12663
Nb_3Ge, film, CESR and spin wave studies in normal and supercond. states 1−16482
Nb_3Ge film, CVD, highest possible T_c and surface flux entrant field obs. *(Korean)* 1−12246
Nb_3Ge film, superconducting transition, homogeneity investig. 1−52681
Nb_3Ge film deposited on Nb_3Ir and Al_2O_3, supercond. transition temp. and phase rel. 1−52680
Nb_3Ge films, spin wave study in normal and supercond. states, CESR meas. 1−47947
Nb_3Ge, flux pinning, strain scaling law 1−52726
Nb_3Ge, high rate magnetron sputtering, supercond. onset temp. meas. 1−16396
Nb_3Ge, Labbe-Barisic-Friedel theory confirmation, transition temp., elec. cond. 1−38880
Nb_3Ge, nucl. relax., ^{93}Nb NQR study, rel. to supercond. transition temp. 1−26075
Nb_3Ge tape superconductors with high current density at high temp. and field 1−52678
$Nb_{3+x}Ge_{1-x}$ film, supercond., prep. and crit. temp. meas. 1−38883
$Nb_{75}Ge_{25}$, amorphous thin films, supercond., resistivity, T_c after S ion irrad., annealing effect 1−42883
Ni-Ge, interaction of solute atoms with vacancies and interstitials 1−34367
Ni-Ge system, solid phases obtained by extremely rapid cooling *(German)* 1−35247
$Ni_{13}Ga_3Ge_6$, crystal struct. 1−38334
Pb-Ge system, critical currents and pinning forces 1−52735
Pb-Ge system, metastable solid solution form. and decomp. 1−21418
Pd-Ge system, solid phases obtained by extremely rapid cooling *(German)* 1−35247
Pt-Ge system, solid phases obtained by extremely rapid cooling *(German)* 1−35247
$RbPt_4Ge_4$, prep. and cryst. struct. *(German)* 1−34288
Si_2Ge_{1-x} wavelength-selective IR detector 1−50203
Sm_2CaGe garnet film, domain wall velocity 1−12372
Tb_5Ge_3, elec. and mag. props. 1−20704
URh_3Ge_2, mag. props., neutron diffr. study 1−47857
V-Ge-Cu, metallographic struct. and supercond. transition temp. *(German)* 1−34821
V_3Ge, A15 struct., press. effects on phase limits 1−34475
V_3Ge, electrical cond., electron-phonon interactions *(Russian)* 1−12093
V_3Ge, fluctuation cond. near second critical field *(Russian)* 1−52707
V_3Ge solid solns., superconc. transition temp., effect of alloying additions, solubility study *(Russian)* 1−47777
$V_3(Ge_{0.75}Al_{0.25})$, phonon spectrum, localised vibrs. 1−25393
$V_3Ge_{1-x}Al_x$, electrical resistance meas., impurity Al effects *(Russian)* 1−12093
W-Ge, crystallisation under high press. and temp. 1−34463

germanium compounds
see also germanium alloys
germanate glass:Bu^{3+}, Eu^{3+}, interaction mech. in Bi^{3+}-Eu^{3+} energy transfer at low temps. 1−52982
As-Ge-S system, optical and elec. props. 1−3387
As-Ge-Se system, optical and elec. props. 1−3387
As-Ge-Te amorphous film, steady state photocond. meas. 1−52603
Be-Ge solid solns., unit cell dimensions, electron microprobe anal. 1−38347
$Er_4Ge_3O_9(OH,F)_6$, cryst. struct. determ. 1−25225
Ge:P, phonon cond. correction term 1−52240

germanium compounds continued
Ge-As-Se, glass-like semiconductors, holographic information recording, struct., chemical comp. *(Russian)* 1−37436
Ge-As-Se-Te glass, potential as IR optical material in 3-5 μm and 8-12 μm ranges 1−41798
Ge-As(Sb)-S(Se) two layer antireflection coatings for YIG near IR detector elements *(Russian)* 1−41800
Ge-I_2-H_2, reduction by H_2, 730 to 500°C, in flow system 1−31845
Ge-P-S chalcogenide glass fibres 1−16751
Ge-S glass fibre prep. with reduced OH, SH content 1−41854
Ge-S-Se(Te) and Ge-Se-Te systems, vitrification regions, IR spectra, microhardness, glass and crystn. temps. 1−42307
Ge-Sb-S amorphous film, optical props. and short range order parameters study *(Russian)* 1−53010
Ge-Sb-S glasses, Raman spectra in S-rich region 1−31141
Ge-Se, amorphous, photoluminescence, review 1−31202
Ge-Se, p-T-x phase diagram, associated solution model 1−16021
Ge-Se amorphous obliquely-deposited films, photo-induced effect, XPS 1−35144
Ge-Se chalcogenide glass films, optical const. meas. 1−35110
Ge-Te glasses, short-range order, Mossbauer and electron spectra study 1−42321
Ge-Te glassy film, current instability develop. in switching with delay 1−20833
Ge-Te glassy films, switching delay time influence 1−7679
$GeCl_4$, homogeneous gaseous state, oxidation 1−43657
$GeCl_4$, mol. cluster, X-ray absorpt. edge struct., first principles calcs. 1−1429
$GeCl_4$ reagent used in modified CVD fabrication of optical fibres, photochem. purification 1−11202
GeH_4, mol. cluster, X-ray absorpt. edge struct., first principles calcs. 1−1429
GeH_4, rotational struct. of vibr. state $\nu_1(a_1)$, Raman scatt. coherent spectroscopy 1−10739
$^{74}GeH_4$, CARS and IR spectroscopy, vibr. states 1−14891
Ge_2H_6, internal rot. barrier, SCF-MO calcs. 1−10864
GeO, Rydberg states, ionisation pot., UV obs. 1−10749
$GeO+F_2$, Ar matrix reaction, IR spectra of $OGeF_2$ *(German)* 1−31850
GeO_2, effect of addition to MnZn ferrite on microstruct. and mag. props. 1−30980
GeO_2, evidence of one-photon, two-electron excitation electronic vacancies 1−26304
GeO_2 films, in MIM struct., elec. props., electrolum., and electron emission 1−38874
GeO_2 films in MIM structs., elec. cond. and current-voltage characts. 1−7758
GeO_2, vitreous, Ge-rich, neutron bombarded, Raman spectra of defects 1−3385
GeO_2:OH reduced glasses, OH effect on UV optical absorpt. 1−31173
GeO_x film substrate, vacuum deposited amorphous Sb film, crystn. thickness 1−20582
GeS (001), site specific valence band densities, XPS and Auger spectra 1−16656
GeS, absorpt. edge meas., effects of imperfect light polarisation and sample alignment 1−26156
GeS film formation on Ge surface due to interaction with S vapour 1−38669
GeS, growth rates determ., by relaxation 1−11709
GeS, photoconductivity spectra, exciton effects 1−20820
GeS, vibronic levels, rot. anal. 1−14862
GeS:Li(As), photocond., ion implantation effects 1−30780
a-GeS_2, chalcogenide glass, luminescence polarisation time depend. 1−16605
GeSe (001), site specific valence band densities, XPS and Auger spectra 1−16656
GeSe amorphous films, chem. modification, elec. props. 1−34713
GeSe, amorphous thin films produced by sputtering, elec. props. *(German)* 1−2986
GeSe:Fe_x amorphous films, 1−26293
GeSe-GeI_4 system, diffusive and convective vapour transport 1−34266
$GeSe_2$, amorphous, optical consts. in intrinsic absorpt. edge region *(Russian)* 1−21163
$GeSe_2$, crystalline and glassy films, optical spectra and electronic struct. 1−48115
$GeSe_2$, layered crystals, refl. and transmission spectra, indirect excitons *(Russian)* 1−48105
Ge_xSe_{1-x}, amorphous, fatigue of photoluminesc. and photocreation of paramag. centres 1−21266
Ge_xSe_{1-x} glass films, Ag photodoping, electron diffr. study 1−15911
Ge_xSe_{1-x} glassy films, whisker growth induced by Ag photodoping, TEM obs. 1−47416
Ge_xSe_{1-x}:Mn^{2+} glasses, chalcogen-rich, EPR study 1−31020
a-Ge_ySe_{1-y} glass and film, IR and photoluminescence study 1−21275
$Ge_{1-x}Sn_xTe$, US wave velocity and elastic consts. 1−34396
GeTE-MnTe-PbTe, physicochemical props., in GeTe-based solid solution region 1−16022
GeTe based substitutional solid solns., comp. depend. of phase transition temp. and lattice parameters 1−42529
GeTe, single crystal, growth from gas phase 1−35155
GeTe, thermoelectric props. during zone melting, US vibr. effect 1−7645
GeTe thin layer, short-range order struct., electron diffr. study 1−20579
GeTe:Cu, rhombohedral and cubic, kinetic effects 1−38789
GeTe-(Bi, Sb)$_2$Te$_3$ boundary, reactive diffusion processes 1−11919
GeTe-Bi_2Te_3-Sb_2Te_3 system, elec. resist. and thermoelec. props. 1−47692
GeTe-MnTe system solid solns., physicochem. investig. and electrophys. props., stoichiometry deviation influence 1−47226
GeTe-SnTe system solid solns., stoichiometry deviation influence on phase transition and struct. state 1−42530
Ge_xTe_{1-x}, glass, switching effect, in strong electric field 1−3028
$(GrTe)_{0.94}Bi_{0.05}Cu_{0.01}$ solid soln., Cu impurity entrainment by nonuniform temp. field 1−30484
Hg-Ge-Se-Te system, glass form., struct. and elec. cond. 1−30079
K_2GeF_6, ionic salts with complex ions, lattice energy calc. program 1−34277
Na_2O-GeO_2 melts, physical props. *(Japanese)* 1−25353
$Pb_{1-x}Ge_xTe$, refr. index and opt. energy gap, anomalies of temp. coeffs. at ferroelec. transition 1−26163
$Pb_{1-x}Ge_xTe$, structural instability, Ge ion local displacement effects 1−39051
PbSe-$GeSe_2$ system, phase diagram, Pb_2GeSe_4 X-ray analysis and DTA 1−31438
germanium compounds continued
$(Se_{32}Te_{32}As_4Ge_{32})_{100-x}Ni_x$, chalcogenide amorphous semicond., electrical cond. and optical absorpt. 1−20730
Si-Te-As-Ge amorphous films, RF sputtering, props. rel. to deposition conditions 1−43262
SiO_2-GeO_2 core optical fibres, effect of γ-radiation 1−19439
SiO_2-GeO_2 particles, flame hydrolysis for optical fibre fabrication 1−24539
SiO_2-GeO_2 phase diagram up to 100 kbar 1−35245
$Si_{12}Te_{48}As_{30}Ge_{10}$ glassy film, current instability develop. in switching with delay 1−20833
SmLuYCaGeIG system, bubble collapse temp. coeff., ion implantation and annealing effect 1−38959
V_2O_5-GeO_2, glasses, elec. props. and struct. 1−30743
Y-Sm-Lu-Ca-Ge garnet film, ion implanted bubble circuit, drive layer thickness effect 1−7916
$Zn_{2-x}(Co,Ni)_xGeO_4$ inverse spinel, order-disorder transitions possibility 1−38531
$ZnGeP_2$, cond. type inversion under heat treatment 1−20748
$ZnGeP_2$ p-n homodiode, photoelec. props. 1−3056
getters
see also electron tube manufacture; vacuum techniques
gas panel backfill process, pump efficiency improvement 1−272
HTR, fission fragment gettering in primary circuit *(German)* 1−28552
hydrocarbon-free vacuum achievement by getter ion pump *(French)* 1−9991
intermetallic compounds as bulk getters 1−18238
refractory metal deposition, multielectrode evaporator, appl. to getter pumps 1−40800
O_2 getter coatings for fission reactor fuel pins 1−18770
Si heavy metal gettering, in Czochralski grown wafers 1−271
Ti getter, ultrahigh vacuum production 1−28000
Zr-Ni selective H getters for high-pressure gas discharge lamps 1−7024
GFRP *see glass fibre reinforced plastics*
giant pulsations (earth) *see micropulsations*
giant resonances *see nuclear collective states and giant resonances*
giant stars
see also supergiant stars
1.2 $M_\odot$ star, evolution along asymptotic giant branch rel. to form. of planetary nebulae 1−36270
R Aquarii, symbiotic star, changes in assoc. emission nebulosity 1−9537
R Aquilae, M-type giant star, IUE obs. of UV spectrum 1−36282
α Aurigae, binary, outer atm., rot. activity link, UV spectral obs. 1−36275
B-type giants in NGC 6649, evolutionary status 1−54566
α Bootis (Arcturus), Ca II K-line emission vars. 1−9480
α Bootis (Arcturus), comparison with results from spectroscopic anal. of β Geminorum (Pollux) 1−32700
BW 89, SC star in SMC, luminosity, VRHIJK and visible spectra obs. 1−44635
ξ Capricorni, Ba star, optical double star, spectral and photometry obs. 1−49657
in ω Centauri, mixing and primordial abundance vars. effect on stellar spectra and comp. 1−27572
circumstellar shells around evolved stars, search for H I emission 1−44537
circumstellar shells round late type stars, struct., dust grains role 1−36285
cool giants with low microturbulent vel. depend. on atmosphere parameters, visible obs. 1−40479
cool stars, broad band near IR polarimetry 1−9489
cool stars in open clusters and groups, chem. element abundance *(Russian)* 1−13770
CI Cygni, 1979 May-Dec. spectrophotometric obs. 1−54508
CH Cygni, symbiotic star, continuing spectrum vars. obs. 1−32706
CI Cygni, symbiotic star, expanding envelope, s-process absorpt. lines intensification 1−36297
CH Cygni, symbiotic star, Hα profile variation 1−49671
CI Cygni, symbiotic star, visible photometry and spectral obs. 1−27517
AG Draconis, symbiotic star, major brightening event, 1980 November 1−13787
evolution of 0.6 $M_\odot$ star from He ignition to beyond horizontal branch 1−44545
β Geminorum (Pollux), spectroscopic anal. rel. to Sun with reference to α Bootis (Arcturus) 1−32700
globular cluster stars, internal mixing rel. to CO, CN abundance vars. 1−36362
globular cluster stars in LMC, spectra and comp. of halo and disc clusters 1−36360
in globular clusters, giant branch luminosity functions rel. to He abundance differences across Galaxy 1−36364
in globular clusters M3, M13 and MGC 6752, photometry and spectra rel. to chemical abundances 1−44597
π^1 Gruis, S-type variable, visible spectra, identification of ZrO lines 1−17834
HD 101013, Ba star, spectroscopic binary orbit from photoelectric radial vels. 1−27498
HD 122563 (HR 5270), metal poor red giant, UV spectral flux comparison with model atm. 1−4910
HD 126313, Ba star binary system; distance, mass and absolute magnitude visible obs. 1−49657
HD 77912, spectrophotometric study of Ba II star 1−22806
Honda's variable in Cygnus, identification as Mira variable 1−36300
HR 6626, spectroscopic orbit from photoelectric radial vel. meas. 1−22836
HR 7308, new Cepheid with variable amplitude and very short period, radial vel. and photometric meas. 1−22816
HR 7308, Population I Cepheid, light amplitude and radial vel. determ., visible obs. 1−22812
W Hydrae, long-period variable star, absence of H_2O maser emission near max. light (1980 October 25) 1−9535
W Hydrae, M-type giant star, IUE obs. of UV spectrum 1−36282
RW Hydrae (gM2+pec), symbiotic star and planetary nebula central star, IUE obs. 1−9507
intermediate-mass stars, surface comps. evolution during advanced evolutionary stages 1−49608
IR stars, OH and H_2O maser obs., Mira-type variables 1−9525
IRC 10442, possibly late-type giant star, evidence from CO obs. 1−9720
IRC +30219 (CIT 6), C star, emission line phase with shock spectrum obs. 1−27496

giant stars continued
K-type giants atmospheres, abundances of chemical elements 1−44564
late type, mass loss rate and coronal base press. determ. 1−36274
late type stars theoretical chromospheres, temp. min. in grey LTE approach 1−36269
late-type emission-line stars, photometry in 1.47 to 2.39 μm range 1−22814
late-type giant and supergiant stars, OH masers struct. from VLBI obs. 1−49836
late-type stars, status and prospects of spectral classification by photoelectric meas. of mol. 1−49632
luminous G to K type stars, possible conc. in galactic field l=231° 1−27570
M10, globular cluster, giant stars low dispersion spectra anal. 1−13769
in M31 (Andromeda Nebula) central region, evidence for red giants predominance from UBV photometry 1−44644
M67, old open cluster, metal abundances in red giants and comparison with M71 and (NGC 2420) 1−44552
M71, globular cluster, giant stars low dispersion spectra anal. 1−13769
M71, globular cluster, metal abundances in red giants and comparison with M67 and (NGC 2420) 1−44552
M-type giants, late, in Magellanic Clouds, identification, coords., photometry and spectral obs. 1−49803
M-type giants and supergiants, circumstellar dust, origin in photospheres 1−54497
M-type giants and supergiants, luminous extended static photosphere model 1−44558
M-type stars, comparisons of temp. classes obtained by spectroscopic and photometric techniques 1−54485
M-type supergiant and giant stars in LMC, coordinates, finding charts and VRI photometry 1−49540
M-type variable giant stars, unsuccessful search for SO and SO_2 emission 1−40478
in Magellanic Clouds globular clusters, obs. of extended giant branches in intermediate age clusters 1−9586
Mira type long period variables, pulsational mode 1−44576
in NGC 2204, open cluster, metallic and CN composition, photometry obs. 1−54567
NGC 2420, old open cluster, metal abundances in red giants and comparison with M67 and (M71) 1−44552
in NGC 5138, open cluster, CN anomaly meas. using photoelectric UBV and DDO photometry 1−17814
in NGC 5139 (ω Centauri), red giant stars heavy element abundance var. visible spectra obs. 1−44559
NGC 6819, old galactic cluster, low dispersion spectra and comparison with globular cluster stars 1−13769
nucleosynthesis, rel. to cosmic rays anomalous isotopic comp. 1−54335
OH-IR stars, mass loss and luminosity determ., IR and VHF obs. 1−9496
κ Ophiuchi, spectrophotometric study of normal giant 1−22806
χ Ophiuchi direction, Copernicus UV obs. of interstellar material 1−22857
U Orionis, Mira variable, H_2O 22.2 GHz emission brightening (1981 January 12) 1−36302
U Orionis, OH 1665 MHz main line emission, VLBI obs. 1−22820
ρ Pavonis, high metallicity δ Delphini star, δ Scuti variability, by photometry 1−54515
β Pegasi, red giant, late type, absorpt. feature ident. 1−40360
WX Piscium, IRC+10011, OH-IR star, circumstellar OH shell diameter, UHF obs. 1−44568
RX Puppis, spectroscopic evidence for return to symbiotic character 1−32707
red giant, mass loss fluctuation theory 1−13759
red giant branch evolution, theoretical anal. of luminosity drop 1−54490
red giant stars in Magellanic Cloud globular clusters, photometry and spectra 1−9493
red giants, extremely metal deficient, spectra, photometry and radial vel. survey 1−54496
red giants, obs. anal. to find metal abundance range in Draco dwarf galaxy 1−22886
red giants in LMC open clusters, luminosity and temp. determ. from 118 photometry 1−9643
red giants narrow band photometry system 1−44438
red giants space distribution, implications for star form. and stellar evolution 1−54491
S and SC-type stars, spectra types on revised MK systems 1−9491
S stars, ZrO transitions $e^1\Pi$-$X^1\Sigma^+$ and $^1\Sigma^+$-$X^1\Sigma^+$ in visible 1−9482
S-SC-C sequence, spectral classification problems 1−49660
S-type stars, implications of laboratory IR band system of ZrCl 1−4759
S-type stars, relative intensities and predicted new bands of ZrO A(E-X) and B(D-A) systems 1−4754
δ Scuti variables, link between giant and dwarf type pulsators 1−27536
semi-regular variable stars, space distrib. 1−17852
stellar birthrate in solar neighbourhood, history from red giant, Li abundance 1−13758
α Tauri (Aldebaran), ang. and linear dia. from lunar occultation obs. 1−9485
RR Telescopii, Ni VI forbidden lines in nova-like variable 1−49663
in 47 Tucanae, mixing and primordial abundance vars. effect on stellar spectra and comp. 1−27572
two-micron sky survey stars, CO microwave emission obs. 1−40478
variable red giants, pulsational stability and turbulent convection 1−32714
?s variable stars (rapidly varying stars), identification of A-G and M-type giant stars 1−44575
AL Velorum, eclipsing binary, obs. of two eclipses and evidence for atmospheric eclipse 1−27558
weak G-band stars, Li abundance correl. with C deficiency 1−22798
C star atmosphere, H_2 1-0 S(1) line, theoretical profile 1−17835
C stars, absolute spectrophotometry 1−22805
C stars, ang. diameter determ. using lunar occultation, visible obs. 1−22774
C stars, identification in AFGL catalogue 1−9487
C stars, spectral classification criteria for $^{12}C/^{13}C$ ratio determ. 1−54500
C stars, surface comps. evolution during advanced evolutionary stages 1−49608
C stars in Fornax dwarf spheroidal galaxy, IR spectroscopy 1−22792
C stars in LMC, mass loss, evolution, mass, colour var., VRI obs. 1−54611
C stars in Magellanic Cloud globular clusters, spectral classification 1−9494
C stars in Magellanic Clouds, luminosity distrib., identification charts, coords., photometry and spectral obs. 1−49803
C stars molecular spectra, present and future obs. from space 1−54370
C-S star, new object in Puppis, visible spectral obs. 1−27500
CH subgiants and internal mixing at He core flash 1−27494
SiO masers, anal. of collisional vibrational excitation 1−9354
SiO masers in late-type stars, collisionally pumped atmospheric maser model 1−9472
YO spectra, rot. anal. of $B^2\Sigma^+ \rightarrow X^2\Sigma^+$ system 1−49503

Gibbs free energy *see free energy*

Gibbs function *see free energy*

Ginzburg-Landau theory
amorphous ferromagnets, phase transitions, nonlocal Landau-Ginzburg theory 1−16441
charge density wave superconductors, perturbational calc., Ginzburg-Landau eqn. 1−38885
commensurate-incommensurate transform., coupling between phase solitons and strain 1−42508
ferromagnetic superconductor, magnetostatics, generalised Ginzburg-Landau theory 1−12229
ferromagnetic superconductors, re-entry phenomena 1−30875
fluxoid quantisation in supercond. hollow cylinder, temp. depend., Ginzburg-Landau theory 1−12226
hollow weakly coupled superconducting cylinder, induced current state *(Russian)* 1−42905
magnetic superconductor, transitions, coupling parameters, Ginzburg-Landau theory 1−3175
noise-induced phase transition and the percolation problem for fluctuating media with diffusion *(Russian)* 1−27882
one-dimens., discrete, stochastic props. 1−40728
one-dimensional Landau-Ginzburg system, rational approximants 1−42891
one-dimensional physics, theory 1−42756
random temperature, ferromagnetic or spin-glass ordering 1−20936
solid surface, order parameters 1−18173
spin glass, sound propagation and damping near spin-glass transition 1−47898
structural phase transition, two-phonon crit. scatt., theory 1−20349
superconductivity and helical spin order coexistence, interplay of exchange and EM effects 1−42889
superconductor-exciton dielectric mixed phase, critical mag. fields *(Russian)* 1−3119
superconductor-normal phase interface resistivity and magnetoresistance *(Russian)* 1−7794
superconductor-to-ferromagnet transition, EM effects, Ginzburg-Landu theory 1−7769
surface order for materials with a first order transition 1−16158
type I superconductors, magnetic behaviour of one-dimensional 'mixed' state 1−20928
type II superconductor, antiferromag., lower crit. field 1−20931
type II superconductors, surface barrier effects, penetration depth depend. 1−42931
Al-Ge granular superconductors, upper crit. field 1−20932
$Er_{1-x}Ho_xRh_4B_4$, reentrant ferromag. supercond., mean field theory for T_{c2} min. in phase diagram 1−47782
^{3}He, superfluid, Ginzburg-Landau theory, application to helical textures in A-phase 1−30510
^{3}He, superfluid A-phase, charged ^{3}P superfluid in the ABM states 1−42600
In superconducting film, depend. of flux flow viscosity coeff. on Ginzberg-Landau parameter 1−16416
In superconducting microbridge, elec. props. and Josephson effect response to microwave radiation 1−47807
La-Al (20 at.%), amorphous, quenched from liq. state, supercond. characts. *(Russian)* 1−42878
Nb-Au-Nb planar proximity effect microbridge, critical currents 1−38896
$NbSe_3$, phase-locked CDW, Ginzburg-Landau theory 1−20645
Pb-Ag proximity effect sandwiches, pair-field susceptibility meas. 1−7787
Pb-In superconducting microbridge, elec. props. and Josephson effect response to microwave radiation 1−47807
Re, magnetic props. in supercond. state, purity effect *(Russian)* 1−25832

glaciology
Alberta, Canada, glacial history and glacial sediments 1−44215
Alpine earth pillars, origin and hydrodynamic formation *(German)* 1−27158
N.America, glacial erosion depth estimated from Atlantic sediments 1−49277
Antarctic continental shelf sediments, (glacial and non-glacial) 1−27148
Antarctic ice, ^{36}Cl content, van der Graaff accelerator obs. 1−36034
Antarctica, Allan Hills meteorites, terrestrial age 1−40432
Athabasca Glacier, snow chemistry of shallow core sample 1−44214
Baffin Island, Barnes Ice Cap heat flow obs. 1−40143
Catfish Creek till, Bradtville, Ontario, depositional history from till clast long axis orientation 1−35979
climatic history, role of sea ice and polar ice caps rel. to ice ages 1−4604
climatic variation, glacial mass budget effect 1−27246
climatology, ice albedo feedback rel. to derivation of zero-dimensional climate model 1−4605
Earth crust postglacial rebound, effects of transient rheology rel. to mantle viscosity meas. 1−22314
flow model for glaciers and ice sheets 1−9183
fluctuations in glaciation, evolution of Earth, review 1−44193
Glacial Lake Algonquin, USA, sediment study of Nipissing glacial transgression 1−40145
glacier steady state temperature model, for valley glacier 1−4546
Grand Manan Island, Bay of Fundy, glacial terrain description 1−49275
Greenland, glacial erosion depth estimated from Atlantic sediments 1−49277
Greenland ice sheet evidence of post-glacial volcanism and its climatic impact 1−22305
Ice Age, freq. sensitivity of deep-sea sediments climatic record 1−9240
Ice Ages on Earth, astronomical implications 1−4606
ice Ih, creep and failure 1−53239
ice sheet ablation rate, depend. on insolation and surface air temp. 1−36003
ice sheet/bedrock dynamics, 100000 yr glacial cycle model 1−9190
ice strip partly sliding over and partly adhering to bed, stress concentration and velocity distrib. 1−17629

glaciology continued
Late Wisconsin Cordilleran Ice Sheet in British Columbia, advance since 22000 BP 1−17631
Laurentide ice sheet of N. America, reconstructed from sea-level data 1−13496
New England continental shelf sediment, Upper Wisconsinan till anal., glaciation anal. 1−54076
oil and gas resource form., effect of seismicity and glaciation 1−22340
permafrost of Beaufort Sea coastal zone 1−9185
Pleistocene climate, glacial cycle times series anal. 1−54234
Pleistocene glaciation, evidence for changes of ^{2}H and ^{18}O enrichment of meteoric water 1−54194
polar regions, review of research 1−27167
Late Precambrian glaciations in Africa, palaeomagnetism of mixtite-bearing formations in Namibia 1−40047
Puget lowland, Washington, during Vashon Stade (Late Pleistocene), ice-sheet glaciation 1−17630
Qinghai-Xizang Plateau, periglacial phenomena 1−27163
Quaternary ice age, zonal climate-ice sheet model response to orbital perturbations 1−36054
radiowave sounding of ice sheets, polarisation of transmitted and refl. waves 1−36069
rock glaciers of N.Spitsbergen, mechanism 1−27162
Sventoji river valley, biogenetic deposits of Butenai interglacial period *(Russian)* 1−22366
till, fractured tracer Cl and Ca migration, column study 1−36010
^{36}Cl in Antarctic ice, van der Graaff accelerator obs. 1−36034

glass
for semiconductor glasses see amorphous semiconductors and chalcogenide glasses
see also aluminosilicate glasses; amorphous semiconductors; borate glasses; chalcogenide glasses; germanate glasses; glass fibre reinforced plastics; glass fibres; glass industry; glass-metal seals; optical glass; phosphate glasses; phosphosilicate glasses; vitreous state; vitrification
alcoholic glasses, nature of electron traps and solvation mech., radiolysis study 1−53446
alkali metal ion transport no. and mobility 1−42572
alkali metal oxide-SiO_2, alkali ion mobility 1−16085
alkali silicate glass surfaces after reaction with water, IR spectra study 1−21190
alkali silicate glasses, F-containing, IR spectra and struct. 1−31140
alkali silicate glasses, hydrated, synthesis kinetics and props. of products 1−31412
alkali silicate glasses, ion irradiated, water vapour action 1−8461
alkali silicate glasses, surface tension and elastic modulus 1−42624
amorphous magnetic solids, neutron mag. scatt. techniques, review 1−3141
anelasticity and internal degrees of freedom 1−42458
basalt glass-glass ceramic, mag. props., Mossbauer, ESR spectra 1−3307
batch reaction, rate and kinetics 1−39587
bioresistance, chem. stability 1−17051
ceramic-glass-glass composite system, simulated strength-grain size study 1−39426
ceramics with glass phase, soln.-precipitation creep 1−31522
chemical bonding, internal surfaces and topology 1−11686
chemical stability of glass and glass-ceramics for radioactive waste encapsulation 1−43562
clarification bubble formation, movement and termination *(Czech)* 1−43309
coating by CVD 1−53101
coating with Cu using electroless process 1−16929
coatings, metallurgical and protective, conf., Geneva, Switzerland, Sept. 1980 1−49879
composite, Ti matrix, matrix impregnation with Si, dilatometric study 1−21390
conference, Los Angeles, CA, USA (July 1980) 1−27653
contact refractories, rotating corrosion test 1−53369
controlled pore glass, silicone-coated, adsorption of detergents 1−31908
cool-down characteristics, to cryogenic temps. 1−44932
corrosion, surface and solution analytical techniques 1−16930
crack growth leading to catastrophic failure, dynamic effect of liquids 1−39487
CVD deposition of SnO_2, continuous process 1−53102
desorption, of gases, thermal desorption mass spectrometry *(German)* 1−52436
dip coatings, amorphous and cryst., by withdrawing glass panes from organometallic solns. 1−53114
dissolution processes, nuclear waste management 1−28638
dosimeters, intercalibration for neutron fluence determ. 1−18904
echo decay, spin-spin flip processes 1−38486
elastoplastic behaviour when exposed to plane shock wave *(French)* 1−38466
electrochemically coloured glass, chem. stability 1−12901
electrolytes, O_2 reference electrodes, appl. in glass melts 1−21739
electron reactions in frozen aq. media 1−53421
enamels, low-melting, $MnCO_3$ ore based 1−12712
evaporation capability 1−16697
ferroelectric, definitions and criteria 1−26136
ferromagnetic resonance of fine grained precipitates 1−31032
film coated, asymm. quenching process, theory 1−12764
flat, calc. of stresses produced by heat treatment 1−16823
flat, distrib. function of surface defects 1−16161
flat, ion-exchange strengthening, calc. methods 1−53249
flat glass, trace element effects on microstruct., prod. conditions depend. 1−30077
float glass, surface compositional profiles determ. by ESCA, SIMS, AES *(Japanese)* 1−48240
foamed, cell size effect on strength 1−53236
formation, empirical semiquantitative theory 1−52078
formation, kinetic treatment, crystn. on glass reheating 1−30082
fracture and flow 1−8402
gamma ray buildup factors, PIPE code 1−14701
gas transport study, struct. anal. 1−30071
glass:Eu^{3+}, optical transition multipole order determ. by polarised luminesc. method 1−31185
glass:Fe^{3+} ESR signal g-value correlation investigation 1−3243
glasses:CrIII, radiationless relax. symm. luminescence lifetimes 1−1164
glaze coating on ceramics, thermal shock resist., underglaze layer effect 1−12898
heat-sterilisable pH glass electrodes and Clark-type D_2 sensors 1−32331
glass continued
impactite glass as origin of holy Black Stone of Ka'ba 1−9156
impurity electronic transitions, hole burning, soften-phonon scatt. and fast dephasing 1−16259
internal stresses effect, on fracture toughness 1−26599
laminated glass-plastic sheets, resist. to breakage 1−31599
leaching and corrision by water, model, radwaste appl. 1−31700
leaching behaviour in aqueous solutions, radioactive waste containment 1−28633
liquid, hydrodynamics in crucible with drainage through central bottom hole 1−12710
machining, of glass 1−8454
medieval glass, corrosion retardation by glow discharge film 1−53313
melt, bubble size control by diffusion 1−2666
melt, temp. depend. of thermodynamic functions *(German)* 1−2653
melting, similarity of electro-thermo-mechanical processes *(Czech)* 1−30366
melts, bubble form. in convective currents 1−15481
melts, multicomponent gas bubbles, dissoln. 1−25435
melts, O_2 reference electrodes 1−21739
methylcyclohexane glass supercooled liq., polariscopic and kinetic evidence, benzene probes 1−38250
mica-glass composite materials, fabrication, effects of temp., pressure and water 1−12715
mica-glass composite materials, form. and props. 1−48313
microballoons for laser fusion studies, shaping process using microlevitating furnace, collimated hole struct. 1−37016
microhardness, cation field strength depend. 1−43508
microsphere production, disintegrator 1−12714
molecular morphology in amorphous and glass polymers 1−30103
molten, bubbles, math. modelling *(Czech)* 1−38543
Mossbauer spectrum of radioactive element in silicate glass, radioactive waste management appls. 1−28636
multi-plate glass systems thermal analysis for building envelope energy transfer 1−8671
network dynamics, bonds vibrational states 1−11831
nitrate ion glass, anhydrous, charged pair recomb., dispersive hopping temp. depend. 1−42564
nuclear waste glass, immersed in water, kinetics of surface-layer formation 1−26643
optical homogenous linewidths of Nd^{3+}, comp. depend. 1−43141
organic glass, mechanoluminescence, and acoustic emission meas. 1−46642
oxide, local structure and dynamics, EXAFS studies 1−7086
oxide and polymer glasses, struct., crystn. and viscous flow 1−30070
oxide film formation mechanism 1−12900
oxide glass, viscoelastic and plastic behaviour near glass transition 1−35297
oxide glass prep. from metal alcoholates 1−31408
oxide glasses, polaronic cond. theory 1−30744
oxide glasses, refr. index dispersion 1−3353
oxide glasses, self-diffusion processes, fixation of radioactive waste 1−30462
oxyanion units, optical basicity, SCF CNDO calc. 1−2333
oxynitride glasses, synthesis, struct., and props. 1−30074
pH glass electrode behaviour in strongly acid and nonaqueous solns. 1−31871
phonon scattering in glasses and highly disordered crystals 1−16002
photochromic props., comp. depend. *(Japanese)* 1−48020
plastoelectric const. rel. to struct. *(Japanese)* 1−31125
plate, temp. field on heating or cooling, taking into account radiation heat transfer 1−41943
plates, thin, tensile fracture, stress field near crack 1−35345
plexiglass, shock compressed at low temperatures, thermodynamics 1−11813
protective and lubricious coatings, mech. props. 1−53327
Pyrex, Poole coeff., dimensional effect 1−16084
Pyrosol process, thin layers deposited on glass 1−53103
quartz, hyper Raman polariton scatt. *(Russian)* 1−8070
quartz and devitrified thermal expansion measurements and hard radiation effects 1−30279
quartz glass, gamma radiation-coloured, classification and fracture by laser beam 1−30278
quartz glasses, KI and KV, IR spectral absorpt. coeff. in upper temp. limit 1−12495
radioactive waste containment, glass-water interactions 1−28633
radioactive waste management, conference, Argonne, IL, USA (Sept. 1979) 1−27657
rare earth doped, laser induced fluorescence line narrowing 1−3460
redox ions props., reaction mechanisms 1−31849
refractive index dispersion allowing for continuous character of absorpt. spectrum 1−43090
roller quenching prep., elec. and mag. props. 1−31409
scaling theory of low-temp. behaviour, specific heat, possible phase transition 1−15806
sheet glass, ultimate strength determ. method 1−12793
shells, testing under external hydrostatic pressure 1−43634
short-range order, geometrical model 1−42317
silica glass, alkaline soln. attack, inhibition by alkaline earth ions, expt. 1−31698
silicate, low alkali, tracer-diffusion meas. 1−2678
silicate, spectral and kinetic separation of Yb^{3+} optical centres 1−43176
silicate, thermal expansion coeff. calc. from structure-energy characteristics 1−16071
silicate, thermally induced acoustic emission 1−4030
silicate glass, multicomponent, conc. and optical changes during ion exchange 1−48022
silicate glass, natural, stability in geologic environment, radioactive waste disposal 1−32062
silicate glass network, pH depend. and electrochemical interpretation of dissolution rate 1−21609
silicate glass surfaces, durability and corrosion 1−31697
silicate glasses, Brillouin scatt. and Pockels coeffs. 1−8083
silicate glasses, destructive soln. by alkali, agitation effect 1−43561
silicate glasses, electron loss spectra 1−31248
silicate glasses, hydrated, depth profile of interdiffusing species 1−30488
silicate glasses, hydrated, nature of incorporated water 1−2636
silicate glasses, static fatigue in aqueous soln., thermodynamic stability 1−31704
silicate glasses, XPS study of bonding and leaching properties, radioactive waste immobilisation 1−31313

glass continued
SIMS, O_2 bombardment, quant. anal., alternative to rel. sensitivity factor 1−48774
SIMS, quantitative analysis, instrumental effects 1−31948
soda glass detectors, effect of temp. on fission fragment tracks 1−23945
soda-lime:Fe, appl. of thermally detected EPR 1−47939
soda-lime glass:Fe, thermally detected EPR 1−26024
soda-lime-silicate glass fibres, struct. anisotropy ESR meas. 1−3241
sol-gel processes in glass science and technology 1−31410
special light sources bulb glass, electrical, thermal and chemical props. *(Russian)* 1−20073
spectral diffusion and US attenuation, rate eqn. theory 1−15960
spheres, nucleation and growth of fume particles, time-resolved light scatt. meas. 1−43715
strength under contact micropressure 1−31560
strengthened by ion exchange and quenching, durability, temperature-force depend. 1−43509
strengthening by ion-exhange method 1−39480
stress during laser heating of interior and thermoelastic stage of type K8 1−31611
strip production, defects monitoring, optoelectronic method 1−16984
structural investigations, review *(Polish)* 1−11691
substrates, temp. meas. during sputter deposition 1−42644
supercooled liquid-glass transition, mol. dynamics study 1−20064
surface, reactions with aq. solns., SIMS study 1−31701
surface coating, effect of SnO_2 film on wear resistance of long-chain aliphatic lubricants 1−53326
surface failure of CO_2 laser irradiated glass 1−39190
surface layer, deformation props., changes after ion exchange 1−16163
surface microcrack formation, tensile stress caused by Na^+/Li^+ ion exchange *(Czech)* 1−30539
surface problems, SIMS appl. 1−3550
technical glass, effect of design and technological factors on strength 1−43458
tellurite:Ho^{3+}, glass, 750 nm laser emission anal. 1−16584
thermal fracture subject to solar radiation 1−43523
tubes, crack bifurcation under hydrostatic press. 1−26587
tunnelling states, low temp., free-volume model 1−2338
viscoelasticity, linear and nonlinear 1−31516
viscosity, penetration viscosimeter, with induction penetration depth scanner *(Czech)* 1−6909
water, prod. by heat method, tripoli earth solubility 1−12711
X-ray and neutron diffr. anal. 1−30067
XPS meas., struct. 1−31307
$AgI-Ag_2O-M_xO_y$, M=B, Ge, P, V, As, Cr, Se, Mo, superionic cond., glass form. region determ. 1−30075
$2AgI.Ag_2MoO_4$, superionic cond. glass, heat of transport rel. to activation energy for cond. 1−47287
β-Al_2O_3-Li_2O (K_2O)(Na_2O), prototype glass, electron spin relax. of irrad.-induced colour centre, disorder effects 1−16481
$(Ba,Mg)Si_2O_6$ low-sensitivity glass track detectors 1−51055
BeF_2-CsF glass, ionic transport meas., cond. anomaly obs. 1−30455
$CaGa_2O_4$-SiO_2 glasses, physicochem. anal., comp. depend. and vol. additive props. 1−42318
$Ca_2MgSi_2O_7$-akermanite, two-phase silicate system, phase anal. by dissolution calorimetry *(Czech)* 1−30404
CaO-Fe_2O_3-SiO_2 glasses and glass-metal composites, prep., struct. and props. meas. 1−31414
CaO-FeO-SiO_2, glass formation and properties 1−15808
$CdGeP_2$:Cu(In)(Mn)(Ni) glasses, cond., temp. depend. rel. to cryst. state cond. 1−42780
CdO.SiO_2.Na_2O photochromic glass, in faded state, dark current and dielec. relax. 1−26120
Cr-Al_2O_3 refractory, fusion cast, glass redox condition effect on corrosion. 1−31691
Cu/glass system, calc. of thermal conductivity by sphere packing model 1−47313
Cu-glass composite, thermal cond. *(Japanese)* 1−16116
Fe_2O_3 $[Na_2O.2SiO_2]_{1-x}[Fe_2O_3]_x$ glass, IR study of crystallisation 1−2336
In_2O_3-SnO_2 layer deposition on glass substrate by spraying method 1−53089
K_2O-Na_2O-SiO_2 glass, mixed alkali effect, failure of strong electrolyte/cationic interact. model 1−2676
K_2O-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
K_2O-SiO_2 binary alkali glass, strength 1−3852
K_2O-SiO_2 glass melt, O tracer diffusion above transform. temp. 1−7363
K_2O-SiO_2 system, Si^{29} NMR spectra of glasses and polycrystn. compounds 1−21070
K_2O-SiO_2 system glasses with BaO and CaO additions, low-temp. mech. relax., US obs. 1−52233
K_2O-SrO-SiO_2 glass , O diffusion 1−42569
K_2SO_4-Na_2SO_4-$ZnSO_4$ glasses, elect. cond. studies and mixed alkali effect 1−42570
LiF-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
LiI-Li_2S-P_2S_5, vitreous electrolyte, prep. and ionic cond. props. 1−34517
Li_2O-$2SiO_2$, glass, low temp. thermally stimulated depolarisation peaks 1−21117
Li_2O-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
Li_2O-SiO_2 binary alkali glass, strength 1−3852
Li_2O-SiO_2 glass, ion exchange isotherms rel. to bulk struct. expt. 1−31907
Li_2O-SiO_2 glasses and glass ceramics, leaching by HCl 1−20393
Li_2O-SrO-SiO_2 liq. phase separated glasses, tie-line direction and phase comp. determ. from electron microscope data 1−43325
Li_2O-WO_3 (MoO_3), rapidly quenched, glass-form. and ionic cond. meas. 1−34505
$(Li_2O$-$Na_2O)_{1/2}$-$2SiO_2$, glass, low temp. thermally stimulated depolarisation peaks 1−21117
$Li_2O.SiO_2$ glass, X-ray diffr. study 1−20076
$Li_2O.2SiO_2$, ion implanted, phase separation and crystn. 1−30081
Mn^{2+} in glasses, EPR spectra simulation 1−16473
MnO-SiO_2 glass, O^- ion distrib., ESCA study *(Japanese)* 1−42324
MnO-TiO_2-SiO_2, IR absorption spectra *(Japanese)* 1−2667
NaF-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
Na_2O-$3SiO_2$, hydration, interdiffusion of Na and H 1−20477
Na_2O-CaO, discharge tube envelope, darkening by low press. Hg discharge 1−29932
glass continued
Na_2O-CaO glass, crack imitation and propagation under moving sharp indentor 1−26593
Na_2O-CaO glass, delayed failure in water environment 1−3892
Na_2O-CaO glass, dynamic fatigue, flaw characts., residual contact stresses influence 1−26600
Na_2O-CaO glass, weathering effect on transmittance 1−53309
Na_2O-CaO glasses, role of molecular water in proton diffusive transport 1−20471
Na_2O-CaO-SiO_2, replacement of soda ash by caustic soda in laboratory glass melting trials 1−21411
Na_2O-CaO-SiO_2 float glass, deform. associated with scoring with disc cutter 1−39370
Na_2O-CaO-SiO_2 glass, surface treatment effect on fatigue 1−31596
Na_2O-CaO-SiO_2 glass, NiS inclusions, microcracking induced by volumetric expanding phase change 1−39428
Na_2O-CaO-SiO_2 glass, O diffusion 1−42569
Na_2O-CaO-SiO_2 glass, darkening in low press. Hg discharge, mechanism 1−53425
Na_2O-CaO-SiO_2 glass melt, unstirred, vaporisation 1−20369
Na_2O-CaO-SiO_2 glass bottle, containing alcoholic-soln., solid products formation *(Japanese)* 1−21618
Na_2O-CaO-SiO_2 glass containing water, phase separated, small angle X-ray and TEM obs. 1−30093
Na_2O-CaO-SiO_2 glasses, Sn diffusion between transformation and softening points 1−20466
Na_2O-CaO-SiO_2 glasses containing up to 6 mol.% N, prep. 1−43308
Na_2O-CaO-SiO_2 glassmelt, dissolution of stationary bubble containing diffusing and nondiffusing gas 1−2635
Na_2O-K_2O-SiO_2 glasses, US velocity and absorpt., 4.2 to 320K 1−15954
Na_2O-Rb_2O-SiO_2, ion exchange between glass melts 1−20436
Na_2O-SiO_2, alkali ion diffusion correlation effects 1−20446
Na_2O-SiO_2, biaxial pressure test, improved 1−31771
Na_2O-SiO_2, Fe^{3+} ion clusters form., ESR linewidth anomalies 1−52837
Na_2O-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
Na_2O-SiO_2, prep. by sol-gel process 1−21412
Na_2O-SiO_2, system glasses with BaO and CaO additions, low-temp. mech. relax., US obs. 1−52233
Na_2O-SiO_2 binary alkali glass, strength 1−3852
Na_2O-SiO_2 glass, excitation of intrinsic luminesc. 1−43178
Na_2O-SiO_2 glass film, Na migration, AES study 1−21302
Na_2O-SiO_2 glass system, hyper-Raman scatt. spectra 1−52950
Na_2O-SiO_2 glasses, heat treated in contact with metallic Na, coloration and crystn. 1−20479
Na_2O-SiO_2:Cr glasses, state of Cr ion under various O_2 press., optical absorpt. and EPR study 1−31174
Na_2O-TiO_2-SiO_2 glass system, hyper-Raman scatt. spectra 1−52950
Na_2O-ZrO_2-SiO_2, ESR of VO^{2+}, Cr^{3+} and Cr^{5+} 1−16477
$(Na_2O)_{1-x}(Fe_2O_3)_x.4SiO_2$ glass, Mossbauer spectra, quadrupole splitting 1−3306
$Na_2O.2CaO.3SiO_2$ glass early internal and Pt-initiated crystallisation, TEM obs. 1−15805
$Na_2O.2SiO_2$:PuO_2 glass, mag. susceptibility study 1−3136
$Na_2O.3SiO_2$ glasses, with high water content, elec. cond. 1−42568
$2Na_2O.3WO_3$ glass, X-ray diffr. study of struct. *(Japanese)* 1−20074
Nd^{3+} complexes in glass systems, ESR and opt. obs. 1−52842
O^{17} labelled glasses, and glass precursors, prep. 1−31413
Pb cryst. glass, chem. polishing, purification of F-containing gas given off 1−12899
Pb glass, gamma ray buildup factors, PIPE code 1−14701
PbO-glasses melting, raw materials influence *(Polish)* 1−53152
PbO-SiO_2, Fe^{3+} ion clusters form., ESR linewidth anomalies 1−52837
PbO-SiO_2, optical absorpt. in near UV region *(Japanese)* 1−21234
PbO-SiO_2 glass, surface layer comp. and second electron emission coeff. study 1−53023
PbO-SiO_2 glass growth on Si by thermal oxidation 1−8451
PbO-SiO_2 glasses, electronic struct. and resonant covalence 1−30616
PbO-SiO_2:Bi_2O_3 glasses, surface cond., effect of impurity 1−30803
$2PbO.SiO_2$ glass, X-ray diffr. study *(Japanese)* 1−20075
$0.6PbO.0.4SiO_2$, thermal capacity, calc. of relaxation part using structural relaxation model equation 1−16058
Rb_2O-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
SiO_2, fused, ion implanted, phase separation and crystn. 1−30081
SiO_2 glass, Brillouin scatt. and US meas., attenuation, freq. depend. 1−3425
SiO_2 glass, frequency distribution function calcs. by unfolding method 1−52238
SiO_2 glass, molecular dynamics simulation 1−52075
SiO_2 glass, prep. by sol-gel process 1−21412
SiO_2 glass, simulated, holes distrib. 1−2332
SiO_2 glass film, inelastic phonon scatt. meas. using semiconducting tunnel junctions 1−16001
SiO_2, γ-irrad., ESR study of E′-centres, ^{17}O, ^1H, and very weak ^{29}Si superhyperfine struct. 1−21048
SiO_2, solubility of TiO_2, structural basis of thermophysical props. 1−20072
SiO_2 thin glass films, HF phonon transmission 1−47357
SiO_2, vitreous, glass, gas-probe analysis, of struct. 1−25172
SiO_2:Ne(He), vitreous, anomalous low temp. specific heat due to solutes 1−7352
SiO_2-Na_2O-CaO (22 to 25, 0 to 3 wt.%) glass, photoelec. props. in fundamental absorpt. region 1−42824
SiO_2-Na_2O-SrO (11.9, 19.3 wt.%), liquid phase-separated, density 1−43326
SiO_2-PbO (20 to 70 mol.%), electron emission props. rel. to composition and struct. 1−43229
SiO_2-TiO_2 glass synthesis by hot-pressing of gel 1−31411
SiO_2-TiO_2 solid soln., glass and polycrystalline state study by ESCA *(Polish)* 1−26369
SiO_x glass layers ($x \leq 2$), ion irrad., B_2-centre form., UV spectra 1−38413
(Sr, Mg) Si_2O_6, low-sensitivity glass track detectors 1−51055
TiO_2-SiO_2 glass, phonons, Raman and IR studies 1−8060
TiO_2-SiO_2 glass, Ti^{4+} coordination geometry, X-ray absorpt. spectra study 1−31228
TiO_2-SiO_2 glass systems, hyper-Raman scatt. spectra 1−52950
TiO_2-SiO_2 glasses, prepared from metal alkoxides 1−31407
Y-Si-Al oxynitride glass-ceramics, elec. props., X-ray diffr. and electron microprobe study 1−2954

glass continued
$ZnO-SiO_2$ glass, O^- ion distrib., ESCA study *(Japanese)* 1−42324
$ZrF_4-BaF_2-YF_3-AlF_3$ system, fluoride glass form. 1−34238

glass fibre reinforced plastics
cloth-epoxy composite, dynamic Young's moduli and internal friction 1−43390
cloth-epoxy composite, Young's modulus and internal friction, temp. depend. 1−43391
decorative and protective coatings for plastic materials, surface treatment importance 1−3950
deformability anisotropy in cyclic stretching with rest 1−31549
epoxy laminates, mech. props. after implantation as fracture fixation plates 1−26478
epoxy matrix, deformations under swelling conditions 1−48440
epoxy matrix, glass-fibre reinforced laminate, fatigue strength 1−12861
epoxy matrix, mode I delamination fracture toughness, determ. method 1−48473
epoxy matrix, relaxation processes *(German)* 1−3815
epoxy matrix, unidirectional, flexural fatigue in longitudinal direction 1−26615
epoxy resin matrix composites, fracture mechanisms 1−48507
fatigue behaviour, of rigid polymeric materials and composites at room and elevated temp. 1−31590
fibre reinforced composites, hybrid, appl. to loadbearing orthoses and prosthesis 1−49162
fibre reinforced plastic box beams, creep behaviour 1−8369
fibre reinforced plastic laminates, US data dispersion as meas. of hygrothermal effects 1−35455
fibre-strengthened materials, containing a hole, mech. behaviour simulation 1−48354
filament-wound glass fibre/epoxy resin tubes, impact damage mechanisms 1−48456
fracture mechanisms, in monotonic loading 1−12851
glass fibre mat reinforced polyester, environmental fatigue stress failure 1−3876
E-glass fibre reinforced epoxy resins, loaded cracked, stress intensity factors 1−3824
glass fibre reinforced laminated plastics, fatigue life dispersion, reliability anal. 1−48505
glass fibre reinforced plastics, mech. props. under low temp. conditions 1−8370
glass fibre reinforced polyester composites, environmental effects on props. 1−2160o
glass fibre reinforced polyester laminates, delamination, acoustic emission 1−48640
E-glass fibre reinforced polyester resin, compression strength 1−8377
glass fibre reinforced vinylester composites, environmental effects on props. 1−21606
glass-textolite laminates, mech. props. anisotropy 1−48436
glass/epoxy interface, elec. props. 1−34969
laminate, AE study of damage during tensile loading 1−4028
laminates, flexural failure anal. 1−12800
metallic glass fibre reinforced epoxy resin, composites, mech. props. 1−12798
multi-axial laminates, failure initiation mechanisms 1−48454
polyester matrix, ablation under laser radiation and high speed gas flows 1−48198
polyester matrix, woven roving glass fibre, reinforced, fatigue damage assessment in cyclic loading 1−48506
polyester sheet matrix, accelerated weathering test appl. to improved surface durability 1−48542
polyethylene, short glass-fibre reinforced, flow, orientation effects 1−35276
polypropylene, short glass-fibre reinforced, flow, orientation effects 1−35276
polypropylene matrix, injection molded, residual stresses *(Japanese)* 1−3690
polypropylene matrix, non-linear viscoelastic behaviour in creep 1−48422
pressure pipe, effects of anisotropy and inhomogeneity 1−35307
random reinforced resin, effect of water on fracture behaviour 1−3946
rheology, appl. to injection moulding, fibre motion and viscosity 1−41999
rheology, appl. to injection moulding, materials parameters 1−42000
steel GRP laminate, static strength *(German)* 1−3851
textolite, organic/glass fibre reinforced hybrid, strength in plane stress 1−31550
thermosets, and thermoplastics, fatigue behaviour at 20°C and 50°C *(Japanese)* 1−26605
thermosetting plastics, appls., review 1−12717
SiC formation conditions on unidirectional heating 1−39493

glass fibres
see also fibre optics; optical fibres
alkali boroaluminosilicate glass+fused alkali nitrates, ion exchange, equilib. and kinetics 1−43660
basalt glass fibres, high temp. phenomena 1−21488
borosilicate glass fibres, optical transmission props., losses 1−1705
conductors performance evaluation, error source in fast pulses meas. *(German)* 1−46571
E glass fibres, production and charact. of materials having high sp. surface areas, by leaching 1−39298
E-glass fibre, hydrolytic stability of silane coupling agents, Fourier transform IR spectroscopic study 1−39488
fibre waveguide fabrication, by outside vapour deposition process 1−11188
fibrocement manufacture using ZrO_2 containing glass fibre 1−48314
graded-index compound glass fibre total loss and scatt. loss meas. 1−41866
graded-index quartz fibres, primary polymer coating influence on strength 1−1713
light conducting cables, principles, parameters and industrial applications *(German)* 1−11094
low loss single-mode, limitations MVCD production method *(Japanese)* 1−29395
multicomponent for optical communication, fabrication and performance 1−11189
multimode optical pulse self-confinement 1−6670
optical, compressive strengthening by porous glass process 1−51613
optical, surface compressed, static fatigue 1−51614
optical fibre communication systems, transmitters and receivers 1−29405
optical fibre end prep., perpendicular fracture prod. in glass, coated-glass and plastic-clad fibres 1−46598

glass fibres continued
optical fibres, mechanical tempering, prestress method, effective stress increase 1−29412
oxide glass prep. from metal alcoholates 1−31408
production and applications, progress *(Polish)* 1−48316
radiation effects obs., on transmission losses 1−11120
rupture mode under pulling conditions *(French)* 1−43528
soda-lime-silicate glass fibres, struct. anisotropy ESR meas. 1−3241
telecommuncations appl., 1980 status and development trends 1−11111
waveguide preform fabrication, collapsing process hydrodynamic theory 1−1736
Ge-P-S chalcogenide glass fibres 1−16751
Li_2O-SiO_2 glass-ceramic fibres, development and props. 1−8356
$Na_2O-ZnO-SiO_2$ glasses, strength, effect of ZnO 1−16792
SiO_2 silica glass fibre, pilot plant production, plasma activated CVD 1−1732

glass formation *see vitrification*

glass industry
glass melt, effect of siting of electrodes on convection 1−9985
microsphere production, disintegrator 1−12714

glass-metal seals
see also electron tube manufacture
device envelopes with glass-to-metal seals, press. chamber testing 1−282

glass transition
aliphatic polyurethanes, glass transition temp. 1−34465
crystal-liquid instability and pressure-induced glass transition 1−38491
elastin, glass point as function of diluent conc. 1−52266
elastomer, micro- and macrostructure props. 1−11698
epoxy resin, anomalous lowering of glass transition by plasticisation with water 1−38517
epoxy resin, crosslinked, large amplitude cyclic deform. in transition zone 1−16837
epoxy resin, plasticised, mech. relaxation *(German)* 1−21502
epoxy-acrylic interpenetrating polymer networks, prep. and thermal props. 1−48318
glycerol-water solution, positron lifetime study, positronium quenching 1−43212
group theory for frustrated lattices, spin glasses, glassy transitions 1−9936
ionic polymers, glass transition temp., intramol. mobility effects 1−25414
linear macromolecules, glass transition obs. by heat capacity meas. 1−38514
nylon, contact surface, friction props. and temp. effect *(Japanese)* 1−48523
nylon copolymers, synthesis and props. by interfacial polycondensation *(Japanese)* 1−31415
PAN, glass transition, dielectric data anal. 1−7305
PMMA, density and mech. props., effects of thermal history 1−35327
poly(2-hydroxyethyl methacrylate), stereoregular, thermal, dielec. and dynamic mech. relax. 1−16522
poly(acrylic acid)-Al_2O_3 composites, dynamic mech. props. 1−35293
poly(ethylene terephthalate-co-p-oxybenzoate), vitrification 1−16028
poly(n-vinyl carbazole) film, polymer alignment during solvent coating process 1−11695
poly(vinylidene fluoride) film, glass transition, press. depend. of pyroelectric response 1−11693
polycarbonate, effect of sub-T_g annealing on CO_2 sorption 1−30566
polycarbonate, semicrystn., glass transition 1−16026
polycarbonate film, polymer alignment during solvent coating process 1−11695
polymer, and mixture with thermoblock thermal shrinkage in linear temp. gradient *(German)* 1−2604
polymer chain model, glass transition, Monte Carlo method 1−2603
polymer chains, semi-flexible, absence of completely ordered phase in quasi-lattice model 1−18165
polymer elasticity nature, in transition zone 1−43393
polymer glasses, transitions, relaxs. and thermodynamics 1−30369
polymer-diluent system, glass transition temp. calc., excess entropy 1−38515
polymers, glass transition, kinetic model 1−25415
polymers, glassy, sorption and transport, review 1−30561
polypropylene, isotactic, multiple transitions around glass transition 1−7306
polystyrene, glass-rubber transition, stress relaxation calcs. 1−11799
polystyrene film, polymer alignment during solvent coating process 1−11695
polystyrene-polybutadiene-polystyrene copolymers, and blends, morphology rel. to mech. props. 1−35273
polyurethane, Solithane 113 elastomer, press. depend. of glass transition 1−11692
polyvinyl acetate, thermal cond. and heat capacity under press. 1−42588
polyvinylidene fluoride, multiple transitions, thermally stimulated creep and TSC studies 1−38296
polyvinylidene fluoride, piezoelectric and ferroelectric properties 1−52906
polyvinylidene fluoride-polyethylmethacrylate blends, lower crit. soln. temp. behaviour 1−25416
PVC glass, high press. prepared, conformational recovery 1−11849
tetrafluoroethylene-hexafluoropropylene copolymer, phase transition detection by TSC 1−52265
tetramethyl ammonium tetrachloroferrate, phase transition study 1−42532
$Ag_7I_4AsO_4$, vitreous solid electrolyte, molar heat capacity 1−7354
$Cu_{60}Zr_{40}$, cold-rolling and subsequent annealing, X-ray diffr., DTA and EM study 1−3783
K-Ca nitrate, water doped, glass transition temp., low temp. anomaly in sp. ht. 1−42549
$NaPO_3-ZnCl_2$ glass system, IR absorption and struct. 1−3386
Ni-Si-B metallic glasses, comp. influence on formation and stability 1−20365
$Pt(NH_3)_{10}Cl_{10}(HSO_4)_4$ partially oxidised salt, elec. and thermal props. 1−42831
SiO_2 glass, molecular dynamics simulation 1−52075

glasses *see glass*

glassy state *see vitreous state*

glide, dislocation *see slip*

globular star clusters
binary stars, hard, form. and hardening *(Russian)* 1−54573
binary stars in globular and open clusters, review 1−36341
black hole astrophysics, book contrib. 1−22830

globular star clusters continued
black hole dynamics in globular cluster, standard model reinvestigation 1−49707
ω Centauri, combined photometric/spectroscopic study of RR Lyrae stars 1−17858
ω Centauri, mixing and primordial abundance vars. effect on stellar spectra and comp. 1−27572
ω Centauri, supernova nucleosynthesis rel. to stellar heavy elements abundance vars. 1−36362
chemical composition and other props., review *(Polish)* 1−49743
chemical properties, results for individual clusters 1−36362
conference, Cambridge, England (Aug. 1978) 1−22955
core collapse, identification of late stages with gravothermal instability 1−44598
cores, optical spectrum absorpt. due to Magellanic Stream H I region 1−49812
distance data compilation, appl. to galactic distance scale determ. 1−36349
dynamical evolution, computer simulations of close encounters between single stars and hard binaries 1−9582
dynamical evolution, of star clusters containing massive central black holes 1−9583
dynamics of star clusters with central black hole, adiabatic numerical models 1−49740
E3, faintest galactic globular cluster, evidence for damage by tidal forces 1−40537
element abundances, depend. on cluster age 1−36357
evolutions, appl. of grand microcanonical ensemble for bounded isothermal spheres 1−54562
in external galaxies, examples of star clusters as touchstones for theories of galactic evolution 1−40537
formation, metallicity distribs. 1−22844
in galaxies, props. of globular cluster systems 1−36361
gravothermal catastrophe, collapse, mechanism, Fokker Planck eqn. anal. 1−54572
horizontal branch (HB) stars, influence of rot. on expected props. of RR Lyrae pulsation 1−22797
horizontal branch stars, location in log T_{eff}, log g diagram 1−22809
initial binary distrib., evolution, Monte Carlo simulation 1−22845
interstellar absorpt. lines towards globular clusters to determine galaxy halo gas existence 1−49754
IR photometry of M 31 globulars 1−22842
kinematics and dynamics of galactic system 1−9593
Large Magellanic Cloud clusters ellipticity 1−49796
Liller I, X-ray source MXB 1730−333 as IR burster, model 1−9729
in LMC, evidence for two populations of red globular clusters 1−36360
luminosity functions, evidence for He abundance differences across Galaxy 1−36364
M10, giant stars low dispersion spectra anal. 1−13769
M13 blue horizontal branch stars, far-UV energy distrib., model atm., UV obs. 1−49741
M15, star counts in U, B and V plates 1−22847
M30 (NGC 7099), metal poor cluster, main sequence stars, visible photometry obs. 1−9589
in M31, identification from BV obs. 1−17882
in M31 (Andromeda Galaxy), globular clusters photoelectric UBV photometry *(Russian)* 1−4946
M3, M13, chemical abundances in red giant stars 1−44597
M71, giant stars low dispersion spectra anal. 1−13769
M71, metal abundances in red giants and comparison with M67 and (NGC 2420) 1−44552
M71, metal-rich globular cluster, metal abundances 1−36362
Magellanic Cloud globular clusters, red stars photometry and spectra 1−9493
in Magellanic Clouds, older clusters props. 1−36358
metal abundance scale, implications for galactic halo He abundance 1−44634
in NGC 147, M31 companion galaxy, globular clusters photoelectric UBV photometry *(Russian)* 1−4946
NGC 288, main sequence stars, BV photometry obs. 1−36199
in NGC 5128 (Centaurus A), bright globular cluster props. and distance 1−4945
in NGC 5128 (Centaurus A), discovery of first bright globular cluster 1−4944
in NGC 5128 (Centaurus A), IR photometry 1−22849
in NGC 5128 (Centaurus A), obs. of brightest assoc. globular clusters 1−40535
NGC 5139 (ω Centauri), red giant stars, heavy element abundance var. visible spectra obs. 1−44559
NGC 6284, metallicity and distance, new variable stars identification 1−36344
NGC 6535, colour magnitude diagram from photometry obs. 1−22846
NGC 6712, discovery of O-type subdwarf star (C49) 1−9479
NGC 6752, chemical abundances in red giant stars 1−44597
NGC 6752 field of view, faint QSO candidates, photometry and spectra obs. 1−32771
NGC 6934, period changes in RR Lyrae stars 1−9513
origin, primordial clusters hypothesis rel. to first stars and galaxies form. 1−17917
Palomar 12, anomalous globular cluster, colour-magnitude photometry to main sequence 1−9585
photometric investigation by photographic equidensity curves *(German)* 1−27390
rotation, apparent, contrib. from cluster translational motion 1−9588
rotation from radial vels., tangential vel. effects 1−22843
space motions, appl. to Galaxy overall mass distrib. determ. 1−17896
Terzan 2, X-ray burst imaging and spectral var. 1−22848
47 Tucanae, abundances, photometry, obs. 1−54564
47 Tucanae, mixing and primordial abundance vars. effect on stellar spectra and comp. 1−27572
two component systems in dynamical and thermal equilib., heavy star anal. 1−54571
X-ray source masses, appl. of new statistical test 1−32772
young globular clusters in LMC, ages, struct. and stellar mass functions 1−36359

glossaries
perimetry, glossary of photometric and radiometric terms *(Italian)* 1−48

glow discharge lamps *see discharge lamps*

glow discharge microphones *see microphones*

glow discharges
afterglow plasma, electron energy distrib. functions, charged-particle diffusion and distrib. function 1−29943
air, dry, breakdown and V-I characts. in crossed mag. and elec. fields 1−11612
air, positive glow corona, partition into two patches emitting alternately 1−42233
air, transverse flow, glow discharge, electric field pot. distrib. 1−15666
ASDEX, conditioning by glow discharge 1−29921
cathode to anode propag. time of luminous pulse, flow to arc transitions *(French)* 1−11603
electron and ion behaviour in cathode region of discharge studied by Monte Carlo techniques 1−15719
electron component kinetics in turbulent electron beam discharge plasma in diatomic gases 1−2145
electron temperature depend. on transverse mag. field, spectroscopic meas. 1−2239
EM millimetre wave radiation, bremsstrahlung stimulated emission 1−24381
emission spectroscopy of glow-discharge and sputtering plasmas used in amorphous Si:H film deposition 1−29910
flowing gas temperature, glow discharge effects 1−15679
fluidised-bed reaction system, static charge reduction using glow discharge 1−39695
fossil fuels, plasma chemistry, book contrib. 1−34179
gas discharge and their appl., conference, Edinburgh, Scotland (Sept. 1980) 1−13934
hallow cathode discharge, excitation temp. determ. 1−42219
high pressure gas discharges, pulse forming networks, coupling energy transfer efficiency 1−38187
hollow cathode discharge, metal ions regime, diagnostics 1−29933
hollow cathode discharge, noise, signal magnitudes and detect. limits by optogalvanic spectroscopy 1−11602
hollow cathode discharge, rot. temp. meas. 1−40784
inert gas, glow discharge parameters, fluctuations 1−38183
inert gas ion penetration into metal, treated in glow discharge *(Ukrainian)* 1−38642
inert gases, magnetised, ordered and disordered plasma structure obs. 1−7021
inert-gas mixtures, plasma, current runaway and spatial struct. formation 1−15159
ionisation, overheat instability, CO_2 laser, glow discharge *(Russian)* 1−25083
ionisation waves, nonlinear modulation in positive column 1−52008
Langmuir probe appl. in sputtering techniques 1−39238
laser-beam detection with atmospheric-pressure glow discharges 1−24981
low-pressure gasfilled proportional scintillation counter light yield 1−1018
magnetic field glow discharge source, use in steel anal. 1−46944
magnetic field glow-discharge source, use in anal. of mild and alloyed steel 1−46945
medieval glass, corrosion retardation by glow discharge film 1−53313
microwave interactions in glow discharges, plasma transport coeffs. 1−38050
non-self sustaining glow discharge instability following removal of ionising beam 1−15665
nonuniform plasma, self-absorpt. method meas. 1−38153
one-dimensional steady state discharge, anal. 1−2269
optogalvanic double-resonance spectroscopy 1−10023
ozonizer, prebreakdown phenomena between glass-glass and glass-metal electrodes 1−15703
Pd, determination in ores, spectrochem. method using hot hollow cathode 1−2270
plasma chemistry, book 1−32811
plasma displays, constricted negative glow, engineering and graphical approach 1−15659
plasma etching of Si, SiO_2, chem. processes, plasma emission spectrum anal. 1−43563
plasmatron, glowing arc, elec. field intensity in turbulent air stream 1−38169
positive glow corona, point-to-plane, current density on plane electrode obs. 1−15706
positive streamer corona, fine structure and propagation mechanism 1−20010
sputtered cathode species in glow discharge, negative ion form. 1−38167
steel, stainless, type 304, roughness factors, Ar ion bombardment and glow discharge cleaning effect 1−26339
steel, stainless, type 316L+N, roughness factors, Ar ion bombardment and glow discharge cleaning effect 1−26339
steel surface, anal. by modified glow discharge spectroscopy 1−7442
transition metals, reactive sputtering, glow discharge mass spectrometry 1−39211
vortex glow discharge, radius and electron distrib. 1−42244
Ag II hollow cathode laser, multiwatt operation 1−29259
Ar arc welding, glow discharge column parameter determination 1−51998
Ar glow discharge, thermal balance on closely ranged electrodes 1−52000
CO_2 compact high-pressure laser, excitation with surface corona stabilised glow discharge 1−41736
CO_2 high-repetition-rate pulsed laser, gasdynamic disturbance influence on self-sustained discharge stability 1−41658
CO_2 laser, TE, role of additives *(Rumanian)* 1−15150
CO_2 laser medisum, volumetric photo-preionisation meas. by VUV radiation 1−15152
CO_2-N_2 mixture, non-self sustaining glow discharge instability following removal of ionising beam 1−15665
CO_2-N_2-H_2 mixture, non-self sustaining glow discharge, instability following removal of ionising beam 1−15665
Cu II hollow cathode laser, multiwatt operation 1−29259
F polymer films, surface modification by glow discharge 1−8457
H, RF glow discharge cleaning of stainless steel 1−23851
He, cathode fall and negative glow simulation studies 1−15718
He glow discharge, ionisation current growth theory 1−46946
He glow discharge, spectrosc. investig. 1−38152
He, quenching and excitation transfer in n=4 sublevels 1−46943
He-Cd panchromatic hollow cathode laser emitting at 12 wavelengths 1−51507
He-Cd^+ white light laser using novel tube struct. 1−46370
He-Cu hollow cathode laser with multiple electrodes 1−29293

glow discharges continued
He-Hg discharge, cathodic zone self consistent microscopic study 1−15163
He-Kr laser with transverse hollow cathode discharge, Kr II quasi-CW lines 1−24394
He-Ne glow-discharge laser, dynamic resist. 1−29255
Mg, spectral line intensity in hollow cathode discharge, Na and mag. field effects 1−1174
N-O gas mixtures at low press., impulse discharge processes during glow to arc transition 1−15715
N_2, $C^3\pi_u$ state in RF glow discharge, excitation spectra 1−41369
N_2 plasma, excited state, vibr. temp., rot.-vibr. transition, glow discharge 1−42253
Ne-He glow discharge, elec. characts. and degree of dissoc. of positive column 1−15678
Ne+Ne(He), $2p^53p$-$2p^54d$ spectral lines, low press. shift 1−37156
O_2 glow discharge, positive column, O_3 generation, reaction kinetics 1−34134
Pb hollow cathode discharge laser action, excitation mechanism 1−51455
Pb II, CW laser oscill. of 1.32 μm, 537.2 nm, 666.0 nm and 939.6 nm transitions in hollow cathode discharge tube 1−29265
Pd, permeability of and interaction with H_2 in glow discharge, gas impurities effect 1−31903
Si, amorphous film, glow discharge prep. and props. *(Japanese)* 1−43276
Si, DC reactive sputtering in Ar-H_2, glow discharge mass spectrometry 1−43258
a-Si:H, glow discharge films for solar cells, photovoltaic props. 1−4195
Si:H film, B doping technique using glow discharge 1−42406
Si:N amorphous film, elec. and optical props., doping influence 1−47767
SiH_4, mag. field effect on glow discharge, a-Si:H film preparation 1−34130
SiH_4-NH_3-H_2 plasma, optical emission spectroscopy during growth of Si_3N_4 1−46938
a-Si:F, H glow discharge films, for solar cells, photovoltaic props. 1−4195
XeF* excimer form. in hollow-cathode glow discharge, inert gas-halogen carrier mixture 1−53418

GO calculations
acetylene, cis and trans, excited singlet electronic state, SCF CI calcs. 1−33373
bicyclobutane, ab initio charge deformation density from extended Guassian basis 1−33371
diatomic molecules, dissoc. energy, bond lengths, GO calcs. 1−10633
first row atoms, universal Gaussian basis sets 1−1102
hydrocarbons, C_1, Gaussian functions, charge parameters 1−10628
hydrocarbons, C_2, Gaussian functions, charge parameters 1−10629
III-V semiconductors, electronic struct. using simple orbitals 1−20629
nonpolar exchanges, FSGO model *(German)* 1−46060
Rydberg orbitals, Gaussian basis functions 1−41298
X_{12}^{ρ} operator, Gaussian matrix elements, reduction to confluent hypergeometric functions 1−10626
Al (111) film, self-consistent linear combination of Gaussian orbitals calc. 1−34759

gold
see also nuclei with .....
α-band hole excitation energies, hole-phonon interaction 1−7557
additive-free hard Au plating for electronics appls., chemical aspects 1−8246
adsorption of ^3He or ^4He, binding energy meas. by dynamic gas diffusion technique 1−42604
adsorption of Br_2 on reconstructed (100) surface, LEED, thermal desorption, and work function meas. 1−7468
adsorption on amorphous C substrate, atomic motion and distrib., STEM obs. 1−25566
anodic dissolution in aq. alkaline cyanide solns. at low overpotentials 1−17066
atom, electron impact L-subshell ionisation cross-sections, 60-600 keV 1−1388
atom, L- and M-shell photoelec. cross-sections 1−37163
atom, M X-ray production cross sections for proton impact 1−24265
atoms, accumulation and storage in magnetic traps 1−15034
atoms, extraction from chambered electrode in Cl stream, spectrochemical anal. 1−4134
black coatings with high elec. resist., for IR and visible detectors 1−37564
cathode species in glow discharge, negative ion form. 1−38167
chemisorbed pyridine, surface enhanced Raman spectra 1−43104
clusters, band struct., size depend., XPS study 1−42669
clusters, mobility on amorphous C substrates 1−34604
clusters, vacuum deposited on C surfaces, band struct., photoelectron obs. 1−16654
coatings, mech. props. meas. 1−12784
colloidal, paracrystal, stacking faults, X-ray anal. 1−30251
core level binding energy shifts of Ni overlayers 1−52104
core-valence transitions, relativistic tight-binding calc. 1−7513
crystallites, surface reconstruction, Moire fringes, diffr. spots 1−25541
crystallites on graphite cleavage surface, equilib. shape, surface and interfacial energies 1−20550
crystallites on graphite substrate, equilib. shape 1−2367
cubic crystals, slightly distorted, Coulomb type defects, X-ray exam. *(Russian)* 1−2425
dendrite on graphite, crystallite morphological modification by heat treatment *(French)* 1−30605
deposit formation from rounding rocks and minerals in hydrothermal soln. flows *(Russian)* 1−13498
deposited on alumina, valence-band electronic struct., XPS calcs. 1−25627
diamond-Au Schottky barriers, photoelectron spectra meas. 1−30808
diffusion in Pb, press. effects 1−30485
diffusion in Si, kick-out mechanism 1−20472
diffusion in Si mechanism and kinetics 1−25501
discontinuous film on GaAs, effect on GaAs-electrolyte contact props. 1−38848
discontinuous metal films, elec. cond. and current noise theory over wide temp. range 1−30842
divacancy interaction energies and relaxations, static lattice model 1−42373
elastic constant depend. on press. 1−52215
electrical resistivity, low temp., electron-phonon contrib. 1−7582
electrode, adsorbed pyridine, surface plasmon enhanced Raman scatt. freq. and angular resonance 1−35053

gold continued
electrode, dielectric surface excess, solid-electrolyte interface anisotropy 1−34771
electrode, pyridine (tetraalkylammonium) ion adsorpt., reson. Raman scatt. 1−39100
electrodeposit, porosity 1−53361
electrodeposit surface quality control, Auger Electron Spectroscopy appl. 1−8579
electrodeposited film, thermal cond. meas. technique 1−32984
electrodeposits, thick, soft and hard, microstructural characterisation 1−43529
electroless plating on III-V cpd. crystals 1−16705
electron scattering cross sections, high energy, 1.2-3 MeV 1−30007
electron structure, relativistic, APW method *(Ukrainian)* 1−38707
electron-phonon scatt. rate from magnetoacoustic expts. 1−16217
electron-phonon scatt. rates from magnetoacoustic expts. 1−12017
electronic configuration, model pseudopot., calc. 1−30625
electroplate surface, Co-hardened, SIMS anal. 1−47336
electroreflectance at interface with electrolyte, anisotropy 1−35017
energy band dispersion, photoemission from Fermisurface optical transitions 1−12635
energy linearised scheme, relativistic band struct. calc. 1−20607
fatigue damage prediction and dislocation distrib. in single crysts. 1−52137
field-free emission current spectrum, diffr. effects 1−12608
film, anomalous plasma absorption bands, resonance interaction effect on spectroscopic characts. 1−48185
film, Au, with $KReO_4$ overlayer, broadband IR surface EM wave spectroscopy 1−35109
film, evap. in vacuo, water wettability, organic contamination effect 1−38626
film, granular, absorpt. band obs. rel. to photon excitation of surface plasmons 1−43200
film, on Si (111), reflection electron microscopy and RHEED study 1−2788
film, sputtering yields for Ar and O_2 ion bombardment, Rutherford backscatt. obs. *(Japanese)* 1−31260
film, transient temp. meas., elec. resist. method 1−37777
film growth on clean and oxidised CdTe and InP surfaces 1−16362
film on Ag, surface plasma oscillation dispersion, ATR study *(German)* 1−38830
film on SiO_2, interface reactions, XPS study 1−38674
films, discontinuous, anomalous light absorpt., struct. 1−3516
foil, relative stopping powers for He^+ and D^+, effective ion charge target depend. 1−38417
foil thickness meas. from convergent beam diffr. patterns 1−50101
growth on Mo (110) surface, Stranski-Krastanov mode, AES study 1−2825
Hall effect, background to discovery 1−32829
hard Au deposits, electroplated additive free, inclusions obs. 1−52448
ion-plated layers on stainless steel, friction props. in vacuum at elevated temps. 1−12878
K-shell photoelectrons, transverse polarisation, prod. by 662 keV unpolarised photons 1−12626
lamellar gratings, power losses, 2-11 μm wavelengths 1−19418
laser light absorption in long-pulse high-irradiance experiments 1−34050
layer on Si (111), oxidation enhancement, AES and EELS study 1−48548
light-ion neutralization behavior in the 25 to 150 keV range using a medium-energy ion-reflection spectrometer 1−16645
liquid, dielec. const., s-d hybridisation effect, forbidden zone width and elec. resist. *(Russian)* 1−26107
magnetoresistance, transverse, meas. 1−42746
melt, struct. and density, neutron diffr. obs. 1−25151
metal island film, adsorbed organic mols., giant Raman scatt. and fluoresc. 1−35047
monolayer on Pt (100), enhanced reactivity 1−17104
monolayers, on Si substrate, struct. determ. by LEED and AES 1−52454
native gold identification in conglomerate sample, ^{195}Au radioisotope method 1−44344
neutron beam (n,2n) recoils, transverse range meas. 1−7211
NMR linewidth, nuclear spin interaction 1−47962
nucleation on NaCl, depend. on deposition rate and time 1−20586
optical constant determination method, soft X-ray region, using transmission gratings 1−15255
overlayer on Ni, core level binding energy shifts 1−52104
passivation in aqueous alkaline cyanide 1−16968
photoemission, angle resolved, energy coincidence method 1−48235
polyacetylene-Au contacts, Schottky-barrier form. mechanism, XPS study 1−47730
powder, ultrafine, sintering, necking stage 1−48298
protective coating, Si on sapphire films, low-temperature CVD growth 1−8235
Raman intensity enhanced from adsorbed pyridine and cyanide 1−35049
recovery from used electrolytes *(Bulgarian)* 1−13014
roughened surface enhanced Raman scatt. by plasmon enhancement of EM fields 1−43105
scattering of 5-30 keV H^+,H^- from surfaces, recoil energy distrib. 1−16640
Schottky barrier height meas. on chemically etched n-$In_xGa_{1-x}P$ 1−16363
secondary electron emission under proton bombardment 1−43230
shear modulus calc., variation limits *(Russian)* 1−43392
single cryst. electrode surface studied by surface plasmon excitation 1−34642
smoke, nucleation and growth of fume particles, time-resolved light scatt. meas. 1−43715
sol particles, adsorption of pyridine (halide ions), enhanced Raman scattering 1−31913
solar cell technology Au contacts and connections, review 1−43766
spherical crystal topography and surface melt after purification by premelt in air 1−2781
sputtered, Kr bubble form. and growth 1−12004
substrate, Pd film growth, VPE, pseudomorphic behaviour and interdiffusion 1−38694
surface, (100), adsorbed Br, UPS study 1−12639
surface, (110), spin polarised electron diffr. *(German)* 1−35154
surface, H(D)(T)(^4He) ion sputtering, Monte Carlo calcs. 1−26337
surface, optical elec. field enhancement arising from surface-plasmon excitation 1−52952

gold continued
surface (100), reconstruction, struct. determ. by LEED intensity anal. 1−47345
surface (100) reconstruction, LEED anal. and struct. models 1−47344
surface (110), reconstruction using spin-polarised LEED 1−38630
surface layer, total current spectroscopy study of film growth 1−7492
thermoelectric EMF, tensile stress and press. effects 1−52548
thin film, discontinuous, coalescence grown, struct., model and expt. 1−38686
thin film roughness, soft X-ray interference and SEM exam. 1−23169
thin films, resistivity and strain sensitivity of continuous metallic films *(Japanese)* 1−16385
thin films, surface erosion and accumulation of D, O and Fe determ. using Rutherford ion backscatt. 1−24987
total current spectrosc. investig. 1−53024
vacancy formation volume, elec. resistance, press. effects 1−20196
vacuum deposited film surface form and orientation, crystal habit effects 1−7494
vapour laser using free transitions of Au atoms 1−33670
welded microwire for low-temperature contacts to GaAs 1−47744
X-ray and gamma-ray photoeffect cross sections 1−48195
Ag-Au island condensate, influence on substrate cond. *(Russian)* 1−34811
Ag_2, electronic struct., ab initio relativistic core pot. studies 1−41302
AgBr:Au sputtered film, insulating SEM specimen prep. using ion beam thin film deposition technique 1−16688
Al/CdS/Au thin film solar cell deposition by cathodic sputtering *(French)* 1−17199
Al-Al_2O_3-Au thin film structs., IR emission under DC bias *(French)* 1−48169
Al-SiO/B_2O_3-Au thin film struct., AC measurements *(French)* 1−52662
Al-SiO-Au thin film structs., IR emission under DC bias *(French)* 1−48169
Au (100) cryst. surface, Pt deposited monolayer, enhanced reactivity 1−17104
Au atom clusters, on W and C amorphous films, image contrast computer simulation for high resoln. EM 1−30017
Au micron-sized particles in UHF discharge, atomisation, absorpt. signals of duration meas. 1−349
Au, O^{q+} ion bombardment, axial channels and convoy-electron prod., detection by coincidence expt. 1−37347
Au ore mineralisation in northern Baikal mountain region, rel. to Precambrian granitoid domes 1−9151
Au^+ cluster ions from liquid source, current-dependent energy spectra 1−8202
Au:He, epitaxial layers, polymorphic transform., X-ray diffr. study *(Russian)* 1−2483
Au:Sb, foil, bulk impurity, surface segregation, XPS 1−42413
Au/Ag butt-jointed films, interdiffusion, overlap width role *(Russian)* 1−11918
Au/Cr bifilm, heat treated, elec. resist. increase rel. to interdiffusion 1−7394
Au/GaAs, out-diffusion of GaAs, ambient effects, AES study 1−30487
Au/n-$GaAs_{0.6}P_{0.4}$ anode, illuminated, quasi-Fermi level and flat band pot. meas. method 1−34745
Au/Zn/Au multilayer ohmic contacts to p-GaAs 1−3062
Au-Al periodic structs., electronic struct., nearly-free-electron model 1−47446
Au-Al/GaAs (110) interface atomic interdiffusion meas. and modulation 1−16103
Au-$CdSnP_2$ surface barrier diodes, anisotropy of photovoltaic props. 1−8712
Au-cermet-Si contacts, elec. characts. meas. 1−7744
Au-Cu-inert gas laser, four-colour emission 1−33669
Au-$Ga_{1-x}Al_xAs$(GaAs) variable-gap structs., photoelec. props., 77 to 370K 1−20812
Au-GaAs Schottky barrier solar cells, effect of excess temp. on conversion efficiency 1−32023
Au-GaAs Schottky barriers, Richardson const. meas. 1−34796
Au-GaAs(110), interface electronics struct., Schottky barrier form., photoemission study 1−8198
Au-n-Si Schottky barrier height, Si grain size effect 1−38836
Au-Ni bimetal epitaxial films, orientation relations at interface *(Russian)* 1−2831
Au-oxide-n-GaAs structure, long-wave photocond. involving semicond.-dielec. interface states 1−52660
Au-Pd sputtered films for coating of non-conductive SEM specimens, improved resolution 1−16689
Au-Pd thin film roughness, soft X-ray interference and SEM exam. 1−23169
Au-Si amorphous interface struct., AES and EELS study 1−30575
Au-SiO_2-GaAs, light transmittance, intermediate layer effect 1−7742
Au-SiO_2-Si, light transmittance, intermediate layer effect 1−7742
Au-SiO_2-Si capacitor, dipole layers at metal-SiO_2 interface 1−3067
Au-Sn-Al metallizations on GaAlAs LED, interfacial void struct. 1−16195
Au-ZnSe Schottky barrier, interfacial layer effect 1−25801
$Au+H^+(He^+)$, impact ionisation, L-subshell alignment 1−6367
Au+H(D)(He) ions, inner-shell ionisation, Coulomb deflection effect 1−15000
Au^{q+}+He, collisions, single and double electron loss 1−15017
Au_2 model systems, relativistic bond contraction 1−6401
Au_3, theoretical prediction of vibr. spectra of group IB trimers, mol. struct. determ. 1−51112
^{197}Au hyperfine field in Fe at const. volume, temp. depend. 1−30689
$CdTl_2Te_4$:Au, fused, surface tension and microhardness 1−7426
$CdTl_2Te_4$:Au, impurity solubility determ. by microhardness method 1−7200
Co-Au, neutron spectrum sensitive monitors, for neutron activation anal. 1−48760
coatings, impurity incorporation during neutral electrolyte deposition 1−38687
Cr-Au thin film deposited on Al_2O_3, Auger depth profiling 1−11995
GaP-Au Schottky barrier, photoresponse obs. of oxidised surfaces, subband gap energy region 1−34793
Ge:Au, fast electron irrad., defect formation, annealing 1−20265
Ge-Au IR receiver, liquid N_2 cooled *(German)* 1−5313
He+Au highly charged ion, single electron capture cross section 1−46113
^{4}He, liquid-Au interface, Kapitza resistance, sound transmission *(Russian)* 1−30542

gold continued
n-InP-Au Schottky diodes, bias-dependent photoluminesc. intensities 1−43157
KCl:Au^-, evidence for crystal field splitting of $^3P_2$ state 1−25668
KCl:Au^+, electronic struct., optical absorpt. band meas., mol. cluster model 1−12530
Nb-Au-Nb planar proximity effect microbridge, critical currents 1−38896
Pb:Au, superconducting, US energy gap meas. 1−42904
S-Au photographic sensitisation, role of Au 1−31882
Si (111)-Au interface, localised state density, Schottky diode interface states 1−52654
Si (111)-Au interface photoemission spectra and electron state systematics 1−16367
Si:Au, amorphous, metal-insulator transition, review 1−47480
Si:Au, Gd, Czochralski growth, optical nuclear polarisation and NMR study of Au cluster formation 1−2492
n-Si:Au, impurity states, solid solution precipitation, γ-irrad. effects 1−42718
Si:Au, laser activated, picosecond switching of multi-kilovolt DC bias at low temp. 1−12141
Si:Au, thermal carrier generation, Au energy level determ. 1−42785
Si:Au,P, nuclear polarisation, optical, in presence of deep impurity levels 1−21084
Si:Au double-injection diodes, deep centre occupancy, impurity photocond. anal. 1−20864
Si:Au p^+-n junctions, DLTS meas. and computer simulation 1−47554
Si:Au p^+n diodes, nature of Au-related defects 1−20656
Si:Au p-i-n diode with deep level, neg. resist. occurrence, criterion and expts. *(Japanese)* 1−20860
Si/Au interface formation, interdiffusion, metallisation 1−52364
Si-Au interface, elec. defects introduced by sputtering and sputter etching 1−30820
Si-Au interface temp. effect, photoemission obs. 1−16655
Si(III)-Au interface, evidence of intermixing at low temp. 1−20399
Su-Si surface-barrier and radiometer background count rate obs. 1−1013
Ti/Pt/Au beam lead metallisation system, Pt penetration in Si 1−31351
Ti-TiO_2-Au three layer thin film structure, elec. conduction props. 1−20880
ZnO-film/Au-substrate concave transducer for scanning acoustic microscope 1−33864

gold alloys
see also gold compounds
α-band hole excitation energies, hole-phonon interaction 1−7557
alkali metal alloys, liq., density of states and cond. calc., metal-nonmetal transition 1−25689
rare earth-Au alloys, R_4Au, amorphous, elec. field gradients and exchange interactions 1−25925
thermodynamic excess potentials, electronic components 1−20420
thin film couples, intermetallic cpd. form. at room temp. 1−35236
Ag-Au, corrosion pitting and tunnelling, surface recrystn. model 1−43608
Ag-Au alloys, dissolution in HNO_3 soln., micromorphological study 1−11870
AgAu, sputtered neutral mass spectrometry using microwave plasma 1−28123
Al_2Au, electron struct., X-ray emission spectra and XPS 1−35123
Al_2Au, electronic struct., multiple scatt. Xα cluster method with k-depend. boundary conditions 1−42681
Au-Ag/steel sliding couples, running props., fundamental aspects and technological implications 1 solubility concept 1−26636
Au-Al intermetallic compound formation 1−2707
Au-Al thin film couples, layered phase growth, optical study 1−7488
Au-Cd, internal friction peaks assoc. with martensitic and reverse martensitic transform. at LF *(Chinese)* 1−48404
Au-Cd (47.5 at.%), reverse thermoelastic transform., release of elastic strain energy as acoustic emission 1−12745
Au-Cd (47.5 wt.%), cooling rate effect on microstruct. and acoustic emission energy during thermoelastic transformation 1−53177
Au-Co, galvanomagnetic effects in solid solution and precipitate phases 1−7591
Au-Co (4.8 wt.%), precipitation kinetics by meas. saturation magnetisation 1−48350
Au-Cs melt, struct. and density, neutron diffr. obs. 1−25152
Au-Cs melt, struct. and density, neutron diffr. in small q region 1−25153
Au-Cs melt, struct. and density, γ-absorpt. method obs. of density 1−25351
Au-Cu, X-ray absorpt. spectra, chem. shifts 1−26302
Au-Dy, ion implanted Dy cryst. field, Mossbauer study 1−47983
Au-Er dil. alloy, EPR studies of near-surface layer 1−34938
Au-Fe, precipitation of α-Fe after annealing, Mossbauer study 1−7986
Au-Fe spin glass, Landau model, fitting to exptl. data 1−25961
Au-Fe spin glass, relax. effects, magnetoresist. meas. 1−25956
Au-Fe(Ni)(Co) amorphous film, Hall effect 1−34686
Au-Ge, amorphous evaporated films, stability, optical props., electronic struct. 1−31213
Au-Ge, liquid alloy, supercooling and thermodynamic props. *(German)* 1−8282
Au-Ge metallic glass, formation and decomp., thermodynamic investigations 1−43319
Au-Ge system, energetics of formation of metastable phases *(German)* 1−8280
Au-Ge/Pt ohmic contacts to Ga As by pulsed electron beams and furnace heating 1−7731
Au-In-Sb, phase equilib., crystal struct. *(German)* 1−8281
Au-Mn, spin glasses, low temp. excitations, evidence of $T^{3/2}$ behaviour 1−34885
Au-Mn(20.7 wt.%), 2D antiphase struct. of $Au_{31}Mn_9$, high-voltage-high resoln. electron microscopy determ. 1−15834
Au-Ni, Auger L_3MM transitions, backscatt. factor calc., Monte Carlo method 1−21301
Au-Ni, weak ferromagnetism and elec. props. 1−42981
Au-Pd(Pt)(Rh), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
Au-Si, dil., dental materials, oxidation props. and RHEED obs. *(Japanese)* 1−48579
Au-Si, metallic glass form., hybridisation, short range order, entropy determ. 1−30360
Au-Si metastable alloy formation induced by ion-beam interface mixing 1−52160
Au-Sn, dil., dental materials, oxidation props. and RHEED Obs. *(Japanese)* 1−48579

gold alloys continued
Au-Sn, dil., self-diffusion and impurity diffusion, solvent enhancement factor 1−7371
Au-Sn, liq., excess heat capacity anomalies, enthalpy of mixing 1−30410
Au-Sn, liquid, heat capacity 1−7346
Au-Sn liq. alloys, enthalpy of mixing 1−47244
Au-Sn(Sb)(Ge)(Fe) dilute alloy, dopant-vacancy interactions *(French)* 1−2500
Au-Yb, dil., Kondo effect, g-value shift, ESR study 1−12261
Au-Yb thin films, ESR study, cryst. field effects and Kondon dilemma 1−21046
$AuAgZn_2$ alloy, kinetics of Heusler-type ordering 1−25466
$AuAgZn_2$ alloy, X-ray study of Heusler-type ordering 1−25200
$AuAl_2$, colour changes induced by cryst. imperfections *(German)* 1−8099
$AuAl_2(In_2)(Ga_2)$, intermetallics, valence band struct., plasmon energies 1−25624
AuCd, electron spin reson. study, hyperfine coupling tensors 1−45997
AuCu-Zn, irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
$AuCu_3$ superstructure, concentration of vacancies, interaction with edge dislocations 1−42416
Au_3Cu, order-disorder transitions, lattice parameters 1−47235
AuCu(II), irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
AuFe, metallic spin glasses, computer model, RKKY interaction 1−21001
AuFe spin glass, specific heat, magnetisation relax. 1−52793
AuFe spin-glass, conc., small-angle neutron scatt. data, anal. 1−7861
AuFe spin-glass, conc., small-angle neutron scatt. data, anal. 1−12327
AuFe, spin-glass state, magnetoresist. meas. 1−12311
AuHg, electron spin reson. study, hyperfine coupling tensors 1−45997
AuMg, electron spin reson. study, hyperfine coupling tensors 1−45997
$Au_{0.95}Mn_{0.05}$ spin glass, annealing-induced phase separation, EXAFS study 1−21010
Au_4Mn ordering initial stages, high resolution electron microscope obs. 1−15768
Au_2Mn_2 ordering initial stages, high resolution electron microscope obs. 1−15768
AuZn, electron spin reson. study, hyperfine coupling tensors 1−45997
Cr-Au vacuum-deposited thin layer thermal stability on GaAs 1−16209
Cs-Au, liq., ^{133}Cs NMR obs. of localised states form. in metal-nonmetal transition range 1−26052
CsAu liquid alloy, structural disorder theory, band struct. 1−46987
CsAu semiconducting liq. alloy, struct. and evidence for ionic bonding 1−25149
Cu-Ag-Au, elec. resist. and electron-phonon interactions, pseudopot. method *(Russian)* 1−2950
Cu-Au, corrosion pitting and tunnelling, surface recrystn. model 1−43608
Cu-Au, dil., thermal diffuse X-ray scatt. 1−43214
Cu-Au, spectrochem. anal., quantitative, Monte Carlo methods appl. 1−21806
Cu-Zn-Au, Martensitic transform., DO_3 order effect 1−26459
(Cu-Au)-Co, superposition of precipitation and solid soln. hardening 1−35268
CuAu alloys, TEM obs. of surface misfit dislocations, rel. to stress corrosion cracking 1−4004
CuAu-type cubic alloys, elastic and mag. props., effect of atomic order *(Russian)* 1−7827
Cu_3Au, dislocation damping and pinning, room temp. to 423K, long-range order degree role 1−42393
Cu_3Au, displacement cascade damage produced by fast particle irrad. 1−42428
Cu_3Au, influence of atomic order-disorder transitions on thermopower and elec. resist. 1−16278
Cu_3Au, radiation damage by recoil atoms from photonuclear reactions 1−42436
Cu_3Au, radiation order-disorder transform., initial transient 1−52256
Cu_3Au, radiation-induced order-disorder transform. 1−20381
$Eu_{80}Au_{20}$, amorphous, electronic, mag. and struct. props. from hyperfine interactions 1−25680
Fe-Au mixed cryst., homogeneous, supersaturated, ^{197}Au Mossbauer spectrosc. investig. *(German)* 1−21102
$Ge_{1-x}Au_x$, amorphous, metal-insulator transition, electron tunnelling meas. 1−42692
$Ge_{1-x}Au_x$, disordered, metal-insulator transition 1−34754
In-Pb-Au alloy, RF plasma oxidised tunnel barriers in Josephson junctions 1−3105
InGaAsP layer lattice-matched to InP, contact with AuZn, comp. depend. 1−3063
La-Au, amorphous, negative temp. coeff. of elec. resist. 1−7579
$La_{80-x}Sm_xAu_{20}$, amorphous, Sm surface mixed-valence state, UPS study 1−30799
$La_{80-x}Sm_xAu_{20}$ amorphous alloys, supercond. and bulk mag. props. 1−30864
Mo-Au vacuum-deposited thin layer thermal stability on GaAs 1−16209
Ni-Au, relation between structural and thermodynamic props. *(German)* 1−20129
NiAu dilute alloys, core level binding energy shifts 1−52104
Pb-Au-In plasma oxidised alloy Josephson junctions, ageing phenomena 1−3104
Pb-Cr-Au alloy for Josephson junction appl., supercond. props. 1−47810
Pb-Sn(Au) alloys, primary dendrite spacing 1−26444
$(Pb_{1-y}Sb_y)_{1-x}Au_x$ metallic galsses, amorphous phase separation and supercond props. 1−42313
Pd-Ag-Au alloy membrane, ^2H to ^1H permeability ratio 1−19799
Pd-Au, interaction of O_2 and H_2, AFS and XPS study 1−47380
$(R_{75}Au_{25})_{100-x}B_x$, (R=Pr,Gd,Tb,Er), elec. and mag. props. 1−3149
SnAu film, liquid-like struct., elec. resistivity 1−25596
Ti-Au conductive thin films, evaporation deposition geometry influence on adhesion 1−35178
Ti-Pd-Au conductive thin films, evaporation deposition geometry influence on adhesion 1−35178
Tl-Au, liq., mag. nucl. spin relax. 1−31053
U_xAu_3, x=1,2, valence bands and core levels, XPS study 1−43247

gold compounds
see also gold alloys
Mossbauer spectrometer performances *(Japanese)* 1−5450
$[Au(CN)_2]^-$, electronic struct. and Mossbauer hyperfine interactions 1−19124
AuCl model systems, relativistic bond contraction 1−6401

gold compounds continued
$(AuCl_2)^-$, electronic struct. and Mossbauer hyperfine interactions 1−19124
$(AuF_2)^-$, electronic struct. and Mossbauer hyperfine interactions 1−19124
AuH, model systems, relativistic bond contraction 1−6401
AuH, relativistic contraction of bond lengths, orbital contraction effect 1−6402

goniometers
crystal orientation determ., appl. of TV image system for light figures *(Japanese)* 1−42268
design, high accuracy for X-ray powder diffr. at controlled temp. 1−28146
electrogoniometer for human elbow joint rotation meas. 1−49149
knee angle, continuous recording instrument 1−44039
Lamoreux, reproducibility in clinical gait meas. 1−53921
optical goniometer-spectrometer, model GS-1M, updated version 1−28068
spectral reflection characteristics meas. using computer-controlled goniore-flectometer 1−18282
triaxial, justification for use in human joint rotation meas. 1−49143
X-ray goniometer, with closed-cycle cooling to about 18K 1−406

GP zones *see Guinier-Preston zones*

grain boundaries
for grain boundary diffusion, see diffusion in solids; for gain boundary segregation, see segregation
see also bicrystals; subboundary structure; twin boundaries
alloys, superplastic flow mechanism 1−43417
alumina, grain growth, inclusion controlled 1−21456
anthracene(-TNB), cryst. grown from melt, struct. perfection, low-angle boundaries 1−30116
Astroloy, grain boundary void nucleation, produced by room temp. deform. and anneal. 1−8350
Astroloy, superalloy, grain boundary void nucleation mechanism 1−2468
austenite, binding energy of B, calc. from autoradiography 1−15904
Barkhausen effect in oriented transformer sheets, role of grain boundaries 1−52800
bicrystal, interfacial torque and boundary structure 1−2466
α-brass, dezincified, sintering 1−53130
cavity growth, transient, controlled by grain boundary diffusion 1−52149
ceramic, cavity form. suppression, rel. to superplasticity 1−3832
cholesteric blue phase, quasicrystalline behaviour and phase transition 1−34222
computed grain boundary energy, vol. depend. 1−15906
consolidation process, contrib. for electronic theory 1−53126
control of grain boundary effects using neutron transmutation doping and laser annealing techniques 1−2469
creep and cavity growth under uniaxial stresses in polycryst. material 1−52222
creep cracking, intergranular, concept of fracture state *(Czech)* 1−48486
crystal subgrain misorientations, obs. by X-ray topograpny in reflection 1−2465
diffusive cavitation of grain boundaries, plastic creep flow effects 1−2705
dislocations, core spreading in high angle boundaries 1−25279
fatigue crack propagation rate, model relating low cycle fatigue props. and microstruct. 1−7250
FCC alloys, fracture under hot-forming conditions 1−39460
FCC crystals, hard-sphere, systematic study of tilt-boundaries 1−15905
FCC metal, grain boundary model, electronic struct. calc. 1−2919
field-dependent grain-boundary diffusion in polycryst. material, anal. 1−42576
film, monocryst., thermopower variations with cond., bulk electronic mean free path determ. 1−30841
flux pinning by voids and precipitates, proximity effect 1−7782
hierarchic order of the solid state 1−30223
ice VI, high-pressure, liq. figures due to internal melting 1−20361
IN-738 Ni-base superalloy, creep life extension, regenerative heat treatments 1−16860
Inconel alloy MA 754, oxide dispersion strengthened, creep and stress rupture behaviour 1−12808
interfacial torque and boundary structure 1−2466
intergranular crack growth, at high temps. 1−12877
low-angle grain and block boundary energy near specimen surface, dislocation model *(Russian)* 1−11770
metal, FCC, (130) symmetrical tilt grain boundary, electronic struct. 1−34654
metal wire, bamboo-struct., diffusional creep rate, grain boundary grooving effect, correl. determ. of surface tension *(French)* 1−43445
metallic film, monocryst., electronic transport parameters, two-dimens. model 1−47765
metallic thin films, hyperbolic approximate form of the Mayadas-Shatzkes function 1−52667
metals, FCC and BCC, effect of grain orientations scatter on elastic props. of axial textures *(Russian)* 1−43392
metals, high temp. He embrittlement, model based on grain boundary cavity nucleation and growth 1−15949
metals, large-angle grain boundaries orientation and energy, determ. with two microscopes 1−31783
metals, polycryst., creep and creep-fatigue, high temp., deform. and intergranular fracture 1−34416
metals, superplastic flow mechanism 1−43417
metals and alloys, irradiated, vacancy dislocation loop growth 1−38410
migrating half-loop, interaction with adsorbed impurity cloud, detachment effect 1−25317
migration of grain boundaries with nonequilib. struct. 1−52153
model deformation, constitutive model, physically-based 1−8363
Monte Carlo simulation 1−2467
multicomponent systems, analysis of chemisorption 1−42632
naphthalene, cryst. grown from melt, struct. perfection, low-angle boundaries 1−30116
O-lattice theory, optimum interphase boundary, role of invariant boundary 1−53172
phenazine, cryst. grown from melt, struct. perfection, low-angle boundaries 1−30116
polycrystals, modified Sachs approach to plastic deform., alternative to Taylor model 1−20304
polycrystals, yield strength and statistical grain size distrib. relationship 1−20307
precipitate size distrib. estimation, stereological method 1−35473
Rene 77, low cycle fatigue at elevated temp. 1−53265
sapphire large-diameter tube growth, grain boundary size 1−30110

grain boundaries continued
Sapphire plate crysts., grown by EFG technique, growth orientation rel. to grain boundary generation 1−3609
sapphire shaped crystal, defect struct. rel. to growth conditions 1−2361
sapphire shaped crystal growth by Stepanov method, morphology and struct. perfection 1−2362
scattering, internal boundary, heat cond. 1−2716
secondary recrystallization, conditions of development in material with strong preferential orientation 1−8326
segregation during quenching, method for evaluation 1−53189
sintered and hot-pressed ceramic intergranular glassy phases and Si-SiO_2 interfaces, electron microscope obs. 1−16193
solar cells, polycrystalline, effect of open-circuit voltage of grain boundaries within junction space-charge region 1−32018
solute diffusion coeff. determ. without grain boundary thickness assumptions 1−42399
solute equilib. intergranular segregation, applied stress effects 1−38544
steel, 12%Cr martensitic stainless, role of Mo in P-induced temper embrittlement 1−43500
steel, $2^1/_4$% Cr 1% Mo, uniaxial creep life, effect of hydrostatic pressure 1−31552
steel, AISI 4340, retained austenite at the prior austenite grain boundaries 1−21491
steel, alloy, creep cavitation and rupture under uniaxial and multiaxial stresses 1−35342
steel, alloy, isothermal thickening of cementite allotriomorphs 1−39338
steel, alloy, methane bubbles after H_2 exposure, direct obs. using TEM 1−43496
steel, alloy, temper embrittlement, control by intercrit. and low temp. austenitising heat treatments 1−43375
steel, austenitic, type 21-4N, grain boundary reaction nodules, tensile props., fracture, deform. 1−26538
steel, austenitic stainless, creep-fatigue interaction, interactive damage eqn. 1−34414
steel, austenitic stainless, elevated temp., low-cycle fatigue life, effect of rising mean strain 1−8436
steel, austenitic stainless, evaporation of elements during vacuum annealing 1−30399
steel, austenitic stainless, exposed to oxygenated Na, form. of $NaCrO_2$ 1−21769
steel, austenitic stainless, fatigue, low cycle high temp., damage mechanisms 1−35393
steel, austenitic stainless, fatigue, low-cycle, under creep-fatigue interaction 1−8414
steel, austenitic stainless, fatigue life, low-cycle, high temp., effect of strain wave shape 1−43495
steel, austenitic stainless, fine-grained, tensile behaviour at high temps., effect of spreading of grain boundary dislocations 1−3841
steel, austenitic stainless, hot rolling, behaviour of austenite, TEM and optical metallography study 1−21497
steel, austenitic stainless, intergranular corrosion mechanism in oxidising acids 1−26673
steel, austenitic stainless, oxide morphology, differences on large- and small-grained material 1−43604
steel, austenitic stainless, sensitisation and corrosion susceptibility, effects of deform. induced martensite 1−43605
steel, austenitic stainless, sigma phase obs. and anal. using non-aq. electrolyte-potentiostatic etching method *(Japanese)* 1−43600
steel, austentic stainless, fatigue, low cycle, thermal and isothermal, tensile hold time effects 1−35389
steel, C 1−53266
steel, Cr-Mo, creep life, effect of hydrostatic press. 1−16859
steel, fatigue crack initiation and propagation in low C martensite, role of prior austenite grains 1−8409
steel, ferritic, creep crack propagation, effect of prior damage 1−16896
steel, heat-resistant, creep, prefracture microstruct. changes 1−16895
steel, high strength, low alloy, ductile failure, effect of temper-embrittling heat treatment 1−35356
steel, low alloy, temper embrittled, anomalous sputtering effects in AES grain boundary anal. 1−16790
steel, low alloys, mech. props., effect of precipitated VN and V(C,N) phases 1−16783
steel, mild, grain boundary microchemistry and stress-corrosion failure 1−48578
steel, Mn, brittleness, effect of chem. comp. and struct. 1−48492
steel, Mn, wear resist. and strength-toughness, −196°C to room temp. *(Korean)* 1−12852
steel, Mn-Cr-V, precipitation hardening, struct. changes *(Czech)* 1−3758
steel, Mn-Ni-Mo, heat affected zone, mech. props. after simulated heat treatment *(Czech)* 1−12768
steel, Ni-Cr, grain boundary strength, effect of Sb, Sn and P 1−53267
steel, Ni-Cr, P-doped, comparison of Auger electron spectroscopy and etching method for grain boundary segregation of P 1−3749
steel, plain C, US prediction of grain size, strength and toughness 1−43625
steel, pressure vessel, weld simulation heat-treated specimens, TEM invest. rel. to stress-relief cracking 1−35384
steel, stainless, austenitic, Ti-stabilised, precipitation reactions 1−16786
steel, stainless, cold-rolled 18Cr-8Ni, microstruct. changes with annealing *(Japanese)* 1−26493
steel, stainless, two-phase struct. prep., α, γ, α/γ boundaries study rel. to purity *(French)* 1−30244
steel, stainless 316, grain boundary precipitation, ageing effect, SEM and optical obs. 1−3751
steel, tool, fracture surfaces, heat treatment and fracturing temp. effects, AES obs. 1−21580
steels, fatigue, low cycle, effect of thermal cycle 1−39453
subgrain boundaries, numerical study of long-range internal stresses 1−25289
subgrain structure formation in pure crystals grown from melts 1−20083
substrate grain boundary propag. into overgrowth, field ion microscope studies 1−11998
superalloys, heat resistant, hot workability *(Japanese)* 1−26509
superplasticity, micrograin, effect of thermal and mech. history 1−52221
surface mass tranport process kinetics *(Japanese)* 1−20526
texture influence, on collective props. of surfaces and interfaces *(French)* 1−35275
thermal cond. and diffusivity at high temp. phonons grain-boundary scatt. effect 1−16272
thermal independence of grain-boundary reflection coefficient 1−52669

grain boundaries continued
thin film conductor, grain boundary and vacancy diffusion model for electromigration induced damage 1−16100
thin films, diffusion processes 1−30486
tilt boundaries, asymm., atomistic faceting 1−52152
vacancies structure, in high angle grain boundaries, simulation 1−2434
welds, subjected to electromagnetic action secondary boundaries 1−47092
Ag thin film bicrystals, gas bubbles generated by thermal aging, TEM study 1−38692
Ag, thin film bicrystals, twist grain boundaries, dislocation networks, TEM study 1−25278
Ag thin film resistivity, grain-boundary scatt. effect meas. 1−7759
Al alloys, new grain boundary etchant 1−48624
Al bicrystals, plane-strain compression 1−21557
Al bicrystals, plastic deform. of specimens having $\Sigma 7$ and σ 21 coincidence tilt boundaries 1−8366
Al, commercially pure, grain boundary sliding as origin of superplasticity 1−53235
Al, dynamic recovery at large plastic strains, struct. aspects 1−16804
Al film, Hall effect 1−47615
Al, incompatible bicrysts., strain accommodation 1−21558
Al, point defect absorption mechanisms by grain and twin boundaries 1−20240
Al, superpure, reversible H trapping at grain boundaries 1−11874
Al thin film resistivity, grain-boundary scatt. effect meas. 1−7759
Al-Cu-Mn alloys, short surface fatigue cracks, growth rate models 1−53269
Al-Mg (10 wt.%), rheocast, special grain boundaries 1−31451
Al-Mg-Mn (5, 0.8 wt.%), duplex deform. substruct. form. during extrusion 1−31483
Al-Mg-Si, fracture mechanisms 1−3916
Al-Mg-Si alloys, mech. props., effect of dispersoids and grain size 1−21590
Al-Mg-Zn (5.6-6.1, 2.1-2.5 wt.%), deform. and fracture at elevated temp. 1−21560
Al-Mg-(Zn), fracture toughness, intermetallic inclusions influence 1−53289
Al-poly-Si Schottky barrier solar cells, non-exponential I-V charact. 1−43781
Al-Ti-Ga alloys, superplastic behaviour after grain boundary enrichment with Ga 1−16857
Al-Zn (11 wt.%), polycrystn., dislocation struct. during transient and steady state creep 1−12839
Al-Zn (78 wt.%), superplastic phenomena, grain growth obs. *(Polish)* 1−16829
Al-Zn-Mg, anodic polarisation at grain boundary region and ageing embrittlement by stress corrosion in NaCl aq. soln. *(Japanese)* 1−43479
Al-Zn(-Mg), grain boundary precip., effect of boundary struct. 1−53183
Al_2O_3, grain boundary struct., electron diffr. and microscopy study 1−38382
Al_2O_3, polycrystalline, chemical diffusion during oxidation 1−38595
α-Al_2O_3, transparent ceramic, microstruct. 1−8444
Al_2O_3-Y_2O_3, grain-boundary segregation, STEM 1−26469
Au-n-Si Schottky barrier height, Si grain size effect 1−38836
Au-Sn-Al metallizations on GaAlAs LED, interfacial void struct. 1−16195
$Ba_2Bi_4Ti_5O_{18}$, ferroelec. perovskite, high resoln. imaging 1−34209
$Ba_{0.5}Sr_{0.5}Nb_2O_6$:Fe^{2+}, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
$BaTiO_3$ ceramic, semiconducting, PTC action of single grain boundary, direct exam. 1−2958
Be, plastic flow, imbedded zone form., obs. during creep *(Russian)* 1−3826
CaF_2, grain growth, inclusion controlled 1−21456
CdS chemically sprayed film and cell analysis, structural approach 1−8723
Co-Ni (33-45 wt.%), low cycle fatigue, influence of slip 1−31651
Cr-Au thin film deposited on Al_2O_3, Auger depth profiling 1−11995
Cu, fatigue, cavity spacings determ., limitations on use of intergranular fracture surfaces 1−12863
Cu, fatigue induced grain boundary cavitation, SANS obs. 1−3917
Cu, grain boundary cavity growth, during high-temp. creep and fatigue 1−43443
Cu, incompatible bicrysts., strain accommodation 1−21558
Cu, point defect absorption mechanisms by grain and twin boundaries 1−20240
Cu substitutional solid solutions, impurity grain-boundary relax. *(Russian)* 1−47095
Cu, tensile flow stress at room temp., effect of grain size and strain 1−21555
Cu thin film resistivity, grain-boundary scatt. effect meas. 1−7759
Cu wire, bamboo-struct. creep in and out of diffusion-controlled deform. stress range *(French)* 1−43446
Cu/Ni bilayers, high angle grain boundaries, nucleation and migration, TEM study 1−38385
Cu/Ni bilayers, nucleation of high-angle grain boundaries, TEM obs. 1−38384
Cu-Ag (2 at.%), radiation-induced segregation near grain boundaries and voids, direct obs. 1−16789
Cu-Bi, striation and faceting of grain boundaries due to Bi 1−52150
Cu-Cr-Mg precip. hardened alloy, fatigue, low cycle high temp., damage mechanisms 1−35393
Cu-Fe (2 at.%), radiation-induced segregation near grain boundaries and voids, direct obs. 1−16789
Cu-Fe (2 wt.%), generation of migrating boundaries by vacancies, precipitation kinetics 1−20237
Cu-Ni, sputtering, Cu depletion from grain boundary region, 873K 1−26345
βCu-Zn-Al alloy, dislocations before and after thermoelastic martensitic transform., X-ray topography 1−21446
Cu_2S film growth on CdS faceted substrate, growth rate, morphology, grain boundaries 1−34590
Fe alloys, grain boundary segregation phenomena, interpretation using scanning Auger spectroscopy 1−21453
Fe, Armco, fatigue crack growth rate and grain size 1−31619
Fe, Armco, microalloyed, recrystn. at critical degrees of deform., grain boundaries condition effect 1−43363
Fe binary alloys, dil., intergranular segregation, effects of ferromagnetism 1−39337
Fe-C-Si facing alloys, wear resist. and fatigue strength, effect of Si 1−16901

grain boundaries continued
Fe-Co-V (50, 0.4-2.0 at.%), ordering transformations 1−35251
Fe-Cu compacts, sintering, anal. of dimens. changes 1−3662
Fe-Ni (30 wt.%), martensite nucleation, isothermal vs. athermal behaviour 1−16778
Fe-Ni-Ti, austenitic, cellular segregation entailing low-angle boundary migration *(Russian)* 1−12746
Fe-P, spontaneous microcrack nucleation at grain boundaries and brittle fracture *(Russian)* 1−26590
Fe-Si (3 wt.%), coated with electroinsulating film, domain struct. and grain boundary obs. 1−39559
Fe-Sn, Sn segregation of grain boundaries, EXAFS meas. 1−43346
Fe_3O_4, grain growth, sintering study 1−3679
GaAs grain boundaries, band bending and passivation studies 1−34650
GaAs, grain boundary and interface investigations using AES and complementary surface anal. techniques 1−21884
GaAs MOS polycrystalline solar cells with grain boundary passivative using oxidising etch technique 1−48847
GaAs polycrystal Schottky barriers, grain boundary effects 1−16365
GaAs thin film solar cells with grain boundary edge stabilisation, thermal anodisation 1−48835
GaAs thin films, polycrystalline, high-resolution optical methods for characterisation 1−25812
$Gd_xZr_{1-x}O_{2-(x/2)}$ ceramic, ionic cond., grain boundary effects meas. 1−47291
Ge bicrystal, partial secondary dislocations in grain boundaries, periodic network case 1−42396
Ge bicrystal, partial secondary dislocations in grain boundaries, reactions between external dislocations and boundary 1−42397
He, solid, quasiperiodic ionic current bursts, charged low-angle grain boundary motion 1−42606
HfC-HfB_2, thermal cond. and diffusivity at high temp. phonons grain-boundary scatt. effect 1−16272
$Hg_{1-x}Cd_xTe$, fault struct., TEM and X-ray topography study 1−11755
InAs polycrysts., lattice dislocations generation by migrating boundaries 1−20210
InP bicryst., lattice dislocations generation by migrating boundaries 1−20210
InP, grain boundary and interface investigations using AES and complementary surface anal. techniques 1−21884
InP polycrystal oxides and interfaces, AES, SIMS and XPS obs. 1−16379
$In_{2-x}Sn_xO_{3-y}$-poly Si solar cells, interface study 1−43780
Ir-W:Th, outward diffusion and external oxidation 1−39336
LaF_3, solid electrolyte props. 1−7378
$LiFe_5O_8$ flux grown single crystals, cryst. defects 1−7101
Mg, grain boundaries with nonequilib. struct., migration 1−52153
Mg, grain boundary struct. recover, TEM obs. 1−21524
Mg-Al(0.8 wt.%), deformed in compression at elevated temps., dynamic recrystn. and texture 1−21544
Mg-Mn-Cu, (1.5, 0.3 wt.%), grain boundary struct. recover, TEM obs. 1−21524
$MgAl_2O_4$ ceramic prepared from freeze-dried liq. soln., transparency to the thermomech. treatment 1−16914
$MgAl_2O_4$, polycrystalline, fracture, grain size effect 1−39431
MgO, from natural microcrystalline magnesite, microstruct. charact. 1−3755
MgO, microstructural features of grain growth, correlation to crystallographic orientation *(Japanese)* 1−43385
MgO-NiO, grain-boundary segregation, STEM 1−26469
Mo, in situ TEM fracture obs., plastic zone struct. 1−39440
Mo, single crysts., dynamic aspects of dislocation behaviour near low-angle boundary 1−2449
Mo-Ni, Ni effect on grain boundary migration during sintering 1−8255
Mo-Ru (0.2 wt.%), alloying effect on mech. props. *(Russian)* 1−26543
6NaCl.$CdCl_2$, Suzuki phases, ionic cond. 1−7379
$Nb_3(AlGe)$, superconductor alloyed with Cu, flux-pinning centres 1−25847
Nb_3Sn, multifilamentary, formed by solid state diffusion, growth, and struct., supercond. props. 1−48301
Nb_3Sn, supercond. flux lines, pinning by grain boundaries 1−42930
Ni (111) cryst. with small angle boundaries, CO adsorption, S poisoning effects 1−20570
Ni alloys, grain boundary segregation phenomena, interpretation using scanning Auger spectroscopy 1−21453
Ni crystal, pore coalescence and sintering *(Russian)* 1−20190
Ni, electronic effects of S, grain boundary embrittlement 1−20654
Ni, morphological, mech. and chem. aspects of S behaviour and effects in grain boundaries *(French)* 1−35260
Ni, preoxidised, coated with Na_2SO_4, hot corrosion behaviour *(Korean)* 1−12926
Ni, S induced fracture mode transition at cathodic potentials 1−26620
Ni, sputtered, columnar grain struct. 1−34602
Ni thin film resistivity, grain-boundary scatt. effect meas. 1−7759
Ni-Al (12 wt.%), generation of migrating boundaries by vacancies, precipitation kinetics 1−20237
Ni-base superalloy, H-induced crack growth, effect of low temp. ageing 1−26621
Ni-base superalloys, Co-free, development and props. 1−48503
Ni-Cr-Fe (75, 16, 9 wt.%), intercryst. diffusion and Cr descript. in presence of water vapour, ^{51}Cr tracers appl. *(French)* 1−47283
Ni-Cr-Mo-V rotor steel, temper embrittlement, role of Mn 1−8404
Ni-Cr-Nb-Co (15, 10, 6.8-33.5 wt.%), dispersion and precip. hardening, effect of Co 1−16795
Ni-Cr(Al)(Cu) matrix, composition influence on Ni diffusion into W fibres *(Russian)* 1−47294
Ni-Fe thin films, vacuum deposited, mag. and struct. props., substrate temp. effects 1−42985
Ni-H, effect of H on surface and grain boundary free energies at 1573K 1−25550
Ni-S(Te)(Bi), striation and faceting of grain boundaries 1−52150
Ni-Si (3.7 wt.%), solidified struct., depend. on supercooling *(Russian)* 1−3719
Ni_3Fe, polycrystalline ordered, slip propag., dislocation nucleation, super dislocations, HVEM obs. 1−38372
NiO-Al_2O_3, grain-boundary segregation, STEM 1−26469
NiO-Cr_2O_3, grain-boundary segregation, STEM 1−26469
PLZT, compaction during hot pressing 1−21394
Pb foil, grain-boundary diffusion of ^{119m}Sn, nuclear absorption study 1−20473
grain boundaries continued
$Pb_{0.92}La_{0.08}Nb_2O_6$:$Fe^{3+}$, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
$Pb_{1-x}Sn_xTe$, single crysts., dislocation structs. features 1−30230
PbTe, Bridgman grown single cryst., struct. perfection, thermal growth conditions influence 1−20089
Si, grain boundary and interface investigations using AES and complementary surface anal. techniques 1−21884
Si, low-frequency grain-boundary capacitance 1−30736
Si MIS solar cells, loss mechanism anal. for 13% efficiency 1−43768
Si, multigrained, impurity segregation to grain boundaries, SIMS and AES study 1−30405
Si, polycrystalline, damage-free polishing technique 1−48540
Si, polycrystalline, recombination velocity at grain boundaries under optical illumination 1−30760
Si, polycrystalline, solar cells, crystallographic structure effects on elec. props. 1−43779
Si polycrystalline solar cells, effect of reduction in grain boundary recombination states 1−4203
Si, resistivity changes at grain boundaries 1−47647
Si ribbons grown by capillary action shaping, struct. and elec. characterisation of defects 1−2357
Si ribbons grown by EFG, imperfections and impurities 1−2358
Si solar cells, using polycrystalline Si with controlled Ti additions, props. obs. 1−32015
Si, struct. of grain boundaries, electron diffr. and microscopy studies 1−52151
Si:As polycryst. films, As segregation to grain boundaries 1−20387
Si:P(B)(As), dopant segregation, Hall and resist. meas. 1−38401
Si_3N_4 hot pressed, grain-boundary sliding role in fracture at high temps. 1−26598
Si_3N_4-CeO_2 (Ho 20 wt.%) hot pressing 1−48307
$SmCo_5$ permanent magnets, mag. props. and microstruct., effect of comp., sintering and heat treatment temp. *(Chinese)* 1−35405
Sn-Pb eutectic alloy, thermally activated deform. *(German)* 1−8400
Sn-Pb superplastic alloys, anelasticity 1−15951
SnO_2 films, pure and Sb doped, elec. props., annealing and O adsorption effects 1−7763
Ti alloys, microalloying, effect of Y, Gd, Dy, Zr, Hf and Re on mech. props. 1−16844
β-Ti-Mn (10.2 wt.%), slip, grain boundary nucleation 1−52145
β-Ti-Mn alloy, slip behaviour during reverse loading 1−20236
Ti-V-Fe-Al (10, 3, 2 wt.%), phase transform. and tensile props. 1−43376
$(Ti_{1-x}V_x)_4O_7$, impurity-induced stabilisation of intermediate phase 1−12048
$(Ti_{1-m}X_m)_2S(C_{1-n}N_n)$, carbosulphide phase in alloy steels and superalloys *(Chinese)* 1−39340
UO_2:MgO fuel, irrad. performance 1−20259
W, in situ TEM fracture obs., plastic zone struct. 1−39440
W monocrystals, creep behaviour at moderate temp. *(Russian)* 1−48419
W:D, ion implanted, D ion trapping at grain boundaries, atom probe FIM study 1−15913
W-Ni, recrystn. and grain boundary migration during sintering 1−53206
WC-Co composites, grain boundary anal., defect struct., TEM 1−25291
Zn bicrysts. 1−15908
Zn-Al (1.1 wt.%) superplastic alloy deformation behaviour, temp. effect 1−43418
Zn-Bi-In alloys, solid-liquid interfaces, isothermal faceted to non-faceted equilib. transition 1−16154
ZnO varistors, cond. mechanisms, noise, thermionic emission 1−2972
ZnO with intermediate metal oxide layer, macroscopic varistor model 1−3053
ZnS, CVD, polycrystalline, contact damage 1−31531
Zr, grain boundary cavity growth, during high-temp. creep and fatigue 1−43443
ZrC-ZrB_2, thermal cond. and diffusivity at high temp. phonons grain-boundary scatt. effect 1−16272

grain boundary diffusion *see diffusion in solids*

grain growth
alumina, grain growth, inclusion controlled 1−21456
ice, annealing in accreted ice and hailstone growth 1−22412
liquid phase sintering, grain growth anal., numerical method 1−16710
metals and ceramics, microstructure and normal grain growth, theory 1−38380
MnZn ferrite, effect of doping with GeO_2 or SnO_2 on microstruct. and mag. props. 1−30980
recrystallisation nuclei, growth and form. around particles 1−8340
secondary recrystallization, conditions of development in material with strong preferential orientation 1−8326
sintering, submicroscopic homogeneous powders, prep. 1−16711
steel, Al-killed, (001) [001] secondary recrystn. 1−53207
steel, Cr-Mo-(Nb-V), ferritic, C migration and structural evolution and welded heterogeneous joints, tempering *(French)* 1−43372
steel, factors affecting inherent hardenability 1−48375
steel, low C, austenite grain growth, mechanisms and kinetics 1−16816
steels, C, deformed and tempered, recrystn. and grain growth 1−53202
substrate grain boundary propag. into overgrowth, field ion microscope studies 1−11998
thick film conductors, sintering mechanism 1−31377
Al, superpure, recrystn. and grain growth effect of free surface *(Chinese)* 1−35272
Al-Al_4Ca eutectic alloy, microduplex struct., room temp. props., prep. and microstruct. 1−39354
Al-Zn (11 wt.%), polycrystn., dislocation struct. during transient and steady state creep 1−12839
Al-Zn (78 wt.%), superplastic phenomena, grain growth obs. *(Polish)* 1−16829
Al_2O_3-SiO_2 fibre, Cr_2O_3 stabilized, high temp. props. 1−31388
CaF_2, grain growth, inclusion controlled 1−21456
CdO, isochronal and isothermal grain growth during sintering 1−35223
Cu-Sb (0.15 at.%), inner adsorption and collection recrystn., temp. depend. *(Russian)* 1−8315
Fe-Si (3 wt.%), grain growth with (100) <1kl> orientation during annealing 1−8337
Fe-Si (3 wt.%), grain-oriented, decarburization, grain growth, mag. props. 1−8440
Fe_3O_4, grain growth, sintering study 1−3679
Ir-W:Th, outward diffusion and external oxidation 1−39336
LiZnTiMn ferrite, mag. props. rel. to prep. technology 1−8257

grain growth continued
MgO, Cr_2O_3 dopant effect on densification and grain growth *(Japanese)* 1−16723
MgO, fine-grained, mech. props. at large compressive strains 1−39376
MgO, microstructural features of grain growth, correlation to crystallographic orientation *(Japanese)* 1−43385
Nb_3Sn multifilamentary wire, high-field current improvement by two-stage reaction 1−47833
Ni electrodeposits, low temperature recrystallisation kinetics 1−43365
Ni-Zn ferrites, microstructure and grain growth, expt. 1−38381
$PbTiO_3$, amorphous, grain-size development during crystn. 1−42310
SiC, pressure-less sintered, polytypes of plate-like grains *(Japanese)* 1−16727
Si_3N_4 containing MgO, α to β transform. and grain growth during hot pressing 1−48304
Ti, enhanced plasticity in commercially pure specimens subjected to creep testing 1−16861
TiC, sintering and grain growth 1−53149
UO_2, sintered, isothermal grain growth kinetics 1−45626
Zn-Al (22 wt.%), eutectoid, superplastic, differences reported in Region I 1−53244
Zn-Al (22 wt.%), eutectoid, superplastic, differences reported in Region I, reply 1−53245
ZnO-Bi_2O_3 ceramic, sintering and varistor characts. 1−3675
Zr-Cr-Fe (1.14, 0.08 wt.%), β-quenched, abnormal grain growth during ageing, metallographic study 1−3796
$(ZrSn)TiO_4$ dielec. ceramics, rels. between microwave dielec. losses and microstruct. *(Japanese)* 1−48533

grain refinement
ceramic, manufacture by controlled nucleation thermochemical decomposition 1−16731
CNTD process for manufacturing high temp. structural ceramic materials 1−21355
laser surface treatment 1−8460
metals and alloys, shocked-loaded, residual strength, effect of grain size and deformation-induced grain refinement 1−21591
steel, high-strength, low-alloy, review 1−12957
steel, low C alloy, strengthening by rolling at austenite-ferrite two phase regions 1−35283
steel, Mn, ferritic, thermal processing for toughness at cryogenic temps. 1−16813
steel forgings, form. of fine-grained struct. in 60KhN 1−16820
Al GTA alloy welds, grain structs. 1−8298
Cu-Nb_3Sn, in situ, superconducting props., influence of Ga additions *(Japanese)* 1−42894
Cu-Pb alloy melt, vibration effects on struct. during solidification 1−53168
Ti alloys, microalloying, effect of Y, Gd, Dy, Zr, Hf and Re on mech. props. 1−16844

grain size
see also grain growth; grain refinement
α-brass, Hall-Petch rel. 1−3820
calculated distribution, effect of shape selection *(German)* 1−8320
ceramics, microstructural analysis system, semiautomatic 1−39307
CNTD process for manufacturing high temp. structural ceramic materials 1−21355
coating microstructure, characterisation methods 1−30593
creep, micromechanical modelling using distributed parameters 1−38438
FCC metals and alloys, Hall-Petch relation appl., effect of prestrain 1−3845
ferrite, soft-magnetic, effect of powder dispersity on formation of microstructures 1−21375
ferrites, recrystallisation, grain size control 1−53148
fluidized bed, moving, narrow grain size fractions of granular materials *(Czech)* 1−38010
glass-glass-ceramic composite system, simulated strength-grain size study 1−39426
microstructural analysis system, semiautomatic 1−39307
OGRES gas release code, predictions, comparison with expt. 1−7388
olivine, high-temp. creep, dynamic recrystallization of single crystals 1−22329
optical coatings, high band gap oxides, for 0.25 and 1.06 μm fusion lasers 1−19395
photographic granularity value and mean grain dia. interrelation calcs. *(German)* 1−5421
polycrystals, deform. 1−31578
polycrystals, topological model for grain coordination no. distribs. in plane sections 1−26423
polycrystals, ultrafine grain size, Hall-Petch relation, effect of microcracking and intrinsic obstacle strength 1−21551
polycrystals, yield strength and statistical grain size distrib. relationship 1−20307
powder metallurgy materials, point method of stereological reconstruction 1−48606
quartz ceramics, hot casting from thermoplastic suspensions 1−12699
sandwaves of Gulf of Khambhat, NW India, sediment grain size in wave crests and wave troughs 1−54068
sapphire shaped crystal growth by Stepanov method, morphology and struct. perfection 1−2362
α-SiC:Al, powder, hot pressed, strength 1−21532
silver halide dispersion, dissolution kinetics, computer modelling 1−16045
solar cells, polycrystalline, effect of open-circuit voltage of grain boundaries within junction space-charge region 1−32018
steel, austenitic corrosion resist., methods of increasing yield point *(Czech)* 1−8373
steel, austenitic grain size determination, with Epiquant automatic struct. analyser 1−21668
steel, austenitic stainless, corrosion fatigue behaviour in H_2SO_4/NaCl media, effect of metallurgical variables 1−39411
steel, austenitic stainless, evaporation of elements during vacuum annealing 1−30399
steel, austenitic stainless, fine-grained, tensile behaviour at high temps., effect of spreading of grain boundary dislocations 1−3841
steel, austenitic stainless, oxide morphology, differences on large- and small-grained material 1−43604
steel, austenitic stainless, plastic zone obs., −196°-950°C, using recrystn. technique 1−39368
steel, austenitic stainless 1−26574
steel, C, synthesised from Fe powder and white cast Fe mixture, microstruct. form. 1−39277
grain size continued
steel, dual-phase, crack propag. 1−31659
steel, eutectoid, cold-rolled, mech. behaviour, effect of rapid annealing 1−21485
steel, eutectoid, rail, fatigue crack propagation 1−31658
steel, factors affecting inherent hardenability 1−48375
steel, fatigue crack initiation and propagation in low C martensite, role of prior austenite grains 1−8409
steel, ferritic, yield strength, influence of temp. and strain rate 1−21540
steel, grain size eval., with back scattered US pulses of Rayleigh waves *(German)* 1−8513
steel, grain size meas., comparison of methods *(German, English)* 1−8518
steel, hardened constructional, austenite form. in overheated 50 Y8A, 40X, 37XH3A *(Russian)* 1−3731
steel, high-strength, microstruct. effect on fatigue crack growth *(Japanese)* 1−26606
steel, intergranular fracture due to irreversible temper embrittlement in 50KhG *(Russian)* 1−3886
steel, low alloy ferritic, creep behaviour, influence of heat treatment 1−16863
steel, low C, microstructure uniformity of texture *(Russian)* 1−16799
steel, low-alloy, heat treatment effect on struct. strength 1−43379
steel, low-C, grain size changes during $\alpha \rightarrow \gamma$ transformation 1−8303
steel, low-C, solid soln. hardening by Si 1−31473
steel, martensitic, inheritance by martensite of deform. structure of original austenite 1−16840
steel, mild, fracture toughness and Charpy impact transition temp. relationship 1−3901
steel, Mn-Ni-Mo, heat affected zone, mech. props. after simulated heat treatment *(Czech)* 1−12768
steel, Nb, low C, yield strength and microstruct., influence of cooling rate 1−35270
steel, Ni (9%), struct., fracture, heat treatment and Mo addition effects 1−48388
steel, Ni-Cr, high-strength, austenite grain size and stress ratio effect on near threshold fatigue crack growth *(Japanese)* 1−48479
steel, Ni-Cr, temper embrittlement, calc. of transition temp. changes 1−16875
steel, Ni-Cr-Mo, crack branching in delayed failure, effect of pre-austenite grain size *(Japanese)* 1−26604
steel, plain C, US prediction of grain size, strength and toughness 1−43625
steel, stainless, corrosion cracking in carbon chlorides, machining influence 1−53351
steel, stainless, heat resistance in air at 800°C, struct. dispersion degree influence 1−35436
steel, stainless type 304, influence of prior deform. on continuous cooling sensitisation 1−16806
steel, tool, high-speed, heat treated after forging without intermediate annealing, struct. and props. 1−48387
steel, ultrahigh C, superplastic props., influence of dil. alloying additions of Cr, Ti, Si and P 1−16856
steel 25KhGSA, strength characteristics, struct. effect 1−48429
steel and Fe, plastic deform. instability, influence of thermal activation 1−21537
steels, austenitic stainless, grain size influence in low-cycle fatigue lives at high temp. 1−16878
steels, C, deformed and tempered, recrystn. and grain growth 1−53202
steels, dual-phase, work hardening 1−53203
steels, low-C 2.25 Cr-1 Mo, effects of trace elements on creep strength and ductility 1−43441
subgrain boundaries, numerical study of long-range internal stresses 1−25289
superplasticity, dynamic recovery and recrystn., mechanisms, microstructs., ductilities 1−12844
superplasticity, micrograin, effect of thermal and mech. history 1−52221
thin films, diffusion processes 1−30486
X-ray particle and grain size meas., statistical anal. 1−28145
Ag halide emulsions prepared from sprayed molten halides, spraying system and photographic materials 1−10041
Al, deformation at low stress in early stage of fatigue and creep 1−53232
Al, dislocation glide study using acoustic emission 1−20235
Al film, vacuum deposition, vacuum ambience effects 1−16211
Al, grainsize effect on acoustic emission, plastic deformation 1−21518
Al, hot-worked, subgrain size, new obs. technique using optical microscope 1−4027
Al/Al_2O_2 dispersion strengthened, recrystn. 1−26490
Al-Al_4Ca eutectic alloy, with microduplex struct., tensile props., depend. on grain size 1−48449
Al-Cu (0.5 wt.%) thin film, electromigration, texture and grain struct. effects 1−34502
Al-Cu-Mg-Fe-Ni, type 2618A alloy, fatigue threshold 1−48468
Al-Cu-Si film, electromigration behaviour, surface struct. 1−2933
Al-Ge granular superconductors, upper crit. field 1−20932
Al-Li, splat-quenched, alloy 2024, effect of Li on struct. and props. 1−8294
Al-Mg, type 5052, 5154 and 5083, deform. and fracture 1−8387
Al-Mg (4.5 wt.%), microsegregation influence on ageing effect *(Polish)* 1−16805
Al-Mg-Si alloys, mech. props., effect of dispersoids and grain size 1−21590
Al-Mg-Zn (5.6-6.1, 2.1-2.5 wt.%), deform. and fracture at elevated temp. 1−21560
Al-Si (2%) alloy films, magnetron-sputtered, electromigration and ohmic contact props. 1−34501
Al-Si(Cu), film, electromigration behaviour, surface struct. 1−2933
Al-Zn (11 wt.%), polycrystn., dislocation struct. during transient and steady state creep 1−12839
Al-Zn-Mg (5.5, 2.5 wt.%), moisture, grain size, heat treatment effects on surface oxide, AES obs. 1−26653
β''-Al_2O_3 ceramics, dense conductive, by spray-freeze/freeze-drying, props. 1−31541
Al_2O_3, corundum ceramics, light transmittance, effect of technological parameters 1−53307
Al_2O_3, slow crack growth, influence of testing rate and grain size *(German)* 1−4011
Au, electrodeposit, porosity 1−53361
Au electrodeposits, thick, soft and hard, microstructural characterisation 1−43529
BN based superhard materials, structural factors effect on mech. props. 1−12864

grain size continued
BN based superhard materials, ductility and strength props., struct. effect 1−53291
BN, cubic polycrysts., struct. depend. on starting graphitelike phase 1−3687
$Ba_{0.5}Sr_{0.5}Nb_2O_6$ thin film, dielec. nonlinearity, dielec. const. and electrooptical props. meas. 1−26127
$Ba_{0.5}Sr_{0.5}Nb_2O_6:Fe^{3+}$, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
Be, deformation zones influence on imbedded zones formation *(Russian)* 1−43422
Be, hydroextruded at high temps., cell struct. study *(Russian)* 1−53217
CaO-ZrO_2, partially stabilized, mech. props. transformation toughened, aged 1−16894
CaO-ZrO_2 system, fracture mechanics study 1−21569
CdS-Cu_2S films in solar cells, grain size, dislocation density and microscopic defect struct. 1−35660
CdSe thin film photoelectrodes, increase in solar energy conversion efficiency after annealing, struct. study 1−48870
Co grains dispersed in liq. Cu matrix, coarsening study 1−53182
Co-W coatings, produced from Co plating electrolyte and Na_2WO_4 electrolytes, struct. *(Russian)* 1−12929
Cu, dynamically recrystallised, deformation substruct. 1−21534
Cu, grain boundary cavity growth, during high-temp. creep and fatigue 1−43443
Cu substitutional solid solutions, impurity grain-boundary relax. *(Russian)* 1−47095
Cu, tensile flow stress at room temp., effect of grain size and strain 1−21555
Cu-Al_2O_3 polycrysts., additive strength contribs. 1−31476
Cu-Al-Fe-Ni (14, 4.5, 1 wt.%), ion-plated coatings for sheet metal forming dies 1−30592
Cu-Ni, sputtering, Cu depletion from grain boundary region, 873K 1−26345
Cu-Zn(-Ni) alloys, Portevin-Le Chatelier effect, grain size depend. of mobile dislocation density 1−21552
Fe and low C steel, strain hardening, effect of grain size and C content 1−21482
Fe, Armco, fatigue crack growth rate and grain size 1−31619
Fe, Armco, fracture, liq. Pb effect 1−31613
Fe, cast, Ni-hard, abrasive wear resistance *(Chinese)* 1−35395
Fe, DC mag. props., effect of sintering atm. 1−3940
Fe-C(-Sb), metastable ε phase obtained by splat quenching *(Chinese)* 1−53209
Fe-Co-V (50, 0.4-2.0 at.%), ordering transformations 1−35251
Fe-Si (3 wt.%), coated with electroinsulating film, domain struct. and grain boundary obs. 1−39559
Fe-Si (3 wt.%), grain-oriented, decarburization, grain growth, mag. props. 1−8440
Fe-Si (3 wt.%), non-oriented sheets, excess dynamic loss, grain size, precipitated Al_2O_3 particles, and lamination thickness effects 1−16461
Fe-Si (3 wt.%), small deform. effect on grain size and texture 1−8330
Fe-Si alloy (6 to 7 wt%), ribbon form, prep. grain struct., coercive force, annealing 1−8251
Ge-Si alloy, thermoelectric conversion efficiency at high temp., effects of grain size 1−13150
Ge-Si alloys, theoretical analysis of the thermoelectric figure of merit 1−8731
InP, CVD film growth for polycryst. solar cells 1−35183
$LaNi_5$ and $LaNi_{4.9}Cu_{0.1}$ $(Ti_{0.1})(Al_{0.1})$, hydride kinetics during formation-decomposition cycling 1−3744
$LaNi_5$, sorption capacity for H_2, influence of technological characteristics 1−30549
$MgAl_2O_4$, polycrystalline, fracture, grain size effect 1−39431
MgO, fine-grained, mech. props. at large compressive strains 1−39376
MgO-ZrO_2, fully stabilized, mech. props. transformation toughened, aged 1−16894
$Mn_{0.5}Zn_{0.5}Fe_2O_4$, sintered, form. of duplex struct., effect of binder materials 1−3754
Mo CVD thin films for high-power laser mirrors 1−37588
Mo polished mirror, correlation between microstruct., metallurgical processing and optical surface finish 1−11057
Mo-Al_2O_3(ZrN) cermets, sintered, strength 1−35381
Mo-TiC, alloy 4605, effect of heat treatment of struct. and mech. props. 1−43384
Nb, polycrystalline, pressurization, yielding and induction of dislocations 1−34422
NbN film, superconducting current and field props., dimensional effects 1−52725
Nb_2Sn multifilamentary wire, high-field current improvement by two-stage reaction 1−47833
Nb_3Sn, multifilamentary and tape, shear transform. at low temp., TEM study 1−38890
Nb_3Sn multifilamentary superconductor, heat treatment effect 1−53211
Ni-base alloys, transient creep 1−16865
Ni-base superalloy, IN-939, interrelationship of γ' size, grain size and mech. props. 1−31574
Ni-Cr-Al-W-Mo-Ti-C-B, mech. props. depend. on deform. temp. and rate 1−35334
Ni-Cr-W-Co-Mo-Al-Ti alloy KhN50VMKTYuR, recrystn., original grain size effect 1−43364
Ni-Cu (30 wt.%), effect of working temps. on recrystn. behaviour 1−16802
Ni-Cu (30 wt.%), recrystn. grain sizes, effect of working temp. before annealing *(Japanese)* 1−3765
Ni-Fe-Cr-Al, heat resistance in air at 800°C, struct. dispersion degree influence 1−35436
$Pb_{0.92}La_{0.08}Nb_2O_6:Fe^{3+}$, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
PbO-B_2O_3-SiO_2 glass-ceramics, grain size influence on baking and elec. props. *(Polish)* 1−48317
$PbTiO_3$, amorphous, grain-size development during crystn. 1−42310
Se diffusion in Fe *(French)* 1−38592
Si film, ion implanted, CW laser annealed, electrical props. 1−30851
Si film on Mo substrate, SiO_2 effectiveness for preventing Si-metal reactions 1−16202
Si MIS solar cells, loss mechanism anal. for 13% efficiency 1−43768
Si, polycryst., grain size effects on Hall measurements 1−12126
Si, rapid-quenched polycrystalline ribbon for solar cell appls. 1−4181
SiC coatings, review of CVD conditions 1−31361
grain size continued
Si_3N_4, hot pressed, processing effect on microstruct. and mech. props. 1−16738
Si_3N_4, reaction bonded, microstruct. and mech. props. 1−16740
Sn-Pb superplastic alloys, anelasticity 1−15951
Ti alloy VT3-1, fracture toughness, rolling conditions effect 1−43498
Ti alloys, mech. props., improvement by optimising struct. 1−16842
Ti-Al solid soln. strengthening by Al at low temps. 1−31475
TiO_2 reactively sputtered optical coatings for 1064 nm lasers 1−37572
UO_2, Kr^{85m} gas release, predictions, comparison with expt. 1−7388
UO_2:MgO fuel, irrad. performance 1−20259
$UO_{2.01}$, sintered, thermal cond., pore shape and porosity correction factors 1−30496
W alloys, dilute, effect of struct. parameters on mech. props *(Russian)* 1−39378
W powders, sintered bars and wires, influence of grain size on props. *(German)* 1−43296
WC-Co (10-30 wt.%) cemented carbides, effects of domain size of binder phase on high temp. strength 1−3912
WC-Co cemented carbide, bend-deform. behaviour and transverse-rupture strength at elevated temps. *(Japanese)* 1−26550
WC-Co compacts, sintering, influence of process variables, optical and electron microscopy study 1−3659
Zn, polycrystn., strain hardening, grain size and deformation conditions *(Polish)* 1−16798
Zn-Al (22 wt.%) eutectoid alloy, creep behaviour, tested in torsion 1−8365
Zn-Al-Cu-Mg (3.5-4.5, 0.75-1.25, 0.03-0.08 wt.%), castings, mech. props. 1−43506
ZnCdS:Ag screen, electron beam excited, absolute efficiency 1−8137
ZnO-Bi_2O_3 ceramic, sintering and varistor characts. 1−3675
ZnS:Mn thin film electroluminescent devices, luminesc. props. and cryst. struct., effect of Cl 1−48168
ZnSe sputtered film, degree of crystallinity determ. using longwave IR spectroscopy 1−47411
Zr, grain boundary cavity growth, during high-temp. creep and fatigue 1−43443

grain structure *see crystal microstructure*

grain subboundaries *see subboundary structure*

gramophones
No entries

Granato-Lucke theory *see dislocation damping*

granular materials
see also granular structure
chamotte fillter in Al_2O_3 cements, grain comp. 1−12709
cryogenic thermal insulation system optimisation and selection 1−5323
duct flow, particle motion under influence of turbulent air stream 1−34000
fluidised granular materials, characteristic motion and energy dissipation 1−24872
fluidized bed, moving, narrow grain size fractions of granular materials *(Czech)* 1−38010
gravitational flow of material with incompressible grains 1−2081
metal granules, hot rolling, metal temp. 1−53139
polycaproamide, modified with polyethylene glycol, struct. of fibres and granules *(Bulgarian)* 1−7089
saturated granular materials mechanics 1−24667
starch granules as elementary lenses 1−51587
stress, effect of capillary water *(Japanese)* 1−1822
superconducting film, Kosterlitz-Thouless transition temp., charging energy effect 1−16409
X-ray absorption, heterogeneous media with continuous grain size distribution 1−21292
Al alloy granules, hot rolling, metal temp. 1−53139
Al-Ge granular superconductors, upper crit. field 1−20932
Co/Al_2O_3 codeposited granular films, filling factor determ. 1−30600
Co-SiO_2 granular films, mag. and transport props. 1−47888
Pb film, supercond., Kosterlitz-Thouless transition temp., charging energy effect 1−16409
PbO-SiO_2:Bi_2O_3 glasses, surface cond., effect of impurity 1−30803
Zn-Al, finely-granular, low temp. mech. props., purity effect *(Russian)* 1−26544

granular metallic thin films *see discontinuous metallic thin films*

granular structure
see also granular materials
No entries

graph theory
alkanes, ^{13}C chemical shift and NMR 1−14929
alkylbenzenes, thermodynamic props. modelling, chemical graph theory 1−4117
Cahn-Ingold-Prelog rules, computational appl., configs., graph theory 1−19208
chemical nomenclature, graph-based, historical background and discussion 1−13065
chemical nomenclature, graph-based, incorporation of graph-theoretical principles into Taylor's nomenclature proposal 1−13066
conjugated molecules, aromaticity and stability determ. by topological reson. energy method 1−22991
connectivity index for lattices of nonintegral dimensionality 1−32930
2,3-dimethylbutane, nucl. spin and NMR, group theory 1−6278
molecular internal rotation reacts., react. graphs, generalised wreath prod. method, appls. 1−4085
molecular orbitals, calculation of determinant of adjacent matrix and stability of molecules 1−19007
molecules, characteristic polynomial computing, graph theory 1−1053
NMR groups, nonrigid nucl. spin species and symmetry-adapted spin functions, graph theory 1−6278
nonanes, isomers, phys. and chem. props., graph-theoretical anal. 1−15029
one-dimensional exactly solvable N-body problem, graph theory 1−9829
polycyclic graphs, graph centre concept 1−51080
special relativity theory, graphical introduction 1−9796
subtracted out Feynman integrands, dimensional anal. 1−5081

graphics, computer *see computer graphics*

graphite
abrasive wear, at low slip amplitudes 1−48525
acceptor compounds, band struct. model, optical reflectivity 1−47462
acceptor intercalated, band struct. model and electrostatic effects in stages 3 and 4 1−38703

graphite continued
adsorbed He atoms, effective interaction, sp. ht. 1−25523
adsorbed Kr, commensurate-incommensurate transition caused by instability to dislocation form. 1−42634
adsorbed layer on graphite, two-dimensional phase transitions, book contrib. 1−7298
adsorbed methane, two-dimens. fluid obs. 1−52416
adsorbed monolayer film, two-dimens. registry transition, Monte Carlo calc. 1−11979
adsorbed rare gas monolayers on (0001) surface, lattice dynamical study, anharmonic effects 1−47355
adsorbed tetramethyltin on (0001), surface, two-step melting in submonolayer region, Mossbauer obs. 1−16176
adsorption, of O_2, X-ray and heat capacity obs. 1−25565
adsorption of Ar, Kr, methane, two-dimens. condensation, adsorbate-adsorbent dimens. incompatibility effects 1−47387
adsorption of ethylene, spreading press. and enthalpy 1−7450
adsorption of ethylene, surface excess meas., crit. region 1−7449
adsorption of Kr, Xe, methane, O_2, partially mobile and partially localised, adsorption isotherms 1−42638
adsorption of methane molecule on graphite surface, translational and rot. behaviour, effective pairwise pot. 1−39680
alkali metal donor compounds with graphite synthesis and characterisation, X-ray diffr. study 1−35200
alkali-graphite intercalates, lattice gas disorder, X-ray diffuse scatt. pattern 1−2289
alkalimetal-graphite intercalation compounds, electrical resist. and X-ray charact. 1−34755
arc, DC, in Ar flow, voltage-current charcts., quasi-neutral region obs. 1−29940
arc furnace crack damaged graphite electrodes, current distrib. and its effects *(German)* 1−3883
aromatic hydrocarbon, infinite limiting case, mol. mechanics calcs. 1−19017
ATJ graphite, first wall material, evaporation yield for heat pulses 1−25420
band struct. calc. using LCAO SCF method, valence bond props. 1−47434
band structure calc., cellular method 1−52480
basal plane, He inelastic scatt., reson. lineshapes, physisorption features 1−39204
black coatings with high elec. resist., for IR and visible detectors 1−37564
bombarded by Fe, Kr, and Nb ions, X-ray spectra, transition energies and electron stripping probabilities 1−8160
by low temp. neutron irradiation 1−34373
capsule flame atomiser for emission anal. in silicate rock:Li(Rb) powders 1−43724
carbographite materials, elasticity consts. meas. by dynamic methods, 20-3000°C, review 1−31787
carbonaceous amorphous film high-resolution electron microscope image contrast obs. 1−15802
cast Fe, graphite shape and amount influence on rolling contact fatigue strength *(Japanese)* 1−3896
coated with TiC, TiB_2, coating outgassing charcts. 1−30557
colloidal, X-ray Raman scatt. 1−8157
conduction electron static struct. factor meas. using synchrotron radiation 1−16625
corrosion protection by Mo CVD coating, struct., annealing effects 1−12668
crystalline, lattice sp. ht. calc. 1−38477
dense, as die material for profiled Si crystal growth 1−31333
diffraction of He beam, isopotential surfaces and corrugated wall model 1−3559
donor and acceptor-intercalated, optical reflectivity and positron annihilation angular correlation 1−39053
electrode, impregnated, polarisation curves, anomalous peaks 1−53434
electrode, interaction with $Na_2O.2B_2O_3$ molten glass under elec. field *(Japanese)* 1−3974
electronic densities, bulk and basal plane, ab initio and SCF calc. 1−6143
electronic density, prismatic surface, ab initio calc. 1−6144
electronic phase transition in strong mag. field 1−52489
epoxy/graphite laminates, elec. cond. and EM shielding charcts. 1−20841
equation of state study using relativistic electron beam 1−2588
exfoliated, Kr monolayer melting, synchrotron X-ray study 1−38648
exfoliated, Ne-coated, adsorption of ^4He, 2 to 10K 1−34569
exfoliated, thermal cond., 2 to 300K 1−30493
exfolieted surface, acetylene adsorption, thermodynamic props., phase transitions in physisorption *(French)* 1−30552
fibre reinforced epoxy, T300/934, creep rupture behaviour 1−21583
fibre-bromine intercalation compound electrodes for conc. cell *(Japanese)* 1−21866
film, elliptic electron diffr. patterns, turbostratic disorder 1−52452
fluorine containing compounds, thermal stability and elec. conductivity 1−8547
freeze-out effect and longitudinal magnetoresist. in quantum limit 1−47679
frequency distribution function calcs. by unfolding method 1−52238
graphite:B, polycrystalline, elec. cond. and Hall coeff. 1−34724
graphite, anisotropic, V2-1 type, failure criteria in complex stress-state condition 1−43456
graphite, donor and acceptor type, ^{13}C NMR study 1−31049
graphite containing $FeCl_3$ and $MoCl_5(WCl_6)$, layer compounds, synthesis, gamma-resonance spectra and struct. 1−7147
graphite intercalation compounds, conf., Provincetown, MA, USA (May 1980) 1−32798
graphite particle reinforced Al composite alloys, bearing performance 1−26634
graphite-alkali metal compounds, intercalate layer struct. 1−34329
graphite-alkali metal intercalation cpds., electronic struct. 1−38705
graphite-AsF_5 intercalation cpd., NMR and ESR studies 1−39000
graphite-$FeCl_3$ intercalation compounds, small-angles X-ray scatt. 1−34331
graphite-halogens, phase transitions, X-ray diffr., DSC 1−34474
graphite-metal intercalation cpd., stage 1, formula and struct. 1−47135
graphite-Si-B, neutron irradiation effect 1−11790
highly oriented pyrolytic, intercalation and deintercalation with Li 1−48291
HTGR, irradiation effects on thermal shock resistance and fracture toughness 1−36999

graphite continued
inclusions in cast malleable Fe, compactness eval. 1−8498
insertion of K-Tl alloy, optical and crystallographic data *(French)* 1−43288
interaction cpd. with K, superconducting 1−7792
intercalated with $FeCl_3$, contrib. of $FeCl_3$ to optical absorption 1−35069
intercalated with K, island growth and orientational locking 1−16788
intercalated with Li, electronic props. of various stages 1−2859
intercalation and desorption kinetics 1−34584
intercalation by NO_2^+ ion attack 1−39620
intercalation compound, $C_7(HSO_3F)_x(SbF_5)_{1-x}$, formation and elec. resistivity 1−39621
intercalation compound with AsF_5, magneto-oscillations 1−38763
intercalation compound with AsF_5, order-disorder transitions 1−39333
intercalation compound with AsF_5, single cryst. struct. studies by X-ray diffr. 1−42364
intercalation compound with Br_2, oxidation catalyst 1−48682
intercalation compound with Cs, stage 1, structural study at high temps. 1−34273
intercalation compound with $FeCl_3$, stage I and stage II, low freq. plasmon spectra 1−47522
intercalation compound with K, C_8K, type I and type II supercond. props. *(Japanese)* 1−12234
intercalation compound with K, electron energy loss studies rel. to pristine graphite 1−48208
intercalation compound with Li, stage 2, in-plane ordering, XPS study 1−48239
intercalation compound with Li, synthesis, conductivity, struct. and chem. composition 1−47627
intercalation compound with Ne, conductivity reduction, tight binding calc. 1−47628
intercalation compound with $NiCl_3$, synthesis, struct. and intercalation method 1−48290
intercalation compound with O, cluster model studies 1−37379
intercalation compound with Rb, sp. ht., 1.5 to 6K 1−38552
intercalation compound with $SbCl_5$, optical reflection studies of electronic props. 1−48094
intercalation compound with TaF_5, F NMR and relaxation props. 1−39001
intercalation compounds, cooperative effects and materials 1−38734
intercalation compounds, elastic interaction between intercalants, 2-D model 1−34280
intercalation compounds, elec. cond. 1−47643
intercalation compounds, electronic energy bands 1−7520
intercalation compounds, Fermi surface obs. by Shubnikov-de Haas and magnetoreflection methods 1−47436
intercalation compounds, KC_8, CsC_8, and RbC_8, sp. ht., 0.48 to 90K, electronic and lattice contribs. 1−25451
intercalation compounds, lattice dynamics 1−34441
intercalation compounds, positron annihilation 1−43208
intercalation compounds, self-consistent charge densities, band structs., staging energies, calc. 1−38701
intercalation compounds, stage sequence regularity 1−34261
intercalation compounds, stage-2, order-disorder transform. 1−42537
intercalation compounds with AsF_5, $FeCl_3$, B, electron energy loss spectroscopy 1−48207
intercalation compounds with AsF_5, HNO_3 and Rb, de Haas-van Alphen effect 1−42677
intercalation compounds with Br_2, $AlCl_3$, $SbCl_5$, intervalence transitions and IR reflectivity 1−47584
intercalation compounds with ClF, BF_3 and PF_5, NMR showing presence of ions 1−47960
intercalation compounds with HNO_3, $HFSO_3$, Br, Li, KHg, quantum oscillatory effects 1−42678
intercalation compounds with KH, KHg, RbHg, X-ray, EPR and NMR studies and struct. 1−42363
intercalation compounds with KHg and RbHg, reaction mech. and thermal stability 1−39622
intercalation compounds with KHg and RbHg, struct. and electronic props. 1−38769
intercalation compounds with Li, K, Rb, Cs, UPS, XPS and AES studies 1−48238
intercalation compounds with $NO_2BF_4(PF_6)(SbF_6)$, elec. resistivity and X-ray spacings 1−38768
intercalation compounds with $PdCl_2$, $FeCl_3$, $CuCl_2$ and WCl_6, electronic props. 1−42679
intercalation cpds., active masses in galvanic cells *(German)* 1−35635
intercalation kinetics, surface profilometric study 1−43286
intercalation reactions, gas phase oxidation strengths and reactivity 1−39671
ion implantation, trapping, detrapping and replacement of H isotopes 1−25303
kinetic model of first intercalation 1−43285
lamellar compounds, high-field ^{13}C NMR and in-plane localized density of states model 1−38992
lanthanide intercalated graphites prep. and struct. *(French)* 1−20136
lattice harmonics 1−52241
lattice struct. and micromorphology relations, electron diffr. and electron microscopy studies *(German)* 1−34285
lattice thermal conductivity 1−16121
layer, elec. cond., electron-phonon coupling tight-binding calc. 1−2948
LCAO calcs. in solid state, parameteristation 1−12014
morphology in cast Fe, exam. by optical and scanning electron microscopy *(Chinese)* 1−48617
natural fine powders, properties *(Japanese)* 1−38285
neutron emission spectra following 14 MeV neutron irrad. 1−28695
notching with special cutter, for fracture charcts. determ. 1−17006
nuclear, residual strain effect on thermal cond. 1−773
orientation symmetry axis determ. X-ray diffr. method 1−21473
overlayer on Ru (0001), electronic struct. 1−52637
oxidation effects, on toughness and slow crack growth 1−21568
oxidation in molten Na_2CO_3 1−43547
oxidation influence on strength and porosity 1−43552
paracrystals, natural, limiting size 1−34186
paracrystals, novel aspects, 3D convolution polynomial description 1−34242
phase diagrams involving press. and temp., review 1−43322
polycrystalline, low energy backscatt. of H^+ and D^+, energy and ang. distrib. 1−26331
polycrystalline, subcritical crack growth 1−21567
polycrystalline, X-ray Raman scatt. 1−8157

graphite continued
polygranular, thermal bulk and lattice expansion behaviour 1−2663
polymorphism and melting of NO monolayer 1−11974
preferred orientation, effect on bulk phys. props. 1−12755
pristine graphite and potassium graphite, quantitative and qualitative effects of press., X-ray diffr. meas. 1−34420
pyrographite, intercalation by NO_2^+ and NO^+ salts, chem. oxidation 1−31703
pyrolytic, electron irradiated, thermal cond., phonon-interstitial scatt. 1−25512
pyrolytic, highly oriented, sp. ht., 0.48 to 90K, electronic and lattice contribs. 1−25451
pyrolytic, hyperthermal H atom trapping 1−25555
pyrolytic, neutron bombard., dislocation loop conc. determ. by X-ray diffr. *(Russian)* 1−2519
pyrolytic, press. effect on energy spectrum parameters, mag. props. *(Russian)* 1−7508
pyrolytic graphite, deposition rate and structure, electric field effect 1−12657
pyrolytic graphite, meas. of chem. sputtering yields 1−26343
reactivity in H plasma afterglow 1−24997
reactor grade, combined mode fracture toughness at high temp. 1−3891
rhombohedral phase, temp. stability 1−34469
shock-compression parameters and phase transitions to 120 GPa 1−25372
slab, neutron irrad., angular flux spectra 1−892
sputtering and surface migration by slow-ion bombardment 1−26353
substrate, Au dendrites, crystallite morphological modification by heat treatment *(French)* 1−30605
substrate, equilib. shape of Au crystallites 1−2367
surface, D and He release by pulsed electron and furnace heating 1−25325
surface, methane monolayers physisorbed, phonon spectra 1−47351
synthetic, twin formation and deform. due to ion irrad. *(Russian)* 1−15903
thermal expansion coeff., neutron irrad. effect 1−28599
thermal expansion coeff. 1−28603
thermal neutron filter, using cooled, large-mosaic pyrolitic graphite 1−33360
thermal shock tests, limiter as first wall materials 1−4032
thermophysical properties meas. room temp. to 2400K, POCO graphite 1−20481
thermopower and Nernst-Ettingshausen coeff., drift-diffusion contribs. 1−20783
three-dimensional, energy band struct. 1−47453
Tokamak limiters, topographical changes due to thermal loading 1−50928
two-phase C materials, rate of radiation induced shrinkage 1−34374
water vapour-graphite reaction, kinetic study of hydrocarbon formation 1−8564
wetting by ZrB_2-Si-C eutectic alloy 1−39297
X-ray Raman, Compton and plasmon scatt. obs. for Be and graphite targets using position sensitive proportional counter 1−28138
AsF_5-graphite intercalates, band struct., optical props., structural energy 1−47463
AsF_6-NO_2SbF_6 intercalated graphite, 1−38989
Au crystallites on graphite cleavage surface, equilib. shape, surface and interfacial energies 1−20550
Br-graphite compounds, thermal gravimetric anal. 1−8614
Br_2-graphite compounds, EXAFS study 1−35119
C black, graphitised, direct obs. of tetrahedral bonding, by high resoln. electron microscopy 1−2391
C/C composites, struct. and strength, review 1−48421
$C_{36}K$, intercalation cpd., lattice phonons, inelastic neutron scatt. obs. 1−42490
C_6Li intercalate, electronic band struct. 1−47461
C_5N graphite intercalation cpd., residual N effect on electronic props. 1−47629
$C_{16}(NO_3H)$, Fermi surface and band struct. 1−47437
$C_{24}Rb$, graphite intercalation compound, phase transitions 1−38534
$C_8Rb(K)$ intercalation cpds., order-disorder transitions, lattice-gas theory 1−7123
Cs-graphite intercalates, phase transition, Raman study 1−47231
Cs-graphite intercalation cpd., struct. variations, temp. and press. variations, X-ray diffr. 1−34460
CsC_{24} intercalation cpd., mag. susceptibility transitions 1−38904
Cu-plated graphite powder lubricants, Cu-deposition with solid reducing agent 1−12677
Cu-Sn-WSe_2-graphite-Pb powder metallurgical composite, mech. props. 1−39464
Fe, cast, local deformation distribution in samples with different graphite forms 1−12823
Fe, cast, with different shapes of graphite inclusions, damping capacity 1−42461
Fe, graphite morphology in wedge-shaped castings: study using SEM and optical microscopy 1−21440
Fe-graphite materials, sintering, reaction of grades S and KLZ graphites with Fe matrix on heating 1−53140
Fe-graphite powder materials, causes of wustite inclusion form. 1−39281
Fe-Si-C and cast Fe swarf powder, nodular graphite form. in P/M products 1−35218
K-Na-graphite compounds, synthesis and resistivity 1−8248
KC_{24} intercalation cpd., mag. susceptibility transitions 1−38904
KC_{24} lamellar graphite compound, insertion of benzene *(French)* 1−43287
KC_{24}+benzene-d_6 intercalation, kinetic neutron diffr. study 1−39619
KC_8 intercalation cpd., electronic band struct. calc. 1−47433
$KC_8(C_{24})$ graphite intercalates, X-ray lattice const. and compressibility meas. 1−2413
$KC_{24}(benzene)_2$, struct. and props. 1−42368
$KHgC_4$, struct. anal. *(French)* 1−20137
$KHgC_4(C_8)$ intercalation cpd., synthesis and low temp. sp. ht. 1−38554
Li-$(CF)_n$ organic electrolyte batteries, discharge characts. of graphite fluoride cathode 1−35638
Li-graphite intercalation compounds, neutron scatt. 1−34330
LiC_{12} lamellar cpd., sp. ht. and mag. susceptibility 1−42550
$NiCl_2$-graphite intercalates, ESR study 1−34931
RbC_{24} intercalation cpd., mag. susceptibility transitions 1−38904
$RbHgC_4$, struct. anal. *(French)* 1−20137
$SbCl_5$-graphite, IR and Raman spectra, HF graphitic intralayer phonons study 1−39101
$SbCl_5$-graphite, synthesis and optical tests of its environmental stability 1−8249

graphitisation
C fibre reinforced Ni matrix composite, activated graphitisation of C fibres 1−39282

graphitising
steel, graphitised, induction hardening, effect on mech. props. 1−3802

graphs
see also nomograms
Debye-Scherrer photographs, graphic indexing method *(Chinese)* 1−46950
palaeomagnetism, demagnetisation data, graphical methods for vector anal. 1−53978
reduced volumetric expansion and isothermal compressibility factor plots 1−47264
slopes of recorded curves, electro-mechanical device for meas. *(German)* 1−17504
thermodynamic network dynamic analysis by Process Graph Model 1−5267

gratings (diffraction) *see diffraction gratings*

gratings (optical) *see diffraction gratings*

gratings (spectra) *see diffraction gratings*

gravimeters
see also geodesy
calibration of quartz-mechanism meters 1−4625
differential frequency gravimeter 1−22521
silicon spring balance, temperature coefficient, estimation of errors in gravimetric adsorption measurements 1−50106
superconductivity applications in space research and gravitational studies 1−9344

gravimetric instruments *see gravimeters*

gravimetry *see density measurement; weighing*

gravitation
see also general relativity; gravitational collapse; gravitational lenses; gravitational red shift; gravitational waves; quantum field theory of gravitation; Schwarzschild metric; unified field theories
acceleration and rotation as parallel transport in space-time with torsion 1−9888
anomalies recorded using torque pendulum during lunar eclipse *(Chinese)* 1−49543
asymptotic behavior of gravitational fields in a type II coordinate system 1−5187
asymptotic structure, spatial infinity group, book contrib. 1−18100
axisymmetric vacuum gravitational field eqns., group- and soliton-theoretic techniques 1−145
big bang, singularities, oscillating Universe 1−22937
bimetric Machian gravitation 1−23065
bimetric relativity theory, axially symmetric vacuum solns. 1−23063
bimetric theory, test in strong field approx., big bang He and D prod. 1−54670
bimetric theory of gravitation, slowly rotating configurations of incompressible fluid 1−22783
bimetric theory of gravitation, stability of superdense stars 1−36311
black hole, Kerr metric, gravitational perturbations 1−4936
black holes, surface gravity and thin shells 1−44812
book 1−17948
book 1−17949
book 1−17952
Brans-Dicke gravitational theory, static isotropic metric general solns. 1−44820
Brans-Dicke scalars, quantum field theoretic origin, scalar-tensor theory of gravitation 1−36551
Brans-Dicke theory, scalar interaction 1−32885
Brans-Dicke vacuum fields, stationary, from static cylindrically symmetric zero-mass fields 1−148
canonical formulation, constraints hierarchy in general relativity, Yang-Mills and gravitational fields 1−9881
canonical gravity, book contrib. 1−18092
Cartan's gravitation, geometry, and nonrelativistic quantum theory 1−5214
charged particle motion in EM fields surrounding black holes, general relativistic anal. 1−44816
circulation theorems, weak, for distinguishing between generalized gravitation theories 1−40690
Clebsch representations and energy-momentum of the classical electromagnetic and gravitational fields 1−18052
collapse processes, black hole form. models, gravitational waves 1−18116
colliding particles, three dimens. gravitating system collisional evolution, numerical simulation *(Chinese)* 1−36490
conformal invariance, microscopic physics, and the nature of gravitation 1−5193
conformally covariant massless spin-two field equations 1−40696
conformastat flat solution, energy-momentum pseudo-tensor normality *(Chinese)* 1−50019
cosmic censorship, black holes, particle orbits 1−44805
cosmic gravitational potential, gradients due to galaxies small-scale clustering rel. to microwave background fluctuations 1−54665
cosmological constant and gravitational constant, non-time-varying 1−23064
cosmology, atomic and gravitational metrics, Dirac's large number hypothesis 1−40583
cosmology and gravitation, (spin, torsion, rot. and supergravity), conference, Erice, Italy (1979 May 6 to 18) 1−44714
covariant theory of gravitation, cosmological deceleration parameter (q_0) determ. from lunar obs. 1−49863
Einstein's field theory with teleparallelism and Dirac electrodynamics 1−123
Einstein theory, post-Newtonian equations of motion *(Russian)* 1−9880
Einstein-Cartan gravitation theory, ghost neutrinos 1−9900
Einstein-Maxwell equations of Bianchi types II, VIII and IX, scalar field generalisations 1−5200
Einstein-Maxwell scalar eqns., conformally flat solns. 1−23093
experimental verification of parameterised post Newtonian formalism, book contrib. 1−18143
extended bodies, motion in fully conservative theories of gravity 1−50006
falling bubbles, accel. of gravity demonstration 1−9814
fibre bundles, gauge field and gravitation appls. 1−18136
field equations approx. 1−18081
flat space-time theory, rel. to material vacuum (aether) 1−13892
force and relativistic drag on free particle in generalised Kerr field, Newtonian analogue 1−9889

gravitation continued
galaxies, correlation function of low order, explained by gravitational instability 1−44679
galaxies, potential in central bar struct. 1−9646
Galileo's early work on the law of fall, role of expt. 1−5066
gauge theories of gravitation, plane waves 1−36550
gauge-invariant coupled gravitational, acoustical, and electromagnetic modes on most general spherical space-times 1−5192
geometrical equivalence of metrics in general relativity 1−36539
globular cluster collapse gravothermal catastrophe, mechanism, Fokker Planck eqn. anal. 1−54572
gravitational scattering of electromagnetic radiation 1−144
gravitational/electromagnetic conversion scattering on fixed charges in the Born approximation 1−44815
Gylden-Mescherskii problem, mass variation laws 1−22670
Heavisidian field, linear covariant eqns. 1−32882
higher-order Noether symmetries and constants of the motion 1−32879
Hoyle-Narlikar theory, appl. to anomalous redshifts of quasi-stellar objects 1−9710
induced gravitational constant in unified theories with dynamical scale invariance breakdown 1−5203
interior C-metric 1−44807
inverse-square law of force and its spatial energy distribution 1−18088
Kerr metric, perturbations, Maxwell and Dirac eqns. soln., black holes 1−18108
Kerr metric source, Newtonian model 1−32886
Killing vectors in a algebraically special vacuum space times 1−5177
Lagrangian formulation of optics and gravit. 1−41556
lens effect for double quasar Q0957+561, light paths time delay from components brightness reversal 1−9717
linear groups in particles and gravity 1−5519
local and global aspects of gravitation and cosmology, book 1−27690
Lorentz invariance of gravitational Lagrangians in the space of reference frames 1−5198
magnetic universe, Melvin's, electrovac soln., Petrov type D, commuting Killing vectors 1−9904
magnetohydrodynamics in projective relativity 1−128
mass positivity, approaches to proof, book contrib. 1−18094
massive shell model in gravitational theories with higher derivatives 1−152
massless vector boson creation by conformly-plane gravitational field *(Russian)* 1−40698
matrix tensor of gravitation, electromagnetism and Yang-Mills fields unified matrix theory 1−5205
metric tensor produced by EM wave and eqn. of motion of material point, approx. soln. *(Japanese)* 1−32884
Minkowski space gravitation, physical space-time uniqueness or optionality 1−5170
momentum, field, inertial and gravitational, post-Newtonian approx. *(Russian)* 1−9879
neutrino trapping by strong gravitational field in compact object 1−23082
neutrino waves, gravitational interaction 1−50010
Newton-Cartan theory, generalisation 1−9899
Newtonian potential, characterisation 1−9916
Noether's theorem, local versus global conservation 1−9902
nonsymmetric unified field theory and flat space-time 1−23083
parity violation in metric-torsion theories of gravitation 1−9903
particle creation in gravitational field cosmological appl. 1−50029
perihelion shift, light deflection, light ray delay time new theory of gravitation 1−54363
Petrov representation of vacuum field classification, Ricci rot. coeffs. energy definition 1−126
photon trajectories in Kerr-Newman metric 1−5185
photons, covariant kinetic equation 1−5197
Poincare gauge field theory, quadratic Lagrangian 1−18125
Poincare group gauging, gravity and supergravity, unification 1−18124
Poisson's equation in de Sitter space-time 1−44798
principal fibre bundle scalar curvature unified Lagrangian of gravitational-gauge fields *(Chinese)* 1−44828
propagating pseudoscalar torsion in ECSK gravitation theory 1−9901
radiative effects in relativistic gravity, gravit. radiation reaction and energy loss in nearly Newtonian systems 1−49497
riemann-Cartan type gravitational theories satisfying Birkhoff's theorem 1−36553
Rosen bimetric theory, degenerate mass configurations 1−9539
rotation and acceleration as parallel transport in a space-time with torsion 1−9888
satellite motion in Earth's gravitational field *(Russian)* 1−22660
scalar-tensor theories, vacuum and EM field, Birkhoff's theorem 1−18119
scattering of two gravitating particles 1−18089
self dual de-Sitter solns., Prasad-Sommerfield limit, linear deformations 1−23068
self-dual space-times with cosmological constant 1−23060
self-gravitating static massive vector field in general relativity 1−40687
singularities, naked, gravitational equations 1−23066
soft-group-manifold Becchi-Rouet-Stora transformations and unitarity for gravity, supergravity, and extensions 1−23090
spinor field and nonmetricity of space-time 1−50011
spontaneous subspace compaction, Einstein field-calibration field interactions *(Russian)* 1−40685
static black hole, massless scalar field of point charge 1−9560
static charged dust in Malin theory 1−44822
static gravitation on the basis of equivalence 1−44823
static gravitational and Maxwell fields in the general scalar tensor theory 1−27840
static Lyttleton-Bondi sphere, relativistic field eqns. 1−36549
static spherically symmetric solution for interacting scalar, electromagnetic, and gravitational fields 1−44825
stationary axially symmetric Einstein-Maxwell scalar and Brans-Dicke-Maxwell fields 1−50003
stationary EM fields around black holes, current loops near Reissner-Nordstrom black hole 1−23091
strong interactions, confinement, rel. to classical theory of gravitation 1−18129
supergravity, gravitational aspects, book contrib. 1−18127
Szekeres' space-times, Newtonian analogs 1−44797
tachyon corridor 1−32837
thermodynamical aspect underlying the concept of torsion 1−50083
torsion, Einstein-Cartan theory, Newman-Penrose formalism 1−9898
torsion and related concepts, anholonomic basis 1−9887
twistor particle theory 1−36555

gravitation continued
U_4 theories, Lagrangians and field eqns. 1−40694
unified field theory, non-symmetric, identification of metric tensor, Palatini variational principles 1−18120
unified gauge theory, geometric interpretation using fibre bundles 1−27845
wave detection, book contrib. 1−18141
Weinberg model, Higgs mesons 1−5206
Weyl tensor, dual props. 1−44795

gravitational acceleration *see gravitation*

gravitational collapse
see also black holes; cosmology
accretion disc round supermassive black hole, selfgravitation, star form. and orbits *(Russian)* 1−22788
black hole time-dependent optically thick accretion, relativistic hydrodynamics code 1−9556
charged dust collapse, spherical and plane-symmetric models 1−9896
charged spherical collapse, topology 1−50017
electric counterpart of Ferraro's theorem in collapsing hydromagnetic configuration 1−44803
ferrofluid, perfectly conducting, in general relativity 1−38020
flat-gaseous systems, nonlinear stage of gravit. instability 1−44430
fluid obeying equation of state, gravitational motion 1−36536
galaxies active nuclei, temporary hypermassive states model based on material vacuum hypothesis 1−13892
galaxy clusters formation, primordial flat layer fragmentation and development of internal cluster struct. 1−13859
gas clouds collapse and star form. hydrodynamics and temp. 1−44621
general relativity with a background metric 1−18082
globular cluster collapse gravothermal catastrophe, mechanism, Fokker Planck eqn. anal. 1−54572
globular cluster core collapse, effect of massive black hole dynamics 1−49707
globular clusters, dynamics and core collapse 1−36363
gravitational bounce inequality for spherical boundary surface class 1−138
heavy star subsystems contraction within two component globular clusters 1−54571
HVC 267+35+145, interstellar high vel. cloud, evidence for rotating collapsing core 1−13839
hyperbolic static space-times, deterministic dynamics 1−27834
interstellar clouds, OH main line amonalies 1−32739
interstellar clouds collapse, one, two and three-dimensional models 1−40470
interstellar gas cloud, contraction by large external press., hydrodynamics and evolution *(Russian)* 1−4957
interstellar gas clouds, gravitationally collapsing, fragmentation due to thermal instabilities 1−54597
interstellar gas clouds, isothermal, gravitational collapse and fragmentation numerical method 1−36196
Jeans's instability in expanding medium, soln. by two time-scale method 1−36168
Kerr-Newman metric, photon trajectories 1−5185
magnetoids 1−44641
molecular clouds turbulent vel. field stabilising against gravitational collapse, energy origin 1−49758
neutron star formation, collapse of C-O white dwarf 1−22803
Newtonian spherical gravitational collapse of gas clouds 1−9540
photons, covariant kinetic equation 1−5197
planets, giant, formation, structure of gaseous envelope surrounding protoplanet 1−9414
prevention, Universe ultimate collapse theory extension 1−54367
protostar, rotational collapse, ang. momentum advection 1−9606
protostar collapse, numerical modelling *(Russian)* 1−4906
protostars, criteria for fragmentation in collapsing rotating cloud 1−44538
protostars collapse, numerical algorithms for physical and mathematical formulation of problem *(Russian)* 1−49612
protostellar clouds, rotating, adiabatic, collapse, equilib. and fragmentation 1−40472
relativistic gravitational collapse, equilibrium configuration explosion and reorganisation 1−23074
Sagittarius B2 interstellar cloud, evidence for core collapse from VLBI obs. of H_2O masers 1−49748
singularities, elimination within framework of Einstein general theory of relativity 1−54359
singularities and horizons, review, book contrib. 1−18115
star, slow rot. collapse, gravitational radiation, exact Green's function 1−17812
star clusters, late core collapse rel. to gravothermal instability 1−44598
star clusters containing massive central black holes, core collapse and re-expansion 1−9583
star collapse, end point according to bimetric general relativity theory 1−9538
star core collapse from Si burning termination onwards, lepton loss and entropy fraction 1−54473
star formation, collapse and equilibrium of rotating adiabatic clouds 1−44535
stars, low mass, Fe core collapse due to nonequilibrium β processes 1−49607
stellar core collapse, bounce and shock wave propag. leading to supernova 1−40512
stellar core collapse, stability anal. for slow spherical motion of gravitating fluid 1−54353
stellar core collapse and possible supernova, shock wave propag. effect 1−17813
stellar core collapse in 8-12 $M_\odot$ stars, neutron star form. 1−54535
stellar core of 1.4 $M_\odot$, collapse hydrodynamics rot. effect 1−44546
supernova core collapse, irreversible heating, entropy generation, beta equilibrium 1−54534
supernova core collapse, role of Rayleigh-Taylor instability in explosion 1−44584
Universe primordial condensations, Jeans masses rel. to origin of first stars 1−17917
white dwarfs, mass-accreting, collapse rel. to neutron star form. 1−49705
CO interstellar clouds without prominent star form., struct., mass and abundances 1−9626

gravitational constant
absolute meas. by laser interferometry, computer processing of signals *(Russian)* 1−44992
big bang theory, negligible gravitational constant 1−5006

gravitational constant continued
cosmological constant and gravitational constant, non-time-varying 1−23064
distance dependence constraint from extended supergravity 1−50024
G/h measurement using superconducting AC Josephson effect 1−14061
general relativity, experimental verification of parameterised post Newtonian formalism, book contrib. 1−18143
liquid-vapour interfacial oscill. amplitude 1−11957
measurement in orbiting laboratory, theory 1−36169
Moon recession, tidal forces, variable G effect 1−49549
negative constant in early Universe *(Russian)* 1−54368
time-varying G, experimental test of general relativity 1−18142
Universe, particle horizon, and broken-symmetric theory of gravity 1−36443
variable gravitational const. in Hoyle-Narlikar cosmology, effects on diffuse gamma-ray background 1−32775
variation, effect on Moon, high-energy physics conf. Coral Gables, FL, USA (Jan. 1980) 1−44712

gravitational experiments
constant of gravitation, measurement in orbiting laboratory 1−36169
directional detector for astronomical sources 1−4770
displacement measurement using narrow optical resonances, grav. wave detection appl. *(Russian)* 1−50206
G/h measurement using superconducting AC Josephson effect 1−14061
gravitational wave antennas and measurement electronics, quantum nondemolition meas. 1−23099
LF wave detection using torsional pendulum as mech. reson. antenna *(Chinese)* 1−18140
radiation, increasing the interaction with antenna using correlated quantum states 1−50030
spaceborne laser gravitional wave antenna design 1−44833
superconductivity applications in space research and gravitational studies 1−9344
wave detectors, method for blotting out scattered light effects 1−27853

gravitational lenses
0957+561 A, B, double quasar, gravitational lens identification 1−40576
construction for demonstrations 1−9812
general relativistic predictions and double quasar 1−22678
motion relative to background causing cosmic background radiation brightness anisotropy *(Russian)* 1−54369
Q0957+561, double quasar, UV flux ratio vars. rel. to radio flux ratio and gravit. lens model 1−27631
Q0957+561 AB, double QSO, gravitational lens image formation 1−22924
Q 0957+561 A, B, double quasar, brightness and spectrum vars. obs. 1−36432
QSO, 0957+561 A, B, gravitational lens effect, time delay range 1−44663
QSO 0957+561, lens effect, general discussion 1−54657
QSO 0957+561, twin, gravitational lens effect intervening galaxy nature, visible obs. 1−49849
QSO 0957+561 A, B, double quasar, MTRLI obs. at 408 MHz 1−17905
QSO 0957+561 AB, image intensity var., evidence for intervening galaxy heavy halo 1−49789
quasar double 0957+561, VLBI obs. of image structure 1−49851
quasar evolution, effect of brightness amplification by gravitational lenses 1−49848
radioastronomy, recent developments, review 1−27742

gravitational radiation *see gravitational waves*

gravitational red shift
see also cosmology
α Canis Majoris B (Sirius B) discovery and historical context rel. to gravitational red shift 1−44596
Einstein-Maxwell equation, axially symm. electrovac soln. 1−54364
o^2 Eridani B, white dwarf, new gravit. redshift meas. 1−9484
gamma ray annihilation lines from neutron stars with strong mag. fields *(Russian)* 1−22929
general relativity test, history 1−32827
neutron star, mass determination by red shift meas. 1−40516

gravitational waves
see also gravitons
angular momentum, asymptotically flat spaces, near and far field regions 1−18101
antenna, LF, for gravitational radiation 1−32897
antenna interaction increase using correlated quantum states 1−50030
antenna transducer system, low noise temperature 1−40701
antennae, Q-meter *(Chinese)* 1−27851
antennas and electronics, quantum nondemolition meas. 1−23099
black hole, thermal evaporation, null geodesic propag., Hawking radiation 1−40691
bound systems, quadrupole formula and balance eqns. 1−27373
burst emitted by radially imploding particle, struct. 1−32883
cataclysmic binary star, white dwarf+main sequence star, gravitational radiation and evolution 1−9506
collapse processes, black hole form. models, gravitational waves 1−18116
colliding plane gravit. waves, singularities 1−23079
compact stars, uncollapsed, collisions, gravitational radiation, one dimens. hydrodynamic calcs. 1−9353
cosmologies dominated by gravitational radiation 1−22932
coupling between solid elastic resonators *(French)* 1−50016
covariant boundary conditions in spatially asymptotically flat space-times 1−44811
cylindrical gravitational wave in Melvin universe 1−18110
degenerate dwarf stars, differentially rotating, gravitational radiation rel. to secular stability 1−54471
detection, book contrib. 1−18141
detection, effect on oscillator 1−143
detection, review 1−27838
detection by cylindrical antennas, optimal orientation 1−27854
detection expts. book contrib. 1−18144
detection using thermal noise *(Chinese)* 1−23100
detection using tunable torsion pendulum *(Chinese)* 1−27852
detectors, method for blotting out scattered light effects 1−27853
directional detector for astronomical sources 1−4770
displacement measurement using narrow optical resonances, grav. wave detection appl. *(Russian)* 1−50206
Earth tides, no evidence for gravit. waves from Earth's surface sidereal motions 1−35931
Einstein-Rosen waves, asymptotic behaviour 1−32881

gravitational waves continued
evolved massive star, rotating core emission 1−40465
Fabry-Perot interferometer in gravitational wave field *(Russian)* 1−9915
field equations approx. 1−18081
general relativity, book 1−17952
general relativity, experimental verification of parameterised post Newtonian formalism, book contrib. 1−18143
general relativity and gravitation, book 1−17948
general relativity and gravitation, book 1−17949
gravitational radiation energy loss in scattering problems and the Einstein quadrupole formula 1−23076
gravitational/electromagnetic conversion scattering on fixed charges in the Born approximation 1−44815
harmonically bound three mass system, interaction with gravitational waves 1−140
high frequency, WKB two-timing method, averaged Lagrangians 1−18111
indirect evidence from binary star Z Chamaeleontis and binary pulsar *(German)* 1−9914
interacting systems, gravit. radiation quadrupole formula 1−23077
interactions with matter and fields 1−18112
Kerr geometry, monochromatic axially symmetric scalar waves, imploding on rotating black hole 1−9893
LF, detection using torsional pendulum as mech. reson. antenna *(Chinese)* 1−18140
linear covariant eqns. for gravitational field 1−32882
neutrino waves, gravitational interaction 1−50010
Petrov type-N gravitational wave solns. and vacuum metrics, curvature collineations 1−5194
plane wave solns. to Einstein's eqns. 1−27839
plane waves in gauge theories of gravitation 1−36550
plasma, ultrarelativistic, collision damping of gravitational waves *(Russian)* 1−40689
polytropic stars, differentially rotating, gravitational radiation rel. to secular stability 1−54471
post-Newtonian generation of gravitational waves in a theory of gravity with torsion 1−44809
primordial gravitational-wave spectrum, possible effects of high-energy microprocesses 1−44429
production through EM radiation *(German)* 1−141
quadrupole radiation resistance, radiation damping and field fluctuations 1−44810
quantum corrections, gravitational synchrotron radiation production 1−29201
radiation damping by binary system with compact objects 1−9894
radiation scattering by Kerr black holes 1−23078
radiative effects in relativistic gravity, gravit. radiation reaction and energy loss in nearly Newtonian systems 1−49497
shock waves, interacting, in vacuum plane-symmetric cosmologies, numerical anal. 1−44425
solitons, two-soliton soln. of vacuum Einstein eqns., anisotropic cosmology 1−142
spaceborne laser gravitional wave antenna design 1−44833
star, slow rot. collapse, gravitational radiation, exact Green's function 1−17812
stiff matter, gravitational waves and sound waves 1−5196
synchrotron radiation in gravitation metric theory 1−22676
Szekeres's quasi-spherical spacetimes, gravitational radiation 1−5195
test particle motion in plane gravitational wave field 1−9912
unification of forces and existence of gravitational waves 1−27837
vacuum field equation, scalar tensor theories in P-space times 1−44818
viscoelastic bodies, gravitational wave induced oscillations 1−37829
Al gravitational rad. detector, noise and fluctuation obs. 1−23098

gravitons
Poincare gauge theory of fundamental particles, mass and energy spectrum, Klein-Gordon equation 1−50026
Poincare gauge theory of fundamental particles, weak field approx. 1−32894
primordial real gravitons, effects of high-energy microprocesses in early Universe on graviton spectrum 1−44429
supergravity, 5-D, bosonic rheonomic symmetry and generaton of spin-1 field 1−151
unification of forces and existence of gravitational waves 1−27837

gravity
see also gravitation
N.Africa, gravity survey, E.-W. traverse (made in 1975) 1−27051
Africa, great negative Bouguer anomaly and tectonic implications 1−27141
S America, mantle convection and subcrustal stress field 1−49249
anomalies, interpretation and transformation, correl. methods 1−54265
anomalies, interpretation through pot. field regularity at infinity 1−9069
anomalies analysis, content and significance of mathematical models *(Rumanian)* 1−44338
anomalies connected with EM target, target evaluation technique 1−17697
anomalies interpretation, density contrast estimation for homogeneous body 1−4408
anomalous two-dimens. field interpretation, analytical continuation 1−4415
anomaly, random source in horizontal layer, pot. field autocorrelation functions 1−9280
anomaly, three-dimensional field, analytical continuation from spherical surface 1−4406
anomaly data interpretation (combined mag. and gravity data), interaction computer graphics method 1−32543
anomaly due to buried prism, calc. 1−44065
anomaly of buried object, data interpretation using Hankel transform 1−40038
anomaly separation in mountain areas 1−40234
Archean greenstone belt (NW.Ontario), Bouguer gravity field 1−27050
Aulneau batholith in northwestern Ontario, gravity model 1−35951
N Baikal mountain region, gravity anomalies assoc. with Precambrian domes 1−9151
S.California, time-depend. gravity obs. 1−13381
Canadian Shield, gravity anomaly, geoidal height and deflection from vertical 1−13376
Caribbean region, gravity anomalies, model *(Russian)* 1−22184
Chagos Archipelago to Seychelles, gravity force anomalies and deep comp. struct. peculiarities 1−4472
N.Chile, groundwater graben struct., detect. by gravity and seismic expts. 1−4407

gravity continued
coal prospecting, interpretation of gravity and electrodrilling data in Kathib El Makhazin, Sinai Peninsula 1−13604
crust and mantle stress state, gravity anomaly implications 1−27136
crust structure, ambiguous interpretation of gravity and surface geology data 1−22182
crustal stress induced by anomalies at boundaries of geological provinces 1−40108
deflection of local vertical at Herstmonceaux, England, due to Earth tides 1−49192
deflection of vertical derived from horizontal gravity gradient by local gravity meas. *(German)* 1−9070
Earth asthenosphere, effect of gravit. field on phase geometries of partial melts and elec. cond. 1−22273
Earth tides, Soviet obs. 1−13379
Earth tides, vertical gravity obs. rel. to Earth's surface sidereal motions 1−35931
effect on geomagnetic disturbance generation by acoustic pulses 1−22585
Fennoscandia, crust thickness, isostatic compensation and gravity anomalies 1−27099
Finland, crustal uplift during modern times 1−54059
Fohnsdorf-Knittelfeld basin, Austria, gravity survey of crust density 1−22181
geoid undulation difference accuracies, using gravity anomalies and disturbances 1−17545
geological significance and local variations 1−27741
geometry and gravity space, dual relations 1−9071
geopotential, 31st order harmonic coeffs. from Samos 2 orbital obs. 1−22664
geopotential, accuracy of transformed anomalous gravitational fields 1−53954
geopotential, lumped harmonics of 15th and 30th order, from resonant orbit of satellite 1971-54A 1−49189
geopotential and geoid shape, odd zonal harmonics from satellite orbits 1−32341
geopotential by satellite-to-satellite tracking method 1−22187
geopotential variations with periods in excess of a few hours, amplitudes *(German)* 1−40041
global field to degree and order 30, Geos 3 altimeter data 1−44068
Gulf of Aden, floor evolution, seismic, gravity and mag. survey 1−13451
Haicheng earthquake (1975), China, gravity var. before and after *(Chinese)* 1−4426
SW.Hungary, deep struct. from filtered gravity data *(Hungarian)* 1−40042
Iceland, current rifting process, gravity and height obs. 1−54063
India, S. Peninsular, gravity anomalies, isostasy and topography 1−32432
NE. Indian Ocean, 3-D gravity model *(Russian)* 1−22183
Indian Ocean area geoid, comparison of altimeter and gravimetric geoids 1−17546
Indonesia, Bouguer gravity map and tectonic implications 1−49190
inverse astro-gravimetric-geodesic problem, soln., uniqueness 1−32338
inverse geophysical problems, ill-posed, solns. 1−9277
inverse gravimetric problem, uniqueness conditions for soln. 1−32340
inverse problem parameterisation construction 1−22186
Izu peninsula, Japan, tidal corrections for precise gravity meas. 1−4409
Japan, pseudomag. anomalies derived from gravity data (assuming common sense) 1−44096
Jupiter, J_2 and J_4 coeffs. rel. to great inequalities and libration terms of satellites I, II and III *(French)* 1−44472
Kapuskasing line, Ontario, Canada, crust struct. and origin 1−40082
Kazakhstan, Earth crust, seismic and gravity two-dimens. inhomogeneous model 1−22272
Kirishima volcano, Kyushu, Japan, gravity anomaly obs. *(Japanese)* 1−44157
Limpopo Belt, southern Africa, deep struct. from surface geology and gravity obs. 1−22301
mantle convection, constraints provided by plate vels., gravity, topography and heat flow 1−40098
mantle convection beneath USA, gravity data calcs. 1−13444
Marianna Arc structures, two-dimens. model 1−22287
E.Mediterranean, crust and gravity struct. and plate tectonics 1−54041
MHD waves, gravity field effect *(Russian)* 1−51879
Moon, distrib. of gravity and plumb-line deviations over lunar surface 1−13710
Morin's free fall apparatus 1−27760
Mosel valley, Germany, gravity anomaly measurable by geodetic method *(German)* 1−40045
multipoint model 1−4801
Okhotsk Sea continental crust off Central Sakhalin, gravity anomalies rel. to deep-seated struct. 1−13456
Pacific Ocean, bathymetry and geoid vars. rel. to planform of mantle convection 1−22318
petroleum gas-bearing structure, inverse gravity prospecting problem *(Russian)* 1−13613
planets, surface gravit. accel. rel. to complex impact craters form. 1−4806
Potsdam system, correction with respect to International Gravity Standardisation Net 1−13380
prospecting, inverse problem, soln. using optimisation method 1−9279
prospecting in petroleum geology, amplitude anomalies *(Russian)* 1−13612
Qinghai-Xizang plateau, China, geophys. fields and plate tectonics *(Chinese)* 1−22311
Raguba oil field, Libya, Bouguer gravity anomaly map 1−17551
Ross Ice Shelf, gravity vars. meas. rel. to ocean tide in southern Ross Sea 1−27180
Sahara, gravity survey, E.-W. traverse (made in 1975) 1−27051
satellite motion in Earth's gravitational field *(Russian)* 1−22660
Saturn, interior struct. from Pioneer 11 gravity data 1−40406
Saturn, J_2 term. from theory of Enceladus-Dione reson. satellite pair 1−44490
Shatsky Rise, Pacific mantle density, inferences from gravity data 1−22288
stars, horizontal branch, location in log T_{eff}, log g diagram 1−22809
stellar surface gravities determ., spectral classification from theoretical point of view 1−54483
Sun, gravitational pot. perturbations assoc. with solar oscills. 1−27474
Sun, relativistic enlargement of the apparent radius 1−4839
Switzerland, recent crust movement and geophys. interpretation 1−54039
Tangshan earthquake (1976), China, gravity var. before and after *(Chinese)* 1−4426
tilted plane gravitational field model 1−13976
gravity continued
Tonga Trench area geoid, comparison of altimeter and gravimetric geoids 1−17546
Ukrainian shield abyssal fractures, correl. with mineral deposits, gravity and geomag. techniques 1−54026
Uranus, J_2 and J_4 determ. from obs. of stellar occultation by ring system, (1980 March 20) 1−40417
NE.USSR, crust and upper mantle deep struct. from gravity data 1−22189
Yenisei Range, Siberia, gravity anomaly interpretation 1−53957
gravity meters *see gravimeters*
gravity waves
acoustic gravity wave Cherenkov emission from horizontally moving source 1−46766
acoustic-gravity waves of horizontally moving sources, Cherenkov radiation 1−27341
upper atmosphere, energy transport by gravity wave 1−13634
atmosphere, gravity waves generation by inhomogeneous heating 1−27324
atmosphere, internal gravity waves radiation by ocean surface waves *(Russian)* 1−9207
atmosphere, meteor shower origin, indirect cause for LF radiowave fading 1−9310
atmosphere, microbaromic waves obs. and relation to earthquakes *(Chinese)* 1−9090
atmosphere surface layer, internal gravity waves correl. with upper troposphere wind *(Russian)* 1−13515
atmospheric Rossby-gravity waves on beta-plane in latitudinally sheared zonal flows 1−17674
atmospheric two level model, CISK modes 1−32509
barotropic circulation, cnoidal waves, solns. of Korteweg-de-Vries eqn. 1−36042
deep water gravity wave of permanent form 1−37957
deep water gravity waves, long wavelength bifurcation 1−33971
deep water waves of permanent form, highest-wave solns., using series expansion method 1−11413
diffraction over small bottom irregularity 1−37951
ferrofluid, mag. field effects on unified gravity waves 1−19824
galactic centre emission from model considering arm form. and evolution 1−40560
gravity-capillary interfacial waves of finite amplitude, numerical calc., Wilton's ripples 1−2008
ideal fluid surface, spatial gravitational waves 1−24828
internal gravity wave development in stratified fluid in tilted tube 1−51791
ionosphere, E- and F-region, effect of internal gravity waves 1−4687
liquid three-dimensional over periodic bottoms, including surface tension, soln. 1−2005
mesosphere gravity wave perturbations, Na layer density response 1−44352
nonlinear deep water gravity waves, stability of plane wave solutions of nonlinear Schrodinger equation 1−27794
nonlinear gravity-capillary stern waves 1−11415
nonlinear water wave generation using the method of lines 1−51788
nonlinear wave-wave interactions among geophysical waves 1−51790
nonlinear waves in neighbouring pycnoclines, resonant energy transfer 1−19732
ocean, efficiency of conversion of kinetic energy to potential energy by breaking internal gravity wave 1−27173
ocean surface waves in gravity-wave regime, random, mathematical representation 1−9168
oceanic, long nonlinear wave eqns. 1−4519
propagation on liquid layer with random depth 1−11411
resonant interactions of surface and internal gravity waves 1−29711
sea ice breaking with gravity waves, induced by moving vehicle 1−40237
solar atmosphere, radiative damping of gravity waves 1−40459
standing water waves, computer aided calc. 1−15501
stratified fluid, gravity wave nonlinear reflexion at critical level 1−11412
Sun nonradial oscillations, gravity waves propag. and implications for solar neutrino problem 1−27459
thermosphere over Saskatoon, partially reflected radiowave meas. 1−40241
travelling ionospheric disturbances (TIDs), transmission in ionosphere F_2-layer rel. to horizontal vel. dispersion 1−27337
turbopause internal gravity waves eddy diffusion coeff. determ. by airglow O I line obs. 1−40239
greasing *see lubrication*
Green's function methods
see also CPA calculations; KKR calculations
A_2B_4 planar molecules, mol. vibr., generalised isotope rules 1−45927
adatom ordered lattice, Green function *(Russian)* 1−12162
adsorbate vibrations, inelastic electron scatt., many-body theory 1−12610
alkali-metal atoms, Green's function approach to nonresonance multiphoton absorpt. 1−24099
anisotropic media, nonlinear polarisability tensor *(Russian)* 1−6604
antiferromagnet, four-sublattice, magnetisation 1−25907
antiferromagnet, two-sublattice, Neel temp. sensitivity to biquadratic coupling 1−25935
antiferromagnetic metals with paramag. impurities, cond., Green's functions calc. *(Russian)* 1−52544
atmospheres of stars and planets, radiative transfer, Green's function of an optically thick layer 1−49495
atom+atom interaction, photon density-density correl. 1−1303
atoms, three-level, bichromatic field interaction, reson. fluoresc. spectra 1−19048
band structure of Li, effect of exchange interaction 1−20619
binary crystals with diagonal disorder, quadratic approx. appl. 1−34608
Bogolyubov U-V transform. coeffs. calc. 1−47836
BWR suppression pool, pressure fields, Green's function calc., other methods comparison 1−23794
centre of gravity theorem for poles of one-particle Green's function 1−6122
charged particle beam propagation in inhomogeneous medium with radial force 1−24341
closed time path Green's functions, appl. to crit. dynamics 1−9962
commensurate CDW oscills. due to action of const. elec. field *(Russian)* 1−47512
n-component disordered alloys, diagrammatic equivalent of coherent pot. approx. *(Chinese)* 1−52459
conference, complex anal., microlocal calculus, relativistic quantum theory, Les Houches, France (Sept 1979) 1−36455

Green's function methods continued
core-valence excitations, many-body theory 1−52460
Coulomb Green function between Slater orbitals, matrix element calcs. 1−14803
Coulomb scattering, three-body problem, Green's function 1−49993
cylinder and layer in infinite medium, fluctuation EM field, thermal Green's functions 1−15054
dense fluids in one dimension, localisation of electrons, cluster Green function study 1−34644
dielectric function, static screening and non-linear response 1−16244
difluoromethane, vertical ionisation pot., SCF and CI calcs. 1−51136
diimide radical, in-plane vibr., Green's function anal., pot. energy, Coriolis and rot. distortion const. determ. 1−37167
Dirac particles, in central field, perturbation theory 1−14248
elastic half-space Green's tensors for boundary integral eqn. method *(Japanese)* 1−24678
elastic media, random constitution, effective elastic moduli as Neumann type infinite series 1−29547
elastically anisotropic crystal, TEM images of small dislocation loops, black-white contrast calc. 1−42390
electric dyadic Green's functions in source region, comments 1−41537
electroelasticity assuming elastic isotropy and electrostrictive effects 1−31091
electron gas, exchange-correlation effects, self-consistent calcs. *(Russian)* 1−52515
electron propagator in superoperator form, coupled-cluster approx. 1−33378
electrostatic fields inside two planar distributions of potential 1−37383
EM radiation properties from partially correlated current distrib. 1−1454
EM wave scatt. by inhomogeneous fixed obstacles with zero conductivity 1−1462
equilibrium particle gas, linear Boltzmann eqn. Green function 1−5256
ethylene, mol. vibr., generalised isotope rules 1−45927
Euclidean loop Green functional, renormalised loop wave equation, WKB approx. 1−424
exact inverse scattering theory 1−51350
exciton spectrum, Wannier-Mott, renormalisation by Frohlich interaction 1−25644
Fermi contact interaction, solvable model 1−1094
Fermi liquid, gauge and scale transformations 1−27868
fermion field theories, strong-coupling expansion, and large-N limit of Gross-Neveu model 1−23410
ferroelectrics, displacive, with impurities, electric field dependence of Curie temperature and microwave absorption 1−16534
ferroelectrics, displacive-type, lattice viscosity in paraelec. phase, temp. depend. 1−42501
ferromagnetic 3d-metals, local band definition, spin waves 1−25863
ferromagnetic transparent insulator, transverse magnetisation by optical waves 1−26179
field theories, planar perturbation expansion 1−36807
film-substrate interface, vibr. props., Green functions method *(French)* 1−11970
Friedel sum rule, generalised 1−52463
gauge identities in axial gauge 1−45110
global consistant approach for field theories 1−36814
gravity meas. in Izu peninsula, Japan, Green's function for oceanic tidal corrections 1−4409
harmonic oscillator with finite perturbation near poles, perturbed equations *(Russian)* 1−44774
HCP lattice, lattice static Green function 1−5248
Heisenberg ferromagnet, Curie temp. sensitivity to single-ion aniotropy, second-order Green's function approach 1−7840
Heisenberg ferromagnet, effect of biquadratic-exchange interaction on magnetisation and susceptibility 1−3134
Heisenberg ferromagnet, impure, with biquadratic interactions 1−3135
Heisenberg ferromagnet, sensitivity of the Curie temperature to the number of nearest neighbours 1−38940
helical wormlike chains, mulivariate distrib. functions, statistical mechanics 1−15047
heteroatomic π-electron systems, photoelectron spectra, Green's function calcs. 1−24018
heterogeneous media, one-speed transport theory, Green's function 1−40734
Hilbert transform of a real function, computer program for numerical evaluation 1−5139
hybrid ray-mode acoustic fields in inhomogeneous waveguides and ducts 1−46604
inequivalent representations, asymmetric and symmetric Green functions 1−45128
instantons, rel. to zeta functs., Green's functs., CP^{n-1} model 1−33113
interacting electron gas dynamic spin susceptibility 1−7852
intermediate valence compounds, mag. susceptibility in simplified Anderson model, f levels split by cryst. field 1−34841
intermediate valence model, Green function method 1−20665
Ising model, transverse, Green's function theory 1−3131
Ising model in transverse field, low temp. props. and kinematical effects 1−14074
Ising systems with bond impurities, concentration expansion 1−32928
isotopically disordered insulating solids, shear viscosity 1−2585
IV-VI semiconductors, crystal potential fluctuation influence on electron spectrum 1−20631
joint acceptance function for vibrating enclosures 1−41970
lattice Green's functions for cubic lattices 1−5246
liquid metals, analytic props. 1−11669
liquid metals electron Green's function, electron state density 1−16219
magnetic semiconductor, variation of energy gap 1−52483
metals, liquid, conductivity, Ward identity and effective medium approx. 1−7580
MHD fields in systems with finite or infinite nonuniform regions, Green's function for MHD eqn. 1−24892
model and integral covariance methods of hybrid systems *(German)* 1−32835
molecular crystals, low-frequency Raman scattering, temp. depend. 1−3389
molecular electronic structure, quantum theory, review 1−10658
molecules, closed shell, vertical excitation energies, CNDO and INDO calcs. 1−45856
molecules and solids, photoionisation cross section, Green's function method 1−1288
naphthalene, spectral struct., doorway state coupling schemes, Green's function method 1−37175
Green's function methods continued
narrow-band paramagnet with strong Coulomb interaction, mag. susceptibility 1−52745
neutron diffusion, dimensional, nodal Green's function methods 1−5833
neutron flux perturbations, high-order, differential functional approach 1−45582
nonequilibrium Green function application to nonequilibrium systems 1−23109
nonequilibrium superconducting film, phonon kinetics in external EM field *(Russian)* 1−42906
nonlinear elliptic free boundary problem, variational principle, limiting behaviour, nonlinear, desingularisation 1−5109
nonlinear field theory, σ-model and CP^{n-1} at $2+\epsilon$ dimensions 1−5480
nonplanar dispersive resonator with reflective diffr. grating *(Russian)* 1−1600
nuclear matter, collective excitations with density depend. effective interactions *(Russian)* 1−657
nuclear vibrations and transitions, theory review 1−10304
oxo-compounds, XPS SCF calcs. 1−14960
parametric upconvertor, three-freq., beam shape anal. 1−19383
perturbation theory, resonant states in nonrelativistic quantum mechanics 1−44781
phonon-impurity scatt. cross-section 1−20338
plasmas, Langmuir turbulence as crit. phenomena, dynamical renormalisation group method 1−34076
point imperfections, isolated, extended, local density of states 1−7165
polariton effect influence on excitonic molecules 1−30644
projection-operator approach to perturbation theory 1−110
pyrene, IR vibronically tangled spectra in biphenyl matrix 1−37196
QCD and generalised Abelian models, Green's function methods, instantons, screening, confinement 1−28214
quantum dynamical systems, stochastic processes 1−5164
quantum field theory, axiomatic, quadratic building block theories, large N saddle point formulation 1−426
quantum field theory with nonpolynomial Lagrangian, superpropagator of massive particles 1−5504
quantum gravitational bubbles, foamlike structure of space-time, particle propagation 1−5209
quantum theory, many-body problems, k-particle Green function diagrams, irreducible representations of group 1−5147
quark confinement potentials, bound and confined states, analytic continued fraction technique 1−492
recurrence relations of Green function for three particle potential 1−9862
relativistic confined systems, equivalent potential 1−36786
relativistic plasma, electron energy loss, covariant Fokker-Planck formalism 1−6999
relativity, EM field, quantum effects in systems with accelerated mirrors 1−5184
renormalization groups of Gell-Mann and Low and of Callan and Symanzik 1−50315
Schrodinger equation, radial, confining and inverse-power law potentials 1−9868
Schrodinger equation, recursive solution, partially tridiagonalised Hamiltonian 1−14038
semiconductor, graded-band-gap, secondary electron emitter, resolving power and response 1−31247
semiconductor, hopping cond., defect phonon modes influence, formalism 1−20719
semiconductor, hopping cond., defect phonon modes influence, numerical results 1−20737
semiconductor, strongly doped, excitonic absorpt. spectra *(Russian)* 1−43149
semiconductor thin films, virtual surface states, surface Green function calcs. 1−42840
semiconductor-thin films, exciton light absorption 1−3357
semiconductors, deep impurities and defects, Green's function methods, review 1−47541
semiconductors, defect states dominated by localised pots., calc. 1−52520
semiconductors, spin density distrib. around mag. centres 1−42770
single particle Green's function, in scalar field theory with nonlinear interaction, anomalous dimensionality *(Russian)* 1−36811
source region electric field derivation by a dyadic Green's function approach 1−1437
spin glass, microscopic theory of spin waves 1−52761
statistical systems, far-from-equilibrium, response function theory 1−36594
superconductor, charge imbalance generation by temp. gradient 1−20913
surface, self-consistent electronic struct. in tight-binding *(French)* 1−52618
SW propagation in Gaussian turbulent medium, nonlinear Dyson eqn. appl. 1−37391
thin films, surface disorder, average t-matrix approx. 1−7437
tight-binding bands, theory of phys. props. and competing processes 1−25610
time-reversal symm. and non-equilib. statistical stationary states *(Chinese)* 1−50039
TMMC, local magnon modes, dynamic response associated with single-impurity spin 1−12275
wave function normalisation by self-consistent Green's function method 1−2858
wave propagation across vertical discontinuity, elastic surface waves 1−29616
Ag, electronic struct. of mag. impurities, first principles calc. 1−34653
BaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
$^{12}C(\pi,\pi)$ around $\Delta(3,3)$ resonance, optical model 1−41139
CaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
CdTe:P, localised vibrational modes due to P defects in substitutional or interstitital sites 1−47197
$CsNiF_3$, local magnon modes, dynamic response associated with single-impurity spin 1−12275
Cu, electronic struct. of mag. impurities, first principles calc. 1−34653
Cu mixed halides, IR absorpt. and Raman scatt. study 1−48124
$ErCo_2$, ground-state spin dynamics, neutron inelastic statt. meas. and Green's function RPA calc. 1−34874
$Ga_{1-x}Al_xAs(Sb)$, Raman scatt. spectra, lattice dynamics 1−48085
GaAs optical cross sections associated with deep levels 1−21257
GaP, optical cross sections associated with deep levels 1−21257
$GaP_{1-x}As_x$, mixed zincblende cryst., critical point phonon composition depend. 1−2577

Green's function methods continued
GaP_zAs_{1-z} mixed crystals, vibr. props., localised states calc. and Raman scatt. meas. 1−34446
$Ge_{1-x}Si_x$ alloy, IR spectra, local and quasi-local vibr. modes 1−16572
HCl, electron ionisation, binding energies at different orbitals momenta 1−1392
HNF_2, vertical ionisation pot., SCF and CI calcs. 1−51136
He, Green's function approach to nonresonance multiphoton absorpt. 1−24099
^{3}He, liq., ground state energy upper bounds, Green's function Monte Carlo method 1−52382
^{3}He, superfluid, gap solns., perturbed, mag. susceptibility calc. 1−34537
$In_{1-z}Ga_zP$, mixed zincblende cryst., critical point phonon composition depend. 1−2577
Mg, lattice static Green function, point defect distortion 1−5248
N_2, ionisation pot., basis set quality and configuration mixing effect 1−1124
NO_2, spectral struct., doorway state coupling schemes, Green's function method 1−37175
Nb-Pb tunnel junctions, current amplitude calcs. 1−42917
Ni, adsorption of CO and N_2, core photoionisation of adsorbates, many-body effects, CNDO formalism 1−39223
O_3, force field study *(German)* 1−45935
OF_2, vertical ionisation pot., SCF and CI calcs. 1−51136
Pd crysts., quasi-relativistic approx. in electron spectra calcs. by Green's function method *(Russian)* 1−34671
Pt crysts., quasi-relativistic approx. in electron spectra calcs. by Green's function method *(Russian)* 1−34671
Rh crysts., quasi-relativistic approx. in electron spectra calcs. by Green's function method *(Russian)* 1−34671
Si, electronic states at line defects 1−20655
SrF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
ZnS:Cu, t_2←e localised transition 1−47526

grinding
ball mill grinding, specific surface increase *(Japanese)* 1−35410
ceramic grinding balls, press mould for quasiisostatic pressing 1−12693
ceramics, optical, workability with synthetic diamond tools 1−6690
contact aspherometer, instrum. description 1−11193
diamond milling machine for accurate metallic mirrors *(German)* 1−29411
glasses, type STF and TBF nonsilicate, optical component fabrication 1−15294
machine set-up parameter influence on ground spherical surface accuracy 1−1740
malleable powder particles, size-reducting 1−3649
optical component glass polishing with synthetic diamond and cubonite tools 1−15293
oxide ceramic materials, effect of machining on strength 1−43457
Planeta lathes, optimum aspherising condition determ. 1−11191
porcelain, wet milling 1−12691
powders, segregation *(Polish)* 1−53122
quartz, to form amorphous SiO_2 *(Japanese)* 1−12705
quartz ceramics, hot casting from thermoplastic suspensions 1−12699
steel, C, constructional, strain hardening grinding, influence on wear resist. and struct. 1−53300
steel, stainless, corrosion cracking in carbon chlorides, machining influence 1−53351
steel, surface deform. and frictional heating during machining 1−39403
steel St52, nonlinear lattice strain distributions caused by various stresses *(German)* 1−39393
toughness in wear and grinding processes 1−8439
Al_2O_3 ceramic, grinding, on diamond grinding discs at faster speeds 1−16928
Na_2O-CaO glass, crack imitation and propagation under moving sharp indentor 1−26593
SiC, effect of surface treatment on surface polaritons *(Russian)* 1−2890
Si_3N_4, reaction bonded, surface effect on ultimate strength 1−43464
ZnO electroluminophores, photo- and electroluminesc., grinding effect 1−52996

grinding mills *see grinding*

ground services, aerospace *see ground support systems*

ground support systems
see also navigation; telemetering systems
Deep Space Network tracking station location determ., large scale state estimation algorithms 1−4742

grounding *see earthing*

groundwater
aquifer, confined, variable thickness, steady non-Darcy seepage 1−22371
aquifer flow, appl. of piezometric determ. of inhomogeneous hudraulic cond. 1−36008
aquifer recharge estimation method appls. 1−32471
artesian well water mineral content near flooded coal mines *(Japanese)* 1−49292
beach morphology changes rel. to groundwater level and tides 1−17579
borehole at Wali near Beijing, level fluctuations as record of Earth tides and seismic waves *(Chinese)* 1−9181
N.Chile, groundwater graben struct., detect. by gravity and seismic expts. 1−4407
crystalline rock secondary permeability, fracture deformation influences 1−44219
dolomite karst hydrochemistry, Bruce Peninsula, Ontario, Canada 1−44216
earthquake mechanism and pore water resistance to fault motion 1−27086
Explorer Ridge of N.E. Pacific, hydrothermal vent deposits 1−40116
filtering from one basin to another, nonstationary convective-diffusion problem *(Russian)* 1−15540
flow and transport models for groundwater reservoir simulation 1−54155
Garlock fault, California, groundwater interaction, geochemical evidence 1−27214
geothermal reservoir, two phase flow to wells, nonlinear effect 1−36014
Great Artesian Basin of Australia, groundwater regime 1−4544
Great Artesian Basin of Australia, groundwater regime model 1−4545
hot springs at Puchuldiza, Chile, chem. and temp. of water 1−44223
hot springs at Tuja, Chile, chem. and temp. of water 1−44223
Icelandic geothermal systems influenced by seawater, S isotope study 1−22365
Iowa aquifer water level fluctuations due to Alaskan earthquake 1−54146
leachate from coal and ash piles, environmental effects 1−4226

groundwater continued
marsh hydrology model, water level and storage release error anal. 1−36005
midocean ridge, chem. alteration by hydrothermal seawater circulation 1−54024
E.Pacific Rise hydrothermal site, Mn and ^{3}He obs. in water samples 1−13489
pH and pe in situ meas. 1−40207
pond seepage flow, illustration of Darcy's flow boundary integral solns. technique 1−36004
pore water salt content with depth, resist. sounding 1−53974
pore-pressure in borehole, estimation methods *(Hungarian)* 1−32544
precursor to earthquake in Tangshan (1976) anomalous migration *(Chinese)* 1−4429
profile sampler for spatial sampling of solutes in shallow groundwater systems 1−36083
radioactive waste disposal in geologic formations, groundwater flow 1−43845
recharge from ephemeral stream, event based model, appl. to Rillito Creek 1−36007
recharge through calcareous sandy soil 1−49294
reservoirs, underground, well borehole sandface conditions from well block conditions, practical techniques 1−36081
N Rhine graben subsidence due to groundwater and hydrocarbon extraction 1−27053
rock permeability, crystalline and argillaceous rocks 1−44218
Sabarmati basin, groundwater recharge, T tagging analysis 1−13497
salt domes, origin of contained water, ^{18}O study 1−13433
San Andreas fault, groundwater interaction, geochemical evidence 1−27214
San Gabriel fault, S.California, 1953 to 1964 subsidence obs. 1−35929
sea bed geothermal springs, chem. processes, W.Florida continental shelf 1−54066
seawater infiltration, chemical reactions with rocks and fresh water 1−4547
silica content rel. to regional heat flow 1−40222
soil percolation flow and ion-exchange 1−54153
soil recharge due to rain, tritium obs. following nuclear tests 1−49309
solute transport through fractured media, matrix diffusion effect 1−36009
solute transport through fractured till, Ca and Cl tracer migration 1−36010
speleothems, evidence for changes of ^{2}H and ^{18}O enrichment of meteoric water during Pleistocene glaciation 1−54194
stochastic parameter estimation of a steady-state groundwaterflow model 1−54154
Sungpan Pingwu earthquake (1976), nearby spring water Rn content, abnormal charcts. *(Chinese)* 1−4430
thermal springs, He in natural gas 1−13461
underground water samples, multielement neutron activation anal. 1−49291
vapour-dominated geothermal systems, gravitational stability 1−9189
water overlying steam layer, gravitational stability 1−27215
well water sampling package, meas. of pH, elec. cond. etc. 1−36084
Yamasaki fault in Yasutomi region, identification by underground water distrib. 1−54042
CO_2, its role in hydrothermal systems 1−44222
Rn conc. in landslide zone, Narao district, Nagano Prefecture 1−9182
Rn content, scintillation detector for groundwater and environmental radioactivity *(Japanese)* 1−44316
Rn content vars. as earthquake precursors Rn and Tn emanations from rock specimens under press. *(Chinese)* 1−9089
^{238}U series radioactive disequilib. 1−26859

group theoretical schemes
hadrons, extended model, bilocal, relativistic mechanics of confined particles, review 1−10149
quark systems, multi-, S-wave, dissociation calculations 1−40963
unitary scheme representations of EM transition probabilities and moments 1−18562

group theory
see also Clebsch-Gordan coefficients; crystal symmetry; elementary particle theory; group theoretical schemes; Lie groups; renormalisation; SU_n theory
0(p,q), shift operators for discrete representations 1−449
associative algebra of tensor types 1−5524
butadiene, SU(2) symmetry, CI calcs. 1−45860
C_7 algebra, kinematic stability, factorised Hamiltonian 1−5523
centrality of selection rules in bifurcation theory 1−5085
CI direct method for general multireference expansions, symm. group approach 1−51140
cluster expansions and virial coeffs., matrix calculus 1−18146
collective quadrupole states and spectroscopy group theory methods review 1−10306
conference, theoretical methods in physics, Kiryat Anavim, Israel (March 1979) 1−5013
d-electron interaction matrices, generalised derivation 1−42729
decay processes, semigroups, Zeno's paradox 1−5131
decay processes and the quantization of non-unitarizable representations of causal groups 1−5465
Delaunay rotation stereohedra for the 3×23 group 1−20099
dynamical semigroups, characterisation of stationary state, entropy production 1−36595
elasticity, linear semi-group theory 1−27780
equivalence of induced representations 1−5537
equivalent electrons, angular momentum eigenstates 1−40628
FCC crystallite, different shapes, band structure *(German)* 1−52466
fibre spaces, Poincare group bundle representations 1−5521
fragment ejection, unfavoured ang. distribs. 1−19202
Galilei wave equations, Poincare wave eqns. as Fourier transforms 1−9844
Galois theory for systems of partial differential equations 1−5084
gauge fields, group actions on principal bundles and invariance conditions 1−28166
general Bogoliubov transformation 1−5132
generalized symmetries of partial differential equations 1−5082
global or localised symmetries, generalised group structure 1−28234
graphite, lattice harmonics 1−52241
gravitational solutions, axisymmetric, group- and soliton-theoretic techniques 1−145
Helmholtz equation, degenerate ellipsoidal coord. systems, classification 1−5083

group theory continued
HMO calculations, group theory method, appl. to benzene compounds etc. 1−24042
homogeneous random processes on locally compact Abelian groups 1−23110
interacting subsystems of particles, permutation group S_N 1−45152
kinematic groups and dimensional analysis 1−27773
lattice dynamics, morphic effects, book contrib. 1−38482
lattice vibration representations, subgroups of pseudo reflection groups *(French)* 1−42478
linear quantum systems in SL(2,R), parametric instability 1−27826
local formulation of manifestly covariant theory from variational principle 1−5128
M_4 orthogonal frames, principle bundles from O(3,3) spinors 1−5474
massess elementary systems, localisability, systems of covariance, subrepresentations of induced representations 1−18066
molecules, two-component Kramers degenerate spinors, two and four-index transformation 1−33382
neutron-nucleus scattering, quantum dynamical semigroup model incorporating irreversible effects 1−28473
$P6_3/mmc$ space group cryst., struct. phase transitions 1−52100
parafermi fields as projective representation of discrete groups 1−5464
phase determining intermediates, truth tables, flow topology, equilibrium points, group theory 1−17989
Poincare wave equations as Fourier transforms of Galilei wave equations 1−9844
point groups, unitary group, symmetrised powers, icosahedral group 1−13992
polyenes, linear, SU(2) symmetry, CI calcs. 1−45860
polymers, band structure calculations, group theory 1−20612
quantization of hydrodynamics by canonical formalism 1−5106
quantum mechanics, SO(2, 1) algebra and large N expansion 1−23030
quantum mechanics on lattices 1−5125
quantum theory, many-body problems, k-particle Green function diagrams, irreducible representations of group 1−5147
R3c symmetry crysts., struct. phase transitions, Landau group theory, classification 1−52287
Racah Wigner algebra, phase choices and point group orientation 1−5533
real crystal symmetry, abstract groups 1−20098
reduced matrix elements of a coupled tensor in a subgroup basis 1−32865
representations of reductive and parabolic groups 1−5123
second quantised operators, bilinear products, physics of algebra appl. 1−5136
shift operator techniques, properties of nonscalar R(3) product operators 1−9866
shift operator techniques, R(5) O_1^0 eigenstate and eigenvalue determ. 1−9867
space-time, causality and group structure 1−62
spin algebras and triads associated with infinite momentum frame 1−14265
spinor Bethe-Salpeter equation with generalized ladder kernels and the Goldstein problem 1−50298
spinor field and nonmetricity of space-time 1−50011
spinor fields invariant under space-time transformations 1−5473
spinor theory, nonlinear, and space-time symmetries 1−45114
surface symmetry changes during phase transitions of the second kind *(Russian)* 1−30121
symmetric group, branching rules, products, plethysms for spin representations 1−36525
symmetry groups, analysis of differential eqns. 1−447
twisted dielectric media, Brillouin diagrams for optical wave propag., group theoretical treatment 1−51373
U(4) gauge field theory, local inner symm., metric vector, mass spectrum physical fields 1−10084
unitary group approach to many-electron correl. problem, particle hole formulation 1−19037
unitary group approach to many-electron correl. problem, particle hole formulation, matrix elements evaluation 1−19038
V-coupling coefficients from SO(3) to the octahedral group 1−7567
Z-module crystallography for incommensurate crystal phases 1−7113
$BaMF_4$ (M=Fe, Mn, Co, Ni, Mg, Zn), condensed modes, group theoretical anal. 1−12461
$FeCr_2S_4$, second-order phase transition, group-theoretical argument 1−11861
H^-, two-electron atoms, dipole channels, group theory, Stark representation 1−24078
K_2NiF_4 antiferromagnet, Ni^{2+} ion symm. anal. 1−2379
$[Na_4Al_3(SiO_4)_3X]_2$, (X=Cl, Br), Raman spectrum and phonon modes 1−52944
NiF_2, canted spin antiferromagnet, Ni^{2+} ion symm. anal. 1−2379

Gruneisen coefficient
alkali halide crystals, Anderson-Gruneisen parameter, isothermal, calc. 1−11833
alkali metals, lattice static and dynamic props., pseudopot. study 1−7282
crosslinked epoxy/amine polymers, thermodynamic props. 1−11884
cryogenic liquids, Debye temp. and psuedo-Gruneisen parameter, viscous flow mechanism 1−42497
dielectric crystals, thermal cond., two-fluid theory 1−47311
geophysics, high press. phenomena 1−32416
ice, Ih phase, thermal cond., Gruneisen parameter 1−11926
ionic crystal, Anderson-Gruneisen parameter, temp. depend. 1−34450
ionic crystals, Gruneisen coeff. from static and shock compression data 1−16005
ionic halides, adiabatic Anderson-Gruneisen function 1−16006
liquefied gases, relationships between lattice and thermodynamic coeffs. 1−34447
liquids, lattice Gruneisen parameters, internal press. behaviour 1−15781
metals, melting curves and Gruneisen coeff. at high press. *(French)* 1−38513
organic liquids, modified pseudo-Gruneisen param. 1−38485
pressure dependence, expt. results, rel. to Earth core mantle boundary, review 1−44145
pressure-induced phase transform., lattice dynamics theory 1−42502
sapphire, longitudinal acoustic wave damping due to phonon-phonon interaction 1−25380
shock poles of bodies with compact isotropic struct., calc. using Morse pot. *(French)* 1−38456
solid, intrinsic anharmonic and quantum corrections, temp. and press. depend., geophysics appl. 1−42504
thermal conductivity, lattice, press. depend 1−30499

Gruneisen coefficient continued
thermal shock generation in solids irradiated by intense pulsed relativistic electron beam 1−38460
Ag, elastic constant depend. on press. 1−52215
Ag halides, anharmonicity effect on optical props. 1−25394
$AgGaS_2$, Raman mode press. depend., phase transitions 1−21201
Al, lattice mechanical and electronic props., unified calc. 1−42488
Al-Cu(Mg) alloys, polycryst., third order elastic moduli, US vel. obs. 1−31517
Au, elastic constant depend. on press. 1−52215
β-B, thermal and elastic props. meas. 1−20426
BaF_2, thermal expansion and Gruneisen parameter, 2 to 90K 1−2661
$Bi_4(GeO_4)_3$, cryst., thermal props., Debye temp. and Gruneisen coeffs. 1−38558
$Bi_4(SiO_4)_3$, cryst., thermal props., Debye temp. and Gruneisen coeffs. 1−38558
CO_2, solid, phonon processes, repulsive forces, Gruneisen parameters, Raman obs. 1−39074
$CO(O_2)$ cryocrystal, thermal expansion, specific heat *(Russian)* 1−30419
CaF_2, mode gammas and thermal expansion, calc. 1−16007
CaF_2, thermal expansion and Gruneisen parameter, 2 to 90K 1−2661
$Cd_{1-x}Hg_xTe$, Debye temp. and thermal expansion temp. depend. *(Russian)* 1−2583
Cu-Cr(Fe) Kondo systems, mag. Gruneisen parameter, thermal expansion and heat capacity meas. 1−42946
$CuGaS_2$, Raman mode press. depend., phase transitions 1−21201
GaP single cryst., elastic moduli and press. derivatives 1−34398
Ge-GaSe, Raman spectra, hydrostatic press. influence 1−3417
GaTe, Raman scatt. press. effects 1−8073
Hg, liq., lattice and thermodynamic Gruneisen parameters 1−47198
InP single cryst., elastic moduli and press. derivatives 1−34398
K, Gruneisen parameter at high press. 1−34451
KCl, Anderson-Gruneisen parameter, temp. depend. 1−34450
Li_2GeO_3, temp. depend. of rel. and coeff. of US absorption *(Russian)* 1−52235
Mo-Fe Kondo system, mag. Gruneisen parameter, thermal expansion and heat capacity meas. 1−42946
N_2 cryocrystal, thermal expansion, specific heat *(Russian)* 1−30419
N_2 crystal, lattice dynamics with ab initio intermol. pot. 1−38476
N_2, solid, with O_2 impurity, low-temp. thermal expansion anomaly due to clusters of exchange-coupled mols. *(Russian)* 1−30427
N_2O cryocrystal, thermal expansion, specific heat *(Russian)* 1−30419
N_2O, solid, thermal expansion and thermodynamic props. X-ray studies *(Russian)* 1−2659
Na, Gruneisen parameter at high press. 1−34451
Nb_3Sn, elastic consts. and shear mode instability, press. depend. 1−11800
$Ni_{3.34}Si$ elastic characts. and thermal props., Curie pt. effects 1−38428
Pb, electron-phonon interactions under high press. rel. to supercond. props., meas. 1−42895
Pb-In, electron-phonon interactions under high press. rel. to supercond. props., meas. 1−42895
PbF_2, thermal expansion and Gruneisen parameter, 2 to 90K 1−2661
RbCl, press. depend. of Gruneisen parameter near phase transition 1−20347
Si:B, heavily doped, Raman spectra study of localized vibrs. 1−48061
SrF_2, phase relations and compressibility 1−8286
SrF_2, thermal expansion and Gruneisen parameter, 2 to 90K 1−2661
α-Ti, Gruneisen parameter, strain derivative meas. 1−47202
Tl halides, anharmonicity effect on optical props. 1−25394
V_2O_3, metallic phase, Gruneisen parameter 1−20348
YAG, ultrasonic velocity, elastic consts. under press. 1−34428

GTO calculations
axial Gaussian-lobe orbitals, highly angularly dependent functions optimisation 1−51089
second-row atoms, Gaussian basis sets 1−19016
H_2, GTO ab initio CI calcs. 1−6177
NH_3, momentum space props., LCAO-Xα and HF wavefunctions calcs. 1−37113

Gudden-Pohl effect *see electroluminescence*

guided electromagnetic wave propagation
see also guided light propagation; waveguides
axially symmetrical plasma waveguide immersed in strong mag. field, dispersion characts. 1−34087
circular cylindrical media, arbitrary index profile, propagation anal. by staircase approx. *(French)* 1−24336
Earth-air-ionosphere, propagation of electromagnetic waves in two media separated by a variable interface 1−36102
Earth-ionosphere waveguide propagation, study of VLF attenuation as function of azimuth using atmospheres 1−13520
Earth-ionosphere waveguide propagation of VLF waves at low latits., lower ionosphere effect 1−13629
excitation of lateral waves and scatt. radiation fields by rough surfaces 1−32552
magnetic waves, quasi-optics of group delay 1−1442
multidielectric optical fibres, modal anal. using least square method 1−19467
waveguide with moving plasma cluster, radiowave refl. 1−38112

guided light propagation
see also optical waveguides
gas dynamic light guide, high power density transmission meas. 1−6652
geodesic and nonuniform refractive lenses, generalized formulas 1−51640
geodesic components for guided wave optics 1−11179
nonlinear pulse propagation, intensity fluctuations 1−11038
optical fibre matrix transfer function based on coupled power theory 1−46579

Guinier-Preston zones
orthopyroxene, lunar and terrestrial, Guinier-Preston zones, composition, struct. and stability 1−22704
Al-Cu (4 wt.%), precipitation nucleation of Guinier-Preston zones, ageing effect on channelling conditions *(French)* 1−3740
Al-Zn, growth kinetics of GP zones and α'_R-precipitates, XSAS and resist. meas. 1−26472
Al-Zn (6.8 at.%), elastic behaviour during form. and growth of Guinier Preston zones *(German)* 1−31463
Al-Zn-Mg, nucleation of η'-precipitation, room temp. preageing effect 1−21450
Al-Zn-Mg, thermomechanical treatment, strengthening 1−53213
Al-Zn-Mg (3.5, 4 wt.%), cast alloy, precipitation process, TEM obs. 1−21448
Al-Zn-Mg (4.7, 1.2 wt.%), mech. props. 1−21504

Guinier-Preston zones continued
Al-Zn-Mg (5, 2 wt.%), plastic instability in stretch forming *(French)* 1−3772
Al-Zn-Mg alloy, resist. increase during isothermal ageing rel. to precipitate growth 1−20701
Gunn devices
see also Gunn diodes
No entries
Gunn diodes
thermal resistance meas. using thermoelec. voltage 1−28020
n-GaAs-metal ohmic contacts form., elec. modelling 1−34792
Gunn effect
see also limited space charge accumulation; negative resistance effects
semiconductor, photoexcited carriers, distrib. functions, instabilities, theory 1−20825
n-GaAs, Gunn effect threshold field decrease in strong mag. field *(Russian)* 1−42782
GaAs, Gunn instability, voltage fluctuation calcs. 1−47661
GaAs, hot electrons, transient and high frequency response in high fields, Monte Carlo calc. 1−38785
Gunn effect devices *see Gunn devices*
Gunn oscillators
cavity stabilised, RF source for ESR spectroscopy 1−33029
guns, plasma *see plasma guns*
gyration *see rotation*
gyromagnetic effect
see also gyromagnetic ratio; magnetic resonance
No entries
gyromagnetic ratio
see also g-factor; magnetic resonance
p, gyromagnetic ratio, meas. and appl. *(Chinese)* 1−23501
^{A}Gd, A=144,146-8, isomer EM moments in deformed independent particle model 1−45421
gyroscopes
see also navigation
active gyroscopic systems, eqns. of motion and stability *(German)* 1−27770
evolution of regular precession of a solid body approximating to a Lagrange gyroscope *(Russian)* 1−14001
fibre optic, with [3×3] directional coupler, phase-bias elimination 1−41842
fibre optic Sagnac interferometer, low-noise rotation sensing 1−41860
fibre resonator gyroscope, sensitivity and thermal nonreciprocity 1−41832
fibre-optic gyroscope, dual-input 1−11108
gyrodrifts optimum linear estimation *(Russian)* 1−40783
gyrogone, technical principles and appl. *(French)* 1−5281
laser gyro, optical fibre, rotation detection appl. 1−24499
laser gyrocompass, rotating-mirror system, theory based on Sagnac effect *(German)* 1−37534
Lyapunov method nonlinear gyro platform observing system *(Russian)* 1−253
mechanical gyroelements development and design *(Russian)* 1−27965
motion of gyroscope with Cardan suspension 1−18000
multioscillator laser gyros, review 1−1614
nonlinear gyrostabiliser stability and accuracy *(Russian)* 1−44912
optical fibre Sagnac interferometer gyroscope, polarisation control 1−51622
optical-fibre Sagnac gyro rotation sensors, scatt. limitation of rot. sensing 1−11110
optically biased laser gyro 1−6582
redundant gyroscopic systems, control moment vector 1−50121
ring laser gyroscope, nondithered, four-freq., quantum limit 1−29317
ring laser gyroscopes, magneto-optical element appls. 1−11027
Sagnac interferometry, high precision, beam width correction 1−44996
solid-state phase-nulling optical gyro 1−1696
superconducting gyroscope with no moving parts 1−50158
superconductivity applications in space research and gravitational studies 1−9344
theodolites, gyroscope system, weakly damped harmonic oscillations 1−9975
H-centres
alkali halide, Frenkel defect generation efficiency, temp. depend. 1−25263
alkali halides, electron induced sputtering 1−53022
alkali halides, irradiation colouring, heterogeneous nucleation model 1−2507
KBr, Frenkel defect accumulation efficiency, temp. depend. meas. 1−20198
KCl, self-trapped excitons, non-radiative de-excitation, F- and H-centre prod. 1−12567
KCl, self-trapped excitons, evolution of Frenkel pairs from excited states 1−35077
KCl, V_K-centre and H-centre, inelastic light scatt. 1−3395
KCl:$Ca^{2+}(Ba^{2+})$ $(Sr^{2+})(Cd^{2+})(Pb^{2+})(Mg^{2+})(Sn^{2+})$, X-ray irrad., complex interstitial halogen H_3-type defect, ESR study 1−47946
KCl:OH^-, UV photodissociation of OH^--centres, H defect form. 1−26247
LiCl, V_K-centre and H-centre, inelastic light scatt. 1−3395
RbCl, V_K-centre and H-centre, inelastic light scatt. 1−3395
H I regions
21 cm absorption surveys, rel. to statistical props. of interstellar H I clouds 1−49769
21 cm shelf-absorption lines, anal. and interpretation 1−44610
in anemic spirals, possible deficiency in H I from comparison with normal spirals 1−49800
in blue compact galaxies, halo, star form. source material 1−54614
in 3C 293, radio galaxy, H I absorpt. obs. 1−54620
Cepheus IV OB assoc., star form. region, H I distrib. 1−36345
clouds interaction with SNR shock wave, H I cloud evaporation, X-ray emission 1−54598
S.Coalsack dust complex, H I self-absorption, 21 cm. obs. 1−32735
in elliptical galaxies with published H I upper limits, statistical anal. 1−49802
extended envelopes around NGC 4490/4485, 3109 and 4618/4625 1−27603
G 1−9615
in galaxies, first results for isolated early-type systems 1−4954
Gould belt, interstellar H I kinematics in region $320°\leq l\leq 341°$, $+7°\leq b\leq +26°$ 1−49768
high velocity clouds, galactic or extragalactic nature 1−49764
H I regions continued
high-velocity H I clouds, high-sensitivity 21 cm survey 1−9619
high-velocity H I clouds and Magellanic Stream, distances estimation 1−40540
in Ho 124, distrib. 1−9683
HVC 267+35+145, positive-velocity cloud complex, fine struct. obs. 1−13839
intergalactic material, space density upper limit, SHF obs. 1−49813
intermediate velocity clouds in region of South Celestial Pole, supernova shell model 1−36373
kinematic distances rel. to assoc. OB star photometric distances 1−27605
in Magellanic Clouds, assoc. with stars, VBLUW obs. 1−40358
Magellanic Stream absorpt. in Seyfert galaxy Fairall 9 optical spectra 1−49812
Magellanic Stream and high-velocity H I clouds, distances estimation 1−40540
in Markarian 116(=IZw 18), blue compact galaxy, star form. 1−32753
in NGC 2377, spiral galaxy, high-resolution obs. of H I absorpt. of background radio source (3C 178) 1−9699
NGC 7538 field, obs. of two large H I expanding shells 1−9637
North Polar Spur, obs. of H I shell and ionised gas shell 1−44652
Orion-Taurus region, OH obs. of mol. complexes assoc. with large H I region 1−17887
λ Orionis region, obs. of H I to west of star *(Russian)* 1−4967
planetary nebulae, search for H I 21 cm emission 1−44537
Sagittarius B2, obs. of assoc. H I cloud *(Russian)* 1−32745
SHF observations in line of sight to H II region/mol. cloud W3 1−54594
spectrum evolution in solar neighbourhood effect of cloud evaporation and SNR collisions 1−32740
in spiral galaxies, distrib. survey, UHF obs. 1−9654
in spiral galaxies outer regions, dust-to-gas ratios 1−44629
H II regions
abundance determination using two empirical methods, critical anal. 1−40354
B 272, supposed quasar, spectrophotometry and identification as isolated extragalactic H II region 1−40557
Bowen fluorescence mechanism, efficiency in static nebulae 1−49484
Carina Nebula, field OB stars, to determine distance of Carina OB1 1−54563
Carina Nebula (NGC 3372) star HD 93250, spectral energy distrib. obs. 1−27493
Carina Nebula complex, relation to young open cluster (NGC 3293) 1−9587
Cepheus A regions linked with H_2O masers, SHF obs. 1−54579
Cepheus OB3 molecular cloud, radio continuum emission obs. from compact H II regions 1−54493
compact H II regions near K 3-50, aperture synthesis obs. of radio recomb. lines 1−54587
composition, spectra of H II regions in NGC 1313 and 6822 galaxies 1−4961
Γ Cygni, excitation and distance 1−17885
30 Doradus in Large Magellanic Cloud, star form. region location 1−9655
DR 21, radio source, radio recomb. line interpretation and He problem 1−27626
dust grains, reduction in H II regions rel. to OH and H_2O masers 1−27575
early evolution, struct. and dynamics 1−9616
electron temperature determ. from radio recomb. line 1−32738
element abundances comparison with SMC planetary element nebulae 1−44638
excitation by X-ray source in dense interstellar cloud, optical emission 1−49760
expansion into and disruption of mol. clouds 1−13829
extragalactic H II regions, visual interstellar extinction meas. 1−4950
filament north of NEC 3372, nature from visible spectra obs. 1−49765
G25.4−0.2, giant H II region, obs. of nearby IR source IRC 10442 1−9720
G291.3-0.7, 291.6-0.5, 333.6-0.2, 1415 MHz high-resolution obs. 1−4964
G333.6−0.2, IR emission from nonspherical H II region, blister model 1−22858
Galactic Centre region H351α, H252α, H166α radio recomb. lines obs. 1−27591
in galactic disk, collision of interstellar clouds 1−54590
galactic structure determined from H II regions, comparison with distrib. of star clusters and associations 1−36346
galaxies with spectra of giant H II regions, optical line fluxes 1−13845
GGD37, Herbig-Haro object, obs. of OH maser coincident with nearby compact H II region 1−13841
Gum Nebula, interstellar gas vels. 1−22853
Herbig-Haro objects, obs. at 3.66 GHz 1−22862
in Ho 124, distrib. 1−9683
IC 1318 b and c, possible correction with γ Cygni H II region 1−17885
IC 1848 A (W5 E), evidence for star form. from IR photometry and spectroscopy 1−44533
IC 410, radial vel. obs. from forbidden N II and O III line profiles 1−36369
ionisation front structure, depend. on boundary conditions 1−32742
ionisation of fronts, appl. of method of addition of layers to non-linear radiative transfer problems 1−36174
ionisation-shock fronts, instabilities and star form. 1−44539
IR sources in galactic plane, identification, 4-27 micron obs. 1−54658
IR spectroscopy, with balloon borne Michelson interferometer, obs. of O III, O I and N III fine struct. lines 1−17888
K 3-50, aperture synthesis obs. of radio recomb. lines from compact H II regions 1−54587
3 kiloparsec arm, star form. and ionisation, H166α obs. 1−36384
kinematic distances rel. to photometric distances of exciting stars 1−27605
in late-type galaxies, radio obs. of thermal emission, H II regions and star form. 1−22863
luminosity function and Hα luminosity of NGC 628 H II regions 1−22854
M17, multicolour UBVRI photometry of assoc. stars 1−27491
M17 (NGC 6618), high vel. features, visible spectra obs. 1−40544
in M33, survey for H_2O maser emission 1−27582
M42, detect. of forbidden C II 157 μm (1910 GHz) emission line from interstellar gas complex 1−4956
molecular cloud/H II region complexes, energetics rel. to radio and IR emission *(Italian)* 1−9638

H II regions continued
MWC 349, circumstellar H II region identified as slow stellar wind 1−9504
N159, 157, search for H_2O maser, SHF obs. 1−49818
N159 in LCM, OH maser detect. nearby, UHF obs. 1−54628
N159 in LMC, detect. of HCO^+ emission at 89 GHz 1−54595
NGC 1068, Seyfert galaxy, luminosity distrib. of ionised gaseous component from Hα photometry 1−49816
NGC 1973, 1975, 1976, 1977, dust grains nature and origin, evolutionary history 1−44615
NGC 2026, detect. of forbidden C II 157 μm (1910 GHz) emission line from interstellar gas complex 1−4956
in NGC 2403 identification by multicolour photometry 1−27609
NGC 281 (Sharpless 184), atomic and ionised H obs. 1−54586
NGC 3576 and 3603, 1415 MHz high-resolution obs. 1−4964
NGC 3603, giant galactic H II region, optical studies of struct. and kinematics 1−44605
in NGC 5128 (Centaurus A), H II regions spectroscopic obs. and radial vels. 1−36376
NGC 6604, radio recomb. line emission, LTE model 1−13828
NGC 7000-IC 5070 (North America-Pelican nebula complex), possible exciting star discovery from IR obs. 1−36370
in NGC 7385, H II region generation by thermal instability associated with creation of radio source 1−40552
NGC 7538, H_2 IR emission obs. 1−4955
NGC 7538 field, obs. of two large H I expanding shells 1−9637
NGC 7635, H II region-planetary nebula, imaging photon counting system obs. 1−13848
in NGC 7793, spiral galaxy, catalogue and number density 1−49535
North Polar Spur, obs. of H I shell and ionised gas shell 1−44652
Orion A, HCN and HCO^+ and isotopes abundance distrib., EHF obs. 1−49838
Orion nebula, forbidden S II and O II line intensity ratios meas. for electron density and temp. derivation 1−27594
Orion Nebula, obs. of surrounding area in CO (J=1 to 0) transition 1−27581
Orion Nebula, radio recomb. line emission, LTE model 1−13828
λ Orionis H II region, obs. of assoc. H I to west of star *(Russian)* 1−4967
pregalactic accreting black holes with surrounding H II regions radiation emission 1−44680
radio recombination line emission, LTE 1−13828
ring nebulae assoc. with Wolf-Rayet stars in LMC, identifications and dias. 1−27598
ring-shaped filamentary nebula around WC6 star HD 92809 in Carina 1−13776
Rosette nebula, CO obs. rel. to form. of elephant-trunk globules 1−9610
Rosette Nebula, high-resolution radio obs. 1−13843
S128, radio obs. rel. to OB star form. 1−54470
Sagittarius B2, galactic centre H I region, interstellar formaldehyde absorpt. obs. *(Russian)* 1−32746
Sagittarius B2, galactic centre H II region, obs. of assoc. H I cloud *(Russian)* 1−32745
Sagittarius B2, H_2O masers positions rel. to compact H II regions from VLBI obs. 1−49748
Sagittarius B2, mol. cloud, methyl formate detect. EHF and UHF obs. 1−44613
V861 Scorpii (HD 152667=OAO 1653−40?), evidence for assoc. H II region from UV spectrum 1−9566
Sh2-157, early type stars, near discoveries 1−36406
Sharpless 106, bipolar nebula, spectrum and struct. rel. to star form. in disc-shaped cloud 1−27586
Sharpless 140, internal motion from visible spectra obs. 1−4969
Sharpless 147,148,149, internal motion from radial vel. obs. 1−4970
Sharpless 187 and 255, far IR obs. of molecular clouds 1−54592
Sharpless 252 (NGC 2175), H167α recomb. line map 1−9627
Sharpless 252A, H_2O maser source, SHF obs. 1−54579
Sharpless 299/300, nearby luminous stars, possible membership of clusters, visible obs. 1−27570
Sharpless 68, 106, 140, NH_3 obs. of nearby molecular clouds 1−9635
Sharpless 9, 2.3 GHz continuum map 1−27568
southern H II/molecular cloud complexes, 1.0 mm maps and radial density distribs. 1−13823
southern hemisphere, H66α radio recomb. line obs. 1−27590
V-V-1-4=Sh 2-271, central star visible spectra and photometry 1−49767
W3, H II region/molecular cloud, H I emission in line of sight, SHF 1−54594
W3, radio obs. of compact H II regions at 2.7 and 15.4 GHz 1−13873
W3(OH), line of sight absorbing cloud, NH_3 excitation absorpt. lines obs. 1−32737
W3 (OH) coincident OH maser sources, 31 GHz maps 1−44617
W3 region, high ang. resolution far IR obs. 1−44653
W3/4, large scale far IR struct., 60-120 micron obs. 1−9598
CO distribution and link with star form., EHF obs. 1−36367
S abundances, determ. in gaseous nebulae 1−44606

hadron classification schemes
No entries

hadron current
see also current algebra
polar and azimuthal distribs., first-order perturbative QCD calc. 1−10141

hadron decay
see also baryon decay; meson decay
charmed hadrons, flavour changing radiative decays, short and long distance effects 1−563
hadron matter decay, astrophysical implications 1−18530
hadron matter lifetime, limiting temp., momentum at infinite energy, acoustic wave velocity 1−18530
total quark number conservation in hadron nonleptonic decay 1−545

hadron-deuteron interactions
see also hadron-deuteron scattering; hyperon-deuteron interactions; meson-deuteron interactions; proton-deuteron interactions
No entries

hadron-deuteron scattering
see also hadron-deuteron interactions; hyperon-deuteron scattering; meson-deuteron scattering; proton-deuteron scattering
nd inelastic scatt., nn scatt. length, differential cross sections 1−23650
nd system, variational calc., extended resonating-group method 1−580

hadron electroproduction
conference on field theory and strong interactions, Schladming, Austria (Feb. 1980) 1−17925

hadron electroproduction continued
e^+e^-→back-to-back jets, opposite side acollinearity distribs., soft gluon emission effects 1−50446
heavy quarks in electroprod., effective tight particle field theory, b-quark distrib. 1−36843
quark models, appl. to electroproduction and photoproduction of L=1 supermultiplet, review 1.−36839
quark-parton state lifetime and impulse approx. in QCD 1−40969
resonance electroprod., inclusive cross section at large scatt. angles 1−28328
$e+e^-$→jets, thrust distrib. $O(\alpha_s^2)$ corrections, comments, coupling const. 1−50448
e^+e^-, 1-2 GeV, below ψ resonance, results review 1−10238
e^+e^-, 13-27.4 GeV, PLUTO results, QED cut off, hadronic cross section, γγ collisions 1−10240
e^+e^-, annihilation, SPEAR Mark II results, ψ′(3684) radiative decay, inclusive baryon prod. 1−10242
e^+e^-, $D\bar{D}$, $D^*\bar{D}$, $\bar{D}^*D$ and $D^*\bar{D}^*$, prod. and ang. distribs. at 4.028 GeV resonance 1−33195
e^+e^-, Ψ, Ψ′ masses, high precision meas. of mass difference 1−14381
e^+e^-→ hadrons, jet anal., simple collinear $q\bar{q}$ jet deviation 1−14406
e^+e^-→3 jets, influence of quark masses on cross-sections and angular asymmetries 1−14402
e^+e^-→3 jets, perturbative calc. of jet struct., parton process corrections 1−50445
e^+e^-→4 jets, cross sections, QCD non-Abelian nature 1−28334
e^+e^-→$4\pi^\pm$, ρ′(1600) parameters from current algebra calc., A_1 resonance 1−576
e^+e^- annihilation, baryon and vector meson polarisation in quark jets, fragmentation functions 1−18501
e^+e^- annihilation, charged multiplicities, scale breaking quark and gluon fragmentation functions 1−10232
e^+e^- annihilation, charmonium, charmed meson spectroscopy, bottomonium decay, review 1−10235
e^+e^- annihilation, conventional multijet events, transverse momentum variable 1−45334
e^+e^- annihilation, hadron jet prod., PETRA recent results 1−18496
e^+e^- annihilation, jet angular distribution, $q\bar{q}g$-initiated three-jet events 1−5642
e^+e^- annihilation, jet cross sections, order α_s^2 correction 1−23509
e^+e^- annihilation, LEP energies, QCD event simulation, Monte Carlo program 1−28333
e^+e^- annihilation, multi-jet events 1−23511
e^+e^- annihilation, PETRA energies, jets, τ leptons and 2γ event separation 1−10236
e^+e^- annihilation, QCD tests, jets, gluonium, Higgs bosons and unconfined quarks 1−10237
e^+e^- annihilation, $Q\bar{Q}$ prod. total cross section, duality 1−18497
e^+e^- annihilation, second order QCD contributions to thrust and spherocity 1−573
e^+e^- annihilation, Sterman-Weinberg jets, renormalisation group approach, QCD calcs. 1−14403
e^+e^- annihilation, Sterman-Weinberg jets, ang. distrib. in QCD 1−45328
e^+e^- annihilation, transverse beam pol., flavour separation in $Q\bar{Q}$, SU(2)×U(1) model anal. 1−18498
e^+e^- annihilation, Υ′(1001) resonance parameters, mass difference and total widths 1−50447
e^+e^- annihilation, Υ(9.46) total width and leptonic branching ratio 1−33175
e^+e^- annihilation, Z^0 asymmetries in jets, quark fragmentation model test 1−45332
e^+e^- annihilation at 9.4 to 9.5 GeV, total cross-section 1−10234
e^+e^- annihilation at Υ(4S), inclusive cross section enhancement, B meson prod. 1−33191
e^+e^- annihilation at Υ(4S), inclusive cross section enhancement, B meson prod. and decay 1−33192
e^+e^-→gluon jets 1−33165
e^+e^-→h, gluon effects, expt. evidence for QCD predictions 1−23507
e^+e^-→h, quark scatt. off non-perturbative gluonic fields, cross section, coupling consts., QCD calc. 1−18499
e^+e^-→hadrons, 13-27.4 GeV, hadronic final state, possible QCD effects 1−10239
e^+e^-→hadrons, 1.45 to 1.80 GeV, total cross-section, observed excitations of ρ(1550), Ω and φ mesons 1−36868
e^+e^-→hadrons, 1.6-2.2 GeV, DM1 results, pp̄ prod. cross sections, π, K, baryonium prod. 1−10243
e^+e^-→hadrons, 27.4 GeV, prod. threshold, R value, thrust and spherocity 1−14407
e^+e^-→hadrons, 3-jet events, angular asymmetries due to gluon bremsstrahlung off quarks 1−5641
e^+e^-→hadrons, 9-32 GeV, charged particle multiplicity distrib., energy depend. 1−5636
e^+e^-→hadrons, cross-section, QCD prediction 1−50452
e^+e^-→hadrons, QCD massive quark model and geometrohadrodynamics 1−45245
e^+e^-→hadrons, QCD tests in hadronic final states, non-perturbative effects, weak interaction phenomena 1−50453
e^+e^-→hx, hadron prodn., ψ, τ, γ, jets, QCD calcs. 1−14408
e^+e^-→hx, QCD predictions, experimental verification and PETRA 1−14363
e^+e^-→jets, gluon jets, QCD multijet struct. and perturbative QCD tests 1−18495
e^+e^-→jets, initial state radiation, photon emission and ang. distribs. 1−50444
e^+e^- multihadronic annihilation, Adone results, R values, multiplicities, ρ″(1600) and ρ′(1250) 1−10241
e^+e^- one particle annihilation, parton density beyond leading order, QCD calcs. 1−14324
e^+e^-→$\pi^+\pi^-\pi^+\pi^-$, 1.42-2.2 GeV, ρ′(1600) resonance parameters and cross section 1−575
e^+e^-→$q\bar{q}$ jet broad-backward asymmetry, parton model, gluon EM corrections 1−33193
e^+e^-→$q\bar{q}g$, evidence for spin-1 gluon 1−23510
e^+e^-→$q\bar{q}g$, three jet cross section, gluon spin test 1−33194
eN→eNπ, mechanisms of P-invariance violation 1−41002
e^-N→hX, quark model parameters, nuclear effects, two-body final states 1−45310
ep, inclusive hadron prod., quark parton model for deep inelastic reactions 1−568
ep→eppX, two photon correlation function 1−45296

hadron electroproduction continued
$\pi\Delta$ electroprod. and nondiffractive final states 1−45312
e^+e^-, charmonium results from Crystal Ball, ψ, ψ' X(2820) and χ(3455) prod. and decay 1−10207

hadron-hadron interactions
see also baryon-baryon interactions; hadron-hadron scattering; meson-baryon interactions; meson-meson interactions
charm particle prod., high-energy physics conf. Coral Gables, FL, USA (Jan. 1980) 1−44712
composite hadrons, shadow approach to elastic and inelastic diffractions 1−45348
conference on high energy physics, Geneva, Switzerland, (June-July 1979) 1−5026
cosmic ray interactions, obs. in emulsion chambers 1−14437
double Drell-Yan annihilations in hadron collisions, virtual photon pair prod. 1−33159
Drell-Yan model and high-energy muon-pair production 1−36884
Drell-Yan process, qq contribution, identical particle effects 1−10255
dual topological unitarisation parton model for high energy hadron-nucleus collisions, $\bar{\nu}$-universality 1−23521
hadron-nucleus, ≥50 GeV, projectile independ. of normalised charged particle multiplicity, scaling 1−33207
hadronic cascades 1−18529
hadronic charmed meson and heavy quark flavour prod., QCD estimates 1−520
hadronic collisions, longitudinal meson spectra, in quark jets, scale breaking, energy depend. *(Russian)* 1−18526
hadronic interactions around 50 TeV, hard scatt. events 1−44400
hadronic $W^{\pm}$ and Z^0 prod., nonleading QCD corrections 1−14337
high energy inelastic hadron reactions, constituent model, cross sections, geometric aspects 1−14326
high p_T hadron prod., trigger side associated momentum, hard scatt. model 1−10278
high transverse momentum cross-section, analogy with Drell-Yan mechanism 1−5657
inclusive, perturbative QCD appl. in large momentum transfer interactions 1−14357
jet production, large transverse momentum at small angles 1−45379
large ang. momentum hadron pair acoplanarity distrib., double log summing 1−14421
leading particle effect in high energy hadronic processes 1−14435
lepton pair production, QCD corrections to Drell-Yan mechanism 1−10145
lepton pair production in hadronic collisions; 1−10245
low $p_\perp$ hadronic interactions, reaction mech. and baryon fragmentation distribs. model 1−45207
multiplicity distributions, dispersion, correlations and KNO scaling *(Chinese)* 1−45355
muon pair prod. cross section in hadronic processes via two-photon exchange 1−10244
muon-pair production and Drell-Yan model 1−36884
nucleus+hadron, high energy, low transverse momentum 1−45346
one jet inclusive hadron-hadron cross sections, large QCD corrections 1−28353
particle prodn., gluon jets, perturbative QCD 1−18392
particle production, fireballs in heavy ion-nucleus collisions 1−18631
particle production models, sampling high-energy multiparticle events from inclusive single-particle distributions 1−18452
quark counting and the production of hyperons in hadronic collisions 1−50465
soft multihadron production from partonic structure and fragmentation functions 1−5599
strongly interacting matter, percolation approach, transition from hadronic to quark matter 1−18440
two-component model for lepton pair production in hadron collisions, parton interactions 1−50454
hh→charm, review 1−45380
hh→DX, charm prod. cross-section 1−45363
hh→$\gamma\gamma$X, direct photon pair prod. as QCD check 1−28354
hh→LX, large transverse momenta, Ψ, Γ production, review 1−28360
hh→$\mu^+\mu^-$X, QCD, perturbative, beyond leading order, appls. 1−14358
hN→l^+l^-X, cross-section, structure function calc. 1−28326
qq contribution to Drell-Yan process, identical particle effects 1−10255

hadron-hadron scattering
see also baryon-baryon scattering; hadron-hadron interactions; meson-baryon scattering; meson-meson scattering
charmed baryon scattering states, SU(1,4) as dynamical group 1−45153
composite hadrons, shadow approach to elastic and inelastic diffractions 1−45348
gluon+gluon scattering, Regge behaviour of symmetric octet exchange amplitude 1−45199
QCD corrections to qq scattering process in high-p_T scattering 1−590
strong van der Waals force universality 1−50405
qq→qq, all-angle behaviour in two-body scattering and phenomenological hard strings 1−10258

hadron interactions *see hadron-deuteron interactions; hadron-hadron interactions; lepton-hadron interactions; photon-hadron interactions*

hadron leptoproduction
see also baryon production; hadron electroproduction; meson production
hadron+lepton, deep inelastic collisions, gluon jet production, Monte Carlo study 1−23504
hadronic energy, polar and azimuthal distribs., first-order perturbative QCD calc. 1−10141
hybrid chiral bag model, quasiconfinement, inelastic leptoprod. renormalisation anal. normalisation 1−18427
meson spectroscopy, conf., Brookhaven, NY, USA (April, 1980) 1−44689
nuclear effects in hadronic final state photo- and lepton-prod. 1−10224
QCD tests in leptoproduction jets 1−45268
R ratio, upper bound 1−23499
e^+e^-→hadrons, QCD validation, three-jet events, strong interaction coupling const. 1−45326
e^+e^-→hadrons, search for new flavour quark, fractionally charged particles 1−50443
$e^+e^-\rightarrow K_S^0K_L^0$, 1.4 to 2.18 GeV, K^+, K^0 form factors 1−45330
$e^-N\rightarrow e^-N\pi$, P-odd effects, polarisation anal. 1−45313
μp, 280 GeV, deep inelastic scatt., charged hadron transverse momenta 1−5630
$\nu N\rightarrow\mu^-h^+X$, higher-twist effects in QCD, longitudinal phase-space model 1−33172

hadron leptoproduction continued
$\bar{\nu}^{\pm}N\rightarrow\mu^{\pm}X$, c and b prodn., charmed hadron final states, QCD calc. 1−18469
$\nu p\rightarrow\mu^-h^{\pm}X$, semi-inclusive cross section non-factorisation 1−36857
$\nu_\mu p\rightarrow\mu^-h$, 20 GeV strange and charm particle production, multiplicities, jets 1−28310

hadron-nucleus reactions
see also hadron-hadron interactions; hyperon-nucleus reactions; meson-nucleus reactions; nucleon-nucleus reactions
hadronic cascade code HETC 1−18611
hadronic cascade codes FLUKA and KASPRO 1−18610
hadronic cascade properties calc. using CASIM code 1−18609
high energy hadron-nucleus reactions, at low transverse momentum 1−45346
high energy particle interactions with nuclei, review *(Russian)* 1−36948
high-mass muon pairs, hadronic beam production, large acceptance spectrometer on CERN-SPS 1−10582
intranuclear-cascade-evaporation model 1−18630
jet production, large p_T, hard-scattering parton model 1−45501
mesonic field, propagation in nuclear matter, nonlinear effects, transparency 1−45435
multiparticle production model for hadron-nucleus reactions 1−23613
^{238}U giant quadrupole resonance, electro- and hadron-fission decay, stat. calc. 1−23695

hadron-nucleus scattering
see also hadron-hadron scattering; hyperon-nucleus scattering; meson-nucleus scattering; nucleon-nucleus scattering
doorway state approach to optical potential scattering 1−28433
hadronic atom level shifts and widths, S-matrix theory 1−50601
inelastic state excitation, comprehensive relations from elastic scatt. 1−14558
parton configuration mixing, hadron-nucleus elastic scatt. amplitude *(Russian)* 1−28478

hadron photoproduction
see also baryon photoproduction; meson photoproduction
diffractive photoproduction of strangeness and charm-overlap of QCD and Regge models 1−14401
flavour photo- and hadroprod., charm review, possible beauty prod. 1−10176
heavy vector meson diffractive photoprod., quark model 1−33189
large p_T, QCD tests, gluon jet prodn. 1−18487
large p_T photoprod., gluon physics, anomalous photon structure function 1−18450
nuclear effects in hadronic final state photo- and lepton-prod. 1−10224
quark models, appl. to electroproduction and photoproduction of L=1 supermultiplet, review 1−36839
$\alpha N\rightarrow\pi N$, dispersion relation soln. using Pade approxs. *(Russian)* 1−18494
Δ(1236) resonance energy region, total hadron photoabsorption cross section of ^{12}C nucleus 1−18639
$e^+e^-\rightarrow e^+e^-\gamma^*\gamma^*$, double tagged two photon reactions, cross sections 1−18532
$\gamma\gamma\rightarrow q\bar{q}$ process $\gamma\gamma$ scatt. sum rules, high energy behaviour 1−14439
γN, 25-70 GeV, inclusive ϕ photoprod., quark fusion model anal. 1−45297
$\gamma p\rightarrow F^{\pm}X$, 20-70 GeV, $F^{\pm}$ inclusive photoprod., hadronic decay, mass 1−50442
$\gamma p\rightarrow K^+\Lambda$(1520), 2.8-4.8 GeV, strangeness exchange, total and differential cross sections 1−28330
$\gamma p\rightarrow\pi^-\Delta^{++}$, 2.4 to 4.8 GeV, differential cross section and Δ^{++} spin density matrix elements 1−5635
$\gamma p\rightarrow\pi^0p$, 500-800 MeV, recoil p polarisation, P_{11} (1470), D_{13} (1510), S_{11} (1535) resonances *(Russian)* 1−5633
$\gamma p\rightarrow\pi^+\Delta^0$, 2.4 to 4.8 GeV, differential cross section 1−5635
$\gamma p\rightarrow\pi N$, multipole anal. using regularisation method *(Russian)* 1−5632
$\gamma p\rightarrow\rho^0p$, 15-30 GeV total and forward prod. differential cross sections *(Russian)* 1−5634
J/Ψ photoprod., momentum distrib., heavy quark pair prod. in QCD 1−14400
ψ nondiffractive photoprod. mechanisms, gg, $q\bar{q}$ and $c\bar{c}$ fusion 1−45318

hadron production
see also baryon production; hadron leptoproduction; hadron photoproduction; meson production
hadron+hadron, high transverse momentum cross-section, analogy with Drell-Yan mechanism 1−5657
jet identification for high-energy events containing arbitrary number of jets 1−23483
nucleus+hadron, large P_T jet production, hard-scattering parton model 1−45501
nucleus-nucleus collisions, high energy, collective quark tube model 1−33269
quantum chromodynamics, hadron production with large transverse momenta 1−28272
soft multihadron production from partonic structure and fragmentation functions 1−5599
symmetric hadron pairs with large transverse momenta, production cross sections in QCD *(Russian)* 1−36850
total cross-section and multiplicity for multiple production of hadrons 1−23484
$\nu p\rightarrow\mu^-X$, 4-10 GeV, hadron jets, gluon fragmentation 1−45267
$\nu p\rightarrow\nu(\mu^-)X$, charged to neutral current ratio, coupling consts, Weinberg-Salam prediction 1−45266
pp→hX, 10-34 GeV, $\langle p_T^2\rangle$ distribs., planarity effects 1−28351
$\pi^-N\rightarrow\mu^+\mu^-$+hadrons, 50 GeV, charge states for ρ-ω, J/ψ *(Russian)* 1−45376

hadron scattering *see hadron-deuteron scattering; hadron-hadron scattering; lepton-hadron scattering; photon-hadron scattering*

hadronic atoms
see also mesic atoms
level shifts and widths, S-matrix theory 1−50601
review 1−46176
H, antiprotonic, K-series X-ray spectrum 1−1419

hadrons
see also baryon resonances; baryons; hadron classification schemes; hadron current; hadron decay; meson resonances; mesons
b-quark hadrons, masses in nonrelativistic additive quark model 1−50374
bottom hadrons, magnetic moments and hyperfine mass splittings 1−558
charmed hadrons, masses in nonrelativistic additive quark model 1−50374
classification problems with atoms and hadrons 1−525
geometrical struct., diffraction eigenstates 1−18459

hadrons continued
International School of Subnuclear Physics, Erice, Italy (July-Aug. 1977) 1−27646
structure, dispersion sum rule for strangeonium and bottomonium 1−14321
workshop on hadronic matter at extreme energy density, Erice, Sicily, Italy (Oct. 1978) 1−17939

haemodynamics
see also blood
angiohaemodynamical X-ray unit by Medicor Works 1−17485
aorta and its branches, elastohysteresis props. 1−17440
aortic arch, human, steady flow through model 1−49035
aortic bifurcation, human, flow characts. in simulating symmetrically branched tubes 1−49058
aortic bifurcation simulation by symmetrically branched tube, effects of unevenly distrib. flow 1−53796
arterial cast haemodynamic meas., human, correl. with histology and luminal area 1−22107
arterial pulse distortion model 1−22039
arterial stenoses, pressure and flow pattern anal. 1−43886
arterial stenoses, pulsatile press. and flow, math. model simulation 1−53812
arterial system, human, multi-branched model 1−13273
arterial transmission characts. determ., evaluation of a 3 point press. method 1−49031
arterial wall viscoelasticity, model for predicting pulse waves 1−49055
arteries, anal. of nonlinear pulsatile blood flow 1−49030
artery models, flow anal. 1−17449
atherogenesis, role of fluid mechs. 1−22043
atherosclerosis initiation, effects of drag reducing polymers 1−53813
axisymmetric tube with local dilatation, Newtonian fluid pulsating flow, blood flow appl. 1−19811
bifurcation, press. and flow in 2D numerical models 1−32155
blood vessel tone model 1−49045
brain, regional cerebral circulation meas., mobile device 1−27000
calf muscle, human, effect of contract. force and freq. on postexercise hyperemia 1−22036
capacitive blood pressure transducer 1−35898
cardiac mechanics, servo system for expts. 1−13374
cardiac output determination, theoretical validation of the thermal dilution method 1−9051
cardiac stroke volume, on-line computation 1−40016
cardiac stroke volume during recovery from upright bicycle exercise 1−13271
cardiovascular early adaptation to zero gravity, simulation by head-down tilt 1−13329
cardiovascular recovery to psychological stress, man and task diagnosis appl., book contrib. 1−32296
cerebral blood flow, determ. with the EMI CT scanner 1−22109
cerebral blood flow meas. in young and adult rats, appl. of ^{133}Xe bolus technique 1−53934
cerebral blood flow meas. using ^{81m}Kr γ-rays, external exposure around the patient *(Japanese)* 1−32251
coronary blood flow in conscious miniature swine during $+G_z$ acceleration stress 1−22141
coronary circulation model, sensitivity anal. in time-distributed parameters optimisation 1−8790
damping effect of distensible tubes on turbulent flow, cardiovascular system implications 1−39952
dilution curves, appl. of homomorphic deconvolution 1−26870
Doppler US imaging, moving blood appl. 1−22096
electrohaemodynamics, basic principles, cardiac output meas. 1−53915
EM flow probes for mitral flow meas. *(Japanese)* 1−13306
EM flowmetry, multivessel models for quantitation and anal. of flow-induced signals 1−35740
energy dissipation and pulse wave attenuation in the canine carotid artery 1−49034
fibre-optic liquid cryst. catheter for O_2 saturation and blood flow meas. 1−32227
flow detection using flat crossed-coil NMR flowmeter 1−35854
flow through large vessel, determ. using computerised tomography 1−49101
heart, valve modeling for blood flow numerical anal. 1−4387
heart valve flow patterns 1−8895
hepatic blood flow, influence of posture 1−4309
heterodyne US blood vel. meter 1−32216
hypotension, relative responses of aortic body and carotid body chemoreceptors 1−13261
impedance plethysmograph for vascular studies, dual-channel, self-balancing 1−44036
Korotkov sounds, generation mechanism 1−26934
laser Doppler flowmeter for tissue blood flow meas., evaluation 1−8952
Laser Doppler Velocimetry, freq. shifting by prism traverse *(Japanese)* 1−35857
manometry, noninvasive, new approach using interaction between US and bubbles 1−32215
microcirculatory haemodynamics and theology *(Japanese)* 1−39955
NMR cylindrical blood flowmeter, in vitro evaluation 1−35858
NMR flowmeter, ranging for individual artery flow 1−35877
non-Newtonian blood flow models, numerical simulation by finite element method 1−8894
ophthalomodynamometry, comparison of direct and indirect methods in carotid artery occlusive disease detect. 1−27024
peripheral layer viscosity, effect on blood flow through the artery with mild stenosis 1−32157
peripheral pulse waveforms, automatic detect. of upstroke 1−53919
photoplethysmography, noninvasive method for assessing lower extremity venous function 1−39985
pipe, axi-symm. with local constriction, pulsatile flow, Navier-Stokes eqns. numerical soln. 1−2077
positive-pressure inflation, haemodynamic effects, dog expts. 1−17422
pressure control, automatic, in dogs by hypotensive drug injection system 1−9048
prosthetic cardiac valve, pivoting disk, leakage obs. 1−49163
prosthetic heart valve, self-cleaning, study of vel. field in vicinity 1−22053
pulmonary tissue volume in isolated perfused dog lungs, capillary blood flow 1−13270
pulmonary venoconstriction caused by elevated cerebrospinal fluid press., dog expts. 1−17420
pulsatility index, real-time calc. from Doppler US signals 1−32214

haemodynamics continued
renal blood flow during $+G_z$ stress and anti-G suit inflation, miniature swine 1−27011
retinal blood velocity, laser Doppler anemometer for meas. 1−8965
shear distribution, nonlinear anal., effect of cross sectional shape and axial taper 1−17448
skeletal muscle vessels, sympathetic influence effectiveness model 1−22042
skin friction, effect on soln. of 1D eqns. of pulsatile flow 1−32168
stenosis geometry, effects on flow in models and vibration in canine carotid arteries 1−4315
stenosis produced turbulence, propagation obs. 1−4313
telemetry of regional tissue blood using H_2 clearance 1−13373
turbulence intensity meas. in canine ascending aorta with hot-film anemometer *(Japanese)* 1−39958
turbulent flow through tubes, hot film and laser Doppler anemometers meas., power density spectra comparison 1−39951
US catheter for intravascular blood flow meas. 1−26968
US Doppler, signals of moving blood, directional information extraction 1−22093
US Doppler blood-flow probes, directional characts. 1−53846
US Doppler flow meas., mean and peak vel. extraction 1−22094
US Doppler-shift waveforms, physiological interpretation, clinical results 1−8935
US Doppler-shift waveforms, physiological interpretation, common femoral artery appl. 1−8934
US in fetal cardiovascular dynamics, review, book contrib. 1−4346
vascular walls, vibr. regimes anal., flow rate effect 1−32171
vein diameter-pressure relationships, absence of tethering influences 1−22054
ventricle as time-varying elastance, models 1−4319
ventricular function, left and right, computer simulation 1−22040
ventricular volume overload, cardiac output distrib. alteration in rats during exercise 1−22031
vertebral artery flow, non-invasive techniques recording 1−35844
vortex tube left ventricular assist device, design and performance 1−13358
wall slip function meas. in Couette systems *(German)* 1−35806

haemoglobin *see proteins*

hafnium
see also nuclei with .....
electrode, barrier oxide film, nature 1−26655
electrodeposition of ^{181}Hf from urea-oxalate aq. bath 1−48699
isochromat and SXAPS meas. 1−43221
isochromat spectra, structure, electron-hole pair production 1−2855
Riga Gulf, distrib. of Sc, Hf, Th, Ln, Ce, Eu, Mn, Fe, Co in bottom sediments and suspended matter *(Russian)* 1−13449
thermionic emission and polymorphic transform. 1−31297
thermophysical properties rel. to conduction electron mean free path 1−2941
HfC_x-Hf solar selective absorbing surface fabrication *(Japanese)* 1−21902
HfC_x-Hf solar selective absorber, metal-carbide coating onto pipes *(Japanese)* 1−21904
^{175}Hf, ^{181}Hf, appl. to double radio-tracer tagging of mud in Gironde estuary for study of metallic pollutant behaviour *(French)* 1−27207
Si:Hf, exchange impurity levels and photocond. 1−47709

hafnium alloys
see also hafnium compounds
Ni-Al-Hf, containing the γ′ and β-phases, structural features 1−39308
Co-Cr-Al-Hf(-Pt) second generation turbine airfoil coatings in marine service 1−30596
$Co_{94-x}Hf_xB_6$, glass form. comp. ranges and mech. props. 1−35353
(Fe, Co, Ni)-(Zr, Hf) amorphous alloys, mag. props. 1−25905
$Fe_{94-x}Hf_xB_6$, glass form. comp. ranges and mech. props. 1−35353
Hf-Be alloy system, stable and metastable phase relations 1−21419
Hf-Cu, supercond. amorphous alloys, low temp. ion implantation 1−30863
HfB_2-HfC, thermal cond. and diffusivity at high temp. phonons grain-boundary scatt. effect 1−16272
HfB_2-Re(Cr), phase diagrams, X-ray diffr., metallographic and microhardness meas. 1−39314
HfC-HfB_2, thermal cond. and diffusivity at high temp. phonons grain-boundary scatt. effect 1−16272
Hf_2Cu, H_2 absorpt. 1−20558
Hf_2Pd and $HfPd_2$, H_2 absorpt. 1−20558
$HfSi_2$ film on Si substrate, thermal oxidation meas. 1−16915
HfV_2D_4, ordering of D, cryst. struct., neutron diffr. study 1−38329
Nb-Hf/Cu-Sn-Ga, flux pinning, strain scaling law 1−52726
Nb-Hf/Cu-Sn-Ga composite-processed high-field superconductors, stress and diffusion effects 1−52724
Nb-Ti-Hf, superconducting, upper crit. field and high field crit. current density 1−47821
Ni-Zr-Hf, metal-metal glass, topological and chem. short range order 1−30089
Ni_5Hf phase formation in Ni-base superalloys, EMPA study *(Chinese)* 1−39339
$Ni_{94-x}Hf_xB_6$, glass form. comp. ranges and mech. props. 1−35353
Ta-W-Hf, ignition after prolonged high temp. oxidation, stress generation and mech. prop. interaction 1−16970
Ti alloys, microalloying, effect of Y, Gd, Dy, Zr, Hf and Re on mech. props. 1−16844
Ti-Nb-Hf, superconducting props. 1−47773
Zr-Hf (2.2 wt.%), theoretical eval. of oxidation rates 1−48581

hafnium compounds
see also hafnium alloys
rare earth cpd., $R_xHF_{1-x}O_2$, MHD generator appl. 1−26842
$EuHfS_3$, form. in EuS-HfS_2 system, X-ray phase and struct. investig. 1−30172
$H_4(SO_4)_2.3Na_2SO_4.H_2O$, struct. determ. from diffractometric data 1−42359
$HfAlC_{2-x}$, synthesis and crystal struct. 1−30165
HfB_2-Mo system, polythermic section 1−12728
HfC single crystal prep. by floating zone technique 1−53086
HfC, wear reduction of tools, problems assoc. with coatings *(French)* 1−39467
HfC-Mo(Re)(W) eutectic cermets, thermionic emission props. 1−35140
HfC_x, LCAO-CPA studies of C vacancies 1−2856
HfC_x-Hf solar selective absorbing surface fabrication *(Japanese)* 1−21902
HfC_x-Hf solar selective absorber, metal-carbide coating onto pipes *(Japanese)* 1−21904
$^{160,161}HfCl_4$, thermodynamic props. by gas chromatography 1−26788

hafnium compounds continued
$Hf_2CoH_{3.8}$, structure and H diffusion, PMR and X-ray diffr. studies 1−3280
HfH_x, electronic struct., FCC-FCT lattice distortion, photoelectron spectra study 1−48233
HfI_4, X-ray struct. anal., IR and Raman spectra *(German)* 1−34308
HfN, thermal-oxidational stability *(Russian)* 1−48714
HfO_2 film, pulsed laser damage threshold at 0.26 to 1.06 μ 1−37530
HfO_2, metastable, tetragonal, prep. and mech. props. 1−16743
HfO_2-Gd_2O_3, Raman scatt. study of high-temp. phase transform. 1−12509
HfO_2-Yb_2O_3, Raman scatt. study of high-temp. phase transform. 1−12509
$Hf_2RhH_{2.2}$, structure and H diffusion, PMR and X-ray diffr. studies 1−3280
HfS_2, electronic struct. and spectral features 1−34622
$HfS_3(Se_3)(Te_3)$, layered compounds, UV reflection spectra, band struct. 1−3433
$HfSe_3$, optical phonons, Raman scatt. study 1−12492
HfV_2H_x, NMR spin echo study 1−47972
PrO_2-HfO_2 system, superionic cond., mixed cond., 900 to 1400K 1−52610
Ti-Hf-C-N solid solns., microhardness and elastic props. 1−35347
Ti-Hf-O, phase diagram of part of the system 1−21428
TlF-HfF_4 systems, ionic cond. meas. *(French)* 1−38580
ZrO_2-HfO_2 solid solns., Raman scatt., comp. depend. 1−21213

half-lives (radioactive) *see radioactive decay periods*

half wave rectification *see rectification*

halides
see also compounds of individual elements, e.g. "tungsten compounds" and "organic compounds"
see also alkali metal halides; halogens
Group V trihalides, inverse spectral problem, calcs. using lattice vibr. freqs. 1−37179
hexahalides, octahedral, mol. dynamics, general quadratic valence force field calcs. 1−19072
interhalogen molecules, laser action, kinetics fluoresc. 1−37473
ion+UF_6, charge transfer reaction investig. 1−1356
ions, adsorpt. on Au sol particles, enhanced Raman scattering 1−31913
ions, adsorption on Ag sol particles, enhanced Raman scattering 1−31913
ions adsorbed on Ag electrodes, surface enhanced Raman spectra 1−48056
Ag halides, cohesion, interionic potential model 1−42337
Cl^- aerosol, bulk concs. in remote troposphere 1−44247
Cs+nonmetal fluorides reactive collisions, electronic excitation and energy distrib. 1−21706
CuBr, reflection spectra, band struct. rel. to CuCl 1−42687
CuI, reflection spectra, band struct. rel. to CuCl 1−42687

Hall constant *see Hall effect*

Hall effect
alloy, liq., positive Hall const., qualitative model 1−25688
amorphous metals and amorphous metallic alloys, Hall effect, review 1−34689
amorphous superconductor, correlation between T_c and Hall coeff. 1−3088
applications, review *(German)* 1−20774
auroral Hall currents 1−36096
automatic resistivity and Hall effect meas. apparatus 1−50169
background to discovery 1−32829
chalcogenide glasses, gap states, review 1−16221
chalcogenide glasses, struct. and transport props. impurity and defect effects *(Slovak)* 1−15804
circular Hall plate with equal finite contacts, anal. 1−30769
commemorative symposium, Baltimore, MD, USA (Nov. 1979) 1−32807
compound semiconductors, electron transport, book 1−32813
crystalline metals and alloys, one hundred years of Hall effect 1−32828
degenerate semiconductors and semimetals, quais-local levels, role in quantum oscills., electrical cond. and Hall meas. 1−38794
diagonally connected MHD generators, electrical nonuniformities 1−2253
discovery of Hall effect, unpublished account of Edwin Hall 1−32831
dislocations in semiconductors, elec. props. 1−2445
electrical power extraction from standing shock waves 1−29878
electrolytic solutions of variable concentrations, Hall effect *(French)* 1−25474
electron correlation and Hall mobility 1−34804
electron gas, disordered, two-dimens., magnetoresistance and Hall effect 1−25685
electron gas, two dimensional, obs. of non-Ohmic Hall resist. at low temps. 1−38859
electronic struct. and transport props. 1−47460
epitaxial growth by CVD, carrier conc. and Hall mobility meas. *(Japanese)* 1−43270
exponent theory of the Hall effect and conductivity anisotropy near the percolation threshold 1−2931
ferromagnets, Hall effect development history 1−34686
graphite:B, polycrystalline, elec. cond. and Hall coeff. 1−34724
heavily doped semicond., Hall effect review 1−34728
hopping carriers, in impurity band 1−7644
implication of Hall's discovery 1−32830
input-output rules governing Hall coefficient behaviour 1−34693
n-InSb, heavily doped and compensated, electron transport, 4.2-300K 1−34707
liquid metals, Hall coefficients 1−34690
liquid metals, Hall effect expt. results 1−34691
metallic glasses, electronic transport props., review *(Japanese)* 1−42738
metallic thin films, size effects in thermal variations of Hall coefficient 1−52666
metals, amorphous, superconducting transition temp. correlation with Hall effect *(Chinese)* 1−3083
metals, disordered two-dimensional system, conductivity, Hall effect 1−52545
metals, liquid, Hall effect, skew scatt. contrib., theory 1−30694
metals, liquid and amorphous, electronic structure, review 1−25619
MHD flow past infinite porous plate, Hall effect, heat transfer, theory 1−19820
MHD generator characteristics, decreasing Hall current effects 1−19984
MHD spiral current accelerators *(French)* 1−42215
MOS structure, electron irrad. influence on Hall mobility of holes in inversion layers 1−3072
narrow energy bands, Hall and Faraday effect study *(Russian)* 1−21179
plasma, steady-state accel. in mag. field, Hall flow 1−42146

Hall effect continued
plasma, stratified, Hall current and finite Larmor radius effect on stability 1−34061
rare earth borides, RB_{66}, elec. cond., Hall effect, thermoelec. power meas. 1−30751
rare earth metals and alloys, magnetotransport, quadrupole and orbital exchange effects 1−20708
semiconductor, bounded, phonon heating and drag action on Hall effect and transverse thermo-EMF 1−20780
semiconductor, hot electron galvanomagnetic phenomena under population inversion conditions, theory 1−52583
semiconductor, laser-annealed, defect identification and eval. techniques *(Japanese)* 1−20188
semiconductor film, polycrystalline, temp. depend. of intergrain barriers 1−12213
semiconductor thin film, transition layer contact resistance influence on Hall mobility 1−42797
semiconductor wafer, contactless meas. of elec. props. *(Japanese)* 1−47673
semiconductors, hot electron population inversion, Hall currents 1−25740
semiconductors, nonintrinsic, magnetoconcentration and other galvanomag. effects 1−20770
semiconductors, photostimulated Hall effect in longitudinal mag. field 1−38799
semiconductors, polycrystalline and powdered, review 1−30768
semiconductors and semimetals, electrical properties, press. effects 1−30739
n-Si, acceptors induced by plastic deform. 1−12062
skew scattering by mag. impurities 1−34687
small-polaron Hall effect overview 1−34727
TCNQ salt, triethylammonium $(TCNQ)_2$, electronic props. and instability 1−42762
ternary $A_3^{I}B_5^{III}C_9^{VI}$ semiconductor compounds, electrical, photoelectric and optical investigations 1−34747
theoretical and expt. progress in Hall effect 1−34692
transition metal based glassy ribbons, $(M_xM'_{1-x})_{75}P_{16}B_6Al_3$ (M,M'=Fe,Ni,Mn,Co), mag. and transport props. 1−7587
transition metal oxides, Hall and Verdet consts., sign reversal *(Russian)* 1−12127
units and formulae 1−32950
Ag_9GaS_6, Ag ionic and electronic cond. 1−7680
$AgNiSe_2(Te_2)$, electrical conductivity, Hall coeff. and thermo-EMF 1−20768
$(Ag_{x/2}Pb_{1-x}Sb_{x/2})Te$, absorpt. edge, Hall effect 1−16580
$Ag_{50}R_{50}$, R=Pr, Nd, Gd, Tb, Dy, Er, amorphous alloys, extraordinary Hall effect meas. 1−30722
Ag_2Te film, low temp. phase transition, electrophys. prop. and thermal expansion evidence 1−47397
Al dilute alloys, elec. resist. calc. using electron-phonon mean free paths 1−20707
Al film, Hall effect 1−47615
Al, linear magnetoresistance caused by sample thickness variations 1−42745
Al, pure, true low field Hall coeff. at low temps. 1−25703
Al-Cr(Mn)(Fe), dil., low-field Hall coeff. at 4.2K 1−7592
n-$Al_xGa_{1-x}As$ graded-gap crysts., electron redistrib. effect on conductance, Hall e.m.f. obs. 1−16309
n-$Al_xGa_{1-x}As$, Hall coeff., resistivity temp. anomaly 1−42794
$Al_xGa_{1-x}As$:Be LPE layers, doping charact., elec. props. 1−15914
As, carrier density, nonmonotonic variation at press. up to 120 kbar 1−2992
Au-Co, galvanomagnetic effects in solid solution and precipitate phases 1−7591
Au-Ni, weak ferromagnetism and elec. props. 1−42981
Bi, film, temp. depend. of kinetic coeffs., Hall const. and thermo-EMF meas. *(Russian)* 1−42873
Bi polycrystalline sample, magnetoresist. and circulating Hall currents meas. 1−30771
$Bi_{1-x}Sb_x$, magnetic freezeout study in region of direct and inverted spectra 1−25745
p-Bi_2Te_3, galvanomagnetic, high field transport props. 1−16301
$(Bi_2Te_3)_{1-x}$-$(La_2Te_3)_x$ solid solns., electrophys., temp. and conc. depend. 1−38775
n-BiTeBr single crysts., IR spectra, Hall coeff. 1−20772
Cd film, Hall effect 1−47615
Cd_3As_2 amorphous degenerate thin film semiconductor, elec. props. 1−20720
Cd_3As_2 crystalline film, Shubnikov-de-Haas effect 1−52586
$Cd_xHg_{1-x}Te$, Hall effect and elec. cond. *(Russian)* 1−2993
$Cd_xHg_{1-x}Te$ semimetallic alloys, transport coeff. calc. by variational method, 14 to 300K 1−20740
Cd_3P_2:Cu, and undoped, influence of press. on elec. props. 1−38772
n-CdS, drift and acoustoelec. Hall effects, acoustoelec. current, inhomogeneities due to IR quenching of photocond. 1−20827
CdS, vacuum deposited films, elec. and optical props. meas. 1−12215
CdS:Ga, highly doped, optical props. and high excitation phenomena 1−52591
$CdSnAs_2$, crystal defects from electron irradiation, effect on cond. 1−25326
CdTe, irrad. induced defects, photoluminesc. study 1−8112
CdTe p-n junctions prepared by Bridgman method, impurity levels study *(Japanese)* 1−38840
$CeCu_2Si_2$, mag. susceptibility and kinetic parameters *(Russian)* 1−30927
Co-B sputtered films, Hall effect and anisotropic magnetoresist. 1−7588
Co-Ni-B sputtered films, Hall effect and anisotropic magnetoresist. 1−7588
$Co(S_xSe_{1-x})_2$, Hall effect and magnetoresistance 1−38796
$Cr_xMn_{1-x}As$, Hall resistance modulation 1−25694
Cu, pure and defect-containing, low field Hall coeff., 4.2 to 77K 1−7590
Cu-Fe alloy, dil., resist. and Hall effect, 4.2 to 77.3K spin glass behaviour *(Russian)* 1−30946
Cu-Mn (Fe)(Co), spin glass, Hall effect, elec. cond., mag. susceptibility *(Russian)* 1−47612
$Cu_2Te_{1-x}S_x(Se_x)$, conductivity, Hall coeff., thermoelectric power, rel. to phase transformations 1−38803
$Er_{1-x}Y_xFe_2$, 77 to 650K, magnetisation and extraordinary Hall effect 1−34684
$EuO_{1-\delta}$, nonstoichiometric, IR reflection spectra, charge carrier props. 1−21209
Fe single crystals, Hall effect results reviews 1−34688
Fe-B sputtered films, Hall effect and anisotropic magnetoresist. 1−7588

Hall effect continued
Fe_{1-y}, semicond. props. at high temps. 1−7620
γ-$Fe_{82-x}Ni_xCr_{18}$ spin glasses, Hall effect *(Russian)* 1−47613
$Fe_{40}Ni_{38}Mo_4B_{18}$ metallic glass, mag., elec. props. 1−3147
αFe_2O_3, haematite, Hall effect in Morin transition region 1−25746
Ga amorphous film, Hall effect and elec. resist., temp. depend. *(Russian)* 1−12097
$Ga_{1-x}Al_xAs$, conduction band struct., deep levels, high-press. Hall effect meas. 1−2987
n-GaAs, cyclotron-resonance-induced cond., carrier mobility and relax. time 1−3263
n-GaAs epitaxial film, influence of elec. field on negative magnetoresistance 1−42798
n-GaAs, heavily doped and compensated, electron transport, 4.2-300K 1−12112
GaAs, heavily doped epitaxial layers, pulse electron beam annealing effects 1−15928
GaAs, ion-implanted, struct. and elec. profile meas. 1−11779
GaAs:Ar(Si) MIS structs., ion implanted, elec. characts. 1−7663
GaAs:C, electron scatt. at localised impurity pots. 1−47635
n-GaAs:Cr, charge transfer induced by hydrostatic press., Hall effect meas. 1−47547
GaAs:Cr, Mg ion implant distrib., elec. props. 1−7202
GaAs:Cr, semi-insulating, characterisation using galvanomagnetic meas. *(Slovak)* 1−20767
GaAs:Ga, Ge, dual implantation, Hall mobility and elec. resist. 1−38394
GaAs:Ge, As, dual implantation, amphoteric activity, Hall effect and elec. resist. 1−38395
GaAs:Si+Ge(Sn), IR absorpt., plasma resonance and Hall effect meas., impurity effect on props. 1−3381
GaAs:Sn, MBE growth, doping, elec. props. 1−2834
GaAs-$Al_xGa_{1-x}As$ multilayers, two-dimens. elec. transport at high mag. fields 1−7724
$(GaAs)_x(ZnSe)_{1-x}$ solid solns., electrophys. props., prep. method depend. 1−42769
n-$Ga_{0.47}In_{0.53}As$, alloy scattering effects and calc. Hall mobility 1−42791
$Ga_xIn_{1-x}As$, direct gap, electron transport study 1−42792
GaP LPE layer, residual donors, elec. characterisation 1−7761
n-GaP:S(Te), radiative recombination, photoconductivity 1−21272
GaSb film, amorphous-cryst. transform., elec. props. 1−34704
GaSb, L-band spectroscopy, Shubnikov-de-Haas effect in high mag. field under uniaxial stress 1−47456
GaSb:Se,Te, conduction band minima, elec. props., hydrostatic press. effects meas. 1−30631
Gd-Fe films with weak magnetic anisotropy transverse and planar Hall effect *(Russian)* 1−42744
Ge, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
Ge clean surface, electrical conductivity, Hall mobility 1−52640
p-Ge, components of the even photoelectromagnetic effect 1−42820
Ge, Hall effect studies in liquid N_2 cryostat, novel electromagnet design 1−14126
Ge heavily doped compensated, metal-insulator transition 1−34628
Ge:As, electrical resist. and carrier conc., polycrystallinity effect 1−7610
n-Ge:As, heavily doped, compensated, elec. cond. 1−20743
n-Ge:Cu, elec. cond. and anomalous magnetoresist. near semicond.-metal transition 1−25744
Ge:Cu(Sb), impurity energy level press. depend., elec. props. 1−20661
Ge:In, quenched shallow acceptor ionisation energy 1−2910
Ge:Sb, heavily doped, resist. and Hall maxima in metallic range, degenerate electron gas model 1−47683
Ge-Si:Se, solid solution, activation energy of upper donor level, Hall effect meas. *(Russian)* 1−47531
GeTe-MnTe system solid solns., physicochem. investig. and electrophys. props., stoichiometry deviation influence 1−47226
$Hg_{0.79}Cd_{0.21}Te$ epilayers, cond. types, carrier conc., Hall coeff. heat treatment effects 1−38871
n-$Hg_{1-x}Cd_xTe$, mag. freeze-out, metal-nonmetal transition 1−52582
n-$HgCr_{1.9}In_{0.1}Se_4$, elec. cond., magnetoresist., and Hall effect meas. 1−20726
$Hg_{1-x}Mn_xTe$, magnetoresistance and Hall effect props. 1−2989
HgTe polycrystalline films, Hall coeff. and DC cond. meas. 1−38873
InAs films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
$InAs_xSb_{1-x}$, direct gap, electron transport study 1−42792
$In_{1-x}Ga_xAs_yP_{1-y}$-InP LPE and VPE layers, transport props., defects and device considerations 1−47766
$In_{1-x}Ga_xP$:Zn, hole transport props., Hall mobility 1−47686
$In_{0.5}Ga_{0.5}Sb$ film, amorphous-cryst. transform., elec. props. 1−34704
In_2O_3 films, thermally evaporated, struct., elec., and optical props. 1−47405
InP, impurity levels and electrical characteristics 1−20250
InP:Cr, S ion implantation, sheet resistance, carrier density 1−2477
InP:Zn, shallow and selective diffusion of Zn 1−30482
InP:Zn p-n junction, control of Zn doping for growth by LPE 1−25300
InP_xAs_{1-x}, direct gap, electron transport study 1−42792
$InP_xAs_ySb_{1-x-y}$ solid solution, optical props. 1−26294
InSb, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
n-InSb, doped, mag. freeze-out and metal-nonmetal transition 1−47716
InSb, Faraday-type magneto-microwave Kerr effect, Hall mobility *(French)* 1−52922
n-InSb film, H_2 exposed, elec. transport props. 1−52673
InSb films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
n-InSb, Hall coeff., mag. freeze-out on subsidiary minima associated levels 1−47678
n-InSb, impurity cond. and minimum metallic cond., Hall effect, magnetoresist. meas. 1−42796
p-InSb, n^+-layer form. by ion bombard. and laser irrad. 1−21312
n-InSb, quantum limit Hall effect, transverse magnetoresistance, stress depend. 1−30773
InSb solid and liquid, elec. cond. and Hall effect meas. technique 1−36704
InSb:H films, Hall coeff., carrier mobility rel. to impurity in-diffusion 1−38870
InSb:Zn p-n junctions fabricated by ion implantation with subsequent drive-in diffusion 1−3054
InSb(As)(Te)(Se) film, amorphous-cryst. transform., elec. props. 1−34704
$In_2Se_{2.93}Cl_{0.06}$, mag. and transport props., low temp. elec. cond. transition 1−12153

Hall effect continued
K_xWO_3, normal-state transport and supercond. props. 1−52566
$LaGdAl_2$, conduction electron asymmetric scatt. 1−34685
$LiNbO_3$, small-polaron semicond., expt. Hall effect data 1−34726
Mn, amorphous, possibility of mag. order, elec. and galvanomagnetic props. *(Russian)* 1−30713
$NbSe_3$, Hall effect and transverse cond., sliding motion of CDW 1−52550
Ni_xAg_{1-x} amorphous thin films, prepared by RF sputtering, resistivity and Hall effect, mag. props. *(French)* 1−30849
$Ni_{1-y}Co_yS_2$, electronic struct. and transport props. 1−47460
PbN_6, electron excitation and transfer 1−34753
PbS(Se)(Te), liq., elec., thermal, mag. and physio-chem. props. 1−20722
PbSe epitaxial layers, deep levels, Hall effect and photocond. obs. 1−12063
$PbSe_{1-x}S_x$:Tl, impurity band position and width, elec. and optical props. 1−20659
$Pb_{1-x}Sn_xTe$ ion implanted films, implantation induced damage 1−7191
$Pb_{1-x}Sn_xTe$ layers on micasurface, Hall effect and cond., influence of air 1−30857
$Pb_{1-x}Sn_xTe$, local states of Te vacancies, Hall effect *(Russian)* 1−2922
$Pb_{1-x}Sn_xTe$, second valence band and resonant states, effect on transport 1−20773
$Pb_{1-x}Sn_xTe$:In ($0 \leq 0.2$), LPE layers, electron conc. control by In doping 1−25309
$(Pb_{1-x}Sn_x)_{1-y}Te_y$, cryst. growth from melt, initial charge comp. effect on comp. and electrophys. props. 1−42513
n-PbTe film, anomalous increase in thermoelectric power, Hall effect 1−20888
PbTe film, size effect, Hall mobility, thermopower 1−20887
PbTe, sintering effect on elec. props. 1−16746
n-PbTe:In(Cu) films, magnetoresist. and Hall effect meas. 1−7643
$(Pd_xPt_{1-x})_3Fe$, Hall effect meas., mag. heterogeneity effect *(Russian)* 1−12096
Sb_2Te_3, galvanomagnetic, high field transport props. 1−16301
Sb_2Te_3, galvanomagnetic and thermoelectric transport coeffs. *(German)* 1−42795
Sb_2Te_3-Ga_2Te_3 system solid solns., thermal cond. and electrophys. props., 300-800K, complex valence band obs. 1−47308
Si, Czochralski crystals, oxygen-related donors, Hall effect and photoluminesc. study 1−26256
Si, doped crystals, influence of heat treatment on elec. props. 1−38798
Si film, ion implanted, CW laser annealed, electrical props. 1−30851
Si film on sapphire MOS structure, electron surface mobility,. strain effects 1−42867
n-Si, γ-irrad., electrically active interstitial defects 1−2510
Si inversion layer, obs. of interaction and localisation effects in two dimensional electron gas 1−20844
Si, polycryst., grain size effects on Hall measurements 1−12126
Si, quality characterisation techniques *(German)* 1−34708
Si, rapid-quenched polycrystalline ribbon for solar cell appls. 1−4181
Si:As, front and back surface annealing, scanned CW CO_2-laser irradiation 1−2475
Si:B, ion implanted, Hall effect and resist. meas. 1−2990
Si:B, ion-implanted layers, annealing investigation using Hall current method 1−30772
Si:B, resistivity/dopant-density relationship 1−20769
Si:B film, on sapphire, ion implanted, Hall effect and resist. meas. 1−2990
Si:Cu, energy levels and degeneracy ratios of impurity levels *(Japanese)* 1−2906
Si:H, amorphous, electron Hall mobility, 200 to 550K 1−30767
Si:H, amorphous, gap states, review 1−16221
Si:K, ion implanted, Hall effect, temp. depend. meas. 1−30770
Si:P, ESR and elec. activity, heat treatment effects 1−34926
Si:P, elec. activity, ESR study, heat treatment effects 1−31015
Si:P, Hall mobility, carrier hopping in impurity band 1−7644
Si:P, ion implanted Hall effect, electrical cond. 1−2487
Si:P resistivity rel. to dopant density obs. 1−12107
Si:P(B)(As), dopant segregation, Hall and resist. meas. 1−38401
Si-SiO_2 interface, interaction induced transition at low densities in inversion layer 1−7755
Si-SiO_2 MOS inversion layers, Hall cond. under strong mag. fields, Landau level width 1−12197
Si-SiO_2 MOSFET, (110) and (111) surfaces, anomalous behaviour of electron transport 1−12202
SiC(6H), electron mobility impurity conc. *(Russian)* 1−47687
$Sm_xCe_{1-x}B_6$ solid solns., mag. and elec. props., temp. and comp. depend., carrier types 1−47841
SmS, semiconducting, electronic transport props., hydrostatic press. effect 1−12130
$(Sn_xEu_{1-x})_yMo_6S_8$, high press. semicond.-supercond. transition 1−42881
SnO_2 film, CVD and elec. props. 1−43268
SnO_2:Sb, electrical and optical props. 1−42874
SnTe:Kr(Xe) films, ion implantation effect on struct. and elec. props., recrystn. process 1−7194
p-$(SnTe)_{0.1}(PbSe)_{0.9}$ epitaxial layers, elec. props., band struct. *(Russian)* 1−38782
IT-TaS_2, Hall effect, magnetoresistance, thermoelectric power 1−47685
$TaS_{2-x}Se_x$(IT), elec. and mag. props. of Anderson localised states 1−47714
Te, electron and phonon spectra, press. depend. 1−34607
TlInX$_2$-TlRX$_2$ (X=Se,Te), R=(Nd,Pr) systems, electrophys. and X-ray investigs., comp. depend. 1−52482
α-U, low temp. Hall coeff. 1−2945
U-Mo, dil. solid solns., low temp. Hall coeff. 1−2945
US single cryst., elec. conductivity and Hall effect 1−47689
V-SiO, cermet thin film, elec. props. *(French)* 1−52664
WS_2 crystals, p-type semicond. behaviour, resist., thermoelec. ahd Hall effect meas. 1−34706
$Zn_xCd_yHg_{1-x-y}Te$, epitaxial crystn. from melt 1−12673
$ZnGeP_2$, cond. type inversion under heat treatment 1−20748
n-$ZnGeP_2$ films, electrical and photoelectric props. 1−34815
ZnSe, elec. props. meas. 1−20750
$ZnSiP_2$, Hall effect study of thermal impurity-to-band activation energy conc. depend. 1−47688
$ZnSiP_2$(:Ga) crystals grown from non-stoichiometric melt, elec. and optical props., orient. depend. 1−34705
n-ZnTe, diffusion of Al, cond. and lum. characts. of junction, impurity levels *(Japanese)* 1−20470

Hall effect devices
commemorative symposium on Hall effect and its appl., Baltimore, MD, USA (Nov. 1979) 1−32807
filamentary semicond. detectors for simultaneous mag. field and temp. meas. 1−50178
GaAs Hall probes, preparation technology, application to high magnetic fields measurement at high temps. 1−50174
HV monitoring using Hall probe 1−28014
magnetometers for high mag. fields and temp. between 1.5K and 300K 1−33011
steel sheets magnetic field strength measurement using Hall generators, comparison to other methods *(German)* 1−23194

Hall effect transducers
calibration in pulsating magnetic field using reference transducer 1−23277
commemorative symposium on Hall effect and its appl., Baltimore, MD, USA (Nov. 1979) 1−32807
galvanomagnetic dilatometers for thermal expansion measurements on ferroelectrics and semiconductors 1−15385
power/energy meter employing GaAs Hall plates 1−5341
n-InSb-i-GaAs film Hall convertors, characteristics 1−44906

Hall generators *see Hall effect devices*

halogens
see also astatine; bromine; chlorine; fluorine; halides; iodine
chemisorption by Ag, UPS meas., EHT calc. 1−16664
halogen-metal vapour lamps for Super-8 and 16 mm projectors *(German)* 1−15244
interhalogen molecules, laser action, kinetics fluoresc. 1−37473
metal halogen light sources for cinematography *(Russian)* 1−45064
molecules+Sc(Y) reactions, chemiluminesc. origin 1−26720
molecules+Sc(Y) reactions, monohalides laser induced fluoresc. 1−26721
CdTe-H_2-halogen system, mass transfer of CdTe 1−7395
H_2/halogen fuel cell model systems heat rejection and thermal efficiency 1−48828

Hamidashi effect *see ferroelectricity*

hand tools
vibrating tools, design of vibration isolator 1−19630

handling, materials *see materials handling*

handsets (telephone) *see telephone sets*

Hanle effect
Alkaline earth atoms, Hanle effect in singlet excited states 1−6213
astrophysical magnetic field meas. appl. 1−27391
crossing signals in zero mag. field, strong EM field effect 1−33433
two-level system in strong EM field *(Russian)* 1−51172
Ba, excitation, level crossing resonances, optical Hanle effect 1−51171
He-Cd laser, crossing signals in zero mag. field, strong EM field effect 1−33433
LiH, $A^1\Sigma^+$ dipole moment, vibr. state effect 1−1203

hard soldering *see brazing*

hard-sphere fluids *see classical theories of fluid structure; liquid theory; quantum theories of fluid structure; statistical mechanics*

hardening
see also dispersion hardening; quench hardening; radiation hardening; solid solution hardening; surface hardening; work hardening
BCC alloys, hardening by spinodally modulated structure 1−26477
composites, adhesive bonding produced by deform., and effect on mech. props. 1−31573
crack tip fields, one-parameter charact. by HRR singularity 1−46709
differential standard formulation *(German)* 1−41960
elastoplastic, incompressible deform., flow and hardening *(German)* 1−6786
metallic surface hardening by laser beams 1−21648
metals, normal FCC, effect of mag. field on low temp. plastic deform. and creep *(Russian)* 1−21508
plasticity, slip concept and smooth loading surfaces *(Ukrainian)* 1−37811
polyethylene, neck profiles, stress studies 1−26548
quenching region depth determ. using self induction coefficient of coil wound round bar *(Portuguese)* 1−44950
random substitutional solute hardening 1−21562
steel, alloy, structural, temper brittleness, austenitisation temp. influence 1−3929
steel, C, spring, resist. to small plastic deforms., temp. depend. 1−48430
steel, C, structural, temper brittleness, austenitisation temp. influence 1−3929
steel, carbide coating process using molten borax bath 1−48586
steel, N ion implantation, modification of mech. props. 1−21587
steel, reinforced epoxy resin, compressive strength 1−21512
steel, stainless, spring, resist. to small plastic deforms., temp. depend. 1−48430
steel, TiC hardened surface by laser melt injection 1−21588
steel, types 40, 40Kh and 40KhN, head treated, tensile strength and area reduction, nonuniformity of expt. distrib. 1−3868
Ag, electroresist. recovery after hardening and straining at 4.2K *(Russian)* 1−21600
Al alloys, static softening at elevated temps. 1−35335
Cd-Zn single cryst., critical resolved shear stress, conc. depend. and very low temp. 1−53241
Co-Ni-Nb, spring, resist. to small plastic deforms., temp. depend. 1−48430
Cu, fatigued, evolution of dislocation struct. in polycryst. specimens 1−53284
Fe:H, yield and flow stress, orientation depend. 1−21563
Fe-C alloys, softening of Fe by C and jerky motion of screw dislocations during in-situ expts. 1−30235
Fe-Ni-Ta-(Co), martensite kinetics 1−3738
Mg-Y, IMV6 alloy, softening during fatigue 1−31622
Ti-Al-Mo, BT22 alloy, high-temp. structural state *(Russian)* 1−35235
V-N alloys, temp. depend. mech. props., effect of N conc. 1−21564

hardness
see also abrasion; hardness testing
abrsive wear test correlation 1−48530
adhesion of metals, high temp., role of creep, hot hardness and sintering 1−26714
brass, surface hardened by roller burnishing, effect of heating on hardness and struct. of surface layer 1−16885
α-brasses, stress corrosion cracking in NH_3 vapour, effect of H_2 1−35383
brittle material, modelling of inelastic deform. induced by rigid indenter 1−34419

hardness continued
bronze surface hardened by roller burnishing, effect of heating on hardness and struct. of surface layer 1−16885
cast Fe, graphite shape and amount influence on rolling contact fatigue strength *(Japanese)* 1−3896
chalcogenide glass, binary system, physicochem. props. calc. method 1−42308
coatings, enamelled and flame-sprayed, characterisation and microwave reflectivity 1−43510
$CrB_{(2)}$ crystals, chemical vapour growth 1−53068
Cu-Pd-Ag dental alloys, age-hardening charact., X-ray diffr., elec. resist and hardness meas. *(Japanese)* 1−3757
diamond sintering mechanism at 5.5 GPa and 1300 to 1500°C 1−35214
direct carburising by natural gas, thermogravimetric study *(Chinese)* 1−39501
elastomers, wear of metals in abrasive environment 1−12892
FCC metals and alloys, Hall-Petch relation appl., effect of prestrain 1−3845
glass, microhardness, cation field strength depend. 1−43508
glass hardness rel. to at. conc. 1−1663
Hastelloy alloy C-276, Ni-base superalloy, hydride form. 1−53271
Invar, deformation before heat treatment, effect on props. and fine struct. 1−43440
ion nitriding process, effect of C in gas atmos. 1−12935
Knoop micro-indentation hardness number, measurement *(Italian)* 1−31583
metal, amorphous and glassy state form. and characterisation, review 1−26418
metal contact surface, healing of micropores at uniform compression *(Russian)* 1−47338
metals, ultrasonic quenching method appl., hardness, fatigue tests 1−26506
metals and alloys, shocked-loaded, residual strength, effect of grain size and deformation-induced grain refinement 1−21591
micro-Vickers hardness tester, hot, with loading rate controllable device, functional features and metallurgical applications 1−35493
Nitronic 33 electron beam welded, mech. props. rel. to N loss, chem. anal. 1−26782
nuclear fuel particles, coated, mechanical loading effects *(German)* 1−37002
optical glasses, relative abrasion hardness, dependence on microhardness 1−24467
optical material microindentation hardness determ., meas. condition influence on accuracy 1−1660
oxynitride glasses, synthesis, struct., and props. 1−30074
phenol-furfural resin, mech. props. and struct., mag. field influence 1−16821
polyamide 6, study on influence of friction on various props. of surface layer *(German)* 1−39462
polyethylene, high density, microhardness of extruded fibres 1−48497
polymeric materials, cavitation erosion, influence of microstruct., SEM study 1−16908
polymers, irradiated, physical props. 1−7209
rare earth dicarbides, polycryst., Vickers hardness and pendulum hardness 1−25366
roller tool production materials engineering 1−12686
sintered superhard materials, review 1−12682
snow cover in Hokkaido, rain hardness meas. and relation to snow type *(Japanese)* 1−9186
solid, hard, shock effect on flexible bonds, incl. external medium press. *(Russian)* 1−37831
steel, 5 Ni and 9 Ni, heat treatment effect on microstruct. and cryogenic fracture props. 1−8348
steel, acicular ferrite X-70 pipeline, strain age study 1−43386
steel, AISI 1090, spheroidised, H effect on microhardness 1−53280
steel, alloy, structural, work of fracture as criterion for hardenability determ. 1−43497
steel, austenitic, abrasive wear *(German)* 1−39475
steel, austenitic, impact properties at low temp. *(Japanese)* 1−26624
steel, austenitic, mechanical properties, effect of decomp. mechanism during ageing 1−43380
steel, austenitic stainless 304, substructural development in hot tensile testing 1−12805
steel, C, abrasive wear and microstructure relationship 1−48529
steel, C, laser heat-treated, fatigue resist. 1−48490
steel, C, rolling/sliding conditions, relation between scuffing resist. and increase in surface hardness 1−39474
steel, carbide coating process using molten borax bath 1−48586
steel, cutting effect on surface deform. 1−53344
steel, eutectoid, cold-rolled, mech. behaviour, effect of rapid annealing 1−21485
steel, fine structure, effect of retained Al in 12Kh1MF 1−16784
steel, high speed, powder metallurgical technique using pre-alloyed powders 1−16717
steel, high-strength heat-resistant 30Kh3NM3FTs, props. and appl. 1−8394
steel, maraging, decomposition invest. by positron annihilation method 1−16882
steel, martensitic, cyclic wear behaviour of tempered 4130 steel 1−12881
steel, mild, monotonic and cyclic deform., positron annihilation, hardness and Barkhausen noise meas. 1−39382
steel, Mn-Cr-V, precipitation hardening, struct. changes *(Czech)* 1−3758
steel, Nb, low C, yield strength and microstruct., influence of cooling rate 1−35270
steel, Ni-Cr, temper embrittlement, calc. of transition temp. changes 1−16875
steel, nitrided, hardness and N conc., correl. study using AES 1−53283
steel, polyethylene forming equipment, surface struct., effect of forming conditions 1−16889
steel, quenched, acoustic meas. of stress fields and microstruct. 1−48594
steel, rolled, heat treatment effect on fatigue strength anisotropy 1−26505
steel, spring, phase comp. and props. 1−16817
steel, stainless, 304, 310 and 316, sound velocity and elastic consts. 1−31518
steel, stainless, cold-rolled 18Cr-8Ni, microstruct. changes with annealing *(Japanese)* 1−26493
steel, stainless, laser irradiated, type 1Kh18N9T, microhardness, effect of elec. field and press. *(Russian)* 1−16868
steel, stainless, phase composition and hardness of Kh28N10S4 1−3697
steel, stainless, surface hardened by roller burnishing, effect of heating on hardness and struct. of surface layer 1−16885

hardness continued
steel, strengthening with CO_2 laser, technological charact. *(Russian)* 1−43593
steel, structural, relationship between Jominy hardness and chem. comp. *(French)* 1−31605
steel, tool, high-speed, heat treated after forging without intermediate annealing, struct. and props. 1−48387
steel, tool, melting and solidification during dynamic powder compaction 1−53117
steel, type ShKh-15 microdoping effect with Ca and Ce on sulphide inclusion hardening *(Russian)* 1−16870
steel, W-Mo, high-speed, carbides solubility and red hardness 1−8321
steel 12Kh1MF, long-time strength eval. using short-time mech. charact. 1−39391
steel 20Kh13, heat treatment, effect on microstruct. and hardness 1−43378
steel forgings, form. of fine-grained struct. in 60KhN 1−16820
steel welds, transformation behaviour of HAZ during underwater wet welding 1−48400
steel-Nb-Zr-B, electric spark alloyed 1−39465
steels, austenitic, at cryogenic temps. mech., props. review 1−53191
steels, cavitation erosion, influence of microstruct., SEM study 1−16908
steels, hardness of tempered ports, instrument for nondestructive mag. testing 1−31810
steels, low-C 2.25 Cr-1 Mo, effects of trace elements on creep strength and ductility 1−43441
surface boronizing, applications 1−21611
ternary alloy electrodeposition, developments (1972-1978) 1−8247
tool materials, square indentation test 1−4018
toughness in wear and grinding processes 1−8439
Udimet 710, thermal fatigue resistance, influence of protective coatings 1−31759
VC+Ni cermets, with controlled C-to-metal ratio, prep. and props. 1−8264
Vickers micro-indentation hardness number, measurement *(Italian)* 1−31583
Zircaloy-4, recrystn. during transient heating 1−12754
AgCdO, worked sintered, working and heat treatment effect on strength props. 1−3781
$AgGaS_2$, crystal growth, props. 1−16677
Al alloy D16T, dimpled sheets, eddy-current monitoring of mech. parameters 1−31809
Al damaged layer, under He ion irradiation, mech. props. *(Russian)* 1−20275
Al film, vacuum quality influence on oxidation, photoelectron spectra *(Russian)* 1−48261
Al-Cu-In (4, 0.06 wt.%), precipitation of θ′ phase *(Japanese)* 1−26470
Al-Cu-Si-Mg, precipitation hardening L70 type, microplasticity 1−35315
Al-$CuAl_2$ eutectic composites, hardness meas. 1−31603
Al-Mg-Si alloys, mech. props., effect of dispersoids and grain size 1−21590
Al-Si alloys, friction and wear, study using SEM and microhardness testing 1−12886
Al-Ti-Si alloy, non-equilibrated, $Ti(Al, Si)_3$ compound formation 1−16769
Al-Zn-Mg (4.5, 2.5 at.%) η′-phase form., short preageing influence, TEM, XSAS, resist. and hardness meas. 1−21449
Al-Zn-Mg alloy, weldable, explosive loading effect on hardness 1−53278
Al-Zn-Mg-Cu, 7075, effect of ageing on props. 1−48402
α-AlB_{12} single crystal, growth conditions, oxidation, hardness and density *(Japanese)* 1−48252
Al_2O_3, hot-pressed, correl. of fracture toughness and crack lengths from Vickers hardness indentation *(German)* 1−35344
Al_2O_3, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
Al_2O_3-Cu, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
Au electrodeposits, thick, soft and hard, microstructural characterisation 1−43529
BN based superhard materials, structural factors effect on mech. props. 1−12864
BN based superhard materials, ductility and strength props., struct. effect 1−53291
Be-Cr alloys, struct. and mech. props. 1−16758
$CdTl_2Te_4$:Au(Ag)(Cu), impurity solubility determ. by microhardness method 1−7200
$CdTl_2Te_4$:Au(Ag)(Cu), fused, surface tension and microhardness 1−7426
Co-Ag-MoS_2 powder metallurgical composite, mech. props. 1−39464
Co-Ag-$NbSe_2$ powder metallurgical composite, mech. props. 1−39464
$Co_{94-x}M_xB_6$ (M=Hf, Zr, Ta, Ti, Nb), glass form. comp. ranges and mech. props. 1−35353
Cr/C films, reactive ion plated, microhardness and struct. 1−53263
Cu alloy strip, high strength bronze for contacts, terminals, and connectors 1−43531
Cu alloys, laser irrad. effect on props. *(German)* 1−38404
Cu foils, scale factor manifestation in tension 1−16836
Cu, OFHC, cold rolled, recrystallisation and ageing, high hydrostatic pressure effect *(Japanese)* 1−48379
Cu, polycrystalline and single crystal, cutting effect on surface deform. 1−53344
Cu-Al-Ni, martensitic transform. and ageing effect *(Japanese)* 1−26458
Cu-Be, precipitation, effect of Be content and prior plastic strain, TEM study 1−3759
Cu-Be, recrystallisation and ageing, high hydrostatic pressure effect *(Japanese)* 1−48379
Cu-Be (22.6 wt.%), secondary reaction associated with eutectoid transformation *(Japanese)* 1−26452
Cu-C (graphite), hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
Cu-Ni-Fe (26, 8 wt.%), precipitation, study by electron microscopy, X-ray diffr. and hardness meas. *(Japanese)* 1−3745
Cu-Pb alloy melt, vibration effects on struct. during solidification 1−53168
Cu-Pd-Ag alloys, age-hardening charact., X-ray diffr., elec. resist. and hardness meas. *(Japanese)* 1−3756
Cu-Sn-WSe_2-(graphite)-Pb powder metallurgical composite, mech. props. 1−39464
$CuGaS_2$, crystal growth, props. 1−16677
$CuInS_2$, crystal growth, props. 1−16677
$CuInSe_2$-$CuInS_2$ system, interaction of components, physicochemical characteristics 1−31432

hardness continued
CuV_2S_4, synthesis conditions, comp. and mag. props. 1−43289
Fe, Armco, microalloyed, recrystn. at critical degrees of deform., grain boundaries condition effect 1−43363
Fe based metallic glasses, influence of transition metal substitutes on formation, stability and hardness 1−11687
Fe, cast, grey, Al addition effect on microstruct. and hardness 1−53261
Fe, cast, Ni-hard, abrasive wear resistance *(Chinese)* 1−35395
Fe, cast, tensile props. and hardness, influence of Cu additions *(Chinese)* 1−35349
Fe, cast, WC reinforced, interaction of reinforcing particles with high Cr matrix 1−16898
Fe compacts from fine powders, sintering behaviour, effect of purity 1−39274
Fe powder, sintering quality and hardness, effect of protective atms. 1−39276
Fe, strengthening and loss of strength kinetics in adsorption fatigue 1−35376
Fe/Cu, microlaminate condensates, struct. and props. determ. 1−16721
Fe-Al welding, influence of Ag layer on interdiffusion kinetics *(Russian)* 1−16091
Fe-B amorphous alloy, density, anomalous behaviour 1−11682
Fe-B-M, (M=B, C, Si, P, Ge), metallic glasses, microhardness 1−48472
α-Fe-based single crysts., low cycle fatigue, shear band form. 1−31654
Fe-Co-W alloys, semihard mag. props. *(Japanese)* 1−26637
Fe-Cr alloy, σ-phase, brittle fracture stress under high hydrostatic press. and high temp. 1−53295
Fe-Mo(-P) premixes, effect of Mo on sintering 1−39273
Fe-P-M, (M=B, C, Si, P, Ge), metallic glasses, microhardness 1−48472
Fe-Si (3 wt.%), small deform. effect on grain size and texture 1−8330
Fe-Sn-Mn alloys, sintered, mech. props. 1−53131
Fe-TiC-TiB_2, quasiternary system, struct. of eutectic alloys 1−21434
$Fe_{100-x-y}B_xP_y(C_y)(Si_y)(Ge_y)$ glasses, microhardness, embrittlement and crystn. temps., comp. depend. 1−35354
$Fe_{94-x}M_xB_6$ (M=Hf, Zr, Nb), glass form. comp. ranges and mech. props. 1−35353
$Fe_{100-x-y}P_xC_y(Si_y)(Ge_y)$ glasses, microhardness, embrittlement and crystn. temps., comp. depend. 1−35354
Ge, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
Ge-S-Se(Te) and Ge-Se-Te systems, vitrification regions, IR spectra, microhardness, glass and crystn. temps. 1−42307
HfB_2-Re(Cr), phase diagrams, X-ray diffr., metallographic and microhardness meas. 1−39314
KBr-KI mixed crysts., microhardness studies 1−47161
KCl-KBr, mixed crystals, microhardness and dislocation density rel. to comp. 1−31594
KH_2PO_4 single crystals, Vickers microhardness meas., indentation load depend. 1−20311
LiF, microhardness, influence of low-energy Ar ions and vacuum UV *(Russian)* 1−48488
Mg-Y, IMV6 alloy, softening during fatigue 1−31622
MgO, effect of approach direction on damage due to spherical particle impact 1−8417
Mo, CVD on graphite, struct., annealing effects 1−12668
Mo Permalloy film, cathode sputtering deposition mag. props. 1−8226
Mo-Cu(-Ni) composites, sintered, mech. props., comp. and strain depend. 1−26517
Mo-TiC, alloy 4605, effect of heat treatment of struct. and mech. props. 1−43384
Mo_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
NaCl laser windows, forging, mech. and optical props. and sp. ht. obs. 1−29355
Nb, nitridation kinetics, 873-1273K 1−12930
Nb-Ti-N solid solution, quenched, struct. and mech. props. *(French)* 1−48458
Nb-W (12, 16 wt.%) alloys, temperature dependence of hardness *(Ukrainian)* 1−39413
Nb-Zr-C, heat resist., mech. props. and struct., residual vac. gas comp. effect 1−3861
Nb-ZrB_2 sintered alloy, wear resistance 1−31679
Ni base alloys, high temp., hot impact extrusion and subsequt processing 1−39351
Ni based metallic glasses, influence of transition metal substitutes on formation, stability and hardness 1−11687
Ni electrodeposits, low temperature recrystallisation kinetics 1−43365
Ni/Cu, microlaminate condensates, struct. and props. determ. 1−16721
Ni-Al-Mo (12.7, 21.6 wt.%), directionally solidified eutectic composite, microstructural studies 1−3724
Ni-base superalloy, H-induced crack growth, effect of low temp. ageing 1−26621
Ni-base superalloys by powder metallurgy techniques, vacuum sintering and heat treatment 1−39269
Ni-Cr, type KhN73MBTYu, temp.-time depend. of hardness *(Russian)* 1−48377
Ni-Cr-Nb-Co (15, 10, 6.8-33.5 wt.%), dispersion and precip. hardening, effect of Co 1−16795
Ni-Cu (30 wt.%), effect of working temps. on recrystn. behaviour 1−16802
Ni-Cu (30 wt.%), recrystn. grain sizes, effect of working temp. before annealing *(Japanese)* 1−3765
Ni-Mo-MoS_2 powder metallurgical composite, mech. props. 1−39464
Ni-P, electroless deposited, microstruct. and fatigue props. 1−53282
Ni-P-TiB_2 cermet, Ni-P binder, prep., props. 1−3688
$Ni_{94-x}M_xB_6$ (M=Hf, Zr, Ta), glass form. comp. ranges and mech. props. 1−35353
Pd electrodeposits, elec. contact performance eval. 1−43530
Pd-Ru (6 wt.%), recrystn. 1−48368
Pt-Ni-S, phase diagram, DTA, X-ray phase anal. and micro X-ray spectral anal., microhardness 1−31434
Si, fracture toughness 1−3873
Si, structural factors effect on mechanisms of deform. and fracture *(Russian)* 1−35323
SiC, plasma deposition, film props. meas. 1−43277
Si_3N_4, hot-pressed and reaction-sintered, correl. of fracture toughness and crack lengths from Vickers hardness indentation *(German)* 1−35344
Si_3N_4, single crystal and polycrystalline reaction sintered, charact. by microhardness meas. 1−31597
Sn-Zn eutectic alloys, mech. props. and microstruct. 1−8378
Ta base binary alloys 1−21471

hardness continued
Ta-W base ternary alloys, substitutional solid solution hardening 1−21471
Ti alloy-steel joints, contact phenomena, effect on strength 1−17021
Ti, polycrystalline, cutting effect on surface deform. 1−53344
Ti-Al-Mo-Sn-Si (4, 4, 2, 0-0.5 wt.%), high temp. strength, influence of Si 1−31640
Ti-Al-Zr-W, mech. props., effect of W addition, 0-10 wt.%. 1−16884
Ti-M-C-N, M=Zr, V, Nb or Hf, solid solutions, microhardness and elastic props. 1−35347
Ti-Nb (4.32 wt.%), gaseous pretreatment and oxide sintering effect on oxidation 1−35434
Ti-Nb-Si amorphous ribbons, superconductivity, mechanical props. 1−16394
Ti-Nb-Si-B, supercond. props. of alloys with duplex struct. of amorphous and crysts. phases 1−16404
Ti-Nb-Si-M (M=Mo, Ru, Rh, Pd, Ir, B, C, Ge), ductile amorphous alloys, supercond., mech. props. 1−30894
TiC overlay coating, friction and adhesive wear 1−31682
TiC-steel materials, nitriding 1−39533
TiN overlay coating, friction and adhesive wear 1−31682
TiN_x coating, deposition by thermionically assisted triode reactive ion plating 1−16704
TiN_x coating, synthesis by activated reactive evaporation 1−16698
TiO, non-stoichiometric ceramics, physical props. *(Japanese)* 1−20415
$UNi_{5-x}In_x(Sn_x)(Zn_4)$, substitution study, X-ray obs., unit cell and microhardness 1−33294
V, oxidation behaviour, at high temps. at $P_{O2}=1.33\times10^3\sim1.33\times10^4$ Pa, comparison with results at $P_{O2}=0.133\sim133$ Pa *(Japanese)* 1−31742
V_3Ga multifilamentary wire, metallurgical processing and props. 1−53129
W rods produced by various methods, struct. 1−53143
W, single crystal, cutting effect on surface deform. 1−53344
W, vapour deposited coatings 1−38688
W_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
WC-Cu pseudoalloys, mech. props. 1−31615
Zn-Al (1.1 wt.%) superplastic alloy, elec. resistivity meas. rel. to annealing 1−43419
Zr based alloy, dispersion strengthened, nuclear reactor appl., mech. props. 1−43357
Zr-O, oxidised at 800°C, determ. of O conc. profile, by secondary ion emission and nuclear microanal. 1−21635
Zr-ZrV_2 supercond. eutectic, supercond. transition, microhardness and elec. resist. *(Russian)* 1−38877
$Zr+Zr_2Al\rightarrow Zr_3Al$ peritectoid transformation, further obs. 1−26445
$ZrNi_{5-x}In_x(Sn_x)(Zn_x)$, substitution study, X-ray obs., unit cell and microhardness 1−33294
ZrO_2-R_2O_3, solid solutions, (R=rare earth metal), microhardness, influence of nonstoichiometry and disorder *(French)* 1−38439

hardness testing
α-brass, Knoop microhardness testing, two diagonal meas. method to reduce scatter 1−4033
device for materials parameters determ. 1−43628
ferroelectric Curie point meas. cell. 1−31100
metals, Brinell tester with electronic timer 1−26688
micro-Vickers hardness tester, hot, with loading rate controllable device, functional features and metallurgical applications 1−35493
optical material microindentation hardness determ., meas. condition influence on accuracy 1−1660
polymers, using Al film indicator layers 1−21664
profilometry technique for measuring the yield strength of hard materials 1−31821
Rockwell C scale diamond indenters, survey of product standard 1−8523
steel, hardness measurement using acoustic emission 1−48608
Cu, Knoop microhardness testing, two diagonal meas. method to reduce scatter 1−4033

harmonic analysis
see also waveform analysis
cosmic rays anisotropy in interplanetary space, second harmonic from diffusion approximation 1−36124
cosmic rays lunar variations, harmonic anal. for neutron and meson components vars. 1−36140
Cygnus X-1 phase-locked polarisation vars., harmonics rel. to binary star canonical model 1−27632
frequency analysis of time window considering aural masking 1−19529
geomagnetic anomalies analysis, content and significance of mathematical models *(Rumanian)* 1−44338
geomagnetic data, determ. of harmonic coeffs. of solar and lunar daily vars. 1−17559
geomagnetic field, initial spherical harmonic model from Magsat vector data 1−17557
geomagnetic ten-year vars., spherical harmonic analyses 1−22195
gravity anomalies analysis, content and significance of mathematical models *(Rumanian)* 1−44338
Moon gravity field, distrib. of gravit. accel. and plumb-line deviations over lunar surface 1−13710
particle flux measurement in space, harmonic anal. of scan plane flux anisotropies 1−40308
lower stratosphere dynamics in wave number domain, harmonic and Fourier anals. rel. to monsoon activity 1−27230

harmonic generation
see also optical harmonic generation
acoustic oscillations, thermally driven in pipe, SHG 1−15304
albumin, saturation transfer spectra, microwave power depend. studied using modified EPR spectrometer 1−312
charcoal, resolution enhanced spectra obtained using modified EPR spectrometer 1−312
EPR spectrometer modified by additional circuits to detect second and third harmonic of saturation absorpt. 1−312
nonlinear acoustic wave propag. in anisotropic solids, surface waves *(French)* 1−20537
superconducting point contact, clean, efficient higher harmonic generation meas. near crit. current 1−20923
CdSe, hot-electron cond. characts. calc., scatt. mechanisms 1−25737
GaAs, p-n junction, avalanche and field emission breakdown, SHG 1−3049
Ge, p-n junction, avalanche and field emission breakdown, SHG 1−3049
Si, p-n junction, avalanche and field emission breakdown, SHG 1−3049
ZnO, second harmonic generation under hot-electron condition 1−30752

harmonic oscillators
analytic coherent states for generalized potentials, book contrib. 1−14048

harmonic oscillators continued
angular momentum coherent states, Heisenberg-Wyl and symplectic groups semi-direct product 1−5145
angular variables, expectation values and uncertainties 1−5149
anharmonic oscillation with anticommuting variables, classical dynamics and quasiclassical approx. *(Russian)* 1−118
anharmonic oscillator, energy correction calcs. using Dalgarno sum rule 1−9855
anharmonic oscillator, extended (2×2) algorithm modified by variational principle 1−44779
anharmonic oscillator, perturbation theory and variational principle *(Russian)* 1−23054
anharmonic oscillator, perturbation theory divergence and summation 1−18076
anharmonic oscillator, perturbation theory method for discrete spectrum *(Russian)* 1−23053
anharmonic oscillator in parametric resonance, quasienergy solns. of Schrodinger eqn. 1−14047
anharmonic oscillators, exact quantum-mechanical soln. 1−36528
atom+harmonic oscillator system, continuous quantisation procedure 1−29083
atom-molecule, infinite order sudden approx., wave vector modification 1−10808
boxed-in oscillator energy levels, perturbative, asymptotic and Pade-approximant solns. 1−18064
Brownian motion of frequency-modulated oscillator 1−40712
charged, in EM field, test of gauge invariance 1−18369
classical doubly anharmonic oscillator, exact solns., phase transform. model 1−17994
coherent harmonic oscillator, 3-D, expectation values and uncertainties of radial and angular variables 1−5149
colloidal suspensions, Brownian dynamics model 1−6886
cranked oscillator coherent states, properties and applications, review 1−5711
damped harmonic oscill., quantum mechanical treatment *(Chinese)* 1−84
damped harmonic oscillator, Bohlin's and other integrals, teaching 1−40627
damped harmonic oscillator, complex Hamiltonian calculus 1−5157
damped motion, gausson-conserving descriptions 1−49975
damped oscillator pure state representations 1−27823
damped time-dependent harmonic oscillator, constants of motion and non-stationary wave functions 1−5156
deformed nuclei Hartree-Fock calcs., oscillator optimum parameters *(Russian)* 1−14483
dissipative system, Caldirola-Montaldi eqn., time-dependent soln. 1−23040
double well anharmonic oscillator, saddle point method 1−27824
doubly anharmonic, exact solns. 1−23048
eigenvalues for oscillator perturbed by potential $\lambda x^2/(1+gx^2)$ 1−36526
excitation and resonance, Fourier anal. for teaching 1−27716
Fokker-Planck eqn. solution with and without manifest detailed balance 1−32917
friction in dissipative system 1−49971
functional integration through inverse scattering variables 1−23051
gravitational wave detection, effect on oscillator 1−143
Green's function, perturbed equations for harmonic oscillator with finite perturbation near poles *(Russian)* 1−44774
Hamiltonian calculus, complex, linearly damped harmonic oscillator 1−5157
Helmholtz resonators in electrodynamics strongly coupled circular cylinders 1−19247
homogeneous quadratic Hamiltonian, quadratic invariant charact. 1−9872
instantons in 1/N expansion, anharmonic oscillator, inverse scatt. in 1-D 1−5492
integrals of motion 1−17991
interacting harmonic oscillators, time evolution operator 1−9865
iodomethane, vibr. mols., rot. correl. functions and mol. dynamics 1−6231
ionisation wave randomisation and self-modulation, nonlinear oscill. as source 1−38171
isotonic oscillators, coherent states 1−36529
isotropic anharmonic oscillator, energy levels 1−5142
Lorentz-Dirac equation for one particle, nonrelativistic case 1−40937
Morse chain, one-dimens., large amplitude vibr. motion, quantum theory 1−88
multi-dimensional harmonic oscill., perturbation theory algebraisation *(Russian)* 1−49984
nonlinear oscillator, influence of radiative friction on induced radiation *(Russian)* 1−51358
nonperturbative method for energy level and scatt. integral eqn. soln. 1−44789
nuclear internal motion, identification of shell model states 1−36910
oscillations and waves *(Hungarian)* 1−23034
oscillators excited by weak external force, ensemble statistics 1−18055
planar itinerant oscillator, basic props. 1−44839
point spectrum changes, rel. to potentials, anharmonic oscills. with exact solns. 1−112
polyatomic molecules, photochemical dissoc., unimol. rate const. determ. 1−13021
pseudo-free oscillator, operator equation of motion 1−27814
pulsating states for quantal harmonic oscillator 1−5159
quadratic Hamiltonians, complex structure on phase space 1−49961
quadrupole oscillator, anharmonic multipole descendants 1−36530
quantum Langevin equation 1−32872
radial variables, expectation values and uncertainties 1−5149
radiation field, generalised Glauber operator and two photon coherent state connection 1−468
radiation-damped harmonic oscillator, quantisation 1−27802
radiative matrix elements, double generating function 1−5148
Ray-Reid systems, generalisation 1−49980
relativistic harmonic oscillator model, Poisson bracket and wave function approaches 1−45127
semiclassical theory, exactly soluble Hamiltonian with coordinate dependent mass 1−107
spectral structure, raising and lowering operators, algebraic technique, teaching 1−9803
stochastic frequency and driving force, equal-time second-order moments 1−44764
stochastic mechanics, thermal mixtures 1−36518
strong coupling harmonic oscillator potential with weakly coupled linear and cubic anharmonicities 1−23035
three-body problem for a generalized power potential, wavefunction, appl. to harmonic and anharmonic oscillator 1−36522

harmonic oscillators continued
unimolecular reaction dynamics, mode specificity 1−12982
He, ground state anharmonic oscillator, Pade type var. function 1−41291
harmonics
see also harmonic analysis
bilayer lipid membranes, generation of higher alternating-current harmonics 1−17353
electrical mains signal harmonic distortion meas. *(Spanish)* 1−33006
Lissajous' figures, generation, computer calcs. 1−49915
Hartmann lines *see Luder's bands*
Hartree calculations *see SCF calculations*
Hartree-Fock approximation *see HF calculations*
Hartree-Fock calculations *see HF calculations*
Hasiguti relaxation *see anelastic relaxation; dislocation damping*
He *see helium*
headphones
see also earphones
damping and acoustic sealing effects in headphones DT 48 *(German)* 1−46646
dummy head-headphone system, equalisation method for precise reproduction of original sound 1−6743
health effects of radiation *see biological effects of radiation*
health hazards
see also biological effects of radiation
380 kV power transmission lines, biological effects on people in neighbourhood *(Dutch)* 1−8896
arc-welding, UV radiation hazzards to welders meas. 1−22082
atmospheric pollutant particle surface characterisation by Auger and X-ray photoelectron spectroscopy 1−4241
comparative risks from different energy sources, study methods evolution 1−26824
electric current injury risks during medical appls. *(Italian)* 1−35847
electromagnetic fields, sources and biological effects, protective health measures and regulations *(Portuguese)* 1−49065
environmental respirable particle sampling by inclined surface impaction 1−21960
fluorescein angiography, risks in ophthalmological diagnosis 1−35868
fusion energy production, radiation problems 1−43920
geology field samples, radiation hazard 1−9068
hearing impairment, compensable, distribution in USA industry 1−41923
hydrocarbon monitoring for skin contamination, luminesc. method 1−13309
industrial noise, individual ear protector *(Hungarian)* 1−32262
laser hazard evaluation and safety standards 1−43899
laser radiation standards 1−53821
laser use and hazard assessment in surveying and construction industry 1−44031
mechanical hazards in clinical equipment, preventive maintenance, risk classification and safety 1−13336
medical diagnostic X-ray exposure reduction techniques 1−32261
medical radiation exposure, evaluation of risks, thyroid effects review 1−53892
non-ionising radiations, energies and hazards 1−43898
nuclear power, health hazards rel. to other forms of power 1−26857
nuclear power production, review 1−39973
occupational vibration, study, USA 1−43890
ophthalmic devices, pot. hazards due to retinal light exposure 1−35816
power reactor radiation dose acceptability determ. and health hazard monitoring 1−45738
quartz and coal mine dust, toxicity measurement appl. 1−8141
radiation, 25 years of collaborative research 1−44687
radiation exposure, risk assessment 1−35829
radiation problems in fusion energy production 1−49132
radiation-induced cancer death and dose meas. for radiation workers 1−32254
radiations, ionising and nonionising, meas. standards for assessment, conf., Teddington, England (Jul. 1980) 1−17926
radioactive materials, penetration of protective gloves as a route of intake 1−27010
radioactivity and human health, high background area of China 1−32208
recreational noise, occupational hazard for audio engineers 1−43880
respirable airborne silica determ. by X-ray diffr. analysis 1−35736
RF dielectric heaters elec. and mag. field intensity meas. in region near device, survey 1−4325
RF health hazard controvery and modification of standards 1−43896
risks due to nuclear power production, assessment 1−23859
risks from different energy sources, methodological comments 1−26825
Pu intake by humans, estimation of risks 1−53834
Ra dial painting and Florence Kelly 1−17981
^{219}Rn, radiological charact., U ore processing facilities 1−9043
^{222}Rn and decay products, estimate of risk from environmental exposure 1−53828
^{222}Rn from insulation of buildings, health effects 1−43904
^{222}Rn, health hazard in geothermally active areas and spas 1−4329
U, distrib. in dental porcelains, fission track obs. *(Japanese)* 1−9008
hearing
see also bioacoustics; ear; hearing aids; speech
2f1-f2 cubic difference tone, meas. with binaural masking-level difference 1−39938
acoustic impedance meters, real-ear calibration of ipsilateral acoustic reflex stimuli 1−26972
acoustic nerve and cochlear nucleus evoked pots., changes due to repetitive stimulation 1−4290
acoustic reflex growth in the aging adult 1−4294
acoustic reflex thresholds in young and elderly subjects with normal hearing 1−39940
acoustic source localisation, aspects of simulation 1−22021
action potential responses in forward masking paradigms rel. to auditory nerve fibre responses 1−49004
AM of sinusoidal tones, subjective magnitude of differences *(German)* 1−4285
audio-bandwidth requirements for optimum sound signal transmission, listening tests 1−37742
audiograms rel. to hearing impairment 1−32217
auditory backward inhibition in concert halls 1−1776
auditory evoked magnetic field of the human brain 1−4303
aural masking, consideration in frequency analysis of time window 1−19529
binaural detection of sonar signals 1−29466
hearing continued
brain events underlying detect. and recognition of weak sensory signals 1−49016
brain potentials, endogenous, associated with selective auditory attention 1−17402
brain stem auditory evoked potentials for monaural and binaural stimuli 1−17403
brain stem auditory evoked response, mastoid electrode contribution 1−43882
brain stem evoked potentials, computer identification 1−17509
brainstem anomalies in human albinos 1−39943
brainstem auditory evoked potentials, monaural versus binaural stimulation, multiple sclerosis detect. 1−49002
brainstem auditory evoked pots., cat, effects of temp. and acute alcohol intoxication 1−4291
brainstem auditory evoked pots., latency differences, ipsilateral rel. to contralateral stimulation 1−49001
brainstem auditory evoked pots., the use of noise estimate 1−32266
brainstem auditory evoked response, abnormalities in severely and profoundly retarded adults 1−32136
brainstem auditory evoked responses recording, determ. of earphone acoustic condensation and rarefaction 1−22083
children with congenital rubella syndrome, audiological findings 1−32146
click evoked brainstem potentials, effect of click intensity 1−32141
cochlea of rat pup, combined effects of amikacin and acoustic trauma during sensitive period *(French)* 1−32131
cochlear fluid mechanics, signal anal. in terms of statistical hydromechs. and functional calculus 1−32148
cochlear microphonic potential, source along the basilar membrane 1−26910
cochlear nonlinear mechanics affected by alteration of endolymphatic pots. 1−49015
cochlear nonlinear microphonic pots. rel. to acoustic intensity variation rate 1−49014
critical-band rate and bandwidth, analytical expressions as function of frequency 1−13258
deafness mice, nature of inherited deafness 1−13259
dichotic consonant-vowel recognition at various interaural temporal onset asynchronies, effect of age 1−11259
diffuse cortical evoked auditory response in baboons exposed to intense impulsive sound *(French)* 1−32130
directional characts. of acoustic receiver of leopard frog, eighth nerve auditory response 1−13255
discreteness of auditory information *(Russian)* 1−35788
discrimination prediction from audiometric thresolds 1−49013
EEG M-wave and CNV, squirrel monkey, generality of cue modality and reward 1−4266
event-related potentials, age-related changes 1−17401
evoked brain potentials, enhanced average, method of computing 1−32085
evoked magnetic fields in human brain, source localisation 1−49021
evoked potential, middle latency, evidence for a primary cortical origin in cats 1−49003
evoked potential, signal statistics in objective detect. by the phase spectral method 1−32269
evoked potentials, algorithm for accelerated recording 1−44035
evoked potentials, averaged, rel. to AM stimuli 1−32135
evoked potentials, early, effect of varying stimulus polarity 1−49081
evoked potentials, human, binaural interaction 1−17404
evoked potentials of schizophrenics, P3 reduction obs. 1−26909
evoked response middle components, effects of stimulus rise/fall time and equivalent duration 1−43883
evoked responses in brainstem and auditory cortex after total destruction of cochlear receptor 1−53795
evoked responses in the brain stem, suprathreshold tone-burst stimuli 1−26912
fatigue effects on loudness of masked and unmasked noise *(French)* 1−13251
forward masking, relation between pitch and MMF shifts 1−49010
frequency discrimination, possible culture-bound effects 1−32143
frequency following response, suppression during visual attention, cat expts. 1−17405
frequency selectivity in normal and presbycusic subjects 1−39941
frequency selectivity in normally-hearing and hearing-impaired observers 1−35787
Glires, behavioral audiograms for four species 1−32137
harmony and nonharmonic partials 1−15330
hearing levels in school children 1−51661
hemispheric potentials evoked by speech sounds during discrimination tasks 1−4293
HF audiometry, clinical aspects 1−43931
impact noise induced temporary threshold shifts, multiparametric study 1−32139
impairment, acoustic aspects of training with and without a hearing aid 1−32147
impairment, compensable, distribution in USA industry 1−41923
information processing comparison, insects and birds *(German)* 1−13260
infrapitch echo detection 1−13257
interaural time differences in cats, neurophysiology of sound localisation 1−32138
Javanese speech perception and pitch, comments on Divenyi's ideas 1−29479
localisation of signals in presence of masking tone *(French)* 1−4289
loudspeaker Doppler distortion audibility tests for music reproduction 1−29499
magnetic auditory responses from the human brain 1−26918
masking effect for instrumental musicians *(German)* 1−11263
middle ear, normal reflex thresholds, white noise and acoustic clicks, young adults 1−26911
multichannel amplitude compression and linear amplification for persons with sensorineural hearing loss 1−49008
multidimensional analysis of male and female voices 1−11262
music, acoustical props. of synthesised electronic organ *(Hungarian)* 1−6726
noise hazard assessment at high intensities, implications of critical level in ear 1−39937
personal ear protection for industrial hearing conservation programmes, limitations 1−32264
pitch and timbre in a two-tone dichotic auditory illusion 1−49009
pitch perception for nonsimultaneous harmonics in quiet and noise 1−49006

hearing continued
profound hearing loss, hearing performance inventory and hearing aid use 1−4296
protection, difference in efficiency between earplugs and earmuffs 1−44030
protectors, performance analysis 1−44029
protectors, performance in industrial noise environments 1−27008
psychoacoustic investigation of listening with quadraphonic earphones 1−15332
psychophysical tuning curves in parakeet, comparison between simultaneous and forward masking procedures 1−32144
pure tone audiograms from hearing-impaired children, information summarisation 1−43881
pyschophysical freq. resolution and auditory filter shape, level dependence 1−13253
recreational noise, occupational hazard for audio engineers 1−43880
responses of auditory-nerve fibres to single tones, relationship between spike rate and synchrony 1−13256
room acoustics for the aged 1−29460
secretary otitis media, negative middle ear press. and hearing thresholds obs. 1−26913
sensory neurons, existence of stimulus-event relations, statistical method 1−26908
signal detection, slow wave and P300 correln. 1−32134
sound images positioning, influence of binaural hearing aids 1−39942
spectro-temporal receptive fields of grassfrog auditory neurons, tonal and natural stimuli characterisation 1−32132
spectro-temporal receptive fields of grassfrog auditory neurons, stimulus-event relation for tonal stimuli 1−32133
speech discrimination and hearing loss sloping to high freqs. 1−43884
speech disturbed by fluctuating noise, preferred listening level 1−8880
speech perception in young severely retarded children and normally developing infants 1−4295
speech sounds, summated evoked pots., cerebral dominance for language determ. 1−4292
subjective assessment of acoustic timbre differences *(German)* 1−46637
superior colliculus, mammalian, integration of visual and auditory space, cat obs. 1−17388
temporary threshold shift from impulsive and continuous noise 1−4288
temporary threshold shifts induced by vibratory stimulation 1−22022
Terhardt's pitch learning hypothesis, comments 1−29480
time constant of cochlear potentials produced by defined Gaussian-shaped condensation and rarefaction acoustic impulses at ear drum *(German)* 1−4286
time error in perception of sound brightness 1−15334
time-constant of cochlear potentials resulting from defined Gaussian-shaped condensation and rarefaction impulses at ear-drum, meas. apparatus *(German)* 1−4287
tinnitus and 2-tone forward masking patterns 1−49012
tonal pattern discrimination, components of well-learned patterns 1−39939
training of hearing-impaired pre-school children, conf., Hindsgavl Castle, Denmark (Sept. 1980) 1−27664
two-tone masking in normal hearing listeners 1−13254
ultrasound irradiation effects in MHz range on aural labyrinth 1−39962
US echo reinforcement system for the blind 1−17465
verbal transformations, effect of number of repetitions and intensity level of stimuli varying in voice onset time 1−11260
vocal register 'shift' identification in a modified breathing atmosphere 1−49011
women survivors of myocardial infarction, hearing for pure tone air-cond. obs. 1−26914
word recognition, effects of age and sensorineural hearing loss 1−43885

hearing aids
binaural, influence on positioning of sound images 1−39942
implantable 8 channel stimulator for the deaf 1−44048
implantable prosthesis, multichannel, fabrication and packaging 1−32313
measuremnts using revised standard (ANSI S3.22-1976) 1−4389
performance testing by the Winchester Engineering and Analytical Center 1−32315
problems and ways to improve them 1−44044
profound hearing loss, hearing performance inventory and hearing aid use 1−4296

heart *see cardiology*

heat
see also heat transfer; heating; latent heat; specific heat; temperature; terrestrial heat; thermal variables measurement; thermodynamic properties; thermodynamics
flux, evolution and fluctuations, Ginzburg-Landau constitutive equations 1−23136
SI system of units, basic terms and values *(Croatian)* 1−14091

heat capacity *see specific heat*

heat conduction
see also thermal conductivity
active linear media, heat propagation by heat conduction 1−11286
annuli, concentric spherical, natural convection, finite difference anal. 1−6864
approximations, high-order near best uniform 1−19544
astrophysics, equilib. of heated gas clouds cooling by conduction in external gravit. field 1−49491
astrophysics, equilib. of heated self-gravitating masses cooled by conduction 1−49490
bilaminated composites with bonds, low freq. heat conduction, continuum modeling 1−24652
boundary-value problems, time-space boundary element formulation 1−40654
channel flow, flowing liquid tansient solidification at heat conducting wall 1−2078
channel flow, Graetz type, transfer problems, integral transform technique 1−2079
circular heat source, large time solns. for temperatures in semi-infinite body 1−33868
composite body, temp. distrib., inclusion shape effects 1−11287
composite media, boundary elements for heat conduction 1−51687
composite wall with crenelated ambient temp. variation, transient heat conduction, thermal anal. *(French)* 1−29509
convective-conductive heat transfer, finite element soln. 1−24781
cooling of heated surface by a spray, conduction-controlled model 1−38618

heat conduction continued
coupled conductors, heat flow rel. to thermal coupling, temp. distrib. 1−29506
cylinder, temperature and heat flux known on parts of boundary *(Russian)* 1−29508
discontinuous initial data, odd-even hopscotch algorithm 1−37762
discrete model, nonequilib. thermodynamics of heat conduction 1−9805
electron microscopes, fixed beam and scanning transmission, dose-rate effect at low temps. due to object-heating 1−18335
finite element method appl. to heat equation and elliptic boundary-value problems 1−15359
finite system diffusive processes, effective time const. assignment 1−11284
flash method of measurement, one-dimens. problems, theory 1−6746
freezing on finned tube, conduction-controlled or natural-convection-controlled heat transfer 1−37780
gas, compressible, nonstationary spatial motions Navier-Stokes equation, numerical integration method 1−46767
gas, self-gravitating, threaded by mag. fields, effects of anisotropic thermal cond. on heating 1−4753
halfspace, grey, optically thick, radiation and cond., integral anal. 1−1804
horizontal flame propagation, heat conduction and radiation 1−24661
hydrodynamic lubrication, of sliding axial bearings with plane parallel surfaces, load bearing capacity and heat develop. *(German)* 1−33946
inhomogeneous media discretised by boundary vol. element, transient heat conduction 1−14576
inverse problems, analytic soln. method 1−37764
layers, mixed heat cond. problem *(Russian)* 1−15361
Lorenz model, effect of external random forces on static and dynamic behaviour 1−42051
microthermopolar fluids, Couette flow between concentric rotating cylinders 1−1955
natural convection in enclosures, conf., Orlando, FL, USA (July 1980) 1−15
neutron stars, relativistic thermal cond. coeff. rel. to growth of temp. with depth 1−22827
nonlinear heat conduction with source, parabolic equations, solution comparison methods 1−24648
nonlinear heat exchange problems, soln. 1−11288
nonlinear media, dissipative thermal struct. interaction 1−24649
nonstationary heat conduction problems for bodies of complex cross-sections with heterogeneous through inclusions *(Ukrainian)* 1−37761
nonstationary three-dimensional heat conduction, time varying heat exchange coeff. *(Ukrainian)* 1−29507
nuclear fuel slab, one dimensional temp. distribution determination using Maxwell-Cattaneo-Vernotte heat conduction theory *(Italian)* 1−1799
numerical anisotropic heat conduction solutions using boundary-fitted coordinate systems 1−24651
one dimensional absorbing emitting and anisotropically scatt. medium, conduction and radiation 1−24650
optimal dynamic filtration for identification of heat-exchange parameters 1−1797
parallel plates, liquid metal turbulence, heat transfer coeff., streamwise molecular heat conduction effects 1−24799
photoacoustic effect at first-order phase transform., theory 1−42122
plate, temperature and heat flux known on parts of boundary *(Russian)* 1−29508
polymer film materials, oriented, method and apparatus for determ. heat-conduction anisotropy 1−11285
rarefied gases, heat conduction, cylindrical geometry, arbitrary accommodation 1−29729
reactor rod bundles, subchannel anal., conduction mixing lengths 1−23738
regular and singular perturbation methods, review 1−6745
response function for transient heat conduction in semi-infinite medium 1−29504
review of heat transfer 1−33956
rigid heat conductor with thermal memory, boundedness and asymptotic behaviour of temperature 1−19543
rod, coupled nonlinear thermoviscoelastic wave propag. 1−6787
rotating box, flow generated by temperature gradient 1−15494
rotating shafts, heat propag. due to torsional vibr. 1−29604
semitransparent optically thick body, soln. of nonlinear heat transfer problems 1−46655
shock wave converging toward symmetry centre in heat conducting gas 1−51811
small object in semi-infinite solid, detection using temp. field 1−41940
solar atmosphere, radiative and conductive cooling model rel. to heating of thermally conducting stratified medium 1−32676
solid surfaces, third-order heat conduction eqn. for heat fluxes *(Russian)* 1−51688
solid to solid contact, heat conduction, lack of uniqueness 1−24653
solids, thermophysical characteristics determ. using methods based on soln. of linear heat cond. eqn. 1−52370
sphere, temperature and heat flux known on parts of boundary *(Russian)* 1−29508
spin combustion, phenomenological theory 1−31862
Stefan problem, 1-D, with mixed boundary condition, variable time step methods 1−37779
stellar accretion and winds, solns. to spherically symmetric problems including thermal cond. 1−22777
superheated liquid in semi-infinite mould, solidification 1−24654
temperature field determ. for right-angled parallelipiped with local heating, mixed conduction *(Russian)* 1−46654
temperature fields in composite structures with variable contact between coupled elements, calc. 1−6747
temperature wave speed, expression derivation 1−37763
thermal self-insulation of localized structures in media with volume heat absorption 1−33869
thermoviscous fluid wave propagation, magneto-fluid dynamics 1−2098
time-space boundary elements for transient heat conduction problems 1−29505
transient convective-conductive heat transfer, CONDIF code user manual 1−29512
transient convective-conductive heat transfer, explicit finite element soln., book contrib. 1−19718
transient convective-conductive heat transfer, finite element anal. of CONDIF code 1−29511
two dimensional problem, numerical soln. by difference method *(German)* 1−37765
two-phase flow, combined conductive, convective and radiative heat transfer additivity 1−29679
unidirectional regenerators, heat transfer behaviour 1−11393

heat conduction continued
vertical flat plate, free convection heat transfer, axial heat conduction effects 1−19545
viscous fluids, heat conducting, wave propagation, non-stationary thermodynamics 1−44867
Ar glow discharge, thermal balance on closely ranged electrodes 1−52000
Ar, rarefied gas, heat exchange, nonsteady hot-filament method using RC oscillator 1−11491
CO_2, rarefied gas, heat exchange, nonsteady hot-filament method using RC oscillator 1−11491
^4He, superfluid, heat conduction through narrow channels and phase separation at zero gravity 1−52379
LMFBR core meltdown, temp. distrib. and comp. of UO_2 particle bed. 1−5864
N_2, rarefied gas, heat exchange, nonsteady hot-filament method using RC oscillator 1−11491

heat content *see enthalpy*

heat convection *see convection*

heat dissipation *see cooling*

heat engines
1-kWe free-piston Stirling engine/linear alternator test program 1−53653
Carnot engine cycle, thermal efficiency, optimum disposal of waste heat, second law anal. 1−17236
ferroelectric material application for heat to electrical energy conversion 1−53633
foam OTEC system 1−8735
free-piston Stirling engines, applications 1−53654
irreversible, with fixed compression ratio, optimal config. determ. 1−216
laser, industrial, technical efficiency higher than physical efficiency 1−33700
mist-lift OTEC cycle, open cycle concept using hydraulic turbines 1−8736
organic Rankine cycle engine 40 kW, experimental results and economics 1−48896
organic Rankine cycles for conversion of waste heat and solar heat into mechanical energy 1−35696
Organic Rankine Dynamic Isotope Power Systems, unique features and capabilities review 1−48897
OTEC operation possibilities and economics 1−26845
OTEC power systems, Westinghouse concept 1−8734
OTEC with closed Rankine cycle using NH_3 1−8733
parabolic dish solar collector 1−48908
parabolic dish solar thermal power plants 1−48898
photocell heat engine solar power systems 1−48853
Rankine cycle, prospects for solar energy conversion *(Japanese)* 1−43797
Rankine engines, organic working fluids maximum temperatures, thermal instability and chemical reaction 1−48895
Rankine-cycle free-piston refrigerator with 3 heat sources *(French)* 1−21895
residential heat pumps in northern climates, energy and cost analysis 1−48901
review of heat pumps and energy savings in new energy development *(Japanese)* 1−48894
solar absorption refrigerator systems, design and operation *(Japanese)* 1−43798
solar thermal power stations, thermodynamic anal. of Rankine cycle and working fluids 1−17287
Stirling cycle thermomechanical generators for low power uninterrupted supply over long periods, operating experience report 1−13156
Stirling diaphragm engine heat-activated heat pump 1−48900
Stirling engine power system development and test results 1−53651
Stirling engines for developing countries 1−53652
Stirling heat pumps, heat activated, analysis 1−48899
Stirling P40 engine, design characteristics and test results 1−53650
Stirling traction motors with regenerative braking capability 1−53655
thermodynamically reversible heat engines, exergy conservation 1−13151
thermoelectric heat pump, universal design curves 1−48902
N_2 liquid as automotive heat engine working substance 1−48809

heat exchange *see heat transfer*

heat exchangers
see also cooling towers
absorbers using ambient air as heat source for heat pump heating installations *(German)* 1−53642
chemical heat pump, hydrogen conversion and storage system, HYCSOS 1−21889
circular fins, optimum dimens. with variable thermal parameters 1−41941
circulator, closed cycle, for high energy pulsed lasers, fluid and heat flow anal. 1−46364
computational dynamic modeling of thin film evaporators and condensers 1−19715
condenser, gas cooled, tube row effect *(German)* 1−37782
cross-flow heat exchange with primary fluid mixing, CROSSMIX 2-D model 1−28585
crossflow tubular parallelepipedic heat exchangers, optimisation *(French)* 1−27970
direct contact heat exchanger, heat transfer characts. and appls. in geothermal power generation and OTEC systems 1−53643
direct contact heat recuperation for nuclear powered gas turbine plant 1−33341
direct electrical analog model 1−44931
droplets, evaporating floating immiscible superheated, direct contact heat transfer, numerical anal. 1−1809
Earth heat exchangers, use of the Earth as natural heat source for heat pumps 1−21841
FBr, Na flow distribution test of air cooler tubes *(Japanese)* 1−5827
flow calorimeter with active heat exchangers 1−18231
gas-water contact heat exchange during adiabatic evaporation, math. model 1−11405
heat transfer calc. using regression analysis *(German)* 1−19550
HTGR, secondary cooling system simulation *(Japanese)* 1−742
interfluid energy transfer regenerator voidage, digital simulation 1−50138
investigation of heat exchange and hydraulic resistance in heat exchange device with swirl flow 1−6749
large cryogenic systems, refrigeration power minimisation 1−44935
laser, industrial, technical efficiency higher than physical efficiency 1−33700
latent heat thermal energy storage with phase change materials, heat exchanger performance 1−21930
liquefier design for H_2 and D_2 using boiling off of He vapour 1−5321
liquid metal cooled reactor, heat exchangers, thermal-hydraulic calcs., homogeneous model 1−28529

heat exchangers continued
LMFBR, dynamic response of heat exchangers to flow and temperature perturbations 1−28544
nonuniform passages in compact heat exchanger, effective friction factors and Nusselt numbers 1−24785
OTEC, 40 MW grazing and moored pilot/demonstration plants, design and costs 1−53646
OTEC, 50 kWe powerplant, performance review of Mini-OTEC program 1−53645
OTEC 25 MW plant, jacket (tower) design application 1−53648
plate arrays, discrete in-line, staggered, continuous, convection, numerical finite difference calc., comparison 1−1803
pool type LMFBR, design 1−23229
rocks bundle, unsteady convective heat exchange in viscous incompressible fluid 1−46744
second law analysis in heat transfer processes and equipment 1−15360
solar collectors, definition of heat exchanger effectiveness 1−8748
solar heat source development using low temp. heat exchangers *(Chinese)* 1−48904
solar water heating system with thermosyphon double loop, effectiveness of heat exchanger 1−17273
sound speed in tube bank, direction-dependent 1−1746
steam reforming plant heated by HTGR, process feasibility and investment cost evaluation of hydrogasification 1−48916
steel durability evaluation, aluminised, of warm air heater *(Japanese)* 1−53381
super compact, porous media enhances heat transfer 1−33871
surface design efficiency procedure *(Russian)* 1−9977
surfaces, heat-exchange, superheat, first boiling crisis, free convection conditions 1−15366
synthetic fuel production, development of falling-bed fusion blanket system 1−53534
thermal energy storage using fluidised bed heat exchanges, technical and economic assessment 1−53687
thin radiant body, laminar and turbulent flow, conjugate heat exchange *(Russian)* 1−1978
three channel, for cryogenic plant, heat transfer equations 1−44930
tubes with internal helical finning, heat removal intensification 1−37773
tubular heat exchangers, mathematical models *(Hungarian)* 1−24655
welded joints, ultrasonic flaw detection, using electronic apparatus *(Russian)* 1−16983
$FeSO_4$ passivation procedure for brass condenser pipes in power stations *(Rumanian)* 1−16961
$LaNi_5H_x$ heat exchangers, charging rates and operating characts. 1−18236

heat flow *see heat transfer*

heat insulation *see thermal insulation*

heat losses
see also thermal insulation
coupled conductors, heat flow rel. to thermal coupling, temp. distrib. 1−29506
flat plate collectors, anal. of cover spacing to minimise convective losses 1−32040
human, method for meas. of regional losses 1−22150
insulated pipe for hot water, energy losses 1−51690
pacemaker and pacemaker power cells, microcalorimeter for meas. of self-discharge heat losses 1−17524
radiative loss reduction coating performance, 77 to 4.2K 1−51693
solar flat-plate collector, free convection and shading due to spacing between absorber plate and cover glazing 1−39820
solar flat-plate collectors, heat loss coefficients and collect efficiencies computation at various temps. 1−39818
thermal energy storage unit, size effect rel. to heat losses *(Japanese)* 1−8760
Ar glow discharge, thermal balance on closely ranged electrodes 1−52000
H_2, supercritical storage tank heat leakage by natural convection 1−48918
Xe, flash lamp, short discharge time, heat losses 1−15674

heat measurement *see thermal variables measurement*

heat of adsorption
dinonylnaphthalenesulfonate, corrosion inhibitor, mechanism, heats of adsorpt. 1−39673
Freundlich-type multicomponent adsorption isotherm 1−38646
gas-solid physical adsorption, uniform interpret., general isotherm eqn. 1−38622
graphite, adsorption of ehtylene, spreading press. and enthalpy 1−7450
graphite, exfoliated, Ne-coated, adsorption of ^4He, 2 to 10K 1−34569
heterogeneous gas-solid system, activation heat eqns. 1−30569
heterogeneous surface, thermodynamical value of adsorption of atoms *(German)* 1−53475
inert gas nonregistered monolayer and bilayer solid films, coexistence, statistical mechanics 1−25570
temperature dependence of adsorption, thermodynamic analysis, isoergs concept, isotherm eqn. 1−38647
transition metal surfaces, adsorption of CO, NO and N_2, thermodynamics 1−30544
Eu adatoms on (100) W, conc. depend. of lifetime and heat of adsorption 1−25574
$Fe_{0.5}Ti_{0.5}H_x$, in equilib. with H_2 gas, phase diagram and thermodynamic parameters 1−8276
$^{160,161}HfCl_4$, thermodynamic props. by gas chromatography 1−26788
$^{90m}NbCl_5$, thermodynamic props. by gas chromatography 1−26788
Pt, chemisorption of H in acidic soln., LEED-AES electrochem. anal. 1−39685

heat of combustion
pyrene, vapour pressure, enthalpy of combustion, chem. thermodynamic props. 1−31899

heat of crystallisation
$CuInSe_2$-$CuInS_2$ system, interaction of components, physicochemical characteristics 1−31432
SiO_2, vitreous, refinement of random network model 1−7085
$Ti_{50}Be_{40}Zr_{10}$, amorphous, crystn. behaviour during continuous heating mode 1−30083

heat of dissociation
alcohol-butyl amine complexes, heats of mixing, dissoc. and form. determ. 1−48722
alkali, monocyanides, atomisation energies, at. absorpt. spectrometric determ. 1−353

heat of dissociation continued
chalcogenides, binary glass-forming, enthalpy of atomisation and bond energy 1−39667
DNA, dry and hydrated states, DSC study 1−21977
CdO, solid, vaporisation thermodynamics and vapour comp., mass spectrometric investigation 1−52273
Ni-U-O system, equilib. phase relationships *(German)* 1−35238

heat of formation
alcohol-butyl amine complexes, heats of mixing, dissoc. and form. determ. 1−48722
alkali halides, solid soln., heat of formation 1−31898
alkanes branching errors, configs., heat of formation and reaction, NDO calcs. 1−19032
alkylbenzenes, thermodynamic props. modelling, chemical graph theory 1−4117
alloys, enthalpies of formation, mixing, contact interaction approach 1−42541
alloys, s-p electronic materials, heat of formation 1−48721
alloys, thermochemistry, expts., review 1−43696
binary alloys, with short-range order, enthalpy of formation *(Russian)* 1−31890
t-butyl radical, heat of form., dissoc. electron capture meas. 1−4118
complex formation with multidentate ligands, thermodynamic props., chelate effect 1−12965
complexation reactions, thermodynamic quantities, physico-chemical model 1−12967
cycloalkanes, branching errors, configs., heat of formation and reaction, NDO calcs. 1−19032
diazirines, MNDO calcs. 1−14823
dilute alloys, XPS core level binding energy shifts rel. to heat of formation 1−43249
2,2-diphenyl-1-picrylhydrazyl-I_2, complex, chemical stability, vapour pressure data, elec. cond. 1−21759
eutectic alloys, heat storage 1−8277
formamide cations, molecular fragments, struct. and energies 1−10664
hexamethylbenzene-iodine CT complex, thermodynamic and spectrophotometric props., solvent effects 1−48724
homonuclear and heteronuclear diatomic mol. of two transition metals, model predictions of dissoc. energies 1−46161
hydrides of intermetallic compounds, stability, struct., kinetics, review 1−53450
I-III-VI_2 semiconductors, diamond-like heats of form. 1−21757
II-IV-V_2, semiconductors, diamond-like heats of form. 1−21757
IV-VI compounds; cryst. struct. and cubic/rhombohedral phase boundary 1−2404
IV-VI compounds, cubic to rhombohedral phase transition, microscopic model 1−2384
methane, electron impact, ionisation, fragmentation and reson. heats of formation 1−24270
methylbromide-Kr^+, heat of formation from endothermic reactions, using tandem mass spectrometer 1−43691
naphthalene-I_2, complex, chem. stability, solidus-liquidus curve, elec. cond. 1−21759
organic ion, non-isomerised, metastable decomposition by higher energy pathway 1−17038
rare earth arsenides, bismuthides, bonding model, heats of form., melting points, theory 1−20110
rare earth trifluorides, standard enthalpies of form. estimation 1−53459
transition metal alloys, heats of form. from photoemission data 1−43243
transition metal alloys, T^{10}-B^1 and T^{10}-B^2, relations between structural and thermodynamic props. *(German)* 1−20129
transition metal surfaces, adsorption of CO, NO and N_2, thermodynamics 1−30544
Ag-Ge system, metastable phase, enthalpy of form. determ. *(German)* 1−31896
Ag_2S standard Gibbs energy of formation determ. using CaF_2 solid electrolyte 1−8577
$AlBr_3(I_3)$, cryst., standard enthalpies of form. 1−48719
As_2S_3, enthalpies of formation and high-temp. thermodynamic functions 1−13034
As_4S_4, enthalpies of formation and high-temp. thermodynamic functions 1−13034
Au-Ge system, energetics of formation of metastable phases *(German)* 1−8280
$BaUO_4$, heat capacity, 5 to 350K, thermodynamic props. to 1100K 1−31901
Be_2C, vapour press. and thermodynamics 1−26764
Bi-Ga-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
Bi-Ga-Zn, partial free energy, liquidus surface, enthalpies of form. 1−53456
Bi-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
Br_3^-, linear solvation energy relationships, free energies of form., solvent effects *(French)* 1−48717
$BrKr^+$, heat of formation from endothermic reactions, using tandem mass spectrometer 1−43691
CC BiO_3, mass spectroscopic study of gas-phase equilibria 1−39666
CO, physisorbed on Al(111), photoemission 1−6320
$Ca_2Nb_2O_7$, reduction by C, thermodynamic anal. 1−17041
CrS standard Gibbs energy of formation determ. using CaF_2 solid electrolyte 1−8577
Cs_2CO_3, enthalpies of solution and formation 1−4119
Cu-Al alloys, low temp. molar heat capacities and interrelations of thermodynamic props. 1−16055
$CuFeS_2$, chalcopyrite, high temp. thermodynamic props. 1−26763
$DyCo_5H_x$ (x=0 to 4.25), H_2 desorpt. isotherms 1−2803
Fe-O, equilibrium heating, to temp. of transition to gas-vapour phase 1−21710
FeS standard Gibbs energy of formation determ. using CaF_2 solid electrolyte 1−8577
$FeWO_4$, enthalpy and Gibbs free energy of form. 1−2638
Ga-Ge-Sn liquid alloys, liquidus surface phase diagrams and enthalpy of formation 1−21761
Ga-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
I chemisorption on Zr, AES study, thermodynamics of adsorbed layer form. 1−35571
I_3^-, linear solvation energy relationships, free energies of form., solvent effects *(French)* 1−48717

heat of formation continued
K-Cs, substitutional alloy, pseudopotential study of lattice parameter and heat of formation 1−30139
$KAlO_2$, heat capacity 5 to 303K, enthalpy of transition 1−31900
K_2O-V_2O_5 system, standard enthalpies of form. of vanadate phases 1−53453
La-H system, calorimetric-equil. method obs. at 917K, thermodynamic parameters 1−35565
$LaNi_5$, heat capacities, enthalpy of formation and entropies meas. 1−7348
$LaNi_5$, $LaNi_5H_{0.36}$ and $LaNi_5H_{6.39}$, heat capacities, entropies and enthalpies of form. 1−2654
α-$LaNi_5H_{0.36}$, β-$LaNi_5H_{6.39}$, heat capacities, enthalpy of formation and entropies meas. 1−7348
LaP, vaporisation thermodynamics, determ. by Knudsen effusion 1−30375
LiNCS dimerisation in aprotic solvents, IR and Raman vibr. study *(French)* 1−31847
Li_2O, vaporisation, thermochem. study using mass spectrometric Knudsen effusion method 1−13032
Li_2O-TiO_2 system, standard free energies of form. of $Li_2Ti_3O_7$ and $Li_4Ti_5O_{12}$ 1−53452
$Mn_{23}C_6$, enthalpy of formation 1−25461
MnS standard Gibbs energy of formation determ. using CaF_2 solid electrolyte 1−8577
$MnWO_4$, enthalpy and Gibbs free energy of form. 1−2638
Na_2O-V_2O_5-$2VO_2$ system, standard enthalpies of form. of $Na_{2+x}V_6O_{16-y}$ bronze 1−53454
Nb carbides, thermodynamic props. of struct. vacancies calc., heat of form. determ. 1−16064
Nb-O, equilibrium heating, to temp. of transition to gas-vapour phase 1−21710
Ni complex, macrocyclic complexes in soln., ligand ring size effect 1−8536
Ni complex formation stability, macrocyclic effect 1−13030
Ni-Au, relation between structural and thermodynamic props. *(German)* 1−20129
Ni-H, dil., electronic struct. and ordering of H 1−38746
Pd-H, dil., electronic struct. and ordering of H 1−38746
Pd-Si melts, short-range order and thermodynamic props. 1−30046
Pd_xAg_{1-x}, thermochemical anal. from XPS core level binding energy shifts 1−48236
PuH_x (x=1.9 to 3.0), phase equilibria and thermodynamics props. 1−3705
PuO, PuO_2, standard enthalpy of formation 1−31893
Sc alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120
$SiAl_2O_2N_2$(c) (β'), heats and free energies of formation, mass spectrometry 1−43695
$SiAl_4O_2N_4$(c) (15R), heats and free energies of formation, mass spectrometry 1−43695
$TaCl_n$ gaseous mols., thermodynamic props., mol. struct. and vibr., review 1−31895
Th-H system, thermodynamic study at 700K 1−30420
ThO, ThO_2, standard enthalpy of formation 1−31893
Ti alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120
$TiCr_2$, high temp. C14 form, hydride form., phase diagram and thermodynamics 1−8275
Tl+Tl_2O, standard enthalpy of form. of solid Tl_2O 1−48718
TmF_3, enthalpy of formation meas. 1−26762
UH_3, standard Gibbs energy and standard enthalpy of form., 450 to 750K 1−39669
UO, UO_2, UO_3, standard enthalpy of formation 1−31893
V alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120
V_2O_5, thermodynamics of chlorination in temp. range 850 to 930K 1−7357
W, oxidation kinetics and determ. of O diffusion in WO_3 1−53333
W, vacancy formation energy, and their conc. *(Russian)* 1−52130
Y+H_2, chemical thermodynamics, YH_2 enthalpy of formation 1−39606
YP, vaporisation thermodynamics, determ. by Knudsen effusion 1−30375
$ZnSnAs_2$, enthalpy and entropy of form., EMF method obs. 1−43692
Zr carbide, thermodynamic props. of struct. vacancies calc., heat of form. determ. 1−16064

heat of fusion
phase change thermal storage for solar heating 1−26855
polyethylene cryst. suspensions, heat of fusion, variation with crystn. temp. 1−7300
polymer crystals, heat of fusion, thermodynamics of melting 1−7299
Al_2O_3, electrical cond., enthalpy and heat of fusion determ. in temp. range 1570-3100K 1−52315
$CaSiO_3$, temp. depend. of relative enthalpy 1−30365
Fe-Si, melting equilibria, thermodynamic anal. 1−16754
Sc_2O_3, electrical cond., enthalpy and heat of fusion determ. in temp. range 1570-3100K 1−52315
Si:As, amorphous, phase transitions prod. by pulsed electron irrad. 1−30364

heat of mixing
acetic acid, in nonpolar solvents, dipolar thermodynamic excess functions, dielec. props. obs. 1−21115
alcohol-butyl amine complexes, heats of mixing, dissoc. and form. determ. 1−48722
alkali boroaluminosilicate glass+fused alkali nitrates, ion exchange, equilib. and kinetics 1−43660
alloys, enthalpies of formation, mixing, contact interaction approach 1−42541
alloys, phase diagrams, thermodynamic anal. and synthesis 1−43320
alloys, thermodynamic excess functions, approx. formulae 1−16062
butyric acid, in nonpolar solvents, dipolar thermodynamic excess functions, dielec. props. obs. 1−21115
ethanol-butylamine complex, H-bonded, heat of mixing determ. 1−47241
eutectic systems, thermodynamic excess functions, derivation from TX phase diagrams 1−20424
glass, temp. depend. of thermodynamic functions *(German)* 1−2653
metallic glasses, formation and decomp., thermodynamic investigations, review 1−43319
methane-propane mixture, phase equilibria, heat of mixing, vol. change on mixing, Gibbs free energies 1−9779
noble metal alloys, thermodynamic excess potentials, electronic components 1−20420
p 1−48325

heat of mixing continued
polydiacetylenes, abrupt dissoln. 1−52297
polymer-solvent system, phase separation, surface layer form. 1−38240
polymers, mean field theory, critical and 'uncritical' exponents 1−38295
propionic acid, in nonpolar solvents, dipolar thermodynamic excess functions, dielec. props. obs. 1−21115
thermodynamic excess functions, approx. formulae to fit alloy mass spectrometric data 1−16062
$AgCl-CdCl_2(MnCl_2)(FeCl_2)(CoCl_2)$ liquid mixtures, excess enthalpies 1−16046
Au-Si, metallic glass form., hybridisation, short range order, entropy determ. 1−30360
Au-Sn, liq., excess heat capacity anomalies, enthalpy of mixing 1−30410
Au-Sn liq. alloys, enthalpy of mixing 1−47244
Bi-bearing binary substitutional solns., thermodynamics 1−30426
Bi-Ga-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
Bi-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
Cd-Sb, thermodynamic props., critical evaluation 1−16063
$CdS_{1-x}Te_x$ solid soln., phase diagram calc. using microheterogeneous cluster struct. model 1−48334
Cs-CsF(CsCl)(CsI) liq. mixtures, thermodynamic props. at 925K 1−30395
Fe-Cr liquid alloys, activities meas. by transportation method *(Japanese)* 1−30393
Fe-Cr system, thermochem. data 1−48324
Fe-Cu liquid alloys, activities meas. by transportation method *(Japanese)* 1−30393
Fe-Si, melting equilibria, thermodynamic anal. 1−16754
Fe-Sn liquid alloys, activities meas. by transportation method *(Japanese)* 1−30393
$Fe_{1-x}Mn_xWO_4$, enthalpy of mixing 1−2638
Ga-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
In-Sb-Te ternary system, enthalpy of mixing at 918K 1−38540
K-Rb, liq., free energy and heat of mixing, ab initio calc. 1−42540
Mg-Pb(Sn), liquid alloy, temp. depend. of mixing enthalpy *(German)* 1−31428
Mo-Pd-Ru systems, fission products, thermodynamics and phase diagrams, calc. 1−43316
Na-Cs(K), liq., free energy and heat of mixing, ab initio calc. 1−42540
Na-Tl, liq., thermodynamic props. 1−16065
$PbCl_2$-KCl molten mixture, thermodynamic props. 1−25439
Sb-Zn, liquid alloy, association and its energetic effect *(German)* 1−39316
Sc alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120
Sn-bearing binary substitutional solns., thermodynamics 1−30425
Ti alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120
V alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120

heat of reaction
see also heat of combustion; heat of dissociation; heat of formation
adamantane carboxylic acid complex in cyclohexane, self-assoc. obs. using PMR 1−17050
alkanes branching errors, configs., heat of formation and reaction, NDO calcs. 1−19032
benzene+halobenzene mixtures, H^+ transfer equilib. consts., ICR spectra 1−53408
correlation energy of radicals, Rayleigh-Schrodinger perturbation calcs. heat of reaction, activation energies 1−18078
cycloalkanes, branching errors, configs., heat of formation and reaction, NDO calcs. 1−19032
graphite intercalation reactions, gas phase oxidation strengths and reactivity 1−39671
insulator-to-metal transition in oxides under high press., possibility of chem. reduction 1−7255
metal hydrides, rechargeable, kinetic and dynamic aspects for H_2 storage appls. 1−4046
microcalorimeter, fast, stopped-flow 1−50134
trimethyl acetic acid-DMSO-carbon tetrachloride system, PMR obs. of complexing reactions and parameters 1−17049
$3BeO.Al_2O_3.6SiO_2$, beryl, form. reactions mechanism and kinetics 1−43646
$CuFeS_2$, chalcopyrite, high temp. thermodynamic props. 1−26763
$NaF-BeF_2$, excess enthalpy, high-temp. calorimetry 1−11885
PtF_4, heats of charge-exchange reactions, mol. negative ion equilib., effusion method obs. 1−24240
PtF_6, heats of charge-exchange reactions, mol. negative ion equilib., effusion method obs. 1−24240

heat of solution
alkali halide crysts., solution energy of alkaline earth metal ions, lattice energy, calc. 1−30401
alloys, thermochemistry, expts., review 1−43696
binary systems, retrograde solubility 1−25442
metallic systems, high-melting, heats of soln. meas. in an EM levitation field *(German)* 1−7333
organic solutes, polar and nonpolar, enthalpy of interaction with perfluoro solvent 1−53451
urea, in H_2O-tetrahydrofuran mixture, enthalpy of soln. at 298.15K 1−21756
Al:H, lattice relax. energy due to impurity 1−30253
$AlBr_3(I_2)$, cryst., standard enthalpies of form. 1−48719
$AlPO_4$, solubility, cryst. growth, perfection 1−2630
CaI_2/Al, A=Cs-Na, thermochem. and struct. study *(German)* 1−48723
$Ca(IO_3)_2$, solubility and complexation in $(K,Na)NO_3$ melts 1−52295
$Ca_2MgSi_2O_7$-akermanite, two-phase silicate system, phase anal. by dissolution calorimetry *(Czech)* 1−30404
$CaSiO_3$, heat of fusion 1−30365
Cs_2CO_3, enthalpies of solution and formation 1−4119
Fe-Cu, heats of soln. meas. in an EM levitation field *(German)* 1−7333
Hg, H_2 dissolution 1−42543
$K_2S_2O_8$, enthalpy of dissolution in water at 298.15K 1−39670
$LaNi_5$, absorption of H_2, calorimetry within hysteresis loops 1−2631
MgI_2/Al, A=Cs-Na, thermochem. and struct. study *(German)* 1−48723
NaCl in H_2O-tetrahydrofuran mixture, enthalpy of soln. at 298.15K 1−21756
$NaClO_4$ in H_2O-tetrahydrofuran mixture, enthalpy of soln. at 298.15K 1−21756
NaI in H_2O-tetrahydrofuran mixture, enthalpy of soln. at 298.15K 1−21756
Nb-Si, high-melting, heats of soln. meas. in an EM levitation field *(German)* 1−7333
Sc alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120
Se in Pb, partial heat of soln. determ. by microcalorimetric meas., mol. associates, PbSe* *(French)* 1−48716
Ti alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120
$Tl+Tl_2O$, standard enthalpy of form. of solid Tl_2O 1−48718
V alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120
Zr_x foil, H_2 absorpt. and desorption 1−52296

heat of sublimation
cryogenic liquid and solid vapor pressure vaporisation/sublimation beloq 1 atm. 1−47217
methane solid cryogen contact heat transfer expts. 1−47221
shock poles of bodies with compact isotropic struct., calc. using Morse pot. *(French)* 1−38456
Ar solid cryogen contact heat transfer expts. 1−47221
CdO, solid, vaporisation thermodynamics and vapour comp., mass spectrometric investigation 1−52273
$Cs_2AlSi_2O_6$, evaporation, mass spectrometry study 1−7311
N_2 solid cryogen contact heat transfer expts. 1−47221
NH_4Br, heat capacity, 265 to 550K, II to I transition 1−16054
Tc, vapour pressure, sublimation enthalpy and melting point determ. 1−30374
ZrI_4 vapour over solid ZrI_x ($0 \leq x \leq 1$) in univariant region, thermodynamics of vaporisation 1−47220

heat of transformation
see also heat of crystallisation; heat of fusion; heat of sublimation; heat of vaporisation
acetonitrile, pVT data, phase transitions, volume changes, enthalpy and entropy calcs. *(German)* 1−20373
1,2-dichlorobenze dispersion, high press. phase transitions, DTA study *(French)* 1−38507
dodecane, pVT data, phase transitions, volume changes, enthalpy and entropy calcs. *(German)* 1−20373
liquids, excess electrons transport behaviour, rel. to other props. 1−47634
memory engine, work performing cycle efficiency, stress-depend. of latent heat of transform. 1−25463
naphthalene-tetracyanoethylene, orientational disorder, heat capacity and thermodynamic function meas. 1−16056
poly[N-(10-n-alkyloxycarbonyl-n-decyl)maleimides], side-chain crystallinity, heat of melting and thermal transitions 1−52087
pyrene-pyromellitic dianhydride, heat capacity and thermodynamic functions, 5 to 300K 1−16057
shape memory alloys, model free energy, mechanics and thermodynamics 1−25457
solid, instruments for thermophysical meas. 1−44914
tetrakismethylaminelithium(0), thermodynamic props., DTA study 1−34487
undecane, pVT data, phase transitions, volume changes, enthalpy and entropy calcs. *(German)* 1−20373
water, behaviour near surface of an illite, low temp. calorimetric study *(French)* 1−42544
o-xylene dispersion, high press. phase transitions, DTA study *(French)* 1−38507
Ag-Ge system, metastable phase, enthalpy of form. determ. *(German)* 1−31896
$Ag_{26}I_{18}W_4O_{16}$, solid electrolyte, specific heat changes, phase transitions, thermal anal. 1−34483
Ag_2S, $\alpha \rightarrow \beta$ transition, X-ray and thermographic investig. 1−52277
$Cu_{2-x}Se$, transition to superionic phase, unusual behaviour 1−7327
InI_x, x=1,2,3, solid-phase transitions at high press., disproportionation reactions 1−47227
NH_4NO_3, pyroelectric and dielec. behaviour at II-I phase transition 1−52899
Pd-Ti-H system, H solubility, pressure isotherms, miscibility gap 1−30391

heat of vaporisation
cryogenic liquid and solid vapor pressure vaporisation/sublimation beloq 1 atm. 1−47217
divalent metals, relation between dissociation enthalpy and heat of vaporisation 1−52270
isomer mixtures, latent heat of evaporation determ. 1−11853
liquid He refrigeration system multilayer thermal desorption calc. 1−2828
methane, eqn. of state of solid and fluid phases 1−16014
organic liquids, unassoc., polar and nonpolar, mol. configs. 1−37355
organic solutes, polar and nonpolar, enthalpy of interaction with perfluoro solvent 1−53451
As_2Se_3 amorphous films, glass transition characterisation by heat of vaporisation 1−30367
Hz, subcooled, boiling heat transfer and vapor bubble dynamics 1−47215
LaP, vaporisation thermodynamics, determ. by Knudsen effusion 1−30375
Li aluminates, vaporisation and thermochem. stability 1−52267
Na_2O-GeO_2 glass melts, thermodynamic functions, 1330 to 1540K 1−42552
ScF_3, vapour press. and vaporisation thermodynamics, meas. 1−20371
YP, vaporisation thermodynamics, determ. by Knudsen effusion 1−30375

heat of wetting *see wetting*

heat pipes
gas generation, physicochemical processes effect 1−17047
heat-pipe oven, press., density and vel. distrib. anal., device limitations 1−40870
metal vapour in heat pipe, number density meas., interferometric technique 1−44995
pipes with convective heat transfer, parameters 1−50124
solar receivers in solar power stations 1−26851
superconducting magnet precooling gas-filled thermal switch configuration and performance 1−44934

heat pumps
100 megawatt heat pump design *(German)* 1−48782
absorbers using ambient air as heat source for heat pump heating installations *(German)* 1−53642
air source heat pump for heating a single room 1−21890
air-to-air, for timber drying *(German)* 1−35686
air-to-air, steady state and seasonal efficiencies with continuously speed-modulated compressors, for space heating *(German)* 1−35681

heat pumps continued
air-to-water, dual source, design, installation and start-up experience *(German)* 1−43789
air-to-water, dual source operated, application possibilities and possible demand *(German)* 1−35676
air-to-water, for alternate dual source operations, operating experiences *(German)* 1−43790
air-to-water, for dual-source operation, operational experiences *(German)* 1−43791
air-to-water, room temp. controlled, operational experiences *(German)* 1−43792
air-to-water dual source, operating results for single- and two-family houses *(German)* 1−35678
Brayton-cycle, for industrial process applications *(German)* 1−35689
bridging the load gap from solar and heat pumps 1−35673
chemical, solar driven, sensitivity anal. of value of major components of system 1−48890
chemical heat pump, hydrogen conversion and storage system, HYCSOS 1−21889
chemical heat pump/chemical energy storage system, H_2SO_4 and H_2O, development status and utility 1−48891
chemical heat pumps using $CaCl_2.8NH_3$ dispersion in inert solvent 1−53640
comfort conditioning system, microcomputers for control 1−53656
Community Annual Storage Energy System 1−26846
compression, energy requirements and industrial energy saving applications *(German)* 1−35692
contribution to covering future energy demand by indirect utilisation of solar energy *(German)* 1−4159
controllable compressors, rotary piston and epicyclic, developments and characts. *(German)* 1−35680
criteria for application in drying processes *(German)* 1−35685
design, operation and potential appls. 1−13154
development and testing for low-temp. grain drying, comparison to electric resistance heat drying *(German)* 1−35687
district heating networks, heat pump application possibilities and energy savings *(Hungarian)* 1−39811
domestic heat pumps 1−35695
domestic oil central heating systems supplemented by electric heating and heat pump hot water storage *(German)* 1−21892
domestic space heating using heat pump with underground heat collector, quantitative data *(German)* 1−17230
domestic water heating using boiler heat pumps, operational data *(German)* 1−17231
Earth heat exchangers, use of the Earth as natural heat source for heat pumps 1−21841
electric, air-source, space-conditioning, development and growth from 1950 to 1990 *(German)* 1−35677
electric, load following, free-piston variable stroke compressor development for space heating *(German)* 1−35682
electrically driven, for heating and cooling in electrodeposition processes *(German)* 1−35691
energy conservation using solar power, review of R and D 1−39806
energy roof as heat source, for space heating *(German)* 1−35693
experiences for use in agricultural applications *(German)* 1−17234
geothermal heat pump components, technical exam. 1−8742
geothermal heat pumps in low temperature applications 1−48795
German standards, present status *(German)* 1−43795
ground-type, planning and operational experience *(German)* 1−43794
ground-water heat pumps for space heating and direct hot water supply *(German)* 1−17232
Heat pump technology and applications, conf. Dusseldorf, Germany (June 1980) *(German)* 1−35675
heating systems, faults giving rise to imperfect operation, effects on energy consumption *(French)* 1−39810
high temp., closed and open cycle, possible applications and process schemes in industrial operations *(German)* 1−35688
high temperature, thermal and thermodynamic design *(French)* 1−13152
industrial, applications for waste heat recovery *(German)* 1−35690
industrial and large-scale applications review *(German)* 1−43801
liquid desiccant solar heat pump for developing nations 1−17237
metal hydride conversion and storage system, thermodynamic anal. 1−48893
metal hydrides, appl. in heat pumping 1−21891
metal hydrides, engineering appls. HY-STOR 1−21939
metered air-to-air heat pump energy consumption in seven St. Louis area homes, seasonal perform. factors 1−35701
non-azeotropic fluid mixture application for enhanced performance coefficient *(German)* 1−35694
organic Rankine cycle engine 40 kW, experimental results and economics 1−48896
parallel solar heat pump systems, design method for performance prediction 1−8743
Rankine cycle, prospects for solar energy conversion *(Japanese)* 1−43797
Rankine engines, organic working fluids maximum temperatures, thermal instability and chemical reaction 1−48895
review of heat pumps and energy savings in new energy development *(Japanese)* 1−48894
second law efficiency of a heat pump system 1−17235
simultaneous production of heating and cooling *(French)* 1−26843
soil-to-water, for heating and industrial water calefaction *(German)* 1−43793
solar, passive liquid desiccant air conditioner 1−35702
solar assisted heat pump, energy anal. 1−35700
solar boost lakewater-to-water heat pump, design and installation 1−35699
solar collectors and heat pump equipment, developments *(German)* 1−4211
solar energy application to heat pump in UK northern climate 1−35674
solar house with pebble bed storage, automatic control *(French)* 1−35704
solar Rankine cycle cooling of buildings, optimum working fluids 1−8744
solar water pump design using direct evaporation and simple expansion machine 1−21896
solar-assisted, heat pumps, performance at elevated evaporating temps. 1−21894
solar/electric district heating and cooling system, CASES, using solar energy and surplus heat from community buildings 1−48805
space hating, utilising geothermal heat sources for heat pumps *(German)* 1−35684
space heating, domestic, combined electric heating and heat pump usages *(German)* 1−17229
heat pumps continued
space heating, utilisation of lakes and rivers as heat sources *(German)* 1−35679
space heating screw compressor electric heat pump systems, operational and control characts. *(German)* 1−35683
space heating using electrical heat pumps−future opportunities for electrical contractors *(German)* 1−17228
space heating using solar assisted annual Cycle Energy System, energy effectiveness and economic viability 1−39735
Stirling diaphragm engine heat-activated heat pump 1−48900
Stirling engines for developing countries 1−53652
Stirling traction motors with regenerative braking capability 1−53655
structure, use and future prospects *(German)* 1−32036
substitution of fuel oil by heat pumps *(German)* 1−39812
technology and residential applications of heat pumps *(German)* 1−17233
thermodynamic and economic analysis of heat pumps for energy recovery in industrial processes 1−43800
thermodynamically reversible heat pumps, exergy conservation 1−13151
zeolite/H_2O high temp. absorption heat pump using force-heat-conversion *(German)* 1−35672
CC $CaCl_2$-CH_3OH chemical heat pump. prototype studies for solar air conditioning, heating and storage 1−48892
NH_3/water-operated absorption-type, >1 MW output, use in absorption-cycle refrigeration plants 1−35697

heat radiation
blackbody, 2-dimens. model, temp. depend. of radiation 1−5255
blunt bodies, radiative-convective heat exchange during hypersonic flow, radiation reflection effect 1−51776
cavity absorber, efficiency upper bound 1−41942
cavity radiation, zero point term, teaching 1−9801
ceramics, RF heating and melting, instability phenomena 1−7649
cylindrical cavities, effective temps. *(Japanese)* 1−6753
cylindrical enclosure of constant radius, angle factor for radiant interchange between 2 surfaces 1−1814
directional control by V-groove cavities 1−37776
enclosure, thermal insulation, convection, heat radiation effect, numerical study 1−1983
enclosures, cylindrical, heat radiation, spherical harmonic approx. 1−1811
energy-transport by radiative diffusion, general relativistic Fourier eqn. 1−5173
fins, radiating-convecting steady periodic heat transfer 1−29699
flat plate, weakly interacting, radiating, boundary layer flow anal. 1−29663
fuel oil rotary cup atomisers, mechanism of heat transfer 1−29520
gas layer, inhomogeneous, selective radiation transfer calc. 1−2164
gas phase molecular ensemble, off-diagonal elements of density matrix in thermal equilib. and radiation 1−6754
glass plate, temp. field on heating or cooling, taking into account radiation heat transfer 1−41943
halfspace, grey, optically thick, radiation and cond., integral anal. 1−1804
horizontal flame propagation, heat conduction and radiation 1−24661
inhomogeneous atmospheres, radiative transfer theory 1−6752
Jupiter probe atmospheric entry, stagnation radiative heating, saturation effects 1−49469
loss reduction coating performance, 77 to 4.2K 1−51693
monochromatic thermal radiation transfer, turbulent temp. fluctuations effect 1−1813
multi-colour radiation inversion, calculational results 1−40786
natural convection in enclosures, conf., Orlando, FL, USA (July 1980) 1−15
nonhomogeneous gases, radiative heat transfer, simplified approach 1−19552
nonisothermally heated cylindrical cavities, effective radiating power 1−15368
nonlinear heat transfer problems for multilayer bodies 1−29518
one dimensional absorbing emitting and anisotropically scatt. medium, conduction and radiation 1−24650
optically thick medium, shock wave propag., effect of heat radiation 1−6870
optically thin boundary layer near flat plate, radiative and convective heat transfer, blowing effect 1−15487
particulate scattering, radiative heat transfer, resistance-network representation 1−15371
Poiseuille flow, thermally developing, with scattering, combined radiation convection 1−24800
porous bodies, enhancement of simultaneous radiative and convective heat transfer 1−19798
radiant heat exchange, one dimens. model 1−11292
radiation throttle, regulation of density of radiant heat fluxes, cooling effect 1−15367
radiative heat exchange studied using tensor method 1−1812
rapidly heated region, temp. front motion 1−24660
review of heat transfer 1−33956
semi-infinite space, unsteady radiative heat transfer through gray medium 1−46659
semitransparent optically thick body, soln. of nonlinear heat transfer problems 1−46655
solids, nonstationary radiant interaction 1−46660
spline collocation soln. of integral eqns. 1−42011
Stefan problems, one-phase, 2-D, finite element anal. 1−19551
stochastic realization theory and Planck's law for black body radiation 1−50056
systems with complex spectrum, radiation field, integration with respect to freq. and angles 1−51692
thermal cond. meas., transient line source technique, weak radiative heat transfer effect 1−33877
transfer in combustion chambers, based upon effective temp. concept 1−29519
turbulently convecting fluid layer, radiative heat transfer 1−1962
two-layer slab, radiative heat transfer, source function expansion method 1−15370
two-phase flow, combined conductive, convective and radiative heat transfer additivity 1−29679
two-phase medium, inhomogeneous, radiation intensity and flux 1−33878
viscous compressible fluid config., hydromag. pulsations, radiative transfer effects 1−46821
water, irradiated, cooled by air flow, natural convection flow visualisation 1−6861

heat radiation continued
CO_2 gas, hypersonic nonequilibrium flow, blunt body radiative heating 1−19836
Xe-filled radiation sources for heat load simulation, mathematical model 1−46661

heat sinks
Si devices, heat transfer between Si surface and perfluorohexane 1−7455
space heating by heat pumps utilising lakes and rivers as heat sources *(German)* 1−35679

heat systems
see also boilers; heating
heat pump heating systems, faults giving rise to imperfect operation, effects on energy consumption *(French)* 1−39810
HTGR process heat for long distance transportation and direct industrial heating applications 1−45593
process heat HTGR, potential applications and advantages 1−45722

heat transfer
see also condensation; convection; cooling; evaporation; heat conduction; heat radiation; radiative transfer; thermal diffusivity
abrupt pipe expansion, separated flow, downstream turbulent heat transport 1−42053
acetone drop dropped onto hot silicone oil surface, evaporation 1−2040
acoustic phonons generated by burst of heat energy at crystal surface, ballistic propagation 1−30495
adiabatic flat plate, film cooling, effectiveness, heat transfer coeff. and turbulence 1−19690
aerosols, heat and mass transfer during mixing with nonequilib. vibr. excited medium flux 1−37997
air flow, heat transfer, press. drop for array of staggered plates 1−37920
air plasma jets, heat flux, heat transfer coeff. and gas phase temp. meas. by dynamic thermocouple method 1−46931
airstream mixing in tee, heat transfer effects 1−37932
annuli, heat transfer to turbulent flow of gases with variable physical props. 1−29676
annuli with turbulence promoters, pressure drop in boiling 1−29677
anomalously viscous fluids, heat exchange in cylindrical channels 1−11404
N.Atlantic, meridional heat flux 1−40141
tropical Atlantic Ocean, heat transport by ocean advection rel. to heat storage seasonal var. 1−27205
atmosphere, simplified method of measuring sensible heat flux *(French)* 1−13663
atmosphere boundary layer, sensible heat flux and turbulent flow in semiempirical model *(Russian)* 1−13516
atmospheric fluidised bed combustor technology, Georgetown University's experience 1−51868
batch scraped surface heat exchange 1−29515
bibliography 1−32
bibliography of Soviet works on heat and mass transfer 1−32814
binary solvent evaporation from water-butyl alcohol-benzylpenicillin system, heat exchange kinetics *(Russian)* 1−7301
Blasius series solution for heat transfer with nonisothermal wall temperature 1−24804
boiler combustion chambers *(Hungarian)* 1−26743
boiling, nucleate, effects of precise arrays of pits 1−33884
boiling, nucleate, heat transfer in forced convection 1−33881
boiling channel flow stability, multivariate hydrodynamic anal. from inherent noise meas. 1−19782
boundary layer, heated, thermophoresis of particles, laser-Doppler velocimeter study 1−37872
BWR, dryout measurements for boiling water flow in 3650 mm long annulus 1−28520
capillary porous wire mesh structures, heat transfer by evaporation 1−37912
Carnot engine cycle, thermal efficiency, optimum disposal of waste heat, second law anal. 1−17236
catalytic calorimeter on plate, heat transfer in binary mixture boundary layer 1−37904
cavity geometry prediction from scanned surface temp. data, cavity side temp. 1−24656
channel flows of non-Newtonian liquids, study state heat transfer, conjugate formulations 1−29672
channels, plane walled, converging, with prescribed wall heat flux, heat transfer to laminar flow *(Japanese)* 1−34014
circular cylinder in complex sound field, heat transfer 1−15489
circular fins, optimum dimens. with variable thermal parameters 1−41941
circular tubes, laminar heat transfer to power law fluids, viscous dissipation effects *(German)* 1−24812
circulation rate of solid and interphase heat exchange surface with spouting layer *(Russian)* 1−1974
circulator, closed cycle, for high energy pulsed lasers, fluid and heat flow anal. 1−46364
cold solar collector surface heat transfer anal. using real-time holographic interferometry 1−17245
colloidal capillary-porous bodies, internal heat and mass transfer accompanying convective drying *(Russian)* 1−6751
comets, influence phase transition of ice on heat and mass balance 1−17790
composite, plates, locally heated, strength and thermal stresses, heat transfer effect 1−29573
computational dynamic modeling of thin film evaporators and condensers 1−19715
concrete, spalling and transient heat transfer in LMFBR post-HCDA conditions 1−5882
condensation dropwise, heat transfer through individual drops 1−37778
condensation of moving vapour on horizontal cylinders, correspondence of theoretical and experimental data 1−29694
condensation of multicomponent vapours in presence of inert gases 1−33885
conduction promotors and fins, effect on heat transfer in latent heat storage unit 1−43807
conference, heat transfer and fluid mechanics, Los Angeles, CA, USA, (June 1980) 1−27678
conjugate heat transfer for vertical pipe 1−37917
conjugated, with laminar flow, over-all resistance theory 1−15480
constraints on temperature, thermal sensitivity anal. for thermal protection systems 1−29513
continental lithosphere, thermal model 1−32412
continuous moving plate with variable temp., heat transfer, thermal boundary layer *(German)* 1−24813

heat transfer continued
convective heat transfer problems in atmosphere, moving temp. sensors 1−27312
convertive heat transfer in MHD channels and its influence on channel performance 1−13148
coupled viscous flow/heat transfer 1−24818
critical heat flux in inclined steam generator channels 1−28583
critical thickness of insulation of a square cross section 1−29517
cryogenic detector cooler Joule-Thomson, thermal analysis 1−32992
cryogenic insulator, thermal cond. meas. 1−50133
current and heat movement between two rotating discs at varying direction of flow *(German)* 1−37949
curved surface, heat transfer from heat generating pools 1−37928
cylinders, circular, layered, in low Reynolds number flow, conjugated heat transfer 1−1965
cylinders, with square cross section, transient thermal stresses of convective heat transfer 1−37766
cylindrical rod with internal heat sources, inhomogeneous boundaries, temp. field calc. 1−1798
cylindrical solar heat absorber, numerical anal. of fluid flow with heat loss 1−17262
Czochralski growth, heat flow and growth model 1−34263
DC plasma jets, alumina injection, temp. and vel. distrib. 1−34123
dense moving layer with dispersed material, heat exchange models 1−29693
developed channel flow between reservoirs of different temperatures *(German)* 1−37935
dichloromethane drop dropped onto hot silicone oil surface, evaporation 1−2040
dipolar fluid flow through circular pipe with const. temp. gradient, temp. distrib. 1−2076
direct contact condensation of vapour on a spray of subcooled liquid droplets 1−19548
direct contact thermal energy storage system, anal. of energy extraction process 1−17311
disc, rotating with strong blowing, heat transfer 1−29687
discrete heat transfer augmentation roughness element flow properties, pressure drop meas. and flow visualisation 1−11406
dispersed gas, flow heat transfer and precipitates in initial section of pipe during cooling 1−1957
dispersed systems, internal relax. in phase interaction, heat and mass transfer 1−13041
dissipative materials, second law anal. of thermomechanics 1−15374
divergent nozzle, flow and heat characts. of accelerated transonic air flow 1−24861
Drake Passage, poleward heat flux rel. to current fluctuations 1−27184
droplets, evaporating floating immiscible superheated, direct contact heat transfer, numerical anal. 1−1809
dropwise condensation of steam in vertical tubes 1−37915
dropwise condensation on surfaces having different thermal conductivities 1−37783
drying processes, heat and mass transfer theory *(German)* 1−24811
duct, curved, square, laminar flow, buoyancy-induced recirculation 1−38014
duct, generalised Couette flow of non-Newtonian fluids, heat transfer along thermal entry zone 1−29674
duct, generalised Couette flow of non-Newtonian fluids, thermal inlet region heat transfer 1−29673
ducts, annular cross section, variable property heat transfer, laminar and turbulent 1−42054
dye molecules, vibr. energy excess dissipation study using pulse fluorometry 1−6309
Earth crust hydrothermal circulation and heat flow 1−13441
eccentric rotating cylinders, heat transfer, bipolar coordinate system method 1−24801
elastico-viscous fluid, steady state temperature distrib. in thermal boundary layer 1−51833
electrorheological effect and applications 1−38018
elliptic two-dimens. flows including heat transfer, finite difference method, book contrib. 1−19719
elliptical equations second order as monotinic function representation, appl. to Laplace and heat flow eqns. *(German)* 1−5090
enhanced boiling transfer on porous surface, dynamic model 1−37923
enhanced boiling transfer on porous surfaces, dynamic model 1−37922
evaporation and condensation, experimental data generalisation 1−37914
evaporative channels of complex forms, thermohydraulic parameters nonuniformity effect on stationary modes 1−15486
ferroliquid acted upon by rot. mag. field, heat exchange 1−19826
filament heater, resonant depend. of heat transfer coeff. on freq. or forced oscillations 1−15365
film boiling on horizontal plate 1−33880
film condensation of binary gas-vapour mixtures, effect of wall temperature variation 1−33886
film condensation of stationary vapour on vertical surfaces, coefficient determ. 1−37770
film condensation of vapour, elec. field crit. strength *(Russian)* 1−42521
film penetration model for high-flux mass and heat transfer 1−24784
fission reactor, unsteady dispersed flow heat transfer under LOCA conditions 1−10449
fission reactor anticipated transient without trip, computer modelling of primary-to-secondary heat transfer 1−5953
fission reactors, convective heat transfer improvement by increasing surface microroughness of fuel, car 1−33291
fission reactors, historical development of AGR heat transfer surfaces 1−14578
fixed bed of heated spheres, heat transfer to slowly moving fluid 1−29686
flashing inception in flowing liquids 1−37921
flat channel, non-Newtonian fluid with temp. depend. rheological props., heat transfer 1−29675
flat plate, laminar flow, binary mixture film condensation 1−19700
flat plate solar collectors, heat transfer analysis, outdoor/indoor testing 1−32042
flat surface, dense gas thermal slip 1−11399
flat-plate turbulent boundary layer with foreign gas transpiration *(Japanese)* 1−24780
flow through cold impurity traps, transport processes, EM mixing effect 1−11401
fluidised beds, emulsion phase residence time, heat transfer model use 1−29665
foam evaporation, heat and mass transfer 1−29680

heat transfer continued
forced-flow evaporative cooling of a volumetrically heated porous layer 1−10476
free boundary problems, finite element approx. 1−24659
free molecular ionised gas flow, local and total heat transfer on sphere 1−11423
frictional resistance of low Reynolds number flows destabilised by heat transfer 1−1916
front stagnation point of body in gas stream, heat transfer regime stability 1−19695
full coverage film cooling, comparison of heat transfer data for three injection angles 1−33873
full-coverage film cooling, heat transfer data and numerical simulation 1−33874
fully-developed turbulent pipe flow, energy eqn. integration for non-Newtonian fluids 1−29787
gas, supersonic flow, boundary layer theory taking account of nonconjugate heat exchange and blowing 1−46773
gas, unsteady heat transfer to plate with insulated section 1−46656
gas, viscous, heat-conductive, in interaction with inner heat source, flow instability *(Ukrainian)* 1−15506
gas in cylindrical section of prenozzle vol., heat transfer, stream swirling influence 1−11400
gas suspension with recuperative energy supply, heat and mass exchange problems 1−11402
gas suspensions, drying installation calcs. 1−13043
gas-cooled rod assemblies in nuclear reactors, thermohydraulic analysis 1−735
gas-particle flow in nozzles, heat transfer 1−15530
gas-water contact heat exchange during adiabatic evaporation, math. model 1−11405
geothermal binary cycle system, condensation film coefficients for mixtures of isobutane and isopentane 1−53550
glass multi-plate systems, thermal anal. for building envelope energy transfer 1−8671
grid turbulence, use of dual heat injection to free solar covariance decay 1−51774
half cone flat surface, heat flux redistrib., Re∼10^6, Mach no.6.1, separation regions 1−24777
heat carriers in closed loop, natural circulation dynamics *(Russian)* 1−1975
heat exchange in coolant evaporation region within a heated porous wall, mathematical model 1−6748
heat exchanger, direct electrical analog model 1−44931
heat exchanger, three channel, for cryogenic plant 1−44930
heat exchanger, turbulent pulsating flow and heat transfer *(German)* 1−24814
heat exchanger effectiveness for solar collectors 1−8748
heat exchangers, heat transfer calc. using regression analysis *(German)* 1−19550
heat transfer analysis on metal-melting in a foundry solar furnace 1−52263
heat-pipe oven, press., density and vel. distrib. anal., device limitations 1−40870
heated jet discharged vertically into ambients of uniform and linear temperature profiles 1−19774
homeotropic nematics, thermal instabilities 1−46743
horizontal cylinder, falling liquid film breakdown during heat transfer 1−25536
horizontal cylinder, melting, heat transfer at solid-liquid interface 1−19547
horizontal liquid layers with gas injection 1−5872
horizontal smooth tube bundles immersed in large particle fluidised bed, heat transfer 1−19709
horizontal tube and gas-solid fluidised bed, heat transfer 1−19705
hot dry rock, heat extraction, theory including deformation porosity, density changes 1−19549
HTGR, downflow boiler design 1−10417
HTGR, secondary cooling system simulation *(Japanese)* 1−742
HTGR process heat for long distance transportation and direct industrial heating applications 1−45593
HV power transmission cables, compressed gas insulated improved structure using bundled conductor arrangement 1−37769
hypersonic multiphase flows, interactions 1−15510
immiscible gravity driven bubble, closed periodic condensation-evaporation cycle 1−19701
impermeable adiabatic wall, turbulent boundary layer, heat and mass transfer *(Russian)* 1−1976
inclined continuous moving sheets, buoyancy effects in laminar boundary layers, heat transfer 1−24806
internal heat generation in fully-developed, laminar, rectangular channel flow 1−33958
inverse thermal conductivity problems, two-dimens., numerical soln. *(Russian)* 1−1800
investigation of heat exchange and hydraulic resistance in heat exchange device with swirl flow 1−6749
irradiated, semi-transparent layers at high temp., heat transfer 1−24658
Japanese works, bibliography 1−17964
Kapitza heat flow via non-localized interface modes 1−20545
Knudsen gas, molecular, transport phenomena 1−24845
laminar boundary layer, exploratory temperature-tagging meas. of turbulent spots 1−1913
laminar boundary layer separation, integral method anal. 1−1910
laminar heat exchanger channels with corrugated finning, gas flow *(Russian)* 1−1977
large aspect channel, tubulent heat transfer 1−24810
large two-phase bubbles, expansion, collapse expts. 1−36990
laser energy parameter change by pumping lamp quartz bulb heating 1−41715
latent heat thermal energy storage with phase change materials, heat exchanger performance 1−21930
lattice with core dislocations, heat transfer at low temps. 1−30492
liquid, with gas bubbles, small perturbation propag., heat and mass transfer effect 1−2062
liquid jet impingement region, simultaneous melting and freezing in stagnation region 1−42515
liquid metal cooled reactor, heat exchangers, thermal-hydraulic calcs., homogeneous model 1−28529
LMFBR, sodium eddy diffusivity of heat in circular duct 1−38013
LMFBR, sodium heated helically coiled steam generator tubes at elevated pressures, dryout conditions 1−37995

heat transfer continued
LMFBR bundles, multicell slug flow, heat transfer anal. 1−23724
LMFBR HCDA PAHR, investigation of limiting boiling heat fluxes from debris beds 1−45690
LMFBR PAHR, effective thermal conductivity for combined convection-radiation heat transfer in a molten oxide fuel layer 1−45691
LMFBR steam generators, correlation of critical heat flux data−sodium-heated boiling water 1−28545
LMFBR sub-assemblies transient heat transfer calc. 1−23722
long cylindrical annuli, laminar nonNewtonian flow heat transfer 1−29734
low-velocity steady flow with heating, acoustic oscillation onset criteria 1−51741
lower bounds for heat rate *(Hungarian)* 1−46734
LWR, fuel rods, thermomechanical modelling program PIN *(Czech)* 1−5899
LWR uncovered core, radiative shape factors and heat flux 1−45679
marine diesel engines, emission props. of flames *(Russian)* 1−4095
mass transfer processes in geothermal power cycles with direct contact heat exchange, computer simulation 1−53552
measurement of surface temperature by direct contact, stray heat transfer errors *(French)* 1−261
medical calorimeter measuring vial, method for calc. of heat flows 1−49135
metal droplets, atomised, heat flow 1−3721
metal granules, hot rolling, metal temp. 1−53139
metallic mirror deformations and wavefront aberrations caused by CW high power laser beams 1−1608
metals, heat flow in controlled directional solidification 1−3715
metals, solidification, controlled directional, heat flow, mathematical model 1−3716
methane, reforming and methanation, appl. to high-temp. heat transport *(German)* 1−35562
methyl alcohol drop dropped onto hot silicone oil surface, evaporation 1−2040
MHD, shock and wave relations with heat cond. and viscosity 1−11475
MHD flow past infinite porous plate, Hall effect, heat transfer, theory 1−19820
micropolar fluid, heat transfer from non-isothermal surfaces in stagnation point flow *(German)* 1−33990
micropolar fluid, unsteady heat transfer in plane channel 1−6856
micropolar fluid flow past semi-infinite flat plate, heat transfer 1−51832
mineral extraction, heat emission into mine air *(Russian)* 1−1819
mist flow, heat transfer from flat plate 1−37927
model of direct contact heat transfer for latent heat energy storage 1−53688
mounting systems effect on heat transfer from inclined cylinders in cross-flow 1−38026
multi-pass radiation fluid-heater, exposed to nonuniform radiation, fluid and wall temp. distrib. 1−17264
multicomponent axisymmetric laminar jets, heat and mass transfer, soln. procedure 1−19707
multicomponent flows, heat transfer coefficient, effect of thermal radiation scatt. 1−5973
multizone axisymmetric system, ang. emission coeff. calc. by statistical test method 1−15364
Murphree plate efficiency with nonuniform vapour distribution 1−6885
n-pentane drop dropped onto hot silicone oil surface, evaporation 1−2040
near-free molecular gas flow over convex body, heat flux model 1−29667
new method of efficient heat transfer and storage at very high temperatures 1−48912
nocturnal radiation very near the ground, effect of circular screen 1−15372
non-Newtonian laminar heat transfer to in-tube flow 1−37916
nonlinear heat transfer anal., secant versus tangent methods 1−11394
nonlinear mechanics, computational method, conf. Austin, TX, USA (Mar. 1979) 1−22950
nonsimilar laminar and turbulent boundary layers, variable grid-size transform. 1−29649
nonsteady combustion waves in nonlinear heat conduction 1−24826
nonsteady heat exchange at stagnation point of stream 1−11403
nozzle, accelerated compressible flow, turbulent boundary layer heat transfer, free stream turbulence effects 1−29683
nuclear steam generators, linearised transient anal. 1−5831
obliquely impinging circular jet, heat and mass transfer 1−24786
ocean surface heat flux from OWS-V (1956-70) in NW. Pacific 1−27195
oceans, role of heat transport and deep sea heat storage in secular response to climatic forcing 1−27178
oils, boiling, heat exchange and heat flux densities *(Russian)* 1−1817
once through boiling system, flow instability, computer anal. modified DYNAM code 1−741
Oregon coastal waters, importance of eddy heat flux in heat budget 1−27175
organic working fluids for solar Rankine cycle cooling of buildings 1−8744
oscillating disc, flow and heat transfer with stationary disc 1−29709
oscillatory flow, 2-dimens. laminar boundary layer on flat plate, wall friction and local heat transfer 1−33955
parallel plates, liquid metal turbulence, heat transfer coeff., streamwise molecular heat conduction effects 1−24799
parallel plates, power law non-Newtonian flow, heat transfer 1−24809
parameterisation for fins and splines 1−37919
particles of parallelepipeds form, with boundary condition of third kind, heating 1−15363
permeable wall, thermal flux on surface, thermal anal. 1−11291
PFR, fuel-coolant heat transfer coeffs., power perturbation method 1−23732
piezoelectric rod, heating by time-dependent distributed heat sources 1−8003
pipe, dispersed annular flow, liq. discharge in film, heat transfer 1−15484
pipe, turbulent flow, balance of intensity of temp. pulsations 1−15544
pipe flow, heat transfer coeff. for enlargement step 1−37918
pipe flow, turbulent, heat transfer to variable property fluids 1−37908
pipe flows of non-Newtonian fluids, laminar and turbulent, heat transfer coeff. 1−29670
pipe with temperature discontinuity in wall, heat flow calc., Nusselt number 1−19809
pipes with spiral sheet intensifiers, heat exchange calcs. 1−6855
plane solid boundary, diffusion boundary layer, turbulent heat and mass transfer, closed eqn. *(Russian)* 1−29695

heat transfer continued
plane wall with periodic suction, elastico-viscous liquid, heat transfer by laminar flow 1−15478
plasma cutting, pressure dependency 1−15660
plate, flat, unsteady heat and momentum flux 1−29662
plate, infinite, with 2 circular inclusions, thermal stresses 1−41939
plate, infinite, with circular inclusions, thermal stresses under uniform heat flow 1−24673
polydisperse particles in gas, heating problem 1−46747
pool boiling heat flux, criteria for minimisation 1−37924
porous heat generating element, penetrative gas cooling stability 1−15495
porous media, flow and heat transfer, boundary and inertia effects 1−38007
porous media, heat and mass transfer, finite element method 1−1801
porous medium, internal heat transfer, nonequilibrium cases 1−29773
power-law media, heat exchange in flow in plane parallel channel 1−11428
process heat HTGR, potential applications and advantages 1−45722
protonosphere-ionosphere, flux preserving method 1−22613
PWR LOCA, effect of steam condensation on ECC penetration 1−5940
PWR steam generators, heat transfer and 3-D flow distrib. 1−28586
PWR transients, heat removal in steam generators, modelling 1−50805
rarefied gas cylindrical Couette flow, with heat transfer and porous surface 1−19756
Rayleigh-Taylor stability with mass and heat transfer 1−51740
reactor blanket assembly model, heat transfer, temp. distrib. 1−23736
reactor fuel rod bundles, 2-D fluid flow and heat transfer 1−41170
reactor rod bundles, heat transfer to axial dispersed flow 1−36992
reactor thermal hydraulics, downflow post-CHF heat transfer to low-pressure water 1−50881
reduced volumetric expansion and isothermal compressibility factor plots 1−47264
refrigerant pool boiling heat transfer in solar power stations 1−17289
released thermal energy, analysis techniques 1−24664
review of 1979 literature 1−33956
rheologically complex media, heat exchange in flow in plane parallel channel 1−11428
rods, heated, heat emission following boiling *(Russian)* 1−1810
rotating hollow cylinder, temp. distrib. for steady-state boundary conditions 1−11294
rough surfaces, contact heat transfer, thermal model anal. 1−46657
row of jets in crossflow, downstream mean vel. and conc. characts. 1−24859
sand solar collector, const. flow, performance anal. 1−39822
second law analysis in heat transfer processes and equipment 1−15360
semi-infinite media, heat transfer due to fluctuating EM field *(Russian)* 1−33875
semi-infinite two-particle model, diffusion under heat liberation *(Russian)* 1−38575
semitransparent material thermal cond. contactless meas., radiative-conductive transfer inverse soln. 1−18234
separated and reattached flow, turbulent shear stress and heat flux meas. 1−46730
simulations of solar captation systems: methodology and applications to distillation, gas and water heating 1−17265
single file drops, continuous and dispersed phase coefficients 1−15492
skin, temp. elevation ahd heat diffusion with electrosurgical currents 1−39885
sky temperature measurement, heat flow meter design and calibration 1−54241
slit flow, viscous heat generation 1−37898
slug flow, radial transport efficiency 1−37998
solar air heaters, efficiency and loss factors derivation 1−53658
solar central receiver plant, Na-cooled, modelling of thermal-hydraulic characts. 1−19714
solar collectors, evaluation of wall temperature difference profiles for heat absorption tubes exposed nonuniformly to solar radiation 1−8747
solar flat-plate collector, free convection and shading due to spacing between absorber plate and cover glazing 1−39820
solar heating of gas in porous material, radiation mean penetration distance effect on gas temp. *(French)* 1−46663
solar pond collector/storage system performance anal. 1−39821
solar receiver design, influence of heat transfer fluid 1−26850
solid state lasers, heat transfer in annular channel of active element 1−1806
solid-liquid interface, effect of unequal densities on shape and location within a horizontal cyl. enclosure 1−20364
space heating, using galvanised iron sheet roofs, feasibility 1−39823
spheres in slow flows, effective thermal cond. *(Japanese)* 1−2064
spherical droplet in creeping flow, conjugate unsteady heat transfer 1−29752
spherical particle, growth from liq. phase, heat and mass transfer 1−7106
spouted beds, hydrodynamics and heat transfer, particle circulation 1−6854
square pitch rod cluster, developed single phase turbulent flow, reactor appl. 1−14575
stagnation heat transfer, multi-atomic molecule vibr. relaxation effects, Knudsen no.10^{-4} 1−29682
stagnation point heat transfer conditions during jet impingement on an obstacle 1−11398
stagnation point heat transfer for flow with axisymmetric body *(Russian)* 1−19716
steam condensation, wrinkled film pattern *(Japanese)* 1−16034
steam generator thermal analysis, improved calculation procedures for heat transfer and associated pressure drop analysis 1−28569
Stefan problem, n-dimens., with nonlinear boundary conditions, weak solns. 1−33872
Stefan problem, small parameter method soln. 1−51691
stratified two-fluid system with interval heat sources 1−5866
strongly curved rectangular ducts, steady laminar flow, developing flow, heat transfer 1−24798
sunspots, solns. of heat flow eqn. for cylindrical geometry 1−13749
superconducting superheated granules, density of nucleation centres of normal state and mag. interactions 1−20901
surface rapid melting and solidification, due to stationary heat flux 1−3722
surfaces, heat-exchange, superheat, first boiling crisis, free convection conditions 1−15366
swimming pool energy loss, computerised calc. 1−33876
swirling gas flow, effects of compressibility, viscosity and heat transfer 1−46761
heat transfer continued
temperature field of shaft sealed with mag. fluid *(Russian)* 1−19717
thermal conditions of microwave element with source located in support *(Russian)* 1−1818
thermal instability in spherical liquid shells induced by surface tension 1−29689
thermal Reynolds equation, appl. to elastohydrodynamic inlet zone lubrication 1−46751
thermal wells, heat loss and storage functions 1−8764
thermoconvective instability of vibrating viscous gas in reactive environment 1−19675
thermograms of heat transfer processes in transparent media *(Hungarian)* 1−51694
thermomechanical coupling, large deformations, natural formulation 1−41951
thermometric transducer, time lag numerical correction, Dorodnitsyn method *(Russian)* 1−251
thermosiphons, heat transfer crisis 1−11295
thin radiant body, laminar and turbulent flow, conjugate heat exchange *(Russian)* 1−1978
transient heat transfer during reflooding of a vertical single heater tube 1−28518
transparent liquids containing absorbing particles, refr. index, laser radiation effect 1−1610
transverse supersonic stream, jet interaction, separated zone, heat and mass transfer 1−15526
tributaries, flow rate and temp. distrib. estimation, heat balance computation in artificial lakes 1−54145
tube, circular, low Peclet number thermal entry region heat transfer, integral transform techniques 1−2082
tube with permeable walls, heat exchange in presence of internal heat sources, energy eqn. 1−46745
tubes, turbulent film heat transfer coeffs. during condensation 1−37909
tubes with internal helical finning, heat removal intensification 1−37773
tubes with twisted tape turbulence promoters, heat transfer experimental data correlation 1−33960
tubular heat exchangers, mathematical models *(Hungarian)* 1−24655
turbulence, wires used as sensors of temperature fluctuations, influence of conduction *(French)* 1−262
turbulence and heat transfer over backward facing steps, prediction book contrib. 1−19720
turbulent heat and mass transfer for gases or liquids in tube flow 1−19692
two phase heat transfer in horizontal tube with jet mixing 1−2063
two phase model in porous media and packed beds 1−38008
two-dimensional stagnation flow and heat transfer, thermodynamic calcs. 1−29669
two-phase annular thermosyphons, max. heat transfer 1−29678
two-phase bubble flow, momentum and heat transfer 1−51852
two-phase bubble flow, momentum and heat transfer 1−51853
two-phase flow, heat transfer correlation for saturated and superheated steam-air atmospheres 1−51861
UMFBR protective systems, sensing technique for controlled intervention 1−41219
unknown source in heat eqn., inverse problem, form-free approach 1−19542
unsteady laminar laser heated boundary layers at a three-dimensional stagnation point 1−24763
unsteady stagnation point heat transfer in non-Newtonian fluids 1−15515
unsteady transport phenomenon, some problems and their solns. 1−15467
Venus atmosphere radiative heat transfer 1−27406
vermiculite, exfoliated powder, heat transfer characts. rel. to cryogenic insulation use 1−5319
vertical porous heat storage, transient characts. of heat transfer 1−17307
very rarefied gas, heat transfer, 1-dimens. problem 1−37970
viscoelastic fluid, turbulent pipe flow, momentum, heat and mass transfer 1−29735
viscoelastic turbulent pipe flow, heat transfer correlation 1−29736
viscoplastic deformation and heat transfer, coupled analysis 1−37813
viscoplastic media, heat exchange in flow in plane parallel channel 1−11428
viscous fluids, superposed, with interfacial heat and mass transfer, Rayleigh-Taylor stability 1−20513
viscous reacting fluids in long tubes, laminar flow and heat transfer 1−34013
void behaviour in heated channel under low floW conditions 1−5941
wall jets, second order effect 1−15524
wedge with non-isothermal surfaces, numerical soln. for heat transfer 1−24815
wire in large liquid N_2 vol., conditions for reduced heat transfer following step function heating 1−15485
Zircaloy-2/UO_2 surfaces in contact, heat flow study 1−11924
Al, coupled analysis of viscoplastic deformation and heat transfer 1−37814
Al-Cu finned tube, heat emission and resistance, thermo-aerodynamic charact. *(Russian)* 1−6750
Al_2O_3, evaporation, transfer and condensation processes in HF induction discharge plasma flow *(Russian)* 1−48273
CMN-^{3}He solid, heat transfer 4 to 30 mK 1−20508
$CuSO_4$ aqueous soln., diffusive interface, heat and mass transfer 1−1960
Ge, acoustic-optical phonon interactions in solids 1−15992
H_2 thermochemical production, process economics and second law, effect of heat transfer 1−53698
HCl aqueous soln., diffusive interface, heat and mass transfer 1−1960
He flow in porous ceramic pipe, effect of suction 1−46658
He, superfluid transition under heat flow, disordered phase 1−52373
He transient pool boiling with electronic temp. controller 1−46666
^{4}He, liq., boiling, transient heat transfer obs. 1−52380
^{4}He, superfluid, film-boiling states, heat flux and temp. fluctuation obs. 1−47323
^{4}He, superfluid, radial heat transfer in cylindrical geometries 1−47322
^{4}He, superfluid, subcooled, transient heat transfer obs. 1−52380
^{4}He, superfluid, two-dimensional flow, critical and recovery heat flux obs., 1.9 to 2.1K 1−47321
Hg fully developed pipe flow, turbulent struct. 1−19812
Hz, subcooled, boiling heat transfer and vapor bubble dynamics 1−47215
N_2 ions, energy accommodation coeff. 1−46768
N_2, liq., boiling at pressures below atmospheric, heat transfer intensification 1−37774
N_2O_4 layer, two-phase, in closed contact condenser *(Russian)* 1−51697

heat transfer continued
N_2O_4 vapour barbotage through liquid layer, heat transfer *(Russian)* 1−19791
Na, liquid, surrounding LMFBR core-catcher 1−5868
Na-K, in cell densely packed with rods, temp. pulsations, statistical characteristics 1−15483
NaCl aqueous soln., diffusive interface, heat and mass transfer 1−1960
Nb tape, heat transfer to liq. He, characts. affecting supercond. mag. stability 1−52698
Nb-Ti supercond. coil transient and quasistatic heat transfer obs., 1.8 to 4.2K 1−46664
NbTi/Cu superconductor, transient heat transfer and recovery 1−52697
NbTiTa high field superconductor, cooled by pool boiling below 4K, stability anal. 1−47786
Si floating zone melting, gravity influence on thermocapillary convection 1−3615
Si surfaces, heat transfer 1−7455
SiO_2, evaporation, transfer and condensation processes in HF induction discharge plasma flow *(Russian)* 1−48273
UO_2 molten pools following LMFBR core meltdown, heat transfer with internal heat source 1−5871
Zn melting in a solar furnace, melting curve determ. 1−52263

heat treatment
see also annealing; normalising; quenching (thermal); spheroidizing; tempering; thermomagnetic treatment; thermomechanical treatment
ABS/PVC blends, thermal degradation anal. under processing conditions 1−12778
alkali halide crysts., doping with Pb ions by thermal treatment, annealing, optical absorpt. meas. 1−7186
alloys, ion implantation and heat treatment studies *(Hungarian)* 1−16809
alloys, residual stresses curves, nondestructive determ. after chemothermal treatment 1−8502
aluminosiloxane, synthesis of oligomers 1−21726
aluminotitanoxane, synthesis of oligomers 1−21726
Armco Fe powder, excess heat content, changeschanges during heating 1−12772
basalt glass fibres, high temp. phenomena 1−21488
basalt glass-glass ceramic, mag. props., Mossbauer, ESR spectra 1−3307
borosilicate glass, heat treatment effect on silica content *(Japanese)* 1−16825
α-brass, dezincified, sintering 1−53130
brass, surface hardened by roller burnishing, effect of heating on hardness and struct. of surface layer 1−16885
bronze surface hardened by roller burnishing, effect of heating on hardness and struct. of surface layer 1−16885
carburising in CH_4-H_2-H_2O mixture diluted with N_2 1−8481
ceramic, manufacture by controlled nucleation thermochemical decomposition 1−16731
cobalt phthalocyanine:$^{57}CoCl_2$, space charge limited electron injection 1−53417
cobalt phthalocyanine:$^{57}CoCl_2$, thermal treatment and charge transfer interactions 1−53416
CR-39 plastic track detectors, production, during 1−51046
electric furnace, continuous operation, for heat treatment of welding electrodes, electric equipment details *(German)* 1−53215
glass, fracture and flow 1−8402
glass fibre reinforced epoxy matrix, relaxation processes *(German)* 1−3815
glass fibre reinforced plastic, SiC formation conditions on unidirectional heating 1−39493
graphite, rhombohedral phase, temp. stability 1−34469
hot isostatic pressing as an alternative to forging 1−35213
IN-738 Ni-base superalloy, creep life extension, regenerative heat treatments 1−16860
Inconel 600, electrolytic comp. and heat treatment effect on aq. crevice corrosion 1−39509
laminate, mech. props. after heat treatment 1−39353
metallic glasses, magnetic properties, influence of structural relax. 1−3179
metallic surface hardening by laser beams 1−21648
metallic thin films, thermal deformation due to laser irrad. *(Russian)* 1−16808
metals, electrohydroimpulse treatment, heating temp. calc. 1−35439
metals, laser heating, radiation parameter optimisation *(Russian)* 1−16807
mica, vermiculite, X-ray K-absorpt., Fe^{2+}/Fe^{3+} ratio and Fe-O bond length, heat treatment effect 1−31230
natural rubber, tensile strength and plasticity retention after Geer oven ageing 1−26568
α-nylon-12, thermal behaviour 1−16771
plastic flow during thermal cycling 1−19587
poly-p-xylylene films, optical props., heating and radiation effects 1−48181
polyacrylonitrile fibres, elec. charact. of carbonization process *(German)* 1−2961
polyamideimide films, aromatic, degradation in NO_2 atmosphere 1−48545
polyethylene low density, melt crystallized, long periods, X-ray obs. 1−35249
polymer insulation, morphology influence on elec. strength 1−2341
polymers, degradation kinetics, applied to lifetime predictions 1−48651
polymers, thermal degradation study, instrumental methods 1−48397
polyurethanes, IR spectra, heating and loading effects 1−31157
Sialon, processing effect on props. 1−16733
silicone rubber, heat treatment effect on dissipation factors 1−3795
steel, advanced methods 1−31501
steel, alloy, forgings, temp. field calc. for batch cooling 1−3798
steel, alloy, high strength, stress corrosion cracking in water *(Chinese)* 1−39500
steel, alloy, plastic deform. and heating, redistrib. of C and alloying elements *(Russian)* 1−12789
steel, alloy, stabilized, creep and struct. *(Czech)* 1−48425
steel, alloy, temper embrittlement, control by intercrit. and low temp. austenitising heat treatments 1−43375
steel, aluminised 08kp, ductility, residual stresses, and redistrib. by heating 1−26571
steel, aluminised by gas atomisation process 1−39539
steel, austenitic, abrasive wear *(German)* 1−39475
steel, austenitic, type 21-4N, grain boundary reaction nodules, tensile props., fracture, deform. 1−26538
heat treatment continued
steel, austenitic low-tempered structural, heat treatment for increased fracture toughness 1−31506
steel, austenitic stainless 1−26574
steel, Bulat-Damascus, heat treatment effect on microstruct. and mech. props. 1−8353
steel, C, fatigue crack growth in impregnation with H, loading frequency and heat treatment influence 1−35377
steel, C, heat-treatment, effect on reaction with liq. Zn *(Japanese)* 1−3972
steel, C, powder, excess heat content, changeschanges during heating 1−12772
steel, chemical-thermal treatment, use of polymers 1−53219
steel, Cr-Co-Mo (10.8, 10.4, 6.19 wt.%), maraging steel 07Kh11K10M6, phase transform. and struct. *(Russian)* 1−43338
steel, Cr-Mo (2.25, 1 wt.%), thermally aged fatigued, and creep deformed, TEM study 1−8386
steel, Cr-Mo-V (0.5, 0.25 wt.%), creep and microstruct., austenitising treatment effect 1−8357
steel, cylindrical parts, math. model of cooling process, taking account of austenite decomp. 1−3800
steel, electroslag refined En 52, fatigue crack growth rates and fracture toughness 1−39420
steel, high strength, low alloy, ductile failure, effect of temper-embrittling heat treatment 1−35356
steel, hot work tool type AISI H13, rapid heat treatment effect on mech. props. 1−53214
steel, low C, austenite grain growth, mechanisms and kinetics 1−16816
steel, low-alloy, heat treatment effect on struct. strength 1−43379
steel, low-alloyed Mo, with P-additions up to 1 wt.% and dual phase microstruct., mech. props. 1−48450
steel, martensitic, light-temperature gas carbonitriding, diffusion layer form. 1−8480
steel, martensitic stainless, heat treatment influence on struct., mech. props. and corrosion in aq. media *(French)* 1−48393
steel, medium-alloy, chemicothermal treatment in calcium cyanate bath effect 1−8479
steel, Mn, phase comp. and mech. props., preliminary heat treatment influence 1−35333
steel, Mn-Ni-Mo, heat affected zone, mech. props. after simulated heat treatment *(Czech)* 1−12768
steel, Mo-Mn-Cr, weldable, heat treatment optimisation 1−48382
steel, Ni (9%), struct., fracture, heat treatment and Mo addition effects 1−48388
steel, pearlitic, alloying element redistribution during heating 1−31504
steel, rolled, heat treatment effect on fatigue strength anisotropy 1−26505
steel, SAE 1095, boridised layer formation, powder technique *(French)* 1−26648
steel, stainless, 300, pit initiation, sulphide inclusion morphology effect 1−26659
steel, stainless, 304, electrolytic comp. and heat treatment effect on aq. crevice corrosion 1−39509
steel, stainless, ferritic, Ti stabilised, struct. transforms., heat treatment effect 1−48390
steel, stainless, phase composition and hardness of Kh28N10S4 1−3697
steel, stainless, surface hardened by roller burnishing, effect of heating on hardness and struct. of surface layer 1−16885
steel, tool, chemical-thermal treatment, use of polymers 1−53219
steel, tool, heat resistant, development and selection for water-cooled dies 1−48386
steel, type 100Yu7, intermediate transform. of austenite *(Russian)* 1−31456
steel, type 1018, endurance life increase by N implantation *(Hungarian)* 1−16871
steel, type 40 Kh, fatigue damaged, nitrogenated, healing mechanism *(Russian)* 1−16869
steel, welded joints in 1Kh2M and 1Kh2FMB dispersion hardening during reheating 1−26484
steel 110G13L, heat treatment using residual casting heat 1−43377
steel 20Kh13, heat treatment, effect on microstruct. and hardness 1−43378
steel forgings, form. of fine-grained struct. in 60KhN 1−16820
steel multilayer stack spontaneous hermetic sealing during high temp. heating 1−31505
steel shells, cooling in water and air, heat transfer coeffs. determ. 1−3799
steel tubes, shear-spun, texture inhomogeneity and strain distrib. 1−3767
steels, C, effect of microstruct. on fatigue crack growth *(Japanese)* 1−43489
surface boronizing, applications 1−21611
tetramethyl ammonium tetrachloroferrate, phase transition study 1−42532
thermocouples, Pt-Rh/Pt, type S, inhomogeneities when used to 1064°C 1−7594
thin films, uniformly distributed precipitates forming method using heat treatment 1−48348
α-γ transformation, crystallographic peculiarities at continuous heating *(Russian)* 1−47034
warm prestressing, theory, expt. validation and implications for elastic-plastic failure criterion 1−47160
AgCdO, worked sintered, working and heat treatment effect on strength props. 1−3781
Al alloy, extruded sections of D16, charact. of laminations 1−3804
Al alloys, high-strength granulated, heat treatment by stepped heating 1−3803
Al foil in H_3BO_3-$N_2B_4O_7$ soln., excitation processes at the electrolyte-electrode interface 1−35098
Al/Shirasu compact, nitridation *(Japanese)* 1−26521
Al-[(Au)-(Cu)-(Co-Ni-Sb)] (<1 wt.%), for low temp., high cond. appls., mech. behaviour 1−21465
Al-Cu(Zn)-Mg, high-strength granulated, heat treatment by stepped heating 1−3803
Al-Si alloy SS 4245, hypoeutectic, casting effect on mech. props. *(Swedish)* 1−3870
Al-steel fibre deformable composite, preparation, heat treatment *(Russian)* 1−16718
Al-Zn-Mg (5.5, 2.5 wt.%), moisture, grain size, heat treatment effects on surface oxide, AES obs. 1−26653
Al_2O_3 anodic film, cond. props. 1−34817
Al_2O_3, plasmasprayed, thermophysical props. 1−2939
Al_2O_3-H_2O 1−21783
Al_2O_3-SiO_2, containing chemically polymerized precursors heat treated to form monolithic materials, microstruct. 1−3788

heat treatment continued
Al_2O_3-ZrO_2-SiO_2 glass, alkaline durability and struct. determ. 1−31699
$Al(OH)_3$, hydrothermal modification, X-ray and thermographic investigation 1−21783
Au, sputtered, Kr bubble form. and growth 1−12004
Au/Cr bifilm, heat treated, elec. resist. increase rel. to interdiffusion 1−7394
BaO-B_2O_3-SiO_2 glasses, liq. phase separated, tie line positions, heat treatment effects 1−39327
Bi-MnBi composite, mag. props., effects of plane-front solidification and heat treatment 1−12345
Bi_2O_3-MoO_3 complex oxides, with the anion deficient pyrochlore struct., existence 1−3685
Bi_2O_3-WO_3 complex oxides, with the anion deficient pyrochlore struct., existence 1−3685
C fibre reinforced plastics, matrix heat treatment influence on mech. props. 1−16822
C fibre/C matrix composite, thermophysical props. at high temp. 1−2723
C fibres, PAN based, elastic moduli, charact. 1−39357
C fibres, stress relaxation at elevated temperatures 1−48407
C, two-phase material, rate of radiation induced shrinkage 1−34374
CdS, vacuum deposited films, elec. and optical props. meas. 1−12215
CdSe epitaxial layer, heat-treated, oxidation, electron spectroscopy 1−38684
CdSe-As_2Se_3 heterostructs., air baking of CdSe layer, effect on phys. props. 1−20861
$CdSiP_2$, cathodoluminesc. spectra, heat treatment effects 1−21279
CdTe, undoped and P-doped, photoluminesc. and recomb. centres, heat treatment under component vapour press. 1−26258
CdTe:P, heat treated under component vapour press., electrical props. 1−39352
n-CdTe-In, contacts formation and stability 1−7736
Cr, P to AF_1 phase transition to mag. ordered state during thermocyclic treatement *(Russian)* 1−38937
Cr-Co-Cu-Fe permanent magnet alloys, deform.-aged, mag. props. 1−12342
Cr_2O_3, plasmasprayed, thermophysical props. 1−2939
Cr_2O_3-Cr black chrome, electrodeposited selective solar absorber film, oxidation 1−12996
Cu, OFHC, cold rolled, recrystallisation and ageing, high hydrostatic pressure effect *(Japanese)* 1−48379
Cu-Be, recrystallisation and ageing, high hydrostatic pressure effect *(Japanese)* 1−48379
Cu-Cr-Zr, low-alloy, recrystn. 1−3779
Cu-Nb_3Sn, in situ, superconducting props., influence of Ga additions *(Japanese)* 1−42894
Cu-Nb_3Sn composites, supercond. props. rel. to heat treatment 1−8354
Cu-Ni-Al-Si (5,5,1 wt.%), alloy 644, high performance, stress relax. behaviour at 200°C 1−43403
CuO, granules, porous struct., mechanical strength 1−16833
Cu_2S-CdS solar cells, minority-carrier transport parameters, nondestructive SEM meas. 1−13119
$E_{75}Si_{13}B_{12}$ amorphous alloys, mag. props. *(German)* 1−30984
Fe, α-γ transformation, crystallographic peculiarities at continuous heating *(Russian)* 1−47034
Fe, cast, white 1−47045
Fe, filed powder, excess heat content, changeschanges during heating 1−12772
Fe oxides, structural changes during reduction, SEM *(German)* 1−43370
Fe, powder, heating 50 to 400°C, elec. cond. and strength changes 1−53218
Fe powder compact, pure and Cu-infiltrated, sintering behaviour on A_3-cyclic heating *(Korean)* 1−16714
Fe-Cr-Co-Si permanent mag. alloy, mag. props. and Mossbauer spectra, heat treatment effect *(Chinese)* 1−52753
Fe-Ni (50 wt.%), non-metallic inclusions formation by deoxidation with Mn, Si, and Al 1−12770
Fe-Ni base alloys, struct. and mag. props. of ageing in $\alpha \rightarrow \gamma$ transformations *(Russian)* 1−48342
Fe-Ni-Co(-Mo), maraging alloys, deformation and heat treatment, strength increase *(Russian)* 1−43371
Fe-O, equilibrium heating, to temp. of transition to gas-vapour phase 1−21710
Fe-Si, steel with diffuse plane cubic struct., mag. props., thermal and thermomag. treatment effect 1−7884
Fe-Si (3 wt.%), grain-oriented, decarburization, grain growth, mag. props. 1−8440
$Fe_{100-x}B_x$ glassy alloys, crystallisation kinetics, Mossbauer and X-ray study 1−2334
$Fe_{40}Ni_{38}Mo_4B_{18}$ metallic glass, mag., elec. props. 1−3147
$Fe_{95-x}W_xB_x$, metallic glass, mag. props. and thermal stability meas. 1−20071
GaAs epitaxial film, surface elec. and struct. props., vacuum heating effects 1−47768
GaAs, semiinsulating, single cryst., prod. by three temp. boat method *(Japanese)* 1−48251
GaAs surface, C free, prep., AES and RHEED study 1−48539
GaAs:Cr, heat treated semi-insulating, Raman spectra meas., thermal conversion 1−43103
GaAs:Mn, thermal conversion, photoluminescence spectra 1−8114
GaP:N,Zn(N,Zn-O), LPE films, photoluminesc., heat treatment 1−3489
Ge, deformed, shallow dislocation states, thermal treatment effects 1−52522
Ge, surface recombination in 10^{-8} torr vacuum, chemisorbed H_2O effects 1−30805
$Ge_{1-x}Si_x$, heteroepitaxial growth by transient heating of Ge-coated Si substrates 1−42643
InP LEC crystals, deep impurity levels, DLTS and photoluminesc. study 1−47557
p-InP:Zn, effect of heat treatment, carrier conc. meas. 1−25726
InP(100 surface), electron stimulated oxidation, Auger spectra 1−8169
KCl:Pb^{2+}, impurity aggregates, low temp. absorpt., emission and excitation spectra 1−16589
KCl:Tl, absorpt. spectra, colouring conditions, heat treatment 1−3445
Li-montmorillonite clay-α-napthylamine complex, prep. by thermal decomp. 1−39259
$Li_xFe_{3-x}O_4$, volatilisation of Li during sintering 1−35207
$Li_{0.464}Na_{0.036}Fe_{2.5}O_4$, volatilisation of Li during sintering 1−35207
$Li_{0.5}Nd_{0.5}Nb_2O_6$, fersmite struct., crystal growth kinetics 1−7103
Li_2O-SiO_2-(K_2O-P_2O_5-ZnO) glass-ceramic fibres, development and props. 1−8356
heat treatment continued
LiOH-Na, establishment of equilibrium, heat treatment influence *(French)* 1−25403
Mg binary alloys, elec. cond., deviations from Matthiessen's rule, heat treatment effects 1−47604
$MgFe_2O_4$, thin films and small particles, superparamag. props. 1−7898
MgO, hot pressed, heat treatment effect on elec. cond. 1−53306
MgO:Li, oxidised at high temp., current-voltage charcts. 1−2960
MgO:Li^+, thermochemically treated, dielec. polarisation and optical absorpt. study 1−3320
MnAl, melt extracted, mag. props. and permanent magnet parameters 1−12344
MnAlC, melt extracted, mag. props. and permanent magnet parameters 1−12344
Mo, plasmasprayed, thermophysical props. 1−2939
Mo-B-Si coatings on Mo, phase transitions in high temp. oxidation 1−39522
Mo-C(B_4C)(SiC)(TaC)(TiC) system diffusion couples, reaction layers *(Japanese)* 1−31500
Mo-GaAs contact, Schottky barriers 1−12179
Mo-TiC, alloy 4605, effect of heat treatment of struct. and mech. props. 1−43384
$(NH_4)_5P_3O_{10}.2H_2O$, thermal transition, kinetic charcts. 1−39600
Na-βGa_2O_3 thin film, high ionic cond. 1−34503
Na_2O-SiO_2 glasses, heat treated in contact with metallic Na, coloration and crystn. 1−20479
$(Na_2O)_{1-x}(Fe_2O_3)_x.4SiO_2$ glass, Mossbauer spectra, quadrupole splitting 1−3306
$Na_2O.Fe_2O_3.4SiO_2$, Mossbauer spectra, quadrupole splitting 1−3306
Nb fibre reinforced Cu-Sn, supercond. props. *(Japanese)* 1−25821
Nb-Mo-Z, diffusional saturation with O_2, nonmetallic phase form., struct. state effect *(Russian)* 1−11905
Nb-O, equilibrium heating, to temp. of transition to gas-vapour phase 1−21710
Nb-Ti (46.5 wt.%) filamentary composite, microstruct./superconducting prop. rel. 1−47828
Nb-Zr-C, diffusional saturation with O_2, nonmetallic phase form., struct. state effect *(Russian)* 1−11905
Nb_2Sn multifilamentary wire, high-field current improvement by two-stage reaction 1−47833
Nb_3Sn, multifilamentary, crit. props., 8 to 14 T 1−52732
Nb_3Sn multifilamentary superconducting composite, Kirkendall porosity suppression 1−47835
Nb_3Sn multifilamentary superconductor, heat treatment effect 1−53211
Nb_3Sn multifilamentary wire, bend strain tolerance 1−52738
Ni alloy, heat and corrosion resistance depend. on thermal treatment of type EP958VD alloy *(Russian)* 1−16963
Ni multiphase superalloy IN738, phase boundary segregation, AES and SEM obs. 1−8311
Ni-base superalloys by powder metallurgy techniques, vacuum sintering and heat treatment 1−39269
Ni-Cr, type KhN73MBTYu, temp.-time depend. of hardness *(Russian)* 1−48377
Ni-Cr-Fe (75, 16, 9 wt.%), intercryst. diffusion and Cr descript. in presence of water vapour, ^{51}Cr tracers appl. *(French)* 1−47283
Ni-Mo-Fe, constitution, mech. props. and dislocation struct. *(Russian)* 1−31528
Ni-Si boundary, Ni_2Si to NiSi transform., Xe marker study 1−52442
Pb (Zr, Ti)O_3, prep. from mixed oxides, reactivity of ZrO_2 during calcining 1−3787
$PbTiO_3$ ceramics, chemically pure, props. and synthesis 1−31107
$PbTiO_3$ ferroelec. thin film, fabrication by RF sputtering, optical and dielec. props. *(Japanese)* 1−35176
Pd film on Si substrate, thermal stability, Rutherford backscattering spectra 1−16215
Pt film on Si substrate, thermal stability, Rutherford backscattering spectra 1−16215
Si, Cu decoarated dislocations, IR and X-ray obs. of Cu extraction 1−25275
Si, Czochralski crystals, oxygen-related donors, Hall effect and photoluminesc. study 1−26256
Si, defect formation mechanism during heat treatment *(Chinese)* 1−25272
Si, doped crystals, influence of heat treatment on elec. props. 1−38798
Si films, low-press. CVD, optical props. meas., 3.0 to 6.0 eV 1−48178
Si, mechanical props. of heat treated Czochralski grown cryst. 1−35303
Si, twisted, dislocation network form. mechanism, weak-beam TEM anal. 1−20226
Si:As (B), implant diffusion enhancement by low-temp. heat treatment 1−11908
Si:H, amorphous, film-substrate and film-vacuum interfaces, field effect meas. 1−7622
Si:Mn solid solution precipitation elec. props. 1−20405
Si:O float-zone crysts., mech. strength 1−48420
Si:P(Ar) ion implanted, radiation damage and defect annealing investigated using Rutherford backscatt. and EPR meas. *(German)* 1−20245
SiC, heat treatment effect on density and struct. 1−8346
SiC, long-period polytype 51R, thermal stability at 2500°C 1−2372
Si_3N_4 films, N-H bond decomp. mechanism 1−39623
Si_3N_4, processing effect on props. 1−16733
SiO_2 fused fibres, effect of TiO_2 coating on tensile strength 1−39365
SiO_2 in Si/SiO_2 system, viscoelastic behaviour during heat treatment, X-ray topography study 1−39362
SiO_2, vitreous, low temp. sp. ht., effect of thermal treatment 1−16059
SiO_2:Fe, vitreous, fundamental absorpt. edge 1−16591
SiO_2-Al_2O_3-Na_2O-K_2O-CaO-B_2O_3-ZnO glass, thermal anal. during heat treatment 1−31429
$SmCo_5$ magnet, hot isostatically pressed 1−8253
$SmCo_5$ permanent magnets, mag. props. and microstruct., effect of comp., sintering and heat treatment temp. *(Chinese)* 1−35405
Ta, plasmasprayed, thermophysical props. 1−2939
Ta_2N-Ni films, RF sputtering prep. of Ni films, props. and interdiffusion anal. 1−35174
$TaSi_2$ films, DC sputtering prep., struct. and elec. props., oxidation behaviour 1−47406
Ti-Al-Mo-Zr, alloy VT9, props. and struct., effect heat treatment 1−16794
Ti-Al-Mo-Zr (6.7, 3, 1.7 wt.%), VT9, superplastic deform., improvement of mech. props. 1−16843
TiO_2, ion implantation effects, optical, elec. cond., and Rutherford backscatt. meas. 1−7217
V-H alloys, H bubbles formation by pulse heating 1−26512

heat treatment continued
W, plasmasprayed, thermophysical props. 1−2939
WC based composites, wear resist. improvement by heat treatment 1−35398
WC, effect of carbidizing temp. on props. 1−12775
WC-TiC (5 or 7 at.%), mixed carbide, cubic, treatment effect on at. struct. *(German)* 1−48394
$W_xNb_{1-x}Se_2$, synthesis from elements, form. kinetics 1−48292
Y-Si-Al oxynitride glass-ceramics, elec. props., X-ray diffr. and electron microprobe study 1−2954
ZnO surface electronic struct., intrinsic defect effects 1−34761
ZnO-Al_2O_3-SiO_2 glasses, crystallisation, heat treatment effect on ZrO_2 precipitation and transparency 1−16824
ZnSe, free exciton luminesc. and refl. spectra, native defect conc. effect 1−12570
ZnTe, edge emission and deep centre luminesc., effects of Zn-vapour heat-treatments 1−12589
Zr based alloy, dispersion strengthened, nuclear reactor appl., mech. props. 1−43357
Zr/Nb (2.5 wt.%), thermal cycling effect on movement of $\alpha Zr/\alpha Zr+$hydride phase boundary 1−35292
Zr-Ni surface composition rel. to bulk composition and heat treatment, ESCA study 1−52409

heated cathodes *see thermionic cathodes*

heating
see also electric heating; induction heating; plasma heating; refractories; space heating
atmosphere, heating by solar radiation, new parameterization 1−4555
atmosphere, inhomogeneous heating as source of gravity waves 1−27324
atmosphere, struct. of two stream methods for calc. of solar fluxes and heating rates in clouds 1−4612
burner and heat exchanger material durability evaluation *(Japanese)* 1−53381
domestic water heating using boiler heat pumps, operational data *(German)* 1−17231
galactic coronae heating, self-gravitating cond. stratified gas threaded by mag. fields 1−4753
heat pumps, industrial, applications for waste heat recovery *(German)* 1−35690
intergalactic gas, heating rates due to flow past massive object, gravit. drag effects 1−13864
interstellar dense clouds, heating and cooling processes *(Russian)* 1−49779
Io, EM heating 1−44477
micrometeorites, distrib. of temp. maxima for deceleration in Earth atmosphere without melting 1−22742
particles of parallelepipeds form, with boundary condition of third kind, heating 1−15363
planetary protoatmospheres, solar heating rel. to max. mass loss rates 1−36203
protoplanetary nebula, solar heating rel. to max. mass loss rates 1−36203
ring, nonlinear elastic, strained deformable state, heating effect *(Russian)* 1−37800
solar, industrial process heating US DOE R and D 1−21844
solar, system aspects of intensified domestic solar energy use in European countries 1−39742
solar atmosphere, heating of thermally conducting stratified medium using simple plane model 1−32676
solar chromosphere, impulsive heating during flares *(Russian)* 1−9464
solar corona, active region loops adjustment to heating rate vars. 1−44520
solar corona heating, self-gravitating cond. stratified gas threaded by mag. fields 1−4753
solar energy, for heat transfer systems of water heating, comparative numerical anal. *(Dutch)* 1−32037
solar heating of gas in porous material, radiation mean penetration distance effect on gas temp. *(French)* 1−46663
solar passive heating and cooling, European Rand D 1−32002
solar water heaters, control problems *(French)* 1−8689
solar water heating, flat plate low-concentration collector for hot water production 1−35706
solar water heating system with heat storage for industrial utilisation 1−21921
solar water heating system with thermosyphon double loop, effectiveness of heat exchanger 1−17273
solar water heating using thermosyphon loop 1−17274
solid body heating by friction, wear 1−33935
spiral solar collector, construction and performance optimisation for water heating 1−39816
stellar coronae heating, self-gravitating cond. stratified gas threaded by mag. fields 1−4753
universe, anisotropic, secondary heating epoch rel. to primordial radiation polarisation and anisotropy 1−44677
upper atmosphere energy transport by gravity wave 1−13634
volume heat source shape influence on temp. field of a thin plate *(Russian)* 1−46665
water heating systems, parametric anal. of wind- and solar-powered systems 1−21852

heating, buildings *see space heating*

heating elements
see also electric heating
high accuracy using semiconductor heating element *(Japanese)* 1−14118
radiant heater-shutter design for vacuum deposition 1−8232

heavily doped semiconductor materials *see heavily doped semiconductors*

heavily doped semiconductors
see also degenerate semiconductors; superconducting semiconductors
amorphous, metal-insulator transition, review 1−47480
Anderson localisation and non-Ohmic effects, scaling argument for conductance 1−47574
Anderson localised states, diagonal correlation effects 1−47573
Anderson transition approach, optical props. 1−48127
band tailing, scatt. and impurity conc. fluctuation effects 1−47471
devices, rigid band anal. 1−52555
Einstein relation, diffusivity-mobility ratio, temp. depend. 1−20759
electrode, electron transfer reactions of excited Ru tris-bipyridyl complexes 1−39618
electron states, metal-nonmetal transition region 1−47563
emitter region of bipolar transistor, minority carrier injection and storage, approx. soln. for Auger recomb. 1−34781
excitonic absorpt. spectra *(Russian)* 1−43149

heavily doped semiconductors continued
Hall effect review 1−34728
heat conduction mechanisms 1−2725
heavily doped, hot pressed, electron mobility determination procedure 1−30740
hopping and delocalisation, electron-electron interactions effect, Coulomb gap 1−47651
hopping conduction, radiative tunnel transition contrib. 1−20723
hopping transport coeffs. calc., review 1−47652
hot-electron transport in quantising mag. fields 1−16302
impurity band density of states, variational calc. 1−34655
impurity electron states calc. over wide impurity conc. range 1−42717
impurity states 1−12069
n-InSb, heavily doped and compensated, electron transport, 4.2-300K 1−34707
metal-insulator transition, cluster model approach 1−47478
metal-insulator transition, upper Hubbard band position and props. 1−47477
metal-insulator transition approach from insulating side, dielec. anomaly 1−47479
metal-insulator transition region behaviour of cond. 1−12030
metal-nonmetal transition region cond., compensation and correl. effect 1−47476
Mott-Hubbard-Anderson model, modified, unrestricted Hartree-Fock pseudocluster calc. 1−47572
negative magnetoresist. 1−47681
NMR in impurity bands, metal-nonmetal transition region 1−47959
piezoelectric, inhomogeneous, barrier cond. model influence on elec. effects of acoustoelec. interaction 1−12152
piezoelectric, magnetised, US wave excitation due to laser beam modulation, theory 1−30330
quantum particle moving in three-dimens. random pot. approx. theory 1−47475
Schottky contact, barrier height, non-uniformly doped surface layer effect 1−7710
screening length, self-consistent, calc. for Si and donor impurities 1−2983
semiconductor-metallic screen interface, magnetoplasma polariton modes in Faraday geometry 1−52634
Wannier excitons, single-site theory 1−12036
n-CdS, electron dynamics, spin-flip Raman scatt. obs., model amorphous antiferromag., Faraday rot. 1−48083
CdS:Ga, highly doped, optical props. and high excitation phenomena 1−52591
n-GaAs, heavily doped, Debye screening length doping depend. 1−16249
n-GaAs, heavily doped and compensated, electron transport, 4.2-300K 1−12112
GaAs, heavily doped epitaxial layers, pulse electron beam annealing effects 1−15928
GaAs, light scatt. by free electrons and electron-phonon coupled modes 1−48059
GaAs, negative magnetoresist. 1−47681
GaAs, photoluminesc., hydrostatic press. depend. 1−48134
GaAs Schottky gate FET, cond. oscillations in two-dimens. impurity bands 1−47745
GaAs:An, heavily doped, intra- and inter-valence-bands electronic Raman scatt. 1−3407
n-GaAs:Si, recombination centres, spontaneous emission 1−52991
GaAs:Sn, LPE, ion implantation, cathodoluminesc. 1−39160
p-GaAs:Zn, optically pumped electron spin relax. through virtual photon 1−35090
GaAs:Zn, photoluminesc., temp. and hole conc. depend. 1−3479
GaAs:Zn, photoluminesc., hydrostatic press. depend. 1−3480
GaAs-$Al_xGa_{1-x}As$ superlattice, subband struct., band bending, low temp. mobilities 1−7721
Ge, far-IR and photocond. obs. of impurity bands 1−48126
Ge, heavily doped and compensated, elec. cond., degree and method of doping effects 1−30749
Ge heavily doped compensated, metal-insulator transition 1−34628
Ge, light scatt. by free electrons and electron-phonon coupled modes 1−48059
Ge, negative magnetoresist. 1−47681
n-Ge:As, heavily doped, compensated, elec. cond. 1−20743
n-Ge:Cu, elec. cond. and anomalous magnetoresist. near semicond.-metal transition 1−25744
Ge:Sb, resist. and Hall maxima in metallic range, degenerate electron gas model 1−47683
In_2O_3 highly doped transparent heat-reflecting coating 1−52322
InP LPE layers, heavily doped, visible photoluminesc. emission 1−43152
n-InSb, mag. freeze-out and metal-nonmetal transition 1−47716
Si, light scatt. by free electrons and electron-phonon coupled modes 1−48059
Si solar cells, heavily-doped n^+-p junction, simplified model 1−43778
Si solar cells, inclusion of degeneracy in anal. of heavily doped regions, Fermi-Dirac integrals of order 1/2 1−43772
Si:Au, amorphous, metal-insulator transition, review 1−47480
Si:B, heavily doped, Raman spectra study of localized vibrs. 1−48061
Si:B, localised vibrations, Raman scatt. study 1−25392
Si:B, polycrystalline, CVD-prepared, resistivity changes caused by thermal annealing 1−30854
Si:B(P) CVD amorphous films, heavily doped, ESR study 1−52828
Si:P, metal-nonmetal transition related data review 1−47474
Si:P, sharp metal-insulator transition, zero temp. metallic cond. meas. 1−30793
Si:P resistivity rel. to dopant density obs. 1−12107
Si:P(As), crystal pot. investigated by convergent beam electron diffr. technique, doping influence 1−7198
Si:Pt, extrinsic photoconductivity, temp. depend. 1−20795
SnO_2 highly doped transparent heat-reflecting coating 1−52322
ZnSe, elec. props. meas. 1−20750
ZnTe, heavily doped, photoluminescence, bound exciton complexes 1−31189

Heaviside layer *see E-region*

heavy ion excited X-ray emission *see ion microprobe analysis*

heavy ion-nucleus reactions
for inelastic heavy ion-nucleus scattering, see "heavy ion-nucleus scattering"
backward angle scattering elastic and inelastic, optical potential and partial wave resonances 1−715
book 1−49887

heavy ion-nucleus reactions continued
breakup-fusion description of massive transfer reactions with emission of fast light particles 1−5791
central and averaged nuclear collisions, pion prod. mech., multiplicity distrib. *(Russian)* 1−18673
central collisions of heavy ions at bombarding energies close to the Coulomb barrier 1−14547
central heavy nuclei collisions, fragmentation region, fireballs, hot quark plasmas 1−33253
central relativistic nuclear collisions, 4 GeV/N, multiplicity distribs. *(Russian)* 1−5664
classical dynamical model for fusion and incomplete fusion in heavy ion collisions 1−45559
coherent isobar production in peripheral relativistic heavy-ion collisions 1−14535
collective degrees of freedom, energy dissipation in a model of coupled oscillators 1−44782
collective degrees of freedom and one-body dissipation 1−36960
collective excitations, large amplitude, semiclassical theory 1−10386
collective model and giant resonances, developments in nuclear research *(Dutch)* 1−10335
collective oscillations and single particle excitations, coupling system *(Chinese)* 1−18671
collective quark tube model 1−33269
compound nucleus fission barriers, liquid drop calc. 1−50691
compressed nuclear matter in heavy ion collisions, expansion, compressibility coeff., fluid dynamics model 1−14484
conference on heavy ion interactions at high energies, Erice, Italy (Mar.-Apr. 1979) 1−13917
conference on nuclear behaviour at high ang. momentum, Strasbourg, France (April 1980) 1−44695
cranked oscillator coherent states, properties and applications, review 1−5711
damped heavy-ion collisions, primary mass and charge distribs., calc. 1−50619
deep inelastic and fusion reactions with heavy ions, conf., Berlin, Germany (Oct. 1979) 1−49880
deep inelastic collision, nucleon exchange contrib. to transfer of angular momentum and energy *(Chinese)* 1−45531
deep inelastic collisions, collective motion 1−50634
deep inelastic collisions, kinetic energy dissipation, collective excitation motion *(Russian)* 1−10389
deep inelastic collisions, linear response theory 1−50636
deep inelastic collisions, mass transport coeffs., microscopic calc. 1−36959
deep inelastic collisions, surface friction and deformation 1−45532
deep inelastic collisions, transport theories and statistical model 1−28497
deep inelastic heavy ion reaction model, fission, (α, α'), grant resonances, γ-polarisation 1−14552
deep inelastic processes, 4-12 MeV/A, radial and tangential energy dissipation 1−14546
deep inelastic reactions, Brownian motion analogy 1−50637
deep inelastic scattering of heavy ions, path integral methods 1−14551
deep inelastic transfer reactions, highly unstable nuclei form., Q_{gg} systematics validity 1−10390
deeply inelastic reactions, equilibrium and ang. momentum transfer, Fermi gas model 1−28495
di-nuclear system at high ang. momentum, stability, fission barriers, saddle point shapes 1−23696
direct reaction analyses of heavy-ion induced reactions leading to discrete states 1−23624
direct versus thermal particle emission, ratio of n to p inclusive cross-sections 1−18674
dissipative collision expts., microscopic transport theory anal., book contrib. 1−50628
dissipative heavy ion collisions, compound nucleus formation, transport theories 1−45517
dissipative heavy ion collisions, transport theory, doorway configs. 1−50635
dissipative heavy ion collisions, transport theory, Markov approx. for strong and weak coupling 1−721
dissipative heavy ion reactions, light particle emission, highly excited nuclei spin determ. 1−45419
dissipative regimes, macroscopic dynamical model 1−41132
dynamics of fast nuclear collisions, nuclear equation of state, fluid dynamical model 1−50620
energy depend. above 10 MeV/nucleon, participant spectator model 1−50648
energy transfer, relationship with linear and angular momentum transfer *(Chinese)* 1−18670
entropy of hot matter produced 1−5793
finite size 1-dimens. TDHF, collision term effects 1−50618
fireball properties, particle prodn. at high temp. 1−18631
fission, conference, Julich, Germany (May 1979) 1−44711
fragment distributions, momentum fluctuations, Pauli suppression 1−41129
fragmentation, scaling laws asymm. 1−50623
fragmentation theory, asymm. two-centre shell model, cranking model, book contrib. 1−50631
fusion, classical trajectory model 1−50697
fusion, complete and incomplete, experimental aspects, book contrib. 1−50627
fusion, excitation functs., statistical limit in compound nucleus shell effects 1−50702
fusion, optimal velocity and excitation functions 1−14566
fusion, unslowed evaporation residues studied with velocity filter SHIP 1−50695
fusion, yrast line calc. 1−50703
fusion and other dissipative collisions, reactions between complex nuclei 1−45562
fusion models, review 1−50698
fusion reactions, deep inelastic collisions and excitation of giant resonances in 10 MeV/nucleon reactions *(Russian)* 1−50612
fusion reactions involving heavy nuclei, synthesis of superheavy elements 1−41155
fusion real part of interaction potential, sudden approx. calc. 1−5816
fusion-fission, pot. energy surfaces and mass distrib., liquid drop model, book contrib. 1−50629
fusion-fission type reactions, compound nucleus fission mechanism 1−50640
heavy and superheavy element synthesis spontaneous fission systematics 1−10399
heavy ion-nucleus reactions continued
(HI, xn), A∼150, continuum γ-spectra, yrast line, calcs. 1−45452
hot spot model, transport thermodynamics, diffusion 1−50644
inclusive pion prod., quasiparticle props., nuclear matter 1−14485
intermediate energy collisions, nucleon spectra prior to equilibrium, Fermi gas model 1−28496
intermediate energy heavy ion dynamics 1−14555
isotopic and charge distrib. anal. *(Russian)* 1−36963
K-vacancy formation, coupled channel calcs. 1−18678
light nuclei, far from stability, isospin quintets, online mass separator expts. from (^{3}He,xn), (heavy ion,xn) 1−10316
light-particle emission at high angular momentum in heavy ion collisions 1−45518
low energy, quantum fluctuations within the fragmentation theory 1−14548
low energy reactions, book 1−36463
mass distrib., dissipative mechanism for $200<Z_1Z_2<2000$ 1−50633
mass distrib. width, rel. to Z^2/A, fission barrier height, ang. momentum, temp. 1−10398
mass transport inertia effects, damped motion, hydrodynamical model 1−18679
mesonic field, propagation in nuclear matter, nonlinear effects, transparency 1−45435
molecular states, levels, collective and cluster models, fragmentation theory 1−10368
multi-fragment final states in nuclear collisions, statistical model, nuclear matter disassembly 1−50537
multibaryon interactions at relativistic energies [nuclear physics] 1−14545
muscovite mica track detector used in heavy ion reaction studies 1−10600
N=82 region, high spin isomers and excitation functions from HI reactions 1−23540
neutron emission, energies, multiplicities 1−50639
nuclear dynamics macroscopic aspects 1−14553
nuclear trajectory variation effects on atomic excitation probabilities 1−14540
one-body dissipation and fluctuation, one-body window friction 1−45521
particle identification system using gas proportional counter telescope *(Japanese)* 1−51058
peripheral collisions, one- and two-body dissipation 1−18676
peripheral fragmentation processes in continuous particle spectra 1−50652
peripheral heavy ion reactions, multibody fragmentation, longitudinal momentum distribs. 1−41091
phase-shift−vs wave-function−equivalent polarization potentials 1−45490
pion-condensed nuclear matter at finite temperatures, density isomers 1−18586
promptly-emitted particles 1−50642
quantal fluctuations in inelastic heavy ion collisions 1−23677
quark matter diagnostics in heavy ion collisions, fireball model 1−45220
relativistic collisions, hot dense hadronic and quark matter 1−5722
relativistic heavy ion collisions, cosmological events relevance 1−14544
relativistic heavy ion collisions, ratio of $\bar{p}$ o π^- produced, fireball model 1−5792
relativistic heavy ion collisions, two-particle correlations, hydrodynamical bounce-off model 1−50621
relativistic heavy ion fragmentation, peripheral collisions, Weiszacker Williams method 1−14554
relativistic shock wave in a fluid 1−2103
resonant heavy ion collisions, simple classification, direct channel effective barriers 1−23617
review 1−50632
scission point stretch in heavy ion induced fusion-fission and quasi-fission *(Chinese)* 1−45492
secondary reactions as a tool to produce exotic nuclei 1−45526
shock waves in nuclear matter, heavy ion collision circumstantial evidence 1−14487
spectroscopy and physics of nuclear collisions *(Dutch)* 1−14517
spectroscopy of yrast lines in light nuclei 1−50487
statistical theory using Fokker Planck eqn., book contrib. 1−50630
supercritical systems, collisional quasiatoms, facts and speculations 1−50527
superheavy ion collisions, QED of strong fields, dynamics of electron-positron field 1−45522
TDHF theory in heavy-ion collisions 1−50654
theory, basic ideas, book contrib. 1−50626
time dependent Hartree Fock description 1−14550
time-dependent particles+core model 1−45439
transfer reactions, polarisations, DWBA semiclassical approxs. 1−5769
transport description of heavy-ion reactions, Fokker-Planck eqns. 1−14549
two body dissipation in second order perturbation, dissipation form factor 1−50622
two-particle correlations, coalescence model, time description 1−14510
(C,X), 0.4-2.1 GeV/N, limiting target fragmentation 1−28449
π^- multiplicity and interaction cross section, nucleus-nucleus collision, 4.2 GeV/c per nucleon 1−722
Ag(^{12}C,X) ^{115,117,118}I neutron deficient isotopes, excitation functions 1−10349
^{109}Ag(^{40}Ar,X), fusion excitation functs., single particle transfer 1−33276
^{109}Ag(^{40}Ar,X), precompound decay, Boltzmann master eqn. approach 1−36961
^{27}Al(^{14}N,X), 148 MeV, α-particle emission 1−50647
^{27}Al(^{14}N,αX), 148 MeV, alpha emission cross sections 1−45520
^{27}Al(^{16}O, X), fusion cross sections, statistical yrast line effect 1−36975
^{27}Al(^{16}O,X), fusion excitation functs., single particle transfer 1−33276
^{27}Al(^{32}S,X), 135 MeV, multiple light particle prod. 1−50646
(Ar,X), 0.4-2.1 GeV/N, limiting target fragmentation 1−28449
(Ar,f), proton-rich nuclei with N∼126 fission probabilities 1−50688
(^{40}Ar,f), symmetric fragmentation reactions, mass distrib. effects on fission barrier 1−10397
^{40}Ar(^{27}Al,X), local equilibration and diffusive phenomena 1−18675
^{205}At from HI reactions, fast fission phenomena, mass distrib. FWHM, simple model 1−45547
^{197}Au(^{10}Ne,X), 7.6 GeV, cross sections, recoil props., factorisation and limiting fragmentations 1−14508
^{197}Au(^{12}C,X), 4.8, 25 GeV, cross sections, recoil props., factorisation and limiting fragmentations 1−14508
^{197}Au(^{132}Xe, X), peripheral heavy-ion collisions, measurement of overlap of nuclei 1−23675
^{197}Au(^{16}O, X), precompound decay, Boltzmann master eqn. approach 1−36961
^{197}Au(^{16}O,αX), 310 MeV, peripheral reaction, reaction mechanism 1−14541

heavy ion-nucleus reactions continued
^{197}Au(^{20}Ne,X), 7.5 to 20 MeV/nucleon, reaction mechanism evolution 1−50649
^{197}Au(^{22}Ne,α), cross-section rel. to α-particle binding energy 1−28493
^{197}Au(^{63}Cu,X), 443 MeV, classical theory with shape degrees of freedom, thermal fluctuations 1−41136
^{10}B(^{14}N,X), 26.9-74.9 MeV, total fusion cross sections, critical ang. momenta, statistical anal. 1−10400
^{138}Ba(^{7}Li, ^{6}He), 52 MeV, ^{139}La levels and spin assignments, DWBA anal. 1−18555
^{208}Bi(^{84}Kr,X), 600 MeV, classical theory with shape degrees of freedom, thermal fluctuations 1−41136
^{209}Bi(^{12}C, X), Fr neutron deficient isotopes, excitation functions 1−10349
^{209}Bi(^{12}C,X), 61-73 MeV, product and fission cross sections, ^{8}Be direct transfer 1−18664
^{209}Bi(^{12}C,X)Au, 4.8 and 25.2 GeV, target fragmentation, intranuclear cascade model 1−45527
^{209}Bi(^{136}Xe,X), 1130 MeV, classical theory with shape degrees of freedom, thermal fluctuations 1−41136
^{209}Bi(^{20}Ne,X)Au, 8.0 GeV, target fragmentation, intranuclear cascade model 1−45527
^{209}Bi(^{56}Fe,X), peripheral heavy-ion collisions, measurement of overlap of nuclei 1−23675
^{209}Bi(HI,X), entrance channel angular momentum dependence of mass transfer 1−23678
^{249}Bk(^{13}C,X)^{258}No, half-life, excitation function, prod. cross-section spontaneous fission 1−14564
^{249}Bk(^{15}N,X), 78-100 MeV 80 ms spontaneous fission activity search 1−36971
^{249}Bk(^{15}N,4n)^{260}R, half-life, excitation function, prod. cross-section spontaneous fission 1−14564
^{81}Br(^{6}Li, 3n), 19-32 MeV, ^{84}Sr band struct., γ-spectra and lifetimes 1−45402
(C,C'X), on photoemulsion, inelastic reactions, secondary two-particle correlations, superpositional mechanism *(Russian)* 1−18672
C(C,X), 800 MeV/A, relativistic collision, firestreak model, nuclear diffuseness, d,t spectra 1−14542
C(C, X), 800 MeV/nucleon, two-proton correlation measurements 1−18669
(^{12}C,^{12}C'X), 4.5 GeV/N, on photoemulsion noninteracting fragment average multiplicities *(Russian)* 1−18628
(^{12}C,X), A=12-90, 4.5 GeV/c/N, cross-sections and multiplicities of negative secondaries, anal. 1−18662
(^{12}C,X), in emulsion, 4.2 GeV/c/N, inelastic interactions, multiplicities, cascading-evaporation anal. 1−18680
(^{12}C,x), 3.6 GeV/N, in emulsion, inelastic reaction, hammer like fragment formation *(Russian)* 1−5762
^{12}C(^{12}C, x), resonant behaviour, angular distrib., anomalous backward angle scatt., resonance spins 1−10369
^{12}C(^{12}C, X), total cross section energy depend., Glauber model calcs. 1−28477
^{12}C(^{12}C,X), 2.45-6.15 MeV, ^{20}Ne, ^{23}Na, ^{23}Mg, excited state γ-transitions 1−18705
^{12}C(^{12}C,X), 52.1-92.1 MeV, total fusion cross sections, critical ang. momenta, statistical anal. 1−10400
^{12}C(^{12}C,X), 800 MeV/N, p and π prod., Monte Carlo calcs. 1−14539
^{12}C(^{12}C,X), low energy fusion calcs. in adiabatic time-depend. Hartree-Fock method 1−45560
^{12}C(^{14}N,X), 148 MeV, α-particle emission 1−50647
^{12}C(^{14}N,αX), 148 MeV, alpha emission cross sections 1−45520
^{12}C(^{16}O, x), resonant behaviour, angular distrib., anomalous backward angle scatt., resonance spins 1−10369
^{12}C(^{16}O,^{8}Be), 14-23 MeV, excitation function, cross section fluctuations, statistical model anal. 1−14492
^{12}C(^{16}O,X), 50-80 MeV, ^{16}O heavy-ion resonances in angular-momentum-unfavored channels 1−5753
^{12}C(^{16}O,α), 13-23 MeV, excitation function, cross section fluctuations, statistical model anal. 1−14492
^{12}C(^{16}O,α), 60-100 MeV, ^{24}Mg levels and ^{12}C+^{12}C resonances 1−36935
^{12}C(^{18}O,X), 32-100 MeV, fusion evaporation, cross section oscillations, Hauser Feshbach anal. 1−45558
^{12}C(^{58}Ni,^{70}Se), 50 MeV, compound nucleus decay, preequilibrium emission 1−50699
^{12}C(^{6}Li, ^{6}Li), 20-36 MeV, excitation functions, resonant two-step α-exchange search 1−18667
^{12}C(^{7}Li,αt), 70 MeV, direct and sequential breakup 1−33251
^{12}C(^{9}Be, n), 16-24 MeV, ^{20}Ne bands and spectra, statistical anal. 1−33210
^{13}C(^{9}Be,α)^{18}O*, 8 to 22.75 MeV, statistical anal., possible existence of intermediate resonant structure 1−41127
^{14}C(^{16}O,x), 16 to 34 MeV, correlated fine struct., intermediate resonances 1−45528
^{14}C(^{6}Li, ^{6}He), 34 MeV, ang. distribs. spin-isospin depend. effective interaction, DWBA anal. 1−50517
(Ca,X), product isotopic distrib. for fusion and fission, statistical model anal. 1−28492
^{40}Ca(^{14}C,^{14}O), 51 MeV, double charge exchange, exotic reaction cross sections 1−23672
^{40}Ca(^{14}C,^{15}O), 51 MeV, rearrangement transfer, exotic reaction cross sections 1−23672
^{40}Ca(^{16}O,X), TDHF fusion window, particle collision effects 1−14565
^{40}Ca(^{20}Ne,^{16}Oα), 260 MeV, projectile breakup scheme, breakup-fusion mechanism 1−41137
^{40}Ca(^{20}Ne,X), 151 MeV, deeply inelastic collisions and fusion 1−23701
^{40}Ca(^{32}S,X), 190 MeV, multiple light particle prod. 1−50646
^{40}Ca(^{40}Ca,X), energy spectra, light particle coincidences with gross structure 1−45533
^{40}Ca(^{40}Ca,X), fused system giant quadrupole resonance, TDHF approx. 1−5755
^{40}Ca(^{40}Ca,X), relativistic collisions, equilibrium, Monte-Carlo calcs. 1−50614
^{48}Ca(^{14}C,X), 67-78 MeV, ^{46}Ar, ^{48}K, ^{51}Ca mass excess and excited states 1−18567
^{48}Ca(^{36}S,X), evaporation residue and total reaction cross-sections 1−18677
^{48}Ca(^{7}Li,^{6}He), 34 MeV, ^{49}Sc levels, final state spins, centroid energies, spectroscopic factors 1−10313
Cd(^{14}N,p2n), ^{117,121}Xe band structure, J$^{\pi}$ and γ-transitions 1−45406
^{106}Cd(^{16}O,2pn), ^{119}Xe band structure, J$^{\pi}$ and γ-transitions 1−45406
^{136}Ce(^{16}O, xn), ^{148,149}Dy yrast states, transitions, proton $h_{11/2}^{2}$ and octupole excitations 1−23550

heavy ion-nucleus reactions continued
^{140}Ce(^{7}Li, ^{6}He), 52 MeV, ^{141}Pr levels and spin assignments, DWBA anal. 1−18555
^{249}Cf(^{13}C,3n), ^{259}Rf, alpha and spontaneous fission decay, $T_{1/2}$ and branching ratios 1−36972
Cl(Ar, X), 800 MeV/nucleon, two-proton correlation measurements 1−18669
^{35}Cl(^{40}Ar,X), relativistic reaction, π,p, d prod., entropy, hydrodynamic flow 1−50625
^{248}Cm(^{16}O,4n)^{260}Rf, half-life, excitation function, prod. cross-section spontaneous fission 1−14564
^{248}Cm(^{18}O,^{7}Be), ^{259}Fm, half-life, excitation function, prod. cross-section spontaneous fission 1−14564
^{248}Cm(^{238}U,X), 7.5 MeV/u, compound nucleus fission, liquid drop model 1−50693
^{50}Cr(^{7}Li,^{6}He), 28 MeV, ^{51}Mn low lying levels, j-depend. ang. distribs., spectroscopic factors 1−41134
^{52}Cr(^{19}F,p2n), 50 MeV, ^{68}Ge multiple band structs., IBM anal. 1−41033
^{53}Cr(^{12}C, X), preequilibrium neutron prod., neutron energy and ang. distribs. 1−23625
Cu(^{12}C, p2nγ), 48 MeV, ^{72,74}Se high spin state lifetime, B(E2) values 1−33208
Cu(^{24}Mg,X), 161-341 MeV, complete fusion cross section limitation, critical ang. momentum 1−23703
Cu(^{14}N, 2pnγ), 50 MeV, ^{72,74}Se high spin state lifetime, B(E2) values 1−33208
Cu(^{20}Ne, X), 12.6 MeV/N, deep inelastic, fast proton emission, evaporation anal. 1−41130
^{63}Cu(^{19}F,p2n), ^{79}Rb aligned $g_{9/2}$ band, lifetime, B(EC) values, boson cut-off 1−28370
^{63}Cu(^{20}Ne,X), 166 MeV, ang. momentum transfer, product ang., energy and charge distribs. 1−5794
^{63}Cu(^{7}Li,2n), 18 MeV, ^{68}Ge multiple band structs., IBM anal. 1−41033
^{65}Cu(^{18}O,p2n), 46 MeV, ^{80}Kr band, states, J$^{\pi}$, γ-transitions, quasiparticle excitations, cranked shell model 1−50485
Er(^{16}O,4n) 1−18540
^{166}Er(^{86}Kr,X), 12.1 MeV/u, projectile-like fragments splitting 1−50638
^{170}Er(^{208}Pb,X), near Coulomb barrier, friction coeff., neutron exchange 1−50641
F(Ne,X), 2.1 GeV/N, inclusive K^{+} spectra in nuclear fireball model 1−28494
F(Ne, X), 400 and 800 MeV/nucleon, two-proton correlation measurements 1−18669
F(^{20}Ne,X), 800 MeV/N, p and π prod., Monte Carlo calcs. 1−14539
^{54}Fe(^{6}Li,^{6}He), 40 MeV, ^{54}Co levels, DWBA anal. 1−45457
^{56}Fe(^{52}Cr, X), 261 MeV, intermediate complex lifetime, entrance channel mass asymmetry depend. 1−720
^{57}Fe(^{12}C,2nγ), 36-44 MeV, ^{67}Ge high spin states, J$^{\pi}$, transitions, polarisation, mixing ratio 1−10293
Fr neutron deficient isotopes, excitation functions from ^{209}Bi(^{12}C,X) 1−10349
^{155}Gd(^{20}Ne,5n), 105 MeV, ^{170}W 2^{+}, 4^{+}, 6^{+} rot. level lifetimes 1−23602
^{160}Gd(^{12}C,X), cross-section, excitation functions, incomplete fusion mechanism 1−50650
^{A}Ge(^{16}O, ^{16}O'γ), 36-42 MeV, A=70, 72, 74, 76, low lying levels, E2 transitions 1−18566
^{70}Ge(^{12}C, p2n), ^{79}Rb aligned $g_{9/2}$ band, lifetime, B(EC) values, boson cut-off 1−28370
^{76}Ge(^{12}C, 4n), 35-60 MeV, ^{84}Sr band struct., γ-spectra and lifetimes 1−45402
^{A}H(^{28}Si, pγ), 29, 33 MeV, A=2, 3, ^{A}Si, A=28, 29, 30, low lying state lifetimes DSA meas., stopping powers 1−23599
^{4}He(^{12}C,pX), relativistic reactions, direct fragmentation and hard scattering processes 1−23623
^{4}He(^{28}Si, $\alpha\gamma$), 53 MeV, ^{A}Si, A=28, 29, 30, low lying state lifetimes DSA meas., stopping powers 1−23599
^{4}He(^{32,34}S,α), 70 MeV, ^{32,34}S first excited state electric quadrupole moments 1−18558
^{165}Ho(^{40}Ar,X), ^{205}At compound nucleus, mass distrib. width, ang. momentum effect *(French)* 1−50692
K(Ar, X), 800 MeV/nucleon, two-proton correlation measurements 1−18669
K(^{40}Ar,X), 800 MeV/N, p and π prod., Monte Carlo calcs. 1−14539
^{39}K(^{40}Ar,X), relativistic reaction, π,p, d prod., entropy, hydrodynamic flow 1−50625
^{139}La(^{86}Kr,X), 505-710 MeV, charge distribs., fission-fusion cross section, nucleon exchange anal. 1−5686
^{24}Mg(^{16}O,^{12}C), 6.4-10 MeV, ^{28}Si, states, excitation functions, resonances, DWBA anal. 1−14503
^{24}Mg(^{18}O,^{16}O), 50 MeV, entrance and exit channel scatt., ^{26}Mg levels 1−14538
^{24}Mg(^{19}F,X), fusion cross sections, statistical yrast line effect 1−36975
^{24}Mg(^{46}Ti,^{70}Se), 77.4 to 136 MeV, compound nucleus decay, preequilibrium emission 1−50699
^{26}Mg(^{136}Xe, 4n), 4.1 MeV, ^{158}Dy yrast state lifetimes, reduced collectivity, B(E2) values 1−28368
^{26}Mg(^{14}C, ^{12}C), 69 MeV, two neutron stripping, ^{28}Mg levels, J$^{\pi}$, transitions and selectivity 1−50505
^{26}Mg(^{20}Ne,X) 4-15 MeV/u, in complete fusion 1−50700
^{26}Mg(^{6}Li, ^{7}Be)^{25}Na, 36 MeV, angular distribs., DWBA anal., determ. of spectroscopic factors 1−716
^{42}Mo(^{16}O, X), 187 MeV, intermediate complex lifetime, entrance channel mass asymmetry depend. 1−720
^{92}Mo(^{12}C,p2nγ), ^{101}Ag deduced energy levels 1−10321
^{98}Mo(^{14}N,4nγ), 65 MeV, ^{108}In bands, levels, transitions, γ-ray angdistribs. and polarisation 1−28365
^{100}Mo(^{14}N,4nγ), 55-75 MeV, ^{110}In odd-odd nucleis, high spin states, ΔI=1 cascade 1−45401
^{100}Mo(^{40}Ar, xnγ), 170 MeV, ^{136}Nd γ multiplicities rel. to spin, moment of inertia 1−23590
^{A}N(^{11}B,X)(^{13}C,X), A=14,15, two-nucleon transfer, sequential calcs. for spectroscopic factors, optical pots. 1−717
^{14}N(^{10}B, 3α) in photoemulsion, reaction mechanism 1−50611
^{14}N(^{12}C,^{26}Al), fusion cross-sections, crit. ang. momentum 1−45561
^{14}N(^{27}Al,X), local equilibration and diffusive phenomena 1−18675
Na(Ne,X), 100-300 MeV/N, inclusive pion prod., quasiparticle props., nuclear matter 1−14485
Na(Ne,X), 2.1 GeV/N, inclusive K^{+} spectra in nuclear fireball model 1−28494
Na(Ne, X), 400 and 800 MeV/nucleon, two-proton correlation measurements 1−18669

heavy ion-nucleus reactions continued
Na(^{20}Ne,X), 800 MeV/N, p and π prod., Monte Carlo calcs. 1−14539
^{93}Nb(^{16}O,X), 204 MeV, deep inelastic nonequilibrium neutron emission, spectra, ang. distribs. 1−33270
^{93}Nb(^{16}O,α), 240 MeV, angular and energy correlations 1−14534
^{93}Nb(^{16}O,x), 204 MeV, TDHF calcs., fusion, deep inelastic scatt. 1−45529
^{93}Nb(^{40}Ar,X), 10 MeV/nucleon 1−50643
^{93}Nb(^{40}Ar,X), 400 MeV, fragment spin distrib., light particle anisotropies 1−23676
^{93}Nb(^{63}Cu,X), few nucleon with one neutron emission, cross sections, statistical anal. 1−14537
^{142}Nd(^{7}Li, ^{6}He), 52 MeV, ^{143}Pm low lying states, J$^{\pi}$ and transitions DWBA anal. 1−41059
(Ne,X), pion spectra, collision geometry, charge density 1−50616
(Ne,X), product isotopic distrib. for fusion and fission, statistical model anal. 1−28492
^{20}Ne(^{12}C,^{32}S), fusion cross-sections, crit. ang. momentum 1−45561
^{20}Ne(^{12}C,X), 6-15 MeV, total and partial fusion cross sections, excitation functions 1−5818
Ni(^{16}O, 2pγ), 42-55 MeV, ^{72,74}Se high spin state lifetime, B(E2) values 1−33208
^{A}Ni(^{14}N,X), 115 MeV, A=58, 64, charge distribs., strongly damped event isotopic depend. 1−45516
^{A}Ni(^{16}O,X), 6 MeV/amu, A=58, 64, deep inelastic collisions, preequilibrium neutron emission 1−18668
^{58}Ni(^{12}C,2p), 39 MeV, ^{68}Ge multiple band structs., IBM anal. 1−41033
^{58}Ni(^{14}N,X), 148 MeV, α-particle emission 1−50647
^{58}Ni(^{14}N,αX), 148 MeV, alpha emission cross sections 1−45520
^{58}Ni(^{14}N,pnγ), ^{70}Se level structure from gamma-ray studies 1−663
^{58}Ni(^{16}O,X), 100 MeV, light fragment spin polarisation, high spin spectra 1−45489
^{58}Ni(^{40}Ar,x), 280 MeV, fragment spin and polarisation 1−50645
^{58}Ni(^{40}Ca, ypz$\alpha\gamma$), ^{92,94}Ru, ^{95}Rh levels, J$^{\pi}$, T$_{1/2}$ and γ-transitions 1−23566
^{58}Ni(^{58}Ni,X), complete fusion excitation functions, valence neutron dynamic influence 1−10401
^{58}Ni(^{7}Li,^{6}Li)^{59}Li, 20.3 MeV, analysing powers in peripheral transfer reactions 1−28460
^{60}Ni(^{12}C,2nγ), ^{70}Se level structure from gamma-ray studies 1−663
^{60}Ni(^{14}N,2pn), 52 MeV, ^{71}As excited states, lifetimes and γ-ray ang. distribs. 1−45423
^{60}Ni(^{20}Ne,X) relativistic collisions, equilibrium, Monte-Carlo calcs. 1−50614
^{61}Ni(^{12}C,pn), 32-38 MeV, ^{71}As excited states, lifetimes and γ-ray ang. distribs. 1−45423
^{64}Ni(^{40}Ca, X), 182 MeV, intermediate complex lifetime, entrance channel mass asymmetry depend. 1−720
^{64}Ni(^{58}Ni,X), (^{64}Ni,X), complete fusion excitation functions, valence neutron dynamic influence 1−10401
(^{16}O,X), A=12-90, 4.5 GeV/c/N, cross-sections and multiplicities of negative secondaries, anal. 1−18662
(^{16}O,xn), A=110-154, statistical γ-ray multiplicity, excitation energy above yrast line 1−41074
(^{16}O, xn), 65-85 MeV, Yb, Ce, Xe yrast cascade dipole component, statistical γ-ray multiplicity 1−41073
^{16}O(^{11}B,X)(^{13}C,X), two-nucleon transfer, sequential calcs. for spectroscopic factors, optical pots. 1−717
^{16}O(^{12}C,X), fusion limits in light heavy ion systems 1−5817
^{16}O(^{14,15}N,X), complete fusion, evaporation residue cross sections 1−33274
^{16}O(^{16}O,^{32}S), fusion cross-sections, crit. ang. momentum 1−45561
^{16}O(^{16}O,X), 7-14 MeV, total and partial fusion cross sections, excitation functions 1−5818
^{16}O(^{16}O,X), low energy fusion calcs. in adiabatic time-depend. Hartree-Fock method 1−45560
^{16}O(^{16}O,X), saturation, effective nuclear forces 1−41128
^{16}O(^{16}O,X) 50-80 MeV, heavy-ion resonances in angular-momentum-unfavored channels 1−5753
^{18}O(^{11}B, ^{8}Li), 115 MeV, ^{21}Ne high spin states, J$^{\pi}$ assignments, shell model anal. 1−33212
^{18}O(^{12}C, ^{9}Be), 115 MeV, ^{21}Ne high spin states, J$^{\pi}$ assignments, shell model anal. 1−33212
^{18}O(^{13}C, ^{10}B), 105 MeV, ^{21}F high spin states, J$^{\pi}$ assignments, shell model anal. 1−33212
^{A}Os(^{16}O, ^{16}O$^{1}\gamma$), 48.0 MeV, A=188, 190, 192, low lying state EM props. 1−18596
^{A}Os(^{32}S, ^{32}S$^{1}\gamma$), 62 MeV, A=188, 190, 192, low lying state EM props. 1−18596
Pb region, light nuclei, alpha-decay, mass from GSI online mass separator 1−10360
Pb(C, X), 800 MeV/nucleon, two-proton correlation measurements 1−18669
^{A}Pb(^{58}Fe,X), A=207, 208, compound nucleus fission, α-decay, evaporation calc. *(Russian)* 1−50655
^{110}Pb(^{52}Cr,X), evaporation residue cross section for fusion 1−23702
^{204}Pb(^{6}Li, 3nγ), 34 MeV, ^{207}At high spin states, transitions, J$^{\pi}$ and T$_{1/2}$ 1−41034
^{208}Pb(^{12}C,α2n), 79 MeV, ^{214}Rn level scheme, α- and γ-spectroscopy, 8^{+} state T$_{1/2}$ 1−50544
^{208}Pb(^{16}O,X), 10-80 MeV/N, giant resonance excitation 1−686
^{208}Pb(^{16}O,X), 315 MeV, projectile fragmentation, direct and non-direct contribs. 1−28452
^{208}Pb(^{58}Ni,X), deep inelastic, sequential fission, classical dynamical description 1−10394
^{208}Pb(^{7}Li,αt), 70 MeV, direct and sequential breakup 1−33251
^{208}Pb(^{90}Zr,X), deep inelastic, sequential fission, classical dynamical description 1−10394
^{110}Pd(^{208}Pb,X), near Coulomb barrier, friction coeff., neutron exchange 1−50641
^{110}Pd(^{208}Pb,X), peripheral heavy-ion collisions, measurement of overlap of nuclei 1−23675
^{110}Pd(^{40}Ar,X), evaporation residue and fission cross sections, statistical anal. 1−45546
^{110}Pd(^{40}Ar,X), neutron yields, fusion excitation functs. 1−50701
^{110}Pd(^{40}Ar,xn) Gd, γ-ray angular distrib., polarisation, dipoles, quadrupoles and multipoles 1−10377
^{141}Pr(^{19}F, 4nγ), 95 MeV, ^{156}Er yrast line irregularities, moment of inertia vs. rot. freq., backbending 1−45396
^{141}Pr(^{19}F,X) 100 MeV, ^{158}Er backbending and bandcrossing, γ-ray transition energy correlations 1−45451

heavy ion-nucleus reactions continued
^{198}Pt(^{6}Li,4n), 30-40 MeV, ^{200}Tl level scheme, J$^{\pi}$ and odd-even staggering in $\pi h_{9/2}\otimes\nu i_{13/2}$ bands 1−45407
^{226}Ra(^{48}Ca,X), compound nucleus fission, α-decay, evaporation calc. *(Russian)* 1−50655
Re(^{20}Ne,X), ^{205}At compound nucleus, mass distrib. width, ang. momentum effect *(French)* 1−50692
^{28}Si(^{14}C, ^{12}C), 69 MeV, two neutron stripping, ^{30}Si levels, J$^{\pi}$, transitions and selectivity 1−50505
^{28}Si(^{16}O,2pγ), 40 MeV, ^{42}Ca high spin yrast state excitation and decay modes 1−45400
^{28}Si(^{28}Si, X), two particle exclusive reactions, mass and energy selectivity, yrast states 1−36958
^{28}Si(^{32}S,X), 135 MeV, multiple light particle prod. 1−50646
^{28}Si(^{6}Li,X), inelastic scattering, closed-form description of polarisation 1−5797
Sm(^{40}Ar,X), fusion cross sections and zero point motions 1−36974
Sm(^{16}O,X), fusion cross sections and zero point motions 1−36974
^{A}Sm(^{16}O,X), 60-75 MeV, A=148, 150, 152, 154, sub-barrier fusion, deformation, coupled channel anal. 1−41157
^{A}Sm(^{32}S,X), A=144,154, fusion reaction at large ang. momenta, target deformation effects 1−718
^{A}Sm(δ^{6}Kr,X), 490 MeV, A=144, 154, γ-ray multiplicity moments, ang. momentum transfer 1−18663
^{144}Sm(^{12}C,3n), ^{153}Er high spin isomers, positions and decay 1−45390
^{144}Sm(^{12}C,4n), 86 MeV, ^{152}Er high spin states, isomers, J$^{\pi}$, T$_{1/2}$ and excitation functions 1−604
^{144}Sm(^{12}C,xn), 65-95 MeV, ^{A}Er, A=152,153 high spin states 1−45408
^{144}Sm(^{6}Li,3n), 32, 34, 36 MeV, ^{147}Tb high spin states, J$^{\pi}$, T$_{1/2}$ and γ-transitions 1−18534
^{144}Sm(^{7}Li, ^{6}He), 52 MeV, ^{145}Eu low lying states, J$^{\pi}$ and transitions DWBA anal. 1−41059
^{148}Sm(^{16}O,X), 105 MeV, ^{160}Yb, backbending and bandcrossing, γ-ray transition energy correlations 1−45451
^{148}Sm(^{208}Pb,X), near Coulomb barrier, friction coeff., neutron exchange 1−50641
^{154}Sm(^{16}O,X), incomplete fusion, successive crit. ang. momenta 1−50651
Sn region, light nuclei, alpha-decay, mass from GSI online mass separator 1−10360
^{116}Sn(^{16}O,X), 125 MeV, fast α emission, γ-multiplicities, direct emission critical energy 1−45519
^{118}Sn(^{6}Li,X), 22.2 MeV, ^{6}Li direct Coulomb break-up, α+d correlations 1−14507
^{124}Sn(^{28}Si,5n), 130, 145 MeV, ^{147}Gd high spin state feeding, enhanced transition rates 1−50548
^{124}Sn(^{40}Ar,xn) Er, γ-ray angular distrib., polarisation, dipoles, quadrupoles and multipoles 1−10377
Ta(^{12}C,X), 2-10 GeV/N, π^{-} and p multiplicities, correlation observations *(Russian)* 1−36953
^{181}Ta (^{20}Ne, spallation), 8 GeV, target residue recoil props. 1−41090
^{181}Ta(^{A}Ne,α), A=20,22, cross-section rel. to α-particle binding energy 1−28493
^{181}Ta(^{40}Ar,α), cross-section rel. to α-particle binding energy 1−28493
^{159}Tb(^{14}N,αX), sequential ejectile decays, uncorrelated breakup processes 1−33271
^{159}Tb(^{22}Ne,α), cross-section rel. to α-particle binding energy 1−28493
^{128}Te(^{14}N, 3nγ), 50-60 MeV, ^{139}Pr high spin states, isomeric state, J$^{\pi}$, transitions 1−23535
^{128}Te(^{16}O,4nγ)^{140}Nd, deduced nuclear g-factor of I$^{\pi}$=10^{+} isomers 1−5691
^{130}Te(^{12}C,4nγ)^{138}Ce, deduced nuclear g-factor of I$^{\pi}$=10^{+} isomers 1−5691
^{232}Th(^{22}Ne,α), cross-section rel. to α-particle binding energy 1−28493
^{232}Th(^{40}Ar,X), quantal fluctuations 1−23677
^{232}Th(^{40}Ar,α), cross-section rel. to α-particle binding energy 1−28493
Ti(^{16}O,αX), 310 MeV, non-equilibrium α-particle emission, energy and ang. correlation 1−14536
^{48}Ti(^{16}O,X), 20 MeV/nucleon 1−50643
^{205}Tl(^{10,11}B, 5n), 70 MeV, ^{110,211}Rn low lying yrast states, γ-decay, neutron-hole and proton excitations 1−5674
^{169}Tm (^{37}Cl, X), 148-186 MeV, fusion evaporation residues, zero degree excitation functions 1−41156
U(^{20}Ne,pnX), 400 MeV/N, p and n energy spectra, cascade coalescence model 1−23673
U(U,X), Fokker-Planck soln., mass distrib. shell effects 1−18681
^{238}U(^{16}O,f), 20 MeV/N, correlated fission fragments, folding angle distrib. 1−14561
^{238}U(^{184}W, f), Coulomb fission, semiquantal theory, double humped fission barrier 1−23698
^{238}U(^{20}Ne,X), density patterns and energy-angle distribs. from simple cascade scheme 1−41047
^{238}U(^{238}U, X), spontaneously fissioning superheavy element search 1−18666
^{238}U(^{238}U,X), 7.5 MeV/u, compound nucleus fission, liquid drop model 1−50693
^{238}U(^{56}Fe,X), neutron excess nuclei prod. 1−23674
^{51}V(^{19}F,X), X=$\alpha\alpha$, pα, pp, coincidence results, compound nucleus lifetime 1−50653
W(^{12}C,X), Hg fission time development, blocking lifetime meas. 1−50687
^{180}W(^{14}N, 8np), ^{186}Hg 522 keV O^{+} level lifetime, sub-ns determ. 1−10354
^{176}Yb(^{16}O,5n), ^{187}Pt excited levels and E0 transitions 1−660
Zn(^{6}Li,d), 34 meV, ^{A}Ge, A=68,70,72,74, α-transfer to 0^{+} states p pairing correl., DWBA anal. 1−14543
Zr(^{12,13}C, 3nγ), 56, 63 MeV, ^{100,102}Pd high spin states, bands, J$^{\pi}$ and transitions 1−41037
^{24}Zr(^{208}Pb,x), near Coulomb barrier, friction coeff., neutron exchange 1−50641
^{90}Zr(^{238}U,X), 7.5 MeV/u, compound nucleus fission, liquid drop model 1−50693
^{92}Zr(^{40}Ar,X), 193 MeV, fast α emission, γ-multiplicities, direct emission critical energy 1−45519
^{96}Zr(^{14}N,4n), 49 MeV, ^{106}Ag high ang. momentum states 1−45409

heavy ion-nucleus scattering
angular distributions of elastic and quasi-elastic scattering, pattern analysis 1−45534
backward angle scattering elastic and inelastic, optical potential and partial wave resonances 1−715
book 1−49887
coupled-channels extension of closed formalism 1−10387

heavy ion-nucleus scattering continued
elastic scatt., spin-orbit interactions 1−45530
elastic scattering, double folding with density depend. effective interaction 1−45524
elastic scattering, modified liquid drop model 1−5798
fragmentation theory, asymm. two-centre shell model, cranking model, book contrib. 1−50631
multiple Coulomb polarisation optical pot. 1−41131
nonlocal potentials, scattering and bound-state problems, spline function approach 1−5789
nuclear matter superdense state detection in heavy ion elastic scatt. 1−23579
rainbow refraction 1−719
rainbow scattering, threshold behaviour 1−41126
semiclassical analysis, summation of partial-wave amplitudes 1−50613
theory, basic ideas, book contrib. 1−50626
$^{27}Al(^{14}N, ^{14}N)$, 53 MeV, elastic and inelastic, transitions, Woods Saxon and double folding anals. 1−33268
$^{12}C(^{12}C, x)$, resonant behaviour, angular distrib., anomalous backward angle scatt., resonance spins 1−10369
$^{12}C(^{12}C,^{12}C)$, 5.5-12.8 MeV, total reaction cross sections and quasimolecular resonances 1−23618
$^{12}C(^{12}C,^{12}C)$, effects of refraction by attractive nuclear potential in enhancing cross sections 1−23670
$^{12}C(^{16}O, x)$, resonant behaviour, angular distrib., anomalous backward angle scatt., resonance spins 1−10369
$^{12}C(^{16}O,^{16}O')$, 2.1 GeV/N, isobar giant resonance formation in self-conjugate nuclei 1−50567
$^{12}C(^{16}O,^{16}O)^{12}C$, 60, 93 and 135 MeV, cross-section, optical model calc. 1−50624
$^{12}C(^{7}Li,^{7}Li)$, 63, 78.7 MeV, optical parameters and deformation lengths 1−5688
$^{14}C(^{14}C,^{14}C)$, 23.4-58.4 MeV, excitation function, gross struct. and resonant behaviour 1−28448
$^{14}C(^{14}C,^{14}C)$, elastic and inelastic scatt., gross struct. obs. 1−18665
$^{40}Ca(^{11}B,^{11}B')$, 51.5 MeV, cross sections, deformation lengths, DWBA, CC, double folding anal. 1−41133
$^{40}Ca(^{13}C,^{13}C')$, 68 MeV, Coulomb and inelastic excitations, optical pots., cross sections 1−45525
$^{40}Ca(^{7}Li,^{7}Li)$, quadrupole moment effects, folding model and coupled channels calc. 1−45523
$^{40}Ca(^{9}Be,^{9}Be)$, quadrupole moment effects, folding model and coupled channels calc. 1−45523
$Cl(^{40}Ar,X)$, 800 MeV/N, p and π prod., Monte Carlo calcs. 1−14539
$^{248}Cm(^{208}Pb, ^{208}Pb^{i})$, 5.3 MeV/u, ground state band anomalous behaviour, moment of inertia, γ-transitions 1−41030
$^{160}Dy(^{86}Kr, ^{86}Kr')$, 350 MeV, high spin state g-factors 1−18559
$^{A}Er(^{16}O,^{16}O')$, 48 MeV, A=167,164, intrinsic ground state shape 1−41046
^{A}Fe, A=54, 56, 58, 2^+ state static quadrupole moments from HI Coulomb excitation 1−41056
$^{54}Fe(^{7}Li,^{7}Li)$, quadrupole moment effects, folding model and coupled channels calc. 1−45523
$Ge(^{6}Li,^{6}Li')$, 10.5 MeV, quadrupole moments, spherical→prolate shape 1−5687
$Ge(^{16}O,^{16}O')$, 29.9 MeV, quadrupole moments, spherical→prolate shape 1−5687
$Hg(^{12}C,^{12}C')$, 40-60 MeV, 2^+ first excited state static quadrupole moment 1−632
$Hg(^{16}O,^{16}O)$, 59-65 MeV, 2^+ first excited state static quadrupole moment 1−632
$^{39}K(^{6}Li,^{6}Li)$, 28, 34 MeV, ang. distribs. Woods-Saxon and double folding optical parameters 1−50615
$(^{6}Li,^{6}Li)$, 88 MeV, A=24-208, elastic and inelastic, optical, CC and DWBA anals. 1−50617
$(^{6}Li,^{6}Li)$, A=58-208, 73.7 MeV, ang. distribs., optical parameters and cross sections 1−5795
$^{24}Mg(^{14}N, ^{14}N)$ 53 MeV, elastic and inelastic, transitions, Woods Saxon and double folding anals. 1−33268
$^{24}Mg(^{18}O,^{18}O)$, 50 MeV, two-nucleon transfer mechanism with entrance and exit channel scatt. 1−14538
$^{24}Mg(^{20}Ne, ^{20}Ne)$, optical model calcs. 1−23669
$^{26}Mg(^{16}O,^{16}O)$, 22-50 MeV, elastic and inelastic, excitation functions, deformation parameter, coupled channel anal. 1−5731
$^{26}Mg(^{16}O,^{16}O)$, 56 MeV, two nucleon transfer mechanism with entrance and exit channel scatt. 1−14538
$^{58}Ni(^{7}Li,^{7}Ni)$, pol. ^{7}Li, 20.3 MeV, vector analysing powers, folding model predictions 1−33256
$(^{16}O,^{16}O)$, 35 MeV, strongly absorbing optical potentials, E18 potential 1−14533
$^{16}O(^{12}C,^{12}C)^{16}O^*$, 20,22 MeV, doubletlike intermediate resonances, coupled channel calcs. 1−41087
$^{16}O(^{16}O,^{16}O)$, nucleon exchange effects in elastic scatt., natural boundary condition method 1−28387
$^{16}O(^{16}O,X)$, elastic and inelastic scatt., gross structure, coupled-channel model 1−10388
^{208}Pb $(^{40}Ar, ^{40}Ar)$, 236 MeV elastic and inelastic, cross section, optical model anal. 1−5796
$^{208}Pb(^{13}C,^{13}C)$, sub-Coulomb heavy ion scatt., nuclear absorption, optical pots, direct channels 1−23671
$^{208}Pb(^{17,18}O, ^{17,18}O)$, sub-Coulomb heavy ion scatt., nuclear absorption, optical pots, direct channels 1−23671
$^{208}Pb(^{24}Mg, ^{24}Mg)$, 145 MeV, elastic and inelastic, differential cross sections, deformation parameters, coupled channel anal. 1−36962
$^{208}Pb(^{28}Si,^{28}Si')$, 105 MeV, ^{28}Si first excited state electric quadrupole moments 1−18558
$^{208}Pb(^{28}Si,^{28}Si)$, 162 MeV, elastic and inelastic, differential cross sections, deformation parameters, coupled channel anal. 1−36962
$^{208}Pb(^{32,34}S, ^{32,34}S')$, 122 MeV, $^{32,34}S$ first excited state electric quadrupole moments 1−18558
$^{208}Pb(^{9}Be,^{9}Be^{i})$, 245 MeV, giant quadrupole resonance excitation, DWBA anal. 1−41089
$(^{28}Si,^{28}Si)$, 35 MeV, strongly absorbing optical potentials, E18 potential 1−14533
$^{28}Si(^{12}C,^{12}C')$, 23-35 MeV, 2^+ state excitation, nonresonant behaviour, total cross section 1−33240
$^{28}Si(^{12}C,^{12}C)$, energy dependence, optical model analyses 1−5790
$^{28}Si(^{14}N, ^{14}N)$, 53 MeV, elastic and inelastic, transitions, Woods Saxon and double folding anals. 1−33268
$^{28}Si(^{16}O,^{16}O)$, ang. distrib. backward rise, phase shift anal., scatt. matrix statistical fluctuations 1−41135

heavy ion-nucleus scattering continued
$^{152}Sm(^{16}O,^{16}O')$, 72 MeV, Coulomb and inelastic excitations, optical pots., cross sections 1−45525
$^{154}Sm(^{40}Ar, ^{40}Ar')$, 146, 153 MeV, ground state rot. band lifetimes, B(E2) values 1−18599
$Sn(^{16}O, ^{16}O)$, 48 MeV, even nuclei, 0^+ states, E0 and E2 transition rates 1−33211
$^{232}Th(^{208}Pb,^{208}Pb')$, 5.3 MeV/N, high spin states, γ-transitions, B(E2) for ground state band 1−45397
$^{A}U(^{208}Pb,^{208}Pb')$, A=234, 236, 5.3 MeV/N, high spin states, γ-transitions, B(E2) for ground state band 1−45397
$^{238}U(^{16}O,^{16}O')$, 52 MeV, quasi-gamma and K=0 octupole bands, quadrupole moments 1−36897
$^{A}Yb(^{86}Kr, ^{86}Kr')$, A=170, 174, 350 MeV, high spin state g-factors 1−18559

heavy leptons
$\tau\to\pi K\nu_\tau$, current algebra square root threshold singularity, chiral symmetry breaking 1−50416
chiral flavour theory of weak interactions, parify violation by neutrino pairing, massless neutral lepton 1−14307
cosmology and elementary particles, review 1−40586
hypothetical and τ-lepton exponential mass spectra *(Russian)* 1−5612
mass, Diophantine quantisation and collinearity 1−36855
massive neutrinos and the large-scale structure of the Universe 1−27619
spin 3/2, effects of alignment in production and decay *(Russian)* 1−23497
$SU(2)_L\times SU(2)_R\times U(1)$ symm., heavy lepton description *(Russian)* 1−45190
sU(3) lepton model and the dynamical generation of lepton mass differences *(Chinese)* 1−45158
superheavy leptons, manifestations and decay props. *(Russian)* 1−45279
e^+e^- annihilation, PETRA energies, jets, τ leptons and 2γ event separation 1−10236
e^+e^- annihilations, <36.6 GeV, sequential heavy lepton search 1−50411
$e^+e^-\to hx$, hadron prodn., ψ, τ, γ, jets, QCD calcs. 1−14408
$e^+e^-\to\mu^+\mu^-,\tau^+\tau^-$, 12 to 36.7, heavy lepton and muon scalar partner searches 1−28309
$e^+e^-\to\mu^+\mu^-(\tau^+\tau^-)$, weak neutral current coupling constant, electroweak anal. 1−534
$e^+e^-\to\mu\mu(\tau\tau)$, 9.4-31.6 GeV, prod. cross sections, QED calc., new heavy lepton search 1−50412
$\mu N\to\mu\mu\mu N$ ($\mu\tau\tau N$), trimuon EM prod., Bethe Heitler pair prod. 1−45294
pN, 70GeV/c, heavy neutral lepton and τ neutrino, prod. cross section restraints *(Russian)* 1−5651
τ, leptonic decay and semihadronic decay, DASP detector results at 4.0-5.2 GeV 1−28335
τ, QCD predictions, experimental verification and PETRA 1−14363
τ, semihadronic decay, chiral dynamics 1−5669
τ heavy lepton prod. from e^+e^-, review 1−10186
$\tau\to K\pi\pi\nu_\tau$, weak decay structure functions from current algebra, form factors 1−33182
τ lepton, nonstandard assignments in SU(2)⊗U(1) 1−50368
$\tau\to\nu_\tau+\pi^-+\omega$ decay, second class current manifestation *(Russian)* 1−36863
$\tau\to\nu_\tau\pi\omega(\phi)$, partial decay widths, triangle quark diagrams *(Russian)* 1−40994
$\tau\to\nu_\tau\rho\eta(\eta')$, partial decay widths, triangle quark diagrams *(Russian)* 1−40994
$\tau\to\nu\rho\pi$, A_1 resonance model, hard pion current algebra *(Russian)* 1−50429
$\tau\to\pi\omega\nu_\tau$, equal-time commutators between first and second class currents 1−36893
$\tau\to\rho\nu(\pi\nu)$, SPEAR Mark II results 1−10208
$\tau^\pm$, mass splitting of charged leptons, correspondence principle condition on Reissner-Nordstrom soln. 1−10118

heavy water
adsorption on Ge crystal, slow surface states, charge exchange, isotope effect 1−42845
angular motion, for IR bandshapes 1−6249
CANDU reactors, research and development review 1−5987
isobutyric acid-deuterium oxide liq. mixture, crit. exponent determ., neutron and light scatt. 1−20402
laser 385 μm emission, far IR laser resonator configs. 1−46400
liquid struct., inelasticity correction, quantum mechanical model 1−11665
molecule, in benzene, far IR absorption intensity 1−1222
molecule+O_3, vibr. relax. of O_3 1−46087
piezooptical and elastooptical props. under high press. 1−31126
production using hydrogen isotope exchange reaction in a hydrophobic catalyst bed 1−5855
recovery from combined electrolytic and non-electrolytic H_2 streams 1−43670
rot. and rovibronic struct., Rydberg and non-Rydberg states, UV obs. 1−24163
safeguards, nondestructive meas. techniques for diversion detection 1−14623
separation characteristics for pair of dual temperature multistage-type H_2/H_2O exchange columns 1−19203
struct. factor, density fluctuations, enhancement Lorentzian function approx., X-ray scatt. 1−53014
supercooled behaviour, percolation model 1−7065
thermal expansion in pores of TiO_2 powder 1−25468
D_2O, electron impact, D^- form., energy and angular distribs. 1−29127
D_2O-triethylamine, sp.ht. anomaly near critical soln. point 1−25448
$D_2O(\gamma,n)$, effect of photoneutrons on thermalisation expts. 1−18640
H_2O-D_2O equimolar mixture, vap. press. isotope effect 1−11875
H_2O-D_2O equimolar mixture, ideal behaviour 1−11876
H_2O-D_2O water mixture, muonic O and H isotope effects, X-ray intensity study 1−15043

HEED *see high energy electron diffraction*

height measurement
oceanic wave, using barometer mounted on buoy 1−40227
rocket altitude control system charact. *(Japanese)* 1−226
surface step height meas., with variable tilts, interferometric method 1−18193
time variable liquid surface, measuring apparatus *(German)* 1−27921

Heisenberg model
anharmonic ferromagnetic chain, solitary magnons *(Russian)* 1−3167
anisotropic Heisenberg antiferromagnet, variational treatment 1−30901
anisotropic quantum Heisenberg model, pure and diluted, renormalisation group scaling calcs. 1−42966

Heisenberg model continued
antiferromagnet, 1-D, spin 1/2, in applied magnetic field, spin fluctuation 1−12315
antiferromagnet, anisotropic, general correl. function series, phase diagram 1−12323
antiferromagnet, linear, S=1/2, spin-wave continuum 1−7804
antiferromagnet, one-dimens anisotropic, finite temp. renormalisation-group theory 1−52789
antiferromagnetic chain, random, low-temp. props. 1−3203
antiferromagnetic chain, random anisotropic, low-temp. thermodynamic props. 1−25965
antiferromagnetic Heisenberg chain, spin-Peierls phase transition 1−25963
antiferromagnetic linear chian, ground state energy 1−12250
antiferromagnetic spin chain, long-range interactions, renormalisation group calc. 1−12317
antiferromagnetic-chain, singular thermodynamic props. 1−25964
biquadratic exchange interaction in isotopic Heisenberg ferromag., spin wave theory *(Chinese)* 1−25946
chain, propagating energy modes, magnons 1−16436
classical, two-dimens., Monte Carlo renormalisation group anal. 1−21006
compressible Heisenberg chain, mag. solitons and elastic kink-like excitations 1−3133
continuous classical chain, classical and quantum aspects at T=0 1−52742
critical behaviour, cubic cryst. field effects, high temp. series investigation 1−52792
dilute s-state Potts model, thermal phase transition at percolation threshold 1−42972
diluted anisotropic magnet, crit. props. near percolation threshold 1−52790
diluted Heisenberg and XY magnets, spin diffusion constant 1−34889
disordered antiferromagnets with short-range atomic ordering, spin waves 1−3163
ferromagnet, continuous isotropic mag. solitons as envelope solitons of nonlinear Schrodinger eqns. 1−20949
ferromagnet, crit. exponents in reaction field approx. 1−20997
ferromagnet, Curie temp. sensitivity to single-ion anisotropy, second-order Green's function approach 1−7840
ferromagnet, drone-fermion representation 1−18148
ferromagnet, effect of biquadratic-exchange interaction on magnetisation and susceptibility 1−3134
ferromagnet, impure, with biquadratic interactions 1−3135
ferromagnet, linear, Ising-Heisenberg model, excitation spectrum, low-temp. thermodynamics 1−3196
ferromagnet, low temp. magnetisation 1−47838
ferromagnet, magnetic excitations and struct. disorder in Heisenberg system 1−12277
ferromagnet, self-consistent renormalised spin-wave theory in critical region 1−34871
ferromagnet, sensitivity of the Curie temperature to the number of nearest neighbours 1−38940
ferromagnet, simple cubic, with anisotropic exchange interactions, spin wave energy gap calc. 1−25917
ferromagnet, uniaxial, low temp. self-energy 1−3132
ferromagnet with paramagnetic nuclei, generalised Heisenberg model 1−30902
ferromagnet with uniaxial anisotropy, two-magnon excitations 1−3165
ferromagnetic, general spin, dilution 1−38939
ferromagnetic ground state of spin-1 system with three-atom interaction 1−12251
ferromagnets, biquadratic, choice of decoupling scheme 1−25862
generalised ferromagnet and Gross-Neveu model *(Russian)* 1−42940
generalised nonlinear Schrodinger and Heisenberg ferromagnetic spin eqns., geometry 1−34846
Heisenberg-Ising model phase boundaries between paramag. and antiferromag. phases, paramag. and spin-flop phases 1−25960
magnet, dil., NMR linewidth, conc. depend. in high-temp. limit 1−3272
magnetic semiconductor, localised spin heating in paramag. state 1−34847
manganocene, quasi 1-D Heisenberg linear chain antiferromag., mag. susceptibility meas. 1−30920
metamagnetism, collinear, Heisenberg term, magnon spectrum 1−7837
N-dimensional Heisenberg spin system, equations of motion in terms of particle field and gauge field 1−16421
n-vector model, thermal phase transition at percolation threshold 1−42972
nonlinear excitations in Heisenberg spin systems 1−32857
O(N) Heisenberg models, N=2,3, in (1+1) dimensions, finite lattice methods in quantum Hamiltonain field theory 1−27892
one dimensional magnet, shear and nonlinear modes 1−7822
one-dimensional classical ferromagnet, static spin correls., transfer matrix method 1−3189
one-dimensional Fermi systems, anisotropic S=1/2 Heisenberg chain, correlation exponents, theory 1−7850
polymer solutions, Goldstone modes in O(n) symmetric field theory, Heisenberg model 1−7067
quinolinium $(TCNQ)_2$, random exchange Heisenberg antiferromagnetic chain, quasi-universal mag. behaviour 1−3262
ring Heisenberg Hamiltonian, symmetry props., sum rule for energy eigenvalues 1−20937
solitons in Heisenberg quantum ferromag. chain 1−16446
spin 1/2 one-dimensional Heisenberg antiferromagnet, spin-flop phase deviation model 1−47891
spin glass, Mattis random ferromagnet, elementary excitations 1−25968
spin glass, mean field eqns. 1−47895
spin glass, off-diagonal disorder, dynamical and thermal props., theory 1−12316
spin glass, random anisotropy 1−12332
spin glasses, macroscopic description 1−12335
spin glasses, mean field theory 1−47893
spin systems, ground state energy, lower bounds 1−38903
spin waves in classical compressible Heisenberg chain 1−25916
stationary states, quantum statistical mech., rel. to ferromagnets 1−170
TCNQ salt, Qn$(TCNQ)_2$, random-exchange Heisenberg antiferromag. chain, crossover behaviour, ESR study 1−3237
TCNQ salts, random-exchange Heisenberg antiferromag. drains, thermodynamics 1−3206
two-dimensional six-vertex system, fluctuations and polarization correlations 1−7297
weakly anisotropic, quantum Hamiltonian formalism and symmetry crossover in one dimension 1−3204
CeP excited state EPR, g-shift and linewidth, theory 1−26033

Heisenberg model continued
copper formate, tetrahydrate and isomer, field-induced antiferromag. to ferromag. transition, process magnetisation 1−34908
$CsNiCl_3$, one-dimens. antiferromag., short-range-order, optical birefringence obs. 1−12304
Cu complex, α-bis(N-methylsolicylaldiminato)-copper (II), proton spin relax. rate at high fields 1−34875
$CuSO_4.5H_2O$, linear Heisenberg antiferromag., spin dynamics in mag. field 1−25966
$CuSeO_4.5H_2O$, linear Heisenberg antiferromag., spin dynamics in mag. field 1−25966
EuS, Heisenberg ferromag., magnetostatic mode excitations 1−25919
Fe-V (17.6 at.%), mag. diffusion anomaly 1−16082
$K_2CuF_4:Mn^{2+}$, mag. impurity props. magnetic dipole light absorpt. *(Russian)* 1−47879
$K_2Cu_xZn_{1-x}F_4$, at percolation threshold, Heisenberg ferromag. susceptibility 1−34865
$RbNiCl_3$, one-dimens. antiferromag., short-range-order, optical birefringence obs. 1−12304
$RbNiF_3$, ferrimagnet, high-temp. susceptibility of Heisenberg Model 1−12268
$SmAl_2$, 4f and band contribution to Sm form factor 1−25678

Heising modulation *see amplitude modulation*

helical dislocations *see screw dislocations*

helicity (elementary particles)
hyperfunction solutions of the zero-rest-mass field equations 1−40695
neutrino oscillations, Dirac- and Majorana-type mass mixing 1−45177
nonlocal structures, bilocal photon 1−18359
photons, covariant kinetic equation 1−5197
spin algebras and elementary particles in the infinite momentum frame 1−5526
spin algebras and triads associated with infinite momentum frame 1−14265
tachyons, imaginary mass system associated with EM fields, helicity representation of Lorentz group 1−5099
e^+e^- →hadrons, 3-jet events, angular asymmetries due to gluon bremsstrahlung off quarks 1−5641
$K^-n \rightarrow \Lambda\pi^-$, differential cross-section and polarization, Regge pole model with phenomenological residue functions 1−45344
$K^-p \rightarrow \Lambda\pi^0$, differential cross-section and polarization, Regge pole model with phenomenological residue functions 1−45344
NN scatt., form factors ππ dynamics, twice-subtracted dispersion relation 1−14384
$\bar{p}p$, deep inelastic scattering by polarised proton in quark-parton model 1−40982
pp→pp, 6 GeV/c, spin-dependent forces and scatt. amplitudes 1−41005
πN scattering, form factors, ππ dynamics, twice-subtracted dispersion relation 1−14384
$^2H(\nu,\nu)np$, SU(2)×U(1) model, neutral currents helicity 1−50590

helicons
see also solid-state plasma
filamentation instability, whistler-plasma motion interaction 1−2169
semiconductor plasma, nonlinear theory of surface-helical instability 1−42808
semiconductor-ferrite boundary, coupled surface helicon-spin waves *(Russian)* 1−42847
semiconductor-ferrite interface, helicons, theory 1−25752
semiconductor-metal boundaries, oblique surface helicon waves 1−42807
n-Bi-Sb alloy, magnetoplasma waves propagated along trigonal axis, magnetoresist. tensor 1−20794
$Bi_{0.9}Sb_{0.1}$:Te, RF response due to magnetoplasma anisotropy, meas. 1−7651
$Bi_{1-x}Sb_x$ cyclotron reson., helicon wave contrib., Fermi surface anisotropy effects 1−34612
$Bi_{1-x}Sb_x$, dielec. props. at semicond.-semimetal transition 1−26112
In, thermal conductivity changes near critical temp. 1−20916

helicopters
rotors, nonlinear dynamic anal. using finite element method 1−6812
thickness noise of two-bladed helicopter rotor 1−24596

heliotron *see plasma devices*

heliports *see airports*

helium
see also nuclei with .....
see also helium atoms; helium films; liquid helium; solid helium
abundance in galactic halo, implications of globular cluster metal abundance scale 1−44634
abundance in natural gas from thermal springs 1−13461
accretion of H-rich material onto He white dwarf leading to nova 1−9478
afterglows, partially ionised, re-ionisation by Alfven waves 1−6947
ash enrichment and exhaust by simple divertor in INTOR-size reactor 1−11587
beam, charge-changing collisions in gases, electron loss 1−10833
breakdown mechanism in sharply non-uniform field 1−15589
bubble, clusters of 2 to 100 He atoms, nucleation in W, thermal desorption spectrometry 1−2809
bubble growth in BC, irradiation temp. effect, TEM obs. 1−2526
cathode fall and negative glow simulation studies 1−15718
compressed gas, Rayleigh-Brillouin spectrum, rel. to generalised Enskog theory 1−2139
desorption from constantan, quantum statistical theory 1−16187
dielectric constant gas thermometry from 4.2 to 27.1K 1−40787
diffusion mobility in Mo, intrinsic interstitial effect 1−30483
discharge, pulsed, temporal and spatial variations of population of excited state atoms 1−29939
discharge at intermediate press., level population density and line intensity 1−42232
discharge in cathode region, electron and ion behaviour study by Monte Carlo techniques 1−15719
electron swarm parameters 1−29831
electron-stimulated field desorption of multiply charged ions from W surfaces 1−16671
electrons average energy loss factor, transport equations 1−11523
exergy-enthalpy diagram construction and use 1−50091
fusion reactors, alpha particle deceleration, mag. field effect 1−42196
gas, elec. breakdown, longitudinal mag. field, formation time, optical studies *(Russian)* 1−38043
gas, positron lifetimes meas. 1−24910
gas, positronium form., energy depend. 1−24291

helium continued
gas and superfluid, oriented metastable triplet state kinetics *(Russian)* 1−29936
gas bubbles in V, Brownian motion, direct evidence 1−11910
gaseous, expts. on thermally driven acoustic oscills. 1−15573
GCFR coolant 1−14585
globular clusters, evidence for He abundance differences across Galaxy from giant branch luminosity functions 1−36364
in globular clusters, He and metal abundance 1−36357
glow discharge, ionisation current growth theory 1−46946
glow discharge, quenching and excitation transfer in n=4 sublevels 1−46943
glow discharge, spectrosc. investig. 1−38152
Hawaiian igneous rock origin, Ar and He isotope study 1−9138
history, status and prospects 1−44757
ideal gas, classical partition function, teaching 1−22976
ion beam effect, on sputtered atom ionisation probability *(Russian)* 1−3555
ion beam impurity diagnostics using pyrolitic C pulses 1−25061
ion implantation, trapping and mutual release of D and ^{3}He in Mo 1−25304
leak detection in chem. plants *(German)* 1−50145
long sliding spark, breakdown characts. 1−46940
low pressure discharge, He temp., vel. distrib. and population densities 1−34166
mass spectrometer leak detector, appl. in chem. plants *(German)* 1−50146
metastable atom concentration evolution in HF induced discharge *(French)* 1−52011
neutrino problem, effects of turbulent diffusion in solar interior *(French)* 1−44524
E.Pacific Rise hydrothermal site, Mn and ^{3}He obs. in water samples 1−13489
plasma, atom+electron collision cross section meas. 1−34043
plasma, electron cyclotron instability suppression by selective cyclotron damping 1−2202
plasma, electron impact broadening and shift of spectral lines, quantum scattering theory 1−6928
plasma waves, Alfven, non-axisymm., in He plasma, excitation by helical coupler 1−46886
positive column, optogalvanic effect 1−2274
positive column, optogalvanic effect 1−38151
positive column plasma, medium-press., mol. ion and metastable atoms form., effect on electron temp. 1−11607
primordial nucleosynthesis, effects of anomalous neutrino interactions on He prod. 1−54672
production in big bang, test in strong field approx. for gravitational bimetric theory 1−54670
Rayleigh-Benard convection, instrumental attenuation 1−33959
refrigerator installed orifice flowmeter calibration and use 1−46834
Saturn atmosphere, He fraction from Pioneer 11 radio occultation 1−40401
sound transmission through plates in air and He atmospheres at pressures up to 50 bars, report *(German)* 1−19488
star core He flash, role of convection simulation 1−40477
steady-state swarm behavior 1−11522
stellar He shell flash characts., dpeend. on core mass 1−9470
supercritical, friction factor for flow in straight tube 1−42106
surface activity, determ. from influence of chemisorption on surface magnetism of Fe-Ni 1−34583
vapour, sound absorption 1−15572
Al damaged layer, under He ion irradiation, mech. props. *(Russian)* 1−20275
CO_2-He-N_2, optical gain optimisation in supersonic stream on mixing vibr. excited N_2 1−46289
CO_2-N_2-He, gas dynamic lasers, gain, intensity and power output, kinetic theory calc. *(Chinese)* 1−1542
CO_2-N_2-He gasdynamic laser, nozzle cascade losses, friction effect 1−41656
CO_2-N_2-He laser mixture, effect of easily ionised admixtures 1−33658
CO_2-N_2-He mixture, self-sustained gas discharge with preliminary electron beam ionisation, pumping CO_2 laser appl. 1−25096
CO_2-N_2-He mixture, transversal discharge, laser radiation amplification coeff., meas. method *(Rumanian)* 1−15149
Fe, H absorption affected by He, Fe and Pt implantation 1−7458
H II regions ionisation fronts effect of He and trace elements abundances on struct. 1−32742
H_2-He leak, calibrated, for qualitative estimation of H_2 and He in 10^{-6} to 10^{-8} l Torr s^{-1} 1−44941
H_2-He mixtures, low-current moderate-press. elec. discharges, expt. and calc. 1−42228
HCl-He mixture externally sustained discharge, energy characts. and stability 1−42248
He and Ne isotope separation in rotating H plasma 1−34128
He Freon-12 mixture, gas-gas phase equilib. calcs. 1−6916
He ionisation heat engine for β Cephei stars, evidence from fast time-resoluton spectroscopy of BW Vulpeculae 1−40495
He low-pressure plasma, electron distrib. function calc. by Monte Carlo method *(Russian)* 1−2143
He-air mixture, thermal cond. meas. for molar concs. from 0 to 100% 1−46844
He-CO_2-N2 plasma, electron drift vels., attachment and ionisation rates 1−38156
He-CO-CO_2-N_2 gas mixture, electric discharge convection lasers, ionic and thermal instabilities 1−33653
He-CO-N_2 discharge, instability following removal of ionising beam 1−15665
He-Cd hollow-cathode lasers, output pulse optimal repetition freqs. 1−51460
He-Cd laser, crossing signals in zero mag. field, strong EM field effect 1−33433
He-Cd panchromatic hollow cathode laser emitting at 12 wavelengths 1−51507
He-Cd transverse RF discharge laser, excitation conditions optimisation 1−33668
He-Cd^+ laser with RF transverse pumping, laser transitions 1−29267
He-Cd^+ white light laser, const. current characts. 1−24403
He-Cd^+ white light laser using novel tube struct. 1−46370
He-Cs, photoionisation, photoconductivity induced by radiation pulse meas. 1−1547
He-Cu afterglow, energy and charge transfer, rate consts., spectra 1−38189

helium continued
He-Cu gaseous plasmas, energy transfer processes 1−25091
He-Cu hollow cathode laser with multiple electrodes 1−29293
He-He, intermol. pot. energy surfaces, calc. by variation perturbation method 1−33534
He-Hg discharge, cathodic zone self consistent microscopic study 1−15163
He-Hg hollow-cathode lasers, output pulse optimal repetition freqs. 1−51460
He-Hg ion laser, pumping mechanism, Penning-like process, expt. 1−41667
He-Hg laser, crossing signals in zero mag. field, strong EM field effect 1−33433
He-Kr laser with transverse hollow cathode discharge, Kr II quasi-CW lines 1−24394
He-methane, electron drift velocity, electric field pressure 1−51904
He-N_2CO_2-UF_6 high-power nuclear pumped laser system 1−24390
He-Ne, two-mode laser, freq. response, transitions 1−51451
He-Ne 0.633-μm longit. Zeeman laser, freq. stabilisation 1−6569
He-Ne 1.15 μm laser single mode selection and stabilisation 1−41740
He-Ne annular laser, pulsation freq. stability, active medium parameter effect 1−15154
He-Ne CW laser, type LG-126, interference study of laser radiation spectral comp. 1−37460
He-Ne frequency stabilised lasers with iodine measuring cell *(Czech)* 1−51449
He-Ne gas laser, ZnO, photoreceptor for xerography 1−24468
He-Ne gas lasers, high-amplification, transient processes 1−29256
He-Ne glow-discharge laser, dynamic resist. 1−29255
He-Ne internal mirror laser, 6328 Å, freq. stabilisation *(Korean)* 1−46382
He-Ne internal-mirror lasers, freq. stabilisation using polarisation props. 1−19368
He-Ne laser, axial mode selection, longit. mag. field effects 1−15155
He-Ne laser, commercial, type LG-149-1, emission wavelength stability investigation 1−50109
He-Ne laser, commercial wavelength stabilised, wavelength calibration *(Japanese)* 1−46295
He-Ne laser, I_2 stabilized, portable 1−36614
He-Ne laser, light output depend. on acoustic press., use as hydrophones 1−19530
He-Ne laser, longit. mode-locking by nonlinear absorpt. in Ne 1−33726
He-Ne laser, reson. freq., relativistic effect correction 1−51453
He-Ne laser, resonator and self-locking demonstration 1−9806
He-Ne laser, testing of parameters and optical element quality *(Czech)* 1−46373
He-Ne laser, transverse mode spatial self-locking 1−51523
He-Ne laser, Zeeman-type, self-selecting modes *(Czech)* 1−51450
He-Ne laser anal. of CO_2 1−4135
He-Ne laser mode structure control by phase-shifting masks 1−51537
He-Ne laser output, RF elec. field effect, freq. depend. 1−46294
He-Ne laser resonator, off-reson. dispersion profile 1−33718
He-Ne lasers, determ. of mutual coherence of field in glass fibre 1−29401
He-Ne lasers, high-vol. appls. 1−24445
He-Ne lasers, I_2 stabilised, at 612 nm 1−36613
He-Ne lasers, measuring deformations using electronic detectors *(Czech)* 1−50100
He-Ne lasers stabilized by saturated absorption in iodine at 612 nm 1−36612
He-Ne multiple mode laser, LG-75-1 1−19350
He-Ne ring laser with $^{129}I_2$ absorbing medium, high-contrast nonlinear reson. 1−46399
He-Ne/methane ring laser, power reson. shift, pump current effect 1−29257
He-SF_6 60 Hz breakdown characts. 1−11507
He-Se^+ lasers, noise props. and their relationship to moving striations 1−15162
He-Xe, two-mode laser, freq. response, transitions 1−51451
He-Xe 3.5 μm unilateral ring laser, intensity fluctuation around oscill. threshold 1−46403
He-Xe disparate-mass gas mixture, sound dispersion 1−29828
He-Xe IR laser interferometry for length meas. 1−36725
He-Xe laser, formaldehyde stabilised, wavelength meas. at 3.51 microns 1−29252
He-Xe lasers, fission fragment nuclear pumping 1−24391
He-Xe mixture, mol. dynamics of binary fluids near crit. mixing point 1−15780
He-Xe two-wavelength IR laser, stabilization method 1−33702
He-Zn hollow cathode laser discharge, laser-level excitation, inert gas mixing effects 1−10989
He+Na, collisional broadening of $3P_{1/2}$-$3P_{3/2}$ transition meas. by trilevel-echo technique 1−14983
$He+O^{2+}$, ground and metastable state reactions, rate constants, mass spectra 1−39610
$He^{2+}+H$, electron capture cross-sections, at. wavefunctions calcs. 1−10836
^{3}He abundance in white dwarf degenerate envelope, rel. to recurrent nova outbursts triggering 1−9500
^{3}He anomalies in deep Atlantic Ocean, distrib. 1−4540
^{3}He, magnetisation and press. in fast compression in high fields 1−16138
$^3He_2(^4He_2)$, Raman spectra, polarised and depolarised spectra of collision pairs, CI calcs. 1−19106
^{3}He-Ar, large volume multiple path nuclear lasing at 1790 nm 1−15153
^{3}He-Ar nuclear pumped laser, multiple-path large-volume for increased output 1−37459
^{4}He, dense gas, second mobility edge for excess electrons, density and temp. determ. 1−24921
^{4}He, sorption into SiO_2 glass, effect on anomalous heat capacity 1−30414
^{4}He-methane, shift velocity, pressure, diffusion coeff., swarm expts., electric field scaling law 1−51903
Ne-He laser tube, discharge development 1−41662
SF_6-He gas mixture, cylindrical insulator flashover voltages 1−15711
SF_6-He mixtures, arc thermal interruption performance meas. 1−15694
SiO_2:He, vitreous, anomalous low temp. specific heat due to solutes 1−7352
Sr-He mixture, Sr I and II line shapes during pulsed discharge 1−33427
Sun, He deficiency question and the 5 minute oscill. 1−27455
TiT_x aged thin film, from ^{3}He release 1−8602
Xe-He, laser, saturating amplified-spontaneous emission source, intensity fluctuation and spatial coherence 1−1545

helium, liquid *see liquid helium*

helium, solid *see solid helium*

helium-3 interactions *see helium 3-nucleus reactions*

helium 3-nucleus reactions
for inelastic helium 3-nucleus scattering, see "helium 3-nucleus scattering"
light nuclei, far from stability, isospin quintets, online mass separator expts. from (^{3}He,xn), (heavy ion,xn) 1−10316
online separator ISOCELE, prelim. results 1−10580
^{27}Al(^{3}He, X), giant monopole resonance study, DWBA anal. 1−18620
^{27}Al(^{3}He,p) statistical multistep compound emission model, fluctuations 1−23664
^{9}Be(^{3}He,$\alpha\alpha$)^{4}He, 2.8 MeV, quasi-free contribution, test of polar approx. 1−50606
^{9}Be(^{3}He,$\alpha\alpha$)^{4}He, Treiman-Yang criteria for quasi-free reactions 1−14532
^{12}C(^{3}He, ^{7}Be), 41 MeV, α-pickup, spin-orbit coupling effects, DWBA anal. 1−28451
^{12}C(^{3}He,X), total cross section energy depend., Glauber model calcs. 1−28477
^{12}C(^{3}He,d), 43.6 MeV, ^{13}N high spin states, spectroscopic factors and J^π, proton stripping 1−23543
^{A}Ca(^{3}He, ^{4}He), A=40, 44, 48, at 50 MeV, measurements analysed with optical potentials and DWBA 1−41122
^{40}Ca(^{3}He, X), giant monopole resonance study, DWBA anal. 1−18620
^{48}Ca(^{3}He,d), 25 MeV, ^{49}Sc single particle and core excited states, spectroscopic factors, DWBA anal. 1−5696
^{106}Cd(^{3}He,p2nγ), 40 MeV, ^{108}In bands, levels, transitions, γ-ray angdistribs. and polarisation 1−28365
^{A}Cu(^{3}He,xnypzα), 10-44 MeV, A=63, 65, preequilibrium decay, entrance and exit channel phenomena 1−5766
^{161}Dy(^{3}He,α), study of ^{160}Dy S-band low spin members 1−41029
^{19}F(^{3}He,d)^{20}Ne*, 10-23 MeV, g-shell admixtures, one step and multistep processes in CCBA 1−18659
Fe(^{3}He,t), 25-40 MeV, differential cross section and polarisation from diffraction model 1−709
^{54}Fe(^{3}He,t), 70 MeV, ^{54}Co Gamow-Teller strength, levels and cross sections, DWBA anal. 1−5740
^{56}Fe(^{3}He, X), giant monopole resonance study, DWBA anal. 1−18620
^{2}H(^{3}He, X), pol. ^{3}He, 33 MeV, X=pp, pt, p^{3}He, 3-body break-up, anal. powers 1−23630
(^{3}He,^{2}He), 13, 17 MeV, A=9-89, final state interactions, ang. correlations, DWBA anal. 1−713
^{193}Ir(^{3}He,^{2}H)^{194}Pt, supersymmetry tests on proton stripping reactions 1−45487
^{6}Li(^{3}He,p), <2 MeV, absolute, total and differential cross sections, thermonuclear rate 1−5788
^{7}Li(^{3}He,$\alpha\alpha$d), 5 MeV, ^{6}Li ^{13}D$_1$ state obs. 1−50491
^{93}Nb(^{3}He, xnypzα), 10-44 MeV, preequilibrium decay, entrance and exit channel phenomena 1−5766
Ni(^{3}He,t), 25-40 MeV, differential cross section and polarisation from diffraction model 1−709
^{A}Ni(^{3}He, X), A=58, 60, giant monopole resonance study, DWBA anal. 1−18620
^{62}Ni(^{3}He, X), preequilibrium neutron prod., neutron energy and ang. distribs. 1−23625
^{16}O(^{3}He, ^{7}Be), 41 MeV, α-pickup, spin-orbit coupling effects, DWBA anal. 1−28451
^{16}O(^{3}He,p), ^{18}F parity mixing due to NN potential 1−5690
^{17}O(^{3}He,tc), ^{16}O hole states, p and α decay, branching ratios, nuclear Auger effect 1−14445
Pd(^{3}He,α), 70 MeV, neutron pickup reactions and deeply bound hole state excitation 1−14505
^{102}Pd(^{3}He,p3nγ), ^{101}Ag deduced energy levels 1−10321
^{A}Sm(^{3}He,α) A=148, 150, 152, 24 MeV, ^{A}Sm, A=147, 149, 151, level structures, angular distribs., spectroscopic factors, single-neutron holes, DWBA calcs. 1−10295
^{116}Sn(^{3}He,3n), ^{116}Te decay scheme, ^{116}Sb levels 1−50509
^{99}Tc(^{3}He,d), 33.4 MeV, ^{100}Ru, energy levels, J^π and spectroscopic factors 1−5670
^{130}Te(^{3}He, ^{4}Tn), 44 and 130 MeV, cross section, tetraneutron formation probability 1−23667
Ti(^{3}He,t), 25-40 MeV, differential cross section and polarisation from diffraction model 1−709
^{51}V(^{3}He,d), 90 MeV, elastic and inelastic breakup cross section, post form DWBA calcs. 1−5787
^{51}V(^{3}He,d)^{52}Cr, neutron excitations from N=28 closed shell 1−41124
^{176}Yb(^{3}He,xn yp γ), 65-100 MeV, yrast level population and preequilibrium deexcitation, exciton number 1−691
^{90}Zr(^{3}He,d), 90 MeV, elastic and inelastic breakup cross section, post form DWBA calcs. 1−5787

helium 3-nucleus scattering
deformed nuclei, giant monopole resonance evidence from inelastic ^{3}He scatt. 1−28444
strong absorption model, nuclei between ^{27}Al and ^{116}Sn 1−50607
^{A}Ca(^{3}He, ^{3}He), A=40, 44, 48, at 50 MeV, measurements analysed with optical potentials and DWBA 1−41122
^{4}He(^{3}He,^{3}He)^{4}He, generator coordinator method calc., and interpretation 1−28490
^{208}Pb(^{3}He,^{3}He'), 110-140 MeV, giant octupole resonance high energy component 1−45484
^{144}Sm(^{3}He,^{3}He'), 110-140 MeV, giant octupole resonance high energy component 1−45484
^{A}Sn(^{3}He,^{3}He'), A=116,118,120, 110-140 MeV, giant octupole resonance high energy component 1−45484
^{A}Zr(^{3}He,^{3}He'), A=90,92, 110-140 MeV, giant octupole resonance high energy component 1−45484

helium-3 scattering *see helium 3-nucleus scattering*

helium atoms
1^1S-2^1P transition, large-momentum-transfer limit of some matrix elements [atomic electron scattering] 1−1374
2^1P-state, electron impact excitation, differential cross-sections, ang. correl. 1−46133
analytical relativistic Hartree-Fock equations within scalar basis sets 1−6121
atom ejection from plasma walls by pulsed electron and furnace heating 1−25325
atomic HF wavefunctions, use of grid points of Gauss Legendre quadrature 1−33386
bubble density in Al films, optical far VUV spectroscopy 1−23314

helium atoms continued
charge density susceptibility rel. to scatt. functions and Van der Waals forces 1−24203
Compton electron scattering, momentum densities and differential cross sections *(French)* 1−37330
discharge, pulsed, temporal and spatial variations of population of excited state atoms 1−29939
electron elastic scatt., 2-400 eV, ang. distrib. 1−1372
electron elastic scatt., intermediate and high energies 1−46129
electron elastic scatt., phase shift anal. 1−1370
electron impact, absolute emission cross sections determ. 1−46070
electron impact excitation, 2^1P state, alignment and orientation parameters determ. 1−6390
electron impact excitation, differential cross sections determ. 1−1379
electron impact excitation, emission cross section 1−15016
electron impact excitation of autoionising states, post collision interaction, semiclassical and shake-down models 1−24259
electron impact ionisation, He^- 1s2s2p ^{2}P Feshbach reson. state 1−51148
electron impact ionisation cross sections, mass spectra 1−10844
electron impact ionisation cross-sections 1−15020
electron impact triplet-triplet excitation, differential cross-sections calcs. 1−1387
electron scatt., low energy, from (2^1L) 1−51298
electron scattering, elastic, exchange corrected eikonal-Born approx. calcs. 1−19186
electron scattering, elastic and inelastic, saddle-point technique, calcs. 1−1371
electron scattering, multichannel theories, review 1−51289
electron scattering, separable approx. generalisation in presence of long-range forces 1−51283
electron-impact broadening and line shifts in hot plasma, semiclassical convergent calcs. 1−1182
electronic energy levels, Russell-Saunders coupling, ionisation pcts., spectra, electron impact method 1−49901
electrons elastic scatt., phaseshifts, differential, integrated and momentum transfer cross sections 1−33561
excited state population from He^+ dielectronic recomb. in DC hollow cathode 1−51290
excited states, autoionisation 1−45914
excited states in plasmas, population densities, cross sections 1−19860
forbidden transition, corrected binary collision treatment, ion dynamic corrections 1−19055
formamide-He, van der Waals mols. and dimer formation in jet cooled expansions 1−48664
ground state, Pade approximants 1−10634
ground state, selfadjoint operator eigenvalues, variance minimisation, var. calcs. 1−28846
ground state anharmonic oscillator, Pade type var. function 1−41291
Hamiltonians, pseudo-spin structure and large N expansion 1−49960
hyperfine structure, singlet-triplet distance, spectra 1−24274
ion, metal surface sputtering, Monte Carlo calcs. 1−26337
ion beam, passive pumping in presence of H beam 1−24995
isoelectronic sequence, 2s-2p transitions, fine struct. and wavelengths 1−1398
isoelectronic sequence, atomic excitation probability accompanying β-decay, electronic correl. effect 1−14825
isoelectronic sequence, correlated atomic wave functions 1−14824
isoelectronic sequence, effective pot. model for calc. energy shift in ground state 1−24021
isoelectronic sereis, lowest states, statistical electron correl. coeff. 1−45817
isoelectronic series, excited state transitions, time-depend. Hartree-Fock theory 1−28847
isoelectronic series, Z≤55, electron-ion pot. 1−51258
isotope shifts, Doppler-free two photon obs. 1−45920
laser plasma, He atom metastable state population *(Russian)* 1−1140
metal blistering by He implantation, gas press. and lateral stress effects 1−25318
multiphoton absorpt., nonresonance, Green's function approach 1−24099
multiphoton ionization, EM field generation by laser radiation force 1−45919
multipole Cauchy moments, variationally determ. 1−10630
muonic, hyperfine struct. 1−1416
muonic, metastable, radiative collisional quenching calcs. 1−24293
muonic, nonrelativistic hyperfine splitting, adiabatic perturbation theory calcs. 1−1418
muonic atoms, ground-state hyperfine struct. reson. obs. 1−10875
one-dimensional model, Hartree SCF calcs. 1−6148
perturbation, isoelectronic series, eigenvalues, Hamiltonian linear 1−9857
photoionisation and photoexcitation 1−6214
positron elastic scatt., phase shift anal. 1−1370
positron impact excitation, time of flight spectra 1−29123
positron scatt., p-wave phaseshift calc., annihilation rate parameter determ. 1−24264
positronium scatt., van der Waals forces 1−1414
scattering, from LiF(001) surface, long-lived states in elastic collision, reciprocal lattice vector poles calcs. 1−31257
Schrodinger equation used to calculate eigenvalues 1−10619
Stark broadening of neutral lines, Model Microfield Method *(French)* 1−37152
supermultiplet classification of intrashell levels, ro-vibr. collective interpretation 1−6184
supersonic mol. beams, diagnostic apparatus complex for determ. beam props. 1−23368
three-body Coulomb system, ground-state energy hyperspherical harmonics 1−45828
tilted foil excitation, $3p^1$P and $4d^1$D levels orientation and alignment 1−1139
two-particle Schrodinger bound state problem, Sturmian method appl. to He 1−37091
wavefunctions, orthogonality, perturbation method, HF calcs. 1−14808
weakly coupled bound states, T-matrix anal. in one dimens. 1−1061
μ^- Auger capture and scattering cross sections HF calcs. *(Russian)* 1−6397
Br_2+He, dissociation and exchange reactions 1−35517
Cs-He pairs, hyperfine shifts, broadening and temp. coeff., rel. to ionisation pot. and polarisability coeff. 1−28926
H^-, intrashell doubly excited states, supermultiplet classification 1−6183
H-^{4}He, magnetic resonance studies at 1K 1−1151
H+He^+, H excitation, angular differential and total cross sections 1−46103

helium atoms continued
HF+He, HF vibr. relax., coupled quantum treatment 1−46081
He and He like ions, $1s2s^2S$ state, coupled HF calc. 1−51105
He electron impact ionisation triple differential cross sections calcs. 1−19189
He, equilibrium positron decay rates 1−6388
He, fast atom, electron impact and atom-atom interactions 1−1381
He I, excitation by heavy ion impact, relative populations of Zeeman sublevels, depolarisation of transition obs. *(French)* 1−51280
He I 10830 Å emission line in β Lyrae, obs. rel. to circumstellar envelope radiation *(Russian)* 1−17876
He I in aurora, line enhancement due to precipitating He^+ interactions with air 1−40246
He I in β Lyrae, line short term fluctuation visible obs. *(Russian)* 1−17878
He II emission and recomb. coeffs. appl. to exotic gaseous nebulae 1−27372
He II in nonstationary rotation, low-temp. simulation of pulsars 1−9548
He ion+Pd(NI)(Ag)(Au), inner-shell ionisation, Coulomb deflection effect 1−15000
He, positron impact formation into arbitrary excited S state, scatt. amplitude determ. 1−24292
4He, state mixing and transition line shapes, mag. and motional Stark field effect 1−1180
He underabundance in Bp star atmospheres due to UV line interactions *(Russian)* 1−22823
He^-, $^4P^0$ state photodetachment cross sections calcs. 1−24091
He^-, 1s2s2p ^2P Feshbach reson. state 1−51148
He^-, photodetachment cross sections, autodetached electron energy meas. 1−19062
He^-, triply excited ^2P and ^2D resonance struct. investig. 1−1138
He^+, 1s to 2s transition, electron impact excitation 1−1380
He^+, 4-body conversion reaction, rate consts. meas. 1−4079
He^+ density and temp. structure in topside polar ionosphere for subsonic outflows 1−4695
He^+ dielectronic recomb. in DC hollow cathode discharge, He excited state population 1−51290
He^+, electron impact ionisation, absolute cross sections, cross beam meas. 1−29120
He^+, electron scattering, multichannel theories, review 1−51289
He^+ energization by proton-induced MHD waves, in magnetosphere 1−9326
He^+, selective form. from He^{2+}+Li collisions, superradiance at Lyman wavelengths 1−41476
He^{++} in solar wind, temp. and speed 1−17749
^{4}He singlet states, electrostatic fine struct. and forbidden transition, laser mag. reson. spectra 1−1181
He^+/H^+ in DR 21 H II region, effect of press. broadening 1−27626
He-Ar(-N_2), supersonic mol. beams, diagnostic apparatus complex for determ. beam props. 1−23368
He-CO, interaction pot., calc. using SCF-CI surface and pressure broadening data. 1−37291
He-like atoms, highly ionised, electron impact excitation cross sections calcs. 1−1386
He-like ions, electron impact cross-sections and excitation rates 1−46132
He-like ions, Schrodinger eqn. using theory of restricted quantum-mecanical three-body problems 1−9852
He+alkali atom, collision-induced dipole moments calcs. 1−33544
He+alkali atoms, near-reson. charge exchange collisions 1−24248
He+aniline ($^1B_2$), mode-dependent enhanced vibr. relax., supersonic jet spectrosc. obs. 1−35521
He+Ar, 2p levels, depolarisation cross section temp. depend. *(French)* 1−33539
$He+Ar^{18+}$ 1−29113
$He+Ar^{2+}$, cross section for electron capture meas. between 60 and 200 keV 1−33543
$He+Br_2$ collisions, energy transfer, laser excitation 1−24232
$He+C^{2+}(O^{2+})$, charge transfer reaction rate coeffs., quantal calcs. 1−32615
$He+C^{4+}\rightarrow He^{2+}+C^{2+}$, two electron capture, asymptotic Landau-Herring method 1−1346
He+CO, free jet expansion, state resolved rot. relax. of CO 1−51266
He+CO, rotational excitation, pot. energy surfaces, CI calcs. 1−1329
$He+CO_2$, collinear collisions, strong coupling correspondence principle 1−51278
$He+CO_2$ metastable atom+molecule collisions, Penning ionis. and ejected electron energy spectrum *(French)* 1−37316
He+CO(HCl), CS and IOS degeneracy averaged differential cross sections, wave param. effect 1−6364
He+Cs, collision broadening and shift of hyperfine struct., Lennard-Jones interactomic pot. const. calc. 1−24224
He+Cs, Cs $6^2P_{3/2}$ state depolarisation, D_2 line optical pumping 1−19173
He+Cs, rate const. meas. for Penning ionisation at thermal energies 1−33552
He+H, charged particle prod., cross sections, reaction mechanisms 1−37302
He+H, collision strengths at high speeds 1−19169
He+H collisional pair polarisabilities, exchange perturbation theory using elec. field variant basis sets 1−46065
$He+H_2$ collisions, statistical quasiclassical approach 1−1312
$He+H_2(^1\Sigma_g^+)$, vibr.-rot. line shifts, temp. depend., close coupling calcs. 1−6365
$He+H^-$ collisions, zero range pot. approx., bound state continuum transitions, ab initio calcs. 1−19015
$He+H^+$, atomic excitation and polarisation at medium and high energy 1−10830
$He+H^+$, differential cross sections for proton energies 100, 150 and 225 keV 1−24216
$He+H^+$, H(2s) form., absolute cross-sections determ. 1−6378
$He+H^+(H_2)(H_3^+)(D^+)$, charge exchange and electron loss cross-sections for various energies 1−29095
$He+H^+(He^{q+})(O^{q+})(Au^{q+})$ collisions, single and double electron loss 1−15017
He+HBr(HCl), isotropic interaction pots., differential scatt. cross-sections 1−6342
He+HF(TF), collisional energy transfer, laser induced, coupled channel calcs. 1−37306
$He+H(H^-)$, pot. energy calcs., CI method 1−1319
He+He, collision strengths at high speeds 1−19169
He+He, equilib. charge distrib. of He beams 1−46090
$He+He_2$, in high press. afterglow, mol. $d^3\Sigma_u^+$ state decay rate 1−29089

helium atoms continued
$He+He_2$, metastable states, collisional de-excitation rate coeffs., quenching and fluoresc. 1−39632
$He+He^{2+}$, scintillation kinetics 1−14843
He+He(Ar)(Kr), He Rydberg S and manifold states deexcitation 1−1349
$He+He(He^+)$, collision symmetry, electron spectra produced by autoionisation 1−6381
He+He(Ne)(Ar)(Kr)(Xe), Rydberg state deexcitation 1−1348
He+ion, charge transfer recomb., Landau-Zener calcs., appl. to astrophysics 1−22671
$He+Li^+$, radiative collision processes studied in projectile energy range 0.45 to 4.2 keV, polarisation meas. 1−33541
He+Mg, collisional excitation, emission cross sections, polarisations 1−19177
$He+Mg^+$, angular momentum effects 1−24228
He+molecular gases, equilib. charge distrib. of He beams 1−46090
He+muonic He, metastable, radiative collisional quenching calcs. 1−24293
$He+N_2$, He Rydberg S and manifold states deexcitation 1−1349
$He+N_2$, radiative collisions, cross sections, gain prediction, Penning and auto-ionisation 1−41487
$He+N_2(CO)$(methane), resolved rot. transitions, mol. beam time-of-flight meas. 1−1333
He+Na, broadening of NaD_2 line, collision rates and cross sections calcs. 1−41465
He+Na, differential cross sections, kinetic energy, optical pot., Penning electron spectra 1−10780
$He+Na_2$, Δm transition in sudden collisions, differential cross-sections, IOS calcs. 1−1307
$He+Na_2$, rot. inelastic differential cross-sections, inversion method calcs. 1−33548
$He+Na(^2P_J)$ orbital-degenerate states, quasiclassical scatt. calcs. 1−33535
He+Ne, $2p^53p$-$2p^54d$ spectral lines, low press. shift 1−37156
$He+Ne_2\rightleftharpoons He+2Ne$, collision induced dissoc. and recomb., continuum problem 1−31835
$He+Ne^+(Ne^{2+})(Ne^{3+})$, autoionising states formed by electron capture, energy spectra, excited states lifetime 1−24218
$He+Ne^{2+}$, charge transfer rate from obs. of planetary nebula emission spectra 1−6371
$He+Ne^{4+}$, absolute emission cross sections determ. 1−46070
$He+O^{2+}$, ground and metastable state reactions, charge exchange, rate consts., mass spectra 1−39634
$He+O^{2+}\rightarrow O^+ + He^+$, rate coeff. anal. appl. to ionosphere 1−37324
$He+OCS(CO_2)$, collision, Fermi reson. effects 1−1308
He+O(Au) highly charged ion, single electron capture cross section 1−46113
$He+S_2Cl_2$, in afterglow, S_2^+ visible emission band system, vibr. anal. 1−14907
$He+Si^{12+}(F^{7+})$, one electron ion 2s-2p excitation cross section, plane wave Born approx. 1−15003
$He^-+H_2(O_2)$, He^- detachment, cross sections meas. 1−41475
$He^-+He(Ne)(Ar)(NO)$, He^- detachment, cross sections meas. 1−41475
He^++Au, impact ionisation, L-subshell alignment 1−6367
He^++C^+, charge transfer reaction rate coeffs., quantal calcs. 1−32615
He^++CO_2, dissociative ionisation reaction, time-energy spectra 1−12981
He^++dimethyl sulphite, S-O bond determ. using low energy particle accelerator 1−1332
He^++H, direct excitation collision cross section 1−1352
He^++H, doubly differential cross sections for electron ejection in plane-wave Born approx. 1−33540
He^++H, electron loss to low-lying continuum states of projectile, doubly differential cross section, struct. 1−24217
He^++H, excitation cross sections calc., Vainshtein-Presnyakov-Sobel'man approximation appl. 1−24219
He^++H_2, H_2^+ prod., radiative mechanism calcs. 1−6146
He^++H_2, HeH_2^+ excited state pot. energy surfaces and reaction cross sections 1−39608
$He^++H_2^+\rightarrow He+H_2$, 0.8 MeV/N, electron spectra 1−10818
He^++H_2O, 1 MeV bombardment, dissoc. ionis. 1−33537
He^++H^+, electron transfer collision cross-sections, coupled mol. states calcs. 1−1360
He^++H^+, ionisation cross-sections, charge depend. calcs. 1−1357
He^++He, collision symmetry, electron spectra produced by autoionisation 1−6381
He^++He, energy and angular distribution of electrons 1−41484
$He^++He^{2+}(H^+)$, electron capture collisions, continuum distorted wave approx. 1−1345
$He^++He(He\text{-}Ne)$, four-body conversion into mol. ions, rate consts. 1−39629
He^++Kr, collisional electron loss, electron energy spectra 1−46105
$He^++Mg(MgCl_2)(MgF_2)$, K_{alpha} X-ray multiplet struct. obs. by atom-+ion collisions 1−51155
$He^++N_2\rightarrow N_2^+ + He$ reaction flowing afterglow anal., ambipolar diffusion assumption 1−53409
$He^++Rb(Cs)(K)(Na)$, single electron capture cross sections for He^+ ions 1−33553
He^++SO_2, S-O bond determ. using low energy particle accelerator 1−1332
$He^{2+}+H$, electron capture, Eikonal theory 1−46097
$He^{2+}+H$, ionisation cross-sections, charge depend. calcs. 1−1357
$He^{2+}+H_2$, cross sections determ. by coincidence method, charge exchange, dissoc., ionisation 1−29109
$He^{2+}+He$, scintillation kinetics 1−14843
$He^{2+}+He^+(Li^{2+})(Be^{3+})$, electron capture collisions, continuum distorted wave approx. 1−1345
$He^{2+}+He\rightarrow He+He^{2+}$, two electron capture, asymptotic Landau-Herring method 1−1346
$He^{2+}+Li$, $He^+(n=3)$ selective formation, visible and X-ray spectra 1−46096
$He^{2+}+Li$, selective form. of He^+, excited states, superradiance at Lyman wavelengths 1−41476
$He^{2+}+Ne$, inner shell capture and ionisation 1−46098
$He^{2+}+Si^{12+}(F^{7+})$, one electron ion 2s-2p excitation cross section, plane wave Born approx. 1−15003
$^4He^++Pb$, X-ray intensity ratios, energy depend. 1−1323
$He^{q+}+He$, collisions, single and double electron loss 1−15017
He_2^+, form. from atomic ions, four-body conversion, rate consts. 1−39629
He_2^{2+}, laser-induced photodissoc., He^+ fragment momentum distrib. 1−10790

helium atoms continued
He_2^+ recomb. at high electron temp. in afterglow plasma 1−42243
He_2^{2+}, potential energy curves, energy widths, autoionising states, config. interaction calcs. 1−24048
$^3He_2$, emission spectrum, 465 nm region 1−28987
$^4He_2$, emission spectrum, 465 nm region 1−28987
He_2+He, in high press. afterglow, mol. $d^3\Sigma_u^+$ state decay rate 1−29089
He_2+He, metastable states, collisional de-excitation rate coeffs., quenching and fluoresce. 1−39632
He(1α)+nitriles collisions, ionic and neutral optical emission 1−19178
He(^{1}S)+Na(^{2}P), fine struct. transitions, degeneracy averaged probabilities and differential cross sections calc. 1−37300
^{3}He, adsorbed, partially spin polarised, apparatus for study of thermal props. 1−269
^{3}He, and ^{4}He, 2^3P-3^3D transition isotope shift and hyperfine struct. 1−6210
^{3}He clusters, variational and Fadeev-UPE calcs. 1−1427
^{3}He gas, nuclear polarization by laser optical pumping 1−1199
^{3}He, light pionic atoms, isotope effects, K-series X-ray transitions 1−15041
^{3}He, muonic, Lamb shift calcs., radiative and recoil corrections 1−1421
^{3}He, spin polarised, quantum props. 1−1301
$^3He^{2+}$, vel. distrib. and kinetic temp. in solar wind 1−40297
^{4}He clusters, variational and Fadeev-UPE calcs. 1−1427
^{4}He, far IR laser mag. reson. spectroscopy of S and P states 1−41335
$^4He^{++}/^3He^{++}$ abundance ratio in solar wind from ISEE 3 obs. 1−40295
$^4He^{2+}$, vel. distrib. and kinetic temp. in solar wind 1−40297
^{4}He+H, scattering processes at low temp. 1−1318
^{4}He+HD, vibr., deactivation cross-section and rate consts., semiclassical calcs. 1−10820
He*+CO, Penning ionisation study of CO *(French)* 1−41481
He*+Ne, electronic energy transfer, one electron model pot. calcs. 1−1342
He($1^1S \rightarrow 3^3D$), total cross section for electron impact excitation calc. 1−24262
He(2^3S)+Cd II, Penning excitation cross sections determ. 1−41483
He(2^3S)+N_2, nonBoltzmann vibr. level populations determ. using Penning ionisation technique 1−41482
H^+(n=3) selective formation from He^{2+}+Li, visible and X-ray spectra 1−46096
NH_3+He collisions, energy transfer 1−6360
Rb-He pair, hyperfine shifts, broadening and temp. coeff., rel. to ionisation pot. and polarisability coeff. 1−28926

helium compounds
HeH and HeH^+, atoms-in-mol. calc., pot. energy surfaces, diatomics-in-mol. method 1−51151
HeH^+, Coulomb holes, position space, internuclear separation, electron correls. 1−41326
HeH^+, mag. susceptibility and rot. g-factor calc. 1−45928
HeH^{2+}, binding and antibinding contributions, electron density in chemical bonding 1−24285
HeH_2^+ $2^2A_1(^2\Sigma^+)$ polarisation state, MC SCF calcs. 1−6146
HeH_2^+, Rydberg states, pot. energy hypersurface, ab initio calc., MCSCF and CI wave functions 1−28860
HeH(HeH^-), ground states, pot. energies 1−1319
HeI_2 van der Waals mol., vibr. predissoc., rot. effect 1−10708
HeNe excited state, electronic energy transfer 1−1342

helium films
adsorbed on graphite, effective interaction, sp. ht. 1−25523
adsorbed system on inhomogeneous surface, surface phonon absorpt. 1−20502
electron charged, linear stability 1−42605
microwave resonant freq. change of TiO_2 covered with film 1−26152
submonolayer, statistical mechanics, appl. of two dimensional Fermi liq. theory 1−2761
submonolayers, thermodynamic props., theory 1−2762
^{3}He, adsorbed on Cu or Au, binding energy meas. by dynamic gas diffusion technique 1−42604
^{3}He, superfluid, film, A-B transition, studied by variational method 1−7407
^{3}He-^{4}He mixture, superfluid transition study 1−25524
^{3}He-^{4}He mixture films, phase diagram, third-sound vel. meas. 1−20501
^{3}He-^{4}He mixture films, superfluidity expts. 1−25525
^{4}He, adsorbed on Cu or Au, binding energy meas. by dynamic gas diffusion technique 1−42604
^{4}He, appl. of quantum theory of superfluidity and onset in Bose films 1−42598
^{4}He films, superfluid transition study 1−25524
^{4}He over Ne monolayer on graphite, adsorption isotherms 1−34569
^{4}He, superfluid, persistent flow and third sound waves 1−38608
^{4}He, superfluid, phonon detection by fountain press. 1−16137
^{4}He, superfluid, saturated film, solitary waves, Korteweg de Vries eqn. 1−34542
^{4}He, superfluid, short-wavelength third sound, anomalous propag. 1−52372
^{4}He, superfluid, transport along weak interacting substrates *(Russian)* 1−20490
^{4}He, superfluid, two-dimensional, nonlinear effects, soliton propag. 1−11950
^{4}He, superfluid, two-layer XY model 1−11951
^{4}He, superfluid, use in characterization of self-heating effect in a superconducting bolometer 1−50208
^{4}He, superfluid film, vortex diffusion 1−16136

helium nuclei *see nuclei with mass number 1 to 5; nuclei with mass number 6 to 19*

Hellman-Feynman theorem *see quantum theory*

Helmholtz free energy *see free energy*

Hertzsprung-Russell diagram *see stellar evolution*

heterodyne detection *see demodulation*

h.f. amplifiers *see high-frequency amplifiers*

HF calculations
see also Xalpha calculations
3d ions chemical shift of X-ray K-lines *(Russian)* 1−51156
^{A}V, A=52,53, levels, EM moments and transitions, projected HF calcs. 1−23565
A=116 to 132, rare earth element neutron deficient nuclei stability region *(Russian)* 1−675
acetylene bonding in Ni complexes with carbonyl and isocyanide ligands, HF-slate-LCAO calc. 1−37097

HF calculations continued
alkali metal atoms, core charge polarisation effects, HF calcs. 1−28862
alkaline earth atoms, static dipole and quadrupole polarisability, HF and many-body perturbation theory calc. 1−51106
Anderson model, single-impurity, with boson interactions, zero-temperature phase diagrams 1−52743
antiferromagnetic alloy, itinerant bulk susceptibilities 1−30924
asymmetric nuclear matter, Skyrme-Hartree-Fock treatment, phase transitions 1−18589
atom, Thomas-Fermi, Thomas-Fermi-Dirac and HF, pot. approx. by screened Coulomb field 1−33531
atomic configurations, open shell system, relativistic formulation, many body problem 1−14789
atomic expectation values, inequalities calcs. 1−37103
atomic g_J-factors, spin-extended Hartree-Fock calcs. 1−1089
atomic Hartree-Fock orbitals, asymptotic behaviour 1−10640
atomic HF binding energies calc. by scaled model system 1−33379
atomic systems, multiconfiguration relativistic HF Roothaan theory 1−19024
atomic systems, non-adiabatic HF and CI theory 1−51139
atoms, Hartree-Fock energy, isoelectronic changes 1−37096
atoms, Hartree-Fock-Slater scheme, α-parameter, 1-electron eigenvalues and total energy calcs. 1−1091
atoms, pair correlation energies, second order, transferability of partial wave increments 1−6147
atoms, self-consistent field with pseudopot., average energy of config. calc. 1−37092
atoms, two-electron properties, HF calcs. 1−41308
benzaldehyde cryst., $^3\pi\pi^*$ state, in benzoic acid host, EPR spectra 1−47928
p-benzoquinone, localised excitations, valence bond model, electron correl., HF calcs. 1−45858
n-butane, torsional pot. function 1−10802
t-butyl radical, struct., ab initio RHF calcs. 1−10654
carbene complex formation, H_2C ... (FH), HF-Roothaan, STO calcs. 1−31851
carbonyl fluoride, pot. energy curves calc. using ab initio projected HF calc., photolysis channels 1−26757
closed-shell polyatomic system, analytical relativistic Hartree-Fock equations within scalar basis sets 1−6121
collective subspace and canonical system with constraints 1−49981
colliding bags, time development σ-model, nonlinear Schrodinger eqn. solns., TDHF approach 1−18365
conference on band struct. and nuclear physics, New Orleans, USA (Feb. 1980) 1−10
conference on heavy ion interactions at high energies, Erice, Italy (Mar.-Apr. 1979) 1−13917
copper porphine, energy levels, charge and spin distrib. calc. using one-orbital HF Slater theory 1−51108
covalent insulator, self-energy corrections, first principles calc. 1−47448
crystalline systems, ab initio HF calcs. using full-symmetry anal. of basis-set expansions 1−7500
deformed nuclei, first-order phase transition across zero-rotation line, cranked HFB eqn. 1−18551
deformed nuclei, oscillator optimum parameters *(Russian)* 1−14483
deformed nuclei, semiclassical kinetic energy density functional validity 1−10310
diamagnetic molecules, NMR shielding and mag. susceptibility, finite element calcs. *(German)* 1−1253
diamond, ground state properties, LCAO SCF ab initio HF method 1−34609
diatomic hydrides of second row atoms, potential curves studied by unrestricted Moller Plesset method 1−19022
diatomic quasimolecules, Thomas-Fermi approach, correlation diagrams for neutral heteronuclear systems 1−24309
Dirac-Hartree-Fock theory, variational stability 1−6178
E2 transition reduced probability from projected deformed oscillator model 1−50552
electron correlation, Coulomb hole, HF functions calcs. 1−41506
electron gas, magnetic field induced phase transition, CDW 1−20646
electron gas, uniform, dielec. function, Hartree-Fock ladder series approx. 1−7543
electron gas, uniform, time-dependent Hartree-Fock dielec. function 1−7546
electronic struct. of free radicals 1−10663
p-, d, and f-electrons, effective potential in sp, p^5d and d^9f configurations 1−41456
ethylene, cycloaddition, ab initio and semi-empirical anal. 1−17034
ethylene+CH surface reactions, unrestricted HF eqns. and density matrix extrapolation 1−13037
even-Z atoms, eigenvalues and total energies, SCF X_α-SW calcs. 1−10643
exchange and correlation potentials for finite temperature quantum calculations at intermediate degeneracies 1−42708
finite temperature problems, Thomas-Fermi and Hartree-Fock-Slater calcs. 1−36598
finite-temperature HFB theory 1−36915
first row hydrides, susceptibilities and mag. shielding const., coupled HF calc. 1−33391
Flavin radicals, ab initio molecular orbital studies 1−10644
Fock matrix elements, transferability in simulated semiempirical MO calcs. 1−6131
Fock operators, average procedures of SCF methods 1−24020
fulvalenes, anion and cation radicals, doublet instabilities of Hartree-Fock solns. 1−28870
gauge-invariant periodic quantized good-parity states in Lipkin-Meshkov-Glick model 1−14482
Hartree-Fock band theory used to study stability of metallic and insulating states 1−12012
heavy ion collisions, finite size 1-dimens. TDHF, collision term effects 1−50618
heavy ion collisions, time dependent Hartree Fock description 1−14550
heavy ion-nucleus reactors, review 1−50632
heavy-ion fusion, real part of interaction potential, sudden approx. calc. 1−5816
heavy-ion fusion models, review 1−50698
Heisenberg ferromagnet, uniaxial, low temp. self-energy 1−3132
heterocyclic amine N-oxides radical anion, spin density distrib. by UHF calc. 1−37108
high spin states, single particle struct. effects, HFB and shell model 1−45389
high spin states and backbending, HFB-cranking theory 1−610

HF calculations continued
Hiller-Sucher-Feinberg and contact operators in unrestricted HF approx. 1−28854
hot drops, statistical, single particle and collective phenomena, mean field approx. 1−5676
hydrocarbons, susceptibilities and mag. shielding const., coupled HF calc. 1−33391
α-hydroxytetronic acid, electronic struct. of free radicals 1−10663
ice, rotationally ordered and disordered lattice energies, induced dipole vectors and elec. fields 1−25193
inert gas atoms, interaction pot. parameters, HF calcs. 1−6339
insulator, superexchange, extended HF method, rel. to Anderson's model 1−12278
internal conversion calculations in HF atomic model 1−50553
ionic crystals, lattice mechanics in point-dipole approx., perturbation theory 1−25383
isoalloxazine, lowest state, ab initio molecular orbital studies 1−10644
isoelectronic energy changes calc. from energy-density functionals 1−37101
isotope shift, in complex electronic configurations 1−19058
itinerant magnetism in hybridised degenerate electronic bands 1−47839
jellium metal surface, inhomogeneous electron gas, Hartree-Fock theory, surface energy and work functions 1−38827
ketones, acyclic, cyclic, keto-enol tautomerism, ab initio investig. 1−4084
localised orbital energy and moment contribs., depend. on geom. and basis set 1−37111
localised orbital energy and moment contribs., depend. on geom. and basis set 1−37112
localised orbitals, contribs. of Coulomb, exchange and total interaction energy 1−1103
many-body impurity theory for metals and alloys, Wolff model 1−2905
many-fermion systems, variational principle 1−40708
mean-field approximation for inclusive observables, TDMF method 1−41082
metal, adsorption of CO molecule, image charge effect, HF calc. 1−2817
metastable electronic states, SCF calcs. using complex coord. transform. 1−1065
methyl radical, noncanonical HF spin orbitals formalism 1−51104
methylidyne+ethylene addition reaction, doublet reaction path, ab initio SCF MO calcs. 1−21701
minimal val. basis sets with coreless HF effective pot., uses, reliability of props. calc. 1−37099
molecular systems, non-adiabatic HF and CI theory 1−51139
molecule, energy calc., HAM/4 method based upon Slater's shielding concept, electron affinities 1−10655
molecules, cyclic conjugated, diamag. susceptibility, CNDO calcs. 1−1108
molecules, electronic struct. studied by self-consistent discrete variation Xalpha method, ionisation pot. calc. 1−6126
molecules, energy relation between restricted, unrestricted HF and SCF methods 1−14798
molecules, HF values of atomic integrals useful in LCAO-MO calcs. 1−13940
molecules, isoelectronic energy difference, perturbation theory 1−51081
molecules, large, correlation energy, one-centre expansion, LCAO and HF calcs. 1−1055
molecules, X-ray emission spectra, ab initio SCF calcs. 1−41397
Mott-Hubbard-Anderson model, modified, unrestricted Hartree-Fock pseudocluster calc. 1−47572
noncanonical HF spin orbitals formalism, use in many-body perturbation theory 1−51104
nuclear collective excitations, large amplitude, semiclassical theory 1−10386
nuclear collective motion, large amplitude, self-consistent collective-coordinate method 1−33213
nuclear dynamics, mean-field theory and statistical treatment of residual interactions 1−23578
nuclear Hamiltonians, semiclassical approx., spin-dependent potentials 1−28396
nuclear matter, boson exchange pots., nucleon pot. energy, HF validity 1−36918
nuclear multipole resonances, microscopic calcs., review 1−28437
nuclear muon capture rate, microscopic calcs. 1−41102
nuclear rotation, constrained Hartree-Fock-Bogoliubov equation derived from the double variational method 1−41067
nuclear rotational motion, microscopic description, rotation and HF approx. 1−621
nuclear struct. theory, accelerated convergence of HF calcs. 1−50534
nuclear vibrations and transitions, theory review 1−10304
odd nuclei, collective gyromag. ratio from density depend. HF calcs. 1−36894
odd nuclei, improper Hartree-Bogoliubov formalism 1−18585
odd-odd spherical nuclei, quasiparticle model above HFB vacuum 1−23575
one dimensional, gas attractive delta-function interactions, HF solutions 1−45841
open-shell config., self consistent perturbation theory derivation 1−37105
open-shell systems correl. energy, maany-body Rayleigh-Schrodinger perturbation theory in restricted Roothaan HF formalism appl. 1−19039
organic molecular cryst., transport props., quantum mech. calc. 1−20715
perturbed wave functions, spin-dependent props., exact and unrestricted HF calcs. 1−28861
trans-polyacetylene, equidistant config., nucl. distort. 1−7537
polyacetylenes, trans- and cis-, electronic struct., HF calcs. 1−10637
polycyclic aromatic molecules, ground state calculations, localised orbitals technique 1−19228
polydiacetylene backbones, HF crystal orbital calcs., excitonic effects and defect props. 1−29153
polyene, ab initio crystal orbital studies 1−19229
polyenes, infinite, energy spectrum, long-range Coulomb interaction effect 1−15051
polyethylene, deformation, ab initio MO calcs. 1−7549
polymer chains, restricted HF exchange pot. anal., exchange behaviour 1−29152
polymeric conductor, transport props., quantum mech. calc. 1−20715
polymers, correlation, interaction between polymers 1−20650
polymers, ground state calc., ab initio techniques 1−19225
polymers, ground state calculations, localised orbitals technique 1−19228
polymers, ground state props., quantum mechanical studies, state of art 1−19233
polymers, infinite model, multipole expansion in tight-binding Hartree Fock calcs. 1−34614
HF calculations continued
polymers, long-range forces, multipole expansion technique 1−19227
polymers, pairing, gap equations and instabilities 1−19230
polymethineimine, ab initio crystal orbital studies 1−19229
polyyne, ab initio crystal orbital studies 1−19229
pyrazine, localised excitations, valence bond model, electron correl., HF calcs. 1−45858
pyridine-pyrrole H bonded system, H^+ transfer, B^--decay effect 1−1074
rotational nuclei, even, anomalies in energy spectrum, self-consistent cranking model 1−18535
saturated hydrocarbons, ground state calculations, localised orbitals technique 1−19228
SCF equations at finite nuclear temperature, generalised HFB equations *(Chinese)* 1−45441
second row atoms, self-consistent field with pseudopot., average energy of config. calc. 1−37092
second row hydrides, nuclear spin-spin coupling const., coupled HF and finite perturbation CI calc. 1−51107
second row hydrides, susceptibilities and mag. shielding const., coupled HF calc. 1−33392
second-low atoms (ions), multiconfigurational approach, atomic polarisabilities, polarised pseudopotentials 1−1127
self-energy in a semirealistic model of nuclear matter 1−45446
solids, low energy projectiles, depth and lateral range, Monte Carlo study, Thomas-Fermi and HF calcs. 1−34382
solvent-effects, quantum mech. formalism 1−14832
static deformation energy calc., Strutinsky SCM, microscopic HF theory, semiclassical approaches 1−50492
Sternheimer shielding functions calc. using coupled HF method 1−19025
symmetry restoration using RPA 1−36914
TDHF equations in basis evolving with time 1−45440
TDHF theory in heavy-ion collisions 1−50654
time-dependent particles+core model 1−45439
trimethylenemethane, zero field splitting parameters, ab initio CI wavefunctions, hyperfine coupling const. 1−51143
two level model, finite temp. HFB cranking eqns., moment of inertia 1−36895
two-dimensional electron system, CDW state in strong mag. fields 1−12168
two-electron problem, Hartree-Fock method variants, stability 1−37107
two-electron systems, eigenfunctions of RPA, computer program 1−6137
two-electron systems, excited state transitions, time-depend. Hartree-Fock theory 1−28847
Al I isoelectronic sequence, low lying $^2P^0$, ^2D and $^2F^0$ state lifetimes calcs. 1−45908
AuH, relativistic contraction of bond lengths, orbital contraction effect 1−6402
B and isoelectronic series, oscillator strengths, electronic configs., HF calcs. 1−19014
B, ground states, fine struct., spin-extended Hartree-Fock calcs. 1−45829
BF, isotropic and directional Compton profiles calc. 1−33512
BH_2 radicals, correl. energy, maany-body Rayleigh-Schrodinger perturbation theory in restricted Roothaan HF formalism appl. 1−19039
B_2O_3, mol. struct. SCF approx. calcs. 1−14812
Ba, 4f-level position, lattice constant variation, supercond. props. 1−25625
Be (0001), adsorption of H, surface relax. and induced stress, SCF MO cluster calcs. 1−38659
Be, freq. depend. polarisability, multiconfigurational time depend. HF approx. 1−10624
Be, HF wavefunctions, use of grid points of Gauss Legendre quadrature 1−33386
Be, isoelectronic sequence, dielectric recomb. rate 1−10620
$BeH_2+H^-\rightarrow BeH_3^-$, complex formation reactions, ab initio calculations of potential energy surfaces 1−8543
$BeH_2+LiH\rightarrow LiBeH_3$, complex formation reactions, ab initio calculations of potential energy surfaces 1−8543
Br^-, quadrupole antishielding factors, non-orthogonal Hartree-Fock perturbation theory 1−45831
C, ground states, fine struct., spin-extended Hartree-Fock calcs. 1−45829
C, isotope shift, in complex electronic configurations 1−19058
C_2, multiconfig. HF procedure, mode damping 1−6141
CO, isotropic and directional Compton profiles calc. 1−33512
^{12}C, cranked Hartree-Fock-Bogoliubov calcs., back-bending and excited rotational band 1−33224
Ca with n excess, Hartree Fock versus isospin projected Hartree Fock, n, p radii 1−14454
$CaF_2:R^{3+}$, Hartree-Fock calc. of cryst. modified wave functions 1−34652
^{A}Ca, A=41-48, isotope shifts, Coulomb displacement energies, n-p radii differences, IPHF calcs. 1−14455
$^{40}Ca(^{16}O,X)$, TDHF fusion window, particle collision effects 1−14565
$^{40}Ca(^{40}Ca,X)$, fused system giant quadrupole resonance, TDHF approx. 1−5755
Cl I, discrete-continuum interactions 1−37128
Cl, two-photon excitation cross section, frozen-core LS-coupling approx. 1−1198
Cl^-, quadrupole antishielding factors, non-orthogonal Hartree-Fock perturbation theory 1−45831
$Co_2(CO)_8$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
$CoCl_4^{2-}$, spin density, HF calcs., rel. to neutron diffr. results 1−6136
Cu, chemisorption of acetylene, Hartree-Fock-Slater-LCAO studies, cluster models 1−52430
CuCl, diamagnetic anomaly model, energy bands, defect and impurity levels 1−20633
CuF_2, g-factors, ab initio HF and multiple scatt. Xalpha calcs. 1−24036
^{156}Dy, moment of inertia second anomaly in cranked HFB 1−23546
^{158}Er, moment of inertia second anomaly in cranked HFB 1−23546
^{164}Er, very high spin states, self-consistent theory, cranking approach 1−616
F, ground states, fine struct., spin-extended Hartree-Fock calcs. 1−45829
F^-, quadrupole antishielding factors, non-orthogonal Hartree-Fock perturbation theory 1−45831
FSO radical, electronic struct., ab initio calcs. 1−18997
Fe, chemisorption of acetylene, Hartree-Fock-Slater-LCAO studies, cluster models 1−52430
Fe^{18+}, multiconfiguration relativistic HF Roothaan theory 1−19024
$Fe_2(CO)_9$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
Ga isoelectronic series, sp^2 config., photoabsorption, HF calcs. 1−28904
Ge, doubly even, high spin yrast spectra and quadrupole moments, HFB 1−23547

HF calculations continued
^{68}Ge, rotation alignment effects of $g_{9/2}$ proton pair and neutron pair *(Chinese)* 1−45438
H_2, analytical relativistic Hartree-Fock equations within scalar basis sets 1−6121
H_2, theory of corrections to incomplete basis sets, appln. 1−10641
H_2, vibr. spectra, Hartree-Fock dielec. screening approach 1−6226
$(H_n{:}Li)_2$, H chain doped with Li, electronic struct., HF calcs. 1−42668
HF, $(X^1\Sigma^+)$ state, mol. props. and basis set quality, information theory 1−51091
H_2O excited, ionic states, ab initio projected-unrestricted HF calcs. 1−1096
H_2O, triply and quadruply excited electronic config., multiconfig. SCF study 1−1054
He, analytical relativistic Hartree-Fock equations within scalar basis sets 1−6121
He and He like ions, $1s2s^3S$ state, coupled HF calc. 1−51105
He atom, one-dimensional model, Hartree SCF calcs. 1−6148
He atoms, μ^- Auger capture and scattering cross sections HF calcs. *(Russian)* 1−6397
He, HF wavefunctions, use of grid points of Gauss Legendre quadrature 1−33386
He isoelectronic sequence, excited state transitions, time-depend. Hartree-Fock theory 1−28847
He, wavefunctions, orthogonality, perturbation method, HF calcs. 1−14808
Hg^{72+}, multiconfiguration relativistic HF Roothaan theory 1−19024
In isoelectronic series, sp^2 config., photoabsorption, HF calcs. 1−28904
K, two-photon ionisation cross section calcs. from quasi-degenerate perturbation theory, HF calc., reson. struct. 1−33435
^{A}Kr, A=74-104, binding energies, mean square charge radii, HF calcs. 1−23558
$LaF_3{:}R^{3+}$, Hartree-Fock calc. of cryst. modified wave functions 1−34652
Li isoelectronic series, relativistic effects in three-electron atoms 1−14830
Li, photoionisation, electron correl., HF calcs., photoelectron spectra study 1−51138
Li to Ar atoms, self-consistent field with pseudopot., average energy of config. calc. 1−37092
Li^+, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
$LiBH_4$, pot. surfaces and geometry, ab initio calcs. 1−24030
$LiBeH_4^-$, pot. surfaces and geometry, ab initio calcs. 1−24030
$LiCH_4^+$, pot. surfaces and geometry, ab initio calcs. 1−24030
$LiCl_A^+$, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
$LiCl_n$, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
LiH, correlated pot. energy curves, HF calcs. 1−51079
$Li^+(H_2O)_n$, interaction pot., nonadditivity 1−14978
LiHe, closed and half-closed shell mols., dispersion energy, ab initio calcs. 1−28851
Mg, KLL Auger transition energy, HF-Slater transition state calcs. 1−24010
$Mn_2(CO)_{10}$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
MnO_4^-, ionisation pot. and optical transitions calc. by self-consistent discrete variation Xalpha method 1−6127
MnO_6^{9-}, absorpt. spectra, cluster calcs. by ab initio UHF 1−41533
MoF_6, electronic struct., ionisaion pot., SCF DVM-Xalpha method based on HF functions 1−10632
N, two-photon excitation cross section, frozen-core LS-coupling approx. 1−1198
N_2, ground state, unrestricted Hartree-Fock description 1−6156
N_2, ionisation pot., basis set quality and configuration mixing effect 1−1124
N_2, isotropic and directional Compton profiles calc. 1−33512
N_2, photoionisation cross sections, config. mixing, HF calcs 1−41300
N_2^-, $^2\pi_g$ reson. state, complex coord. SCF calcs. 1−33405
NH_2 radicals, correl. energy, maany-body Rayleigh-Schrodinger perturbation theory in restricted Roothaan HF formalism appl. 1−19039
NH_3, momentum space props., LCAO-Xα and HF wavefunctions calcs. 1−37113
NH_3+He collisions, energy transfer 1−6360
NO radicals, X-ray excited states, ab initio calcs. 1−24058
Na, KLL Auger transition energy, HF-Slater transition state calcs. 1−24010
Na, shell struct. for Thomas-Fermi energy density functional 1−33398
NaN_3, ground and excited states, pot. curves calc. using modified HF method 1−28899
^{93}Nb(^{16}O,x), 204 MeV, TDHF calcs., fusion, deep inelastic scatt. 1−45529
Ne, HF wavefunctions, use of grid points of Gauss Legendre quadrature 1−33386
Ne, solid, energy bands and excitons, OPW calc. 1−38716
Ni, adsorption of acetylene, dissoc., fragments, Hartree-Fock-Slater-LCAO calc. cluster models, UPS spectra 1−52431
Ni, chemisorption of acetylene, cluster model, HF-Slater-LCAO calc. 1−39682
Ni complexes with carbonyl and isocyanide ligands, bonding of acetylene, HF-slate-LCAO calc. 1−37097
Ni_2 bonding, ab initio effective core pot. 1−1095
NiF_6^{4-} complex, modified Mulliken-Wolfsberg-Helmholtz method calcs. 1−24033
O, ground states, fine struct., spin-extended Hartree-Fock calcs. 1−45829
O, isotope shift, in complex electronic configurations 1−19058
O, two-photon excitation cross section, frozen-core LS-coupling approx. 1−1198
O-like atomic system, appl. of multiconfiguration relativistic HF Roothaan theory 1−19024
O_2, freq. depend. polarisability, multiconfigurational time depend. HF approx. 1−10624
O_2 radicals, X-ray excited states, ab initio calcs. 1−24058
^{208}Pb, single-particle states, collective modes, spectroscopic factors, nucleon effective mass, microscopic particle vibr. model 1−10294
Pd isoelectronic sequence, theoretical line strengths for $4d^{10}\ ^1S-4d^94f\ ^1P^0$ reson. transition, HF calcs. 1−24068
Pm, isoelectronic sequence, UV spectra, reson. lines, struct., HF calc., line strengths 1−28867
^{240}Pu, fission barrier calc., Hartree-Fock-Bogolyubov method *(French)* 1−50684

HF calculations continued
^{A}Rb, A=75-105, binding energies, mean square charge radii, HF calcs. 1−23558
S I, discrete-continuum interactions 1−37128
Se, doubly even, high spin yrast spectra and quadrupole moments, HFB 1−23547
Si_2, electronic energy, scaled single zeta basis set, valence bond description 1−51133
^{28}Si, static quadrupole moment of first excited state 1−41054
silver porphine, energy levels, charge and spin distrib. calc. using one-orbital HF Slater theory 1−51108
^{A}Sr, A=76-106, binding energies, mean square charge radii, HF calcs. 1−23558
T_4^+, electronic struct. 1−41309
Te, band structure, OPW calc. 1−12027
Ti (111), configurations, energy levels, intermediate coupling, HF calcs. 1−45827
Tl isoelectronic series, sp^2 config., photoabsorption, HF calcs. 1−28904
TlH, relativistic contraction of bond lengths, orbital contraction effect 1−6402
UF_6, electronic struct., ionisaion pot., SCF DVM-Xalpha method based on HF functions 1−10632
WF_6, electronic struct., ionisaion pot., SCF DVM-Xalpha method based on HF functions 1−10632
Xe, photoionisation cross section calc., relativistic effects 1−24092
^{160}Yb, moment of inertia second anomaly in cranked HFB 1−23546
^{162}Yb, very high spin states, self-consistent theory, cranking approach 1−616
Zn, doubly even, high spin yrast spectra and quadrupole moments, HFB 1−23547

high-energy cosmic ray interactions
Centauro event simulation, 100-1000 TeV, secondary π^0 events 1−49466
Centauro process at E>1000 TeV *(Norwegian)* 1−41019
EAS γ-ray bundles in 10^{14} eV collisions, high tranverse momentum and multiplicity 1−22655
EAS electron density spectrum *(Chinese)* 1−49465
hadronic interactions around 50 TeV, hard scatt. events 1−44400
hadronic interactions of high energy cosmic-ray observed by emulsion chambers 1−14437
scaling validity up to 10^{20} eV, high energy cosmic ray composition 1−44399
solar neutrino detector, cosmic ray muon background *(Russian)* 1−49467

high energy electron diffraction
see also reflection high energy electron diffraction
fast electron elastic scatt., Schrodinger eqn. solutions 1−38210
Ag, determ. of partial and total scattering cross-sections for high-energy electrons, 1.2-3 MeV 1−30007
Al, determ. of partial and total scattering cross-sections for high-energy electrons, 1.2-3 MeV 1−30007
Al liquid film, scanning transmission HEED study 1−20047
Au, determ. of partial and total scattering cross-sections for high-energy electrons, 1.2-3 MeV 1−30007
C, determ. of partial and total scattering cross-sections for high-energy electrons, 1.2-3 MeV 1−30007
GaAs-$Ga_{1-x}Al_xAs$ semiconductor superlattices by MBE and their characterization 1−2417
Ge, determ. of partial and total scattering cross-sections for high-energy electrons, 1.2-3 MeV 1−30007
$In_{1-x}Ga_xAs$-$GaSb_{1-y}As_y$ semiconductor superlattices by MBE and their characterization 1−2417
SF_6 expansion in Ar carrier gas, mixed cluster form., HEED study 1−42527

high-energy nuclear reactions and scattering *see nuclear reactions and scattering*

high fidelity amplifiers *see audio-frequency amplifiers*

high field effects
see also Gunn effect; hot carriers; impact ionisation; limited space charge accumulation; Poole-Frenkel effect; Schottky effect; Zener effect
anodic film on superpure Al, high field ionic cond. 1−25493
anomalous photovoltaic effect, review 1−7661
anthracene isologues, single crysts., SCL currents and injection phenomena, γ-irrad. effects *(French)* 1−25736
anthracene single cryst., elec. field depend. electron mobility, photoresponse 1−7630
durene, single crysts., SCL currents and injection phenomena, γ-irrad. effects *(French)* 1−25736
graded-gap crystals, current density during electron warming 1−42783
hot electron transport inhibition and density modification due to electrostatic field 1−42804
hot electrons in layered semiconductors, appl. in VLSI circuits and optoelectronic devices 1−7625
insulator, single injection current, crit. currents and voltages 1−12115
metals, magnetoresistance, linear increase in strong fields 1−2946
organic polymers, in strong elec. fields, current and luminesc. oscills. 1−25742
piezoelectric semicond., electrical cond. in crossed strong electric and mag. fields 1−34719
polyvinylidene fluoride, charging and discharging currents, mechanisms for current transients 1−7996
polyvinylidene fluoride, X-ray induced currents, TSC, discharge currents, space charge 1−43062
Pyrex glass, Poole coeff., dimensional effect 1−16084
semiconductor, balance eqn. formulation and memory effects in retarded high field transport 1−7623
semiconductor, free carrier absorption in quantising mag. fields, nonpolar optical phonon scatt. 1−42793
semiconductor, wide-band-gap, nonlinear and hopping transport 1−12116
semiconductor hot-electron nonlinear transport, exptl. methods, review 1−16294
semiconductor with superlattice, EM wave influence on elec. cond. 1−12120
semiconductor with superlattice, nonlinear conductivity in strong mag. field 1−20756
semiconductors, electron runaway depend. on inelastic scatt. 1−20754
semiconductors, higher-order electron-multiphonon scatt. processes 1−16285
semiconductors, semiclassical Boltzmann transport theory 1−16283
semiconductors, transport phenomena, time-of-flight technique 1−16295
$(TMTSF)_2PF_6$, nonlinear elec. field effects 1−20712

high field effects continued
TTF-I_n ($n \simeq 0.7$), order-disorder transition in iodine sublattice in strong elec. field 1−47626
n-$Al_xGa_{1-x}As$ graded-gap crysts., electron redistrib. effect on conductance, Hall e.m.f. obs. 1−16309
$Al_xGa_{1-x}As$-GaAs heterojunction layers, current/voltage characts. in high elec. fields, surface acoustoelectric effects 1−34778
Al_xTe_{1-x}, glass, in strong electric field, switching effect 1−3028
p-Bi_2Te_3, galvanomagnetic, high field transport props. 1−16301
CdO-P_2O_5 glasses under high and low electric fields, elec. activation energy 1−38783
CdSe, hot-electron cond. characts. calc., scatt. mechanisms 1−25737
GaAS epitaxial layers, electron velocity in high elec. fields 1−34714
GaAs, electron transport props. at high elec. field 1−7629
GaAs, hot electron transport, electron-electron interaction, screening effect 1−2971
Ga_xTe_{1-x}, in strong electric field, switching effects 1−3028
Ge, electron-hole drop drag by deform. pulse due to laser irrad. *(Russian)* 1−2973
Ge_xTe_{1-x}, glass, in strong electric field, switching effects 1−3028
InP, meas. of dipole domains using point-contact probe 1−52570
n-InSb, electron runaway in strong mag. fields and breakdown 1−25743
$Pb(Zr,Ti)O_3$, props. under high electric field 1−16538
SbSI, ferroelec., anomalous photovoltaic effect meas. 1−7660
Sb_2Te_3, galvanomagnetic, high field transport props. 1−16301
Si, electron warming, effect of mag. field on lag 1−20757
Si epitaxial layers, electron velocity in high elec. fields 1−34714
Si:Au p-i-n diode with deep level, neg. resist. occurrence, criterion and expts. *(Japanese)* 1−20860
Si:H, amorphous, film-substrate and film-vacuum interfaces, field effect meas. 1−7622
SiO_x film on polycryst. Si, high-elec.-field generated traps, expt. 1−47669
Si_xTe_{1-x}, glass, switching effect, in strong electric field 1−3028
Te, negative differential cond. at high electric fields 1−25738
$Tl_2SeAs_2Te_3$, glassy, current inhomogeneities and develop. of thermal switching 1−20832
ZnO, second harmonic generation under hot-electron condition 1−30752
ZnS, piezoelec., anomalous photovoltaic effect meas. 1−7660

high-frequency amplifiers
see also microwave amplifiers
InSb photovoltaic detectors, fast current amplifier 1−18299

high-frequency discharges
air, electric breakdown in superimposed fields 1−2135
air, HF breakdown voltage of point-to-plane gaps 1−20022
automatic rotor balancing 1−34176
coaxial line type microwave CW discharge tube, radial distrib. of excited atoms 1−15645
haloethane plasma etchants, radical prod., transient species spectra 1−34124
inert gas-Hg mixtures, multichannel discharges caused by anode oscill. 1−42227
metastable atom concentration evolution in HF induced discharge in low press. He and Ne *(French)* 1−52011
microwave excitation of CW CO laser, supersonic flow 1−24396
N_2, RF discharge, externally maintained, V-I characts. 1−42247
optical diagnostics of HF discharge burning in superimposed elec. field 1−2266
ozonizer efficiency obs. and enhancement 1−15701
powdered samples in UHF discharge, atomisation, absorpt. signals of duration meas. 1−349
RF discharge, plasma induced arcs 1−25088
RF magnetron and non-magnetron planar system electrical characteristics 1−2172
temperature determination by Fabry-Perot interferometry, computer evaluation 1−332
vacuum resonant microwave discharge in magnetostatic field 1−42241
vortex HF spark plasmatron, gas dynamics *(Russian)* 1−2250
Ar, electric breakdown in superimposed fields 1−2135
Au micron-sized particles in UHF discharge, atomisation, absorpt. signals of duration meas. 1−349
Ba, high-freq. discharge lamp, at. absorpt. spectrometry obs. *(Japanese)* 1−10022
CO_2 laser, externally sustained microwave discharge appls. 1−25099
H, RF glow discharge cleaning of stainless steel 1−23851
N_2 electric breakdown in superimposed fields 1−2135
N_2, N_2-Ar mixtures, afterglow, following microwave excitation, electron, ion density enhancement 1−2265

high-frequency effects
see also helicons; hot carriers; skin effect; solid-state plasma
disordered conductors, Aaron-Bohm effect *(Russian)* 1−52594
electron gas, inhomogeneously heated charge carriers, nonstationary states 1−12117
kinetic equation in strong EM wave field 1−30677
metal, quantum-electromagnetic excitations, semiclassical approach 1−42806
metal, surface impedance, low-field extremum at MHz freqs. 1−3045
methyl alcohol-n-hexane(CS_2)(cyclohexane), opalescent mixtures, RF cond. meas. 1−30774
MSIS structures, influence of fixed charge in dielec. on HF C/V characts. 1−30835
narrow band gap semiconductors, EM wave mutual amplification *(Russian)* 1−34736
semiconductor, electro-optical anisotropy due to electron heating by sub-millimetre waves 1−31129
semiconductor, high-frequency current effect on EM wave propagation 1−30776
semiconductor, microwave method for testing nonlinear effect 1−21691
semiconductor, nonlinear HF conductivity in quantising mag. fields 1−2999
semiconductor thin films, dielectric nature of high-freq. effects 1−43061
semiconductors, acousto-optical analog of the Borman effect *(Russian)* 1−3366
semiconductors with superlattice, EM waves cross modulation 1−20787
superconducting films, phonon deficit effect induced by microwave irrad. 1−20919
superconductors, Cooper coupling of electrons 1−52692
superlattice semiconductors, galvanomag. effects, quantum theory 1−52584
TSC meas., elimination of space charge effects 1−7627
Ag halides, microwave photocond. and photodielec. effects obs. 1−12143

high-frequency effects continued
Ag halides, negative differential conductivity in the case of electron scattering by optical phonons at low temperatures 1−52571
Ag_2HgI_4, complex cond., thermal activation effects in microwave region 1−2690
α-AgI, elec. cond. in microwave freq. range 1−52345
Al superconducting film in resistive state, anomalous impedance due to HF irrad. *(Russian)* 1−20893
n-$Al_{graded}Ga_{-graded}As$, graded-gap crystal, nonadditivity of elec. cond. 1−20793
n-$Al_xGa_{1-x}As$ graded-gap crysts., electron redistrib. effect on conductance, Hall e.m.f. obs. 1−16309
Bi, nonlinear characteristics, quantum oscills. under strong electron heating 1−25741
Bi, quantum-electromagnetic excitations, semiclassical approach 1−42806
n-Bi-Sb alloy, magnetoplasma waves propagated along trigonal axis, magnetoresist. tensor 1−20794
$CdCr_2Se_4$, UHF pulse length influence on spin wave instability threshold *(Russian)* 1−30933
n-GaAs, epitaxial, current instability and microwave transmission oscillations, transverse mag. field 1−20891
GaAs, hot electrons, transient and high frequency response in high fields, Monte Carlo calc. 1−38785
Ge, warm carrier cond. freq. depend. 1−2997
n-InSb, ion acoustic wave excitation 1−52593
InSb, microwave method for testing nonlinear effect 1−21691
Mn-Co-Ni-Cu complex oxide semiconductors, spinel struct., AC hopping cond. 1−20786
Mo, surface impedance, low-field extremum at MHz freqs. 1−3045
$NbSe_3$:Ta(Ti), Frohlich cond., impurity effect 1−47625
Pb chalcogenides, free-carrier magneto-absorpt. by photon-ionised impurity magnetoplasmon processes 1−12479
TiO_2 microwave dielectric resonators, He film effect 1−26152
W, HF EM wave nonlinear absorpt. *(Russian)* 1−2998

high-frequency electronic transport *see high-frequency effects*

high-frequency heating *see radiofrequency heating*

high level languages
see also BASIC; PASCAL
very high level, development and appl. *(Italian)* 1−13179

high-pass filters
chest radiograph boundaries detection, piecewise linear methods 1−53897
infrasound detection by acoustic system, lumped and distributed equiv. cct. 1−6728
scanned charge injection device arrays, focal plane signal processing 1−5391

high-pressure effects in solids
see also high-pressure solid-state phase transformations; piezo-optical effects
Al, type 6061-T6, dynamic pressure-shear loading using anisotropic crystals 1−7259
alkali halides, dislocation mobility, high hydrostatic press. effect 1−34424
anomalous acoustic velocity at high press. in superstrong mag. field in condensed matter 1−20320
atactic polystyrene, Rayleigh-Brillouin light scatt. at high press. 1−12513
brittle material, piercing and fracture using pulsed water jets 1−35386
t-butyl chloride, P-T phase diagram of three solid phases *(French)* 1−2589
ceramic shells, testing under external hydrostatic pressure 1−43634
close-packed crysts., high press. mech. instability, thermodynamic transition, lattice and mol. dynamics 1−47205
crystallisation under high press. and temp. 1−34463
diamond indentor-anvil technique, megabar press. in submicron vols. 1−28003
dielectric-metal transitions and superconductivity at high press. 1−30635
dislocation structure evolution under influence of compression anisotropy 1−34349
dolomite, thermal stability at high temps. and press., PT curve 1−40120
energy dispersive X-ray diffractometry using profile anal. for high press. expts. 1−29999
F 1−52559
glass shells, testing under external hydrostatic pressure 1−43634
graphite, pyrolytic, press. effect on energy spectrum parameters, mag. props. *(Russian)* 1−7508
guanidinium aluminium sulphate hexahydrate:Cr^{3+}, EPR spectrum, hydrostatic press. effects 1−21040
ice VI, high-pressure, liq. figures due to internal melting 1−20361
IN-738 Ni-base superalloy, creep life extension, regenerative heat treatments 1−16860
insulator-to-metal transition in oxides under high press., possibility of chem. reduction 1−7255
ionic conductivity in solids, pressure dependence 1−34518
manganin wire, resist. meas. up to 60 kbar, using cubic-anvil type press. apparatus 1−44948
metal contact surface, healing of micropores at uniform compression *(Russian)* 1−47338
metal-insulator transitions at high pressures 1−30634
minerals, high pressure effects investigation rel. to physics of Earth deep interior 1−13452
molecular solid, far IR spectroscopy under press., progress and problems 1−39105
Mossbauer spectra, second order Doppler shift, press. effect 1−47989
naphthalene-d_8, phonon energies, press. depend. meas. 1−47186
neutron diffraction expts. up to 6.5 kbar at low temp., high-press. apparatus *(German)* 1−20033
organic one-dimensional conductors, fluctuating collective conductivity and single-particle conductivity 1−42760
plastic crystal, dielec. const. and PVT meas. at low temps. up to 3000 bar 1−39026
plastic crystals at high press. 1−38272
plastics, powder and pellet form, bulk density vs. hydrostatic pressure characts., feed material 1−34392
PMMA, impact response determ., compression, shear loading 1−15950
polydiacetylene crysts., compressibility under hydrostatic press. 1−15946
polyethylene, melting and solid-solid transition under press. 1−25408
polystyrene, press.-induced environmental stress crazing and cracking, mechanistic aspect 1−43565
PVC pipes, rigid, fracture study using SEM 1−8405
quartz, elastic and struct. changes at high press. and temp. 1−38455

high-pressure effects in solids continued
quartz, natural, synthetic fluid inclusions, formation 1−47155
α quartz, shock compression, physical props. of synthsised amorphous SiO_2 1−11815
rare earth digermanates and disilicates, polymorphism under high pressure, and information from Eu^{3+} struct. probe 1−25240
rare earth monoxides formed during $R+R_2O_3$ reactions under high pressures 1−26740
rare earth systems, anomalous, mag. props. under press. 1−30898
rare earth-Co(Ni) alloys, sorption of H_2 and D_2 at press. up to 1500 atm. 1−20552
rocks, high pressure effects investigation rel. to physics of Earth deep interior 1−13452
rocks Rn and Tn emanations under pressure, exptl. results rel. to earthquake prediction *(Chinese)* 1−9089
semiconductors and semimetals, electrical properties, press. effects 1−30739
shock parameters, measurement 1−13593
solid, hard, shock effect on flexible bonds, incl. external medium press. *(Russian)* 1−37831
sound transmission through plates in air and He atmospheres at pressures up to 50 bars, report *(German)* 1−19488
specific heat measurement methods at high press., review 1−18218
steel, Cr-Mo, creep life, effect of hydrostatic press. 1−16859
steel, stainless, laser irradiated, type 1Kh18N9T, microhardness, effect of elec. field and press. *(Russian)* 1−16868
steel, stainless, type 304 and 316, explosively deformed, prior deform. effect on microstruct 1−8384
steel multilayer stack spontaneous hermetic sealing during high temp. heating 1−31505
superconducting transition temperature, measurement using diamond anvil high press. cell 1−38876
TCNQ salt, tetramethyl benzidine-TCNQ, elec. resist. under press., cond. mechanism 1−12101
TCNQ salt, TMPD-TCNQ, elec. resist. under press., cond. mechanism 1−12101
thermal conductivity, lattice, press. depend 1−30499
$(TMTSF)_2PF_6$, organic supercond., Meissner effect, diamag. shielding signal, and crit. field anisotropy under hydrostatic press. 1−16408
$(TMTSF)_2PF_6$, superconductivity coexistence with metal-insulator transition, press. depend. 1−16401
$(TMTSF)_2PF_6$ quasi-one-dimens. cond., press. depend. of supercond. T_c, metal-insulator transition role 1−38879
trissarcosine calcium chloride, polarisation rel. to elec. field, press.-induced phase obs. 1−8011
TTF-TCNQ, neutron scatt. study under hydrostatic press. up to 5 kbar 1−42369
α-U, Fermi surface, press. effect 1−47439
X-ray diffraction data, high press. struct. information and its reliability 1−29953
Ag, band structure and eq. of state calc. *(French)* 1−16223
Ag, elastic constant depend. on press. 1−52215
Ag, thermoelectric EMF, tensile stress and press. effects 1−52548
Al cylinder, axial compression, stress and flow patterns 1−34403
Al, dislocation struct. evolution during high press. creep 1−7180
Al, Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
Al hydrostatically compressed single crystals, work hardening *(Russian)* 1−31486
Al, shock compressed type 2024, elastic release wave recording 1−25369
Al, thermoactivation parameters and dislocation behaviour at creep under high hydrostatic pressure 1−34404
Al-Al_2O_3-Ag(Pb), normal-supercond. metal junction, electron tunnelling, interference effects, high press. effects. 1−3115
Al_2Ce and Al_3Ce, Kondo effect under press. 1−30898
Ar:$NO_2(N_2)$, solid, matrix isolation Raman-spectroscopy at high pressure and at low temperature 1−43151
As, electron spectrum changes due to press. *(Russian)* 1−52481
Au, elastic constant depend. on press. 1−52215
Au, thermoelectric EMF, tensile stress and press. effects 1−52548
Au, vacancy formation volume, elec. resistance, press. effects 1−20196
B_2O_3 glass, density and refr. index rel. to struct., high and low press. 1−30078
BaO pressure induced metallisation, theoretical estimate of transition press. 1−16232
$BaZrO_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
Bi, electron Fermi surface hydrostatic press. effect 1−52470
Bi-Sb-Te, electron Fermi surface hydrostatic press. effect 1−52470
$Bi_{1-x}Sb_x$, magnetic freezeout study in region of direct and inverted spectra 1−25745
C fibre reinforced epoxide, failure under superposed press. in three-point bending 1−35339
C fibre reinforced Ni, uniaxially aligned composite, tensile and compressive strengths under high press. 1−35338
CaF_2, stress induced anisotropy in lattice thermal conduction 1−30498
CdS, excitonic solid, press. quenching, anomalous mag. and elec. behaviour 1−30327
CdS, photoconductivity, luminescence, low-temp. plastic deform. 1−38815
CdS, pressure quenched, anomalous paramagnetism 1−3137
Ce, elastic props. up to 8.4 GPa and 293K 1−34395
γCe, press. enhancement of Kondo-like anomaly in thermoelec. behaviour 1−30726
$CeAl_2$, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
CeS, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
Co, electron and phonon spectra, press. depend. 1−34607
Co_2, solid Raman spectrum, Fermi resonance studied up to 11 GPa 1−42465
Cr_2O_3, crystal struct. and isothermal compression 1−15873
CsBr, O_2^- centres, vibronic luminesc. spectra under press. 1−43182
$CsPbF_3$, struct. transition, specific heat, press. effects 1−2627
Cu, thermoelectric EMF, tensile stress and press. effects 1−52548
Cu-BrZr0.2-M2 bimetal transition layer combination on press. welding, struct. fracture *(Russian)* 1−3792
CuCl, diamagnetic anomaly model, energy bands, defect and impurity levels 1−20633
CuCl, electrical resistance at high press., optical microscopy and X-ray diffr. 1−34701
Cu_2O single cryst., exciton absorpt. spectra, hydrostatic press. effect 1−42702
high-pressure effects in solids continued
n-D_2 supercritical phases and cryst. solids under high press., Raman spectra 1−39108
$Eu_{1.2}Mo_6S_8(Se_8)$, resistive and mag. props., supercond., high-press. investig. 1−42880
$Eu_{1-x}Pt_xPt_2$, high press. Mossbauer study of valence stability 1−7988
Eu_3S_4, pressure effect on mixed-valence state 1−38750
Fe, electron and phonon spectra, press. depend. 1−34607
Fe-Ni-S solid soln. as analogue of outer core, elec. cond. *(German)* 1−44101
FeO, compressibility, energy dispersive X-ray diffr. in diamond anvil squeezer 1−21529
Fe_2O_3, crystal struct. and isothermal compression 1−15873
$Ga_{1-x}Al_xAs$, conduction band struct., deep levels, high-press. Hall effect meas. 1−2987
GaAs, high pressure metallic phase, EXAFS and K-absorpt. edge spectrum 1−35121
GaAs, homojunction laser, uniaxial press. influence on long delay critical temp. 1−6556
GaAs, ideal-neutral-vacancy levels, hydrostatic press. depend. 1−12065
n-GaAs:Cr, charge transfer induced by hydrostatic press., Hall effect meas. 1−47547
GaAs-Yb junctions, tunnelling props. under press. semimetal-semicond. transition 1−7733
GaS, Raman spectrum up to 235 kbar at 300K 1−35059
GaSb:Se,Te, conduction band minima, elec. props., hydrostatic press. effects meas. 1−30631
GaSb:Te, inversion of Γ and L cond. bands under hydrostatic press. 1−47457
GaTe, Raman scatt. press. effects 1−8073
Ge, electron and phonon spectra, press. depend. 1−34607
Ge:Cu(Sb), impurity energy level press. depend., elec. props. 1−20661
H_2, solid, molecular, US rel. ratio meas. at press. >60 kbar 1−38615
p-H_2 solid, neutron diffr. study up to 5 kbar 1−38613
n-H_2 supercritical phases and cryst. solids under high press., Raman spectra 1−39108
$HUO_2PO_4.4H_2O$, densification, pressure induced planar glide, soln. phase sintering 1−26400
He, sound velocity and eqn. of state meas. at high press. 1−38612
^4He, solid, melting pt. at 115 kbar, 297K 1−38611
Hg melting line determ. by elec. resistance method, up to 1200 MPa 1−34461
I, electrical resistance up to 500 kbar and down to 2.7K 1−30737
I_2, electrical resistance at high press. and low temp. 1−34700
I_2, molecular dissociation obs. at high press. by X-ray diffr. 1−20316
ImSe, mag. props. under press. 1−30898
In, supercond. under press., use as supercond. manometer 1−47607
$InGe_2O_7$, $InSi_2O_7$, polymorphism under high pressure, and information from Eu^{3+} struct. probe 1−25240
InP, optical transmission, luminesc. and Raman spectra under hydrostatic press. 1−35007
n-InSb, doped, mag. freeze-out and metal-nonmetal transition 1−47716
n-InSb, Hall coeff., mag. freeze-out on subsidiary minima associated levels 1−47678
K, Gruneisen parameter at high press. 1−34451
K, Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
$(K_{1/4}Bi_{1/4})(Zn_{1/6}Nb_{5/6})O_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
KBr(Cl), O_2^- centres, vibronic luminesc. spectra under press. 1−43182
$KC_8(C_{24})$ graphite intercalates, X-ray lattice const. and compressibility meas. 1−2413
KCl:Li^+, press. induced off- to on-centre transition 1−20657
$KFeS_2$, shock compression up to 120 GPa, high press. phase K at. vol. 1−44170
KI:NO_2^-, matrix isolation Raman-spectroscopy at high pressure and at low temperature 1−43151
$K_3V(VO_4)_2$, high pressure synthesis, glaserite type struct. 1−2408
La, FCC, electronic struct. and supercond. under press., linearised APW calc. 1−7514
LaCe, Konds effect under press. 1−30898
La_3S_4, superconducting props., press. effect *(Russian)* 1−25819
LiF, double cross slip enhancement under hydrostatic press. 1−25286
LiF, hydrostatically compressed, edge dislocation mobility 1−25283
LiF hydrostatically compressed single crystals, work hardening *(Russian)* 1−31486
LiF single cryst., slip generation and cubical cavity distortion, press. induced 1−34423
LiF, thermal expansion at high press. 1−7359
metals, thermal conductivity under press. 1−30500
Mg, Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
MgIn $L1_0$-type ordered alloy, anisotropic lattice compression 1−34425
MnBi, mictomag. and superparamag. props., high press. effect 1−30942
$Mn_5Pd_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
$Mn_5Rh_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
MnSb under high temp. and press., mag. props. *(Russian)* 1−20978
$(Mo,W)_3Ga$, obtained by high press. treatment cryst. struct. and supercond. temp. 1−38330
Mo-Ga, crystallisation under high press. and temp. 1−34463
Mo-Ge, crystallisation under high press. and temp. 1−34463
NH_4Cl, heat capacity, thermal conductivity and phase transitions 1−30386
NH_4Cl, press. induced multicrit. pt., SHG obs. 1−38504
$(NH_4)_2Mn_2(SO_4)_3$, lack of phase transitions under hydrostatic press. 1−12464
Na, Gruneisen parameter at high press. 1−34451
Na, Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
NaCl, double cross slip enhancement under hydrostatic press. 1−25286
NaCl hydrostatically compressed single crystals, work hardening *(Russian)* 1−31486
NaCl, metallic modification, superconductivity at high press. 1−34823
NaCl single cryst., elastic props. up to 9 GPa and 293K 1−34397
NaCl single cryst., hydrostatically compressed, deform. hardening and dislocation multiplication 1−34354
NaCl, thermal expansion up to 32 kbar and 500°C 1−34495
$NaNbO_3$, elec. props. meas., high press. effects, small polaron hopping theory 1−16288
Nb, polycrystalline, pressurization, yielding and induction of dislocations 1−34422

high-pressure effects in solids continued
Nb, supercond., electron-phonon coupling, press. effect, tunnelling study *(Russian)* 1−20921
$Nb_3Ge(Ga)(Al)$, A15 struct., press. effects on phase limits 1−34475
Nb_3Sn multifilamentary superconducting composite, Kirkendall porosity suppression 1−47835
Ni, electron and phonon spectra, press. depend. 1−34607
Ni, thermal conductivity and Lorentz number, press. effects 1−52542
Ni, thermal conductivity under press. 1−30500
$NiBr_2$ and $Ni_{0.92}Zn_{0.08}Br_2$, incommensurate mag. phase, press. depend. 1−52752
Np intermetallics, mag. props., high press. Mossbauer study 1−47992
Pb, diffusion of Au, press. effects 1−30485
Pb, electrical resistivity, supercond., press. and temp. depend., use as resistive press. monitor 1−47607
Pb, electron-phonon interactions under high press. rel. to supercond. props., meas. 1−42895
Pb, Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
Pb-In, electron-phonon interactions under high press. rel. to supercond. props., meas. 1−42895
$Pb(CoM)_{1/2}O_3$ (M=Mo, W), high press. synthesis, phase diagram 1−35197
$Pb_5Ge_3O_{11}:Gd^{3+}$, effect of hydrostatic press. on EPR spectrum 1−52841
$Pb(HgM)_{1/2}O_3$ (M=Mo, W), high press. synthesis, phase diagram 1−35197
Pb_2MoMO_6 (M=Fe,Mn), high press. synthesis, phase diagram 1−35197
$PbSnF_4$, influence of press. on elec. props. *(French)* 1−2965
PdZn $L1_0$-type ordered alloy, anisotropic lattice compression 1−34425
Pr chalcogenides and pnictides, cryst. field, press. effects 1−20682
Pr crystalline elec. field split system, press. effects and lattice parameter correlations 1−20939
$PrAl_2$, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
PrSb crystalline elec. field split system, press. effects and lattice parameter correlations 1−20939
S, electrical props. at very high press. and low temp., supercond. transitions 1−12221
S, electrical resistance up to 500 kbar and down to 2.7K 1−30737
S, superconductivity at high press. *(Russian)* 1−42882
$(SN)_x$, superconductivity at ultrahigh press. 1−38881
Sb, Shubnikov-de Haas effect, hydrostatic press. effect 1−20777
$Sb_{1-x}Bi_x$, supercond. at high press., up to 14 GPa 1−3090
SbSI, influence of press. on reflection spectra, band struct. *(Russian)* 1−21231
Sc-Ga, crystallisation under high press. and temp. 1−34463
$ScGe_2O_7$, $ScSi_2O_7$, polymorphism under high pressure, and information from Eu^{3+} struct. probe 1−25240
Se, electrical props. at very high press. and low temp., supercond. transitions 1−12221
Se, electrical resistance up to 500 kbar and down to 2.7K 1−30737
Se, trigonal, energy spectrum, press. depend. 1−2866
Si, electrical resistance up to 500 kbar and down to 2.7K 1−30737
Si single cryst., struct. under high press. and temp. conditions, X-ray and electron microscopy methods 1−30409
Si:Cr Jahn-Teller centre, EPR spectrum, nonlinear press. effect *(Russian)* 1−7943
SiO_2, fused, crystn. kinetics, effect of press. and OH content 1−34270
SiO_2, stishovite,, Raman and IR spectra and X-ray powder diffr. 1−43131
SiO_2-GeO_2 phase diagram up to 100 kbar 1−35245
Sm_4Bi_3, thermoelectric behaviour at high press. 1−38802
SmS, semiconducting, electronic transport props., hydrostatic press. effect 1−12130
SmS(Se)(Te), band struct. under press., semiconductor-metal transition 1−2872
Sn, electrical resistivity, supercond., press. and temp. depend., use as resistive press. monitor 1−47607
$(Sn_xEu_{1-x})_2Mo_6S_8$, high press. semicond.-supercond. transition 1−42881
SrF_2, phase relations and compressibility 1−8286
SrO pressure induced metallisation, theoretical estimate of transition press. 1−16232
$SrTiO_3$-$Bi_{2/3}TiO_3$, non-polar perovskites, electrostrictive effects, press. depend. of permittivity meas. 1−16526
Ta, compressibility meas. by energy-dispersive X-ray diffr. in diamond-anvil cell 1−30307
Ta, supercond., electron-phonon coupling, press. effect, tunnelling study *(Russian)* 1−20921
Ta-Ga, crystallisation under high press. and temp. 1−34463
$TaSe_2$, CDW state under press., Landau theory 1−52508
Te, electrical props. at very high press. and low temp., supercond. transitions 1−12221
Te, electrical resistance up to 500 kbar and down to 2.7K 1−30737
Te, electron and phonon spectra, press. depend. 1−34607
Te, trigonal, self consistent electronic spectrum, press. depend. of energy spectrum 1−12025
$Tl_2Mn_2(SO_4)_3$, lack of phase transitions under hydrostatic press. 1−12464
Tm chalcogenides and pnictides, cryst. field, press. effects 1−20682
TmSe crystalline elec. field split system, press. effects and lattice parameter correlations 1−20939
TmSe, metal-insulator transition at high press. 1−3025
α-U, compressibility meas. by energy-dispersive X-ray diffr. in diamond-anvil cell 1−30307
UGe_3, Fermi surface, press. effect 1−47439
UN, magnetic structure under press. 1−47860
$V_3Ge(Sn)$, A15 struct., press. effects on phase limits 1−34475
V_2O_3, crystal struct. and isothermal compression 1−15873
W-Ga, crystn. at high press., cryst. struct. of intermediate phases 1−38330
YAG, ultrasonic velocity, elastic consts. under press. 1−34428
YFe_2, NMR study of press. effect on magnetisation *(Russian)* 1−43035
$Y_2Ge_2O_7$, $Y_2Si_2O_7$, polymorphism under high pressure, and information from Eu^{3+} struct. probe 1−25240
$YbAl_2$, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
Yb_4Bi_3, thermoelectric behaviour at high press. 1−38802
Zn hydrostatically compressed single crystals, work hardening *(Russian)* 1−31486
Zn, thermoactivation parameters and dislocation behaviour at creep under high hydrostatic pressure 1−34404
high-pressure effects in solids continued
Zn, twin boundary motion due to press. *(Russian)* 1−30245
$ZnIn_2S_2$ under pressure, Raman spectra, spectral bands, freq. depend. 1−8062

high-pressure phenomena and effects
see also high-pressure effects in solids
adsorption of high pressure gases onto zeolite adsorbents 1−42628
alkali halide, molten, elec. cond. at high press., press. effects separation using PVT data 1−38570
1-anilino-8-naphthalenesulphonate, intramolecular charge exchange, solvent and press. effects, luminesc. 1−33554
p-(9anthryl)-dimethylaniline, intramolecular charge exchange, solvent and press. effects, luminesc. 1−33554
bacteriophage lysogens under high press. 1−43858
benzene liquid derivatives, hydrostatic press. effect on electric permittivity 1−3316
n-butyl chloride, liquid, glass transition correl. with press. depend. of viscosity 1−38291
butyl formate 1−16109
carbon tetrachloride, liq., Brillouin scatt. at high press. 1−39110
β-carotene, light absorpt. spectrum, press. depend. 1−41390
cholesteryl nonanoate, phase transition lines of blue phase, up to 1200 bars 1−2601
chymotrypsin, fast conformational changes, high press. stopped flow studies 1−41528
conference, Le Creusot, France (July-Aug. 1979) 1−27672
cytochrome c, fast conformational changes, high press. stopped flow studies 1−41528
dense fluid, IR, Raman and Rayleigh spectroscopy of mol. interactions, review 1−39104
1,2-dichlorobenzene dispersion, high press. phase transitions, DTA study *(French)* 1−38507
documentation and data evaluation 1−27693
Earth core-mantle boundary, materials, Gruneisen parameter press. depend. 1−44145
electron density at nucleus, press. depend., for elements K-Ra inclusive 1−33428
fluid mixtures, binary, high press. thermodynamics and phase equil. 1−38503
fluid mixtures under pressure 1−30357
Freon-152a, -142b, transport props., 280-510K 1−29826
G 1−42507
gabbro, pressure and stress effects on water transport 1−49260
glass transition correlation with press. depend. of viscosity in liqs. 1−38291
granite, pressure and stress effects on water transport 1−49260
ice VI-ice VII-water coexisting state, high press., supercooling, phase transitions obs. 1−11847
inert gas, equil. and transport props., room temp. up to 1 GPa, dil. gas to solid range 1−38042
isotropic molecules, depolarising dipole induced dipole effect in Rayleigh and Raman scatt., density depend. 1−37216
liquid cavitation phenomena and the occurrence of pressure-tension cycles under dynamic stressing 1−42445
liquid crystals and plastic crystals at high pressure 1−38272
metals, melting curves and Gruneisen coeff. at high press. *(French)* 1−38513
methane, eqn. of state of solid and fluid phases 1−16014
methane→methyl+H dissoc. reaction, high press. rate const. 1−31842
methyl+H reaction, high press. rate const. 1−31842
mixtures, liquid, repulsive forces at high density and temp. 1−30021
molten salts, small-scale laboratory apparatus *(Rumanian)* 1−14133
neutron diffraction expts. under high press. *(Japanese)* 1−38206
p-nitophenylphosphatase in erythrocyte membrane, high press. nervous syndrome 1−43856
nitroaniline, (N-methylation), substitution, press. and solvent effects, isomers, charge transfer, luminesc. obs. 1−33554
octyl formate liquid, thermal cond. at high temps. and press. 1−16109
photonic compression, lasers for high press. eqn. of state meas. 1−29242
planetary interiors, behaviour at high press., book 1−27691
plasma, high press., elec. conductivity and optical props. 1−38056
6-propionyl-2-dimethylaminonaphthalene, intramolecular charge exchange, solvent and press. effects, luminesc. 1−33554
protein ligand complexes, high press. effects 1−41529
rare earth monoxides, RO, high press. synthesis 1−35201
rock glass at high-press., elastic moduli 1−27156
rocks under deep thermobaric conditions, electrical props. *(Russian)* 1−27153
silicate melts, CO_2 solubility mech., Raman spectra 1−39067
silicate melts, solubility mech. of H_2O at high press. and temp., Raman spectroscopic study 1−39068
simple molecular liquids, repulsive forces at high density and temp. 1−30021
solid-gas systems, channel flow under high gas back press. 1−2058
tetracontane, chain conformation as function of pressure 1−37359
tetratetracontane, chain conformation as function of pressure 1−37359
thermodynamics of high pressures, system-independent treatment 1−38556
toluene, press. effect on US vel., −95 to 50°C, eqns. of state validity 1−38471
water, heat capacity and H bond system, press. effects 1−47249
o-xylene dispersion, high press. phase transitions, DTA study *(French)* 1−38507
Ar, liq., shock compression, 21 to 91 GPa, eqns. of state calc. 1−30288
Ar, viscosity, press. depend. up to 9 kbar 1−38039
Bi, liq., elec. resist. anomaly at high press. and temp., melting curve form 1−20721
Bi-$BiBr_3$ mixture, molten, press. effect on elec. cond. and US vel. near miscibility gap, metal-nonmetal transition 1−25772
$CoCO_3$, trigonal, synthesis under press. in igneous phase 1−35202
D_2 liquid, shock compression data 1−38495
$Fe_{83}B_{17}$ amorphous alloy, crystallisation high press. effect 1−20065
H plasma, equation of state up to 10 Mbar 1−46854
H_2, compressed, vibr. to translational relaxation 1−37315
H_2, high pressure melting curves, isotopic effect 1−20504
H_2, liquid, shock compression data 1−38495
H_2-tetralin mixture, vapour-liq. equilib., meas. apparatus, high press. and temp. 1−40790
HBr-H_2O mixtures, PVT relations up to 550°C and 1500 bar 1−38500

high-pressure phenomena and effects continued
H_2O, self-diffusion under high press., isotopic substitution effect, NMR spin echo obs. 1−38571
He, high pressure melting curves, isotopic effect 1−20504
He, liquid, sound velocity and eqn. of state meas. at high press. 1−38612
^{3}He, magnetisation and press. in fast compression in high fields 1−16138
Hg and dilute amalgams, elec. and thermodynamic props. behaviour at high press. and temp., metal-nonmetal transition 1−25773
Hg, expanded, metal-nonmetal-dense plasma transition at high.temp. and press., thermopower obs. 1−25776
Hg, expanded fluid, sound vel. and thermodynamic props., metal-nonmetal transition 1−25373
N_2, liq., shock compression, 21 to 91 GPa, eqns. of state calc. 1−30288
N_2, saturated and compressed fluid, (p,V,T) meas. 1−30351
N_2-methane mixture, compressed and liquefied, (p,V,T) meas. 1−30352
Na-Ga, liquid, two-phase region, press. variation 1−30376
NaCl solution, P-V-T data, 20 to 600°C and up to 4 kbar 1−42507
O_2, liq., shock compression, 21 to 91 GPa, eqns. of state calc. 1−30288
Rb, liq., nuclear-nuclear correl., neutron diffraction 1−30035
SF_6 at high press. in uniform-field gaps with anode mounted projection, prebreakdown phenomena 1−15714
SF_6, compressibility factor calc. and meas. 1−11511
SF_6, pure, PVT obs. near crit. pt., scaling hypothesis verification 1−38036
Se, liq., cond. in semicond.-metal transition region at high temp. and press. 1−25775
Se, liq., expanded, ^{77}Se NMR obs. of metal-nonmetal transition 1−26056
Se, liq., struct. and electronic transforms, ^{77}Se NMR study 1−12413
Te-Se mixture, liq., press. induced semicond.-metal transition obs. 1−25771
TiN coating deposition from N atmosphere by laser irrad. 1−26414
Tl-Se liquid mixtures, two-phase region, press. variation, sound vel. meas. 1−30376
Xe, depolarisation factor of light scattered in crit. region 1−38048
$ZnCO_3$, trigonal, synthesis under press. in igneous phase 1−35202

high-pressure solid-state phase transformations
acetonitrile, pVT data, phase transitions, volume changes, enthalpy and entropy calcs. *(German)* 1−20373
adamantanone, press.-induced FCC to tetragonal transition, X-ray obs. 1−20375
diamond, growth of plate- and needle-like crysts. 1−35173
difluorides, MF_2 (M=divalent cation), rutile struct., elasticity and phase transform. 1−39360
difluorides and dioxides, rutile struct. in Earth interior, elasticity and phase transform. 1−32434
dodecane, pVT data, phase transitions, volume changes, enthalpy and entropy calcs. *(German)* 1−20373
Earth lower mantle phase transitions, negative press.-temp. slopes 1−17588
Earth mantle, polymorphic phase transition from metastable state 1−40125
energy dispersive X-ray diffractometry using profile anal. for high press. expts. 1−29999
geophysics, high press. phenomena 1−32416
graphite, rhombohedral phase, temp. stability 1−34469
graphites, three types, shock-compression parameters and phase transitions to 120 GPa 1−25372
Gruneisen parameter near, pressure-induced phase transform., lattice dynamics theory 1−42502
ice, phase relations under pressure 1−2614
ice VI-ice VII-water coexisting state, high press., supercooling, phase transitions obs. 1−11847
ionic and molecular solids, press. depend. of NQR freqs., phase transitions indication 1−39004
ionic crystals, electron-gas theory, many-body effects 1−47524
lattice stability of AX and AB_2O_4 cpds., data tables 1−52101
magnetically ordered materials, press. effect on mag. ordering *(Russian)* 1−7834
methane, far IR and Raman spectra under high press., first-order phase transition 1−39106
molecular solid, far IR spectroscopy under press., progress and problems 1−39105
olivine glass, high-press. phase formed in diamond-anvil cell expt. 1−13436
oxides, ternary, press. induced phase transform., comprehensive rule 1−30385
poly(vinylidene fluoride) film, glass transition, press. depend. of pyroelectric response 1−11693
polyethylene, high press. phase transition, effect of mol. weight distrib. 1−52084
polyethylene, melting and solid-solid transition under press. 1−25408
polymorphic phase transition in A4, B1 and B3 type cryst., uniaxial stress and orientation effects 1−30127
PTFE, II to III phase transform. kinetics at high press. 1−3729
PVC glass, high press. prepared, conformational recovery 1−11849
pyrope-rich garnet phase transform. in an eclogitic Earth mantle 1−32404
pyroxene-garnet transform., implications for 200 km seismic discontinuity 1−32406
quartz, crystal structure and elastic props at press. 1−42350
quartz-coesite and high-low phase transitions up to 40 kbar 1−44169
rare earth cpds., $R_2Si_2O_7$ and $R_2Ge_2O_7$, polymorphism under press., change of cation effect on sequence of structs. 1−30126
semiconductors, amorphous, pressure-induced conductivity transitions 1−34756
shock poles of bodies with compact isotropic struct., calc. using Morse pot. *(French)* 1−38456
shock wave research, continuous loading, experimental techniques 1−39583
spinel, high-press. phase formed in diamond anvil expt. 1−13436
steel, mild, impact loaded, polymorphic transform., metallographic investigations 1−39334
TCNQ salt, TSF-TCNQ, organic cond., commensurability and fluctuating conductivity 1−34696
TGSe, press.-induced tricritical nature, dielec. const. and spontaneous polarisation meas. 1−26141
tridymite, press. induced phase transitions 1−47224
tris-sarcosine calcium chloride, antiferroelectric high press. phase dielectric observation 1−8018
tris-sarcosine calcium chloride, ferroelec. transition temp., press. depend. 1−26140

high-pressure solid-state phase transformations continued
TTF−TCNQ, modulated phases, press. effect 1−7332
TTF-TCNQ, first order phase transition under high press., theory 1−20377
TTF-TCNQ, phase diagram under press. 1−34473
undecane, pVT data, phase transitions, volume changes, enthalpy and entropy calcs. *(German)* 1−20373
$[(NH_4)_3H(SO_4)_2]_{1-x}[(ND_4)_3D(SO_4)_2]_x$, effect of hydrostatic press. on phase transitions, dielec. study 1−8010
$AgGaS_2$, Raman mode press. depend., phase transitions 1−21201
Al_2O_3-SiO_2, sillimanite powders, shock-induced transformations 1−38453
^{243}Am, phase transformations up to 18 GPa rel. to rare earth elements 1−38529
$(Ba_xSr_{1-x})Nb_2O_6$ single cryst., diffused ferroelec. phase transition, hydrostatic press. effect 1−31105
Bi I-II and II-III transition pressures, temp. coeffs. 1−2613
C, amorphous, shock-compression parameters and phase transitions to 120 GPa 1−25372
$CaCO_3$ calcite, high press. polymorphic transitions 1−44175
$CaCO_3$, calcite-$CaCO_3$(II) phase transition, Landau description 1−34452
Ca_2GeO_4, shock compression, elec. conductivity meas., phase transition 1−38822
CaO-MgO-CO_2-H_2O, solidus relationships to 40 kbar, geophysics appl. 1−39321
CaO-MgO-SiO_2-CO_2-H_2O, solidus relationships to 10 kbars, geophysics appl. 1−39321
CdS, high temp. polymorphism at press. up to 8 GPa, X-ray diffr. study 1−2625
CdS, polymorphism at high press. 1−34274
Ce, isostructural γ-α transition, self-consistent linearised APW energy band calc. 1−42682
Ce, volume compression up to 4 GPa 1−7254
CsD_2PO_4, short-range order, press. depend., neutron scatt. study 1−3342
$Cs_3R_2(NH_2)_9$, R=Ce,Nd,Sm, struct. and props. *(German)* 1−34315
CuCl, press.-induced phase transitions and absorpt. edge shifts 1−2619
$CuGaS_2$, Raman mode press. depend., phase transitions 1−21201
CuPt, order-disorder transition, high press. effect 1−52280
Fe oxides, high-press. polymorphs of high density 1−49259
$Fe_{85}B_{14}Si_1$, noncrystallinity effect on phase transitions at high press., elec. resist. meas. 1−42531
Fe_2P, pressure induced mag. transition 1−30941
GaP, elastic behaviour and force constants, press. depend. 1−38431
GaP, homogeneous stress at high press., metallic phase transition 1−34421
GaS, optical props. and phonon modes, high press. phase transform 1−48060
GaS, phonon modes and stability up to 200 kbars, Raman spectra and absorpt. meas. 1−12503
H_2 solid, pressure transitions below 0.5K 1−7410
^{4}He, HCP-FCC transition from triple point to 3.9 kbar, calorimetric study 1−20506
Hg_2Br_2, phase diagram up to 0.7 GPa 1−34477
$HgCl_2$, phase diagram up to 0.7 GPa 1−34477
I, high pressure metal-insulator transition *(Chinese)* 1−25630
I_2, structural phase transition at ~210 kbar 1−34476
In-Sn alloy, superconducting tunnelling spectra, α-β transform at press. *(Russian)* 1−47803
InBi, pressure-induced electron transition, struct. parameters meas. by neutron diffr. 1−38362
InI_x, x=1,2,3, solid-phase transitions at high press., disproportionation reactions 1−47227
InP, elastic anharmonicity rel. to high press. phase transition 1−38433
InSb, crystal energies of ZnS, NaCl, CsCl and β-Sn structs., pressure-induced transforms., calc. 1−20108
K, $Zn_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464
KCl, high press. phase transform., energy dispersive X-ray diffr. 1−30384
KDP, laser destruction dynamics, pressure wave effects *(Russian)* 1−30277
KH_2PO_4, neutron diffractometry study of tricritical point 1−52902
$KH_3(SeO_3)_2$, ferroelastic transition, elastic const. behaviour, Brillouin scatt. expt. under applied shear stress, optical cell construction 1−14131
$KH_3(SeO_3)_2$, low freq. Raman spectrum rel. to phase transition 1−26187
$K_2Hg(Cn)_4$, pressure-induced config. distortion and phase transition, Raman scatt. study 1−35038
$K_2Mn_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464
K_2SeO_4, dielec. props., hydrostatic press. effect 1−52903
K_2SnCl_6, pressure induced structural transformation 1−30381
$LiIO_3$, high press. eqn. of state and phase transform. *(Chinese)* 1−2610
$MgAl_2O_4 \rightleftarrows Al_2O_3 + MgO$, spinel⇄corundum+periclase, equilib. boundary, calibration curve for press. above 100 kbar 1−21427
MgH_2, polymorphism under high pressure 1−21443
MgH_2, polymorphism up to 80 kbar and 650°C 1−34275
$MgSiO_4$-MgO-H_2O in Earth mantle, phase changes at high press. and temp. 1−32405
$Mg_{21}Si_8O_{42}H_6$, high-pressure stability, geophysical implications 1−44167
N_2, solid, pressurized up to 410 kbar, Raman scatt. and X-ray diffr. studies 1−38454
NH_3, solid phase transitions studiedup to 11 GPa 1−42465
NH_4Br, orientation phase transitions at high press. *(Russian)* 1−52293
NH_4Cl, heat capacity, thermal conductivity and phase transitions 1−30386
NH_4I and ND_4I, Raman spectra, press. effect 1−39107
$NaAlSi_3O_8$-$KAlSi_3O_8$-H_2O, albite-orthoclase water, high press. phase relations 1−44182
$NaNO_2$, second-order phase transitions, pressure-induced, Raman obs. 1−48075
$NaNO_3$, second-order phase transitions, pressure-induced Raman obs. 1−48075
Nb_3Sn, superconducting, martensitic transition, strain effect 1−48344
Ni-Mn, phase transitions in H_2, saturation magnetisation, temp. depend. 1−30929
P, black, band struct., cryst. energies, and press. induced struct. transforms 1−47449
$Pb_{5-x}Ba_xGe_3O_{11}$, ferroelectric, high press. studies 1−34995
PbO_2, high press. phase transform., energy dispersive X-ray diffr. 1−30384
PbO_2, high press. phase transforms., in situ X-ray diffr. study 1−42536
PbO_2, orthorhombic-cubic transform., transform. rate and phase boundary, X-ray obs. 1−38528
$Rb_2Cd_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464

high-pressure solid-state phase transformations continued
RbCl, press. depend. of Gruneisen parameter near phase transition 1−20347
S, high pressure metal-insulator transition *(Chinese)* 1−25630
Si, electron struct. at high press., struct. transition 1−2867
n-Si:I, metastable high press. phase, X-ray diffr. obs. 1−2628
Sm monochalcogenides, mixed configuration ground state, press. induced phase transform. 1−52528
Sm_2Bi_3, pressure-temp. behaviour of electronic transitions 1−25778
SnTe, polymorphism at high press. 1−34274
Ti-Al-V (6, 4 wt.%), Hugoniot curve meas. with commercial manganin gauges 1−42506
Ti-Mo, high press. induced phase transitions 1−35253
Ti-V, high press. induced phase transitions 1−35253
Ti-V (5-10 at.%), omega forming system, high pressure studies 1−38449
$Tl_2Cd_2(SO_4)_3$, phase transitions, hydrostatic press. effects 1−12464
UO_2, shock-compression parameters and Hugoniot elastic limit, 5 to 330 GPa 1−38464
$V_{1-x}Me_x^{3+}O_2$, Me=Cr,Te,Fe,Al,Ga, metal-insulator transition, press. effect 1−25635
WO_3, high-press. transforms., spectroscopic and X-ray obs. 1−20374
YF_3, high press. polymorphism 1−20376
ZnSe, pressure induced phase transition 1−47229
ZnSe, pressure-induced struct. transition, self-consistent pseudopot. study 1−25428

high-pressure techniques
20 kbar automatic valve chest pressuriser 1−44946
absolute high pressure measurements 1−32995
calibration curve for press. above 100 kbar, using $MgAl_2O_4 \rightleftarrows Al_2O_3MgO$, equilib. boundary 1−21427
cell for far-IR absorpt. study of solid N_2 up to 10 kbar in 10-300K temp. range 1−40878
cell volume calibration for PVT props. meas. 1−18241
clamp-type pressure cell for meas. of mag. susceptibility and electrical resistivity up to 30 kbar 1−9993
compression, magnetic flux, to isentropically compress matter 1−32998
conference, Le Creusot, France (July-Aug. 1979) 1−27672
conical explosion system, super-high load prod. 1−37968
controlled-clearance deadweight tester, fluid viscosity, RPM and piston config. effect 1−32996
dead-weight piston manometer for use as meas. standard up to 2 GPa 1−23257
dead-weight piston manometer for use up to 2 GPa 1−18243
device envelopes with glass-to-metal seals, press. chamber testing 1−282
diamond anvil cell, selection of diamonds for Raman scatt. 1−31161
diamond anvil cells, adaptations for X-ray diffraction on single crystals under pressure 1−28149
diamond anvil high-pressure cell for Raman spectroscopy 1−50234
diamond anvil techniques for structural and electrical/magnetic measurements at low temperature 1−28007
diamond indentor-anvil technique, megabar press. in submicron vols. 1−28003
diamond-window, high press. apparatus for cryogenic expts., design 1−28002
dielectric permittivity meas. as aid in press. and density determ., high press. studies 1−28019
documentation and data evaluation 1−27693
DTA apparatus for high temp., high press. work *(French)* 1−28010
electric gun, shock press. generation, >1 TPa 1−36676
electric gun for high pressure shock wave production 1−40768
EXAFS at high pres. 1−35120
FIR spectrometer for high press. polymer investigations 1−40879
gas research unit for petrological and geophysical appls., 15 kbar 1500°C operation 1−32558
hydrostatic pressure, continuous meas. using Manganin wire *(Japanese)* 1−50150
hydrostatic pressure measurement accuracy, temp. variations correction 1−14130
isobaric specific heat of solids, meas. at press. up to 250 MPa, standard apparatus 1−24663
liquid cavitation phenomena and the occurrence of pressure-tension cycles under dynamic stressing 1−42445
liquid-solid hybrid system for hydrostatic press. generation to 3 GPa *(Japanese)* 1−18244
liquid-solid phase transition in organic liquids, detect. by scattered light meas., high-press. apparatus 1−14132
low-loss dielectric meas. at high press., automated system based on PET 2001 microcomputer 1−14142
manganin wire, resist. meas. up to 60 kbar, using cubic-anvil type press. apparatus 1−44948
measurement standards, shock-wave physics contributions 1−32954
modified split Hopkinson bar, use of microcomputer in data analysis 1−18242
molten salt studies, small-scale laboratory apparatus *(Rumanian)* 1−14133
monoaxial specimen compressor for EPR spectrometer 1−44971
multi-ring apparatus, design *(Japanese)* 1−40810
neutron diffraction, time-of-flight, high press. apparatus 1−44947
neutron diffraction expts. up to 6.5 kbar at low temp., high-press. apparatus *(German)* 1−20033
optical chamber for use at He temps. and up to 35 kbar pressure 1−44977
phase and volumetric behaviour at high temp. and press., apparatus 1−40790
piston and cylinder equipment for high uniaxial stress obs. in semiconductors 1−18253
piston-cylinder device, friction corrections 1−32997
preparation lock, for surface anal. 1−5337
pressure cell for high temp. X-ray crystallography 1−50294
pressure chamber for low temp. Mossbauer effect 1−45094
pressure-jump relaxation technique for studying molecular interaction dynamics 1−29149
profilometry technique for measuring the yield strength of hard materials 1−31821
pVT data determination for liquids and solids up to 3 kbar, −200°C to +40°C *(German)* 1−20373
railgun, pressure generation, 1 to 10 TPa 1−36675
Raman cell, variable temp., for scatt. studies 1−281
relativistic electron beams, use for matter compression 1−30326
review specific heat of solids, high press. meas. methods 1−27973

high-pressure techniques continued
shock wave research, continuous loading, experimental techniques 1−39583
shock waves, laser generated at extreme high press. 1−36674
sliding anvil apparatus, high temp., high press. studies 1−28004
specific heat meas. methods for solids at high press., review 1−18218
spherical electrical feedthroughs for high pressure nonambient temperature vessels 1−23255
stress apparatus for single cryst. X-ray diffr. and appl. to Si 1−28006
superconducting transition temperature meas., use of diamond anvil high press. cell 1−38876
synchrotron radiation uses with diamond anvil cells, high press. appl. in geophysics 1−27305
temperature measurement in chemical reactors *(German)* 1−40788
thermal shock generation in solids irradiated by intense pulsed relativistic electron beam 1−38460
time-of-flight neutron powder diffr. at press. up to 35 kilobars 1−30003
triangular pressure pulse generator, up to 150 MPa 1−28008
valve, breakdown, with replaceable seat, for the repurifier 1−14121
X-ray diamond anvil cell and pseudo-Kossel line pattern 1−29997
X-ray diffraction studies with synchrotron radiation source, geophysics appl. 1−32547
X-ray diffractometer, high press., using position sensitive detector and diamond anvil cell 1−28148
X-ray intensity meeas. of powdered samples in gasketed diamond anvil cell using solid state detector 1−29998
Al alloys, hydrostatic extrusion, production of hollow and solid profiles 1−35220
CrO_2 preparation by oxidative process 1−35203
H-hydrocarbon systems, static method for vapour-liquid equilibria up to 40000 kPa and 400°C 1−36672
He leak detection in chem. plants *(German)* 1−50145
Hg elec. cond. meas. at high temp. and pressure, ceramic component 1−50163
Hg melting line for pressures up to 1200 MPa 1−50095
Hg porosimeter, press. up to 1.5 kbar 1−5454
Pb manometer, resistivity for press. determ., 1 to 300K 1−28005
VP_4, high press. synthesis 1−35204
ZrO_2-Y_2O_3 membrane-type pH sensor, use in high temp., high press. solns. 1−21810

high-temperature phenomena and effects
see also refractories
breakdown characts. of air and SF_6, theory and expt. 1−15700
ceramics, for energy appls., research needs 1−8205
crystallisation under high press. and temp. 1−34463
fibre cloth reinforced phenolic composites, high-temp. thermal and mech. props. 1−20480
graphite, POCO, thermophysical properties meas., room temp. to 2400K 1−20481
molten salts, small-scale laboratory apparatus *(Rumanian)* 1−14133
rocks under deep thermobaric conditions, electrical props. *(Russian)* 1−27153
thoriated W filaments in alloy matrix, interaction at 1200-1600°C 1−16106
water, liq., struct. at high temp. and density, mol. dynamics calcs. 1−42285
-αZircaloy-4-oxygen alloys, high temp. (600-800°C) thermally activated deform. 1−3821
CO_2, 10.6 μ absorpt. coeff. at high temps. 1−6256
$Ca_2Nb_2O_7$, reduction by C, thermodynamic anal. 1−17041
$CuFeS_2$, chalcopyrite, high temp. thermodynamic props. 1−26763
Cu_2O, physico-chemical props. at high temps. 1−42777
Fe-Ni alloys, high temp. thermodynamic props. 1−20422
Fe-O, equilibrium heating, to temp. of transition to gas-vapour phase 1−21710
H_2-tetralin mixture, vapour-liq. equilib., meas. apparatus, high press. and temp. 1−40790
MgO:Fe(Cr)(Ni)(Li), single cryst., elec. cond. at elevated temps. 1−42778
Mo, solid and liq., enthalpy meas. by levitation calorimetry, 2282 to 3383K 1−20423
Mo-Ga, crystallisation under high press. and temp. 1−34463
Mo-Ge, crystallisation under high press. and temp. 1−34463
Nb-Cr (9.5 at.%), oxidation in temp. range 900-1100°C at 100-760 torr O_2 1−39521
Nb-O, equilibrium heating, to temp. of transition to gas-vapour phase 1−21710
NbC_y, self-diffusion of ^{95}Nb 1−38585
Sc-Ga, crystallisation under high press. and temp. 1−34463
Si single cryst., struct. under high press. and temp. conditions, X-ray and electron microscopy methods 1−30409
SrF_2, phase relations and compressibility 1−8286
Ta-Ga, crystallisation under high press. and temp. 1−34463
TiN-Al_2O_3, high-temperature compatibility of components 1−21709
TiN-MgO, high-temperature compatibility of components 1−21709
TiN-ZrO_2, high-temperature compatibility of components 1−21709

high-temperature techniques
see also pyrometers; refractories
coal ash droplets in combustion flows, laser transmission for sauter mean dia. meas. 1−19839
dilatometer, high-temperature differential 1−18235
DTA apparatus for high temp., high press. work *(French)* 1−28010
fluidic frequency-analogue humidity meas. systems 1−27989
gas research unit for petrological and geophysical appls., 15 kbar 1500°C operation 1−32558
HVEM, high temp. in-situ expts., deform., irradiation and recrystn., instrumentation and appls. to materials science 1−392
inhomogeneous material is conduit, high temp., nonintrusive density meas. using penetrating radiation 1−14105
IR radiation source, temp. calibration 1−9986
magnetic susceptibility meas. using automated pendulum balance 1−50180
molten salt studies, small-scale laboratory apparatus *(Rumanian)* 1−14133
phase and volumetric behaviour at high temp. and press., apparatus 1−40790
pressure cell for high temp. X-ray crystallography 1−50294
sample holder, 70K to 1500K *(French)* 1−27943
shock tube techniques for investigation of ignition and burnout of pulverised coal 1−26744

high-temperature techniques continued
sliding anvil apparatus, high temp., high press. studies 1−28004
spectrophotometer for thin-film reflector and absorber layer high-temp. characterisation 1−36742
thermal conductivity contactless meas. of semitransparent materials 1−18234
thermal conductivity meas., up to 1600°C, ≤25 $W.K^{-1}.m^{-1}$, hot-wire method *(French)* 1−32983
thermal diffusivity meas., heat pulse, apparatus for meas. in 300 to 3000K range 1−266
thermo-physical properties measurement at high temperatures 1−23242
X-ray diffraction expts., microprocessor control system 1−33084
H-hydrocarbon systems, static method for vapour-liquid equilibria up to 40000 kPa and 400°C 1−36672
Hg elec. cond. meas. at high temp. and pressure, ceramic component 1−50163
ZrO_2-Y_2O_3 membrane-type pH sensor, use in high temp., high press. solns. 1−21810
high vacuum gauges *see vacuum gauges*
high-voltage engineering
see also high-voltage techniques
1 MV low-inductance pulse generator for electron accel. 1−41282
cable insulation, polyethylene water treeing mechanisms obs. 1−21604
corona discharges from water droplets to overhead conductor, audible noise and EM radiation obs. 1−15326
Daresbury Van de Graaff generator 30 MV using 150 tonne SF_6, design and construction 1−10557
experimental breakdown investigations on insulating materials, reporting recommendations by CIGRE committee *(French, English)* 1−21125
HV EM switchgear, screw quenching arc appl. 1−15698
insulators, polluted, discharge growth obs. using image intensifier 1−15741
laboratory atmosphere, mobility of ions formed during corona 1−46937
rod-type electrodes with spherical tip, elec. field calc. 1−1433
solar arrays for space vehicle power plants 1−39804
steel spherical electrode HV stability in ultra high vacuum, obs. 1−5332
SF_6 puffer circuit-breaker, arc behaviour between nozzle and downstream electrode 1−15690
high-voltage techniques
electron microscopy, advantages and disadvantages 1−40906
relativistic electron beam generator for excitation of short wavelength lasers 1−24426
history
American science in the late 19th century 1−22989
atomistic theory of matter, Newton to Dalton 1−49925
aurora historical observations, from Pliny and Aristotle to present *(Russian)* 1−49438
auroral record, 500 BC to 1700 AD, evidence for secular solar variability 1−36095
balloon satellites, history 1−54347
biomedical engineering, review of 20 years 1−5073
biomedical engineering and basic research, historical perspectives 1−5072
Bose-Einstein statistics, discovery 1−5071
α Canis Majoris B (Sirius B) discovery and historical context rel. to gravitational red shift 1−44596
chemical elements, heritage, natural and man made 1−2
Chicago, 1940-4, cyclotron group at metallurgical laboratory 1−22987
climatic history, selected events and lessons 1−4604
colour photography appl. to astronomy, review 1−49530
colour vision testing, a century of pseudo isochromatic plates 1−46
controlled fusion research *(French)* 1−49931
convective forced heat transfer *(French)* 1−49922
cosmic ray latitude effect reality, debate between Millikan and Compton 1−32823
cosmology, relativistic, early history and Lemaitre 1−54680
crystal field interactions in magnetism, symmetry and expt., historical perspective 1−20938
Draper, Dr. John William (1811-82), pioneer of photography and spectroscopic anal. 1−36483
Earnshaw's theorem and the stability of matter 1−39
Einstein, A., scientific thought, centennial review 1−32825
Einstein's black body radn. law, laser discovery, book contrib. 1−17984
electrets, history, manufacture and applications 1−44741
electromagnetic induction 1−5065
electron microscopy and related techniques, development at Cavendish Laboratory, Cambridge, 1946-79 1−49929
ferromagnets, Hall effect development history 1−34686
Fourier, Joseph, biographical summary 1−5064
fundamental catalogues of star positions *(German)* 1−27759
Galileo's early work on the law of fall, role of expt. 1−5066
gaseous nebulae, spectral anal. and physical processes, historical perspective 1−44619
geological mapping in Czechoslovakia, history, rel. to mining 1−5061
German first nuclear reactor (1942-1944) 1−44750
gravitational red shift as general relativity test, history 1−32827
Greek atomic theory 1−49924
Greek sundial from time of Alexander the Great, discovery in central Asia 1−44748
Grimaldi's contribution to the physics of detectors, white light splitting 1−44747
Hall effect, background to discovery 1−32829
Hall effect, implication of Hall's discovery 1−32830
Hall effect discovery, unpublished account of Edwin Hall 1−32831
Hall effect in crystalline metals and alloys 1−32828
hand bells, vibrations, teaching and historical approach 1−9817
Herschel, Alexander Stewart, 1836 to 1907, astronomical research 1−44749
Herschel, Sir John Frederick William (1792-1871), astronomer 1−32824
Herschel family, Sir William Herschel (1738-1822) 1−5063
holography, legacy of Dennis Gabor 1−9818
holography, legacy of Dennis Gabor 1−13987
Horrebow, Peder (1679-1764) anal. of Ole Romer's meridian circle obs. *(Danish)* 1−44448
introduction to the history of the atom 1−49923
Kelly, Florence, and the Ra dial painters 1−17981
kinetic atom, heat, history of physics 1−49926
low temperature production by paramagnetic demagnetisation *(Dutch)* 1−44755
materials science 1−22988
Maxwell, contribution to EM theory 1−40640
history continued
microscope by John Benjamin Dancer of Manchester 1−49921
Morin's free fall apparatus 1−27760
Museum of Meteorological Instruments 1−22533
nature of matter, speculations of Thomson and Jenkin (1867) 1−5068
Netherlands Energy Research Centre, historical survey *(Dutch)* 1−35606
neutrons, ambiguous nature, historical notes 1−13989
NGC 6231, discovery by Halley, and hazards of early star nomenclature 1−36484
nonequilibrium statistical mechanics, Pierre Resibois' work 1−40639
nonlinear acoustics history and outlook *(German)* 1−13991
nuclear medicine, review 1−8995
nuclear orientation at very low temperatures *(Dutch)* 1−44754
nuclear spin resonance *(Dutch)* 1−44753
Olber's paradox, general historical discussion 1−32782
particle physics, historical approach quarks, leptons and coloured glue 1−5571
physiological stimulators and their power sources, review 1−5074
piezoelectricity, history over last 100 years *(French)* 1−49920
plane, air, finite amplitude, propag., historic paper translation 1−2025
polymers, physiological activity and biomimetic appls., contribs. of C.G. Overberger 1−27758
precision levelling, development and problems *(German)* 1−13990
Ptolemy, obs., doctored to agree with theory 1−44451
radiation research in Japan, historical review 1−44756
Rayleigh scattering, historical sequence of Rayleigh's results, mol. scatt. rel. to blue sky 1−46222
rigidly rotating disc, Einstein's treatment, historical aspects, book contrib. 1−17983
Romer, Ole (1644-1710), meridian circle obs. anal. by Peder Horrebow *(Danish)* 1−44448
Rutherford-Bohr atom, classical mechanics 1−49927
Saturn, search for satellites during 20th century 1−40415
scientific instruments, historic importance, preservation 1−49928
Secchi, P. Angelo, S.J., 1818-78, pioneer astrophysicist, solar and stellar work 1−13985
solar activity rel. to rot. period, in Galileo's time 1−32634
solar apex determ. by Herschel in 18th century 1−32633
solar cells *(Japanese)* 1−39770
solitons, book contrib. 1−36486
Soviet nuclear accident (1957-8) in Cheliabinsk Province 1−17501
star tables from Muslim Spain 1−32727
Sun, radius variation determined using Tobias Mayer's meridian obs. (1756-61) to 1975 data *(German)* 1−32687
sunspot sightings in Orient, seasonal. var. rel. to past atmospheric conditions and solar activity 1−9251
sunspot-auroral solar index, 522 B.C. to A.D. 1968 period 1−13752
sunspots, distribution in latitude (1874-1976) and sunspot activity determ. 1−36253
superconducting materials research in the 1970s 1−52675
superconductivity, quantum mechanical effects, two-fluid theory, thermodynamics of superconductors *(Dutch)* 1−44752
superconductivity, type II materials 1−32826
telescope, 17th century type, construction for teaching purposes 1−49930
tension in liquids, work of Francois Donny 1−5067
TLD (LiF) 1950-1 1−5070
Uranus discovery, effect on establishment of Herschel's astronomy 1−36485
US Naval Observatory, 1830-1865 development years 1−54372
visual photometry, MDB technique and its historical background *(Italian)* 1−4348
VUV transitions with multiphoton processes, historical development 1−28938
Walther, Bernard (1430 to 1504), astronomical obs. 1−27757
wave machines, 19th century 1−17975
Whig historiography of science, rel. to geological work of Sir Archibald Geikie 1−5069
winter climate, art and historical records 1−44751
Wollan, E.O., his career, special reference to the Manhattan Project and Oak Ridge reactor 1−22986
Wollaston's cryophorus−precursor of the heat pipe 1−13988
He, history, status and prospects 1−44757
HIXE *see ion microprobe analysis; X-ray chemical analysis*
HMO calculations
fluorides, tetrahedral and planar trigonal, LCAO MO theory, perturbation extension, spin coupling const. 1−1145
group theory method, appl. to benzene compounds etc. 1−24042
local behaviour, Linderberg relation 1−10671
metal cluster, absorption and adsorption of different atoms, quantum chem. treatment *(German)* 1−51334
methylnaphthalene anions, EPR spectra numerical anal. 1−14947
mol. energy 1−10618
polycyclic aromatic aldehydes, CO vibr. props. correl. with hydrocarbon electronic props. 1−51132
thiomorpholides, IR spectra and bands 1−1237
thiopiperidides, IR spectra and bands 1−1237
SiO_2, surface cluster, adsorption and surface reaction, quantum chem. calcs. *(German)* 1−53474
H_3O^+ *see hydroxonium ion*
hodoscopes *see cosmic ray apparatus*
hole mobility *see carrier mobility*
hole theory of liquids *see liquid theory*
hole traps
see also electron traps
cobalt phthalocyanine:$^{57}CoCl_2$, space charge limited electron injection 1−53417
cobalt phthalocyanine:$^{57}CoCl_2$, thermal treatment and charge transfer interactions 1−53416
ionic crystals, luminesc., self-trapping excitons, holes, and electrons, review 1−12547
ionic solids, self trapping of electronic excitations, radiolysis 1−7526
MOS devices, bulk trap density spatial depend. evaluation 1−16370
naphthalene single crystals, space-charge limited currents and injection phenomena *(French)* 1−47665
pentacene, amorphous, short-time carrier transport 1−12142
polyethyleneterephthalate-metal sandwich, space-charge induced switching 1−38865
α-quartz, point defects and radiation damage processes 1−15934
semiconductor, carrier population inversion in field of intense EM wave 1−52579

hole traps continued
semiconductor, characterisation and props., review, book contrib. 1−47712
semiconductor, phototransient curve, several kinds of traps 1−25757
wide band gap semiconductor, deep level capture cross section determ. by electron beam 1−3052
$Bi_{12}Si(Ge)O_{20}$-dielectric struct., image characts. during electron beam irrad. deep level carrier traps 1−42869
CdS-GaAs heterojunctions, deep level defects study using transient capacitance spectroscopy 1−2921
$CdSe/As_2Se_3Tl_2$ thin layer system, photocapacitance effect 1−47711
CrO_4^{2-} anions, O_{1s} hole states, broken orbital symmetry, SCF and CJ calc., localised and delocalised description 1−38740
GaAs, electron capture at B-centre, radiative mechanism contribution 1−16299
n-GaAs, epitaxial layer, persistent photoconductivity, illumination dose dependence 1−3003
GaAs epitaxial layers, physico-chemical origin of majority and minority carrier traps, Schottky barrier capacitance techniques 1−30763
GaAs, TSC spectra, differential anal., recomb. mechanism 1−12122
GaAs:Cr, impurity photocond., hole capture cross section 1−25760
GaAs:Cr and undoped, energy structure parameters determ. by thermal effect of short light pulser *(Russian)* 1−52487
GaAs:Fe, high-resistivity LPE layers, photocapacitance 1−39253
$Hg_{1-x}Cd_xTe$, admittance spectroscopy of deep levels 1−42713
$Hg_{1-x}Cd_xTe$, trap levels and minority carrier lifetime, DLTS study 1−34658
$In_{1-x}Ga_xAs_yP_{1-y}$-InP LPE and VPE layers, transport props., defects and device considerations 1−47766
$KCl:SnCl_2$, light and thermally stimulated recombination luminesc. 1−3465
$KTaO_3:Ni(Fe)$, identification of photochromic absorption, optical and ESR meas. 1−26239
$LiF:TiO_2$, crystal excitation transfer mechanism to activator centres 1−35089
MgO:OH, Al, F, thermally stimulated luminescence, electron and hole traps 1−21282
$MgO-Al_2O_3-SiO_2-TiO_2$, TiO_2 role in glass ceramic form. 1−2339
α-S, UV-induced double injection, I-V characts. 1−12148
Se:Li,Cl, amorphous, gap states, carrier traps, time-of-flight study 1−52472
Si, energy structure parameters, determ. by thermal effect of short light pulses *(Russian)* 1−52487
Si MNOS currents at const. oxide field, temp. depend., hole trapping 1−38852
Si, minority carrier traps, investigation using optical excitation *(German)* 1−38791
Si p-n junction, burst noise model, carrier trapping *(German)* 1−20837
Si:Au p^+-n junctions, DLTS meas. and computer simulation 1−47554
Si:Fe p-n junction, deep level Fe ion dose depend. 1−16250
Si:H, amorphous, photoinduced optical absorpt. spectra 1−43145
Si:H, amorphous n-type, obs. of electron and hole traps by deep level transient spectroscopy 1−30668
Si:V, B, hole capture conc. at V centres, effect of B conc. 1−47672
$Si-SiO_2$ MOS capacitors, oxide traps and interface states 1−42864
SiO_2, hole traps introduced by Cl 1−30758
SiO_2 in SI-MIS, charge trapping, dark currents 1−7632
Te MOS structs., surface states 1−34767
Te-Se-Cd rectifying struct., deep carrier traps 1−7635
TlInSe, impurity levels, elec. props. 1−20660
ZnSe-GaAs heterojunctions, DLTS study, majority carrier trap assignment 1−38745

hollow cathodes *see cathodes*

holmium
see also nuclei with .....
mirror properties by penetration of electrons and positrons 1−25349
tellurite:Ho^{3+}, glass, 750 nm laser emission anal. 1−16584
$CaF_2:Ho^{3+}$, X-ray induced thermoluminesc., photluminesc. meas. 1−48175
$CaO-P_2O_5:Ho^{3+}$ glasses, protonated and deuterated, luminesc. quenching 1−43179
Ho,Er:$LiYF_4$, dual wavelength (0.75 and 0.85μm) laser operation 1−29289
$Ho^{3+}:BaYb_2F_8$ laser convertor with three-micron output 1−51493
$Ho^{3+}:KLu(WO_4)_2$, stimulated radiation at room temp. 1−31167
Ho_2Er:$LiYF_4$, laser emission at 0.75, 0.85, 1.22, 1.4, 1.73 and 3.9 μm, using Nd:BEL tunable pump source 1−46359
$^{166}Ho^m$, multiaxis nuclear spin structs. determ. using γ-ray emission from orientated nuclei 1−26102
$K_2O_3-BaO-GeO_2:Ho^{3+}$, glass, 750 nm laser emission anal. 1−16584
$LaCl_3:Ho^{3+}$, crystal field energies of electronic ground state, absorption spectra 1−31172
$NaPO_3:Ho^{3+}$, glass, 750 nm laser emission anal. 1−16584

holmium alloys
$Ce_{1-x}Ho_xRu_2$ magnetic superconductor, cryst. field effects 1−25845
Cu-Ho metallic glass, sputtered, in-situ meas. by small-angle X-ray scatt. 1−25173
$Gd_{1-x}Ho_xAl_2$, ESR spectra, g-factor and thermal broadening 1−34935
Ho-Ge system, phase diagram from thermal and X-ray anal. *(Ukrainian)* 1−16757
HoCo amorphous films, Hall hysteresis loops in vicinity of compensation temp. 1−25988
$HoCo_2$, transport props. rel. to mag. ordering transition 1−42747
$HoCo_3$, magnetostrictive strains, 77K to room temp. 1−21023
$HoCo_2Si_2$, solid solution, mag. susceptibility, lattice const. *(Russian)* 1−20967
HoCu, competition between multi-q antiferromagnetic struct. 1−25883
$HoFe_2$, anisotropic hyperfine fields, mag. induced quadrupole interactions, Mossbauer studies 1−26083
$Ho_{1-x}Fe_x$, amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
Ho_6Fe_{23}, magnetostriction, anisotropic 1−26008
$HoFe_2Si_2$, solid solution, mag. susceptibility, lattice const. *(Russian)* 1−20967
$HoGa_3$, cryst. struct., stacking of close-packed AB_3 layers, X-ray study 1−52108
Ho_5Ge_3, elec. and mag. props. 1−20704
$Ho_{11}Ge_{8.75}Si_{1.25}$, magnetic struct. determ. by neutron difr. 1−25893
Ho_3Ir_3, Ho_3Ir_2, cryst. struct. 1−34289
$HoMn_2$, X-ray absorption spectroscopic study 1−43219
$Ho_6Mn_{23}H_{22}$, magnetisation meas., search for mag. ordering 1−12356
$HoNi_2$, Laves phase, magnetostriction meas. 1−12375

holmium alloys continued
$Ho_xTb_yDy_{1-x-y}Fe_2$, magnetic anisotropy and spin reorientations 1−20975
$Sm_{2-x}Ho_xCo_{10}Cu_{1.5}Fe_{3.2}Zr_{0.2}$ magnet 1−7901

holmium compounds
see also holmium alloys
ethyl sulphate, mag. props., crystal field splitting, calc. 1−3155
$(Er_{1-x}Ho_x)Rh_4B_4$, reentrant ferromag. supercond., magnetisation meas. 1−20914
$Er_{1-x}Ho_xRh_4B_4$, reentrant ferromag. supercond., mean field theory for T_{c2} min. in phase diagram 1−47782
$Er_{1-x}Ho_xRh_4B_4$, supercond. phase diagram, fluctuation theory *(Russian)* 1−12238
$HoAlO_3$, Mossbauer effect, hyperfine parameters, mag. ordering, relaxation 1−12434
$Ho_3Al_5O_{12}$ garnet, field induced mag. moment and anisotropy 1−34876
Ho_2C_3, ferromagnetism, crystal-field effect, struct., neutron-diffr. obs. 1−47851
$HoCl_3$, mag. props., crystal field splitting, calc. 1−3155
HoD_2, cryst. elec. fields, neutron energy loss spectra study 1−34669
$Ho_{0.5}Dy_{0.5}FeO_3$ domain struct. near Neel temp., Faraday effect experiment 1−34904
$Ho_{1-x}Eu_xMo_6S_8$, pseudoternary system, supercond. and mag. order 1−47787
$HoFe_{1-x}Ni_xF_xO_{3-x}$, antisymmetric exchange, magnetisation meas. 1−52768
$Ho_3Fe_5O_{12}$, non-collinear mag. structure, assoc. with compensation temp., neutron diffr. study *(French)* 1−52747
$Ho_3Ga_5O_{12}$, surface vici nal features and dislocations, neutron topography study 1−47089
HoIG, Faraday effect at 1.15 μ in strong mag. fields 1−52924
$HoMgB_5O_{10}$, synthesis and cryst. struct. 1−25213
$HoMo_6S_8$, competition between ferromagnetism and supercond. 1−38911
$HoMo_6S_8$, reentrant supercond., long range mag. order obs. 1−38910
HoO, dissoc. energies mass spectra results correl. 1−17044
$Ho(OH)_3$, mag. props., crystal field splitting, calc. 1−3155
HoP, magnetic excitations, inelastic neutron scatt. study 1−25887
HoSb, temp. variation of mag. struct., neutron diffr. meas. 1−3140
Ho_5Sb_3, thermal expansion coeff. determ. 1−16070

holographic gratings
amplitude and phase holograms recorded in photographic materials, nonlinear effects comparison 1−24372
beam expander, guided-wave, fabrication and performance 1−41633
chirped grating holography, Fe_2O_3 antirefl. layer beneath photoresist. for standing-wave reduction 1−29235
colour reflection holograms, recording 1−51424
cylindrical, for EUV spectroscopy in near normal incidence 1−37597
cylindrical grating for cosmic X-ray and XUV spectroscopy in grazing incidence 1−13688
dichromated gelatin, holographic devices, tuning, quality control 1−15110
dichromated gelatin films, laser holographic wavelength selectors 1−19297
diffraction efficiency, method of increasing by dilute development *(Chinese)* 1−51406
diffraction efficiency influence of low-intensity reciprocity-law failure 1−1528
dye nanosecond laser with high-efficiency holographic grating for grazing incidence 1−51504
formation in optically active medium, distinctive features 1−41821
Fourier gratings, microwave verification of numerical optimization 1−46542
gelatin, dichromated, holographic gratings spectral characts. 1−51409
incoherent polychromatic imaging with holographic optical elements and systems *(German)* 1−1517
MIM structure with photoresist holographic grating, polarised angle-tunable light source 1−46478
modular two-beam grating interferometer, interference struct. investigations 1−40844
monochromator designs with aberration corrected gratings 1−51604
multilayer three-dimensional holographic gratings 1−46266
profile reconstruction using inverse scatt. method 1−24483
self-induced transparency, hologram grating form. 1−1523
sinusoidally modulated unslanted transmission vol. gratings, coupled wave eqn. exact soln. 1−1524
speckle interferometry with imaging holographic grating interferometer 1−28059
thiacarbocyanine dye solns. appls. in dynamic holography, efficiency 1−6507
thick phase holographic transmission gratings, spectral characts. 1−51409
travelling intensity wave excitation in optically active media 1−51425
two-dimensional focusing holographic grating coupler 1−15285
volume hologram as sinusoidal grating, EM wave diffr. 1−1525
volume holographic finite-beam conversion with perfect fidelity 1−1518
wavelength selector gratings for tunable lasers, multidielectric coatings for improved efficiency 1−6563
Al-AlO_x-Ag tunnel junction, holographic-grating-enhanced light emission 1−7757
CdS holographic grating recording, coherent optical beam dynamic conversion mechanisms 1−33639
$KNbO_3$, hologram form., energy exchange between writing beams in external elec. field 1−6527
$LiNbO_3$, reactive ion-beam etching to fabricate holographic gratings and waveguide components 1−1733
$LiNbO_3$:Fe, holographic recording process, influence of spatially inhomogeneous incoherent illumination *(Russian)* 1−37442
NaCl, gamma irrad., holograms recorded with radiation from He-Ne laser, diffr. efficiency 1−51407

holographic instruments
see also holography
automated holographic drop-size analyser 1−37437
camera, 35 mm, hologram 1−29229
conference, Los Angeles, CA, USA (Feb. 1980) 1−13921
display units, 360-degree virtual image, projectors, hologram recording cameras 1−6521
incoherent polychromatic imaging with holographic optical elements and systems *(German)* 1−1517
lateral shear interferometers with twin three-beam holograms 1−51411
lens assisted holocamera for particle holography at extended distances and μm resolutions 1−15124
lensless matched spatial filter correlator experiments 1−6637
lensless matched spatial filter wavelength-scaling correlator with holographic elements 1−6638

holographic instruments continued
optical element design using conventional optical design programme 1−6515
phase holographic beam splitter, holography design 1−41644
photoconductor-thermoplastic devices for holographic NDT 1−10942
scanner, skew-angle, diffraction efficiency optimisation 1−24368
stereohologram printing and projection 1−1519
thermoplastic camera automated, development 1−15130
white-light holographic camera using common path interferomety 1−41648
X-ray interference or holographic microscope development 1−36783

holographic interferometry
absolute orders, simplified evaluation *(German)* 1−51408
adhesive, commercial, Poisson ratio time depend. by holographic interferometry 1−12780
aeronautical structure control in fatigue testing using holographic pulsed laser interferometry 1−21680
automatic interferogram analysis system 1−19292
ballistic missile propellant casing NDT using holographic interferometry 1−17016
basic principles and applications 1−24370
bone demineralisation, holographic determ. in osteomalacia 1−8964
book, general principles, expt. techniques, meas. principles 1−13950
book, progress in optics 1−27689
camera, 35 mm, hologram 1−29229
cantilever beam vibration study using holographic interferometry 1−19664
cardiac monitoring using laser speckle 1−8968
cold solar collector surface heat transfer anal. using real-time holographic interferometry 1−17245
common path interferometer in optical testing 1−41807
compact device for interferometric holography 1−19293
composite materials structure anal. using holographic interferometry 1−15097
computer-generated holography and optical testing 1−6518
computer-generated holography and optical testing 1−15120
computer-interferometric holograms for laser beam scanners 1−41640
concrete, reinforced, holographic interferometrical anal. 1−15103
conference, Los Angeles, CA, USA (Feb. 1980) 1−13921
contouring by phase conjugation, Fourier transform hologram reconstruction 1−37434
deformation, holographic interferometric investig. 1−41991
deformation and vibration meas. appls. *(Hungarian)* 1−29231
deformation interferometry by double-exposure pattern recognition process 1−1532
deformation measurement, three-dimens., using hybrid holographic interferometry *(Japanese)* 1−19286
dental medicine appls. *(Czech)* 1−32226
dentures, complete upper set, holographic method for meas. of deforms. 1−8967
developments in stroboscopic holographic interferograms, automotive industry diagnostic methods, iterative computation procedures 1−6516
diffusion in liquids, holographic interferometric meas. 1−46259
displacement and tilt anal. by real-time speckle technique using $Bi_{12}SiO_{20}$ crysts. 1−6511
displacement meas., automatic readout system 1−234
dynamically changing phase objects obs., liquid mechanics appl. *(Czech)* 1−10009
electric devices displacement and deform. meas. *(Hungarian)* 1−6506
fibre optic acoustic sensor using dynamic holographic interferometry 1−11109
fine particle system, mag. domain struct. obs. using electron holography *(Japanese)* 1−21015
flashing droplet obs. by multipulse holography 1−1530
flow fields, digital heterodyne holographic interferometry 1−41623
focused-image holography, fringe localisation produced by recording plate rot. 1−19284
fringe localisation, geometrical theory 1−15096
fringe patterns, prod. by thermal deform. 1−27753
geometrical approach 1−37435
heterodyne holographic interferometry, book contrib. 1−27929
hybrid holographic interferometer with computerised fringe analysis 1−1529
in-plane deformation meas. using holographic fringe visibility 1−1531
interference pattern quantitative evaluation under image processing aspects 1−15105
jaw osteosynthesis, accurate iconics studies of force lines 1−8962
lateral shear interferometer using twin three-beam-holograms *(Japanese)* 1−24371
lateral shear interferometers with twin three-beam holograms 1−51411
laterial shear interferometer in optical testing 1−41807
lens deformation detection 1−1520
loaded metallic cantilever, deform. determ. using compact holographic interferometric device 1−19293
manufactured pieces, 3D, stress visualisation methods *(French)* 1−48620
mechanical fatigue testing 1−35495
medical applications *(Czech)* 1−32223
membrane separation processes, boundary layers meas. by holographic interferometry 1−8615
moving object vibration anal. by stroboscopic two-reference-beam heterodyne holographic interferometry 1−15106
MTF measurement test and wavefront aberration holographic meas. 1−1673
Norwegian research *(Norwegian)* 1−41634
optical fibre preform, refractive index profile meas. 1−19440
optical testing, holographic methods 1−41807
optimal measuring arrangement *(German)* 1−46262
particle and flow diagnostic holography 1−10943
photoelasticity, matrix formalism *(Rumanian)* 1−51420
plate bending studies, new Ligtenberg method using laser speckle 1−19663
PMMA, growing craze, rapid response to stress pulse 1−53276
pulsed holographic interferometry of objects subject to both uniform and vibrational motion 1−29234
quantitative evaluation procedures *(German)* 1−23292
radial shear interferometer in optical testing 1−41807
rainbow holography, one-step, developments and appls. 1−6517
rainbow holography appls. 1−15127
rotating object anal. using different interferometers 1−19291
sandwich holography, rigid body motion compensation and large object reposition 1−15102

holographic interferometry continued
sandwich holography for compensation of rigid body motion and reposition of large objects 1−15122
slots, vertical, Hele-Shaw, containing silicone oil, holographic interferometry, temp. var., free convection expts. 1−1980
speckle correlation variation in hologram interferometry to distinguish rigid body rotations 1−41621
system matrix, unit-cell vectors, transformation determinant *(German)* 1−19285
thermoplastic automated holographic camera appls. 1−15130
time-average holography of separable fine motions, unified approach 1−15095
topographic interferograms, appl. *(Russian)* 1−15094
turbulent axial pipe flow, thermal blooming, holographic interferometry optical path difference meas. 1−37559
two-dimensional focusing holographic grating coupler 1−15285
underwater sound wavefront display using theory of holographic interference 1−46629
urinary bladder tumour detect., expts. on giant rabbits 1−8963
US fields, optical holography with reference beam of consinusoidally modulated amplitude 1−19522
vectorial displacement meas. by tripole holographic interferometer system 1−233
vibrating object relative phase meas. by double pulse holography 1−1533
water-air interface meniscus surface tension meas. by holographic interferometry 1−16153
white light hologram form. 1−15125
white-light holographic camera using common path interferomety 1−41648
ZnSe window temp. distrib., optical distortion and strain rel. to CO_2 laser irrad. power 1−29356

holographic storage
anomalous photovoltaic effect in ferro and piezoelectric semiconductors and its application for optical storage by holography *(Japanese)* 1−46260
binary-data-page thick hologram reconstruction for arbitrarily oriented reference beam 1−41620
dichromated gelatin, utilisation in holography 1−15111
dichromated gelatin holograms in appls. 1−6514
diffraction efficiency tester of holographic disc sectors 1−46263
Fourier hologram recording with scatterer image in hologram plane 1−51423
memories, recording and readout using injection laser radiation 1−51422
$KNbO_3$, high-sensitivity read-write volume holographic storage 1−1511

holography
see also acoustic holography; computer-generated holography; holographic gratings; holographic instruments; holographic interferometry; holographic storage; microwave holography
aberrations, third-order, comparison with classical optical system aberrations 1−19290
AGR irradiated fuel element inspection 1−45715
alkali metal halide colour centre quantised dielectric function, Kramers-Kronig relations 1−3359
amplitude and phase holograms recorded in photographic materials, nonlinear effects comparison 1−24372
astigmatic wave front form. by holographic method 1−29232
autocorrelator, holographic, using controllable magnetooptic transparency 1−41645
basic principles and applications 1−24370
coherence phenomena, different approaches in physics 1−40660
coherent intensity correlator 1−6496
colour holographic stereograms 1−6520
colour reflection holograms, recording 1−51424
complete reconstruction of amplitude-phase information of a light wave 1−19302
complex pseudorandom diffuser, width-modulated, for diffr. limited holography 1−41635
composite Fresnel hologram recording conditions 1−41643
composite matched filters constructed by multiple exposure or computer holography 1−15253
computer-originated hologram lenses 1−15114
conference, Chicago, IL, USA (Oct. 1980) 1−40593
conference, Los Angeles, CA, USA (Feb. 1980) 1−13921
conference, Strasbourg, France (Nov. 1979) 1−13918
contouring by phase conjugation, Fourier transform hologram reconstruction 1−37434
coupler for fibre optics communications 1−19295
crack detection, vibration holography appl. *(German)* 1−35469
crystal growth recording instrums. on NASA space shuttle 1−41626
cyanobiphenyl mixture, dynamic holographic lattices *(Russian)* 1−29238
cyclindrical holographic stereograms, optical techniques for increasing image width 1−15117
cylindrical holographic stereogram, image 3D distortion with laser light reconstruction 1−41638
cylindrical holographic stereogram, image 3D distortion with white light reconstruction 1−41639
cylindrical holographic stereogram production using a holographic lens 1−19298
cylindrical holographic stereograms, reconstructed image distortions 1−15112
deconvolution TEM, image converter, electrostatic phase diaphragm *(French)* 1−50280
dichromated gelatin, holographic devices, tuning, quality control 1−15110
dichromated gelatin, utilisation in holography 1−15111
dichromated gelatin, volume hologram form. mechanism 1−10946
dichromated gelatin holograms in appls. 1−6514
dichromated gelatin optical element for demultiplexing in fibre optic systems 1−15118
diffraction efficiency, method of increasing by dilute development *(Chinese)* 1−51406
diffraction efficiency meas., under/over modulation determ. 1−24369
disperse phase in two-phase flow, vel. field determ., holographic method 1−38025
dispersive pupil holographic anal. in space-time optics 1−41560
dispersoids, holographic study 1−15104
displacement and tilt anal. by real-time speckle technique using $Bi_{12}SiO_{20}$ crysts. 1−6511
displays, 360 degree 1−6521
displays 1975-1980, review 1−6519

holography continued
droplets, electrostatically sprayed, vel. meas. by holographic technique 1−41636
dynamic holography, review 1−41632
dynamic joint-Fourier-transform correlator by Bragg diffr. in photorefractive $Bi_{12}SiO_{20}$ 1−51384
electro-optics/laser international conference, Brighton, England (March 1980) 1−40601
electron holography, resolving power, electron microscope appls. 1−37399
electronic speckle pattern interferometry, comparison with image holography 1−14176
electrophotographic transparent films evaluated for wideband digital data recording 1−45052
far-field holography advances 1−15123
fluid current recording 1−38031
fluid phenomenon recording system on the NASA space shuttle SL-3 mission 1−15121
focused-image-hologram, high quality, for colour image preservation 1−41624
Fourier hologram recording with scatterer image in hologram plane 1−51423
frequency-plane filtering with achromatic optical transform 1−6525
Gabor, Dennis, the legacy 1−13987
Gabor, Dennis, tribute 1−9818
gas bubbles in liqs., size and position determ. by hologram reconstruction digital 3D processing 1−10938
grey level information pseudocolouring 1−41625
Hilbert spaces, finite- and infinite-dimensional, linear convergence of quasi-Newton methods 1−13995
holographic infrachromatic plates, type I-880G, transmission characts. and transverse contraction *(Russian)* 1−23353
holographic photography of bubble chamber tracks: a feasibility test 1−45784
image colour encoding, high-speed recording system 1−5417
imaging quality improvement by method of noncoherent image superposition 1−19289
incoherent polychromatic imaging with holographic imaging elements and systems *(German)* 1−10940
incoherent polychromatic imaging with holographic optical elements and systems *(German)* 1−1517
incoherent-to-coherent optical image conversion devices and applics., state-of-the-art *(Japanese)* 1−19276
industrial appl. *(French)* 1−19300
IR 10.6 μm holography 1−15129
large factor wavelength scaling for high efficiency vol. holographic collector 1−41628
laser beam scanners constructed from vol. holograms 1−41641
laser beam scanners constructed from volume holograms 1−6522
laser emission, spatial coherence meas. by interferometric and holographic methods 1−6592
laser technology and applications, book 1−9782
lens OTF meas. 1−15098
light and its uses for amateur scientists, book 1−44721
light-in-flight recording by holography 1−15126
Lippmann holograms, theory, recording and image processing *(Japanese)* 1−37439
liquid dispersion curve meas. with space-time Fourier holography 1−1527
LOI-2 holographic emulsion, effect of KI/KBr conc. ratio during emulsification *(Russian)* 1−23346
longwave, electro-optic processing 1−29228
medical applications *(Czech)* 1−32223
medical diagnostics, code distance technique 1−8966
memories, recording and readout using injection laser radiation 1−51422
memory storage and processing in central nervous system, holographic analogy, expt. test *(German)* 1−48980
metals, electrochemical treatment and accompanying processes, opt. holography obs. *(Russian)* 1−43623
modulated optical signal recording 1−1522
modulation mechanisms 1−19294
motion picture systems, film stock, image quality and equipment 1−23335
multicolour wave front reconstruction in white light 1−1510
multiplex holograms, form. and reconstruction 1−41631
multiplex holograms, production *(Japanese)* 1−37438
multiplexed Fourier transform holography using parabolic mirrors 1−6503
neuroradiograms, holographic viewing method 1−8961
noise interfergram profiling using heterodyne interferometry 1−33046
nondestructive testing, meas. appls. 1−49912
Norwegian research *(Norwegian)* 1−41634
nuclear power station inspection by high-resolution large-volume holography 1−41646
optical computing conf., Washington, DC, USA (April 80) 1−49877
optical element design using conventional optical design programme 1−6515
optical element design using conventional optical design programme, thin lens 1−15115
optical fibre impulse response, subpicosecond coherent anal. 1−46567
optical fibre impulse response measurement technique *(French)* 1−19433
optical general purpose digital computer design, logic unit, interconnection array and latching unit 1−51598
optical waveguide Bragg grating lenses, plane and cylindrical wave coupled-mode theory 1−37632
optical waveguide Bragg grating lenses, two cylindrical guided waves coupling 1−37633
optical word recognition 1−6523
optics in four dimensions, conf., Ensenada, Mexico (Aug. 1980) 1−40589
parallel truth-table look-up digital holographic processing 1−51418
particle analysis by digital processing of three-dimensional hologram reconstructions 1−15101
particle and flow diagnostic holography 1−10943
particle field diagnostics, appls. of intensity ratioing, interferometry and holography 1−28050
particle sizing using far-field holography 1−10944
pattern recognition using Fourier transform hologram *(Japanese)* 1−37421
pattern transformation and holographic optical systems 1−51417
photochemical reactions, holographic investig. technique 1−46264
photochemical reactions meas. using holographic technique 1−26755
photoconductor-thermoplastic devices for holographic NDT 1−10942
photographic dynamic range compression 1−33066
photographic material holographic charact. investigation using hologram element 1−29233
holography continued
photographic recording and holography sensitivity comparison 1−15113
photonics and optics applied to 3D imagery conf., Strasbourg, France, (Nov. 1979) 1−13919
photonics and optics applied to communication and processing, conf., Strasbourg, France (Nov. 1979) 1−17933
photosensitive electrooptic media, diffr. and dynamic props. 1−46257
photothermoplastic recording materials properties 1−15239
planar hologram synthesis from signals recorded on curvilinear surface 1−33637
polarisation holography, reference wave polarisation parameters, theory 1−29236
polarisation holography, reproduction of partial polarisation 1−33641
polymer films, effect of heterocyclic compounds on charge transfer complexes *(Russian)* 1−24374
powders, RF echo formation mechanism *(Russian)* 1−3346
pseudocolour images with volume reflection holograms 1−19287
pulse laser holograms, production and safety aspects *(Japanese)* 1−37440
pulsed holography review, book contrib. 1−10947
rainbow holograms, optical arrangements *(Japanese)* 1−33634
rainbow holography, high-resolution, one-step 1−6524
rainbow holography, one step 1−15127
rainbow holography, one-step, developments and appls. 1−6517
reconstructing beam tolerances 1−6509
recording materials, recent development review 1−6513
recording medium, optimal linear charact. parameters, props. and behaviour *(Czech)* 1−51419
recovery without reference beam 1−6508
reflection holograms, diffr. efficiency, recording beam absorpt. effects 1−29237
reflection holograms in dichromated gelatin, colour control 1−15116
reflection image derotator, use in holographic vibration analysis *(German)* 1−29230
reflection-transmission holograms, applications 1−15108
reflection-type volume phase holograms of constant modulation and varying shape 1−33643
review *(German)* 1−46261
ripple tank explanation 1−49913
scanners with aberration corrections, generalised design considerations 1−46258
scanning technique for coherent processors 1−37415
settling particle holography, shape parameters 1−10945
spatial filters, beam obstruction minimisation 1−33792
statistical analysis of holographic systems on NASA Space Shuttle 1−41627
stereohologram printing and projection 1−1519
stereophonic recording and reconstruction methods to generate real and virtual images 1−15354
surface plasmon holography 1−41630
synthesised hologram as simulator of telescope primary mirror 1−19303
synthetic hologram production *(German)* 1−10939
thermoplastic film development stabilisation in electron beam recording 1−41642
thermoplastic image production for manufacture in microfilm format *(German)* 1−19301
thermoplastic photoconductor hologram, dynamic ranges for heating, solvent vapour methods 1−41637
thermoplastic recording layers, electric field form. and deformation, model investigation *(German)* 1−10036
thermoplastic-photoconductor media, sensitivity enhancement by photoconductor stratification 1−46265
three dimensional displays, recent developments, holographic and stereoscopic techniques 1−41622
three-dimensional displacement meas. by four small holograms 1−14102
travelling intensity wave excitation in optically active media 1−51425
triacetatecellulose, IR hologram recording in 10.6 μm band 1−33636
US field calibration by optical holography 1−11266
Vander Lugt filter optimisation in industrial and scientific research metrology 1−15100
Vander Lugt holographic filter, space and wavelength depend. 1−19410
vibrating piezoelectric ceramic disk, synthesis by optical coherent methods 1−1512
virtual image holographic magnification under binocular viewing 1−33635
volume hologram based spatially invariant optical-signal filters 1−1521
volume holographic finite-beam conversion with perfect fidelity 1−1518
volume holography, Borrmann-like effect model and coupled wave theory 1−1526
volume holography, Shannon image number, structural information capacity 1−10941
volume image recording using radiation correlation function module for information carrier 1−51410
volume phase reflection hologram recording efficiency in attenuating medium 1−6510
Walsh function realisation using holographic lens system *(Chinese)* 1−24358
wave front reconstruction of object from its diffr. pattern 1−24373
wavefront defects, image degradation 1−15109
wavelength coding for white-light holography 1−37445
wavelength diversity, holography and inverse scatt. 1−41602
white light hologram form. 1−15125
white light holographic imaging technique 1−6505
white light optical processing and holography 1−51396
white-light transmission holography, one-step 1−15107
white-light transmission holography development (1970-80) 1−41647
X-ray microobject holography 1−6512
X-ray short-wave hologram recording *(Russian)* 1−1514
Ag halide gelatin holograms 1−15128
Al cube three-dimensional displacement meas. by four small holograms 1−14102
As-S(Se), As-S-Se chalcogenide films, high-efficiency phase hologram recording at elevated temp. 1−6526
$As_{70}Se_{30}$ Fourier holograms, intensification of amplitude-phase contrast *(Russian)* 1−37443
$Bi_{12}SiO_{20}$ crystals, diffr. efficiency and energy transfer in two-ware mixing expts. 1−46423
$Bi_{12}SiO_{20}$ crystals, holographic writing and image processing 1−19296
$Bi_{12}SiO_{20}$ crystals, speckle-free imaging in four-wave mixing expts. 1−6614
$Bi_{12}SiO_{20}$, holographic image conversion 1−33642
$Bi_{12}SiO_{20}$ photorefr. crysts., dynamic holography and coherent four wave mixing 1−15229

holography continued
Ge-As-Se, glass-like semiconductors, holographic information recording, struct., chemical comp. *(Russian)* 1−37436
InSe reflection holograms, light scatts., noise characts. of reduced images *(Russian)* 1−37444
$KNbO_3$ crystal, reduced, holographic currents 1−51412
$KNbO_3$, high-sensitivity read-write volume holographic storage 1−1511
$KNbO_3$, hologram form., energy exchange between writing beams in external elec. field 1−6527
$KTa_{1-x}Nb_xO_3$, cubic phase, photorefractive effects rel. to quadratic electro-optic mechanisms, holographic meas. 1−19288
$LiNbO_3$:Fe, hologram decay with time varying cond. 1−1516
$LiNbO_3$:Fe, holographic recording process, influence of spatially inhomogeneous incoherent illumination *(Russian)* 1−37442
$LiNbO_3$:Si, Fe, phase hologram fixation process, Si ion influence 1−20251
NaCl, gamma irrad., holograms recorded with radiation from He-Ne laser, diffr. efficiency 1−51407
Nd:glass laser for fusion, hologram method for beam monitoring 1−37441
VO_2 films, non-stationary hologram recording process *(Russian)* 1−46256
$(ZnSe)_x$-$(GaP)_{1-x}$ mixed semicond. crystals, dynamic hologram recording and erasure 1−33640

homopolymers *see polymers*

hopping conduction
amorphous semiconductor, appl. of rate equation formulation 1−7616
amorphous semiconductor, carrier pulse propagation, anomalous 1−7614
band to band hopping in one-dimensional maps 1−32911
band-shape dependence for two-dimens. impurity bands 1−42776
biopolymers, conduction mechanism 1−47649
cellulose acetate:I_2, pure and doped, current-voltage characts. 1−7626
1,5-dimethyl-nortropinone nitroxide, dimerisation, EPR, thermally accessible triplet state, hopping rate *(French)* 1−47952
disordered semiconductors, quantum statistical theory of transport by localised carriers 1−2962
disordered systems, hoppinc cond. theory 1−42732
doped semiconductor, cond. behaviour near metal-insulator transition 1−12030
doped semiconductor, hopping and delocalisation, electron-electron interactions effect, Coulomb gap 1−47651
doped semiconductor, hopping transport coeffs. calc., review 1−47652
doped semiconductor, metal-insulator transition, upper Hubbard band position and props. 1−47477
doped semiconductor, non-Ohmic hopping conduction, percolation theory 1−7615
doped semiconductor with shallow impurities, uniaxial stress and strong mag. field effects on hopping cond. 1−47653
electron localisation, kinetic equation in strong EM wave field 1−30677
Hall effect in hopping conduction 1−34727
Hall mobility, carrier hopping in impurity band 1−7644
hopping ionic conduction, associated dielectric relaxation 1−34981
hopping system with Gaussian energy distrib., dispersive exciton transport simulation 1−25637
impurity high-freq. hopping cond. 1−38779
ionic conductors, influence of interactions on hopping cond. of classical particles 1−11896
molecular crystals, field induced trapping as a probe of dimensionality 1−12106
one-dimensional percolation model, mean-square hopping displacement, freq. depend. cond. 1−12103
organic conductors, quasi-one-dimens., neutron and X-ray irrad. effects, phonon-assisted hopping 1−38767
organic glasses, electron transport related phenomena 1−52615
pentacene, amorphous, short-time carrier transport 1−12142
polyethylene, low-density, oxidised, TSC, localised states, hopping centres 1−21118
polypropylene films, elec. cond., effect of crystallinity 1−52342
random system, AC conductivity, non-Markoffian process, continuous-time random walk model 1−18154
rate equation for charged particles, connection between macroscopical and microscopical evolution 1−7574
semiconductor, correlated multielectron hopping transition rates 1−47642
semiconductor, heavily doped, hopping conduction, radiative tunnel transition contrib. 1−20723
semiconductor, hopping cond., defect phonon modes influence, formalism 1−20719
semiconductor, hopping cond., defect phonon modes influence, numerical results 1−20737
semiconductor, lightly doped, impurity band struct., review 1−20658
semiconductor, wide-band-gap, nonlinear and hopping transport 1−12116
semiconductors, conf., Wurzburg, West Germany (Oct. 1979) 1−44702
semiconductors, doped, hopping conduction, magnetoresistance, impurity cond. 1−7617
semiconductors, doped, impurity band struct. and hopping cond. 1−47549
TCNQ salt, TMTSF-DMTCNQ, band-to-hopping cond. transition 1−42835
p-terphenyl, polycryst. thin film, electronic transport meas. 1−7762
tetracene, polycryst. thin film, electronic transport meas. 1−7762
thick film dielectric composite, AC conduction 1−52557
TTF-TCNQ oriented vapour deposited film, elec. cond. meas., electron microscopy morphology obs. 1−20711
Ag_2HgI_4, complex cond., thermal activation effects in microwave region 1−2690
As_2S_3, vapour-deposited, hole transport meas. 1−34702
As_2Se_3, amorphous semiconductor, carrier pulse propagation, anomalous 1−7614
$Bi_2(Te_{1-x}S_x)_3$ thin cleaved crysts., variable range hopping in localisation region 1−7619
C, amorphous film, phonon-assisted hopping cond. meas. *(French)* 1−47656
n-CdTe, elec. cond. at low temps. 1−52564
CeO_2:Y_2O_3, nonstoichiometric, electronic cond. 1−2959
CoO undoped crysts., elec. props. 1−30747
Eu_3S_4, pressure effect on mixed-valence state 1−38750
Fe_{1-y}, semicond. props. at high temps. 1−7620
n-GaAs, heavily doped and compensated, electron transport, 4.2-300K 1−12112
GaSe amorphous films, charge transport processes 1−47655
Ge, radiation defect annealing, photoluminescence study 1−20262
n-Ge:As, heavily doped, compensated, elec. cond. 1−20743

hopping conduction continued
n-Ge:Cu, elec. cond. and anomalous magnetoresist. near semicond.-metal transition 1−25744
InAs films, amorphous and crystalline, electrical props. 1−20729
InSb, bulk and surface cond. in intense mag. field at low temp. 1−34717
InSb films, amorphous and crystalline, electrical props. 1−20729
n-InSb, variable range hopping, correlation effect, longitudinal magnetoresist. meas. 1−12131
α-$LiIO_3$ single cryst., elec. cond. mechanism and low temp. cond., quasi-one-dimens. conductor *(Chinese)* 1−20444
$LiNbO_3$, small-polaron semicond., expt. Hall effect data 1−34726
Mn-Co-Ni-Cu complex oxide semiconductors, spinel struct., AC hopping cond. 1−20786
Nb-N non-metallic disordered alloys, hopping processes for cond. *(French)* 1−52560
Ni ferrites, elec. cond. meas. 1−20736
PbI_2 polytypic crystals, electrical transport charact. 1−25731
Se, carrier pulse propagation, anomalous 1−7614
$(Se_{32}Te_{32}As_4Ge_{32})_{100-x}Ni_x$, chalcogenide amorphous semicond., electrical cond. and optical absorpt. 1−20730
a-Si, RF-sputtered, solar cells, doping effects of group-III and -V elements on conductivity 1−4191
Si:H, amorphous, electron Hall mobility, 200 to 550K 1−30767
Si:P, Hall mobility, carrier hopping in impurity band 1−7644
Si:P, variable range hopping, surface conduction, very low temps. 1−34711
Si-SiO_2 MOS system, electron transport in inversion layers at high mag. fields, substrate bias effect 1−12196
$Sr(Ti_{1-x}V_x)O_3$, insulator-semiconductor-metal transitions, 4.2K to room temp. *(Japanese)* 1−38817
Ta_2O_5 amorphous film, hopping transport 1−20889
TaS_2(1T), Mott versus Anderson localization 1−12034
Te_xSe_{1-x} amorphous films, DC cond., 100 to 330K 1−2969
V_2O_5:W^{6+}, monophasic, elec. props. 1−7608
V_2O_5-P_2O_5-optical absorption, electrical cond. and thermo EMF study 1−25748
WO_3-$Al(PO_3)_3$-SiO_2 and WO_3-P_2O_5-SiO_2 system glasses, reduced forms, elec. cond. and struct. role 1−47654

horology *see time measurement*

hospital administration *see medical administrative data processing*

hot carrier conduction *see hot carriers*

hot carriers
bounded semiconductor, phonon heating and drag action on Hall effect and transverse thermo-EMF 1−20780
covalent semiconductors, hot electron phenomena, microscopic models 1−47662
covalent semiconductors IR Faraday rotation 1−16545
diamond, hot-hole transport theory and expt. 1−16296
electron gas, inhomogeneously heated charge carriers, nonstationary states 1−12117
electron transport in laser produced plasmas, Monte Carlo hybrid modelling 1−19954
electron transport inhibition and density modification due to electrostatic field 1−42804
EM waves interaction in sumiconductor plasma, parametric conversion of MM and sub MM waveband freq. 1−30775
equivalent temp. of hot electrons 1−2974
graded-gap semiconductor, EMF of hot electrons, Monte Carlo calcs. 1−20758
hole semiconductors, impurity scatt. of hot electrons in space-charge region *(Russian)* 1−52568
Kane semiconductor, hot-electron thermoelectric power and thermomagnetic effects 1−20784
laser produced plasma, X-ray spectra *(Russian)* 1−11583
layered semiconductors, appl. in VLSI circuits and optoelectronic devices 1−7625
metals, hot electrons at low temp. 1−30845
MOS structure, trapped electron discharges 1−42861
MOSFET, gate bias effect on hot electron trapping 1−12191
p-n junction, amplification characts. 1−20862
photoemission from metal electrode into electrolyte soln., review 1−35151
semiconducting components, unipolar, Monte Carlo techniques to hot carrier diffusion noise calc. 1−7684
semiconductor, electro-optical anisotropy due to electron heating by submillimetre waves 1−31129
semiconductor, hot electron galvanomagnetic phenomena under population inversion conditions, theory 1−52583
semiconductor, microwave method for testing nonlinear effect 1−21691
semiconductor, nonequilibrium phonons in 3- and 2-dimensional charge transport 1−16269
semiconductor high-intensity picosecond photoexcitation techniques 1−15234
semiconductor hot carrier diffusion and noise coeff. relationship and meas. 1−16325
semiconductor hot electron-hole pair optical excitation 1−16317
semiconductor hot-electron distrib. function in quantising mag.fields 1−16303
semiconductor hot-electron nonlinear transport, exptl. methods, review 1−16294
semiconductor hot-electron transport in quantising mag. fields 1−16302
semiconductor photoexcited hot carriers, theoretical concepts 1−16318
semiconductors, highly photoexcited, screening of hot-carrier relax. 1−47666
semiconductors, hot carrier physics, review 1−16292
semiconductors, hot electron population inversion, Hall currents 1−25740
semiconductors, hot photoexcited electrons, distrib. function in quantising mag. field 1−25739
semiconductors, intercarrier scatt. influence on carrier energy distrib. 1−16293
semiconductors, nonlinear electron transport, conference, Urbino, Italy (July 79) 1−13926
AgBr(Cl), streaming motion of hot polarons 1−47505
Al-oxide-Ag system, hot electron mean free path, light emission by surface plasmon excitation 1−25809
Bi, nonlinear characteristics, quantum oscills. under strong electron heating 1−25741
CdS, energy loss mech. for hot electrons, oscillatory photocond. and magnetophonon effect 1−3010
CdSe, hot-electron cond. characts. calc., scatt. mechanisms 1−25737

hot carriers continued
CdTe, energy loss mech. for hot electrons, oscillatory photocond. and magnetophonon effect 1−3010
GaAS, hot carrier relax. rates, time resolved reflectivity spectra *(Portuguese)* 1−7628
n-GaAs, Gunn effect threshold field decrease in strong mag. field *(Russian)* 1−42782
GaAs, hot electron anal. from electron distrib. function 1−47663
n-GaAs, hot electron phenomena, population inversion, calc. for polar optical phonon scatt. 1−30755
GaAs, hot electron transport, electron-electron interaction, screening effect 1−2971
GaAs, hot electrons, transient and high frequency response in high fields, Monte Carlo calc. 1−38785
GaAs, hot photoelectron energy relaxation in surface region 1−52606
GaAs, hot photoluminescence spectrum and polarisation 1−48147
GaAs, phonon magnification for infinites 1−15980
GaAs, three-valley model, microwave noise, coupling const. between Γ and L valleys 1−30796
GaAs-$Al_xGa_{1-x}As$ heterojunction layers, hot-electron cond. and real-space transfer 1−47736
Ge, high-intensity picosecond photoexcitation techniques 1−15234
p-Ge, hot electron phenomena, population inversion, calc. for deform. optical phonon scatt. 1−30755
Ge, hot-hole transport theory and expt. 1−16296
Ge, nonlinear optical absorption and ultrafast carrier relaxation physics 1−15211
^{4}He, liq., surface, cyclotron reson. lineshapes under hot electron conditions 1−7419
$Hg_{1-x}Cd_xTe$, hot electron drift velocity 1−38784
$In_{0.53}Ga_{0.47}As$, photoexcited, hot carrier relaxation 1−3449
InSb, microwave method for testing nonlinear effect 1−21691
InSb, phonon emission, optical to acoustical decay 1−15973
InSb plasma slab, microwave and sub-mm wave transmission in Faraday config., hot electrons effect 1−25751
Si, electron warming, effect of mag. field on lag 1−20757
Si, electron-phonon interaction, photolumin. and transport phenomena 1−42493
Si, graded electron conc. non-linear elec. effect 1−34718
n-Si, hot carrier 1/f noise 1−52613
Si, hot-hole transport theory and expt. 1−16296
Si, longitudinal diffusion coefficient and mobility of hot electrons 1−30754
Si $p^+\pi p^+$ planar device, hot hole flicker noise at 78K 1−20836
Si p-n junction, photoelec. effect due to intraband optical heating of carriers 1−20805
Si, stressed uniaxially, electron-hole drop densities from photoluminesc. 1−42696
Si transistor, hot electron diffusion across base 1−34780
Si-SiO_2 MOSFET, n-channel, electron-phonon interact. in inversion layers at low temp. 1−7751
ZnO, second harmonic generation under hot-electron condition 1−30752

hot cathode tubes *see thermionic tubes*

hot cathodes *see thermionic cathodes*

hot electrons *see hot carriers*

hot pressing
Astroloy superalloy, hot isostatically pressed, porosity effect on mech. props. 1−3667
ceramics, with different porosities, frost resist. 1−12695
consolidation process, contrib. for electronic theory 1−53126
dynamic, in vac., sintered material form 1−53125
extrusion presses, for metal processing, design and appl. 1−35198
ferrite, soft-magnetic, effect of powder dispersity on formation of microstructures 1−21375
ferroelectric ceramic with layer type struct., degree of preferred orientation after hot pressing, X-ray determ. method *(Chinese)* 1−48364
hot isostatic pressing−characteristics and prospects in industrial use 1−35211
hot isostatic pressing as an alternative to forging 1−35213
metal powders, advances 1−21376
mullite-corundum ceramics, prod. by hot pressing, mullite form. 1−12692
oxide ceramics with tetragonal potassium-tungsten bronze struct., X-ray struct. investig. and dielec. props. 1−30169
powder metallurgy hot-pressed materials, fatigue behaviour 1−53292
radioactive waste containment in synthetic minerals, hot isostatic pressing appl. 1−37013
β′-Sialon, hot pressed, microscopic study of morphology 1−16730
Sialon, micromechanisms for fracture and plasticity 1−8401
α-SiC:Al, powder, hot pressed, strength 1−21532
spodumene concentrate ceramic, prep., elec. insulator 1−31389
steel, high speed, powder metallurgical technique using pre-alloyed powders 1−16717
Al-B fibre reinforced composite, B fibre strength influence on mech. props. *(Russian)* 1−3887
Al_2O_3, hot pressing kinetics, MgO addition effect 1−31391
Al_2O_3, hot-pressed, correl. of fracture toughness and crack lengths from Vickers hardness indentation *(German)* 1−35344
Al_2O_3, hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
β-Al_2O_3-K_2O ceramics, proton sensor appl. *(French)* 1−31395
β-Al_2O_3-Na_2O powder, solution spray dried and freeze dried, prep. and hot pressing 1−16744
Al_2O_3-SiO_2, mullite-corundum ceramic, hot pressing study 1−12700
BN, cubic single crysts., growth using AlN catalyst 1−39296
Be, cold isostatically pressed/hot isostatically pressed, deform. under shock compression 1−35340
C fibre reinforced graphite material, wetting by ZrB_2-Si-C eutectic alloy 1−39297
CaF_2 laser windows, forged and isostatically hot pressed, scatt. levels and stress birefringence obs. 1−29354
Cu-C (graphite), hot-pressed, props. rel. to comp. and production method *(Polish)* 1−48446
Eu_2O_3, hot pressing, effect on phase transform 1−16742
Fe powder, dynamic hot pressing in vac., sintered material form 1−53125
HfO_2, metastable, tetragonal, prep. and mech. props. 1−16743
Mg-Al spinel, Al_2O_3 rich, precipitation strengthening *(Japanese)* 1−26485
MgO, hot pressed, heat treatment effect on elec. cond. 1−53306
Mo_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
MoS_2-Mo porous material, densification kinetics in hot pressing 1−53123

hot pressing continued
$NaNbO_3$-$PbTiO_3$ system, ferropiezoceramic solid soln. form. and characts. 1−39286
Ni-Cr-Al-W-Ti-Mo-Co, precipitation strengthened, microchem. heterogeneity and mech. props. 1−39343
Ni-P-TiB_2 cermet, Ni-P binder, prep., props. 1−3688
Ni-Zn ferrites, hot-pressed, composition and static and dynamic magnetic properties *(Russian)* 1−30979
PLZT, compaction during hot pressing 1−21394
$PbBi_4Ti_4O_{15}$, with layer type struct., degree of preferred orientation after hot pressing, X-ray determ. method *(Chinese)* 1−48364
Pb(Zr, Ti)O_3, isostatic pressing, elec. props. 1−3683
Si-Al-O-N, densification mechanisms during hot pressing 1−39292
Si-Al-O-N, hot pressing *(Japanese)* 1−31403
Si-Al-O-N fabrication, by hot-pressing of compacts prep. by nitriding of SiO_2/Al/Si *(Japanese)* 1−48315
Si-Zr-N(C)-O, phase relations 1−16763
SiC, hot pressed and sintered α-phase, high temp. dynamic fatigue 1−3872
SiC, hot-pressed, strength, effect of Al and B additions *(Japanese)* 1−43306
Si_3N_4 containing MgO, α to β transform. and grain growth during hot pressing 1−48304
Si_3N_4, hot pressed, processing effect on microstruct. and mech. props. 1−16738
Si_3N_4, hot pressed with low amounts of additives, mech. props. 1−16736
Si_3N_4, hot-pressed and reaction-sintered, correl. of fracture toughness and crack lengths from Vickers hardness indentation *(German)* 1−35344
Si_3N_4, hot-pressed cutting-tool, application 1−21393
Si_3N_4-CeO_2 (Ho 20 wt.%) hot pressing 1−48307
Si_3N_4-CeO_2-Al_2O_3, ceramic, phase effects, high temp. strength 1−3753
Si_3N_4-CeO_2-SiO_2, ceramic, phase effects during oxidation 1−3945
Si_3N_4-Y_2O_3-Al2O_3, ceramic, phase effects, high temp. strength 1−3753
Si_3N_4-Y_2O_3-SiO_2, ceramic, phase effects during oxidation 1−3945
SiO_2-B_2O_3 glass synthesis by hot-pressing of gel 1−31411
SiO_2-P_2O_5 glass synthesis by hot-pressing of gel 1−31411
SiO_2-TiO_2 glass synthesis by hot-pressing of gel 1−31411
$SmCo_5$ magnet, hot isostatically pressed 1−8253
TiB_2-CrB_2, hot pressing, densification through particle crrep 1−53142
TiN powder, hot pressing and vacuum sintering 1−21399
UO_2-PuO_2 nuclear ceramics, fabrication for fast breeder reactor fuels 1−14637
W_2B_5 composite, Permalloy on Ni-Cr bonded, for electric-spark alloying electrode 1−39536
$Y_{1-x}M_xCrO_3$, (M=Ca, Mg) and $YCr_{1-x}Mg_xO_3$, prep., elec. and thermal props. 1−16745
Y_2O_3-Cr(W) composite, hot pressing, reactions, X-ray study 1−21410
ZrB_2-ZrC(C), densification and hot pressing 1−31402

hot rolling
deformation, and recrystn. under hot rolling conditions *(French)* 1−48356
equipment, electroerosional treatment, phys.-technological bases *(Russian)* 1−48566
metal granules, hot rolling, metal temp. 1−53139
model billet, three-dimensional strain field representation by photoplastic simulation 1−43387
steel, austenitic stainless, hot rolling, behaviour of austenite, TEM and optical metallography study 1−21497
steel, equiaxed austenite grains originating from hot rolling 1−53216
steel, low C, ductility improvement by warm rolling and annealing 1−53238
steel, Si, hot-rolled coil, welded joint fracture *(Chinese)* 1−53255
steel, stainless, ferritic, Ti stabilised, struct. transforms., heat treatment effect 1−48390
Al alloy granules, hot rolling, metal temp. 1−53139
Al-Al_4Ca eutectic alloy, microduplex struct., room temp. props., prep. and microstruct. 1−39354
Al-Mg alloys, hot-rolled, edge cracking 1−8424
Fe, cast, ductile, hot rolling and forging 1−48403
Fe-Si(3 wt.%), struct. formation during hot rolling *(Russian)* 1−39349
Mo-Cu(-Ni) composites, sintered, mech. props., comp. and strain depend. 1−26517
Ti alloy-steel joints, contact phenomena, effect on strength 1−17021
Ti-Al-V alloy sheet, hot and cold rolled, elastic props. and crystallographic texture anisotropy *(Russian)* 1−31529

hot shortness *see brittleness*

hot strength *see tensile strength*

hot working
see also hot rolling
deformation mechanism diagrams with the strain rate as a coordinate 1−21517
dynamic recovery during hot working model *(German)* 1−8355
fast hot deform., novel exam. technique, computer controlled simulator *(German)* 1−53396
polyethylene fibres, high mol. wt., maximum strength and hot drawing mechanism 1−8379
polyethylene fibres, porous high mol. wt., spinning/hot drawing influence on tensile strength 1−26421
steel, austenitic corrosion resist., methods of increasing yield point *(Czech)* 1−8373
steel, austenitic stainless, hot worked, dislocation substructure in dynamic recovery and recrystallisation 1−12779
steel, austenitic type 110 Kh6, hot working and substructure diagrams 1−21493
steel, C, dynamic recovery during hot working, model, rel. to cold working *(German)* 1−26522
steel, hot rolled 1020, fracture initiation, loading rate and temp. effect 1−3880
steel, hot strip rolling, simulation tests *(French)* 1−3807
steel, hot work tool type AISI H13, rapid heat treatment effect on mech. props. 1−53214
steel, HSLA sheet, flow and fracture after cold forming *(French)* 1−3769
superalloys, heat resistant, hot workability *(Japanese)* 1−26509
superplasticity, dynamic recovery and recrystn., mechanisms, microstructs., ductilities 1−12844
Al, hot-worked, subgrain size, new obs. technique using optical microscope 1−4027
Al-Mg, elev. temp. behaviour *(French)* 1−3797
Al-Mg (5 wt.%) clad with austenitic stainless steel, props. and formability *(French)* 1−8336
Fe powder, atomised, and hot forged materials, correl. of props. 1−53136

hot working continued
Fe-Si (3 wt.%), small deform. effect on grain size and texture 1−8330
$Fe_{40}Ni_{40}P_{14}B_6$, metallic glass, viscous flow and hot forming 1−43463
Mg-Al(0.8 wt.%), deformed in compression at elevated temps., dynamic recrystn. and texture 1−21544
Ni base alloys, high temp., hot impact extrusion and subsequt processing 1−39351
Ni-Cu (30 wt.%), recrystn. grain sizes, effect of working temp. before annealing *(Japanese)* 1−3765
Ni-Zn ferrites, hot-pressed, composition and static and dynamic magnetic properties *(Russian)* 1−30979
Pd-Fe-Si (5.1, 16.8 at.%) metallic glass, hot deform. 1−43454
W rods produced by various methods, struct. 1−53143

household appliances *see domestic appliances*

Hubbard model
actinide compounds, antiferromagnetic-ferromagnetic transition, electron correlation effects, Hubbard and RKKY models 1−47881
actinide system valence instabilities as source of inconsistencies 1−20671
alloys, narrow-band, electron density of states, cluster-Bethe-lattice method 1−12010
antiferromagnetic soln. 1−25864
degenerate one-dimensional model calcs. of ground state energy for n=1 1−20950
disordered binary system, ten-fold degenerate d-electron correlation, metal-nonmetal transition 1−34848
doped semiconductor, metal-insulator transition, upper Hubbard band position and props. 1−47477
excitations with complex wavenumbers 1−20603
excitations with one pair of complex wavenumbers in Hubbard chain 1−30610
extended Hubbard model, alloy analogy, metal-insulator transition 1−34605
ferromagnetic correlation in a Hubbard tetrahedron 1−20996
Kondo lattice, analogy with Hubbard model, renormalisation group calc. in one dimens. 1−42945
Lindner-Fedyanin model, quasi-classical solns., hole-like excitations 1−36566
magnetic insulators, Jahn-Teller ions, polaron effects and exchange interaction *(Russian)* 1−7536
magnetic structure for nonalternating lattices, vacancies *(Russian)* 1−30903
metal, expanded, metal-insulator transition, thermodynamic singularities, Landau theory extension 1−25634
metal, nearly ferromagnetic, susceptibility and specific heat calc., Coulomb correlations 1−25908
metallic ferromagnets, RPA degenerate d-band complex magnons, spin polarity fluctuations 1−34849
Mott-Hubbard-Anderson model, modified, unrestricted Hartree-Fock pseudocluster calc. 1−47572
one-dimensional, integrability and isotopic struct. in long wave approx. 1−36580
one-dimensional, real space renormalisation half-filled band study 1−42941
one-dimensional, with strong coupling, ground-state energy calc. 1−2857
one-dimensional physics, theory 1−42756
renormalisation group study 1−25603
semiconductor, with impurities, topologically disordered system, theory, random cell model 1−30252
semiconductor impurity band density of states, disordered Hubbard model 1−30665
small aggregates, electronic correlations, appl. of variational Gutzwiller method *(French)* 1−30654
strongly correlated Hubbard model, uniform and staggered mag. susceptibility 1−16422
structurally disordered, density of states calcs. 1−47420
TCNQ salt, alkali metal, ESR 1−42999
thermodynamic props., extended Hubbard model 1−42939
transition metal surface, electronic excitations, coulomb correlation effects, Hubbard model 1−20843
transition metals and alloys, ferromagnetic, neutron scatt. and magnetic props., review *(Russian)* 1−52748
weak itinerant ferromagnets, isotope effect on Curie temp. 1−7856
Mo (100) surface, electronic excitations, coulomb correlation effects, Hubbard model 1−20843
Ni (100), (110), (111) surfaces, electronic excitations, coulomb correlation effects, Hubbard model 1−20843
rare earth compounds, antiferromagnetic-ferromagnetic transition, electron correlation effects, Hubbard and RKKY models 1−47881
Si (11̄1), adsorption sites and relative stabilities of 3×1 and $\sqrt{3}$ phases of Ag 1−7471
TaS_2(1T), Mott versus Anderson localization 1−12034

Hubble model *see cosmology*

Huckel molecular orbital calculations *see HMO calculations*

hue *see colour*

Hugoniot diagrams *see equations of state*

human engineering *see ergonomics*

human factors
see also biocybernetics; ergonomics; man-machine systems
CANDU operational experiences related to reactor safety analysis, human error and mech. failure 1−41210
earthquake hazards and risks to populace, systems anal. study 1−32378
fission reactor safety, sensitivity of risk parameters to human errors 1−41212
operator errors in commercial nuclear stations, human factors in system design and interfaces 1−23808
product colour appearance instrumentation, physiological and psychological factors 1−28052
visual system suprathreshold contrast perception model 1−8848

human-machine systems *see man-machine systems*

humidity
see also atmospheric humidity; hygrometers
corona, positive impulse, in rod/plane gap, humidity influence obs. 1−15707
electrothermographic characts. of polymers, humidity and ambient temp. effects 1−18322
ionisation chamber, exposure meas., humidity correction *(Japanese)* 1−1004
Kelvin size spectra determ., condensation nucleus counter 1−18354

humidity continued
polycarbonate thin film, effect of humidity on high temp. dielec. relax. 1−3328
statistical time-lag distribution of elec. discharge, detachment lifetime meas. of negative ions in atm. air 1−15731
steels, Al-killed low C, atmospheric humidity effect on fatigue strength, micro-cracks nucleation *(Japanese)* 1−26609
switching impulse breakdown voltage, effect of interaction between temp. and humidity 1−15585
Sn-Pb system as contact finish, evaluation 1−43642

humidity control
creep testing laboratory, engineering systems 1−8495
solar air conditioning, with liquid desiccants, packed bed dehumidifier/regenerator 1−8672

humidity measurement
see also hygrometers
atmosphere, humidity determination by IR spectral absorption measurement *(French)* 1−44331
high-temperature fluidic frequency-analogue humidity meas. systems 1−27989
intelligent electronic psychrometer with wet and dry-bulb thermistors interfaced with microprocessor 1−40798
IR hygrometer for astron. site testing 1−44318
microprocessor-based hygrometers characts. 1−40799
sensor comprising chemically sensitive MOS element with ultrathin SiO_2 film 1−36651
streamer counter appl., positive point corona mechanism 1−14774

h.v. engineering *see high-voltage engineering*

hybrid computer methods *see hybrid simulation*

hybrid integrated circuits
see also flip-chip devices; microwave integrated circuits
amplifier modules for nuclear meas. in space flight expts. 1−28814
(Hg,Cd)Te materials technology for IR image sensors, advances 1−39228
HgCdTe hybrid focal plane arrays, infrared imaging system 1−5398
HgCdTe mosaic arrays for hybrid focal plane appls. 1−5397
InAsSb hybrid focal plane arrays 1−5399
Si PIN photodiode arrays, hybridised multichannel optical receivers 1−5400
Si-In IR focal planes, interconnected to direct injection multiplexer 1−40858

hybrid reactors
basis structure of the fusion-fission (hybrid) reactor 1−884
beam driven D-fusion plasma within a fusion-fission hybrid system 1−883
breeding improvement using spallation reactions and muonic atom catalysis 1−18847
emerging nuclear energy systems conf. Lausanne, Switzerland, (Apr. 1980) 1−3
fast hybrid thermionic blanket, perform. characts. 1−45731
feasibility based on plasma focus containment device 1−18895
fusion-fission microspheres, laser initial confinement nuclear-thermohydrodynamic anal. 1−18897
hybrid reactor materials, neutron emission spectra 1−10440
lithium fall/molten-salt blanket inertial confinement fusion breeder design 1−41243
molten salt symbiotic-fusion blanket concept, neutronics of Pb flux trap blanket 1−50975
neutron emission spectra from hybrid reactor materials 1−10440
neutronics performance of a flowing particle bed for synthetic fuel production in fusion-fission hybrid reactors 1−881
nuclear pumped lasers, $O_2(^1\Delta)$ energy storage type, fusion drivers, hybrid reactor appls. 1−18896
nuclear-pumped-laser hybrid reactors, high energy multiplication blankets 1−41250
role in world nuclear future 1−5989
synergetic nuclear energy systems, efficiency merit assessment 1−880
synthetic fuel production, economic parametric anal. 1−882
systematics of emerging nuclear energy concepts 1−879
tandem mirror fusion-fission hybrid studies 1−5990
Tandem Mirror Hybrid, liq. metal coolant, EM pumping 1−6036
target requirements and laser arrangement parameters for ignition *(Russian)* 1−18884
Tokamak parameter optimisation 1−28704
ThO_2 coated fuel particle design for hybrid fusion-fission system 1−36998
^{232}Th, neutron emission spectra from hybrid reactor materials 1−10440
^{238}U, neutron emission spectra from hybrid reactor materials 1−10440

hybrid simulation
gas sensors correction, for O_2 concentration meas. *(Spanish)* 1−48770
second order differential equations, hybrid numerical methods, periodic initial value problems 1−54351

hydrated electrons *see solvated electrons*

hydraulic amplifiers
No entries

hydraulic control equipment
see also hydraulic amplifiers
electron beam exposure system, hydraulic positioning stage *(Japanese)* 1−5440
pumps, airborne noise measurement 1−19508

hydraulic systems
electrorheological effect and applications 1−38018
materials testing, servo-hydraulics 1−8494
Montgolfier hydraulic ram, old fashioned energy transformer, teaching 1−22978
noise and vibration problems, modal analysis design aid 1−37700

hydraulic turbines
mist-lift OTEC cycle, open cycle concept using hydraulic turbines 1−8736
pneumohydraulic accumulator, based on N_2 and various proportions of CO_2+N_2, energy-storage capacity influence on fluid drive system operation *(Russian)* 1−8756

hydroacoustics *see underwater sound*

hydrodynamics
see also jets; liquid waves; viscosity of liquids
Agulhas Current, volume transport meas. 1−27172
Antarctic Circumpolar Current, zonation and geostrophic flow at Drake Passage 1−27168
apparent mass of a rectangular vessel filled with liquid 1−37864
asteroid-neutron star collisions, one dimensional hydrodynamics rel. to gamma-ray bursts 1−44587
astrophysics, equilib. of heated gas clouds cooling by conduction in external gravit. field 1−49491

hydrodynamics continued
astrophysics, equilib. of heated self-gravitating masses cooled by conduction 1−49490
Atlantic Ocean, ^{13}C distrib. correl. with deep water masses and dynamics 1−4536
N.Atlantic Ocean, advection changes rel. to surface salinity seasonal and year-to-year vars. 1−27201
Tropical Atlantic Ocean, dynamics rel. to heat storage seasonal var. 1−27205
Atlantic Ocean, vertical advection-diffusion model rel. to ^{228}Ra and ^{228}Th concs. in GEOSECS surface water 1−27171
atmosphere, baroclinic instability in mean zonal flow rel. to geostrophic turbulence 1−49326
average flow model, eval. for surface roughness effects in lubrication 1−43540
Baltic and adjacent seas, exchange of water and salt 1−27202
barotropic ideal fluid hydrodynamics, least action principle 1−14017
binary stars, close, circulation in primary drives by tidal effects from secondary 1−44594
black holes, primordial, formation, hydrodynamics and depend. on eqn. of state 1−13799
black-hole stationary spherical accretion, hydrodynamics and radiation transfer through gas 1−44588
body motion in water, modelling with compressibility allowance, bubbly liquid medium 1−29756
Boussinesq fluid self gravitating sphere, high Rayleigh number convection, appl. to stellar interiors 1−9471
bubble, rising, review 1−51847
3C 129, radio galaxy, intergalactic medium interaction with circumgalactic medium rel. to tail struct. 1−9700
centrifuge, gas flow field, numerical method for optimisation 1−10545
chemically reacting gases and mixed gases, fluctuating hydrodynamic equations 1−38019
comet/solar wind interaction, quasi-one-dimensional fluid anal. of outer ion coma modification 1−32658
compact stars, uncollapsed, collisions, gravitational radiation, one dimens. hydrodynamic calcs. 1−9353
computer applications in analytic calculations, review 1−50
continuous media mechanics, quasistatic mixed problems, integral eqn. solution 1−29556
disc-satellite interactions, astrophysical, angular momentum and energy transfer rates 1−32614
elastohydrodynamic lubrication, effects of asperities 1−43542
elliptic cylinder two-dimens. hydrodynamic pressure, effects of viscous and convective inertia terms *(Japanese)* 1−46737
extragalactic jets, shape and stability 1−54625
flow past massive object, gravit. drag calc. and appl. to galaxies/intergalactic medium interaction 1−13864
fluctuation-dissipation theory of nonlinear viscosity *(Russian)* 1−32946
fluid, randomly-stirred, velocity correls., Navier-Stokes eqn., dynamic renormalisation group method 1−51732
galactic spiral shocks, vertical struct., thermal phase effects and self-gravity 1−9647
galactic wind, shock waves rel. to star form. and giant shells around elliptical galaxies 1−9670
galaxies, spiral density wave, modulation instability anal. 1−49807
galaxies rotating, collisionless shock waves and star mean free paths 1−54622
galaxy arm formation theory from nucleus, rot. dynamics and galaxy struct. 1−40560
galaxy bars with structure of uniformly rot. polytrope, nonaxisymmetric config., analytic method 1−36385
galaxy clusters formation, primordial flat layer fragmentation and development of internal cluster struct. 1−13859
galaxy disk, multicomponent short-wave Jeans instability *(Russian)* 1−49823
galaxy protoclusters, theory of gas-dynamic processes 1−22904
gas, equilib., hydrodynamic fields fluctuations distrib., Fokker-Planck eqn. *(Russian)* 1−2132
glass, liq., hydrodynamics in crucible with drainage through central bottom hole 1−12710
gravitational instability in flat gaseous systems, nonlinear stage 1−44430
Gulf of Alaska, baroclinic transport of Alaskan Stream near Kodiak Island 1−27169
Gulf of Khambhat, NW India, hydrodynamic conditions rel. to sandwaves distrib. and struct. and struct. 1−54068
Gulf Stream, dynamics of oceanic fronts 1−17595
Gulf Stream, dynamics of two rings observed by Cyclonic Ring Expt. 1−17597
ideal incompressible fluid, hydrodynamic eqns. 1−46726
Indian Ocean, Somali eddy form. during commencement of southwest monsoon (1978) 1−27176
Indian Ocean, water masses and general hydrography along India west coast during early March 1−54109
internal wave generation with stationary moving local and nonlocal sources *(Russian)* 1−37953
interstellar clouds collapse, one, two and three-dimensional models 1−40470
interstellar diffuse clouds, nonlinear hydrodynamics of acoustic instabilities 1−22851
interstellar gas cloud, contraction by large external press., hydrodynamics and evolution *(Russian)* 1−4957
interstellar gas clouds collapse and star form. hydrodynamics and temp. 1−44621
interstellar medium, bending wave theory for Galaxy tilted central gas disc 1−49819
ion diffusion coeffs. in electron-proton gas, Boltzmann-Fokker-Planck eqns. 1−49486
jets, propag. through inhomogeneous media, appl. to radiosources, galaxies and quasars 1−54624
Kenai Current, coastal flow in northwest Gulf of Alaska, meas. 1−27179
Ligurian current near Provence, effect of Mistral wind 1−27200
Ligurian Sea, surface waters circulation from NOAA 5 obs. of sea-surface thermal struct. annual var. 1−27206
liquid crystals, hydrodynamics, influence of higher order terms 1−2313
liquid-liquid mass transfer, interfacial instabilities and hydrodynamic interaction 1−19687
lubrication, hydrodynamic, roughness interaction, micropolarity 1−43541
lubrication, hydrodynamics, effect of parallel and transverse stationary random surface roughness, Reynolds eqn. 1−39463

hydrodynamics continued
lubrication of rough surfaces, stochastic models with variable viscosity 1−25367
NW.Mediterranean Sea, low-freq. vertical motions in Medoc area of deep water form. 1−27203
molecular clouds, turbulence, density, vel. dispersion, size, star formation, evolution, longevity 1−54593
molecular clouds disruption on collision with H II bubbles 1−13829
multidimensional fluid transients by latticework 1−37867
nematic liquid cryst., convective instabilities caused by elliptical shear flow 1−52054
nematics, mag. oriented lyotropic, superstructures, hydrodynamic effect 1−20055
neutron star accretion, plasma infall and X-ray prod. in mag. funnel 1−36322
neutron star-asteroid collisions, one-dimensional hydrodynamics rel. to cosmic gamma-ray bursts 1−44586
neutron stars interiors, hydrodynamical theory of forced precession 1−44585
NGC 281 (Sharpless 184), H II region, atomic and ionised H dynamics 1−54586
non-local model of relaxing boundary layer *(Russian)* 1−11409
North Atlantic Deep Water, trajectory and C and O isotopic fractionations 1−4537
nova outbursts, hydrodynamic studies 1−49688
OB associations form. in interstellar dense mol. clouds, two-dimensional radiation-hydrodynamics calcs. 1−44599
ocean, bottom water horizontal advection rel. to intermediate mepheloid layers off Oregon and Washington 1−27181
ocean, currents and surface temp., short range forecasting *(Russian)* 1−40137
ocean, diffusive/descending water model for absorpt. of fossil fuel CO_2 1−26864
ocean, effect of topography on barotropic coastal current stability 1−54101
ocean, upwelling-diffusing model for deep sea heat transport rel. to secular response to climatic forcing 1−27178
ocean barotropic response to cooling, appl. to 18° water south of Gulf Stream 1−27177
ocean currents, combined effect of bottom topography, wind stress and air press. gradient on surges 1−4500
ocean currents, effects on movement of pack ice *(Japanese)* 1−9172
ocean equatorial currents dynamics, theory and appl. to Indian Ocean 1−27170
ocean forced mean flow, Rossby wave action, enstrophy and energy 1−4512
ocean local upwelling along SW.Europe continental slope, mechanism 1−27204
ocean mixing layer hydrodynamics, turbulent layer theory *(Russian)* 1−9166
oceans, aspects of particulate transport of trace elements and radionuclides 1−4508
Okhotsk Sea, ocean currents meas. off Hokkaido coast in winter (1979) *(Japanese)* 1−9170
Oregon coastal waters, importance of eddy heat flux in heat budget 1−27175
Orr-Sommerfeld eqn. solution in hydrodynamic stability theory 1−6845
oscillatory flow inducing in-line vibrations of linear system 1−9826
deep Pacific Ocean, alkalinity distrib. rel. to circulation 1−4538
E Pacific Ocean, equatorial, vertical vel. struct. 1−17604
N.Pacific Ocean, upwelling model for T and radiocarbon distrib. at GEOSECS station (347) 1−4534
tropical Pacific Ocean, vel. and transport fields rel. to thermal variability scales 1−17598
polymer dilute solns., porous-sphere hydrodynamic model appl. 1−34496
polystyrene, branched model, hydrodynamic studies 1−38573
potential flow pressure eqn. for multiple body with six degrees of freedom 1−6839
protostars collapse, numerical algorithms for physical and mathematical formulation of problem *(Russian)* 1−49612
protostellar clouds, rotating, adiabatic, collapse, equilib. and fragmentation 1−40472
protostellar clouds, rotating isothermal fragmenation, three-dimensional hydrodynamic calcs. 1−40471
quantization of hydrodynamics by canonical formalism 1−5106
quantum liquid, hydrodynamics in presence of solitons, Hamiltonian eqns. 1−11937
rarefied gas, creeping flow past two equal touching spheres 1−6877
rarefied gas flow, hydrodynamic regime, drag on sphere or cylinder 1−37971
relativistic electron beams, use for matter compression 1−30326
relativistic hydrodynamics of one-dimensional free expansion and shock wave, rel. to superluminal radio sources 1−13870
rigid plate impact on half strip of incompressible liquid 1−15462
rolling-sliding EHD contact, rel. between press. and temp. 1−30317
rotating fluid, oscill. normal modes 1−4757
rotational dynamics of deformable medium, further generalisation 1−36170
sea ice floes interaction, periodic change in ice field horizontal divergence accompanied by inertial periodic motion *(Japanese)* 1−9171
sea pack ice field, studies of interaction between ice floes *(Japanese)* 1−4516
sea straits, bottom topography parameterisation rel to water flow 1−27150
self gravitating fluids, g and p-modes, basis sets 1−4755
solar chrmosphere impulsive heating during flares, nonstationary hydrodynamic plasma flow problem *(Russian)* 1−9464
solar chromosphere, hydrodynamic models of flare effect *(Russian)* 1−9463
solar chromosphere-corona transition region, nonequilib. ionisation due to thermal diffusion and mass flows 1−36237
solar flares, electron trapping in mag. field rel. to emission of decimetric continuum radio bursts 1−27435
solar wind, spurious solns. of Navier-Stokes eqns. rel. to flow speed 1−32588
solvation shell vibrations, density fluctuation, oscillations, dynamical interaction, hydrodynamic treatment 1−19073
star, high velocity, interaction with hot dense cloud, flow anal. 1−40542
star formation, collapse and equilibrium of rotating adiabatic clouds 1−44535

hydrodynamics continued
star formation, criteria for fragmentation in collapsing rotating interstellar cloud 1−44538
star formation, numerical study of fission hypothesis for rotating polytropes 1−40473
stellar accretion and winds, solns. to spherically symmetric problems 1−22777
stellar core of 1.4 $M_\odot$, collapse hydrodynamics rot. effect 1−44546
stellar hydrodynamics, IAU Colloquim 58, Los Alamos, USA (1980 August 12 to 15) 1−36452
stellar interiors, stationary spiral flow in polytropic stellar models 1−17824
stellar radiation wind, stability anal., growth times 1−49604
stellar winds, radiatively driven, physical interpretation of line-driven wind theory 1−49606
Stokes' law, microscopic origin 1−38217
lower stratosphere, dynamics in wave number domain rel. to monsoon activity 1−27230
submerged bodies, structural response in confined pools 1−1906
supernova explosions, role of Rayleigh-Taylor instability 1−44584
supernova remnant, Primakoff-Sedov blast wave stability 1−9613
supernova remnant evolution, one-dimensional hydrodynamic calcs. rel. to effect of stellar struct. 1−49783
suspension, particle deposition onto rotating disc under transient conditions, nonstationary transport eqn. soln. 1−35581
suspensions, laminar flow, closed nonlocal model *(Russian)* 1−51862
turbulence spectra, Kolmogorov index values 1−51748
viscous fluid, rolling motion on and off a rigid surface 1−46790
waveguide preform fabrication, collapsing process hydrodynamic theory 1−1736
waves, standing, nonlinear, bounded by cylinders 1−42061
Weddell Sea, ^{226}Ra and ^{210}Pb activities rel. to circulation and mixing 1−4532
X-ray binary stars, stability of accretion column flows 1−17819
H II regions, compact, near K 3-50, radio recomb. obs. rel. to ionised and neutral gas dynamics 1−54587
H II regions, struct. and dynamics during early evolution 1−9616
^{3}He, superfluid, A-phase, orbital hydrodynamic eqns., microscopic derivation 1−11947
^{3}He, superfluid, three-fluid hydrodynamics of A_2-transition 1−25522
^{3}He, superfluid A-phase, hydrodynamics in high mag. field 1−34536
^{3}He-^{4}He mixture, transport phenomena near tricritical point 1−16134
^{3}He-^{4}He quantum solutions, magnetic, thermodynamic, hydrodynamic, high-frequency, kinetic properties, review 1−7409
^{4}He superfluid, hydrodynamics of persistent mass currents 1−7404

hydroelectric power stations
see also dams; hydraulic turbines; pumped-storage power stations; water supply; wave power generation
160 MW project at Kpong, Ghana 1−53545
effectiveness, under severe demands *(Russian)* 1−35601
El Cajon hydroproject in Honduras, engineering data 1−53543
Glockner-Kaprun, 25 year operation, environmental effects *(German)* 1−4154
Glockner-Kaprun development, Austria *(German)* 1−4153
low-head, marketability assessment 1−39732
low-head and small plants 1−13077

hydrogen
see also nuclei with .....
see also deuterium; hydrogen ions; hydrogen neutral atoms; hydrogen neutral molecules; protons; solid hydrogen; tritium
absorption and desorption by $LaNi_4$ 1−4122
absorption and desorption on $LaNi_5$, effect on mag. props 1−7808
absorption and separation of H isotopes by Pd and Pd alloys 1−21767
absorption capacity in $Zr_xTi_{1-x}Cr_2(Mn_2)$ 1−7460
absorption in $(La_{0.5}Ce_{0.5})Ni_{5-x}Co_x$, hysteresis effects 1−2632
absorption in alloys, Lacher theory, multiplateau extension 1−20555
absorption in cc $LaNi_5H_x$ porous metallic-matrix compacts 1−21382
absorption in $CuZr_2(Hf_2)$ (Ti_2), Pd_2Zr (Hf) and $PdTi_2$ (Zr_2) (Hf_2) 1−20558
absorption in $LaNi_5$, calorimetry within hysteresis loops 1−2631
absorption in $ThNi_{5-x}Al_x$, $YNi_{5-x}Al_x$ and $LaNi_{5-x}Cu_x$, low temp. heat capacity 1−30417
absorption in Ti-Cu and Zr-Cu metallic glasses 1−20557
absorption influence on corrosion cracking of austenitic steel 1−3994
absorption kinetics in rare earth-transition metal alloys 1−25580
absorption-desorption cycles on $LaNi_5$ and $(La_{0.9}Eu_{0.1})Ni_{4.6}Mn_{0.4}$, intrinsic degradation 1−2808
adsorbed on Cr (110), electron energy loss spectra 1−16638
adsorbed on GaAs-(110), effect on surface states, optical detection 1−52626
adsorbed on graphite, zero-temp. stability, liquid and superlattice phases 1−34568
adsorbed on Nb, electron-stimulated desorption imaging using cylindrical mirror analyser 1−30556
adsorbed on Ni(110), surface corrugation determ. 1−25568
adsorbed on Ni (100), EELS and secondary electron emission spectroscopies 1−3549
adsorbed on Pt, thermally induced state conversion in low coverage states 1−20567
adsorbed on W, indirect exchange interaction between adatoms on solid surface *(Japanese)* 1−38649
adsorbed on W (100), LEED and angle-resolved electron stimulated desorption, temp. depend 1−25572
adsorbed on ZnO, accumulation layer CESR meas. 1−12400
adsorbed on ZnO, broad line PMR meas. 1−12409
adsorption and absorption by metals, book contrib. 1−47389
adsorption by Er, UPS study 1−39221
adsorption on austenitic stainless steel, influence on friction and wear 1−35399
adsorption on Be (0001), surface relax. and induced stress, SCF MO cluster calcs. 1−38659
adsorption on Fe (110), (111), stepped (111) surfaces, LEED and thermal desorpt. study 1−11975
adsorption on metal, density functional formalism 1−2827
adsorption on Ni(110) and Ni(100), LEED study 1−20575
adsorption on Pd (100) surface, thermal desorpt., work function and LEED study 1−16183
adsorption on Pd-Au alloys, AFS and XPS study 1−47380
adsorption on Pt (100), reconstructed phase surface struct., LEED study 1−2819
hydrogen continued
adsorption on Pt single cryst. faces, charact. electron energy loss spectra *(French)* 1−52419
adsorption on $Rh/SiO_2(TiO_2)$ 1−26766
adsorption on Si (001), effect on surface struct., ion scatt. study 1−34559
adsorption-desorption by Pt, flash desorption spectroscopy study 1−38654
adsorption-desorption kinetics on Mo (100)-C, carbide adlayer effects 1−20568
adsorption/absorption in Nb (110), angle-resolved photoemission study 1−3568
alternative fuel prospects 1−4215
Auger stimulated desorpt., electron-excited, from TiO_2 and $SrTiO_3$ 1−34577
bubble removal from nuclear reactors 1−37011
catalytic combustion in the diffusion controlled regime, corona discharge augmentation 1−29654
chemisorbed on Ni(III) surface, order-disorder transition 1−52289
chemisorbed on Pt, Pt-H bond, NMR 1−34943
chemisorbed on Si(001), LEED and workfunction changes during H chemisorption 1−38632
chemisorbed on W (001) surface, vibrational modes 1−20564
chemisorption, on metal surface, LCAO cluster theory, review *(Japanese)* 1−2810
chemisorption on (111) surfaces of FCC transition metals, embedded cluster calc. 1−12178
chemisorption on ferromag. metals, Anderson-Newns Hamiltonian, appl. to Ni 1−7473
chemisorption on Ni, extended CNDO calc. 1−47447
chemisorption on Pt in acidic soln., LEED-AES electrochem. anal. 1−39685
chemisorption on transition metal surface, binding energies 1−20565
chemisorption on transition metal surface, binding energies 1−20566
chemisorption on W (001), surface struct. and phase diagram 1−47367
coadsorption with CO on Ir (110) 1−7466
combustion characteristics, meas. of burning velocity by laser-Doppler anemometry 1−4087
combustion in gas turbines 1−8768
compressed, vibr. to translational relaxation 1−37315
concn. in N_2 gas streams, measurement 1−21812
content determination in C foil by elastic α scatt. 1−21817
content in Al and its alloys, meas. techniques 1−43722
content in Si semi-insulating film, IR and Rutherford backscattering spectra 1−3378
corrosion of steel, pore growth speed *(Russian)* 1−48568
desorption from 0Kh16N15M3B steel on heating 1−5851
desorption from Mo surface by pulsed laser stimulation 1−47369
desorption from NaCl, quantum statistical theory 1−16187
desorption from Pb, laser-induced 1−35126
determination of diffusible H in welded joints, chromatographic method 1−48757
detonation flame arrestor development testing for Oyster Creek Nuclear station 1−50841
diamond, synthetic films, H occurrence, IR spectroscopy 1−8080
diffraction from Cu (100) 1−48214
diffusion, effect on ^{181}Ta Mossbauer line motional narrowing 1−7987
diffusion and location in YH_x, NMR study 1−7967
diffusion and solubility in U-Ti(Nb)(Mo), alloy and H isotope effects 1−20463
diffusion coeff. and chem. pot. of H atoms in α'-TaH_x and α'-NbH_x 1−20442
diffusion in β-$LaNi_{5-y}Al_yH_x$, PMR relax. time meas. 1−3282
diffusion in β-PdH_x near substitutional Co and Fe, Mossbauer study 1−7978
diffusion in Fe, 222 to 322K *(Japanese)* 1−47298
diffusion in $Hf_2RhH_{2.2}$ and $Hf_2CoH_{3.8}$, PMR and X-ray diffr. studies 1−3280
diffusion in $LaNi_5H_{6.5}$, PMR relax. time study 1−3281
diffusion in Mg_2NiH_4, proton spin-lattice relax. time meas. 1−3285
diffusion in Mg_2NiH_x, spin lattice relaxation time, phase determination NMR obs. 1−38994
diffusion in Ni, under 10-100 keV ion bombardment *(Japanese)* 1−18744
diffusion in Pd-Ag, Ni and monel films, meas. *(French)* 1−52349
diffusion in Pd-Ce and Pd-Y influence of order 1−20459
diffusion in stainless steel 316 under 10-100 keV ion bombardment *(Japanese)* 1−18744
diffusion in Ta, Mossbauer spectroscopy meas. 1−20461
diffusion in Ta, nucl. acoustic reson. study 1−30477
diffusion in Th, neutron scatt. study 1−20462
diffusion in $TiH_{1.81}$ and $TiH_{1.9}$, rot. frame spin-lattice relax. meas. 1−3279
diffusion in ZrV_2H_x, pulsed PMR study 1−7968
diffusion mobility and quantum states in BCC metals, review *(Russian)* 1−52362
diffusion mobility in Mo, intrinsic interstitial effect 1−30483
diffusivity in Pd and Pd alloys, electrochem. method 1−30473
diffusivity in Pd-Cu and Pd-Nb dil. alloys 1−7385
discharge, positive ion contrib., photon flux obs. of secondary mechanisms 1−29938
discharge cleaning of Inconel surface with C(O)(S) impurities 1−26342
discharge in carbon steel, relationship with dissolved (C+N) *(Japanese)* 1−26519
discharge in plain carbon steel containing ϵ-Cu precipitates *(Japanese)* 1−26518
dissociation from $LaNi_{4.6}M_{0.4}H_x$ (M=Si,Ge,B,Ga,In), effect of element M 1−31855
electrolytic production of low-deuterium H_2 in large quantities 1−32056
electron impact excitation, Lyman-α radiation polarisation fraction 1−15018
energy source, prod. by fusion electrolysis 1−35715
FCC lattice, ab initio HF calcs. using full-symmetry anal. of basis-set expansions 1−7500
frequency standard development using compact cavity 1−23192
frequency standard using free-induction technique 1−18200
gas, electron degradation theory, recent developments 1−46848
gas, IR tunable Raman laser 1−19326
gas, KrF laser-induced breakdown, threshold intensity meas. 1−42124
gas, laser-triggered elec. breakdown, pre-spark channel phenomena 1−38177
gas, multiple-Raman-shifting of excimer lasers to blue-green, numerical model 1−51546
gas, positronium form., energy depend. 1−24291

hydrogen continued
gas, stimulated Raman scatt. of CO_2 laser radiation in multiple pass cell 1−46458
gas Paschen characts. in crossed mag. field 1−11615
geocorona, H_α spectral profile obs. indicating H escape 1−36090
gettering by $Zr(V_{1-x}Fe_x)_2$ 1−18238
high pressure melting curves, isotopic effect 1−20504
hot plasma, Fe impurity, inner shell bound-bound oscillator strengths, screened pot. 1−19878
hydrogenic ions, electron scatt., hybrid multichannel algebraic variational method appl. 1−1316
hyperthermal, trapping on pyrolytic graphite 1−25555
implantation in Zr, enhanced superconductivity 1−20899
implanted in steel 10Kh16N4B, effect on martensitic transform. and struct. state *(Russian)* 1−12741
impurity removal by adsorption on activated C and silica gel, temp. effect −129° to −101°C 1−52439
interaction with radiation defects in metals 1−25316
interstitial, lattice distortions and elastic relax. energies in Pd, Ni, Nb, V and Ta 1−7163
interstitial solute, effect on supercond. crit. temp. and lattice parameter in A-15 cpds. and PdH_x, pair pot. model 1−7767
interstitials in Nb, cold work peak 1−8338
ion implantation, trapping, detrapping and replacement of H isotopes in graphite 1−25303
isotopes, μ-mesic molecule energy level hyperfine struct. *(Russian)* 1−29151
lattice dynamics of H in transition metals 1−20340
liberation in corrosion cracking in chloride solution 1−35440
liquefier design using boiling off of He vapour 1−5321
liquid, equation of state, Debye temp., isotope effects, quantum corrections 1−34457
liquid, intermol. pot. and thermodynamic props. 1−30027
liquid, low energy thermal neutron scatt. and transport, collective oscill. effects, theory 1−7071
liquid, semi-quantum fluid, nuclear spin-lattice relax. *(Russian)* 1−31057
liquid, shock compression data 1−38495
liquid, ultra cold neutron source 1−28774
liquid and solid, surfaces, dielec. levels of electrons 1−7690
low-pressure plasma, electron collection radius of electrostatic probe 1−29911
maser, cold, wall shift and atomic line meas. 1−19310
masers, actively and passively operated, amplitude noise 1−19311
masers, fast cavity auto-tuning systems 1−46274
masers, integral storage-bulb and microwave cavity 1−37450
masers, passive, small, design construction and testing 1−19312
masers, passive 1−24383
metal-H systems, phase change behaviour, statistical theory 1−20354
metal-H systems, solvus entropy 1−52316
metallic, supercond., crit. temp. and electron-phonon spectral density calc. 1−20904
methane-H_2-H_2O mixture diluted with N_2, atm. for carburising 1−8481
mobility in $TiCr_{1.8}H_x$, NMR study 1−3283
monatomic, stabilisation at v. low temps. 1−52389
neutral beam parameter meas. using Doppler shift spectroscopy 1−23315
permeability in and interaction with Pd in glow discharge, gas impurities effect 1−31903
permeability in Re and Mo-Re CVD layers, with and without W CVD coating 1−11916
permeation through cathodically charged Fe and mild steel, boundary cond. 1−2700
photocatalytic prod. from H_2O and TiO_2 using platinised TiO_2 catalyst 1−53695
physical adsorption and thermal desorption on ZnO ($10\bar{1}0$) 1−7467
in planetary protoatmospheres, H mass loss due to solar EUV radiation and T Tauri like solar wind 1−36203
plasma, at. flux and density meas. by two step excitation reson. fluoresc. 1−25059
plasma, bundle divertor, transport processes in scrape-off and burial chamber region, numerical simulation 1−25034
plasma, degeneracy of spectral series 1−15603
plasma, dissoc. and ion lifetimes in discharge column, balance eqns., reaction mechanisms *(German)* 1−2152
plasma, elec. cond. calc. 1−51917
plasma, EM wave interaction in plasma background 1−24977
plasma, equation of state up to 10 Mbar 1−46854
plasma, laser spark, shadowgraph patterns by dye laser 1−25065
plasma, nonideal, elec. cond. calc. 1−38059
plasma, nonstationary optical-breakdown waves, numerical simulation 1−25015
plasma, partly ionised, MHD shock wave struct. 1−6949
plasma, recombining, quasi-steady laser oscillation 1−11541
plasma, underdense, magnetically confined, stimulated Raman scatt. 1−46888
plasma afterglow, graphite wall reactivity 1−24997
plasma etching and polymerisation, H and O effect on metal containing fluoropolymer films 1−34089
plasma ionisation equilib., polarisation forces effect 1−46850
pressurised gas leak rates, conversion problem and calc. 1−40802
production from H_2O, appl. of fusion reactors 1−4216
reactivity with $FeTi_x$, surface effects 1−2783
recycling, from stainless steel, plasma-wall interaction simulator 1−24993
recycling on type 304L stainless steel, mechanism, plasma-wall interaction 1−24994
RF glow discharge cleaning of stainless steel 1−23851
saturation of Ti alloys, H purity and pressure influence 1−35378
semiconductor, amorphous, H incorporation, effects on electronic and struct. props., review 1−52067
solid, ortho-phonon excitations, vibr. spectrum rearrangement *(Russian)* 1−30516
solidus curves of H_2 and D_2 *(Russian)* 1−20359
solubility and diffusivity at low conc. in $Fe_{0.5}Ti_{0.5}$ 1−20390
solubility in α-$FeTiH_x$, lattice expansion and surface segregation 1−2634
solubility in Pd-Ti-H system, pressure isotherms, miscibility gap 1−30391
solubility in superpure Al, reversible trapping at grain boundaries 1−11874
solubility in TaV_2 1−20389
solubility in ZrCo and $ZrCo_{0.84}Ni_{0.16}$, plastic deform. and lattice disordering 1−20388
sorption, multiplateau isotherms, Rees theory 1−30553
sorption and interaction with Er, EELS study 1−48204
hydrogen continued
sorption behaviour on transition metal glasses 1−34572
sorption by $DyCo_3$, multiplateau isotherms, Rees theory 1−30553
sorption by Zr, reaction rate, Ni catalyst effects 1−21768
sorption capacity on $LaNi_5$, influence of technological characteristics 1−30549
sorption in Ti, influence of promoter elements in acidic sulphate soln. 1−47370
sorption isotherms, Lacher and Rees theories, enhancement 1−52417
sorption on H_2 on solid CO_2, density, refractive index and sorption capacity meas. 1−25552
sorption-desorption by $CeMg_{11}Ni(Cu)(Zn)$, appl. to hydrogen economy *(French)* 1−20560
sorption-desorption by $LaNi_{5-x}Mn_x$, struct., thermodynamic props. 1−20126
sparks, laser triggered, H_β emission line, electron densities stark broadening meas. 1−38178
steel, influence of H_2 on stress and strain fields *(Russian)* 1−12794
storage, absorption-desorption kinetics in $SmCo_5$ 1−2804
storage, metal hydrides, electronic struct., bonding and chemisorpt. 1−2807
storage, metal hydrides, rechargeable, kinetic and dynamic aspects 1−4046
storage in metal hydrides, surface effects and form. 1−2805
subcooled, boiling heat transfer and vapor bubble dynamics 1−47215
surface activity, determ. from influence of chemisorption on surface magnetism of Fe-Ni 1−34583
tectonic fault activity and H_2 conc. in soil gas 1−49228
TFR 600, H and isotopes recycling and confinement characts. 1−25038
transfer reactions, equilib., Ru complex catalyst action *(German)* 1−21724
uptake on Nb (110) with Pd overlayer, H uptake kinetics, electronic struct. effects 1−42839
uptake rate by Nb and Ta foils, thin metallic overlayer effect 1−2633
Al:H, lattice relax. energy due to impurity 1−30253
B:H, amorphous film, glow discharge deposited, resist. and doping props. 1−38778
B:H amorphous films, optical band gap, substrate temp. effect, solar cell appls. 1−48182
$BaTiO_3$:H, positions of H impurities, IR absorpt. study 1−26185
CdTe-H_2-halogen system, mass transfer of CdTe 1−7395
$DyFe_2$-H_2 system: magnetism and pressure-composition isotherms to 1400 atm 1−20962
Er-H solid solutions, mag. transitions, elec. resist. meas., 4.2 to 100K 1−7833
Fe, flow stress, effect of H_2 on specimens of various purities 1−12817
Fe:H, yield and flow stress, orientation depend. 1−21563
Fe-Ni alloys, creep rupture props., H_2 effects 1−16877
FeTi-H, props. and appl. for H_2 generation and storage 1−21936
H covered TiC(111)Ti-terminated polar surface, electronic props. 1−42844
H masers, passively operated, construction and meas. 1−24382
H, metallic, resistivity, Jupiter's mag. field 1−36212
H utilisation, present state and future prospects *(German)* 1−43733
H^+ desorption from Nb, electron-stimulated, expt. 1−16184
H/H_2 column plasma, dissoc. and ionisation, elec. characteristics *(German)* 1−34133
H-H_2 mixture, transport coeffs., energy distrib. function, dissoc., collision freq. *(German)* 1−6927
H-Li plasma, press. and main parameters meas. 1−46939
H-O_3-CO_2 mixture for gasdynamic chemical laser, expt. results 1−33673
H-plasma, optically pumped, transition processes due to resonant laser radiation *(Russian)* 1−29851
H^+-He^{++} alloys, resistivity, Jupiter's mag. field 1−36212
H+PCl_3, EPR and mass spectrometry, rate const. determ., reaction mechanism anal. *(French)* 1−53415
H_{14} ring system, correl. holes, CI calc. 1−51137
H_2 adsorbed on SiO_2, use of vacuum cell for studying IR spectra 1−44944
p-H_2, liquid, dielectric constant obs., 15 to 32.2K 1−47998
H_2/halogen fuel cell model systems heat rejection and thermal efficiency 1−48828
H_2-CO_2-N_2-CO-H_2O mixture, amplification and power of gas dynamic laser 1−10982
H_2-CO-methane ternary system vapour-liquid equilibrium obs. at −180°C and 100 to 150 atm. 1−47216
H_2-D_2, liquid target, design, closed gas circulation system 1−28764
H_2-D_2 liquid solutions, dielectric const. and molar volume *(Russian)* 1−3318
H_2-D_2 soln., molar and excess molar vol. determ. by dielectric const. meas. 1−52209
H_2-He leak, calibrated, for qualitative estimation of H_2 and He in 10^{-6} to 10^{-8} l Torr s^{-1} 1−44941
H_2-He mixtures, low-current moderate-press. elec. discharges, expt. and calc. 1−42228
H_2-N_2-CO ternary system vapour-liquid equilibrium obs. at −180°C and 100 to 150 atm. 1−47216
H_2-N_2-methane, ternary system vapour-liquid equilibrium obs. at −180°C and 100 to 150 atm. 1−47216
H_2-O_2 reacting mixtures in a well stirred reactor, sensitivity of elemental reactions 1−17317
H_2-O_2-H_2O mixtures, vibrational energy transfer for gas-cooled rapidly in supersonic nozzles 1−51843
H_2-SF_6 lasers, discharge-pumped, electron beam preirradiation effect 1−15161
H_2-tetralin mixture, vapour-liq. equilib., meas. apparatus, high press. and temp. 1−40790
H_2+D_2, vibr.-vibr. and vibr.-translation transition investigated using Schrodinger eqn., energy exchange processes 1−6358
H_2+methane, methane vibr.-translational relax. time from spectrophone sensitivity press. depend. 1−46093
H_2+Mg⇌MgH_2, diffusing species identification 1−4069
H_2+N_2O+CO, effect on CO_2 vibration temperature in gasdynamic laser 1−10983
H_2+Ne, Lorentzian diffusion, temperature depend. 1−51896
$2H_2$+O_2+7Ar, overcompressed detonation wave, lifetime of multifront structure 1−13009
H_2+Xe, Lorentzian diffusion, temperature depend. 1−51896
H_6 ring system, correl. holes, CI calc. 1−51137
H_xWO_y amorphous film, optical, EPR and H content meas. before and after coloration 1−8043

hydrogen continued
H(spin down) gas, press. meas., adsorpt. energies and surface recomb. rates on He 1−47320
n-InSb:H film, elec. transport props. 1−52673
InSb:H films, Hall coeff., carrier mobility rel. to impurity in-diffusion 1−38870
KCl:H, electronic struct. of H of anion sites 1−2908
Li-H, props. and appl. for H_2 generation and storage 1−21936
Li_3NiH, tunnelling system detection by excess sp. ht. 1−34484
MoO_3:H^+, ion implanted, profile, SIMS study 1−20253
Nb:H, self-trapped state of H interstitials, theory 1−2911
Nb:H foil, H absorpt. and its effect on elec. props. 1−2932
Ne-H_2 laser, high press., 585.3 nm Ne transition obs. 1−46296
Ne-He glow discharge, elec. characts. and degree of dissoc. of positive column 1−15678
Ne-n-H_2(D_2) mixture, intermol. free length and interactions 1−15783
Ni-H, electronic struct. of interstitial H by cluster-in-condensed-matter technique 1−20653
Ni-H_2 batteries, use of $LaNi_5H_x$-type hydrides 1−21875
Ni-O_2-H_2 surface reactions, SIMS study 1−31912
Ni-V (1.5-13.4 wt.%) solid solns., H diffusivity 1−2693
Pd-H, elastic const., temp. depend., effect of H, US meas. 1−42447
SF_6-H_2 gas mixture, pulsed HF laser, initiating discharge characts. 1−1555
SF_6-H_2 mixture for compact HF laser 1−24412
Si:F, H, amorphous, glow-discharge, electroreflectance and Raman scatt. studies 1−35044
Si:F, H, amorphous, MIS solar cells, high-efficiency, theory and expt. 1−43782
Si:F, H amorphous thin film as a MIS solar cell 1−39765
Si:F,H, amorphous, photocond., recomb. mechanisms, influence on solar energy conversion 1−42814
Si:F,H amorphous film, F atom behaviour to 900°C, gas evolution and IR absorpt. 1−48670
Si:F,H amorphous films, bonding of F, IR spectra study 1−39095
Si:F,H amorphous films, IR and photoemission spectra 1−53005
Si:F,H glow-discharge films, amorphous, electronic and vibr. props., electrolyte electrorefl. and Raman spectra 1−53006
Si:H, amorphous, compositional anisotropy and microstruct., electron microscopy, Raman and IR spectra study 1−52070
Si:H, amorphous, Compton profile meas. 1−21288
Si:H, amorphous, dehydrogenated, rehydrogenated, dark and photocond. changes 1−16310
Si:H, amorphous, derivation of low-energy optical absorption spectra from photocond. 1−3018
Si:H, amorphous, determination of the density of gap states: field effect and surface adsorption 1−30613
Si:H, amorphous, elec. and optical props., book contrib. 1−38816
Si:H, amorphous, electron Hall mobility, 200 to 550K 1−30767
Si:H, amorphous, electron transport, drift mobility and junction capacitance 1−30784
Si:H, amorphous, film deposition by plasma spectroscopy, control and anal. *(Japanese)* 1−26385
Si:H, amorphous, film-substrate and film-vacuum interfaces, field effect meas. 1−7622
Si:H, amorphous, gap states, review 1−16221
Si:H, amorphous, gap states and recomb. processes *(Japanese)* 1−43175
Si:H, amorphous, gap states, TSC and optically stimulated current meas. 1−52577
Si:H, amorphous, internal elec. fields, luminesc. decay time meas. 1−52983
Si:H, amorphous, intrinsic and P-doped, surface photovoltage, band-bending and surface states 1−16338
Si:H, amorphous, nongeminate recomb. of photogenerated holes, meas. 1−7637
Si:H, amorphous, p-n junction solar cells, current collection mechanism obs., using spectral response analysis 1−43783
Si:H, amorphous, photogeneration, optical absorpt. and transport 1−7665
Si:H, amorphous, photoinduced optical absorpt. spectra 1−43145
Si:H, amorphous, pulsed ^1H NMR study 1−52856
Si:H, amorphous, RF sputtered, electron transport, photoelect. props. 1−4193
Si:H, amorphous, radiative recombination, high press. effect, photoluminesc. 1−48160
Si:H, amorphous, reactively sputtered, ^{29}Si NMR spectra study 1−52854
Si:H, amorphous, Schottky barrier solar cells, geminate recomb. effect on photovoltaic characts. 1−39766
Si:H, amorphous, sputtered, effect of substrate temp. and deposition rate on photocond. 1−3012
Si:H, amorphous, struct., computer model 1−47003
Si:H, amorphous, struct. and lattice dynamic, random network model 1−52069
Si:H, amorphous, vidicon target of p-i-n struct., photocond. props. 1−42813
Si:H, amorphous evaporated film prep. and props. 1−43275
Si:H, amorphous film, H content, IR spectra and 25 MeV α-particle elastic scatt. studies 1−39127
Si:H, amorphous film, luminesc. decay, surface and thickness effects 1−21251
Si:H, amorphous films, plasma-deposited, proton NMR studies 1−43025
Si:H, amorphous films, reactively sputtered, rare gas incorporation, XPS determ. 1−21346
Si:H, amorphous films, recombination, Auger effects and nongeminate recomb., luminesc. study 1−48162
Si:H, amorphous n-type, obs. of electron and hole traps by deep level transient spectroscopy 1−30668
Si:H, amorphous p-i-n drift type solar cell, germinate recomb. process, photovoltaic behaviour 1−53614
Si:H, amorphous plasma-deposited semiconductors, doping-precipitated morphology 1−47395
Si:H, amorphous solar cells, photoconductivity and transport 1−32029
Si:H, amorphous sputtered, optical props. in 0 to 13 eV photon energy range 1−31215
Si:H, amorphous thin film, band-bending, photoluminesc. study 1−52984
Si:H, amorphous thin films, chemical modification 1−32047
Si:H, crystalline and amorphous, bombardment-produced disorder and SiH bonds 1−34379
Si:H, density of states, CPA calc. 1−47425
Si:H, F, As, amorphous, thermoelec. power and elec. cond. meas. 1−47691

hydrogen continued
Si:H, F films, amorphous, RF glow-discharge prep., dark cond. and photocond. props. 1−34595
a-Si:H, gap state spectroscopy using two beam photoconductivity 1−38813
a-Si:H, glow discharge films for solar cells, photovoltaic props. 1−4195
Si:H, highly resistive films, acoustoelectric meas. 1−47713
Si:H, luminescence fatigue, decay curves 1−48165
Si:H, P, amorphous films, plasma deposited, crystn., doping efficiency, elec. cond. 1−47393
Si:H, P film, nucleation of microcrystallites 1−47401
Si:H, reactively sputtered, amorphous, kinetic anal. of H evolution 1−34574
Si:H,P film, amorphous, P conc. determ. using AES 1−30262
Si:H,P films, amorphous, trap controlled dispersive transport by transient photoresponses 1−52601
Si:H amorphous film deposition, emission spectroscopy of glow-discharge and sputtering plasmas 1−29910
Si:H amorphous films, ^{29}Si NMR cross polarisation magic angle spinning spectra 1−47957
Si:H amorphous films, decomp. mechanism, IR spectra study 1−21720
Si:H amorphous films, glow-discharge deposition, prep. conditions and characterisation, review 1−30589
Si:H amorphous films, photocond., trapping and recombination 1−47710
Si:H amorphous Schottky barrier diodes, carrier transport model 1−8709
a-Si:H characterisation of glow discharge and sputtered deposited films for solar cells 1−4194
Si:H film, B doping technique using glow discharge 1−42406
Si:H films, amorphous, cond. band transport, struct. inhomogeneity effect 1−52561
Si:H films, amorphous, glow discharge prep., elec. props. 1−26392
Si:H RF sputtered films, amorphous, oscill. strengths of Si-H vibrs., charges induced by the He^+ ion bombard. 1−3517
a-Si:H Schottky barrier diode, band struct., conductance-capacitance freq. depend. 1−7704
Si:H sputtered films, amorphous, guided wave optical spectroscopy, absorpt. spectrun, 0.8 to 1.9 eV 1−53004
$Si:H_x$, amorphous, Schottky-barrier solar cells, carrier collection efficiency, diffusion model 1−48838
Si:O,H, amorphous, plasma deposited, luminesc. props. 1−21265
Si_xC_{1-x}:H, amorphous alloy, RF reactively sputtered films, control of optical gap 1−8708
Si_xC_{1-x}:H, amorphous system, chemical bonding states, XPS and IR study 1−52103
Si_xC_{1-x}:H films, plasma deposition, reaction mechanisms, mass spectrometry study 1−43278
$Si_{1-x}Ge_x$:H glow discharge films, amorphous, struct. props., IR absorpt. and H evolution meas. 1−52071
Si_xGe_{1-x}:H amorphous film, electronic and optical props. 1−30853
SiH_4-NH_3-H_2 plasma, optical emission spectroscopy during growth of Si_3N_4 1−46938
SiN_x:H plasma-deposited films, ESR study 1−42994
a-Si:F, H glow discharge films, for solar cells, photovoltaic props. 1−4195
SnO_2/a-Si(H) electron-beam deposited heterojunction solar cells, I-V characteristics 1−8745
Ta-H system, ^{57}Fe Mossbauer study 1−3305
Ti combustion in H_2, formation of hydrogenated products 1−13007
Ti:H, electromigration, concentration and phase change effect 1−42579
Ti-Al-H, model of sustained load cracking by hydride growth 1−8428
Ti-B-Cl-H CVD system, phase diagram calc., 800-1200K 1−35244
TiO_2:H^+, ion implanted, profile, SIMS study 1−20253
transition metal-H system, intrinsic embrittlement 1−21577

hydrogen bonds
acetic acid-imidazole system, H bonding and proton transfer, hydration effects, PCILO calcs. 1−1107
acetonitrile, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231
acetonitrile, vibr. relax., solvent effects, H bonds, Raman obs. 1−33463
acridine, soln., fluoresc., solvent effects, picosecond kinetics 1−33493
alcohol-HCl complexes in Ar matrix and CCl_4 solns., IR spectra and H bonding 1−14881
alcohols, free O-H stretching vibr. fourth overtone, solvent effects 1−28963
alcohols, liq., dielectric loss, relax. and permittivity 1−7999
alkali metal cpds., $AH_3(SeO_3)_2$, H-bonded, near IR spectra, inter- and intra-proton tunnelling 1−26184
alkaline earth metal hydrogen compounds, H-bonds, ^1H and ^{19}F NMR data, struct. anal. 1−6283
aminocyclophosphazene derivatives, ^{35}Cl NQR, variable temp. behaviour, FT-NMR meas. 1−26071
ammonium Rochelle salt, cryst. struct. at 300K, X-ray study 1−7153
ammonium tetraphenylborate, IR spectra, cryst. struct. and H bonding 1−16558
aniline, binary and ternary solns., H bond behaviour and electronic absorpt. spectra 1−12521
aniline derivatives in cyclohexanes (1:4 dioxane) soln., relax. time, permittivity and dielec. loss 1−43064
azabicyclospirohydantoins, IR spectroscopic studies 1−12493
bateriorhodopsin, proton pump, theoretical mol. models, H bond chains 1−48954
benzophenone, photostabiliser, luminesc. spectral props. investig. 1−48149
N-benzylaniline, anomalous vapour pressure, molecular flexibility, H bonding effect *(Japanese)* 1−42525
n-butanol-carbonyl complexes, dipole moment enhancement 1−33576
4-tert-butyl-4-hydroxy-2.2,6.6-tetramethylpiperidine derivatives, conformation, proton NMR and IR obs. 1−14889
carbonyl-phenols liqs., H-bond interactions, paramag. polarisation 1−15774
carboxyl group, H bonding effect on bond lengths and angles 1−24283
carboxylic acids and anions, ^1H NMR chemical shift, H bonding 1−14932
2-chloroethanol, conform. equilib. in H-bonding solvents, Raman spectrosc. obs. 1−51214
chloroform in cyclohexane/methylbutylphenol solvent, H-bonded complex, ^1H NMR obs. 1−29003
complexes, ^{13}C NMR cryst. struct. investig. 1−7958
crystals, O-H...O bond geometry, neutron diffr. determ. 1−30129
diazepam-chloral hydrate complex, NQR obs. 1−10757
dichlorophenols, Cl NQR and H-bonding, Zeeman effect 1−21077
dilute aqueous solns., H bonding, theory 1−42284

hydrogen bonds continued
dimethyl ether, H bonds, O-methyl substituent effect, STO calcs. 1−6155
2,3- and 2,4-dimethyl-3-hexanol, US and ^{13}C NMR studies, H-bonds, conformational changes 1−20322
dissociation reactions, crossed laser and molecular beam study 1−31887
electron donor molecules, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231
ethanol-butylamine complex, H-bonded, heat of mixing determ. 1−47241
ethylene glycol, conform. equilib. in H-bonding solvents, Raman spectrosc. obs. 1−51214
fluorinated alcohols −NO free radical hydrogen bonding dynamics 1−47974
formamide oligomers, H-bonded, mol. electrostatic pot. 1−46057
formic acid, ^{2}H and ^{17}O nuclear quadrupole coupling const., H-bonding, change of state and mol. distortion effect. 1−45987
formic acid dimer, double H^+ transfer and charge transfer transitions in H bonded system 1−14818
furan-HCl, H bonding, ab initio SCF MO calcs. 1−1068
furan-HX, H bonding, ab initio SCF MO calcs. 1−1068
glycine and its H-bonded dimer, NMR, proton shielding tensors, MO calc., PCILO bond orbitals 1−51224
$H_2S.H_2CO$ H-bonded complex, ab initio MO study 1−24032
p-halophenols in non-polar solvents, H bond intermol. assoc., dielectric relax. 1−12451
hexamethylenetetramine, IR and Raman spectra of struct. and stability 1−43116
ortho-hydroxyazobenzenes, intramol. H bonding 1−10669
o-hydroxybenzophenones, photostabiliser, luminesc. spectral props. investig. 1−48149
hydroxyl-containing compounds, vibration freq. of H groups, intermol. and ion-mol. interactions 1−10801
1-p-hydroxyphenyl-(1′-p-phenolate)-dithianium monoperchlorate, mol. and cryst. struct. 1−30217
1,1′di-p-hydroxyphenyl-(1″-p-phenolate)-trithiophanium biperchlorate, cryst. struct. determ. 1−30218
8-hydroxyquinoline in solvents, intramol. H bonds, IR spectra 1−33459
ice, phase transition, thermodynamic energy computed using Monte Carlo methods 1−38511
imidazole, H^+ motion in H bond 1−34276
imidazole crystals, H-bonds, ν_s modes, anharmonic interactions 1−26182
imidazole crystals, H-bonds, polarised light IR spectra meas. 1−21181
imidazole crysts., H-bond energy coupling, cryst. effect 1−34278
isophthalic acid, vibr., H bands, IR and Raman obs. 1−31155
isosarmentosin, cryst. struct. *(Chinese)* 1−52124
ketones, acyclic, cyclic, keto-enol tautomerism, ab initio investig. 1−4084
lactams, 1,3- and 1,4-, intermolecular NH....O H bonds, selective binary and ternary NMR 1−41457
liquid mixtures, H-bonded, lattice model, phase diagram, critical points, Ising model 1−34468
liquids, H-bonded complexes, theory of vibr. IR bandshapes 1−48052
living organism muscle, resonance energy transfer between H bonds *(Russian)* 1−35741
maleic hydrazide, layer struct. anal., H bond, van der Waals and lattice energies 1−20111
methanol, H bonds, O-methyl substituent effect, STO calcs. 1−6155
methanol-formaldehyde complex in solid N, IR spectra 1−1229
methyl cyanide-HF, angle deformation force field, centrifugal distortion constant 1−10712
2-methyl-6-t-butylphenol in chloroform/cyclohexane solvent, H-bonded complex, ^{1}H NMR obs. 1−29003
N-methylacetamide in CCl_4 solvent, H bonding 1−10724
N-methylformamide in CCl_4 solvent, H bonding 1−10724
5-methylresorcinol, IR and Raman spectra of struct. and stability 1−43116
5-methylresorcinol-hexamethylenetetramine, IR and Raman spectra of struct. and stability 1−43116
molecules, intramolecular H-bonds studied using IR and NMR spectroscopy, proton polarisability 1−14913
molecules IR band intensities of fundamental and overtone transitions, H bonding effect 1−45948
naphthalene, PMR and H^+ struct. in lyotropic mesophase 1−21065
7-norbornenol, intramol. H bonding calcs. 1−1069
1- and 2-octanol, US and ^{13}C NMR studies, H-bonds, conformational changes 1−20322
oligopeptide conformation, Monte Carlo studies 1−39874
oxetane...HF heterodimer, geometry, H-bonds, IR and microwave spectra, rot. and centrifugal distortion const. 1−24145
oxirane-HF, gas phase, hydrogen bonding, investigated by IR and microwave spectrosc. 1−24284
oxymorphone electronic structure, influence of intramol. H bonding 1−51087
pentachloroethane-N,N-dimethylcyclohexylamine H bond chem. shift 1−6287
perfluoro-t-butanol-NO complex, H-bonding studied by DNP and ^{1}H and ^{19}F relax. meas. 1−14949
phenetidines, binary and ternary solns., H bond behaviour and electronic absorpt. spectra 1−12521
phenolic Mannich bases, dil. benzene solns., relaxation processes, dielectric permittivity meas. 1−34979
phthalazine hemiperchlorate, H bonds, Evans holes, struct., X-ray diffr., IR obs. 1−28962
phthalic acids, vibr., H bands, IR and Raman obs. 1−31155
polar liquids, nonlocal ion screening, solvent description in electrolyte theory 1−52883
poly(2-hydroxyethyl methacrylate), stereoregular, thermal, dielec. and dynamic mech. relax. 1−16522
polymer gelation in solvent, approx. treatment 1−24297
polypeptides, helix-coil transition based on correlated walks 1−39879
potassium fumarate dihydrate, Raman spectra, existence of H-bond *(French)* 1−48076
potassium hydrogen difluorofumarate, cryst. struct., hydrogen bonds, mol. vibr., X-rays obs. 1−15884
potassium hydrogen difluoromaleate, cryst. struct., hydrogen bonds, mol. vibr., X-rays obs. 1−15884
proteins, hydrogen bonds, quantum theory 1−10650
proteins hydrogen bonds, quantum theory 1−10651
psuedo one-dimensional H bonded ferroelectrics, soliton excitations 1−3339
purine+water, base stacking, intermol. energy and interactions 1−1116
pyridine, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231
hydrogen bonds continued
pyridine-pyrrole H bonded system, H^+ transfer, B^--decay effect 1−1074
2-(α-pyridyl N-oxide)ethane sulphonic acid, hydrogen bonds, NMR and IR obs. 1−10734
quinoline monohydroxiderivatives, IR spectral anal. *(Spanish)* 1−6259
solids, H bonds, H^+ chemical shift tensors, D quadrupole coupling and bond distances correl. 1−3276
squaric acid, phase transition, pseudospin model for H bond system 1−34994
tartaric acids in aqueous soln., conformations by ^{1}H and ^{13}C NMR 1−10753
Tenaciss igenin, steroid, mol. and cryst. struct. *(Chinese)* 1−4245
terephthalic acid, vibr., H bands, IR and Raman obs. 1−31155
tert-butanol, solid, phase transformations, IR study 1−16035
tertiary amines-carboxylic acids complexes in Ar matrix, IR spectra 1−10735
1,4,9,12-tetra-azacyclohexadecane-3,10,13,16-tetraone, cryst. and mol. struct. 1−25255
tetrapeptide model, α-helix and H bonding quantum mech. calcs. 1−24028
thioacetamide-protonacceptor complexes, mol. vibr., hydrogen bonds, IR obs. 1−14892
N-thiol-2 ethyl acetamide, Raman and IR spectra, struct., vibr., intermol. H-bonds *(French)* 1−24156
thiol-2 N-methylacetamide, Raman and IR spectra, struct., vibr., intermol. H-bonds *(French)* 1−24156
thiol-3 N-methylpropanamide, Raman and IR spectra, struct., vibr., intermol. H-bonds *(French)* 1−24156
cis-thiolformic acid, vibr. freq., harmonic and anharmonic force fields, ab initio calcs. 1−10713
thymine anion, tautomerism in solid state, IR and Raman spectral study 1−21195
2,4-toluene diisocyanate based polyether polyurethanes and polyurethaneureas, struct.-props. comparison 1−15819
transition metals, chemical hydrogen bond potential *(Russian)* 1−20114
triphenylphosphine oxide complex, with perchloric acid, 2:1, hydrogen bond, struct. study 1−30222
vitamin K_1-dihydrovitamin K_1 mixture, visible and IR spectra, charge transfer interaction, hydrogen bonding 1−39120
water, H bonds, O-methyl substituent effect, STO calcs. 1−6155
water, heat capacity and H bond system, press. effects 1−47249
water, liq., H bonding, theory 1−42284
water, low temperature behaviour, percolation and gelation effects 1−38241
water+alicyclic ketones, hydrogen bonded complexes, IR spectra 1−51207
water+aliphatic ketones, hydrogen bonded complexes, IR spectra 1−51207
o-xylil-diamine N-oxide perchlorates, intramol. polarisable H-bonds in IR absorbance, screening effect 1−19096
o-xylil-diamine perchlorates, intramol. polarisable H-bonds in IR absorbance, screening effect 1−19096
$BaF_2.HF$, H-bonds, ^{1}H and ^{19}F NMR data, struct. anal. 1−6283
$CaF_2.2HF$, H-bonds, ^{1}H and ^{19}F NMR data, struct. anal. 1−6283
Cr(III) complex, tetranuclear rhodoso and Pfeiffer complexes, magnetochem. props. 1−38917
$Cu(NH_3)_2CO_3$ layer compound, exchange coupling, effective field approx. 1−38923
$FH...H_2$, H bonded complex, stretching cubic and quartic force consts., ab initio SCF-MO calcs. 1−6158
HCN, CNDO/2, PRDDO and MNDO calc., H-bond strengths, intermol. separations 1−45855
HCl, liquid struct., assoc., H bonds, intermolecular pot. 1−42287
HDO in D_2O, overtone OH stretching spectrum, depend. on H-bonds 1−1234
HF-SO(SO$_2$)(SO$_3$)(sulphoxide)(sulphite) complexes, electronic struct., CNDO/2 calcs. 1−37118
HNO_3-NH_3, H bonded system, ab initio SCF MO calcs. 1−45839
H_2O, CNDO/2, PRDDO and MNDO calc., H-bond strengths, intermol. separations 1−45855
H_2O, liquid, struct. modeling by Monte Carlo methods, intermol. interactions calc. by pot. functions 1−7069
H_2O-$H_2O(HR_2S)$ complex, H bonds, energy calcs. 1−37360
$(H_2O)_8$ octamer struct., mol. interactions, polarisation model 1−6419
HOD, vibr. spectra in $H_2O(D_2O)$ solns., H bonding, fluctuation model calcs. 1−28984
HPO_4^{2-} dimen., vibr. charact. from $SnHPO_4$ single cryst. Raman spectra 1−48090
H_2S-$H_2S(H_2O)$, complex, H bonds, energy calcs. 1−37360
KD_2PO_4-like ferroelectrics, relaxation processes *(Russian)* 1−34983
KH_2PO_4, near IR spectra, inter- and intra-proton tunnelling 1−26184
$KHSO_4$, Raman and IR spectra study 1−21193
KH_2pO_4, paraelectric, E-mode Raman spectra, hydrogen bonds 1−39080
$K_3[Pt\{(SO_3)_2H\}Cl_2]$, X-ray cryst. struct. determ., extremely short H bond 1−15850
LiF:OH, IR absorpt. spectra, hydrogen bond formation on γ-irrad. 1−20263
$Li^+(H_2O)_2$, H bonds, metal ion effects calcs. 1−28871
$(NH_3)_3$, 3-body nonadditive interaction energy calcs. 1−46049
NH_4 salts, proton spin-lattice relax., NH_4^+ ion reorientation 1−52860
$(NH_4)_3In(SO_4)_3$, low-temp. form, X-ray cryst. struct. determ. 1−15844
NH_4NO_3:NiO(CuO), phase transitions 1−7124
NaH_2PO_4, cryst. struct. neutron diffraction at room temp. 1−47053
OH, IR and Raman stretching bands, H-bonded, elec. anharmonicity effect 1−37208
OH-O H bond, empirical pot. calcs. 1−41454
RbH_2PO_4, cryst. struct. in paraelec. and ferroelec. phases 1−2403
SH, IR and Raman stretching bands, H-bonded, elec. anharmonicity effect 1−37208
Si, amorphous films, RF sputtering in silane, IR spectra and elec. cond. 1−43259
Si, defect formation mechanism during heat treatment *(Chinese)* 1−25272
Si-H, LEED and workfunction changes during H chemisorption 1−38632
$SnHPO_4$ single cryst., polarised Raman spectra 1−48090
$SrF_2.HF$, H-bonds, ^{1}H and ^{19}F NMR data, struct. anal. 1−6283
Ti(0001), H-bonding, site and nature, UPS results anal. 1−3038
$VOSO_4.3H_2O$, cryst. struct., H bonds *(French)* 1−30144

hydrogen compounds
see also deuterium compounds; hydroxonium ion; ice; steam; tritium compounds; water
close-coupling studies of rotationally inelastic HF-HF collisions at hyperthermal energies 1−37301
cyclopropane-HCl complex, geometry identification from rot. spectrum 1−51185
dioxonium ions, proton transfer in cryst. salts, wide-line NMR obs. 1−3269
first-row hydrides, ground and core hole states, LCAO MO SCF calcs. 1−19028
halides, high resolution VUV Rydberg state spectroscopy 1−28912
HF, CW chemical laser, ring model for cold reaction 1−24415
hydrides, electron-rich, VSEPR model, ligands of low electronegativity 1−10673
hydrides of intermetallic compounds, stability, struct., kinetics, review 1−53450
hydrides of second row atoms, potential curves studied by unrestricted Moller Plesset method 1−19022
metal hydrides, ion irradiation, decomposition and accel. gas release 1−4115
three-body Van der Waals coefficients, combination rules 1−1298
Br_2-HBr-H_2O system, for thermochem. H_2 prod. 1−43818
GaAs (100) MBE surface props., H_2S adsorption effects 1−16175
H containing molecules, electron impact dissociative excitation 1−19197
H, Na-Y zeolites, neutron diffr. study of cations and protons distrib. 1−7145
HBO^-, localised mol. orbitals, ab initio calc. 1−19013
H_3BO, structure props., ab initio SCF MO calcs. 1−10648
H_3BO_3, isotope effects, IR and Raman obs. *(German)* 1−14898
HBr chemical laser, high power and single line operations 1−41727
HBr, dipole moment and pot. energy functions, SCF and CI calcs. 1−1300
HBr, dipole moment functions and vibr. rot. transitions 1−37171
HBr, electronic transition, rotational anal., UV obs. 1−45929
HBr-H_2O mixtures, PVT relations up to 550°C and 1500 bar 1−38500
HBr+F reaction, HF vibr. rot. distrib. and IR chemiluminesc. 1−4062
HBr+HCN(DCN), vibr. energy transfer 1−6362
HBr+He, isotropic interaction pots., differential scatt. cross-sections 1−6342
HBr+LiH_2, vibr. excitation, relax, rates determ. 1−24207
H_2CLiF in singlet and lower triplet states, pot. hypersurface, SCF MO LCAO, INDO and STO calc. 1−33389
HCN, ^{15}N nucl. mag. shielding, calc. expts. 1−37132
HCN and isotopes abundance distrib. in Orion A 1−49838
HCN, CNDO/2, PRDDO and MNDO calc., H-bond strengths, intermol. separations 1−45855
HCN, chemical shielding and coupling constants, isotope effects, NMR obs. 1−19121
HCN, harmonic vibr. freq., CI and SCF calcs. 1−1063
HCN in Jupiter atmosphere, lightning synthesis upper limit 1−4816
HCN, pot. energy surfaces, thermal isomerisation calcs. 1−35507
HCN, RF-IR double resonance spectroscopy using colour centre laser 1−46001
HCN, role of triplet H_2CN^+ isomers in form. in interstellar clouds 1−4066
HCN^-, localised mol. orbitals, ab initio calc. 1−19013
HCN+$C_2H_3^+$ reactions, modified selected ion flow tube study 1−17036
HCN+DCN(HBr)(HCl)(DCl)(DBr), vibr. energy transfer 1−6362
HCN+HCN^+ reactions, reaction rates and prod. distrib. meas. by ICR techniques 1−53407
HCN+methyl cation→$CH_3.HCN^+$, radiative assoc. at low press., ICR obs. 1−12969
HCN+O reaction, rate constant, shock wave meas. *(German)* 1−21698
HCN^++HCN(CH_4)(NH_3) (CO)(CO_2)(N_2)(O_2) reactions, reaction rates and prod. distrib. meas. by ICR techniques 1−53407
H_2CN^+ triplet isomers, role in form. of HCN (HNC) in interstellar clouds 1−4066
HCO_3, localised mol. orbitals, ab initio calc. 1−19013
HCO^+ and isotopes abundance distrib. in Orion A 1−49838
HCO^+ in southern mol. clouds detection at 89 GHz 1−54595
HCO^++CO, clustering energies and stable struct., ab initio LCAO SCF MO and SCEP calc. 1−33395
HCO_3^- hydration complex, ab initio study 1−28857
HCl aqueous soln., diffusive interface, heat and mass transfer 1−1960
HCl burning-ship exhaust fume conc. determ. using DAS-Lidar system *(German)* 1−21970
HCl chemical laser, CW elec. initiated, laser performance, computer model and expt. meas. 1−41678
HCl chemisorption on Si (111), UV PES study 1−11981
HCl, conc. in stratosphere from far IR meas. 1−17651
HCl, dipole moment and pot. energy functions, SCF and CI calcs. 1−1300
HCl, dipole moment functions and vibr. rot. transitions 1−37171
HCl, dissociative attachment rates, rate consts. 1−37345
HCl, electric-field gradient at Cl nucleus, quantum mechanical, atomic orbital and STO calc., NQR freq. 1−1085
HCl, electron impact dissociative attachment to vibr. and rot. excited mol. 1−46139
HCl, electron ionisation, binding energies at different orbitals momenta 1−1392
HCl, electron scattering potential, S-matrix anal. 1−29126
HCl, electron transport, attachment and ionisation, arrival time spectra 1−37344
HCl, excited states, pot. curves for valence states, ab initio CI calc. 1−37129
HCl, in atmosphere, detection by fast-response gas filter correl. IR spectrometer 1−39859
HCl, in atmosphere IR spectral obs., vertical profile and total content 1−36028
HCl in solns., angular motion, for IR bandshapes 1−6249
HCl, liq., partial struct. factors determ. by neutron diffr. and isotropic substitution 1−46981
HCl, liquid struct., assoc., H bonds, intermolecular pot. 1−42287
HCl, nuclear spin-spin coupling const., coupled HF and finite perturbation CI calc. 1−51107
HCl pulsed laser, method for enhancing output energy 1−1556
HCl, rovibr. line intensities, rare gases press. effects 1−45926
HCl, stratosphere contamination by volcanic eruptions 1−27241
HCl, stratospheric, two-dimensional model calcs. 1−22443
HCl, susceptibilities and mag. shielding const., coupled HF calc. 1−33392

hydrogen compounds continued
HCl, valence orbitals, momentum distrib., ionisation pot., binding energy spectra 1−6317
HCl, vibrational energy transfer and relaxation, low temps., fluoresc. obs. *(German)* 1−19125
HCl^-, negative ion states, electronic struct. 1−37126
HCl^+, interstellar maser 1−9640
$H^{35}Cl$ ($H^{37}Cl$) press. broadening of vibr.-rot. overtone bands 1−1285
HCl-Ar mixture externally sustained discharge, energy characts. and stability 1−42248
HCl-He mixture externally sustained discharge, energy characts. and stability 1−42248
HCl-N_2, (NO), (methane), (H_2) mixtures, vibrational energy transfer and relaxation, low temps., fluoresc. obs. *(German)* 1−19125
HCl+F reaction, HF vibr. rot. distrib. and IR chemiluminesc. 1−4062
HCl+HCN(DCN), vibr. energy transfer 1−6362
HCl+HF and HF+HCl systems, press. induced spectral line shifts 1−51246
HCl+He, CS and IOS degeneracy averaged differential cross sections, wave param. effect 1−6364
HCl+He, isotropic interaction pots., differential scatt. cross-sections 1−6342
HCl+LiH_2, vibr. excitation, relax, rates determ. 1−24207
HCl+$O(^1D_2)$, product state distrib. determ., laser photolysis and laser induced fluoresc., rot., vibr. 1−39588
HCl^++Xe charge transfer reaction 1−46114
$H^{35}Cl$+$H^{37}Cl$, near-reson. vibr.-vibr. energy exchange, temp. depend. 1−1334
HCl(Br):Sb^{3+} complex, aqueous solutions, luminescence spectra and kinetics *(Russian)* 1−31197
H_3ClO_4, solid phase, rot. pot. and equilib. orientation of H_3O^+ ion 1−52094
H_2CrO_4 etching of polyethylene and polypropylene surfaces, XPS study 1−21613
HD, nuclear spin-spin coupling calc. using variational technique 1−6288
HD+Ne, Lorentzian diffusion, temperature depend. 1−51898
HD+Xe, Lorentzian diffusion, temperature depend. 1−51898
HF, 1π and 3σ orbitals, photoionisation cross-section calcs. 1−24197
HF, ($X^1\Sigma^+$) state, mol. props. and basis set quality, information theory 1−51091
HF CW chem. laser, saturation of gain and refr. index, three vibr. level model 1−37490
HF CW chem. laser modelling, rot. nonequilib. effect on laser performance 1−41679
HF CW ring chemical laser, output spectrum with chain pumping mechanism 1−29272
HF CW X-ray preionised pulsed chemical laser 1−46379
HF chemical laser, flashlamp-initiated large-vol. H_2-F_2 1−51508
HF chemical laser, single pass pulsed H_2+F_2 amplifier, kinetic model 1−51471
HF chemical laser, Teflon surface spark UV flash initiation 1−41726
HF chemical laser initiated with Teflon surface spark UV flash 1−19352
HF chemical laser kinetics, reacting particle translational nonequilib. study 1−41681
HF collisions, V-V and V-R-T energy transfer, vibr. rot. coupling effect 1−1330
HF collisions, vibrational energy transfer, classical trajectory anal. 1−29085
HF compact laser using SF_6-H_2 mixture, long-lived electron beam preirradiation effect 1−24412
HF, construction of localised atomic orbitals for F atom 1−1075
HF, Coulomb, exchange and total interaction energy contribs. between localised orbitals 1−1103
HF desorption effects, chemical reactivity, electron scattering, electron energy-loss obs. 1−19182
HF, dipole moment and pot. energy functions, SCF and CI calcs. 1−1300
HF, dipole moment functions and vibr. rot. transitions 1−37171
HF, electron impact dissociative attachment to vibr. and rot. excited mol. 1−46139
HF, electronic property density function, nuclear mag. shielding density 1−33404
HF, electronic struct. studied by self-consistent discrete variation Xalpha method, ionisation pot. calc. 1−6126
HF, Feshbach resonance, electron transmission obs. 1−45982
HF gas, IR tunable Raman laser 1−19326
HF laser, electron-beam-initiated, energy parameters 1−33672
HF laser, pulse-initiated, meas. of discharge V-I characts. 1−51464
HF laser performance of CO_2 laser ignited SF_6-H_2 and S_2F_{10}-H_2 mixtures 1−24413
HF, laser polarisation effects, two-laser excitation 1−33525
HF laser transitions, discharge excitation using transverse electrodeless RF config. 1−1550
HF, localised orbital energy and moment contribs., depend. on geom. and basis set 1−37112
HF, nonresonant transitions in intense laser field, sudden rot. approx. 1−24106
HF, nuclear spin-spin coupling const., diamag. mol. integral 1−33479
HF, polymer struct., cryst. struct., polarisation model 1−30024
HF, pulsed chem. laser with electron beam initiation and mag. confinement 1−51470
HF, pulsed chemical laser, press. wave suppression 1−1554
HF pulsed chemical laser, vibr.-rot.-translational relax. kinetics model 1−41677
HF pulsed laser using SF_6-H_2(C_4H_{10}) mixtures, initiating discharge characts. 1−1555
HF, susceptibilities and mag. shielding const., coupled HF calc. 1−33391
HF, valence orbitals, momentum distrib., ionisation pot., binding energy spectra 1−6317
HF, vibr. relax. from upper vibr. levels, temp. depend. 1−1335
HF, vibrationally inelastic scatt. and relax. times, pot. wells 1−51265
HF^+, interstellar maser 1−9640
HF-Ar(CO_2), shape and parameters of HF spectral line J=0-1 1−24193
HF-DF optical reson. transfer laser, DF CW laser oscill. obs. 3.8 to 4.0 μm 1−1548
HF-DF(HCN,HF) CW optical reson. transfer lasers 1−46325
HF-HCN optical reson. transfer laser, HCN CW laser oscill. obs. 3.85-3.9 μm 1−1548
HF-$NaNO_2$ films formed on Si, comp. determ. by IR spectroscopy, aerial oxidation 1−3955
HF-oxirane, gas phase, hydrogen bonding, investigated by IR and microwave spectrosc. 1−24284

hydrogen compounds continued
HF-SO(SO$_2$)(SO$_3$)(sulphoxide)(sulphite) complexes, electronic struct., CNDO/2 calcs. 1−37118
HF+Ar(CO$_2$), HF J=0-1 rotational line shape and param. *(French)* 1−51245
HF+ethylene, γ-electron mol. complex formation, MO CNDO/2 calcs. 1−35506
HF+HCl, press. induced spectral line shifts 1−51246
HF+HF, perturbed rot. state calcs. 1−10812
HF+HF, V-V energy transfer, cross-correl. trajectory study 1−14989
HF+HF, vibr. relax., cross-correlation trajectory study, harmonic oscillator pot. 1−24210
HF+He, collisional energy transfer, laser induced, coupled channel calcs. 1−37306
HF+He, HF vibr. relax., coupled quantum treatment 1−46081
HF+Li reaction dynamics study by crossed mol. beams 1−8557
HF+LiH$_2$, vibr. excitation, relax, rates determ. 1−24207
HF+Ne(Ar), HF band IR spectral line collisional narrowing 1−1283
(HF)$_2$, electrostatic energy, multipole expansion and point charge models 1−37285
H$_2$F, repulsive surfaces, pot. energy functions derived by fitting ab initio data 1−19156
HHe^{2+}, binding and antibinding contributions, electron density in chemical bonding 1−24285
HI, dipole moment functions and vibr. rot. transitions 1−37171
HI, pot. energy and dipole moment functions, ab initio SCEP/CEPA and MC SCF calcs. 1−51098
HI, scavenging of CF$_3$ in isotope separation by laser dissociation of trifluoromethyl halides 1−46038
HI+F reaction, HF vibr. rot. distrib. and IR chemiluminesc. 1−4062
HI+K, collisions, scatt. cross sections, electron harpoon method 1−41471
H$_2$I$_2$, van der Waals complexes, intermol. pot. and photodissoc. study 1−10800
H$_{1.6}$MoO$_3$, solid state NMR study 1−3277
H$_{1.64}$MoO$_3$, proton NMR, line shapes, longitudinal relax. times 1−7966
H$_{1.7}$MoO$_3$, nature of protonic species, solid-state NMR investig. and XPS meas. 1−31040
HN$_2^+$+N$_2$, clustering energies and stable struct., ab initio LCAO SCF MO and SCEP calc. 1−33395
HN$_3$, ν_3 fundamental, Stark effect, IR obs. 1−51201
HN$_3$+H, electronically excited NH$_2$ form. 1−31829
HNC→HCN, unimol. isomerisation, reaction path Hamiltonian, tunnelling effects 1−8554
HNC, role of triplet H$_2$CN$^+$ isomers in form. in interstellar clouds 1−4066
HNC search in M82, EHF obs. 1−54613
HNC, theoretical microwave hyperfine conts. 1−27364
HND, predissoc. mechanism, fluoresc., pot. energy function, rot. struct., dissoc. energy 1−46043
HNF$_2$, vertical ionisation pot., SCF and CI calcs. 1−51136
HNO, A^{1}A″(100) state rot. spectrum, MODR obs. 1−10765
HNO, roto-electronic and spin-orbit coupling, SCF CI calcs. 1−18996
HNO$_2$, atmospheric trace gas detection, photofragmentation-laser induced fluorescence 1−13584
HNO$_2$, in atmosphere, direct meas. by differential optical absorpt. in near UV 1−44251
HNO$_3$, absorption, temperature depend., 11.3-μm region 1−37182
HNO$_3$ aq. soln., Np(III)(IV)(V)(VI) absorpt. spectra 1−19045
HNO$_3$, atmos. aerosol composition, calcs. of equilib. partial press. 1−13504
HNO$_3$ etchant for austenitic stainless steel 1−26661
HNO$_3$, gas phase, in troposphere and atmosphere boundary layer, meas. 1−40165
HNO$_3$, IR spectra, rovibr. consts. 1−1218
HNO$_3$ IR spectroscopic study around 11.4 μm from Mont-Louis ground level obs. *(French)* 1−49357
HNO$_3$, in atmosphere, meas. in clean air 1−40174
HNO$_3$ reduced by formic acid, denitration of aqueous waste solutions from nuclear fuel reprocessing 1−5908
HNO$_3$-graphite intercalation cpd., de Haas-van Alphen effect 1−42677
HNO$_3$-NH$_3$, H bonded system, ab initio SCF MO calcs. 1−45839
HNO$_3$-O$_3$ bands near 1720 cm^{-1}, high-resolution IR balloon-borne solar spectra, laboratory spectra comparison 1−22483
HNSO, DNSO and H^{15}HNSO, IR spectra, vibr. pot. function, centrifugal distortion const., harmonic force field 1−37201
HO$_2$, spin-rot. interaction, isotopic depend. 1−10760
HO$_2$+Br, reaction kinetics and constants, stratospheric composition 1−39593
H$_2$O, harmonic vibr. freq., CI and SCF calcs. 1−1063
H$_2$O, stratosphere composition, IR emission spectra from balloons and satellites 1−17672
H$_2$O+O(^{1}D), interaction kinetics and rate coeff. 1−31858
H$_2$O$^+$+N$_2$(O$_2$)(NO)(N$_2$O)(Xe)(CO)(CO$_2$)(H$_2$S)(H$_2$), rate coeffs. and product ion distrib. 1−43649
H$_2$O$^+$+ZZ 1−21716
H$_2$O$_2$, in rainwater during precipitation events in California 1−4227
H$_2$O$_2$, struct. and rot. barriers, ab initio calcs. 1−45834
H$_2$O$_2$, vibr. state, rot.-torsional spectrum between 80 and 700 GHz, rot. const. 1−45944
H$_2$O$_2$+Br, reaction kinetics and constants, stratospheric composition 1−39593
H$_2$O$_3$, thermodynamic functions calc. using Feynman chronological ordering method 1−14086
H$_3$O radical, fragmentation energy, ion beam expt. 1−37322
(H$_3$O)Al$_3$(SO$_4$)$_2$(OH)$_6$, proton conducting membranes 1−30457
H$_3$O$_2^-$Br$^-$, proton transfer in cryst. salts, wide-line NMR obs. 1−3269
HOCl bending modes, IR spectra analysis by Ebert spectrometer 1−37197
HOCl, HOCl.H$_2$O, UV transitions, rel. intensities 1−6275
HOCl+Cl→HCl+ClO, reaction rate const., 243-365K, stratospheric importance 1−44245
H$_3$O$_2^+$ClO$_4^-$, proton transfer in cryst. salts, wide-line NMR obs. 1−3269
HOO, struct. and bonding, CNDO/2 and INDO calcs. 1−45850
HOS (HSO), struct. and bonding, CNDO/2 and INDO calcs. 1−45850
H$_3$O$_2^+$SbCl$_6^-$, proton transfer in cryst. salts, wide-line NMR obs. 1−3269
(H$_3$O)$_2$Sb$_4$O$_{11}$(H$_2$O)$_{1.1\pm0.15}$, protonic cond. study by PMR *(French)* 1−7373
H$_2$Os$_{10}$C(CO)$_{24}$, vibr. freq. of interstitial C, ^{13}C enrichment, IR obs. 1−45962

hydrogen compounds continued
HPO$_4^{2-}$ dimen., vibr. charact. from SnHPO$_4$ single cryst. Raman spectra 1−48090
H$_3$PO$_4$+In$_2$O$_3$, synthesis of alkali metal indium phosphates 1−12978
H$_x$ReO$_3$, electronic states of H, energy bands and proton Knight shift 1−21069
H$_2$S, adsorption by metal phthalocyanine crystals 1−11857
H$_2$S, adsorption on GaAs {100} MBE layers stoichiometry effects 1−7439
H$_2$S, air pollution from geothermal power station in California 1−39853
H$_2$S, gaseous state rot. Raman spectrum, opt. polarisability obs. *(French)* 1−24151
H$_2$S, IR spectra, vibr. band anal., Coriolis interacting band, microwave transitions 1−41380
H$_2$S in air of tropical forest and of temperate region, fluorometric obs. 1−13528
H$_2$S, in atmosphere, photochem. of S cycle 1−40151
H$_2$S, ionisation pot. of core levels, calc. by SCF-X$_\alpha$-SW method 1−6162
H$_2$S, liq., self-diffusion coeff. along coexistence curve 1−20437
H$_2$S, nuclear spin-spin coupling const., coupled HF and finite perturbation CI calc. 1−51107
H$_2$S, one centre expansion method with model pot. 1−41296
H$_2$S, photoelectron ang. distrib. meas. using Ne I, Ne II and He II resonance radiation, energy depend. 1−6313
H$_2$S, S K$_\alpha$ X-ray line chem. shifts, SCF-X$_\alpha$-SW method 1−37114
H$_2$S selective stripping from CO+H$_2$ synthesis gas by photolysis with ArF laser 1−21746
H$_2$S, susceptibilities and mag. shielding const., coupled HF calc. 1−33392
H$_2$S thermal decomposition over transition metal sulphides for H$_2$ prod. 1−17315
H$_2$S$^+$, dissoc. correl. diagrams and electronic states, ab initio MRD-CI calcs. 1−1123
H$_2$S-H$_2$S(H$_2$O), complex, H bonds, energy calcs. 1−37360
H$_2$S-water solutions exposure to carbon steel, corrosion and deposition 1−16951
H$_2$S+BCl$_3$, multiphoton excitation, reaction kinetics 1−39596
H$_2$S+formaldehyde, H$_2$S.H$_2$CO H-bonded complex, ab initio MO study 1−24032
H$_2$S+OH$^+$(H$_2$O$^+$), rate coeffs. and product ion distrib. 1−43649
H$_2$S$^+$+Ar$_2$(H$_2$), collision induced and metastable dissoc., mass spectra 1−17037
HSO, chemiluminesc., laser-induced fluoresc. spectra, lifetime meas., visible spectra, stretching modes 1−8572
H$_2$SO$_4$ aerosol haze episodes over St. Louis, Missouri, USA 1−13201
H$_2$SO$_4$ cloud model interpretation of Venus IR polarisation obs. 1−40368
H$_2$SO$_4$, high temp. and conc., corrosion resistance of alloys 1−39546
H$_2$SO$_4$ in stratosphere, increase in aerosol layer since 1960, over Wyoming 1−8780
H$_2$SO$_4$ particle neutralisation by reaction with NH$_3$, laboratory expts. 1−36033
H$_2$SO$_4$, stratosphere negative ion chemistry, laboratory expts. 1−13537
H$_2$SO$_4$ thermal decomposition for thermochem. H$_2$ prod. 1−39841
H$_2$SO$_4$:Cu(Fe), phase relax. kinetics, electron spin-echo obs. 1−14946
H$_2$SO$_4$/H$_2$O systems vapour equilibrium for thermochemical H$_2$ production *(German)* 1−39839
H$_2$SO$_4$-KBrO$_3$-malonic acid-Mn^{2+} system, complicated oscillations studied in continuously stirred tank reactor 1−12977
HSS, struct. and bonding, CNDO/2 and INDO calcs. 1−45850
H$_2$Se, IR spectra, vibr. band anal., microwave transitions, ground state const., Coriolis interacting band 1−45953
H$_3$SiI, rot.-vibr. anal., force consts., IR obs. 1−51203
H$_4$SiO$_4$, H$_6$Si$_2$O$_7$, geometries and charge distribs., ab initio STO-3G MO calcs. 1−41316
H$_x$TaS$_2$, NMR studies 1−31059
H$_2$TeO$_6$, cubic, neutron structural refinement 1−15853
HUO$_2$PO$_4$.4H$_2$O, densification, pressure induced planar glide, soln. phase sintering 1−26400
H$_x$WO$_3$, perovskite type oxides, XPS, semi-empirical calcs. 1−38718
HX-HX′, (X and X′=F and Cl), dimer struct. and interaction pot. 1−24282
HX+unsaturated hydrocarbon, (X=F, Cl) laser enhanced addition reaction, information theoretic anal. 1−8551
Hf, localised orbital energy and moment contribs., depend. on geom. and basis set 1−37111
Li+HCl reaction dynamics study by crossed mol. beams 1−8557
OC-HBr complex, microwave spectrum and mol. struct. 1−51192
OH$^-$(H$_2$O)n, n=1-4, form. from N$_2$O-H$_2$O mixture, dissoc. energy, mass spectra 1−37380

hydrogen distribution *see hydrogen economy*

hydrogen economy
325-MWe plantships, projected costs of electricity generation and/or chemical or fuels production 1−53647
chemical heat pump, hydrogen conversion and storage system, HYCSOS 1−21889
coal conversion processes, use of non-fossil derived H$_2$ 1−43828
combustion characteristics, meas. of burning velocity by laser-Doppler anemometry 1−4087
combustion in gas turbines 1−8768
conf., Brussels, Belgium, Feb. 1980 1−36459
cryogenic storage, design and test of liquid H$_2$ automobile refuelling station 1−17321
electricity generation from stored H$_2$ using fuel cells gas- and steam turbines *(German)* 1−43829
electrolytic H$_2$ production, design of electrolytic cells for the production of large hydrogen quantities at medium pressure 1−39846
electrolytic H$_2$ production, effect of electrode overvoltage and cell ohmic drop 1−39845
electrolytic H$_2$ production, NiCoLaO$_3$ anodic electrocatalyst 1−43676
electrolytic H$_2$ production, solid electrolyte electrolyser with Nafion-type membranes 1−43822
electrolytic H$_2$ production, water electrolysis at 30 bar pressure and 200°C 1−43819
electrolytic H$_2$ production by H$_2$O electrolysis, anodic and cathodic catalysts. activation of membranes and diaphragms 1−43675
electrolytic H$_2$ production in H$_2$SO$_4$ solns., electrocatalysts having electrochem. selectivity, low cost and low overvoltage 1−43679
electrolytic production, advances in oxygen evolution catalysis in solid polymer electrolyte water electrolysis 1−43669
electrolytic production, alkaline water electrolysis cells based on inorganic-membrane-electrolyte technology 1−39844

hydrogen economy continued
electrolytic production, application of electrocatalysis to the electrolysis of water at high temperature and high current density 1−39848
electrolytic production, diaphragms and membranes for water electrolysis *(Italian)* 1−39849
electrolytic production, optimization of gas evolving teflon bonded electrodes 1−39650
electrolytic production, water electrolysis at high pressure and medium temperature 1−39847
electrolytic production and its pot. utilization for ship propulsion 1−17323
electrolytic production by alkaline H_2O electrolysis, EEC R and D programme 1−43813
electrolytic production by alkaline wate electrolysis design of PTFE diaphragm 1−39651
electrolytic production by H_2O electrolysis *(Spanish)* 1−43816
electrolytic production by H_2O vapour electrolysis at high temp. using stabilised ZrO_2 solid electrolyte cell 1−43821
electrolytic production of low-deuterium H_2 in large quantities 1−32056
electrolytic production using off-peak power 1−53700
embrittlement, electrochemical aspects of H_2/metal interactions 1−43477
fuel cells, economic impact *(French)* 1−43755
heavy water as a valuable by-product of electrolytic hydrogen 1−8770
hydride storage system for electrical load-equilibration 1−43827
hydrides of intermetallic compounds, stability, struct., kinetics, review 1−53450
hydrogen-actuated pump 1−21928
HYFIRE: fusion-high temperature electrolysis system, for H_2 production 1−50944
liquid automotive fuel storage 1−48919
market potential for electrolytic hydrogen 1−32055
metal hydride hydrogen storage, mobile H_2 transportation systems 1−21934
metal hydrides, engineering appls. HY-STOR 1−21939
metal hydrides, use in motor vehicles 1−21937
metal hydrides versus competing options for storing hydrogen in energy systems 1−21933
photochemical production by metal phthalocyanine-sensitised photoreduction of methyl viologen 1−39652
photoelectrolytic decomposition of water at ceramic electrodes 1−17221
power engineering and technology, state-of-the-art 1−35716
production, efficiency of water dissociation to time-resolved hydrogen and oxygen pulses, through non-equilibrium processes on catalyst surfaces 1−39837
production, hybrid electrochem./thermochem. process using S cycle 1−53699
production, storage and transmission, technical challenges 1−26856
production and storage, R and D review *(German)* 1−43811
production by H_2S thermal decomposition over transition metal sulphides 1−17315
production by thermochemical cycles and water electrolysis, capital cost estimates and process efficiencies 1−53697
production by water electrolysis, EEC R and D program 1−39843
production from nuclear fission product waste heat 1−8768
production using fusion reactor, blanket design 1−50946
production using solar water electrolysis plant, modelling and control strategy 1−8774
rare earth intermetallic hydride formers, atomic volume contraction 1−20125
rare earth metal hydride storage device, H_2YCELL, commercial development 1−21935
rare earth-Co(Ni) alloys, sorption of H_2 and D_2 at press. up to 1500 atm. 1−20552
review, considering environmental safety aspects 1−21940
review of H_2 energy potential as a universal fuel 1−4217
safety aspects of H_2 fuel 1−43831
safety standards and regulations for H_2 prod., storage and handling bibliography 1−13951
seawater electrolysis, MnO_2 O_2-selective anode coating for prod. of H_2 and O_2 1−8769
secondary energy carrier generation and storage, phys.-chem. problems *(German)* 1−35714
solar photolysis of H_2O 1−8773
solar thermal water splitting, efficiency anal. 1−17318
steam reforming plant heated by HTGR, process feasibility and investment cost evaluation of hydrogasification 1−48916
storage, FeTi and Mg_2Cu industrial hydride reservoirs, technological aspects and characts. 1−17320
storage, large scale, using cryoadsorption 65 to 150K 1−43824
storage, transportation and use, review *(French)* 1−43823
storage and transport, carbon fibre reinforced plastic pressure vessels *(German)* 1−43826
storage and transport, hydrogen embrittlement of steel pressure vessels *(German)* 1−43533
storage facilities, economic evaluation 1−8771
storage in alloy steels, resistance to H_2 embrittlement 1−43532
storage in CC $TiFe_{0.9}Al_{0.1}$, absorption capacity for H_2 storage, equilibrium pressures 25-120°C 1−43814
storage tank heat leakage by natural convection 1−48918
storage using cryoadsorbents, 65 to 150K, techniques+economics 1−21932
storage using Mg-rare earth alloys rich in Mg *(French)* 1−43825
thermochemical conversion, calculation of the energy change involved in chemical reactions occurring irreversibly 1−32051
thermochemical cycles applied to fusion energy sources 1−53696
thermochemical H_2 production, absorption kinetics for SO_2 and O_2 absorption in H_2O 1−43817
thermochemical H_2 production, EEC R and D program 1−39836
thermochemical H_2 production, evaluation and detailed design of a pilot plant for the cycle MARK 11 1−39841
thermochemical H_2 production, liquid-gas phase equilibrium in Br_2-HBr-H_2O system 1−43818
thermochemical H_2 production, technico-economic evaluation of multi-step chemical processes, improvements to OPTIMO code 1−32053
thermochemical H_2 production, vapour equilibrium of H_2O/H_2SO_4 systems *(German)* 1−39839
thermochemical H_2 production using SO_3 dissociation *(German)* 1−39838
thermochemical hydrogen production from water using HTR waste heat *(German)* 1−8775
thermochemical or hybrid cycles of hydrogen production−technico-economical comparison with water electrolysis 1−32052
hydrogen economy continued
thermochemical production, electrolytic cell for SO_2 anodic oxidation 1−39840
thermochemical production, SO_2/O_2 separation process *(German)* 1−39842
thermochemical production by solar-powered Cd-CO_3 decomposition cycle 1−48917
thermochemical production from H_2O, control of effusional separator during solar intensity transient 1−21931
thermochemical production using high temp. solar reactors 1−43812
thermochemical water splitting cycle, fusion reaction design considerations 1−50945
thermochemical water splitting cycles: impact of thermal burdens and kinetics 1−17316
thermoelectrochemical cycles for production from water *(Russian)* 1−21941
thermomechanical solar power generation 1−26854
transport using natural gas transmission networks 1−43830
β-Al_2O_3, containing H_2, struct. and props. 1−17322
Ce-La-Ni, hydride development for hydrogen storage 1−20556
$CeMg_{11}Ni(Cu)(Zn)$, struct., hydrogen sorption-desorption cycles *(French)* 1−20560
Cs molten salts, fusion electrolysis for H_2 prod. 1−35715
Fe-Cl thermochemical cycle for hydrogen production, efficiency design and estimation *(German)* 1−43815
$Fe_{0.9}Mn_{0.1}Ti$, activation and reactivity props. under $H_2(D_2)$ press., hydride phase struct. 1−20123
Fe_2O_3 reduction by H_2, reaction kinetics 1−17319
FeTi, activation and reactivity props. under $H_2(D_2)$ press., hydride phase struct. 1−20123
FeTi-H, props. and appl. for H_2 generation and storage 1−21936
FeTi-H(D) phases, precipitation and struct., TEM and neutron diffr. study 1−20122
H_2 as fluid fuel to supplement electricity, safety aspects 1−32058
H_2, photocatalytic prod. from H_2O and TiO_2 using platinised TiO_2 catalyst 1−53695
H_2 recovery and purification using solid polymer electrolyte electrolysis cell 1−32054
H_2-O_2 reacting mixtures in a well stirred reactor, sensitivity of elemental reactions 1−17317
H_2-O_2-inert gas internal combustion engine perform. 1−8772
H_2O, radiolytic decomposition for H_2 production *(Japanese)* 1−13187
H_2O vapour electrolysis, low temp., oxide electrolytes, proton and electron conductivity 1−42574
H_2SO_4 hybrid cycle, anodic oxidation of SO_2 1−17314
$LaNi_5$, mag. props. variation with H_2 absorpt. and desorption 1−7808
$LaNi_5$, sorption capacity for H_2, influence of technological characteristics 1−30549
$LaNi_5H_x$-type hydrides, use in Ni-H_2 batteries 1−21875
$LaNi_{4.6}M_{0.4}H_x$ (M=Si, Ge, B, Ga, In), H_2 dissoc. press., effect of element M 1−31855
Li-H, props. and appl. for H_2 generation and storage 1−21936
Mg powder, H_2 storage 1−32057
Mg powder as hydrogen storage material, H_2 sorption and desorpt. reactors 1−21766
Mg-La-Ce alloys for hydrogen storage 1−21938
$Mg_2Ni(H,D)_4$, struct. study by X-ray and neutron diffr., sorption isotherms 1−20124
Mg_2NiH_4, diffusion of H, proton spin-lattice relax. time meas. 1−3285
S-I_2 thermochemical H_2 production cycle, entropy prod. and efficiency anal. of bunsen reaction 1−17313
thermochemical production, process economics and second law, effect of heat transfer 1−53698
Ti-Co, hydride development for hydrogen storage 1−20556
TiFe hydrides, crystal structure 1−15837

hydrogen embrittlement
α-brasses, stress corrosion cracking in NH_3 vapour, effect of H_2 1−35383
dislocation-hydrogen interactions 1−31585
electrochemical aspects of H_2/metal interactions 1−43477
Hastelloy alloy C-276, Ni-base superalloy, hydride form. 1−53271
metals, welded, collecting media for determ. of diffusible H_2 1−7344
probe under stress, for corrosion control 1−4035
steel, 4340, fracture toughness reduction due to H_2, models 1−43518
steel, A106, H_2 compatibility tests 1−16873
steel, alloy, contact life reduction under action of media 1−3996
steel, alloy, methane bubbles after H_2 exposure, direct obs. using TEM 1−43496
steel, alloying, chemisorption and H_2 embrittlement 1−26616
steel, austenitic stainless, orientation of fracture surffaces produced by stress corrosion cracking and H_2 embrittlement 1−16876
steel, blister cracking in sulphide environments, H_2 induced, role of inclusions 1−43582
steel, C, cracking under stress, H_2S partial pressures influence 1−53349
steel, C, fatigue crack growth in impregnation with H, loading frequency and heat treatment influence 1−35377
steel, C 1−53266
steel, Cr, H_2 embrittlement of pressure vessel 1−43534
steel, Cr-Mn, H_2 embrittlement of pressure vessel 1−43534
steel, Cr-Mo, H_2 embrittlement of pressure vessel 1−43534
steel, Cr-Mo pressure vessels for hydrogen storage *(German)* 1−43533
steel, Cr-Mo-Ni-V, welded joints, cold cracking susceptibility *(Czech)* 1−12853
steel, ductile processes, H suppression 1−26570
steel, fracture resistance of VNS-2USh with different amounts of diffusionally mobile H_2 1−16887
steel, low-alloy, cracking under stress, H_2S partial pressures influence 1−53349
steel, low-alloy SNCM8, environmentally enhanced fatigue crack growth 1−26580
steel, martensitic stainless, corrosion cracking in chloride solns., polarisation influence 1−35442
steel, mild, H entry during exposure, role of sulphide inclusions 1−53256
steel, Mn, H_2 embrittlement of pressure vessel 1−43534
steel, Mn-Ni-Mo, heat affected zone, mech. props. after simulated heat treatment *(Czech)* 1−12768
steel, pearlitic 15Kh2MFA, brittle failure, H influence at up to 325°C 1−35369
steel, SCM, H_2 absorbability, effect on cracking behaviour *(Japanese)* 1−43480

hydrogen embrittlement continued
steel, stainless, 304 and 310, phase transition role in hydrogen embrittlement 1−43333
steel, stainless, 410, effect of H_2 on mech. props. 1−3903
steel, stainless, failure resistance, in rel. to degree of H absorpt. 1−35372
steel, stainless, martensitic and austenitic, fatigue life in H_2 atmosphere, low-cycle loading freq. influence 1−3927
steel, stainless, work hardened, with $\alpha'+\gamma$ struct., susceptibility to hydrogen *(French)* 1−31606
steel natural gas transmission networks, utilisation for H_2 transport 1−43830
steels, 4130, struct. of tempered martensite and its susceptibility to H_2 stress cracking 1−26618
steels alloy, resistance to H_2 embrittlement 1−43532
stress corrosion cracking, chemical potential and surface energy 1−16973
welded joints, diffusible H amount determination by chromatographic method 1−48757
Al-Zn-Mg, anodic polarisation at grain boundary region and ageing embrittlement by stress corrosion in NaCl aq. soln. *(Japanese)* 1−43479
AlZnMg, grain boundary diffusion of H during stress corrosion cracking *(German)* 1−8490
B coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
Cu, practical experience rel. to basic data 1−12918
Fe, hydrogen embrittlement and hydrogen-dislocation interactions 1−31585
Fe, single crystal, deformation and fracture, influence of C in solid solution on the effects *(French)* 1−43474
Fe-Cr alloys, dissolved H effect on plastic deform. *(Japanese)* 1−31535
Fe-Cr-Mo amorphous alloys, H embrittlement, effect of corrosion resistance and metalloid additives 1−53257
Ni, electrochem. study, H diffusion and permeability 1−16090
Ni-base superalloy, H-induced crack growth, effect of low temp. ageing 1−26621
Ni_2Cr, ordering effect on the embrittlement susceptibility 1−26619
Si single crysts., calc. of pressure inside H induced cracks 1−53279
Ti alloys, commercial, stress induced H redistribution 1−15919
Ti alloys, gas saturation, H purity and pressure influence 1−35378
Ti-Al alloys, in and out of corrosive environments, kinetics and mechanisms of subcritical crack growth 1−16958
Ti-Al-V-Sn (6,6,2 wt%), subcritical crack growth under sustained load 1−53270
Ti-Al-V-Sn (6,6,2 wt.%), α/β phase, hydrogen embrittlement, temp. depend. of threshold 1−43519
TiB_2 coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
TiC coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
transition metal-H system, intrinsic embrittlement 1−21577
VB_2, thin film coating on V, reduced T inventory in controlled fusion devices 1−21647
Zr-Nb (2.5 wt.%), critical propag. event for H_2 induced slow crack growth 1−43517
Zr-Nb (2.5 wt.%), fission reactor pressure tube rolled joint, crack growth by delayed H cracking 1−788

hydrogen energy *see hydrogen economy*

hydrogen ion activity *see pH*

hydrogen ion concentration *see pH*

hydrogen ions
AH+A→A+HA, H and H^+ transfer reaction dynamics, symm. case 1−53411
atom+H^+, K-shell ionisation, electronic relativistic effects 1−24237
beam impurity diagnostics using pyrolitic C pulses 1−25061
beam-foil production of H, using thin C target, n=2 density operator 1−46077
free burning welding arc column model, 100 to 500 A 1−7020
$H^+ + N_2(O_2)$, mean energy expended per ion pair 1−22561
hydrogenic ion, electron loss to low-lying continuum states of projectile, doubly differential cross section, struct. 1−24217
hydrogenic ions, metastable, weak neutral currents anal. 1−24277
impact desorption cleaning of stainless steel 1−25558
local interstellar medium, H density and fractional ionisation from backscatter and absorpt. meas. 1−27579
Jupiter magnetosphere, energetic H_2^+ and H_3^+ detect. by Voyager 2 and evidence for ionospheric plasma source 1−17783
kaolinite surface adsorbed water proton mag. relax. *(Russian)* 1−31056
low energy backscatt. from polycryst. C energy and ang. distrib. 1−26331
Lyman-α line, plasma broadened, mol. eigenstates, satellite structure 1−19084
metal surface sputtering, Monte Carlo calcs. 1−26337
molecular pot. of general form, appl. of multicentre method for integrating Shcrodinger eqn. 1−33532
neutral molecules, H^+ affinities 1−4056
NGC 281 (Sharpless 184), H II region, atomic and ionised H obs. 1−54586
plasma electric microfield, ionisation-induced attenuation of atomic spectral lines 1−19880
polar medium, H^+ transfer reactions, kinetic isotope effect 1−21694
quasar emission line ratios, theory for H Lα, Balmer and Paschen lines and Balmer continuum 1−54653
reflection from stainless steel, at non-normal incidence 1−26329
scaled proton ionization cross sections in the Born approximation 1−1350
solids, H bonds, H^+ chemical shift tensors, D quadrupole coupling and bond distances correl. 1−3276
source, duoPIGatron, use of hollow cathode 1−23901
surface trapping influence on low energy light ion reflection from amorphous Ti 1−53030
Ar+H^+, electron ejection differential cross section 1−10829
H ion+Pd(Ni)(Ag)(Au), inner-shell ionisation, Coulomb deflection effect 1−15000
H^-, adsorption and interaction with ZnO ($10\bar{1}0$) surface, UV photoemission obs. 1−17102
H^-, interstellar, predicted $1s^2$-1s6p autoionisation resonance observed as diffuse interstellar line at 7581 Å 1−17884
H^-, intrashell doubly excited states, supermultiplet classification 1−6183
H^-, photodetachment and radiative attachment involving $2p^{23}P^e$ state, rate coeffs. 1−49493
H^-, prod. by H backscatt. from metal surface, model 1−26332
H^- radiative cooling of solar chromosphere 1−22764
H^-, small angle scatt. from surfaces 1−26330

hydrogen ions continued
H^- source, continuous 20 mA low pulsation coeff. 1−50269
H^-, three-body Coulomb system, ground-state energy hyperspherical harmonics 1−45828
H^-, two-electron atoms, dipole channels, group theory, Stark representation 1−24078
H^+ on mid-latitude plasmasphere force lines, motion and continuity eqns. soln. 1−22515
H^+, small angle scatt. from surfaces 1−26330
H^+ transfer, intermolecular forces, configs., isotope effects 1−19154
H^+ transfer reactions, kinetics, proton affinities determ. 1−39602
H^+/NH_4^+ ionic exchange in sulphonic membrane membrane selectivity and interdiffusion pot. effect *(French)* 1−48732
H-like ions, 1s and 2s, ionisation probabilities, first Born approx. calcs. 1−1347
H^2-existence, H^- prod. from H^{2-} charge transfer 1−24241
H^-+atom, fast H^0 atom prod. by stopping collision 1−1358
$H^-+BeH_2 \rightarrow BeH_3^-$, complex formation reactions, ab initio calculations of potential energy surfaces 1−8543
H^-+Cs, single electron capture and loss, 0.1-2.0 keV 1−6374
H^-+D, electron detachment and charge exchange, differential cross-sections meas. 1−10834
H^-+H collisions, inelastic cross sections, wavefunctions perturbation techniques 1−19163
H^-+H^+, neutralisation reaction, asymmetry effect 1−46112
H^-+He collisions, zero range pot. approx., bound state continuum transitions, ab initio calcs. 1−19015
H^-+He(Ne) 1−1319
H^-+Kr, collisional electron loss, electron energy spectra 1−46105
H^-+Na(K)(Rb)(Cs), low energy electron loss reaction cross section 1−6175
H^++alkali atoms, near-reson. charge-exchange collisions 1−24247
H^++Ar, L-ZZ 1−41467
H^++Ar(Kr), K-shell ionisation *(Portuguese)* 1−24234
H^++Au, impact ionisation, L-subshell alignment 1−6367
H^++C-foil collisions, charge transfer to continuum and high Rydberg states 1−24233
H^++CO, inelastic scatt., core-excited resons. 1−37299
$H^+ + CO_2$, dissociative ionisation reaction, time-energy spectra 1−12981
H^++C(Ne), inner shell capture and ionisation 1−46098
H^++C(Ne), K-ZZ 1−41467
H^++Cs, single electron capture and loss, 0.1-2.0 keV 1−6374
H^++H, charge transfer collisions 1−15002
H^++H, collisions at high energies, charge exchange, electron capture theories 1−46071
H^++H, electron capture, Eikonal theory 1−46097
H^++H, electron capture, H arbitrary excited state prod. 1−1344
H^++H, ground state excitation, Glauber cross-section calcs. 1−46134
H^++H, H(2s) form. cross-section calcs. 1−1322
H^++H, perturbation theory, coulombic and exchange energy, Pade approximants 1−14980
$H^+ + H_2(N_2)(O_2)$, H(2s) form., absolute cross-sections determ. 1−6378
$H^+ + H^-$, neutralisation reaction, asymmetry effect 1−46112
H^++H(He), atomic excitation and polarisation at medium and high energy 1−10830
H^++He, charge transfer collisions, laser enhanced Lyman-α prod. 1−29112
H^++He, collisions, single and double electron loss 1−15017
H^++He, differential cross sections for proton energies 100, 150 and 225 keV 1−24216
$H^+ + He^+$, electron transfer collision cross-sections, coupled mol. states calcs. 1−1360
$H^+ + He^+$, ionisation cross-sections, charge depend. calcs. 1−1357
$H^+ + He^+(Li^{2+})(Be^{3+})(C^{5+})$, electron capture collisions, continuum distorted wave approx. 1−1345
H^++He(Ar)(Kr), proton impact double-ionisation cross sections determ. 1−41468
H^++He(Ne)(Ar), H(2s) form., absolute cross-sections determ. 1−6378
$H^+ + Mg(MgCl_2)(MgF_2)$, K_{alpha} X-ray multiplet struct. obs. by atom+ion collisions 1−51155
$H^+ + N_2O$, 1 MeV bombardment, dissoc. ionis. 1−33537
$H^+ + N_2(O_2)$, Hα and Hβ emission cross sections, appl. to H aurora 1−37146
$H^+ + NH_3$(methane), ionisation cross sections 1−19161
H^++Na, collisions, photoexcited states, electron transfer, ion beam studies 1−37305
H^++O, charge exchange, interatomic pot. curves and coupling fine structure, excitation process 1−10835
H^++O isoelectronic series ions, collisional excitation calcs. 1−14979
H^++Pb, X-ray intensity ratios, energy depend. 1−1323
H^++S isoelectronic series ions, collisional excitation calcs. 1−14979
H_2^+, $1s\sigma_g \rightarrow 2p\pi_u$ transition, photodissociation 1−1294
H_2^+ $2p\pi_u$ electronic state, vibrational pots., rational fraction representation appl. 1−37292
H_2^+, electrom impact, iterative static-exchange techniques appl. 1−19198
H_2^+ fragment pre-equilib. distrib. and dissoc., formed from H_2+air (H_2)(Ar) 1−6369
H_2^+ ground state, vibr. pot., rational fraction representation 1−1206
H_2^+, ground-state energy expansion, asymptotic behaviour rel. to internucl. separation 1−1088
H_2^+, in strong mag. field, Schrodinger eqn., Monte Carlo simulation 1−10642
H_2^+ in thin carbon foils, 12.5 and 25 keV/amu, recombination yields 1−29092
H_2^+, nonadiabatic coupling, perturbation theory for breakdown of Born-Oppenheimer approx. 1−33375
H_2^+, photoionis. cross-section, Gaussian function calc. 1−33518
H_2^+, prod. from thermal $He^+ + H_2$ collision, radiative mechanism 1−6146
H_2^+, relativistic calcs., squared Dirac operator appls. 1−51141
H_2^+, van der Waals state, diatomic vibr. pot., rational fraction representation 1−37293
H_2^++Ar, charge transfer, mol. vibr., photoionisation, photoelectron-photon obs. 1−10781
H_2^++Ar(Ne)(Kr), collisional electron loss, electron energy spectra 1−46105
$H_2^+ + Ar \rightarrow HAr^+ + H$, H^+ transfer exothermic reaction, reagent vibr. and translation 1−48665
$H_2^+ + He^+ \rightarrow H_2 + He$, 0.8 MeV/N, electron spectra 1−10818
H_3^+ and simplest bound neutral electron-quark system, uuuee 1−19001

hydrogen ions continued
H_3^+, deuterated oscillators, rot. energies in zero-point states of vibr. 1−28946
$H_x^+ + H_2(He)(Ne)(Ar)(Kr)$, x=1,2,3, charge exchange and electron loss cross-sections for various energies 1−29095
HD^+, vibr. rot. energy calcs. vibr. perturbation method 1−33441
$HTD^+(H_2T^+)$, vibr. freq. and zero point energy, ab initio calc. 1−45925
H(1s)+Cs, H^- form., ang. distrib., differential electron attachment and elastic scatt. cross sections 1−41459
$(H_2H)^+$, nonadiabatic coupling, perturbation theory for breakdown of Born-Oppenheimer approx. 1−33375
$M^+ + O_2$, vibr-excitation, charge and energy transfer, time-of-flight obs., MO calcs. 1−46167

hydrogen neutral atoms
21 cm. emission rel. to galactic spiral structure 1−36399
21 cm line obs. of smooth-arm spiral galaxies 1−22891
accretion of H-rich material onto He white dwarf leading to nova 1−9478
adsorbed on frozen H_2 surface, ground state hyperfine resonance 1−1152
adsorbed on transition metal surface, adsorbate vibr. spectra, theory 1−16186
adsorption and absorption processes on stainless steel plasma wall 1−30555
adsorption and absorption processes on Ti coated plasma walls 1−30555
adsorption on ^{4}He liquid surface 1−2733
AH+A→A+HA, H and H^+ transfer reaction dynamics, symm. case 1−53411
antiprotonic, K-series X-ray spectrum 1−1419
approximate dynamical symm. in uniform mag. field 1−1168
atom, $2^2P_{3/2}$-$2^2S_{1/2}$ fine struct. interval meas. 1−24275
backscatt. from Cs, Ni and Cs/Ni surfaces, H^- prod. model 1−26332
Balmer lines, stark spectra, static field influence, appl. to plasma diagnostics 1−41344
binding energy on liq. ^{4}He, zero-field hyperfine reson. study 1−48734
3C 293, radio galaxy, H I absorpt. obs. 1−54620
charge exchange as recombination mechanism in plasmas 1−6376
charge exchange induced H escape flux, latitudinal var. in ionosphere 1−9314
circumstellar shells around evolved stars, search for H I emission 1−44537
clusters, variational and Fadeev-UPE calcs. 1−1427
Comet Kohoutek (1973 XII), H prod. rates from ground-based Fabry-Perot obs. 1−54419
Compton electron scattering, momentum densities and differential cross sections *(French)* 1−37330
coupled to single quantised radiation mode 1−6221
Dirac equation derivation *(German)* 1−442
disordered ring, localisation, Anderson model 1−20664
elastic electron scatt., exact second Born exchange amplitude 1−24253
elastic electron scatt., Glauber theory, Fresnel and recoil corrections 1−10843
elastic scattering of electrons, independent atom-model, exchange effects 1−19183
electron (positron) scattering, multichannel theories, review 1−51289
electron and positron elastic and inelastic scatt., relativistic Glauber amplitudes 1−1375
electron elastic scatt., low energy, adiabatic and nonadiabatic polarisation pots. 1−46128
electron impact and elastic scatt., entrance channel, optical model calcs. 1−24258
electron impact dissoc., time of flight spectra 1−15023
electron impact excitation, cross sections, Feshbach resonances 1−19188
electron impact excitation, differential cross sections determ. 1−1379
electron impact excitation, distorted-wave second Born approx. appl. 1−24251
electron impact ionisation, cross sections, metastable states 1−29121
electron impact ionisation, triple differential cross section, Born approx. calcs. 1−19187
electron impact ionisation, triple differential cross section, Coulomb wave Born approx. calcs. 1−19191
electron impact ionisation amplitude, numerical integration 1−1377
electron scatt., Born approximations 1−1369
electron scatt., eikonal exchange amplitude approx. 1−51297
electron scatt., P shape reson. 1−51296
electron scattering, distorted-wave second Born approx. appl. 1−24251
electron scattering, separable approx. generalisation in presence of long-range forces 1−51283
electron scattering, single channel radial Schrodinger eqn., soln. by EXPFIT1 program 1−10839
EM interactions and relativistic infinite component wave eqn. 1−45139
EM transitions in strong mag. fields, theory 1−44424
emission from Stephan's Quintet, high redshift H I distrib. 1−22906
energy eigenvalues and bound-bound transitions in magnetic field 1−6138
energy levels, transition probabilities, perturbation calcs. validity 1−41347
energy spectrum, global props., classification, quantum numbers, degeneracy 1−46054
excited state, translational energy distrib., prod. from H_2 electron impact dissoc. 1−19137
excited states, collisions, magnetic quantum number, Stark obs. 1−19053
fluorescence angular distrib., H^+ polarisation effect 1−24077
in galaxies, first results for isolated early-type systems 1−4954
ground state, electron impact excitation, Glauber cross-section calcs. 1−46134
ground state, Stark effect calc. by perturbation theory 1−14848
ground state energy solns., for atom in spherical enclosure 1−33393
ground state frequency determination from maser wall shift expts. 1−37449
H+H^+, photon emission *(Russian)* 1−6370
harmonic coeff., third level, discrete energy level spectra, LF limits 1−51078
intense neutral beams, impurity conc. meas. 1−50270
interstellar D/H ratio, variation mechanisms, radiation press. and HD photodissociation 1−54574
interstellar H I, anal. and interpretation of self-absorpt. lines 1−44610
interstellar H I, density in direction of white dwarf HZ 43 from Voyager 2 EUV and far UV obs. 1−49652
interstellar H I, statistical props. from 21 cm absorpt. surveys 1−49769
interstellar H I in region $320° \leq l \leq 341°$, $+7° \leq b \leq +26°$, kinematics 1−49768
interstellar H I towards OAO 1653−40, effective column density from X-ray source photoelectric absorpt. 1−27636

hydrogen neutral atoms continued
interstellar H I west of λ Orionis, surface distrib. and radial rels. obs. *(Russian)* 1−4967
local interstellar medium, H density and fractional ionisation from backscatter and absorpt. meas. 1−27579
ionisation by electron impact, exchange scattering amplitude, eikonal approx. 1−1382
ionisation rate in uniform elec. field, model depend. 1−33556
Lamb shift in n=2 state, sub-natural-linewidth spectrosc. obs. 1−41350
lamb shift in nonrelativistic quantum electrodynamics, teaching 1−27721
line profiles in interstellar dark cloud Lynds 134, H I 21 cm line obs. of 1−13833
Lyman α absorption in quasars rel. to superclusters 1−54641
Lyman α profiles for two solar flares 1−4855
Lyman α radiation, resonance scatt. 1−14837
Lyman- and Balmer-like transitions in strong magnetic fields 1−17763
maser, ground state hyperfine levels, Stark shift theory 1−15133
maser, wall shift, Teflon cylinder replacement for storage bulb *(Rumanian)* 1−51437
metastable beam, spin transitions in time-depend. mag. fields 1−46171
multipole Cauchy moments, variationally determ. 1−10630
muon capture, muonic atoms and molecules, hyperfine populations 1−51321
muonic, de-excitation and Stark mixing processes *(Russian)* 1−41524
muonic, long lived 2s-state detect. in H_2 gas 1−51324
muonic, metastable, radiative collisional quenching calcs. 1−24293
N/H in main sequence B-type stars, non LTE model atm. calcs. 1−36286
in NGC 2377, spiral galaxy, high-resolution obs. of H I absorpt. of background radio source (3C 178) 1−9699
NGC 281 (Sharpless 184), H II region, atomic and ionised H obs. 1−54586
parity mixing meas. in $2s_{1/2}$ and $2p_{1/2}$ states 1−37352
photoionisation in strong mag. fields, theory 1−49496
planetary nebulae, search for H I 21 cm emission 1−44537
polarisability, oscillating strengths, Cauchy coeffs., quantum mech. 1−10635
positron impact, photon emission *(Russian)* 1−6370
positron inelastic scatt., electron capture, distorted-wave Born approx. 1−1385
positronium scatt., van der Waals forces 1−1414
production by H^+ through thin C target, n=2 density operator 1−46077
quantum mechanical energy spectra, adiabatic invariants and continuous large scale deforms. 1−18073
quasar emission line ratios, theory for H Lα, Balmer and Paschen lines and Balmer continuum 1−54653
recombination at low temp., chemistimulated diffusion of Cu in Ge 1−38603
relaxation times in aq. LiI solutions, Brownian motions, electrostatic model, NMR obs. 1−19116
Ryderberg states, quadratic Zeeman effect, oscillator strengths for dipole transitions 1−24080
Sagittarius B2, obs. of assoc. H I cloud *(Russian)* 1−32745
Saturn vicinity, Lyman-alpha obs. with Copernicus satellite 1−44483
Schrodinger equation reduction, teaching 1−40623
Schrodinger equation used to calculate eigenvalues 1−10619
self-absorption in S.Coalsack interstellar dust complex 1−32735
small angle scatt. from surfaces 1−26330
soft X-ray absorption, laser assisted, multiphoton emissions 1−33437
solar atmosphere radiative energy loss, probabilistic approach appl. to H lines and continua 1−9446
solar prominences, H excitation and spectrum in filamentary and physically inhomogeneous prominences *(Russian)* 1−54440
spectrum in very strong mag. field, effect of proton mass 1−1148
spin aligned, ESR and NMR expts., 0.1 to 0.5K 1−6190
spin polarised, apparatus for study of thermal props. 1−269
spin polarised, Bose condensation 1−1078
spin polarised, Bose gas, stabilisation in mag. fields 0 to 10 T 1−1082
spin polarised, effective range theory and many-body perturbation theory 1−1080
spin polarised, mag. confinement 1−29147
spin polarised, magnetisation and density 1−1083
spin polarised, production and mag. confinement 1−1084
spin polarised, spin relax. and recombination theory 1−29070
spin polarised, stability 1−1079
spin polarised, stability against recombination reactions 1−1317
spin polarised, three-body reaction rate 1−31852
spin-stabilised, storage at 1K 1−1058
stabilized, low temp. apparatus for prod. 1−268
Stark broadening of neutral lines, Model Microfield Method *(French)* 1−37152
Stark energies, electric field effects, Pade approximants, perturbation theory 1−45833
Stark energies calculation using perturbation theory *(Russian)* 1−14847
Stark profile asymmetry, differentiated population of at. states 1−41345
stochastic electrodynamics, existence of const. stationary soln. 1−23043
Sun, H I Lyman α far wing, active and quiet region photoelec. obs. 1−40448
Sun, low H abundance model, calcs. comparison with solar oscills. 1−27471
transition probabilities in intense mag. fields using adiabatic approximation, comparison with variational results 1−27366
two dimensional, eigenfunctions and eigenvalues, teaching 1−40634
wave functions, momentum representation determ. 1−6152
X-ray emission line broadening by laser prod. plasma *(French)* 1−37153
Zeeman Hamiltonian, Rayleigh-Schrodinger series calcs., review 1−51159
atoms in aqueous solution of hydrohalic acid, absorption spectra and photochemistry 1−1156
C^{6+}+H, perturbed stationary states, charge exchange cross sections 1−46099
F^+ bromotrifluoromethane reaction rate const., temp. depend. 1−48668
H and D atoms during radiolysis of 1-hexene adsorbed on SiO_2 gel 1−4110
H electron impact excitation, continuum states, close-coupling formulation 1−29119
H I 1s-2s transition peak emissivity, implications for quasar spectra 1−40575
H I burning on accreting neutron star 1−17862
H I emission, self absorpt. in QSO 2141+174 (=OX 169), UV to IR obs. 1−44664
H I emission and recomb. coeffs., appl. to exotic gaseous nebulae 1−27372

hydrogen neutral atoms continued
H I in β Lyrae, line short term fluctuation visible obs. *(Russian)* 1−17878
H I in interstellar high vel. cloud HVC 267+35+145, linewidths rel. to cloud fine struct. 1−13839
H I in QSO, with redshifted Mg II 2795, 2802 Å absorpt. features, 21 cm search 1−49845
H I Lyman alpha emission in atm. at low and middle latitudes 1−40244
H I Lyman α emission from Jupiter, spatial imaging 1−13724
H I solar recombination lines, quiet Sun intensity estimation 1−44529
H, kaonic, K-series X-rays obs. 1−1420
H, multiphoton excitation and Zeeman splitting in plasma background 1−24977
H-^{4}He, magnetic resonance studies at 1K 1−1151
H-chloromethane, excited atom reaction 1−31830
H-like atoms, approximate solution of the Dirac equation using the Foldy-Wouthuysen hamiltonian 1−18998
H-like ions, elastic electron scatt., Glauber theory, Fresnel and recoil corrections 1−10843
H-negative charge system, diatomic interactions, binding/antibinding anal. 1−37286
H+^{4}He, scattering processes at low temp. 1−1318
H+Ar, collision strengths at high speeds 1−19169
H+Ar^{18+}, electron capture, classical model 1−6375
H+$Br_2(SF_5Br)(PBr_3)(SF_5)(SF_4)$, rale const. and vibr. energy disposal 1−39609
H+$C^{2+}(C^{3+})(N^{2+})(N^{3+})(O^{2+})(O^{3+})(Ne^{2+})(Ne^{3+})$, charge transfer reaction rate coeffs., quantal calcs. 1−32615
H+$C^{3+}(N_2^+)$, charge transfer at thermal energies 1−51286
H+$C^{5+}(N^{5+})(O^{6+})$, electron capture and ionisation cross-sections calcs. 1−46108
H+C^{6+} Coulomb excitation, 1S 2S transition 1−24238
H+ClF→HCl+F, two-channel reaction, rate consts. of production and energy distrib. of products 1−48681
H+ClF→HF+Cl, two-channel reaction, rate consts. of production and energy distrib. of products 1−48681
H+Cs, single electron capture and loss, 0.1-2.0 keV 1−6374
H+F_2, variational transition state theory, vibr. adiabatic transmission coeffs. 1−6343
H+fast stripped ion, ionisation, CTC peak asymmetry 1−46107
H+H, Heitler-London interaction energy, oscillator model 1−29082
H+H ionising collisions, electron exchange effect 1−29108
H+H_2, charged particle prod., cross sections, reaction mechanisms 1−37302
H+H_2, collinear exchange reaction, evaluation of reaction probability and product distrib. 1−26716
H+H_2, pot. energy surface, isotropic and leading anisotropic terms, SCF and SCF-CI calc. 1−28898
H+H_2, vibr. energy transfer above dissoc. threshold, quasiclassical trajectory and quantal wave packet calcs. 1−37311
H+H_2 potential surface, Truhlar-Horowitz functional representation 1−41333
H+H_2 reaction pot. energy surface, vibr. and rot. effect on reactivity 1−48658
H+H^- collisions, inelastic cross sections, wavefunctions perturbation techniques 1−19163
H+H^+, atomic excitation and polarisation at medium and high energy 1−10830
H+H^+, collisions at high energies, charge exchange, electron capture theories 1−46071
H+H^+, ground state excitation, Glauber cross-section calcs. 1−46134
H+H^+, perturbation theory, coulombic and exchange energy, Pade approximants 1−14980
H+HN_3, electronically excited NH_2 form. 1−31829
H+H(H^+), H(2s) form. cross-section calcs. 1−1322
H+H(1s)→$H(1s^2)+H^+$, high-energy collisions, charge exchange, calcs. 1−1362
H+He, charged particle prod., cross sections, reaction mechanisms 1−37302
H+He, collision strengths at high speeds 1−19169
H+He^+, direct excitation collision cross section 1−1352
H+He^+, doubly differential cross sections for electron ejection in plane-wave Born approx. 1−33540
H+He^+, electron loss to low-lying continuum states of projectile, doubly differential cross section, struct. 1−24217
H+He^+, H excitation, angular differential and total cross sections 1−46103
H+He^{2+}, ionisation cross-sections, charge depend. calcs. 1−1357
H+$He^{2+}(H^+)$, electron capture, Eikonal theory 1−46097
H+$He^{2+}(Li^{3+})(Be^{4+})(B^{5+})$, electron capture cross-sections, at. wavefunctions calcs. 1−10836
H+He(Ne), pot. energy calcs., CI method 1−1319
H+highly stripped ions, electron capture, classical model 1−6375
H+ion, charge transfer recomb., Landau-Zener calcs., appl. to astrophysics 1−22671
H+K, adiabatic pot. energy curves, coupled-channel scatt. eqns. soln., ab initio calcs. 1−37102
H+Li^{3+}, electron capture 1−24244
H+methane(methane-d_4), abstraction and exchange reactions, transition states and rate const., POL-CI calc. 1−24045
H+methyl reaction, high press. rate const. 1−31842
H+muonic H, metastable, radiative collisional quenching calcs. 1−24293
H+$N_2(O_2)$, Hα and Hβ emission cross sections, appl. to H aurora 1−37146
H+NO_2, prod. of OH, mol. beam reaction 1−37243
H+Ne(Ar)$(N_2)(CO_2)$, Lyman-alpha emission, collision induced 1−29090
H+O_2(NO), spin-exchange cross-section, stored at beam spectrosc. meas., maser appls. 1−24235
H+O_3→HO_2+O reaction, laser photolysis 1−48666
H+O^{2+}, charge exchange effect on planetary nebula models 1−13825
H+proton (He^+), excitation cross sections calc., Vainshtein-Presnyakov-Sobel'man approximation appl. 1−24219
H^++H, charge transfer collisions 1−15002
H^++H, electron capture, H arbitrary excited state prod. 1−1344
H_2+H, bimolecular reactions, collision theory 1−4054
H_2+H_3, H_3^+ fragment pre-equilib. distrib. and dissoc. 1−6369
H_2+$Ne^+(Ne^{2+})(Ne^{3+})$, autoionising states formed by electron capture, energy spectra, excited states lifetime 1−24218
H_2+O(^{1}D), interaction kinetics and rate coeff. 1−31858
$(H_n{:}Li)_x$, H chain doped with Li, electronic struct., HF calcs. 1−42668
HD, depolarised Rayleigh line, broadening 1−28986

hydrogen neutral atoms continued
H(1s)+Cs, H^- form., ang. distrib., differential electron attachment and elastic scatt. cross sections 1−41459
H(2s) form. from H+H(H^+) collision, cross-section calcs. 1−1322
H(2s) form. in atom-ion and ion-molecule collisions, absolute cross-sections determ. 1−6378
H67α and H77α, recomb. line detect. in MWC 349, origin 1−36421
H(e,2e)H^+, three-body interaction with one of the masses infinite 1−29118
He+H collisional pair polarisabilities, exchange perturbation theory using elec. field variant basis sets 1−46065
He+H_2, equilib. charge distrib. of He beams 1−46090
OH, optical radiation from electron-stimulated desorption of excited particles 1−33420
Zr-Ni selective H getters for high-pressure gas discharge lamps 1−7024

hydrogen neutral molecules
abundance on Neptune and Uranus from obs. of 4-0 quadrupole band 1−22723
adsorbed layer, coverage determ. by VUV reson. fluoresc. of laser-desorbed particles 1−30554
adsorbed on Ta(Pt)(Si) surfaces, EELS detection 1−25561
adsorption, on Mg(0001), dissoc., pot. energy surface calcs. 1−42633
analytical relativistic Hartree-Fock equations within scalar basis sets 1−6121
chemisorption on Pt (111) surface, LEPS model pot. 1−8616
co-adsorbed with H_2 on Ru (001) surface, adsite symm. and vibr. struct. 1−30550
collision breathing sphere model 1−33546
corrections to incomplete basis set theory, application 1−10641
depolarised scatt., vibr., Raman obs. 1−28983
dissoc. energy, bond lengths, GO calcs. 1−10633
dissociative chemisorption, on MgO and CaO defect surfaces, CNDO investigation *(German)* 1−53473
elastic scattering of electrons, independent atom-model, exchange effects 1−19183
electric field gradient, many-body calcs. 1−41323
electron density, pseudoatom expansions 1−1067
electron impact, model exchange pots., polarisation effects 1−46140
electron impact, slow and fast excited H atom prod., isotope effect 1−6393
electron impact dissoc., H* prod. and translational energy distrib. 1−19137
electron impact electronic-vibr.-rot.-level excitation *(Russian)* 1−29129
electron impact excitation, CI wavefunctions, oscillator strength, differential and total cross section 1−37333
electron impact excitation of $b^3\Sigma_u^+$ state, semiclassical exchange pot. at intermediate energies 1−19199
electron impact total cross section 1−1367
electron impact vibr. excitation, of $X^1\Sigma_g^+$ state, cross-section meas. 1−6395
electron inelastic scatt., oscillator strengths and electronic transitions 1−15021
electron scatt., low energy, partial-wave anal. 1−33566
electron scatt., modified effective range theory 1−46118
electron scatt., static exchange approx., linear algebraic calcs. 1−41492
electron scatt., vibr. effect 1−15009
electron scatt. cross-section, exchange correction in Glauber approx. 1−46127
electronic excitation of triplet states, cross sections and rate coeff. for different vibr. levels 1−46138
emission spectra, high resolution, near 80 nm 1−24165
equation of state, enthalpy, molar vol., entropy and chemical pot. calc. 1−15566
fluorescence within Lyman and Werner bands, appl. to galactic albedo 1−49777
Franck-Condon factors, ab initio calcs. 1−51109
ground state, Stark effect calc. by perturbation theory 1−14848
GTO ab initio CI calcs. 1−6177
heterolytic dissoc. on thermally activated MgO powder surface, IR obs. 1−21782
impurity on Ti film, adsorpt. and desorpt., ISS obs. 1−25560
inelastic scatt. of H_2 from LiF(001), rot. and reorientational transitions investigated by model based on sudden approx. 1−24211
intense neutral beams, impurity conc. meas. 1−50270
in interstellar diffuse clouds, CO/H_2 abundance ratios from UV survey 1−44601
interstellar H_2, densities in mol. clouds rel. to obs. of formaldehyde 3_{12}-3_{13} line 1−27577
interstellar H_2, form. on dust grains as dense clouds heating mechanism *(Russian)* 1−49779
interstellar H_2, obs. towards Pleiades and 23 Orionis and comparison with interstellar CH^+ 1−44602
interstellar H_2 in Orion, S(9), ν=0→0 rot. line detect., IR obs. 1−49778
ionisation pot., electron affinity, excitation energy, multiconfig. MBPT calcs. 1−51135
Jupiter H_2 bulge, co-rotating magnetospheric convection 1−54414
liquid automotive fuel storage 1−48919
localised-muffin-tin-orbital basis within local-density formalism 1−6421
Lyman band emission in T Tauri, and Burnham's nebula, model, EUV obs. 1−49655
magnetisability calcs., rot. vibr. and isotopic substitution effect 1−24056
μ mesic molecule energy level calcs. in H isotopes *(Russian)* 1−10876
muon capture, muonic atoms and molecules, hyperfine populations 1−51321
NGC 7538, H II region, H_2 IR emission obs. 1−4955
nuclear spin-spin coupling const., diamag. mol. integral 1−33479
Orion Nebula, implications for H_2 density distrib. of CS high ang. resolution obs. 1−9617
photoelectron angular distributions, rot.-vib. preionisation, multichannel quantum defect theory calcs. 1−19141
polarisability calcs., rot. vibr. and isotopic substitution effects 1−24055
proton affinity determ. from proton transfer reaction kinetics 1−39602
recomb. energy distrib. on interstellar dust surface *(Russian)* 1−49782
rotational Raman scatt. for calibrating Thomson scatt. of plasmas 1−45975
rotational Raman spectrum, foreign-gas press. broadening 1−19104
solutions, vibr. and rot. Raman spectra, 40-313K 1−41386
spectral profile of H_2 in C star atm. 1-0 S(1) line 1−17835
spin polarised, two-dimensional, optimal HNC-Jastrow calcs. 1−1081

hydrogen neutral molecules continued
supersonic mol. beams, diagnostic apparatus complex for determ. beam props. 1−23368
thermal electron lateral diffusion coeff./mobility ratio at moderate E/N 1−7019
valence-repulsion energy calcs. using approx. mol. orbitals 1−14970
vibr.-rot. preionis., multichannel quantum defect theory calcs. 1−1289
vibration-rotation, cross sections 1−19163
vibrational pot., rational fraction representation, appl. 1−37290
Ar+H_2, ArH* luminesc. excitation kinetics of Ar-H mixtures, X-ray irrad. 1−6922
$B^+ + H_2$ reaction chemiluminescence 1−48656
$C^+ + H_2$, chemiluminesc. reaction, CH^+ triplet emission 1−4060
$CO:H_2$ collisions, CO rot. relax., time-resolved IR double reson. 1−29084
Cl+H_2 reaction, kinetic isotope effects for D and T substitution 1−48659
n-D_2, rotational Raman lines, broadening and shift 1−28985
F+H_2→HF+H, integral cross sections, infinite order approx., quantum mechanical calcs. 1−12972
$^1/_2F_2 + {}^1/_2$→HF, reaction energy fourth order diamag. MB-RSPT calc. 1−41297
H+H_2, vibr. energy transfer above dissoc. threshold, quasiclassical trajectory and quantal wave packet calcs. 1−37311
H+H_2 reaction pot. energy surface, vibr. and rot. effect on reactivity 1−48658
H_2, depolarised Rayleigh line, broadening 1−28986
H_2, dissociation processes in plasmas in low and intermediate pressure ranges, vibr. and vibroelectronic mechanism, recombination 1−34041
H_2, dissociative excitation, electron impact deuterium isotope effect 1−19197
H_2, electron impact, iterative static-exchange technique, photoionisation cross sections 1−19198
H_2 emission from Herbig Haro objects, interpretation, IR Obs. 1−22861
H_2, positron impact, positronium form., gerade and ungerade transitions, Jackson-Schiff approx. 1−19215
n-H_2, rot. relax., temp. depend. 1−29101
para-H_2, rot. relax., temp. depend. 1−37297
n-H_2, rotational Raman lines, broadening and shift 1−28985
H_2, Slater type orbitals, construction of bases from grouped functions of Gaussian type 1−6150
H_2 to Lw_2 molecules, models for calc. of dissoc. energies 1−41518
H_2, vibr. spectra, Hartree-Fock dielec. screening approach 1−6226
H_2-Ar(-CO_2), supersonic mol. beams, diagnostic apparatus complex for determ. beam props. 1−23368
H_2-F_2-O_2 mixture, photochemical induced combustion, appl. to chemical lasers 1−4088
H_2-H_2 collisions, rotational transitions *(Russian)* 1−41368
H_2-inert gas mixtures, Raman line vibr. broadening 1−1240
H_2-inert gas mixtures, thermal cond. meas. *(German)* 1−19853
H_2+Ar, distorted wave and close coupling calc. of cross sections above rot. transitions 1−10804
H_2+Ar, H_2 continuum excitation 1−37319
H_2+Ar^+(Kr^+), charge transfer, atom abstraction, rate consts., isotope effects, mass spectra 1−39630
H_2+Br*($^2P_{1/2}$), reactive pathways and inelastic energy transfer channels, laser investig. 1−33538
H_2+C_2, C_2 free radical intersystem crossing and reactions 1−1270
H_2+C^+, association reaction studied using drift tube mass spectrometer techniques, rate coeffs. determ. 1−8561
H_2+C^+, chemiluminescent reaction, rot. and vibr. state distrib., surprisal anal. 1−48692
H_2+C^+→$CH^+(^1\Sigma^+)$+H, low-energy passage 1−6341
H_2+CO_2, low temp. fluoresc. studies, vibr. deactivation, rate comb. determ. 1−10705
H_2+Cl^-, energy losses meas. using time-of-flight technique, mol. dissoc. 1−6345
H_2+Cs, collision broadening and shift of hyperfine struct., Lennard-Jones interactomic pot. const. calc. 1−24224
H_2+Cs, elastic collision cross section 1−19158
H_2+D→HD+H, reactive scatt., cross-sections and rate consts., 3-dimens. calcs. 1−35522
H_2+F, state-to-state reactive scatt. process, ang. distrib., DWBA study 1−35509
H_2+F, variational transition state theory, vibr. adiabatic transmission coeffs. 1−6343
H_2+F_2, vibr.-rot.-translational relax. kinetics model for HF pulsed chem. laser 1−41677
H_2+H, bimolecular reactions, collision theory 1−4054
H_2+H, charged particle prod., cross sections, reaction mechanisms 1−37302
H_2+H, collinear exchange reaction, evaluation of reaction probability and product distrib. 1−26716
H_2+H, pot. energy surface, isotropic and leading anisotropic terms, SCF and SCF-CI calc. 1−28898
H_2+H, potential surface, Truhlar-Horowitz functional representation 1−41333
H_2+H_2, adiabaticity and kinetic energy shift factors in energy corrected sudden scaling theory 1−1205
H_2+H_2, scatt. and transport cross-sections, ab initio vibrotor pot. 1−29088
H_2+H_2S^+, collision induced and metastable dissoc., mass spectra 1−17037
H_2+H^+, H(2s) form., absolute cross-sections determ. 1−6378
H_2+He, vibr.-rot. line shifts, temp. depend., close coupling calcs. 1−6365
H_2+He collisions, statistical quasiclassical approach 1−1312
H_2+He^-, He^- detachment, cross sections meas. 1−41475
H_2+He^+, H_2^+ prod., radiative mechanism calcs. 1−6146
H_2+He^{2+}, cross sections determ. by coincidence method, charge exchange, dissoc., ionisation 1−29109
H_2+I→IH+I, collinear quantum mech. reaction probabilities, calcs. using hyperspherical coords. 1−39594
H_2+inert gas atom, distorted wave and close coupling calc. of cross sections above rot. transitions 1−10804
H_2+Li^+, rot. excitation of H_2, cross sections, energy-loss obs. 1−46068
H_2+Li(2p), excitation cross sections, polarisation anal., mag. sublevel population of 2p state 1−6348
H_2+N_2O^+, reaction dynamics, isotope effects 1−12979
H_2+Na, collisional broadening of Na-D line, fluoresc. obs. 1−19050
H_2+O^+, thermal energy reactions, metastable states, charge exchange, mass spectra 1−39633
H_2+OH^+(H_2O^+), rate coeffs. and product ion distrib. 1−43649
hydrogen neutral molecules continued
H_2+OH→H_2O+H, reagent vibr. excitation effects, semiclassical trajectory calcs. 1−48660
$(H_2)_2$, photoionisation, autoionisation predissociation, spectra, mol. beam expts. 1−37273
$(H_2)_2$ spectra in zero mag. field 1−33372
H_3, 3-D ab initio pot. surface, generalised diatomics in molecules theory 1−45879
H_3, emission spectra, perpendicular bands near 7100 A, Jahn Teller interaction 1−1249
H_3 excited electronic state, predissoc. spectra 1−17048
H_3 excited states, DIM pot. energy surfaces 1−10679
H_3, pot. energy surface, generalised diatomics in mols. method 1−45878
H_4, pot. energy surface, generalised diatomics in mols. method 1−45878
H_2Ar(Kr)(Xe), Van der Waals anisotropic pot. at intermediate distances 1−46050
HD, interstellar, photodissociation, effect on H/D ratio 1−54574
HD, magnetisability calcs., rot. vibr. and isotopic substitution effect 1−24056
HD, polarisability calcs., rot. vibr. and isotopic substitution effects 1−24055
HD, vibr. eigenenergies 1−24108
HD, vibr. excited, relax. meas., using overtone pumping and photoacoustic detect. 1−1328
HD+^{2}He, vibr., deactivation cross-section and rate consts., semiclassical calcs. 1−10820
HD+Ar^+(Kr^+), charge transfer, atom abstraction, rate consts., isotope effects, mass spectra 1−39630
HD+D_2, state-resolved rot. excitation, 0-1 transitions, ang. depend. 1−37314
HD+Ne, CS and IOS degeneracy averaged differential cross sections, wave param. effect 1−6364
HD+Ne, rot. excitation, differential cross sections determ., anisotropic interactions 1−10811
$H_2(HD)(D_2)$, high resolution spectroscopy in extreme UV region, predissoc. states and widths anal. 1−24164
$He^+ + H_2$, HeH_2^+ excited state pot. energy surfaces and reaction cross sections 1−39608
H_2(v≤2,j,m)+O(^{3}P), vibr. adiabatic distorted wave studied using LEPS and fitted ab initio pot. energy surface 1−21719
I($^2P_{1/2}$)+H_2, electronic-vibr. energy transfer, optoacoustic meas. 1−10823
$Li^+ + H_2$, rot. transitions *(Russian)* 1−41368
Mg(^3P_J)+H_2 collisional quenching, physical-chemical exit channel control 1−6361
$N^+ + H_2$ reactive and nonreactive scatt., crossed beam study at energies below 3.6 eV 1−12985
Na+H_2, NaH cryst. particle laser prod. 1−8556
Na_2+H_2, NaH cryst. particle laser prod. 1−8556
O+H_2 reaction, OH($X^2\Pi_i$) prod. internal energy distrib. 1−4063
Y+H_2, chemical thermodynamics, YH_2 enthalpy of formation 1−39606
hydrogen power *see hydrogen economy*
hydrogen production *see hydrogen economy*
hydrogen storage *see hydrogen economy*
hydrogen transmission *see hydrogen economy*
hydrological techniques
estuary mouth mixing index from total alkalinity, appl. to Saguenay fjord-St. Lawrence estuary *(French)* 1−36066
geothermal waters anal., molybdenum blue appl. to As and P determs. in fluoride and SiO_2 rich waters 1−54259
groundwater flow model, stochastic parameter estimation 1−54154
infiltration of water into soil, dynamic model 1−44217
lake outflow real-time forecasting algorithm 1−32522
log normal distribution fitting of hydrologic data, Monte Carlo method 1−17634
metallic pollutants radioactive tracing, results of double radio-tracer tagging of mud in Gironde estuary *(French)* 1−27207
organic matter suspended in surface water, mass spectrometry method 1−43844
pH and pe in situ meas. 1−40207
pond seepage flow, illustration of Darcy's flow boundary integral solns. technique 1−36004
pore-pressure in borehole, estimation methods *(Hungarian)* 1−32544
prairie wetlands, enumeration with Landsat and aircraft data, new technique 1−4653
rain sampler, self-sealing design for arid zones 1−17711
rainfall estimation max. point, technique applied to N.Indian plains 1−4650
rainfall-runoff transformation for 1000 km^2 catchment areas *(French)* 1−49417
reservoirs, underground, well borehole sandface conditions from well block conditions, practical techniques 1−36081
river flow rate meas. by EM technique 1−32548
SØCØSE method, rough discharge estimation, French catchments *(French)* 1−49299
sediment interaction with water column, design of reaction chamber 1−36085
snow depth measurement, appl. of D-type snow depth recorder using optical fibres *(Japanese)* 1−4641
snow surface recognition from incomplete IR spectra 1−27313
soil, unsaturated moisture transfer diffusivity model, linearisation effects using different techniques 1−40150
soil moisture, remote sensing using L-band imaging radar 1−9153
soil moisture content, microwave remote sensing over bare and vegetated fields 1−17627
soil moisture measurement by microwave scattering-depolarisation method 1−4499
soil moisture of tilled field, remote sensing microwave radiometry 1−9152
soil remote sensing by microwave backscattering 1−35983
soil surface, moisture and evaporation, thermal IR satellite remote sensing technique 1−36082
soil water content, EM method using coaxial transmission lines 1−17710
soil water content determination, by γ-ray method 1−17709
surf zone conditions, synthetic aperture radar method and obs. 1−35989
underground stream location, US transistorised transmitter cct. *(German)* 1−27309
water pollution remote sensing, appl. of polluted waters dielectric props. and microwave emissivity meas. 1−36680
well water sampling package, meas. of pH, elec. cond. etc. 1−36084
D identification in water under natural conditions, possible appl. of nuclear-physical methods *(Russian)* 1−27278

hydrological techniques continued
Rn content, scintillation detector for groundwater and environmental radioactivity *(Japanese)* 1−44316
T tagging analysis of groundwater recharge, in Sabarmati basin 1−13497
hydrology
see also groundwater; lakes; rivers
aerosol from atmosphere, deposition vel. predictions on lakes and rivers 1−21947
south Alaska, annual hydrological cycle rel. to coastal Kenai Current in northwest Gulf of Alaska 1−27179
China, water resources and hydrology 1−54148
Cochin backwaters, Kerala, S. India, sediments props. rel. to pollution 1−53717
dolomite karst hydrochemistry, Bruce Peninsula, Ontario, Canada 1−44216
drainage basin morphometry, effect of precipitation variability 1−32470
drainage network topologic asymmetry, L index for topologic randomness 1−27216
earthquake prediction, seismic activity effect on underground and surface water *(Russian)* 1−44123
flood forecasting methods *(French)* 1−49301
floodplain inundation rel. to channel discharge 1−13495
Florida wetland, inland non-tidal, mapping 1−4550
fluorometer for tracer meas., Variosens improved 1−13606
France, urban water research and management *(French)* 1−49295
geothermal waters anal., molybdenum blue appl. to As and P determs. in fluoride and SiO_2 rich waters 1−54259
HYDROG-LIGNEAU, urban and semi-rural catchments model *(French)* 1−49305
hydrothermal systems and post-Carboniferous mineralisation 1−32401
India and surrounding oceans, microwave brightness temp. pattern, satellite radiometer obs. 1−27166
integrated rainfall, surface and underground runoff model *(French)* 1−49304
Japan, climatic division use in estimating hydrological values 1−4573
Lake Michigan basin, trace metals input from atmos. 1−22376
land-cover information for hydrological model, digital processing of aerial photographs 1−32549
levee drainage system design, multiobjective optimisation problem 1−17633
log normal distribution fitting of hydrologic data, Monte Carlo method 1−17634
mining surface hydrology, and land reclamation, conf., Dec. 1980, Kentucky, USA 1−27685
New Zealand land resources, multispectral photography obs. 1−44192
oxadiazon herbicide, in Japanese drainage systems and tap water 1−35724
Palaeolake Chad, N.Africa 1−49379
permafrost of Beaufort Sea coastal zone 1−9185
prairie wetlands, enumeration with Landsat and aircraft data, new technique 1−4653
rain simulators, tropical rainfall/runoff data determination *(French)* 1−49296
rainwater infiltration and runoff *(French)* 1−49298
RERAM program, urban runoff studies *(French)* 1−49306
rock and mineral erosion to form plutonic conglomerates and Au, U, diamond deposits *(Russian)* 1−13498
runoff coefficient determination, statistical approach, flood flow forecasting appl. *(French)* 1−49297
runoff response to soil heterogeneity, comparison for two watersheds 1−36006
Sabarmati basin, groundwater recharge, T tagging analysis 1−13497
Sahel region, runoff model *(French)* 1−49303
Saone river valley at Lyon, rainfall/runoff *(French)* 1−49302
snow cover in Hokkaido, regional characts. *(Japanese)* 1−9186
snow cover on Mount Daisetsu, Hokkaido, Japan, water equivalent distrib. *(Japanese)* 1−9187
snowfall detector trial construction using heater plates *(Japanese)* 1−13618
snowmelt runoff forecasting using synoptic obs. of streamflow, air temp. and precipitation 1−36015
soil, hydrology rel. to lower atmosphere one-dimensional circulation and climate model 1−4561
soil moisture content, microwave remote sensing over bare and vegetated fields 1−17627
soil moisture index calculation, Gardon d'Anduze catchment area *(French)* 1−49300
soil recharge due to rain, tritium obs. following nuclear tests 1−49309
STORM, continuous flow simulation model *(French)* 1−49307
surface effective rain evaluating conceptual models for small basin management *(Italian)* 1−36001
watershed monitoring, information database development 1−32481
S.Yukon, drainage and physiography, evolutionary study 1−40144
Zin valley badlands, Negev, runoff and erosion processes 1−13491
Cu ions in waste and potable water of Sri Lanka cities 1−21945
hydromagnetic waves *see magnetohydrodynamic waves*
hydromagnetics *see magnetohydrodynamics*
hydrometers
see also density measurement
LPG, correction concerning press. and gas buoyancy *(Japanese)* 1−5285
transformation in mists during explosion by laser pulse 1−46230
hydrophones
see also sonar
cylindrical hydrophones, tangentially polarised piezoelectric transducer with preamplifier, parameter optimisation 1−24644
fibre optic hydrophone, multimode, based on schlieren acoustooptic intensity modulation 1−41841
fibre-optic noise-equivalent pressure 1−37740
fibre-optic sensors, passive multiplexing system, hydrophone array system appl. 1−6658
free-field reciprocity calibration in the transition range between near field and far field 1−11267
horizontal hydrophone arrays in shallow water, gain of spatial receiver structs., signal processing techniques 1−6708
hydroacoustic signal meas. using wideband hydrophones with cylindrical piezoelec. element transducers 1−24629
intensity modulated optical hydrophone 1−29503
laser hydrophone, He-Ne laser output acoustic depend. on press. 1−19530
miniature piezoelectric polymer hydrophones for US field characterization 1−51683
hydrophones continued
multiple scattering and acoustic interactions among two parallel hydrophones and planar baffle 1−46607
noise correlation functions for anisotropic noise fields 1−37712
optical fibre microbend acoustic sensor, construction and characts. 1−6662
orientation mechanism for far-field US beam pressure distrib. plotting 1−37760
pressure gradient, compact polyurethane foam flow shield, near field noise suppression appl. 1−29502
sonar hydrophone array output, signal processing, Fredholm integral eqn. of first kind 1−51664
sparse array processors, S/N ratio gain 1−11250
three array processor (TAP III) frequency domain beamforming system 1−37736
hydrophotometers *see photometers*
hydrostatics
atmosphere hydrostatic flows, asymptotic derivation of ageostrophic model 1−49328
capillary liquid, in slit, stability margin of equilibria states 1−2549
extrusion, of nonlinear viscous body through arbitrary die *(Ukrainian)* 1−26540
glass tubes, crack bifurcation under hydrostatic press. 1−26587
hydrostatic extrusion, solid-lubricant entrainment 1−30318
interstellar molecular clouds, steady state hydrostatic models 1−27580
hydrothermal crystal growth *see crystal growth from solution*
hydroxonium ion
No entries
hydroxyl group *see oxygen compounds*
hygiene
see also medicine
No entries
hygrometers
see also humidity measurement
atmosphere, humidity determination by IR spectral absorption measurement *(French)* 1−44331
IR hygrometer for astron. site testing 1−44318
IR hygrometer to meas. atm. humidity 1−22537
microprocessor-based, characts. 1−40799
thermodesorption gas hygrometer with power-differential transformation 1−27993
hyperfine field interactions (condensed matter)
see also crystal hyperfine field interactions; nuclear screening
t-butyl-d, radical, EPR spectra, high order effects 1−21054
ferromagnet, NMR frequency shift due to high-freq. electron spin oscills. effect 1−3275
nuclear spin systems, hyperfine interaction *(Dutch)* 1−47596
paramagnetic-clusters, Mossbauer hyperfine spectra 1−34961
Al-Mg dilute alloys electric field gradient calcs. 1−20689
BeF_2 glass, ESR obs. of paramag. states and ferrimag. phases of Fe-group impurities 1−31019
$Eu_{80}Au_{20}$, amorphous, electronic, mag. and struct. props. from hyperfine interactions 1−25680
$(Fe,Ni)_{100-x}B_x$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
Fe-B amorphous alloys, Mossbauer spectroscopy study 1−43045
Fe-metalloid ferromagnetic metals, hyperfine fields 1−20680
$Fe_{80}B_xM_{20-x}$ (M=Ge,Si,C,P), Mossbauer study, distribution of hyperfine fields 1−31073
$Fe_{82}B_{12}Si_6$, amorphous, Mossbauer study 2 to 796K 1−21098
$Fe_{74}Co_{10}B_{16}$, Metglas 2605CO, Mossbauer study, crystn. and Curie temps. 1−39015
$Fe_{100-y-x}Cr_yB_x$ amorphous alloy, saturation magnetization and Mossbauer spectra 1−25986
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{40}Ni_{38}Mo_4B_{18}$, Metglass 2826, amorphous ferromag., Mossbauer obs. 1−47990
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{80}P_xM_{20-x}$ (M=Si,C,B), Mossbauer study, distribution of hyperfine fields 1−31073
Li-Na(Mg)(Pb), liq., nuclear spin-lattice relax. rate meas. 1−31054
Li_2O-Al_2O_3-SiO_2-TiO_2-SnO_2 system glasses, γ-irrad., ESR obs. of Sn^{3+} additions effect on crystn. 1−52829
Mn^{2+} in glasses, EPR spectra simulation 1−16473
Se, liq., struct. and electronic transforms, ^{77}Se NMR study 1−12413
SiO_2, glassy, γ-irrad., ESR study of E′-centres, ^{17}O, ^{1}H, and very weak ^{29}Si superhyperfine struct. 1−21048
V_2O_5:WO_3 amorphous, EPR study, random glass struct., electron localisation 1−47937
hyperfine field interactions in crystals *see crystal hyperfine field interactions*
hyperfine structure, atomic *see atomic hyperfine structure*
hyperfine structure, molecular *see molecular hyperfine structure*
hyperfragments *see hypernuclei*
hypernuclei
spectroscopy taking account of structure of core nucleus 1−33231
(K^-, π^-), Λ-hypernucleus prod. forward cross section in DWIA 1−50541
Λ hypernucleus, relativistic zero-range mean-field model 1−41068
Λ hyperon spin-orbital interaction, one boson exchange model *(Russian)* 1−5726
Λ-binding energy, half off shell t-matrix, ΛN S-wave energy depend. pots. 1−5725
Λ-hypernuclei, dynamical approach Λ-core binding energy 1−658
Λ-hypernuclei and nuclei, relativistic single particle motion and spin-orbit coupling 1−50540
ΛN, light quark mass differences and charge symmetry breaking, hypernuclear binding energy 1−18510
ΛN potentials, excited states of Λ particle 1−41071
(π^+,K^+) hypernuclear struct., high spin state prod., PWA, DWIA and eikonal calcs. 1−14489
Σ hypernucleus, relativistic zero-range mean-field model 1−41068
$^3H_\Lambda$, theoretical ΛN pot. tests, triplet force tensor force 1−14488
$^4H_\Lambda$, excited states, γ-transitions 1−50542
$^AH_\Lambda$, A=3,4, YN interaction, explicit A depend. 1−41070
$^4He_\Lambda$, excited states, γ-transitions 1−50542
$^4He_\Lambda$, YN interaction, explicit A depend. 1−41070
$^4He_\Lambda$-$^4H_\Lambda$ comparative binding energy differences for four YN pot. models 1−41069

hyperon absorption
No entries
hyperon capture
see also hypernuclei
No entries
hyperon decay
$1^{--} \rightarrow 0^{-+}\gamma$ decays and hyperon mag. moments, asymptotic SU(3) sum rules 1−45284
charged hyperon β-decay, β-energy spectrum, general form radiative corrections 1−554
decuplet baryon resonance decay in nonlocal quark model *(Russian)* 1−40993
diquark model and nonleptonic decays of hyperons 1−504
nonleptonic decay, unified phenomenological approach 1−36861
radiative decay, weak, flavour changing 1−563
Λ, nonleptonic decay, unified phenomenological approach 1−36861
$\Lambda \rightarrow n\gamma$, flavour changing radiative decays, short and long distance effects 1−563
$\Lambda^0 \rightarrow pe^-\bar{\nu}$, ratio of axial vector coupling to vector coupling 1−28316
Λ_c^+ multiprong decay lifetime from neutrino and antineutrino interactions 1−546
$\Lambda_c^+ \rightarrow pK^-\pi^+$, decay of Λ produced in neutrino interactions 1−23495
νN, Λ_c^+, D^+ and D^0 charm particle lifetimes 1−10199
Ω^- and hyperon nonleptonic weak decays in Weinberg-Salam model, MIT bag model 1−45277
Ω^- nonleptonic two body decays, quark diagram model 1−555
$\Omega^- \rightarrow \Xi\gamma$, doubly suppressed flavour changing radiative decays, short and long distance effects 1−563
Σ, nonleptonic decay, unified phenomenological approach 1−36861
$\Sigma^+ \rightarrow p\gamma$, asymmetry parameter and branching ratio 1−14394
$\Sigma^+ \rightarrow p\gamma$, suppressed flavour changing radiative decays, short and long distance effects 1−563
Ξ, nonleptonic decay, unified phenomenological approach 1−36861
$\Xi \rightarrow \Sigma\gamma$, weak gamma decays and the nonleptonic weak Hamiltonian 1−50425
$\Xi^0 \rightarrow \Lambda\gamma$, flavour changing radiative decays, short and long distance effects 1−563
$\Xi^0 \rightarrow \Sigma^0\gamma$, flavour changing radiative decays, short and long distance effects 1−563
hyperon detection and measurement
scintillation hadron calorimeter with wavelength shifter read-out 1−37065
hyperon-deuteron interactions
see also hyperon-deuteron scattering
No entries
hyperon-deuteron scattering
see also hyperon-deuteron interactions
No entries
hyperon effects
No entries
hyperon interactions *see hyperon-nucleon interactions; hyperon-nucleus reactions; kaon-hyperon interactions; lepton-hadron interactions; photon-hadron interactions; pion-hyperon interactions*
hyperon magnetic moment
$1^{--} \rightarrow 0^{-+}\gamma$ decays and hyperon mag. moments, asymptotic SU(3) sum rules 1−45284
mirror properties in constituent quark model 1−50434
quark model, configuration mixing contributions 1−40997
quark-moment contributions to baryon magnetic moments 1−14385
Λ, pion cloud contributions 1−23498
Σ, pion cloud contributions 1−23498
Ξ, pion cloud contributions 1−23498
hyperon mass
No entries
hyperon-nucleon interactions
see also hyperon-nucleon scattering
hypernuclei with realistic ΛN potentials, excited states of Λ particle 1−41071
nuclei, hyper-, spectroscopy taking account of structure of core nucleus 1−33231
Λn, energy levels, unitary symmetrical energy band 1−18505
ΛN, light quark mass differences and charge symmetry breaking, hypernuclear binding energy 1−18510
ΛN in Λ hypernucleus, relativistic zero-range mean-field model 1−41068
ΛN potentials, excited states of Λ particle in hypernuclei 1−41071
ΣN in Σ hypernucleus, relativistic zero-range mean-field model 1−41068
hyperon-nucleon scattering
see also hyperon-nucleon interactions
elastic scattering formalism 1−23519
one boson exchange interactions, quark exchange scatt. and quark interchange, QCD bag model 1−10249
hyperon-nucleus reactions
for inelastic hyperon-nucleus scattering, see "hyperon-nucleus scattering"
see also hyperon capture; hyperon-nucleon interactions
No entries
hyperon-nucleus scattering
see also hyperon-nucleon scattering
No entries
hyperon production
quark counting and the production of hyperons in hadronic collisions 1−50465
quark dynamics of polarization in inclusive hadron production 1−50476
$e^+e^- \rightarrow \Lambda(\bar{\Lambda})$, 4.5 to 6 GeV 1−50450
$\gamma N \rightarrow \Lambda_c^+ \bar{D}^0$, charmed pair prod. in nuclear emulsion 1−45317
$\gamma p \rightarrow K^+\Lambda(1520)$, 2.8-4.8 GeV, strangeness exchange, total and differential cross sections 1−28330
hp, 63, 93 GeV, h=π, K, p, $\bar{p}$, associated prod. of strange particles and ϕ mesons 1−28357
$K^-d \rightarrow \sigma^- p\pi^+\pi^-$, 1.45 to 1.65 GeV, Σ^-p resonant struct., invariant mass distrib. 1−5647
$\bar{K}N \rightarrow \Lambda\pi$, Adler constraints in soft pion limit, $\pi\Lambda\Sigma$ and $\pi\Sigma\Sigma$ coupling constants 1−23514
$K^-n \rightarrow \Lambda\pi^-$, differential cross-section and polarization, Regge pole model with phenomenological residue functions 1−45344
$Kp \rightarrow Xp$, 50 GeV, $K\pi$ and $\bar{\Lambda}p$ resonant final states 1−45360
K^-p, 32 GeV/c, Λ prod., fragmentation, hypercharge annihilation and polarisation effects 1−595
K^-p, 4.2 GeV/c, $\Xi(1320)$ and $\Xi(1530)$ prod., total and differential cross sections 1−50462
hyperon production continued
K^-p, 70 GeV/c, hypercharge exchange reactions and hyperon resonance production 1−14422
$K^-p \rightarrow K^0X$, 32 GeV/c, one, two or three strange particles (K^n or Λ) in final state 1−36892
$K^-p \rightarrow \Lambda\pi^0$, differential cross-section and polarization, Regge pole model with phenomenological residue functions 1−45344
$K^-p \rightarrow \Sigma^-\pi^+\pi^+\pi^-$, 4.2 GeV, partial wave anal. 1−28347
$K^0p \rightarrow \Lambda\pi^+$, 1-8 GeV, backward cross-sections, energy and momentum depend., Λ polarisation 1−14417
$K^0p \rightarrow \Sigma^0\pi^+$, 1-8 GeV, backward cross-sections, energy and momentum depend. 1−14417
$K^+p \rightarrow \Xi^+(\bar{\Xi}^-)X$, 32 GeV/c, production cross-sections 1−23525
$K^\pm p$, low p_T hadronic reactions and inclusive resonance prod., quark-parton model, review 1−10283
$K^-p\Lambda^0\pi^0(\Sigma^0\pi^0)$, 150 to 480 MeV, Y* resonance prod. 1−45345
Λ production in charged current $\bar{\nu}_\mu N$ interactions 1−40980
Λ_c^+ production, associated charm particle photoproduction in nuclear emulsion 1−50583
$\bar{\nu}_\mu N$, production of neutral strange particles, charged current events 1−40980
$pN \rightarrow \bar{\Lambda}^0X$, 28.5 GeV/c, $\bar{\Lambda}^0$ polarisation, $\bar{\Lambda}^0/\Lambda^0$ prod. comparison 1−14426
pp, Δk channel, three-component-dual-deck-model 1−41013
$pp \rightarrow \bar{D}\Lambda_cX$, 63 GeV, charm particle prod. cross sections 1−50475
$pp \rightarrow \Lambda_c\bar{\Lambda}_cX$, 63 GeV, charm particle prod. cross sections 1−50475
$\bar{p}p \rightarrow \Lambda\bar{X}$, pol. $\bar{p}$ and Λ, p and $\bar{\Lambda}$ or p and $\bar{p}$, large p_T prod., QCD factorisation test 1−14427
$pp \rightarrow pX$ (ΔX), 400 GeV/c, polarisation in inclusive prod. 1−45372
π^+d, 24 GeV/c, inclusive K_s^0, Λ and $\bar{\Lambda}$ prod., cross sections and polarisation 1−33206
$\pi\Lambda \rightarrow \pi\Sigma$, Adler constraints in soft pion limit, $\pi\Lambda\Sigma$ and $\pi\Sigma\Sigma$ coupling constants 1−23514
π^-N, 40 GeV/c, in ^{12}C, multinucleon interactions with prod. of two Λ hyperons *(Russian)* 1−36889
$\pi^-p \rightarrow K_SK_S\Delta^0$, 15.4 GeV/c, peripheral production and decay of $K_S^0K_S^0$ 1−10260
$\pi^-p \rightarrow K^0\Lambda(\Sigma^0)$, 3.95 GeV/c, differential cross sections and hyperon polarisation 1−18512
$\pi^-p \rightarrow K^0\Sigma^0$ (1385), 3.95 GeV/c, cross sections and Σ density matrix elements 1−5646
$\pi^-p \rightarrow K^+\Sigma^-$(1385), 3.95 GeV/c, cross sections and Σ density matrix elements 1−5646
$\pi^-p \rightarrow K^{*0}(890)\Lambda^0/\Sigma^0$, 10 GeV/c, hypercharge exchange, K^{*0} polarisation 1−10254
$\pi^-p \rightarrow \Lambda X$, 40 GeV, Λ polarisation meas. *(Russian)* 1−36891
π^+p, 70 GeV/c, hypercharge exchange reactions and hyperon resonance production 1−14422
Σ(1385) production in charged current $\bar{\nu}_\mu N$ interactions 1−40980
hyperon resonances
decuplet baryon resonance decay in nonlocal quark model *(Russian)* 1−40993
hyperon scattering *see hyperon-nucleon scattering; hyperon-nucleus scattering; kaon-hyperon scattering; lepton-hadron scattering; photon-hadron scattering; pion-hyperon scattering*
hyperon spin and parity
No entries
hyperons
see also hyperon resonances
charmed baryons with strangeness in QCD 1−10156
dihyperons, dissociation calculations for S-wave multiquark systems 1−40963
linear baryons and SU(3) breaking 1−10104
strangeness −2 and −3 baryons in a quark model with chromodynamics 1−45216
Γ electric dipole moment limit 1−45286
H dihyperon, dissociation calculations for S-wave multiquark systems 1−40963
H* dihyperon, dissociation calculations for S-wave multiquark systems 1−40963
KNY coupling constant, extrapolation of $K^\pm p$ forward scatt. amplitude 1−41010
$\pi^-p \rightarrow \Lambda X$, 40 GeV, Λ polarisation meas. *(Russian)* 1−36891
hypersonic flow
blunt bodies, radiative-convective heat exchange during hypersonic flow, radiation reflection effect 1−51776
blunt body, hypersonic viscous shock layer near stagnation streamline, blowing influence 1−37963
boundary layer, with mass transfer, on power-law bodies 1−15512
corners, symm. external axial, flow, numerical calc. 1−2020
detonation wave propagating in variable density medium, population inversion 1−33979
double Mach reflection of oblique shock waves in pseudostationary flows 1−46774
half cone flat surface, heat flux redistrib., Re∼10^6, Mach no.6.1, separation regions 1−24777
interaction problem with slip and temp. effects 1−15509
irrotational axially symmetric hypersonic flow eqn., self-similar solns. 1−29719
local supersonic zones form. near shock waves, Mach number, angle of attack effect 1−2022
MHD waves, propagation effect of thermal radiation 1−15551
multiphase flows, interactions 1−15510
newtonian model of a hypersonic rotating flow past a system of circular discs 1−6869
nonequilibrium hypersonic flow over the lateral surface of blunt bodies 1−15511
nonequilibrium ionised hypersonic flow, in region perturbed by thin blunt body *(Russian)* 1−51806
oscillating nonplanar wedges, large incidence hypersonic similitude, bow shock 1−19744
plate exposed to stepwise-decelerated hypersonic flow, weak interaction induced pressure 1−51807
positive ions, in low-density flow on surface, energy accommodation coeffs. 1−46864
resonant Doppler velocimeter for hypersonic flow field meas. in He 1−38022
sphere, hypersonic flow of rarefied gas, shock waves 1−29727
sphere core body, viscous hypersonic flow, simplified Navier-Stokes eqns. *(Chinese)* 1−29718

hypersonic flow continued
unsteady laminar laser heated boundary layers at a three-dimensional stagnation point 1−24763
viscous interaction in hypersonic gas flow over conical bodies 1−24836
CO_2 gas, hypersonic nonequilibrium flow, blunt body radiative heating 1−19836
CO_2 nonequilibrium hypersonic flow over blunt bodies convection, friction stress calc. 1−19747
Xe gas, shock wave, ionisation instability 1−42070
hypersorption *see sorption*
hypertritons *see hypernuclei; tritons*
hypervirial theorem *see quantum theory*
hypochromism *see light absorption*
hypothetical particles
see also charm particles; heavy leptons; intermediate bosons; magnetic monopoles; quarks; tachyons
exotic baryons, level structures in joined spring model and statistics of quarks 1−45210
exotic relics from the big bang 1−44681
heavy elementary particles in early Universe, effects on primordial gravitational-wave spectrum 1−44429
spin 3/2 leptons, prod. and decay props., V±A currents 1−601
θ particles, theta strings and thetons, gauge interaction and confinement 1−494
hysteresis
see also coercive force; control nonlinearities; dielectric hysteresis; elastic hysteresis; magnetic hysteresis; remanence
approximation functions for hysteresis curves *(German)* 1−33927
elastomers, elastic matrix detachment from rigid spherical inclusion 1−26525
fatigue, low-cycle, anal. based on hysteresis energy 1−39418
ferromagnetics magnetisation in unidirectional field, mathematical model *(Russian)* 1−25979
high pressure scale, calibration 1−32953
metal hydrides, engineering appls. HY-STOR 1−21939
metals, statistical theory of hysteresis loop *(Czech)* 1−3837
power transformers, open-circuit, fixed losses separation and voltage wave study *(Spanish)* 1−30973
steel plates, adsorpt. and hysteresis behaviour of crack-detecting liq. penetrants 1−47374
superconducting superheated granules, density of nucleation centres of normal state and mag. interactions 1−20901
As-Ge-S(Se) system, optical and elec. props. 1−3387
$CaCO_3$ calcite, high press. polymorphic transitions 1−44175
CdS, polymorphism at high press. 1−34274
GaAs-metal and GaAs-electrolyte contacts under forward bias, capacitance-voltage behaviour 1−7732
Hg porosimetry, influence of contact angle on hysteresis 1−47330
$(La_{0.5}Ce_{0.5})Ni_{5-x}Co_x$, absorption of H_2, hysteresis effects 1−2632
$LaNi_5$, absorption of H_2, calorimetry within hysteresis loops 1−2631
Pb, doped, hysteresis of low-temp. dislocation internal friction *(Russian)* 1−30322
$Pb_{5-x}Ba_xGe_3O_{11}$, ferroelectric, high press. studies 1−34995
PuH_x (x=1.9 to 3.0), phase equilibria and thermodynamics props. 1−3705
Rb_2ZnCl_4, crit. phenomena and anomalous thermal hysteresis accompanying normal-incommensurate phase transitions 1−39046
$Si_xO_yN_z$ films for MIS struct., memory hysteresis meas. 1−3071
SnTe, polymorphism at high press. 1−34274
I-II-VI_2 semiconductors *see ternary semiconductors*
I-III-VI_2 semiconductors *see ternary semiconductors*
IC *see integrated circuits*
IC engines *see internal combustion engines*
ice
see also glaciology; sea ice; snow
aerosol particles, electrically charged, capture efficiency by ice cryst. plates 1−32499
aging of accreted ice 1−22412
asteroid 2060 Chiron, no evidence for water ice from VJHK photometry 1−44503
in astronomical bodies, volumetric electrolysis rel. to fate of planet Phaethon 1−54410
atmosphere, simple ice crystal plates collecting aerosol particles (diameter >1 μm) 1−22452
atmosphere columnar ice crystals in clouds collecting aerosol particles diameter <1 μm 1−22451
atmospheric particulate physical props., ice crystal fine struct. classification 1−8783
climatology, ice albedo feedback rel. to derivation of zero-dimensional climate model 1−4605
cloud liquid, cool, obs. with aircraft icing and ground base microwave radiometry 1−44268
cloud pattern recognition techniques 1−54231
cloud research, feature extraction and selection 1−54300
clouds, scatt. and extinction at 10.5-μm 1−40187
Comet West (1976 VI), icy grain halo, nucleus model and emission 1−22732
in comets, phase transition, rel. to heart and mass balance 1−17790
crystals, naturally occurring, classification, form. and occurrence in atmosphere 1−9234
deuterated, Ag impurities, electron spin echo modulation, Fourier transform spectrum 1−16480
dislocation dynamics, quantum mech. approach 1−25268
dislocation loops formation mechanism, in single crysts. grown from melt 1−11752
erosion by fast light ions, linear and nonlinear processes 1−15937
film, MeV ion bombardment anomalous sputtering yield, mechanisms, expt. 1−12618
frost formation at nighttime, expt. test of heat flux calcs. 1−13511
on Galilean satellites, effects of water thermal migration on ice distrib. 1−4814
hail, falling stones, stroboscopic obs. 1−13524
hail growth in storm clouds, Colorado, USA 1−49339
hail growth mechanism, storm in Colorado, USA, radar obs. 1−49338
hailstone growth thermodynamics, numerical model 1−49340
hailstones formation is supercell hailclouds *(Russian)* 1−44244
heterogeneous nucleation on surfaces of liquids 1−11846
hexagonal columns and Sun pillars, analytical model 1−4614
high-pressure ice VI, liq. figures due to internal melting 1−20361
ice continued
hydrometeor terminal vel., altitude and electrical force effects 1−22411
ice VI-ice VII-water coexisting state, high press., supercooling, phase transitions obs. 1−11847
Ih, creep and failure 1−53239
IV, V, dipolar correlation factor and permittivity 1−7994
lake, remote sensing by airborne microwave radiometer 1−32482
Lake Kuttara, Japan, ice thickness correl. with air temp. *(Japanese)* 1−9188
melting into salinity gradient, appl. to icebergs 1−4513
nucleating activity of copper acetyl acetonate, dispersity effects 1−48752
nucleation and condensation-freezing at low supersaturation levels *(French)* 1−13541
Okhotsk Sea, drift ice movement off Hokkaido coast in winter (1979) *(Japanese)* 1−9170
Periodic Comet Schwassmann-Wachmann 1, evidence for ice band during outburst from VJHK photometry 1−44503
permafrost in crusts of Galilean satellites and Mars *(Italian)* 1−44461
phase relations under pressure 1−2614
phase transition, computer simulation using Lennard-Jones pot. 1−52285
phase transition, thermodynamic energy computed using Monte Carlo methods 1−38511
piezothermal method applied to molecular organic compounds and water−liquid phases and melting 1−30431
polar regions, review of research 1−27167
proton mobility meas. 1−20452
radiowave attenuation and depolarization at 19 GHz 1−54232
Raman spectra of polarisability derivative, O-D bond stretching coord. 1−35023
remote sensing of ice clouds from satellites 1−9293
rotationally ordered and disordered lattice energies, induced dipole vectors and elec. fields 1−25193
Saturn rings, near IR spectrum, ice interpretation 1−22720
Saturn rings, water frost photodissoc. as source of magnetospheric plasma 1−40388
Saturn satellites, water ice sputtering rel. to Saturn plasmasphere extreme UV emissions 1−40400
sea ice, passive microwave imagery at 33 GHz 1−13486
sea ice, studies of interaction between ice floes *(Japanese)* 1−4516
sea ice floes interaction, periodic change in ice field horizontal divergence accompanied by inertial periodic motion *(Japanese)* 1−9171
sea ice in E. Greenland Current, bimodal distrib. rel. to climatic history 1−4604
sea pack ice, characts. of movement and effects of wind and ocean currents *(Japanese)* 1−9172
slab partly sliding over and partly adhering to bed, stress concentration and velocity distrib. 1−17629
solidification in water-N_2 gas two-phase flow 1−10485
sublimation from organic substances, simulation of comet grains *(Russian)* 1−54426
supercooled water, heterophase fluctuations and thermodynamic properties 1−42518
surface, transition layer, interfacial free energies 1−34565
surface free energy, calc. 1−34552
thermal cond. of Ih phase, Gruneisen parameter 1−11926
thickness meas. with FM-CW radar 1−27315
transport measurements in the Arctic ice-pack 1−4517
vitreous state formed by jet freezing of pure liq. and aq. solns. 1−25409
wire regelation at low temperatures 1−16023
Yukon rivers, winter water quality var., dissolved O_2 rel. to ice cover 1−17637
iconoscopes *see television camera tubes*
identification
see also control theory; correlation methods; frequency response; modelling; parameter estimation; simulation; state estimation
multiparticle nuclear reaction identification and poorly measured event rejection criteria 1−1005
plasmatron control design, system identification theory *(Russian)* 1−2254
tracer kinetics, compartmental system with known struct., identification, optimal sampling condition 1−43995
iets *see tunnelling spectra; tunnelling spectroscopy*
IEXE *see ion microprobe analysis; X-ray chemical analysis*
i.g.f.e.t. *see insulated gate field effect transistors*
ignition
see also electric ignition
combustion, D-T mixtures, integral time function calcs. *(Russian)* 1−24975
exothermic spherical mass with diminishing reaction rates, criticality and spontaneous ignition 1−17057
gasless system, ignition by combustion wave, limiting conditions 1−13008
propane-air microwave stimulation combustion bomb in extended lean limit 1−39642
pulverised coal, investigation of ignition and burnout using shock tube techniques 1−26744
pulverised fuel ignition temp. determination, practical method 1−26807
vacuum arc switch ignition, 10 kHz, circuit configurations 1−25116
CO oxidation, oscillations, glow and ignition in closed reaction vessel, effect of added H_2 1−43659
Ta-W(-Hf), ignition after prolonged high temp. oxidation, stress generation and mech. prop. interaction 1−16970
II-III_2-VI_4 semiconductors *see ternary semiconductors*
II-IV-V_2 semiconductors *see ternary semiconductors*
II-VI semiconductors
(110) surface reconstruction theory 1−16327
CdS, nonequilibrium cond., variation rel. to X-ray exposure 1−42822
crystal growth at the Research Institute for Technical Physics 1−8206
crystal growth by sputtering review book contrib. 1−48260
energy band structure, d-state effects, OPW calc. 1−34623
exciton-exciton elastic scatt. cross section 1−38729
ionicity of III-V and II-VI compounds with zincblende and wurtzite struct. 1−15830
polyacetylene p-$(CH)_x$:n-CdS heterojunctions, semicond. props. 1−2981
reconstructed surface, atomic geometry, surface states 1−52401
solar cells, photovoltaic science and eng. conf. Tokyo, Japan (Nov 1979) 1−7
sphalerite, wurtzite and chalcopyrite structs., magnitude and freq. dispersion calc. of quadratic nonlinear susceptibility 1−1625
two-photon absorption theory in Zn blende semiconds., three-band nonparabolic model 1−31160

II-VI semiconductors continued
Al-ZnTe-Al structure, thin film memory device characts. 1−30840
Al_2O_3-CdSe interface in thin-film transistor, accumulation, electron states 1−20872
Bi-CdTe pair superlattice, elec. optical and struct. props. 1−38846
$Cd_{0.2}Hg_{0.8}Te$ film, appl. of Hg plasma sputtering system pressure regulator *(French)* 1−12656
$Cd_{0.2}Hg_{0.8}Te$, surface comp., SIMS, AES, and XPS study 1−30538
$Cd_{0.21}Hg_{0.79}Te$, generation-recomb. noise 1−20834
$Cd_{1-x}Hg_xTe$, Debye temp. and thermal expansion temp. depend. *(Russian)* 1−2583
$Cd_xHg_{1-x}Te$, Hall effect and elec. cond. *(Russian)* 1−2993
$Cd_xHg_{1-x}Te$ nonequilibrium carrier lifetime meas. by photoconduction relaxation 1−47670
$Cd_xHg_{1-x}Te$, photoelectric props. obtained by chem. diffusion 1−16311
$Cd_xHg_{1-x}Te$, plastic bending 1−12795
$Cd_xHg_{1-x}Te$ semimetallic alloys, transport coeff. calc. by variational method, 14 to 300K 1−20740
$Cd_xHg_{1-x}Te$, sputtering yield for Hg ion bombardment, 200 to 800 eV 1−43235
CdO:S, defect struct., elec. and diffusion props. 1−30748
CdS, absorption bands due to plastic deform., dislocation obs. 1−12535
CdS, acoustoelectric phonon domains, acoustic impulse generation by piezoelec. shock 1−16320
CdS, appl. to charge transfer radiography 1−43973
CdS, biexcitons, active nonlinear spectroscopy, propag. effects and Fano interf. 1−46453
CdS chemically sprayed film and cell analysis, structural approach 1−8723
n-CdS, conference, Wurzburg, West Germany (Oct. 1979) 1−44702
CdS crystals, luminesc. spectra when frozen into solid He, N_2 laser excitation, optical cryostat design 1−18237
CdS crystals, resonance-enhanced transient reflectivity via exciton polaritons 1−48111
CdS, current noise spectra, acoustoelectric displacement and current fluctuations 1−52612
CdS, determ. of excitonic parameters of A polariton from magnetoreflectance spectroscopy 1−8092
CdS, diffusion of Ga, conc. and orientation depend. 1−20465
n-CdS, drift and acoustoelec. Hall effects, acoustoelec. current, inhomogeneities due to IR quenching of photocond. 1−20827
CdS, ESR of shallow donors 1−34925
CdS electrodes, amorphous thin film and polycryst., electrolum. props., photoelectrochemical cell appl. 1−17220
n-CdS, electron dynamics, spin-flip Raman scatt. obs., model amorphous antiferromag., Faraday rot. 1−48083
CdS, electron mobility, cluster formation and struct. changes, 300 to 1200K 1−34712
CdS, electron stimulated adsorption of O_2, surface activation and preferential binding, AES and PS study 1−2820
CdS, electron-hole plasma 1−47695
CdS, emission edge, temp. shift 1−3482
CdS, energy loss mech. for hot electrons, oscillatory photocond. and magnetophonon effect 1−3010
CdS, epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
CdS, exciton-exciton elastic scatt. cross section 1−38729
CdS, exciton-plasmon interaction in nonequilibrium electron-hole plasma *(Russian)* 1−52496
CdS, excitonic polariton dispersion curves 1−47501
CdS, excitonic solid, press. quenching, anomalous mag. and elec. behaviour 1−30327
CdS faceted substrate, Cu_2S film growth rate, morphology, grain boundaries 1−34590
CdS film evaporated onto GaAS substrate, struct. and elec. props. 1−34597
CdS films, defect distrib. during mechanical treatment *(Russian)* 1−15895
CdS films, spray pyrolysed, intense room-temp. photoluminesc. obs. 1−48129
CdS, gliding dissociated dislocation obs. 1−38374
CdS, growth of large grain thin films on amorphous substrates, quasi-rheotaxy 1−35180
CdS, high density phase of excitons, refl. spectra meas. 1−26229
CdS, high temp. polymorphism at press. up to 8 GPa, X-ray diffr. study 1−2625
CdS holographic grating recording, coherent optical beam dynamic conversion mechanisms 1−33639
CdS, hyper-Raman scatt. in strong mag. fields 1−52938
n-CdS, impurity-phonon resonances, low temp. photo- and magneto-transport 1−30788
CdS integrated element for scanning acoustic microscopy 1−41935
n-CdS, kinetic anal. of time-depend. evaporation rate from {0001} surfaces 1−34547
CdS laser, optical gain meas. method 1−51491
CdS laser screen in electron-beam-tube, degradation 1−6577
CdS layers, polycrystalline, anomalous temperature dependence of dark current 1−20890
CdS, luminescence and photoelectric props. changes on annealing, defect formation *(Russian)* 1−21274
CdS MIS devices, trapping effects 1−47757
CdS, magneto-Brillouin scatt. of polaritons 1−39118
CdS, magneto-optic effects in exciton absorpt. spectra obs. in megagauss fields 1−48039
CdS needle crystal growth direction polarity for growth in atms. of excess Cd or S vapour 1−3584
CdS, noncentrosymmetric cryst., hyper-Raman scatt. of light by optical phonons 1−12511
CdS, nonradiative states and defects, photoacoustic meas. with ZnO transducer 1−3459
CdS, optically detected mag. reson. of shallow acceptor centres 1−52869
CdS photoanodes in cysteine solutions 1−47743
CdS, photoconductivity, luminescence, low-temp. plastic deform. 1−38815
CdS, photoconductivity depend. on IR illumination *(Russian)* 1−30787
CdS, photoconductivity spectrum, anomalous depend. on sign of wave vector of light 1−52605
CdS, photocurrent, IR quenching kinetics, elec. field influence 1−20816
CdS, piezoelectric bound surface acoustoelectric potential *(Russian)* 1−30790
CdS, plastically deformed, photovoltaic effect associated with dislocation slip bands 1−20815

II-VI semiconductors continued
CdS plate, nonlinear acoustoelectric interactions *(Russian)* 1−16319
CdS, polariton effect influence on excitonic molecules 1−30644
CdS, polariton spectroscopy, magneto Brillouin scatt. and thin prism refraction 1−47504
CdS, polariton theory of scattering of light beams 1−52501
CdS, polymorphism at high press. 1−34274
CdS, pressure quenched, anomalous paramagnetism 1−3137
CdS, pressure-quenched, paramagnetic props. 1−3138
CdS, radiative recombination in the presence of screening of Coulomb interaction 1−12554
CdS, resonance secondary exciton emission 1−12558
CdS Schottky barrier junctions, diffusion length meas., surface photovoltage method 1−34768
CdS, spray-pyrolised film, luminesc. decay, electron-hole recomb. 1−43202
CdS sputtered photocells, transient phenomena 1−52599
CdS, stimulated Raman scatt. of laser rad., in static mag. field 1−43123
CdS substrate for $CuInSe_2$ MBE layers, growth, solar conversion efficiency 1−16695
CdS, surface Brillouin scatt., resonant elasto-optic and ripple mechanisms 1−48096
CdS, surface layer, total current spectroscopy study of film growth 1−7492
CdS surfaces, electron beam stimulated changes in composition and electrical props. 1−25327
CdS, thermal expansion, temp. depend., 20 to 820K 1−20429
CdS thick disordered films on Al_2O_3 and V_3Si, two-mode ultrasonic excitation 1−25376
CdS thin films, optical constant meas. 1−31217
CdS thin layer vapour deposition by pyrolysis of dimethyldithiophosphinatocadmium complex 1−3629
CdS, vacuum deposited films, elec. and optical props. meas. 1−12215
CdS:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
CdS:Cl(Li)(I), resonant Raman study of bound excitons 1−8077
CdS:Cu, C-centre electron capture cross-section 1−7559
CdS:Cu, deep level characts., steady-state const. capacitance method 1−38744
CdS:Cu, I-V characts. hysteresis and photocurrent field quenching 1−3023
CdS:Cu, photoconductivity degradation; role of shallow donors, expt. 1−34748
CdS:Cu sintered layer, prep. and spectral sensitivity 1−53118
CdS:Ga, highly doped, optical props. and high excitation phenomena 1−52591
CdS:In growth by Piper-Polich method, In vapour effect 1−43253
CdS:Mn, ESR spectra, Mn^{2+} antiferromagnetic behaviour 1−3249
CdS:Ni^{2+}, Zeeman effect at $^3T_1(F)\rightarrow{}^3T_1(P)$ absorpt. transitions 1−2927
CdS:Te, photoluminesc. quantum efficiency, calorimetric meas. 1−48158
CdS:Te electrode in NaS electrolyte, laser induced photoelectrochem., time resolved luminesc. 1−31865
CdS:Ti^{2+}, multiphonon struct. of optical transitions to impurity resonance states 1−47550
CdS/Cu_2S solar cell, mesh grid struct., series resist. anal. using equiv. cct. representation of ohmic losses 1−35652
CdS/Cu_2S solar cells, repulsive traps 1−26836
CdS/Cu_2S solar cells, short-circuit currents, Cu_2S optical absorption coeff. influence control 1−32013
n-CdS/n-InP/p-InP heteroface solar cell, with ultrathin window layer, external conversion efficiency 1−26834
n-CdS/p-$CuInSe_2$ solar cell heterojunction, minority carrier diffusion length 1−16297
CdS-CdTe solar cells, development of screen-printable electrode material for CdS 1−8714
CdS-Cu_2S films in solar cells, grain size, dislocation density and microscopic defect struct. 1−35660
CdS-GaAs heterojunctions, deep level defects study using transient capacitance spectroscopy 1−2921
CdS-InP heteroface solar cells, computer anal. 1−8720
CdS-$LiNbO_3$ layered structures, elec. effects of acoustoelec. interaction influence on SAW 1−12152
CdS-metal interface, exciton refl. and photolum. spectra meas. 1−25645
CdS-Si heterojunction solar cells, photovoltaic props. meas. 1−8704
CdS(S_xSe_{1-x}), nonequilib. plasmon-phonon interaction, Raman spectra meas. 1−52514
CdS(Se), anisotropy of charact. temps., mean squared displacements and thermal expansion coeffs. 1−11834
CdS(Se), luminescence at high excitation densities 1−12555
$CdS_{0.5}Se_{0.5}$ optoelectronic switches, carrier radiation mechanism 1−7655
$CdS_{1-x}Se_x$, comp. control. using molten S-Se mixture reservoir 1−26376
$CdS_{1-x}Se_x$, emission by electron-hole droplets and electron-hole plasma 1−12556
CdS_xSe_{1-x}, luminesce. spectral-kinetic props. and subnanosecond pulse generation 1−8104
CdS_xSe_{1-x} single crystals, near band-edge photoluminesc. meas. 1−43159
CdS(Se)(Te), electron-hole liq., condensation energy. luminesc. study 1−20640
CdS(Se)(Te), energy band struct., OPW calc. 1−25629
$CdS_xSe_{1-x}n^+$-n junction photoresistor, appl. in weak electron beam detection 1−37075
CdS(Te), direct obs. of partial dislocation motion 1−52139
$CdS_{1-x}Te_x$ solid soln., phase diagram calc. using microheterogeneous cluster struct. model 1−48334
CdSb crystal, elastic deform. investigation *(Russian)* 1−38434
CdSe, cathodoluminescence studies by optical imaging SEM 1−26282
CdSe, containing dislocations, exponential absorpt. edge 1−12534
CdSe crystals, elec. field effect on polarity of growth direction 1−52097
CdSe, edge absorpt. spectrum, laser intensity effects 1−21229
CdSe, electrical cond., large-scale pot. fluctuations effect 1−20742
CdSe epitaxial layer, heat-treated, oxidation, electron spectroscopy 1−38684
CdSe, epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
CdSe, exciton-exciton elastic scatt. cross section 1−38729
CdSe, extent of layer at Se-Cd contacts in Te-Se-Cd sandwich structure 1−7478
CdSe film preparation for solar photoelectrochemical cells 1−43786
CdSe films, electrodeposition from selenosulphite soln. 1−31370
CdSe, hot-electron cond. characts. calc., scatt. mechanisms 1−25737
CdSe, intrinsic defects, nature, charge, energy position and role in cond. 1−11745

II-VI semiconductors continued
CdSe, ionised donor-exciton complexes in polar crysts., binding energy 1−7528
CdSe optical gain spectrum under strong laser excitation at 80K 1−3437
CdSe, optically induced diffraction grating props. and appls. 1−11041
CdSe oriented single-crystal films, luminesc. of degenerate electron-hole plasma 1−31193
CdSe parametric oscillator, freq . control by uncoated etalon 1−46456
n-CdSe photoanode stabilisation in nonaq. $Fe(CN)_6^{3-/4-}$ electrolytes 1−35542
n-CdSe, photovoltaic liq. junction cell, power temp. depend 1−48906
CdSe Schottky barrier junctions, diffusion length meas., surface photovoltage method 1−34768
CdSe, single crystal, photoelectric current noise, effect of contacts 1−20840
CdSe, surface, clean and with adsorbed O_2, EELS, AES and LEED study 1−7687
CdSe surface, O_2 thermal and photostimulated desorption *(Russian)* 1−2814
CdSe, surface layer, total current spectroscopy study of film growth 1−7492
CdSe surface oxidation, electron energy loss spectroscopic obs. 1−16925
CdSe thin film photoelectrodes, increase in solar energy conversion efficiency after annealing, struct. study 1−48870
CdSe thin film transistors, TSC spectra, electron traps, ageing mechanism 1−38863
CdSe thin films, prep., elec. and electrophotographic props. 1−34743
CdSe, time resolved luminescence spectra 1−8129
CdSe, time resolved luminescence, exciton collisions 1−48157
CdSe:Ag^+, electrical and photoelectric properties 1−20821
CdSe:Mn, gigantic spin splitting of exciton states *(Russian)* 1−12042
CdSe/$As_2Se_3Tl_x$ thin layer system, photocapacitance effect 1−47711
CdSe-As_2Se_3 heterostructs., air baking of CdSe layer, effect on phys. props. 1−20861
CdSe-FTIROS containing IR visualizer 1−347
CdSe-HgSe, zincblende-wurtzite phase transition 1−16247
CdSe-MIS thin film solar cell, first phase development 1−26838
CdSe(S), hollow crystal growth mechanism 1−53066
CdTe and ZnTe-CdTe solid solns., RHS displacements of Te atoms, effective Debye temps. 1−21101
CdTe crystal growth from vapour phase 1−39229
CdTe, dislocation motion, thermal activation anal., illumination effects 1−52143
n-CdTe, elec. cond. at low temps. 1−52564
CdTe, electrical props. and photovoltaic structures 1−25764
CdTe electro-optic crystals for broadband modulation of CO_2 lasers 1−41757
CdTe, electrodeposition in fused salt solutions 1−31372
CdTe, energy loss mech. for hot electrons, oscillatory photocond. and magnetophonon effect 1−3010
CdTe, epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
CdTe, extrinsic photoconductivity spectrum 1−30778
CdTe, far IR dielec. spectrum, multiphonon struct., crit. point anal. 1−31156
CdTe film, polycrystalline, trapping levels, TSC and photocond. meas. 1−20885
CdTe films, electrodeposited, Schottky devices, electron traps obs. 1−34813
CdTe, free carrier and space charge gratings, strong coupling, phase conjugation 1−19386
CdTe, growth of large grain thin films on amorphous substrates, quasi-rheotaxy 1−35180
CdTe γ-ray detectors, medical appls. *(Italian)* 1−53856
n-CdTe, impurity-phonon resonances, low temp. photo- and magneto-transport 1−30788
CdTe, ionised donor-exciton complexes in polar crysts., binding energy 1−7528
CdTe, irrad. induced defects, photoluminesc. study 1−8112
CdTe layers in Al-CdTe-Al thin-layer structures, elec. props. with DC voltages *(Slovak)* 1−3077
CdTe, low temp. synthesis and reduction of sintering temp. 1−8715
CdTe, MSM struct., nonlinear lux-ampere characts. due to space polarisation charges 1−25811
p-CdTe metal-semiinsulator-metal struct., bulk polarisation change form. on light illum. 1−20806
CdTe, optical activity induced by plastic deform. 1−12473
CdTe, optical detection of cyclotron reson. via band-gap luminesc. 1−31030
CdTe optical directional coupler fabrication by electron beam lithography and ion etching 1−29408
CdTe p-n junctions prepared by Bridgman method, elec. props. and Hall effect study of impurity levels *(Japanese)* 1−38840
n-CdTe, photoelectrochemical props., photocorrosion reaction 1−17074
CdTe, photovoltaic films, two types of texture 1−3784
CdTe, plastic deformation, dislocation behaviour, microscopic study 1−26547
CdTe, polycryst., dipole-dipole coupling, ^{125}Te NMR obs. 1−16490
CdTe powders, prep. and photoconductive props. *(Japanese)* 1−35199
CdTe, resonant electronic Raman scatt. 1−35034
CdTe semiconductor detectors of nuclear radiation 1−1029
CdTe single cryst., valence band spin-orbit splitting 1−42730
CdTe single crystal growth by sublimation, vapour transport, effect of deviation from stoichiometry 1−53067
CdTe single crysts., growth by multipass and sublimation travelling heater method 1−12643
CdTe solar cells with graded frontal doping, optimum junction depth and frontal elect. field 1−17217
CdTe, surface, clean and with adsorbed O_2, EELS, AES and LEED study 1−7687
CdTe surface oxidation, electron energy loss spectroscopic obs. 1−16925
CdTe, undoped and P-doped, photoluminesc. and recomb. centres, heat treatment under component vapour press. 1−26258
CdTe:Cl elec. cond., thermal activation energy and deep level obs. 1−7624
CdTe:Cl(Cr), electrical props. and photovoltaic structures 1−25764
CdTe:Fe, distrib. of mag. impurities, mag. props. meas. *(Russian)* 1−52170
CdTe:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
CdTe:In, diffusion of In, deviation from stoichiometry 1−16092
CdTe:In, solution-grown, 1.4 eV luminesc. mechanism 1−43186

II-VI semiconductors continued
CdTe:P, electrical props. and photolum. spectra *(Japanese)* 1−47674
CdTe:P, heat treated under component vapour press., electrical props. 1−39352
CdTe:P, localised vibrational modes due to P defects in substitutional or interstitital sites 1−47197
CdTe/HgTe superlattice electronic state localisation and complex bulk band structures 1−16351
CdTe-CdSb(CDHgTe) heterojunction formation by laser melting 1−31338
CdTe-H_2-halogen system, mass transfer of CdTe 1−7395
n-CdTe-In, contacts formation and stability 1−7736
CdTe-InSb heterojunctions, SIMS and electrical meas. 1−30812
CdTe-metal contacts, growth study 1−16362
$Cd_{1-x}Zn_xS$ thin films for solar cells, dielectric response (0.4 to 250 μm) as a function of struct. and comp. 1−13133
$Cd_{1-x}Zn_xS$/GaAs heterostructs., prepared by vapour phase, chem. transport, cryst. defects 1−35186
Cu_2S-CdS, effects of basal plane of CdS single crystal on Cu_2S growth 1−8713
Cu_2S-CdS heterojunction diode, electric props. rel. to composition 1−8713
Cu_2S-CdS heterojunction, tunneling currents 1−13120
Cu_2S-CdS solar cells with rough interfaces, theoretical anal. 1−53610
p-Cu_2S-n-ZnS heterojunction, current flow and energy band diagram meas. 1−34782
p-$Cu_{2-x}S$-n-CdS heterojunction, CD impurity influence on photovoltaic effect *(Russian)* 1−30786
$Cu_xS/Cd_xZn_{1-y}S$ and $Cu_xS/Cd_xZn_{1-y}S$, CdS thin film solar cells using chemically sprayed films 1−48840
Cu_xS-CdS solar cells, minority-carrier transport parameters, nondestructive SEM meas. 1−13119
n-dS/p-InP heterojunction solar cells, CVD growth, multilayer growth apparatus 1−31358
$(GaAs)_x(ZnSe)_{1-x}$ solid solns., electrophys. props., prep. method depend. 1−42769
GaP-CdS-CdSe-Ni heterostructures, surface electron states and surface charge, optical memory effects 1−47741
GaSe:Mn^{2+}, ESR spectra, axial cryst. field 1−31022
GdFeBi-CdS.Cu.Cl photoconductor sandwich, thermomagnetic switching effect 1−25944
(Hg,Cd)Te materials technology for IR image sensors, advances 1−39228
Hg-Cd-Te system, liquidus isotherms, solidus lines and LPE growth 1−12676
HgCdTe CCD detectors 1−5385
HgCdTe hybrid focal plane arrays, infrared imaging system 1−5398
HgCdTe monolithic focal plane array structures 1−5381
HgCdTe mosaic arrays for hybrid focal plane appls. 1−5397
HgCdTe, oscillations in scattered $^4He^+$ ion yield curves 1−26350
HgCdTe p-n photodiode, temporal and freq. responses 1−45021
HgCdTe photoconductive detector, relative performance in const. current, voltage bias modes 1−36734
HgCdTe wide-bandwidth photodiodes, CO_2 laser heterodyne performance 1−40853
$Hg_{0.77}Cd_{0.23}Te$, noncollinear phase-matched four-photon mixing 1−11046
$Hg_{0.78}Cd_{0.22}Te$/CdTe planar IR photodiode, backside-illuminated 1−3080
$Hg_{0.79}Cd_{0.21}Te$ epilayers, cond. types, carrier conc., Hall coeff. heat treatment effects 1−38871
$Hg_{0.8}Cd_{0.2}Te$, electron gas, magnetic field induced phase transition, CDW 1−20646
$Hg_{0.8}Cd_{0.2}Te$, mag. field induced Wigner condensation 1−30652
n-$Hg_{0.8}Cd_{0.2}Te$, mag. field induced Wigner condensation 1−47680
$Hg_{0.8}Cd_{0.2}Te$ photodiodes, wide bandwidth, DC and CO_2 laser heterodyne characts. 1−40855
$Hg_{0.8}Cd_{0.2}Te$:B n^+-p photodiodes, elevated temp., moderate bandwidth CO_2 laser heterodyne meas. 1−40854
$Hg_{1-x}Cd_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
$Hg_{1-x}Cd_xTe$, acceptor band theory *(Russian)* 1−47530
$Hg_{1-x}Cd_xTe$, admittance spectroscopy of deep levels 1−42713
$Hg_{1-x}Cd_xTe$ anodic film oxide and interface props. 1−16380
$Hg_{1-x}Cd_xTe$, fault struct., TEM and X-ray topography study 1−11755
$Hg_{1-x}Cd_xTe$, hot electron drift velocity 1−38784
n-$Hg_{1-x}Cd_xTe$, mag. freeze-out, metal-nonmetal transition 1−52582
$Hg_{1-x}Cd_xTe$, narrow band-gap semicond., mag. susceptibility meas. *(Russian)* 1−42944
$Hg_{1-x}Cd_xTe$, narrow band gap semiconductor, highly excited electronic states, picosecond IR spectra 1−52494
$Hg_{1-x}Cd_xTe$ p-n junction diode elec. characts., tunnel contrib. 1−20859
$Hg_{1-x}Cd_xTe$, plasma anodisation, work functions 1−39498
$Hg_{1-x}Cd_xTe$, Schottky barrier photodiodes, carrier lifetime, diffusion length 1−7706
$Hg_{1-x}Cd_xTe$ solid solution, narrow-gap semiconductor, drag of carriers by photons 1−52580
$Hg_{1-x}Cd_xTe$, trap levels and minority carrier lifetime, DLTS study 1−34658
$Hg_{1-x}Cd_xTe$, two-photon absorpt., photocond., freq. depend. 1−3432
α-HgS, cinnabar, photoluminesc., optical absorpt., and excitation spectra 1−3481
HgTe 1−34396
HgTe crystal, surface evaporation of Hg obs. using O^{5+} backscattering 1−8176
HgTe, far IR magneto-optical transitions, Γ_8-band anisotropy, selection rules 1−16551
HgTe, polycryst., dipole-dipole coupling, ^{125}Te NMR obs. 1−16490
HgTe polycrystalline films, Hall coeff. and DC cond. meas. 1−38873
HgTe, RHS displacements of Te atoms, effective Debye temps. 1−21101
HgTe zero gap semiconductor, nonequilibrium carrier recombination 1−38793
InSb-CdTe pair superlattice, elec. optical and struct. props. 1−38846
$LiNbO_3$-CdSe layer structs., SAW propag., alternating carrier drift effect 1−20540
$LiNbO_3$-CdSe layered structure, SAW phase modulation and AM 1−34561
$LiNbO_3$-CdSe layered struct., SAW absorpt. 1−38639
$Pb_{1-x}Ge_xTe$, refr. index and opt. energy gap, anomalies of temp. coeffs. at ferroelec. transition 1−26163
PbSe-CdSe system, DTA and metallographic obs. of phase diagram 1−42511
$Pb_{1-x}Sn_xTe$, single crysts., dislocation structs. features 1−30230
PbTe crystal, X-ray and TEM investigations 1−52305

II-VI semiconductors continued
n-PbTe film, anomalous increase in thermoelectric power, Hall effect 1−20888
PbTe film, size effect, Hall mobility, thermopower 1−20887
PbTe, narrow band gap semiconductor, highly excited electronic states, picosecond IR spectra 1−52494
PbTe-CdTe heterojunction, growth, photoresponse meas. 1−12183
Se-CdS solar cells, optical and elect. props. 1−17216
Te:Cl, excited by α-particles, photons, elec. props. meas. 1−30765
Te-HgTe-CdTe, solid-vapour equilibrium 1−7312
$Zn_xCd_yHg_{1-x-y}Te$, epitaxial crystn. from melt 1−12673
ZnCdS:Ag screen, electron beam excited, absolute efficiency 1−8137
$Zn_xCd_{1-x}S(Se)$, nonclassical excitonic refl. spectra 1−48112
$Zn_xCd_{1-x}Se$, Bose condensed exciton phase *(Russian)* 1−30647
$Zn_xCd_{1-x}Te$, fundamental absorpt. edge 1−43138
ZnO (10$\bar{1}$0), charge transfer reactions, review 1−30574
ZnO (10$\bar{1}$0), chemisorption of CO_2 and O_2, point defect form., UPS study 1−8197
ZnO (10$\bar{1}$0), physical adsorption and thermal desorption of CO_2, CO, O_2, Xe, and H_2 1−7467
ZnO (10$\bar{1}$0) surface atomic geometry, LEED obs. 1−20521
ZnO (10$\bar{1}$0) surface point defect influence on Schottky barrier formation 1−16364
ZnO (40$\bar{4}$1) surfaces, anion vacancies chem. props., adsorption of O_2, methanol, and CO_2 1−34558
ZnO ceramic semiconducting electrodes, dye sensitisation for photoelectrochemical conversion 1−35664
ZnO clean surfaces, quantised accumulation layers, EELS obs., coupled phonon-plasmon modes 1−12613
ZnO crystals, elec. field effect on polarity of growth direction 1−52097
ZnO, desorption of Zn, binding states, surface cond., LEED, and AES meas. 1−7470
ZnO electrode-metallic ion soln., photoelectrochemical imaging system, photoelectrochromic characts. 1−4099
ZnO electroluminophores, photo- and electroluminesc., grinding effect 1−52996
ZnO, electrophotographic grade, cathodoluminesc. and photoconductivity meas. in SEM 1−21280
ZnO electrophotographic layer, change of local electron states during adsorption of sensitizer molecules *(Russian)* 1−23357
ZnO epitaxial layers, recomb. radiation kinetics 1−31194
ZnO film, CVD on sapphire, epitaxial relationships determ. 1−20583
ZnO films, highly oriented, grown by oxidation of diethyl zinc 1−8234
ZnO films, RF sputtered onto Si and SiO_2/Si, struct. and interface oxidation state 1−2842
ZnO, hyper-Raman scatt. in strong mag. fields 1−52938
ZnO ideal (10$\bar{1}$0) surface states 1−16328
ZnO, modified exciton-polariton behaviour near surface, refl. and ATR spectra 1−47503
ZnO optical waveguide, second harmonic generation 1−46447
ZnO, polycrystalline powder, nonlinear percolation cond. 1−52575
ZnO, preparation by burning Zn in O_2, photo- and electroluminescent properties 1−8263
ZnO, second harmonic generation under hot-electron condition 1−30752
ZnO, sintering shrinkage retardation in N_2 atmosphere *(German)* 1−21407
ZnO, spatially dispersive, C1-surface exciton polaritons, dispersion relations and nonlinear generation 1−3036
ZnO surface, quantized accumulation layer, electron mobility, phonon scatt. 1−30804
ZnO, surface electron struct. of polar and nonpolar surfaces 1−16336
ZnO surface electronic struct., intrinsic defect effects 1−34761
ZnO, thick piezoelec. films, high rate deposition by reactive magnetron sputtering 1−16683
ZnO thin film epitaxial growth by organometallic CVD 1−12666
ZnO thin film growth by reactive ion plating under high vacuum *(Japanese)* 1−3637
ZnO thin films on non-orienting substrates, X-ray topography study 1−42659
ZnO varistor, deep levels, effect on current-response characts. 1−47555
ZnO varistors, cond. mechanisms, noise, thermionic emission 1−2972
ZnO with intermediate metal oxide layer, macroscopic varistor model 1−3053
ZnO, XPS, C contaminant buildup and sputtering behaviour 1−53057
ZnO:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
ZnO:La, brightness waves of electroluminescence 1−52997
ZnO:Sm, Cu(Ag), electrolum. and photolum. 1−43183
ZnO:Sm, phosphors, electrolum. and photolum. 1−43183
ZnO:Sm (:Sm, Ag) (:Sm, Cu) phosphors, photo and electroluminescence spectra obs. 1−16593
ZnO/CdTe heterojunctions, spray pyrolysis prepared, photovoltaic props. 1−3004
ZnO/Cu_2O heterojunction solar cells, effect of RF sputter deposition temp. on photovoltaic perform. 1−32025
ZnO-Bi_2O_3, varistor, I-V characteristics, influence of allotropic variations of Bi_2O_3 *(French)* 1−20148
ZnO(10$\bar{1}$0) surface CO and H adsorption and interaction, UV photoemission obs. 1−17102
ZnS, Brillouin scatt. by injected acoustic domains 1−16576
ZnS, cathodoluminescence studies by optical imaging SEM 1−26282
ZnS, chalcogenide single crysts., vapour phase growth, use for laser screens of projection colour television 1−43254
ZnS cubic crystals, microwave modulation of light, 0.4-12 μm band 1−29383
ZnS, edge luminescence under strong photoluminescence conditions 1−16606
ZnS, emission edge, temp. shift 1−3482
ZnS epitaxial layer on Ge substrate, cryst. struct. 1−42649
ZnS, epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
ZnS, exciton refl. and luminesc. spectra evolution during struct. transition 1−26233
ZnS films on glass substrates, condensation and stability 1−30578
ZnS, piezoelec., anomalous photovoltaic effect meas. 1−7660
β-ZnS, rotation twin stacking fault, electronic struct. 1−52523
ZnS, self-activated luminesc. *(Japanese)* 1−39156
ZnS single crystals, flux growth by gradient transport in molten $PbCl_2$, characterisation 1−3590
ZnS, Stark ladder reson., DC photocurrent under high elec. field 1−47703

II-VI semiconductors continued
ZnS thin film, dopant conc. quantitative anal. by ion microanal. 1−11782
ZnS thin film, residual gas press. influence on optical props. 1−3523
ZnS thin film growth, sticking coeff., laser light effects 1−38680
ZnS thin films, vacuum deposited, adhesion-ageing behaviour 1−38698
ZnS, VPE in Zn/S/Ga/As/H system, deposition rates, source mass loss rates, temp. profiles in close-space reactor 1−35184
ZnS:Ag, optical transition: at Ag centres 1−3444
ZnS:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
ZnS:Co, impurity centre resonance line inhomogeneous broadening 1−26248
ZnS:Cr, impurity of photogeneration transitions, photo-EPR and optical absorpt. meas. 1−31017
ZnS:Cu, Al, phosphor, particle growth, flux effects 1−48311
ZnS:Cu, $t_2 \leftarrow e$ localised transition 1−47526
ZnS:Cu,Al phosphor, cathodolum. saturation and decay characts. 1−26280
ZnS:Cu,Nd,Cl, thin film, direct current electrolum. and Nd luminescence centres 1−3495
ZnS:Cu luminophore, photoluminesc., depend. on Cu conc. 1−16598
ZnS:Fe^{2+}, E-state energy splitting reduction, Jahn-Teller coupling 1−25671
ZnS:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
ZnS:I, blue luminesc. band nature, annealing in high vac. influence 1−35094
ZnS:In, low resist. n-type layers obtained by ion implantation 1−47106
ZnS:Mn, AC thin film electrolum., memory effect, Mn distrib. effect 1−21276
ZnS:Mn, Cu, Cl thin films, elec. props., electroluminesc., switching 1−39159
ZnS:Mn, polymorphic props. anal. by laser spectroscopy 1−47033
ZnS:Mn phosphors, nonradiative relax., photoacoustic meas. 1−42472
ZnS:Mn thin film electroluminescent devices, luminesc. props. and cryst. struct., effect of Cl 1−48168
ZnS:P, ion implanted, p-type cond. 1−47105
ZnS:Sn luminophors, blue luminesc. study 1−21263
ZnS-CdS polycryst., polymorphic transition 1−7321
ZnS-Cu, Co-luminophores to improve photographic quality of IR radiation fields *(Russian)* 1−28101
ZnS-Ge dichroic dielectric IR mirror 1−41808
ZnS-ZnS (111-0001) interface electronic struct. 1−3040
ZnS(Se), ion alloying method for defect struct. control and phosphor activation, luminesc. characts. 1−12548
ZnS(Se):Te(Hg), scintillator materials, spectral and kinetic characts. 1−12545
$ZnS_{0.52}Se_{0.48}$, self-activated luminesc. and ODMR study 1−21260
$ZnS_{1-x}Se_x$ mixed crystals, zone-edge phonons, IR and Raman study 1−25387
$ZnS_{1-x}Se_x$ mixed crystals, polytypic structs. 1−38335
ZnS_xSe_{1-x} cubic film epitaxial growth on CaF_2 by vapour phase transport 1−8237
ZnS_xSe_{1-x} epitaxial layers on GaAs(Ge), organometallic CVD growth, photoluminesc. and heterojunction props. 1−48151
ZnS(Se)($S_{1-x}Se_x$), LPE using Te a solvent 1−43282
ZnS(Se)(Te), energy band struct., OPW calc. 1−25629
ZnSe, average band gap 1−7516
ZnSe, bound excitons, investigation by electroabsorption method 1−21174
ZnSe, broad band emission, cathodolum., thermolum., transitions involving deep level centres *(French)* 1−53000
ZnSe, chalcogenide single crysts., vapour phase growth, use for laser screens of projection colour television 1−43254
ZnSe components, increased light transmission using polymer antirefl. coatings 1−37567
ZnSe, cryst. growth from soln., using In-Zn solvents 1−3593
ZnSe, deep dislocation level, photostimulated cond. study 1−25659
ZnSe, doped with acceptor impurities, thermoluminescence, photoconductivity 1−43195
ZnSe, elec. props. meas. 1−20750
ZnSe, electroabsorption study, field depend. 1−48036
ZnSe, electron-hole liquid, luminescence spectra *(Russian)* 1−12584
ZnSe, electronic charge densities, pseudopot. method 1−47465
ZnSe epitaxial films on GaAs, cond. 1−38869
ZnSe, epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
ZnSe, excitonic polaritons, picosecond time-of-flight meas. 1−47502
ZnSe, Fano effect in bound exciton spectra 1−48141
ZnSe, free exciton luminesc. and refl. spectra, native defect conc. effect 1−12570
ZnSe, ion-implanted, optically detected donor electron g shifts 1−21086
ZnSe, ionised donor-exciton complexes in polar crysts., binding energy 1−7528
ZnSe, LPE at low temps. 1−35192
ZnSe layer on Ge (111) substrate, formation of transition layer 1−34589
ZnSe, light amplification in electron-hole drops 1−3438
ZnSe, monocryst., self-induced photoluminesc. excitation mechanism 1−48150
ZnSe, nonlinearity and laser beam self-action *(Russian)* 1−8036
ZnSe, ODMR, luminescence study of vacancy associated defects, recombination 1−26081
ZnSe, phase conjugation by degenerate six-photon mixing 1−15227
n-ZnSe polar cryst., carrier mobility calcs. 1−38792
ZnSe, pressure induced phase transition 1−47229
ZnSe, pressure-induced struct. transition, self-consistent pseudopot. study 1−25428
ZnSe Schottky barrier diode, photoluminesc. intensity, surface field effect 1−52985
ZnSe single cryst., edge luminesc. under strong opt. excitation, 77-300K 1−21273
ZnSe single crystalline layers, epitaxial growth by vapour flow focusing *(Japanese)* 1−3636
ZnSe sputtered film, degree of crystallinity determ. using longwave IR spectroscopy 1−47411
ZnSe, surface exciton polariton, reflection spectra 1−38825
ZnSe surface oxidation, electron energy loss spectroscopic obs. 1−16925
ZnSe, VPE growth using metallic Zn and metallic Se 1−21365
ZnSe, VPE on (100) GaAs, by open-tube transport of elemental vapours in H_2 flow 1−35185
ZnSe window temp. distrib., optical distortion and strain rel. to CO_2 laser irrad. power 1−29356
ZnSe:Al, IR absorpt. coeff. and free carrier conc. 1−43140
ZnSe:Co, high energy luminescence bands 1−8128

II-VI semiconductors continued
ZnSe:Cr, impurity of photogeneration transitions, photo-EPR and optical absorpt. meas. 1−31017
ZnSe:Cu, deep level charact., steady-state const. capacitance method 1−38744
ZnSe:Cu, final state effects in deep impurity excitation spectra 1−2920
ZnSe:Cu (Ag)(Al), impurity diffusion, luminesc. modification 1−38596
ZnSe:Mn(Fe), giant spin splitting of exciton states 1−31132
ZnSe:P, ODMR of P_4 cluster centres 1−43039
n-ZnSe/electrolyte junction, electrolum. under anodic polarisation, adsorpt. effects 1−16360
ZnSe-Au Schottky barrier, influence of interfacial layer on props. 1−25801
ZnSe-GaAs heterojunctions, DLTS study, majority carrier trap assignment 1−38745
ZnSe-GaAs heterojunctions, close-spaced prep., photoelec. props., Zn vapour treatment effect 1−39774
ZnSe-metal interface, exciton refl. and photolum. spectra meas. 1−25645
ZnSe-Si(-GaAs) p-n heterojunction solar cells, photoelect. props. 1−8717
ZnSe-ZnS:Mn thin films, bright DC electroluminescence 1−3494
ZnSe-ZnSe (111-0001) interface electronic struct. 1−3040
$(ZnSe)_x$-$(GaP)_{1-x}$, nonlinearity and laser beam self-action *(Russian)* 1−8036
$(ZnSe)_x$-$(GaP)_{1-x}$ mixed semicond. crystals, dynamic hologram recording and erasure 1−33640
$ZnSe_xS_{1-x}$, chalcogenide single crysts., vapour phase growth, use for laser screens of projection colour television 1−43254
$ZnSe_{1-y}Sy$ epitaxial layers, $ZnSe/ZnSe_{1-y}Sy$ multilayers, VPE, lattice matched to GaAs substrates 1−12667
ZnSe(Te), donor species, bound excitons, photoluminesc. meas. 1−48135
ZnSe(Te)(O), electron-hole liq., condensation energy. luminesc. study 1−20640
ZnTe (110) surface, vacuum cleaved, electronic struct. before and after O_2 exposure, electron spectroscopy 1−52625
ZnTe (110) surface atomic geometry, LEED obs. 1−20521
ZnTe and ZnTe-CdTe solid solns., RHS displacements of Te atoms, effective Debye temps. 1−21101
ZnTe CVD heteroepitaxial growth on GaSb 1−48268
ZnTe, diffusion and lattice location of Li 1−20464
n-ZnTe, diffusion of Al, cond. and lum. charact. of junction, impurity levels *(Japanese)* 1−20470
ZnTe, donor-acceptor pairs, selective pair luminesc. in external mag. field 1−39151
ZnTe, edge emission and deep centre luminesc., effects of Zn-vapour heat-treatments 1−12589
ZnTe, edge-emission, cathodolum. and isochronal annealing studies 1−35101
ZnTe, epitaxial layers, direct synthesis on metal substrates, morphology and struct. 1−8224
ZnTe, heavily doped, photoluminescence, bound exciton complexes 1−31189
ZnTe, high excitation luminescence, two-photon Raman scatt. 1−26270
ZnTe, impurity states, ground and excited, Zeeman splitting, selective pair luminesc. 1−47595
ZnTe, nonequilib. plasmon-phonon interaction, Raman spectra meas. 1−52514
ZnTe, optical activity induced by plastic deform. 1−12473
ZnTe, resonance secondary exciton emission 1−12558
ZnTe, resonant donor-bound-exciton luminesc. 1−3456
ZnTe, selective excitation of donor-acceptor pairs, excitation and relax. processes 1−48136
ZnTe semiconductor crystal, carrier traps, admittance spectroscopy technique 1−12067
ZnTe surface oxidation, electron energy loss and photoemission spectroscopic obs. 1−16925
ZnTe thin films, reflectivity spectra, prep. conditions effect 1−48189
ZnTe, two-phonon resonance Raman scatt. 1−21211
ZnTe, valence-band parameters and g-factors from free-exciton magnetorefl. 1−3374
ZnTe:Cr, impurity of photogeneration transitions, photo-EPR and optical absorpt. meas. 1−31017
ZnTe:Cu, donor-acceptor pair spectra, luminesc. 1−12576
ZnTe:O implanted extrinsic photodetector for visible integrated optics 1−6685
ZnTe(110) surface structure determ. from dynamical anal. of LEED intensities 1−11962

III-V semiconductors
(110) surface reconstruction theory 1−16327
amorphous, H incorporation, effects on electronic and struct. props., review 1−52067
binary, growth from metallic solns., review 1−16675
crystal growth, book 1−13948
crystal growth at the Research Institute for Technical Physics 1−8206
crystal growth by sputtering review book contrib. 1−48260
crystal growth by temp. gradient soln. method 1−21337
crystal growth of bulk crystals, purification, doping and defects, review, book contrib. 1−48253
deep level transient spectroscopy, method and apparatus 1−34647
deep levels, nonradiative recomb. and self-trapping, lattice phonon effects, review 1−47537
devices and epitaxy techniques 1−12958
dislocations in semiconductors, elec. props. 1−2445
electronic struct. using simple orbitals 1−20629
epitaxial growth by CVD, carrier conc. and Hall mobility meas. *(Japanese)* 1−43270
epitaxial layers, elastobirefringence study of dislocations and strain fields 1−3361
GaAs: Si(Ge)(Sn)(Se)(Te), liq. encapsulation Czochralski growth rel. to other techniques, elec. props. 1−3608
GaAs:Cr, phonon scatt. by Cr ions 1−15997
GaAs:Si+Sn(Ge)(Se), amphoteric dopants site distrib. and solubility 1−2491
n-$GaAs_{1-x}P_x$, Schottky-barrier photodiodes with energy gap gradient, spectral characteristics, photocurrent 1−3011
GaAs-GaAlAs non-self-pulsing and weakly self-pulsing injection lasers, nonliner current modulation distortions 1−6589
GaInAs lattice matched to InP, high-speed photoconductive detectors to 1.6 μm 1−45016
heterojunction, misfit dislocation imaging, appl. of synchrotron-radiation plane-wave topography 1−20223

III-V semiconductors continued
heterojunction device materials, book contrib. 1−37513
heterojunctions, misfit-dislocation images, comparison of expts. and computer simulation 1−11756
IGFET, MESFET and JFET problems and prospects 1−16374
InGaAsP-InP heterojunction laser with corrugated waveguide laser 1−51484
injection lasers for optical communication, review 1−19348
InP MIS Schottky barrier solar cells, device parameters for n- and p-type InP 1−8721
n-InSb, heavily doped and compensated, electron transport, 4.2-300K 1−34707
integrated optics with III-V heterostructure devices 1−1725
interfaces with metals and oxides, Fermi level pinning 1−52622
inversion layers, subband struct., electron-phonon interaction effect 1−12177
ion implantation review, book contrib. 1−47107
ion implanted, secondary ion triple bond analogues study 1−31256
ionicity of III-V and II-VI compounds with zincblende and wurtzite struct. 1−15830
laser technology, review *(Japanese)* 1−6559
light transmittance, intermediate layer effect 1−7742
LPE growth, review, book contrib. 1−48285
MBE technique, appl. to GaAs, $Al_xGa_{1-x}As$, review 1−21354
mixed, energy band struct. and lattice const. chart 1−24420
native III-V oxides, local atomic order and bond stability 1−16923
optoelectronic devices, degradation modes 1−46351
phase diagrams, ternary, cluster variation calcs. 1−43323
point defects in doped single crystals of A^3B^5 compounds, review 1−25264
reconstructed surface, atomic geometry, surface states 1−52401
refractive index dispersion relations, theory and expt. 1−3356
shallow core exciton fine struct. and temp. depend., refl. meas. 1−30636
SIMS studies of dopant profiles 1−30268
solar cells, photovoltaic science and eng. conf. Tokyo, Japan (Nov 1979) 1−7
sphalerite, wurtzite and chalcopyrite structs., magnitude and freq. dispersion calc. of quadratic nonlinear susceptibility 1−1625
substrate, electroless plating on III-V cpd. crystals 1−16705
substrate, InAs heteroepitaxial layer deposition using MBE, elec. and struct. props. 1−3081
surface and interface interactions, unified defect model 1−16331
thin phase epitaxy for ohmic contact form. 1−8223
two-photon absorption theory in Zn blende semiconds., three-band nonparabolic model 1−31160
variable-gap struct., absorpt. edge profile 1−39174
(Al,Ga)As DH injection lasers with Ga(As,Sb) active layer LPE growth, 0.87 μm, reliability 1−37507
(Al,Ga)As DH laser, accelerated facet erosion form. and degradation 1−15170
(Al,Ga)As system, diode and laser structs., p-n junctions grown by LPE, interfacial layer form due to S compensation 1−38841
Al-GaAs (110) interfacial layers, photovoltage saturation and recomb. 1−38814
AlAs, ^{27}Al nuclear mag. shielding, NMR chem. shift 1−3278
AlAs, electron-hole droplet condensation, crit. points and ground states 1−52493
AlAs/GaAs superlattice electronic state localisation and complex bulk band structures 1−16351
AlGaAs buried heterostructure lasers on Cr-doped semi-insulating substrates 1−41718
AlGaAs constricted DH diode lasers, low-threshold, high-T_0 1−24419
AlGaAs DH injection laser, single-growth embedded epitaxy, low threshold currents 1−37503
AlGaAs DH laser, direct modulation anal. with inhomogeneous-gain-broadening consideration 1−33692
AlGaAs DH laser, feedback stabilised, freq. stability meas. 1−46363
AlGaAs DH laser, injection locking charact. 1−11031
AlGaAs DH laser, single longitudinal mode, linewidth meas. using Fabry-Perot interferometer 1−46352
AlGaAs DH lasers, LPE growth, low CW threshold current structs. 1−41748
(AlGa)As DH lasers, stripe geometry, MBE growth, source appls. in optical communication systems 1−41747
AlGaAs DH lateral field coupling control laser, active Q-switching 1−6573
AlGaAs Fabry-Perot cavity type laser amplifier, signal gain, saturation power and noise bandwidth 1−15171
AlGaAs heterojunction laser coherent emission, waveguide layer with continuous refractive index variation 1−33690
AlGaAs heterostructure injection laser SCR 1−1582
AlGaAs heterostructure LPE on profiled substrate 1−21371
AlGaAs laser, carrier density depend. of refr. index 1−11003
AlGaAs laser amplifiers, noise charact. 1−33682
AlGaAs laser diode, hermetically encapsulated 1−37506
AlGaAs laser diodes, single mode, structure and communication appls. 1−41733
AlGaAs proton-delineated stripe laser, self-induced intensity modulation, statistics 1−6588
AlGaAs semicond. laser, single-mode operation of 500 Mbit/s modulated by injection locking 1−1603
AlGaAs superlinear laser diode, elec. interactions with its external circuit 1−19335
AlGaAs TJS laser, mirror coating by Si/SiO_2 reflector 1−15250
AlGaAs tandem-type TJS laser, self-Q-switched picosecond optical pulse generation 1−37504
AlGaAs transverse junction stripe lasers having low failure rate for 400000 hour operation 1−11023
AlGaAs variable gap heterostructure, solar cell design 1−21883
AlGaAs/GaAs, backside illuminated, imaging CCD 1−33052
AlGaAs/GaAs concentrator solar cells, organometallic VPE grown 1−8706
AlGaAs/GaAs concentrator solar cell illuminated with curved groove Fresnel lens, distrib. resist. model 1−39773
AlGaAs/GaAs DH laser diodes, coating film-mirror facet interface stability determ. 1−15249
AlGaAs-GaAs CW planar stripe-geometry heterojunction lasers, current-power charact., nonlinear and discontinuous 1−51481
AlGaAs-GaAs CW planar stripe-geometry heterojunction laser, elec. charact. 1−51482

III-V semiconductors continued
$Al_{0.25}Ga_{0.75}As$-GaAs heterojunctions, growth conditions to achieve mobility enhancement 1−3624
$Al_{1-x}Ga_xAs$ twin-stripe leaky mode injection laser 1−41694
n-$Al_{grad\,x}Ga_{-grad\,x}As$, graded-gap crystal, nonadditivity of elec. cond. 1−20793
$Al_xGa_{1-x}As$, epitaxial growth during forced cooling of soln. in melt, mass and heat transfer influence 1−43280
$Al_xGa_{1-x}As$ epitaxial layer, struct. defects rel. to Schottky diode reverse current excess component 1−20588
$Al_xGa_{1-x}As$ epitaxial layers, deep electron traps 1−30761
$Al_xGa_{1-x}As$, epitaxy of varizone layers in temp. gradient field, forbidden bandwidth 1−43281
n-$Al_xGa_{1-x}As$ graded-gap crysts., electron redistrib. effect on conductance, Hall e.m.f. obs. 1−16309
$Al_xGa_{1-x}As$ growth by organometallic VPE for laser devices 1−48270
n-$Al_xGa_{1-x}As$, Hall coeff., resistivity temp. anomaly 1−42794
$Al_xGa_{1-x}As$, indirect-gap semicond., photolum., excitons and electron-hole plasma 1−3477
$Al_xGa_{1-x}As$ LPE growth, layer thickness 1−21373
$Al_xGa_{1-x}As$ pulsating DH laser, self-focusing effects 1−41699
$Al_xGa_{1-x}As$, Raman spectra in strong and weak fields, phonon replicas 1−39082
$Al_xGa_{1-x}As$, thick epitaxial layers, influence of growth conditions on perfection 1−30580
$Al_xGa_{1-x}As$, variable gap film, isothermal LPE mathematical diffusion model 1−42653
$Al_xGa_{1-x}As$, variable-gap semicond., photoluminesc. 1−35092
$Al_xGa_{1-x}As$:Be LPE layers, doping charact., elec. props. 1−15914
$Al_xGa_{1-x}As$:Cr(Te), MBE, study of dopant distrib. SIMS 1−42647
$Al_xGa_{1-x}As$:Ge, LPE grown, photoluminesc. 1−43156
$Al_xGa_{1-x}As$:Sn, deep radiative transitions, photoluminesc. study 1−43173
$Al_xGa_{1-x}As$:Sn, MBE grown, transport props. 1−7609
$Al_xGa_{1-x}As$:Sn(Te), donor related centre, symmetry, ballistic phonon attenuation 1−16257
$Al_xGa_{1-x}As$-AlAs-GaAs, cluster free quantum well heterostructure laser 1−46340
$Al_xGa_{1-x}As$-GaAs, III-V heterostructure devices for integrated optics 1−1725
$Al_xGa_{1-x}As$-GaAs heterojunction layers, current/voltage charact. in high elec. fields, surface acoustoelectric effects 1−34778
$Al_xGa_{1-x}As$-GaAs high-radiance LEDs for optical communications, improved MBE growth 1−48263
$Al_xGa_{1-x}As$-GaAs laser, with V-shaped active region, grown by metalorganic CVD 1−1580
$Al_xGa_{1-x}As$-GaAs modulation-doped single-period heterojunctions, carrier mobility meas. 1−42848
$Al_xGa_{1-x}As$-GaAs quantum-well heterostructures, alloy clustering, spontaneous and stimulated emission 1−29281
$Al_xGa_{1-x}As$-GaAs solar cells with high efficiency, open-circuit voltage and fill factor 1−13124
AlGaAsSb, organometallic VPE growth technique 1−21356
AlGaAsSb/GaSb DH laser, fabrication, temp. depend. of threshold current 1−19336
AlGaAsSb-GaSb, DH laser characteristics, lattice matching 1−24422
$Al_xGa_{1-x}P$ graded heterojunctions, LPE 1−34599
AlGaSb, organometallic VPE growth technique 1−21356
AlGaSb-AlGaAsSb semicond. laser, laser oscills. obs. 1−24420
$Al_xGa_{1-x}Sb$, lattice consts., composition depend., X-ray diffr. study 1−7149
$Al_xGa_{1-x}Sb$ solid solns., oscill. strength of optical transitions, comp. depend. 1−21160
$Al_xGa_{1-x}Sb$, solid solutions, crystallisation, appl. to synthesis of heterojucntions 1−47031
$Al_xGa_{1-x}Sb$:Te, doping of solid solutions in LPE 1−42652
AlN, ^{27}Al nuclear mag. shielding, NMR chem. shift 1−3278
AlN, epitaxial growth by metalorganic CVD on sapphire substrate 1−43267
AlN, epitaxial layers, on α-Al_2O_3, prep. and props. 1−20578
AlN:Mn^{4+}, plasma discharge, photo-excitation and surface excitation, luminesc. kinetics 1−31191
AlP, ^{27}Al nuclear mag. shielding, NMR chem. shift 1−3278
AlSb, ^{27}Al nuclear mag. shielding, NMR chem. shift 1−3278
AlSb oxide-semiconductor interface, AES and Raman scatt. anal. *(French)* 1−42642
Au/GaAs, out-diffusion of GaAs, ambient effects, AES study 1−30487
Au/n-$GaAs_{0.6}P_{0.4}$ anode, illuminated, quasi-Fermi level and flat band pot. meas. method 1−34745
Au-$Ga_{1-x}Al_xAs$(GaAs) variable-gap structs., photoelec. props., 77 to 370K 1−20812
Au-GaAs Schottky barrier solar cells, effect of excess temp. on conversion efficiency 1−32023
Au-GaAs Schottky barriers, Richardson const. meas. 1−34796
Au-Ge/Pt ohmic contacts to Ga As by pulsed electron beams and furnace heating 1−7731
BP and Si multilayer epitaxial growth on Si substrates 1−3630
BP, high press. induced elec. resist. transition obs. 1−42834
CdS-InP heteroface solar cells, computer anal. 1−8720
CdTe-InSb heterojunctions, SIMS and electrical meas. 1−30812
$Cd_{1-x}Zn_xS$/GaAs heterostructs., prepared by vapour phase, chem. transport, cryst. defects 1−35186
$CuInS_2$-GaP heterostructure prep. by LPE 1−52447
GaAS, Bloch electrons in external fields, study by evolution operator 1−12078
GaAS epitaxial films, galvanomag. props., low-resist. inclusion effects 1−25814
GaAS epitaxial layers, electron velocity in high elec. fields 1−34714
GaAS, hot carrier relax. rates, time resolved reflectivity spectra *(Portuguese)* 1−7628
GaAl-As, double-heterostructure, visible emission laser diodes *(Japanese)* 1−46353
GaAlAs actively mode-locked diode laser, bandwidth-limited picosecond pulse generation 1−51526
(GaAl)As buried heterostruct. laser with buried optical guide, transverse mode control 1−15288
(GaAl)As CW DH proton bombarded stripe lasers, MBE grown, high temp. device charact. meas. 1−46338
GaAlAs DH laser as heterodyne receiver, coherent radiation detection 1−1615
GaAlAs DH lasers, transverse-mode-stabilised, transient spectra, dynamic charact. 1−41701
III-V semiconductors continued
GaAlAs diode laser, modified strip buried heterostruct., picosecond pulse generation by passive mode locking 1−1606
GaAlAs diode lasers, mode-locking 1−19342
(GaAl)As, heterojunction laser with composition charge in active layer plane 1−37498
GaAlAs, hyperfine field and spontaneous oscill. of polarisation in optical orientation of electrons and nuclei 1−3300
GaAlAs integrated optoelectronics, review 1−15289
GaAlAs LED, Au-Sn-Al metallizations, interfacial void struct. 1−16195
GaAlAs laser, GHz analogue modulation and differential delay, temp. and current behaviour 1−11001
GaAlAs laser struct., gain broadening mechanism 1−46350
GaAlAs modified strip buried heterostruct. diode laser, passively mode-locked, picosecond pulse generation 1−51525
GaAlAs proton bombarded stripe laser, optical confinement provided by Zn diffusion, dynamic props. 1−29302
(GaAl)As/GaAs solar cells−dopant study of Zn and Be 1−8719
GaAlAs/GaAs solar cells, saturated-melt LPE growth, ohmic contacts using multimetallic layers 1−39776
GaAlAs/GaAs wavelength division solar cells, diode struct., conversion efficiency calcs. 1−13123
GaAlAs-GaAs DH laser, self-aligned, single longitudinal mode, by metal-organic CVD 1−1576
$Ga_{1-x}Al_xAs$ (110) surface anion vacancies, bound-state energy level calc. 1−16332
$Ga_{1-x}Al_xAs$, conduction band struct., deep levels, high-press. Hall effect meas. 1−2987
$Ga_{1-x}Al_xAs$ epitaxial layers, elastobirefringence study of dislocations 1−3362
$Ga_{1-x}Al_xAs$ epitaxial layers on GaAs, selective etching of GaAs window prep. 1−43555
$Ga_{1-x}Al_xAs$, refractive index dispersion relations, theory and expt. 1−3356
$Ga_{1-x}Al_xAs$:Ge, Te p-n struct., variable-gap selective photocells 1−42855
$Ga_{1-x}Al_xAs$/GaAs DH LED, abrupt high temp. degradation 1−21256
$Ga_{1-x}Al_xAs$-GaAs interface strain characterisation by electrolyte electroreflectance 1−16349
$Ga_{1-x}Al_xAs$-GaAs LPE interface structure and composition, STEM and cathodoluminescence obs. 1−16350
$Ga_{0.7}Al_{0.3}As_{1-y}P_y$-GaAs heterojunction, misfit dislocation imaging 1−20223
GaAlAsSb quaternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
GaAlAsSb-GaSb system, Zn diffusion, Sb overpressure effects 1−52347
$Ga_{1-x}Al_xAs$(Sb), Raman scatt. spectra, lattice dynamics 1−48085
$Ga_{1-x}Al_xAs_{1-y}Sb_y$ Schottky barrier avalanche photodetectors 1−12189
$Ga_{1-c}Al_cP$, imperfect crystals, two-phonon bound states 1−15967
$Ga_{1-x}Al_xP$, refractive index dispersion relations, theory and expt. 1−3356
GaAlSb ternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
$Ga_{1-x}Al_xSb$ avalanche photodiodes, resonant impact ionisation 1−47737
$Ga_{1-x}Al_xSb$ photodiodes, impact ionisation resonant enhancement 1−34715
$Ga_{1-x}Al_xSb$, resonant enhancement of intrinsic impact ionization involving spin-orbit split-off valence band states 1−52572
$Ga_{1-x}Al_xSb$, UPS and XPS photoemission spectra *(French)* 1−48225
$Ga_{1-x}Al_xSb$, variband struct., liq. phase epitaxy 1−52455
$Ga_{1-x}Al_xSb$:Te, LPE on p-GaSb substrates 1−35193
GaAs 1−2877
GaAs (001) surface, As-stable, MBE prep., angle resolved photoemission study 1−35142
GaAs (100), surface vacancy electronic struct., scatt. theoretic method 1−7697
GaAs (100) MBE surface props., H_2S adsorption effects 1−16175
GaAs (100) surface substrate for $GaAs_{1-x}Sb_x$ photodiodes, performance depend. on mismatch 1−16343
GaAs (110), adsorption of Al, angle-resolved photoemission study 1−39222
GaAs (110), bonding and adatom-adatom interaction of column III and V elements 1−16172
GaAs (110), clean and oxidised, surface band bending, Raman spectra 1−38829
GaAs (110), cond. band surface plasmons in EELS 1−48202
GaAs (110), defect gap states 1−7696
GaAs (110), elastic LEED intensity profiles, energy-dependent exchange pots. 1−7052
GaAs (110), of Cl, two-dimens. band struct., angle-resolved photoemission spectra study 1−38828
GaAs (110), photoelectron diffr. effects., XPS angular distribs. 1−53050
GaAs (110), relaxed surface, electronic struct., nonlocal pseudopot. calc. 1−3035
GaAs (110), surface states, optical detection at energies above gap, H_2 and O_2 exposure effects 1−52626
GaAs (110) surface, clean and oxidized, band bending, Raman, LEED and Auger study 1−52624
GaAs (110) surface, O_2 adsorption, photoemission obs. 1−16173
GaAs (110) surface anion vacancies, bound-state energy level calc. 1−16332
GaAs (110) surface atomic geometry, LEED obs. 1−20521
GaAs (110) surfaces, electron affinity and ionisation energy, temp. depend. 1−38838
GaAs (111) B epitaxial films, adsorption of Cs and Cs+O, ellipsometric obs., photocathode sensitivity 1−30547
GaAs {100} MBE layers, surface crystallography, electronic props., and chem. reactivity, stoichiometry effects 1−7439
GaAs, activation analysis with low energy charged particles 1−31937
GaAs, amorphous film, EXAFS study of disorder effects 1−35118
GaAs anodic oxide films, 1.5 to 6 eV cathodoluminescence obs. 1−16611
GaAs anodic oxide interface formation obs. 1−16372
GaAs, Auger recombination at B centre 1−35133
GaAs, Auger recombination, impurity assisted 1−47676
GaAs, average band gap 1−7516
GaAs, breakdown voltage orientation depend. 1−7718
GaAs, bulk, materials technology advances, review 1−43257
GaAs, CVD, rate processes, book contrib. 1−39248
p-GaAs, carrier drag by photons, spectral charact. meas., scatt. mechanisms 1−30781
GaAs, carrier mobility limited by ionised impurity scatt. with nonlinear screening, calc. 1−47637
n-GaAs, carrier reduction by Cr ion implantation 1−47103

III-V semiconductors continued
GaAs, carrier trapping, shallow level struct. evidence, TSC meas. 1−7636
GaAs characterisation by SIMS 1−31955
GaAs, chemisorption of Al and Ga 1−16171
GaAs, chemisorption of Al on (110) surface, adsorption mechanisms and bond calcs. *(Chinese)* 1−47364
P-GaAs, circular polarisation of luminesc. in mag. field, Mott transition effects 1−52923
GaAs, conductance oscillations in two-dimens. transport in impurity band 1−7631
p-GaAs, conduction electron spin relax. 1−47978
GaAs, conference, Wurzburg, West Germany (Oct. 1979) 1−44702
GaAs crystal, self-induced optical activity obs. 1−19392
GaAs crystal growth, modified Bridgman and synthesis solution diffusion methods 1−8210
GaAs, crystal growth mechanism and kinetics in gas phase epitaxy 1−26375
GaAs crystals, resonance-enhanced transient reflectivity via exciton polaritons 1−48111
n-GaAs, current noise due to impact ionization of shallow neutral donors 1−20752
n-GaAs, cyclotron-resonance-induced cond., carrier mobility and relax. time 1−3263
GaAs DH regenerative amplifier, cleaved-substrate laser, amplification meas. 1−1566
GaAs, deep centres studied by capacitance spectros., review 1−25661
GaAs, deep defects, optical and ESR spectroscopy, review 1−30676
GaAs, deep level optical spectroscopy 1−47543
GaAs, deep levels, anal. of thermal and optical transients 1−12059
GaAs, deep levels, EL2 and EL3, uniaxial stress dependence 1−2918
GaAs, deep levels, optical cross sections, calc. 1−47542
GaAs, deep luminescence centres, recomb. props. and vibr. spectra, plastic deform. effect 1−21271
GaAs, deep-level transients, electric field effect 1−7550
GaAs, degenerate, emission near absorpt. edge 1−21259
n-GaAs, degenerate, quantum efficiency and radiative lifetime 1−43158
GaAs, degradation and luminesc., effect of intrinsic defects 1−21252
GaAs, dielectric function theory, gain spectra 1−16246
GaAs, diffusion of Se, electron-pulsed, form. of n^+ regions 1−7187
GaAs, direct anodisation at extemely low substrate temp. by O plasma *(Japanese)* 1−31702
GaAs, dislocation glide enhancement by electron beam irrad. 1−52141
GaAs, doped, quantitative anal. by quadrupole SIMS 1−31951
GaAs, doped, VPE invest. *(Chinese)* 1−53096
GaAs, doping by ion implantation, review 1−25313
GaAs electro-optic directional coupler integrated with detector, bistable operation 1−37630
GaAs, electroabsorption at high illumination intensities 1−43098
GaAs electroluminescent structs., DH and variable gap, nonradiative current component increase due to defect form. 1−19343
n-GaAs electrolyte electroreflectance spectra and space-charge region obs. 1−16359
GaAs, electron capture at B centre, multiphonon process, calc. 1−16298
GaAs, electron capture at B-centre, radiative mechanism contribution 1−16299
GaAs, electron irradiation induced defects, annealing study 1−2426
GaAs, electron mobilities from linearised Poisson eqn. for impurity-ion pot. 1−2964
GaAs, electron transport props. at high elec. field 1−7629
GaAs, electronic charge densities, pseudopot. method 1−47465
GaAs, electronic states associated with 3d transition metal impurities 1−25657
n-GaAs, epitaxial, current instability and microwave transmission oscillations, transverse mag. field 1−20891
GaAs, epitaxial, oblique sections with specified taper by chem. etching 1−16917
n-GaAs epitaxial film, influence of elec. field on negative magnetoresistance 1−42798
n-GaAs epitaxial film, photoactive surface electron states 1−38833
GaAs epitaxial film, surface elec. and struct. props., vacuum heating effects 1−47768
GaAs, epitaxial film growth by RF sputter deposition 1−31343
GaAs, epitaxial growth during forced cooling of soln. in melt, mass and heat transfer influence 1−43280
GaAs epitaxial layer, growth, mech. in hydride method with trimethylgallium 1−38315
n-GaAs, epitaxial layer, persistent photoconductivity, illumination dose dependence 1−3003
GaAs epitaxial layer, phonon optics, carrier relaxation and recombination 1−16390
GaAs epitaxial layer, struct. defects rel. to Schottky diode reverse current excess component 1−20588
GaAs epitaxial layers, dopant conc. profile automatic determ., photoelec. props. meas. of Schottky contact 1−7481
GaAs epitaxial layers, physico-chemical origin of majority and minority carrier traps, Schottky barrier capacitance techniques 1−30763
GaAs, epitaxial layers and bulk crysts., etching rate of NH_4OH-H_2O_2 etch 1−21608
GaAs epitaxial layers for photoelastic optical directional couplers 1−51639
GaAs, etching, local, in Br_2-dimethylformamide soln. 1−39484
GaAs FET, for high gain optical detection 1−45003
GaAs, far IR donor absorpt. and photocond., saturation 1−52970
GaAs film, amorphous, MBE prep., elec. and optical props. 1−25585
GaAs film, electron diffusion length, dislocation and ionised impurity effects 1−30855
GaAs film, submicron growth defect form. in CVD 1−20591
p-GaAs fine grained powder, compacted, piezoelec. effect 1−21129
GaAs free carrier concentration, four-wave polarisation CARS study 1−46440
GaAs, free carrier dispersive dielectric function 1−47517
GaAs grain boundaries, band bending and passivation studies 1−34650
GaAs, growth of {111} and {$\bar{1}\bar{1}\bar{1}$} faces, by CVD, study of growth parameters 1−2368
n-GaAs, Gunn effect threshold field decrease in strong mag. field *(Russian)* 1−42782
GaAs, Gunn instability, voltage fluctuation calcs. 1−47661
n-GaAs, heavily doped, Debye screening length doping depend. 1−16249
GaAs, heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
GaAs, heavily doped, negative magnetoresist. 1−47681
III-V semiconductors continued
GaAs, heavily doped, photoluminesc., hydrostatic press. depend. 1−48134
n-GaAs, heavily doped and compensated, electron transport, 4.2-300K 1−12112
GaAs, heavily doped epitaxial layers, pulse electron beam annealing effects 1−15928
GaAs, high pressure metallic phase, EXAFS and K-absorpt. edge spectrum 1−35121
GaAs, high-field transport, Monte Carlo method and pseudopot. band struct. 1−47659
GaAs, high-purity epitaxial layers prep., elec. characts. 1−43274
GaAs, highly excited, exciton electron-hole plasma system, optical studies 1−52592
GaAs, homojunction laser, uniaxial press. influence on long delay critical temp. 1−6556
GaAs, hot electron anal. from electron distrib. function 1−47663
n-GaAs, hot electron phenomena, population inversion, calc. for polar optical phonon scatt. 1−30755
GaAs, hot electron transport, electron-electron interaction, screening effect 1−2971
GaAs, hot electrons, transient and high frequency response in high fields, Monte Carlo calc. 1−38785
GaAs, hot photoelectron energy relaxation in surface region 1−52606
GaAs, hot photoluminescence spectrum and polarisation 1−48147
GaAs, ideal-neutral-vacancy levels, hydrostatic press. depend. 1−12065
GaAs, impact ionisation of free exciton 1−16290
GaAs, impurity analysis by SIMS 1−20254
GaAs, impurity photoconductivity peak chemical shift 1−20819
p-GaAs, influence of screening on deform. pot. and piezoelec. scatt. 1−34709
GaAs ingots, with high free electron concs., horizontal gradient-freeze technique growth 1−3607
GaAs, integral dielec. functions, resolution into component parts 1−31115
GaAs, ion implantation and IC fabrication applic., review *(Japanese)* 1−25312
GaAs, ion implanted, carrier removal and charge compensation, annealing effects 1−12125
GaAs, ion implanted, recrystn. induced by laser annealing, Raman spectra study 1−52072
GaAs, ion-beam etching 1−3947
GaAs, ion-implanted, struct. and elec. profile meas. 1−11779
GaAs L-band cryogenically cooled FET amplifier, used for radio astronomy 1−36182
GaAs, LPE, X-ray topography of growth step sources 1−2456
GaAs, LPE layer growth, improvements in theory and interpretation of expts. 1−2369
GaAs LPE layers, residual impurities, photoluminesc. and IR photocond. meas. 1−2474
GaAs, large wavevector acoustic phonon propagation 1−47184
GaAs laser array and fibre-optic detector array for disc appl. 1−46371
GaAs laser coupling into spherical-ended fibres for optimum power coupling 1−51623
GaAs, laser induced damage, optical heating 1−15925
GaAs liquid junction solar cells, suppression of electrode photocorrosion by sulphonated anthraquinones 1−32019
GaAs, low-temperature contacts using welded Au microwire 1−47744
GaAs, luminescence of high density electron-hole plasma 1−8117
GaAs, MBE, book contrib. 1−48266
GaAs, MBE grown, Ge doping, thermodynamic aspects 1−2481
GaAs MBE heat-cleaned surface, nearly ideal Al contacts, Schottky barrier props. 1−47733
GaAs MBE layer ultrashort laser, with perpendicular-to-film optical excitation and emission 1−29275
GaAs, MBE with gas source for AS 1−35179
GaAs MESFET, determ. of shallow defect levels using TSC in implant-layer/substrate junctions 1−30818
GaAs, MIS structure, electrical anal. 1−42863
GaAs MOS capacitor, anodised, effect of CW laser irradiation on interface props. 1−25805
GaAs MOS interface states and bulk energy levels, transient capacitance spectra 1−16377
GaAs MOS polycrystalline solar cells with grain boundary passivative using oxidising etch technique 1−48847
GaAs MOS Schottky-barrier solar cells, morphology, fabrication and efficiency improvement methods 1−26837
GaAs MOS solar cells, effect of anodic-oxide layer thickness on performance 1−32014
GaAs MOS structure, internal photoemission 1−47748
n-GaAs MOS system, interface states density and dynamic props., photocapacitance and deep level transient spectra 1−12209
GaAs model TC-8101 magnetometer for high mag. fields 1−33011
GaAs monocrystals for optical communication systems *(Czech)* 1−11053
GaAs monolithic optical bistable devices, integration of directional coupler switch with output channel detector on single chip 1−11185
GaAs n-n^+ layer-substrate interface, LPE, high resist. layer removal by in situ etch-back 1−43554
GaAs native oxide interface chemical depth profiling 1−16378
GaAs, no-standards quantitative EDS anal. *(Chinese)* 1−53497
GaAs, nonequilib., coupled electron-hole plasma-phonon system, time evolution calc. 1−34733
GaAs, nonradiative states, photoacoustic spectroscopy 1−21261
GaAs, optical activity induced by plastic deform. 1−12473
GaAs optical cross sections associated with deep levels 1−21257
GaAs, optical detection of cyclotron reson. via band-gap luminesc. 1−31030
GaAs, optical reflectance as simple nondestructive method for surface damage detect. 1−48589
GaAs optically pumped laser with ultrashort cavity, picosecond pulses 1−51529
GaAs, oxide film growth by anodization in O plasma, appl. to fabrication of devices and ICs 1−12915
GaAs oxide film growth by plasma anodisation 1−16924
GaAs oxide layer chemical reactions 1−16373
GaAs oxide layers, surface and interface roughness and morphology determ. 1−30532
GaAs p^+-n_0-n^+ structure, VPE fabrication, injected carrier distrib., photoluminesc. spectra obs. 1−34786
GaAs, p-n junction, avalanche and field emission breakdown, SHG 1−3049
GaAs, parametric interactions under high-power EM radiation fields, instability anal. 1−1642

III-V semiconductors continued
GaAs peeled-film solar cells 1−48842
n-i-p-i-GaAs, periodic doping struct., MBE study 1−2849
GaAs, phonon magnification for infinites 1−15980
GaAs, phonon pulse propag., spatial and temporal charact. 1−15989
p-GaAs, phonon thermoelectromotive force and entrainment *(Russian)* 1−2574
GaAs, photoacoustic spectra in strong absorption region 1−47174
n-GaAs photoanode, protection with photoelectrochem. generated polypyrrole film 1−21735
GaAs, photocathode, electron spin polarisation meas. 1−48223
GaAs, photocurrent noise observed by resonant photoexcitation 1−52602
GaAs, photoexcited carriers, distrib. functions, instabilities, theory 1−20825
GaAs, photoluminescence spectra, complexes due to donor-acceptor type transitions 1−8113
GaAs photovoltaic cells, efficiency and multiple cells structure *(Italian)* 1−35650
GaAs, picosecond nonequilibrium carrier transport 1−47638
GaAs picosecond switch, active mode-locking of coumarin dye lasers 1−15199
GaAs, plasmon magnification and Gaussian curvature of slowness surface, detector shape effects 1−25389
GaAs plates, optical orientation *(Czech)* 1−11714
GaAs, point defects in doped single crystals of A^3B^5 compounds, review 1−25264
GaAs polycrystal Schottky barriers, grain boundary effects 1−16365
n-GaAs polycrystaline layers evaluation for solar cells using electrochemical technique 1−26833
GaAs, positron annihilation, search for free arthopositronium atoms *(Russian)* 1−3532
GaAs, preparation book contrib. 1−39241
GaAs, radiation defects, effect on properties, review 1−25319
GaAs, radiative recombination rate coeff., excitation level depend. *(Japanese)* 1−39132
GaAs, reactive ion etching in $CCl_2F_2/Ar/O_2$ 1−43546
GaAs, refractive index depend. on free carriers 1−3347
GaAs, resonant electronic Raman scatt. 1−35034
GaAs, SHG in in-plane waveguide, enhancement with deposited amorphous Si film 1−19387
n-GaAs, Schottky barrier, proton bombarded, anal. of defect states by transient capacitance methods 1−30671
GaAs Schottky gate FET, noise spectrum described by time const. distrib. 1−7681
GaAs Schottky gate FET, cond. oscillations in two-dimens. impurity bands 1−47745
GaAs semi-insulating substrates, characterization, key parameters, deep acceptor/donor level, accurate values 1−38742
GaAs semiconductor detectors of nuclear radiation 1−1029
p-GaAs, semiconductor electrode in photoelectrochem. in aq. soln. 1−7728
GaAs semiconductor lasers, zinc blende struct., optical transitions, stress effects *(Portuguese)* 1−33683
GaAs semiconductor-oxide-electrolyte interface 1−34801
GaAs, semiinsulating, single cryst., prod. by three temp. boat method *(Japanese)* 1−48251
GaAs solar cells, grain boundary and interface investigations using AES and complementary surface anal. techniques 1−21884
GaAs solar cells, thin film polycrystalline semicond. p-n junction, efficiency calc. 1−13118
GaAs, sputtered neutral mass spectrometry using microwave plasma 1−28123
n-GaAs, stimulated Brillouin scatt. of laser radiation 1−46454
GaAs, strain-electrical phenomena in degenerate p-n junctions and Schottky barrier diodes 1−25798
GaAs, stress birefringence dispersion, temp. depend. 1−21166
GaAs, structural evaluation by chem. etching, dopant effects 1−11754
GaAs substrate, semi-insulated, highly compensated, characteris. and effects on device performance 1−34646
GaAs substrate for $Ga_{1-x}Al_xAs$ epitaxial layers, elastobirefringence study of dislocations 1−3362
GaAs surface, Al reactions 1−42651
GaAs surface, C free, prep., AES and RHEED study 1−48539
GaAs, surface and cryst. physics studied by MBE 1−2848
GaAs surface charging during adsorpt. of various molecules 1−7454
GaAs, surface cleaning in vacuo by high power laser pulses 1−21603
n-GaAs, surface irregularities induced by anodic oxidation 1−16919
GaAs, surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
GaAs-surfaces, structure, electron states and electrophysical properties, review 1−25789
GaAs, TSC spectra, differential anal., recomb. mechanism 1−12122
GaAs, thermal oxidation of GaO_xN_y covered surface, Auger-sputtering study 1−21612
GaAs, thermally annealed plasma-oxidized films, interfacial reactions, thermodynamically driven 1−21765
GaAs thin epitaxial structures, meas. of doping profiles 1−20252
GaAs thin film optical waveguide, fabrication of chirped gratings 1−15256
GaAs thin film solar cells with grain boundary edge stabilisation, thermal anodisation 1−48835
GaAs thin films, plasma-assisted deposition for solar cell appls. 1−8238
GaAs thin films, polycrystalline, high-resolution optical methods for characterisation 1−25812
GaAs thin layer epitaxial deposition ~1 μm thick on various substrates, techniques *(Italian)* 1−53088
GaAs, three-valley model, microwave noise, coupling const. between Γ and L valleys 1−30796
GaAs, time resolved phonon spectroscopy with picosecond time resolution 1−45036
p-GaAs to Au/Zn/Au multilayer ohmic contacts 1−3062
GaAs, two-dimens. plasma, charge carrier excitations, reson. inelastic light scatt. 1−12517
GaAs, two-dimensional electron gas, lattice scatt. mobility 1−25723
GaAs, two-dimensional impurity band, electron state quantisation at low carrier conc. 1−30659
GaAs unrelaxed (110) surface Ga core exciton effects 1−16330
GaAs VPE film on reusable substrate, production technique 1−8229
GaAs, velocity bunching of near-zone-edge phonons, intense tunable phonon source near 10 Å 1−42489
GaAs wafer, ion-implanted, semi-sealing capless anneal 1−21490

III-V semiconductors continued
GaAs with $Ga_{1-x}Al_xAs$ epitaxial layers, selective etching, window prep. 1−43555
GaAs, X-ray band charge model for reevaluation of quasiforbidden reflections 1−42336
GaAs:Al, synthesis, photoconductivity and luminescence spectra 1−35162
GaAs:An, heavily doped, intra- and inter-valence-bands electronic Raman scatt. 1−3407
GaAs:Ar(Si) epitaxial layers and monocrysts., ion implanted, electrophys. and luminesc. props. 1−7663
GaAs:B,Cr, low temp. Cr redistrib. and gettering in absence of encapsulant stress 1−15916
GaAs:C, electron scatt. at localised impurity pots. 1−47635
GaAs:Cr, As antisite defect, submillimetre EPR evidence 1−7941
GaAs:Cr, B, Si_3N_4-capped, annealing of damage and redistrib. of Cr 1−20248
GaAs:Cr, cathodoluminescence spectrum, zero-phonon multiplet 1−31205
n-GaAs:Cr, charge transfer induced by hydrostatic press., Hall effect meas. 1−47547
GaAs:Cr, current induced transition from high to low resistivity state 1−20828
GaAs:Cr, EPR, photoinduced changes, Cr^{4+} second-acceptor state 1−12393
GaAs:Cr, effect of plastic deform. on EPR spectrum 1−3250
GaAs:Cr, electron beam irrad., EPR meas. 1−38978
GaAs:Cr, heat treated semi-insulating, Raman spectra meas., thermal conversion 1−43103
GaAs:Cr, impurity photocond., hole capture cross section 1−25760
GaAs:Cr, Mg ion implant distrib., elec. props. 1−7202
GaAs:Cr, phonon-assisted electron tunnel emission from Cr level 1−47548
GaAs:Cr, photoluminescence, 0.839 eV and 0.574 eV lines 1−35085
GaAs:Cr, role and thermal redistrib. of Cr, review 1−30265
GaAs:Cr, semi-insulating Cr profile after annealing in H_2-As_4 atmosphere 1−2490
GaAs:Cr, semi-insulating, characterisation using galvanomagnetic meas. *(Slovak)* 1−20767
GaAs:Cr, semiinsulating, ultrafast magnetophotocond. meas. 1−52608
GaAs:Cr, temperature and compensation dependence of threshold voltage for switching effect 1−20751
p-GaAs:Cr, Zn, electron irrad., EPR spectra 1−43000
GaAs:Cr and undoped, energy structure parameters determ. by thermal effect of short light pulser *(Russian)* 1−52487
s-GaAs:Cr junction diodes, I-V charcts. 1−47740
GaAs:Cr n-ν-n^+ structs., current-voltage charcts., photosensitivity 1−20863
GaAs:Cr^{2+}, Cr^{3+}, dynamical Jahn-Teller model 1−52533
GaAs:Cr^{2+}, level splitting, Jahn-Teller interactions, theory 1−42728
GaAs:$Cr^{2+}(Cr^{3+})$, d-electron interaction matrices, energy level calc. 1−42729
GaAs:Cr^{3+}, EPR, Jahn-Teller centre with stress dependent reorientation field 1−7940
GaAs:Cr(Fe), MESFET, doping profile determ. by SIMS 1−30264
GaAs:Fe, doping by MBE 1−47394
GaAs:Fe, high-resistivity LPE layers, photocapacitance 1−39253
GaAs:Fe(Cr) high resistivity layers, LPE growth by Fe- and Cr-doping 1−39256
GaAs:Ga, Ge, dual implantation, Hall mobility and elec. resist. 1−38394
GaAs:Ge, As, dual implantation, amphoteric activity, Hall effect and elec. resist. 1−38395
GaAs:Ge, ion implanted, elec. props. and photoluminesc. 1−47646
GaAs:Mn, thermal conversion, photoluminescence spectra 1−8114
GaAs:N, SIMS studies of dopant profiles, review 1−30268
n-GaAs:O, electron states of local centres 1−34659
GaAs:O, ion implantation, deep level prod., LCAO-MO calcs. 1−7552
n-GaAs:O^+, carrier compensation 1−7638
GaAs:P^+, ion implanted, defect and impurity distrib., He^+ backscatt. study 1−11777
GaAs:S(Se) VPE layers, doping behaviour, elec. and luminesc. meas. 1−47408
GaAs:Se ion implanted, impurity profiles, diffusion, luminescence spectra 1−2479
GaAs:Si, radiation annealing 1−43373
n-GaAs:Si, recombination centres, spontaneous emission 1−52991
GaAs:Si layers, LPE, self-compensation of donors due to Si incorporation 1−38741
GaAs:Si+Ge(Sn), IR absorpt., plasma resonance and Hall effect meas., impurity effect on props. 1−3381
GaAs:Si; LPE, VPE and gradient-freeze growth, doping effect on lattice parameters 1−2402
GaAs:Si(S)(Se)(Te), ion channelling study 1−34380
GaAs:Sn, LPE, ion implantation, cathodoluminesc. 1−39160
GaAs:Sn, MBE growth, doping, elec. props. 1−2834
GaAs:Sn, surface struct. oscills. during MBE growth 1−47413
n-GaAs:Sn(Si), growth by mol. beam epitaxy, lateral uniformity 1−12660
GaAs:Te, implanted, He backscatt., laser annealing effects, carrier conc. 1−38391
GaAs:Te, VPE grown, incorporation of Te using Ga-$AsCl_3$-H_2 technique 1−2482
GaAs:Te electron-beam pumped CW laser 1−37512
GaAs:Te(Cr), MBE, SIMS study of dopant distrib. 1−42647
GaAs:Te(Sn)(Cr), fast neutron irrad. effects on props. 1−25331
GaAs:Ti(Zr), LPE growth, influence of additions 1−39250
n-GaAs:V, optical absorption and photolum. obs. 1−12580
GaAs:Zn, heavily doped, photoluminesc., temp. and hole conc. depend. 1−3479
GaAs:Zn, heavily doped, photoluminesc., hydrostatic press. depend. 1−3480
p-GaAs:Zn, heavily doped, optically pumped electron spin relax. through virtual photon 1−35090
GaAs:Zn MOS diode, piezoelectric effects 1−3336
GaAs/AlGaAs heterostructure, negative cond., real space electron transfer 1−16342
GaAs/AlGaAs MBE heteroface solar cell on Ge, high-efficiency 1−48834
GaAs/Au-Al interface, atomic interdiffusion meas. and modulation 1−16103
n-GaAs/electrolyte photoelectrochemical system, surface charge and specific ion adsorption effects 1−42858
GaAs/GaP negative electron affinity photocathodes, MBE 1−26389
GaAs/n-AlGaAs heterojunction interface, two-dimensional electron mobility 1−34775
GaAs-(Al,Ga)As laser diodes, luminesc. during degradation 1−41704

III-V semiconductors continued
GaAs-(AlGa)As heterojunction superlattices, modulation doping 1−52155
GaAs-(Ga,Al)As DH LPE, final wipe-off improvement 1−8245
GaAs-(GaAl)As epitaxial structures, dopant phase diagrams 1−32030
GaAs-$Al_{1-x}Ga_xAs$ superlattices and quantum wells, two-dimens. confined carriers, electron-phonon coupling, reson. magneto-phonon effect 1−7725
GaAs-Al_xGa_{1-x} heterostruct. lasers mirrors, ion-plasma treatment 1−51518
GaAs-$Al_xGa_{1-x}As$, optically pumped quantum wells, photoluminesc. 1−3478
GaAs-$Al_xGa_{1-x}As$ diode laser in pulsed mode, lifetime estimation 1−41705
GaAs-$Al_xGa_{1-x}As$ DH laser, Q-switching with picosecond light pulses 1−51528
GaAs-$Al_xGa_{1-x}As$ heterostructure, electronic props. of two-dimens. system 1−7723
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, electronic props. and multi-interface structs., two-dimens. electron gas 1−12186
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, inelastic light scatt. obs. of multilayer two-dimens. electron gas 1−12516
GaAs-$Al_xGa_{1-x}As$ heterojunction interface two-dimensional hole gas obs. 1−16354
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, modulation doped, MBE growth 1−34777
GaAs-$Al_xGa_{1-x}As$ high mobility single period modulation-doped heterojunctions, MBE growth 1−42849
GaAs-$Al_xGa_{1-x}As$ heterojunction layers, hot-electron cond. and real-space transfer 1−47736
GaAs-$Al_xGa_{1-x}As$ layers, liq. and solid comp. at LPE growth, ambient gas atm. influence 1−30585
GaAs-$Al_xGa_{1-x}As$ multilayers, two-dimens. elec. transport at high mag. fields 1−7724
GaAs-$Al_xGa_{1-x}As$ multiquantum well superlattice interface disorder, photoluminescence and absorption obs. 1−16353
GaAs-$Al_xGa_{1-x}As$ multi-quantum well struct., radiative recombination from quantum states 1−52990
n-GaAs-$Al_xGa_{1-x}As$-GaAs graded interface barrier conductivity 1−16347
GaAs-AlAs (110) interface deep substitutional sp^3-bonded impurity levels and Frenkel core excitons 1−16344
GaAs-AlAs multilayer heterostruct. laser electron beam transversely pumped 1−33684
GaAs-AlAs superlattices, Raman scatt., phonon folding and anisotropy 1−52940
GaAs-$AlGa_{1-x}As$ superlattice, heavily doped subband struct., band bending, low temp. mobilities 1−7721
GaAs-AlGaAs heterojunction superlattices, inelastic light scatt. spectroscopy of confined carriers 1−16355
GaAs-AlGaAs heterostructure superlattices, far IR emission of 2D electron gas 1−52941
GaAs-AlGaAs lasers, anal. for characterising devices of various cross-sectional geometries 1−1567
GaAs-AlGaAs superlattice, Coulomb interactions, intersubband spectroscopy 1−7719
GaAs-AlGaAs superlattices, light scatt. spectra of electron gas 1−52960
GaAs-electrolyte contact props., effect of discontinuous Au film 1−38848
GaAs-$Ga_{1-x}Al_xAs$, semiconductor superlattices, review 1−30817
GaAs-$Ga_{1-x}Al_xAs$ field effect semicond. laser 1−29294
GaAs-$Ga_{1-x}Al_xAs$ semiconductor superlattices by MBE and their characterization 1−2417
GaAs-$Ga_{1-x}Al_xAs$-GaAs heterostructure electron tunnelling transmission 1−16348
GaAs-$Ga_{1-y}Al_yAs$-$Ga_{1-x}Al_xAs$, n^+-i-n heterostruct., optical emitter degradation 1−7716
GaAs-$Ga_xAl_{1-x}As$ double quantum well struct., collective modes of two-dimensional plasma 1−47519
GaAs-GaAlAs DH laser wafer, improvement by $Ga_{1-x}Al_xAs$ buffer layer 1−11002
GaAs-GaAlAs DH lasers, stripe geometry, current spreading and resistance effects calc. 1−41696
GaAs-GaAlAs DH lasers, acoustic signal obs. 1−41702
GaAs-GaAlAs DH struct., optically induced dislocation glide, mechanism 1−47090
GaAs-GaAlAs edge-emitting LED for medium capacity digital optical links, >1 mW launched power 1−11170
GaAs-GaAlAs integrated struct. for mode locking a diode laser 1−41754
GaAs-GaP heterostructures, residual stresses determ. by photoluminesc. 1−21255
GaAs-Ge (110) interfaces, heterojunctions and overlayer systems, electronic struct., scatt. theoretic method 1−7697
GaAs-Ge interface, Al interlayer-controlled diffusion, XPS study 1−38600
GaAs-$In_yGa_{1-y}P_zAs_{1-z}$-$In_xGa_{1-x}As$ grading heterojunction form., LPE equilib. and step-cooling methods 1−21372
n-GaAs-K_2Se-K_2Se_2-KOH/C photoelectrochemical cells, role of interface states 1−43787
GaAs-metal and GaAs-electrolyte contacts under forward bias, capacitance-voltage behaviour 1−7732
GaAs-metal interface, far-IR radiation generation by difference-freq. mixing of surface waves *(Chinese)* 1−46442
n-GaAs-metal ohmic contacts form., elec. modelling 1−34792
GaAs-Pd Schottky contacts, comparison with InP and Si Schottky diodes 1−34795
GaAs-Yb junctions, tunnelling props. under press. semimetal-semicond. transition 1−7733
GaAs(P), adsorption of CO, CO_2, interaction mechanisms, surface atomic structs., meas. 1−25578
GaAsP, electron-core-hole interaction, energy derivative reflectance spectra 1−3430
GaAsP, electron-hole plasma luminescence above direct-indirect crossover 1−47696
GaAsP integrated optics optron, characts. 1−24535
GaAs(P) with transition metal II and III series impurity ions, internal radiative transitions, photoluminesc. study 1−48138
$GaAs_{0.62}P_{0.38}$, extended defect, DLTS, capacitance transient meas. 1−30672
$GaAs_{1-x}P_x$ 1−39082
$GaAs_{1-x}P_x$ (x=0.4, 0.65), minority lifetime enhancement by N ion implantation 1−38788
$GaAs_{1-x}P_x$, deep energy levels associated with substitutional defect pairs 1−16252
$GaAs_{1-x}P_x$, electron-hole liquid luminesc. 1−12574

III-V semiconductors continued
$GaAs_{1-x}P_x$, final-state interactions in core excitations, photoelectron spectra 1−48219
$GaAs_{1-x}P_x$, ion implanted, annealing by swept line electron beam, luminescence study 1−3453
$GaAs_{1-x}P_x$ modulated struct., tetragonal lattice distortions and elec. props. 1−42362
$GaAs_{1-x}P_x$, refractive index dispersion relations, theory and expt. 1−3356
$GaAs_{1-x}P_x$, SIMS studies of dopant profiles, review 1−30268
$GaAs_{1-x}P_x$ solid soln. crystal, light birefr. induced by external uniaxial deform. 1−31123
$GaAs_{1-x}P_x$ VPE layers, dislocation density and lattice const. mismatch, cathodolum. 1−7487
$GaAs_{1-x}P_x$ vacuum deposited film, X=0.3-0.9, successive evaporation method, characterisation 1−53095
$GaAs_{1-x}P_x$:N, phonon sidebands in emission spectra 1−48144
$GaAs_{1-x}P_x$:N, photoluminesc. spectra at various excitation levels and N doping 1−26266
$GaAs_{1-x}P_x$:N trap states, zero-phonon excitonic struct., luminesc. and reson. excitation study 1−47538
$GaAs_{1-x}P_x$:Te epitaxial layer, radiation defect features 1−42379
$GaAs_{1-x}P_x$-Mo Schottky diodes, effect of vacuum annealing cleaning on elec. characts. 1−34794
GaAs(Sb), (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
$GaAs_{1-x}Sb_x$ photodiodes on GaAs (100) substrate, effect of mismatch on performance 1−16343
$GaAs_{1-x}Sb_x$ solid solutions structs. for photocathodes 1−26370
GaAsSbP variable-gap struct., absorpt. edge profile 1−39174
$(GaAs)_x(ZnSe)_{1-x}$ solid solns., electrophys. props., prep. method depend. 1−42769
GaAs(110), optical detection of surface states, fractional change of external refl. 1−8096
GaAs(110)-Al(Au), interface electronics struct., Schottky barrier form., photoemission study 1−8198
GaAs(110)-p(1×1)-Al surface, at. geometry obs. 1−42612
(GaIN)(AsP)DH lasers with Zn doping, temp. dependence of threshold current 1−51480
GaInAs, GaInP, GaAlAs, Schottky barrier formation, anion vacancy electron states 1−52644
GaInAs PIN photodiodes, use as detector element in PIN-FET (preamplifier) hybrid fibre optic receivers 1−11173
GaInAs-InP avalanche photodetectors, low dark-current high gain 1−45014
n-$Ga_{0.47}In_{0.53}As$, alloy scattering effects and calc. Hall mobility 1−42791
$Ga_{0.47}In_{0.53}As$-InP heterophotodiode with reduced dark current, good photoresponse 1.0 to 1.65 μm 1−45013
$Ga_{1-x}In_xAs$ PIN photodiodes, high-speed photodetector appl. in hybrid PIN-FET fibre optic receiver 1−11172
$Ga_{1-x}In_xAs$ solidus isotherms developed by the step-grading technique 1−16205
$Ga_{1-x}In_xAs$:Te, LPE layers, doping behaviour, transport props. meas,. 1−20884
$Ga_xIn_{1-x}As$, direct gap, electron transport study 1−42792
$Ga_xIn_{1-x}As$ layers, MBE, As_4 stabilization of InP substrates 1−3633
GaInAsP avalanche photodiode for guided wave optical signal processing 1−37634
GaInAsP layers lattice matched to InP substrates, phase diagram for LPE growth 1−48278
GaInAsP, reproducible LPE growth method 1−21368
GaInAsP/InP DH stripe laser with reactive-ion-etched mirror facets 1−24428
GaInAsP/InP heterostructure laser for guided wave optical signal processing 1−37634
GaInAsP/InP low-dark-current avalanche photodetector, noise characts., avalanche multiplication 1−33053
GaInAsP/InP terraced substrate lasers, single transverse mode operationat 1.3 μm wavelength 1−19354
GaInAsP-InP 1.3 μm CW laser grown by LPE, threshold current density 1−46344
GaInAsP-InP buried heterostructure lasers fabricated by selective etching and meltback process, 1.6 μm wavelength 1−11021
GaInAsP-InP buried heterostruct. laser, 1.6 μm, refractive index variation with injected carrier density and temp. 1−19333
GaInAsP-InP DH lasers with chem. etched facet 1−15183
GaInAsP-InP LEDs for 140 Mb/s and 280 Mb/s fibre optic communication systems 1−11171
GaInAsP-InP laser with chemically etched mirror, CW operation 1−1581
GaInAsP-InP lasers with good temp. dependence grown by low pressure metalorganic VPE 1−41719
GaInAsP-InP narrow-stripe injection laser emitting at 1.3 μm, CW and pulsed operation 1−46345
GaInAsP-InP proton-bombarded stripe-geometry DH laser, gain spectra 1−46343
GaInAsP-InP T-laser on semi-insulating substrate, 1.2 μm operation 1−46377
$Ga_{1-x}In_xAs_{1-y}P_y$-InP DH laser sources for 1.3 μm fibre-optic communications 1−41742
$Ga_xIn_{1-x}As_{1-y}P_y$/InP heterostructures, thickness depend. of lattice parameter and band gap 1−52115
$Ga_xIn_{1-x}As_yP_{1-y}$, crystallisation path to phase diagram, rel. to LPE 1−48333
$Ga_xIn_{1-x}As_yP_{1-y}$ films, VPE, refractive index vs. wavelength meas. data 1−35106
$Ga_xIn_{1-x}As_yP_{1-y}$, shallow hydrogenic donors, IR photocond. and transmission meas., mag. field depend. 1−48054
$Ga_xIn_{1-x}As_yP_{1-y}$:Zn, valence band spin-orbit splitting 1−47459
$Ga_xIn_{1-x}As_yP_{1-y}$-InP DH strip waveguides with $Ga_xIn_{1-x}As_yP_{1-y}$ side bounding layers, single-mode guiding conditions 1−6568
(GaIn)P LPE process, simple numerical simulation method 1−20587
$Ga_{0.5}In_{0.5}P$, optical cooling of nuclei spin system, luminescence 1−21076
$Ga_{1-x}In_xP$ ($0 \leq x \leq 0.10$), epitaxial layers, precise chem. comp. by electron probe anal. *(French)* 1−35587
$Ga_{1-x}In_xP$:N LPE layer, scanning cathodolum. using EPMA with band filters 1−43189
$Ga_xIn_{1-x}P$ (n) semiconducting alloys studies in photoelectrochemical cells 1−32033
$Ga_xIn_{1-x}P$, Raman spectra in strong and weak fields, phonon replicas 1−39082
$Ga_xIn_{1-x}P$:Si(Zn) LPE layers lattice-matched to GaAs, growth and elec. props. 1−21370

III-V semiconductors continued
GaInPAs-InP buried mesastripe CW room-temp. heterojunction lasers, 1.24 to 1.28 μm range 1−46390
$Ga_xIn_{1-x}P_yAs_{1-y}$, III-V heterostructure devices for integrated optics 1−1725
GaN, CVD of layer at low temp., elec. cond. 1−31359
GaN, epitaxial growth on oriented sapphire in $GaCl/NH_3/He$ and $GaCl/NH_3H_2$ systems 1−53099
GaN, epitaxially grown, SHG coeffs. meas. 1−24453
GaN film growth by reactive sputtering, elec. resist. meas. 1−31350
n- GaN, influence of screening on deform. pot. and piezoelec. scatt. 1−34709
GaN, lattice parameter variation with growth conditions 1−20161
GaN n-i structure, luminescence props. 1−21277
GaN, thermodynamic props., temp. depend 5 to 300K 1−11882
GaN:C, pure and doped, yellow luminesc. mechanism 1−48148
GaN:Zn, radiative recombination kinetics 1−39155
GaP (110), defect gap states 1−7696
GaP (110), optical detection of surface states, fractional change of external refl. 1−8096
GaP, amorphous film, EXAFS study of disorder effects 1−35118
GaP and GaAs amorphous film/crystal sputtered junctions for electroluminescent diodes 1−16608
GaP cleavage surface, electronic struct., pseudopot. calc. 1−47721
GaP crystal growth, modified Bridgman and synthesis solution diffusion methods 1−8210
GaP crysts., elec. props. meas. by IR absorpt. 1−47645
GaP, Debye-Waller factor determ. by X-ray diffr. 1−42499
GaP, deep defects, optical and ESR spectroscopy, review 1−30676
GaP, deep-level transients, electric field effect 1−7550
GaP, elastic behaviour and force constants, press. depend. 1−38431
GaP electrode-metallic ion soln., photoelectrochemical imaging system, photoelectrochromic charact. 1−4099
GaP, electron irradiation, optical absorption and photocond. meas. 1−38812
GaP, electron-hole droplet condensation, crit. points and ground states 1−52493
GaP, energies of electrons bound to N pairs. 1−30666
GaP, epitaxial growth during forced cooling of soln. in melt, mass and heat transfer influence 1−43280
GaP, gas-phase synthesis, representation by partial pressure diagrams 1−16673
GaP, homogeneous stress at high press., metallic phase transition 1−34421
n-GaP, impurity-phonon resonances, low temp. photo- and magneto-transport 1−30788
GaP, integral dielec. functions, resolution into component parts 1−31114
GaP LPE layer, residual donors, elec. characterisation 1−7761
GaP, lattice expansion due to proton bombardment, X-ray diffr. study 1−20276
GaP, lattice thermal cond., scatt. mechanisms *(Russian)* 1−7400
GaP, liq. encapsulated Czochralski grown crysts., photoelastic meas. of residual stress 1−2371
GaP monocrystals for optical communication systems *(Czech)* 1−11053
GaP, optical cross sections associated with deep levels 1−21257
GaP, photoacoustic spectra in strong absorption region 1−47174
GaP picosecond switch, active mode-locking of coumarin dye lasers 1−15199
GaP, positron annihilation, search for free arthopositronium atoms *(Russian)* 1−3532
GaP, resonance Raman scatt. at the indirect gap 1−52937
GaP single cryst., elastic moduli and press. derivatives 1−34398
GaP single crystal electrodes, anodic photodissolution in aqueous media, dislocation effects 1−13144
GaP, solubility limit of N during zone melting, entropy effects role 1−52294
GaP, stress birefringence dispersion, temp. depend. 1−21166
GaP, superconductivity at high press. 1−30635
GaP, surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
GaP, US wave velocity and elastic consts. 1−34396
n-GaP, uniaxially deformed, IR absorpt. spectra 1−21207
GaP, vapour phase epitaxial growth, influence of NH_3 on growth rate 1−3634
GaP:Cr, electron beam irrad., EPR meas. 1−38978
GaP:Fe, deep traps, photoluminesc. study 1−12569
GaP:Fe, Sn impurity distrib. and behaviour of Fe during LPE 1−42404
GaP:Ge, donor state, role of high band minima in impurity theory 1−47534
GaP:Mn, hyperfine interactions of Ga neighbours around Mn^{2+}, ENDOR study 1−12427
GaP:Mn(Cu), electron-bombarded, ESR study 1−31023
GaP:N, decay kinetics of excitons and electron-hole plasma 1−3484
GaP:N, excitonic molecule bound to N trap, uniaxial stress effect 1−25643
GaP:N, N-bound excitons, stress depend., zero-phonon luminesc. and absorpt. spectra 1−26268
GaP:N, phase separation of carriers, electron-hole plasma models 1−12134
GaP:N, photoluminesc. decay time meas., exciton bound states 1−39146
GaP:N, radiative combination at NN_i isoelectronic centre 1−3496
GaP:N, valley-orbit splitting of N-bound exciton from stress-optical spectra 1−47485
GaP:N,S, nonradiative recomb., emitted phonon detection by calorimetric absorpt. spectroscopy 1−47181
GaP:N,Zn(N,Zn-O), LPE films, photoluminesc., heat treatment 1−3489
GaP:N crystal, prep., N_2 solubility and resistivity 1−38392
GaP:N donor centres, compensation 1−38743
GaP:O, ODMR, two electron trap 1−31064
n-GaP:S(Te), radiative recombination, photoconductivity 1−21272
GaP:S(Te)(Si), optical excitation of electrons bound to shallow donors, IR absorpt. lines 1−8100
GaP:Te; deform. pot. constant determ. *(Russian)* 1−7522
GaP:Zn, LPE, heterogeneous equil. and mass transfer in Zn-Zn-Ga gas-liq.-liq. system 1−42539
GaP:Zn(O), LPE layers, photoluminescence spectra 1−39144
GaP-Au Schottky barrier, photoresponse obs. of oxidised surfaces, subband gap energy region 1−34793
GaP-CdS-CdSe-Ni heterostructures, surface electron states and surface charge, optical memory effects 1−47741
GaP-CdSb(CdHgTe) heterojunction formation by laser melting 1−31338

III-V semiconductors continued
GaP-Cr, photoluminesc., mag. field and uniaxial stress depend. 1−48139
GaP-InP-GaAs-InAs solid solns., energy band spectra and band gap depend. on comp. 1−20630
$GaP_{1-x}As_x$, mixed zincblende cryst., critical point phonon composition depend. 1−2577
GaP_yAs_{1-y} mixed crystals, vibr. props., localised states calc. and Raman scatt. meas. 1−34446
GaS, Raman spectrum up to 235 kbar at 300K 1−35059
GaSb (110), defect gap states 1−7696
GaSb (110) surface, electronic states induced by surface defects, calc. 1−16337
GaSb and solid solns., p-n junctions, avalanche multiplication and impact ionisation 1−34783
GaSb, Auger recombination, impurity assisted 1−47676
GaSb, conduction electron spin relax. 1−47978
GaSb, energy gap temp. depend., electroreflectance spectra 1−48037
GaSb, energy-band dispersions, crit. points, and spin-orbit splittings, angle-resolved photoemission 1−12629
GaSb film, amorphous-cryst. transform., elec. props. 1−34704
GaSb, L-band spectroscopy, Shubnikov-de-Haas effect in high mag. field under uniaxial stress 1−47456
GaSb laser, band-to-band Auger effect 1−1568
GaSb, low net donor conc., LPE growth for detector appls. in 1.3 to 1.6 μm region 1−48279
GaSb, MBE on GaAs, surface reaction phenomena *(Japanese)* 1−31356
GaSb pulled crystals, Czochralsi method, microscopic growth rates, mech. vibr. effects 1−47030
GaSb substrate CVD heteroepitaxial growth of ZnTe 1−48268
GaSb, surface relaxation effects on electronic struct. of (111) and $(\bar{1}\bar{1}\bar{1})$ surfaces 1−47722
GaSb:Se,Te, conduction band minima, elec. props., hydrostatic press. effects meas. 1−30631
GaSb:Te, inversion of Γ and L cond. bands under hydrostatic press. 1−47457
GaSb:Te pulled crysts., micron sized facets on growth interface and impurity striations 1−47390
GaSb-AlGaAsSb, heterojunctions 1−25800
GaSb-InAs interface, electron-hole subbands 1−7722
GaSb(As)(P), substrate, thermally annealed anodic films, oxide-substrate and oxide-oxide reactions 1−35570
ε-GaSe, two-photon photoemission, band symm. 1−42686
GaSe(S), ODMR, bound and free triplet excitons 1−31064
Ge:GaAs(110) heterostructure formation, LEED, AES and work function obs. 1−16345
Ge/GaAs/CuBr heterojunction interface energy band discontinuity transitivity test 1−16346
Ge-GaAs (110) heterojunction, overlayer systems for ARUPS interface study 1−42852
Ge-GaAs heterojunction avalanche transit diodes, recombination props., elec. characts. 1−38847
Ge-GaAs polar (100) interface, electronic and struct. props., total energy, calc. 1−52647
Ge-GaAs(110) segregated overlayer system, electronic struct., tight binding calc. 1−52628
$Ge_{1-y}In_xP_y$, epitaxial struct., radiative recomb. emission intensity 1−8139
$(In,Ga)(As,P)$, VPE growth, n- and p-type doping, photolum., mobility and electron diffusion lengths 1−48267
In-Ga-P-As, LPE growth in vertical furnace of double heterostructures 1−35195
In-Sb-Bi, heterogeneous equilibria, liquid-phase epitaxy of InSb-based solid solutions 1−16761
InAs (110), defect gap states 1−7696
n-InAs accumulation layer, hybrid quantum oscills., transcond. in mag. field 1−16381
InAs, crystalline and amorphous, disorder activated Raman scatt. 1−48062
InAs, diffusion of Zn and Cd simultaneously 1−47297
n-InAs epitaxial layers, carrier lifetime meas. 1−30856
InAs film, evaporated, magnetoresist. meas. 1−12216
InAs films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
InAs films, amorphous and crystalline, electrical props. 1−20729
InAs, IR absorpt. spectroscopy developments 1−48067
InAs, integral dielec. functions, resolution into component parts 1−31115
InAs laser, band-to-band Auger effect 1−1568
InAs MBE film on GaAs substrate, cross-sectional TEM study, dislocation props. 1−11987
InAs model BHT921 magnetometer for high mag. fields 1−33011
InAs, optical rectification and photon drag 1−46436
p-InAs oxide inversion layer transport obs. at 77K 1−16375
InAs, phonon dispersion curves, X-ray thermal diffuse scatt. 1−42491
n-InAs, photocond. spectral distrib. 1−34738
InAs polycrysts., lattice dislocations generation by migrating boundaries 1−20210
InAs, resonance Raman scatt. near E_1 edge 1−39094
InAs, second-order Raman scatt. spectra 1−26206
InAs surface resonant Raman scatt. in MOS junctions 1−48066
InAs/GaSb superlattice electronic state localisation and complex bulk band structures 1−16351
InAs/GaSb(110) lattice-matched interface intrinsic and extrinsic states 1−16352
InAs/oxide interface inversion layer electron scatt. by polar interface phonons 1−16376
InAs-GaSb heterojunction superlattices, electronic props., fabrication and characts. 1−7720
InAs-GaSb heterojunction superlattices, spatially separated plasmas, anomalous acoustic plasmon form. 1−12137
InAs-GaSb semimetallic superlattices, far IR magnetoabsorpt. and cyclotron reson. 1−31131
InAs-GaSb semimetallic superlattices to heterojunction limit, Shubnikov-de Haas investigation 1−47735
InAs-GaSb superlattices, ion backscatt. and channelling 1−38673
InAs-GaSb superlattices, collective modes of two-dimens. plasma 1−47519
InAs-GaSb superlattices, semiconductor-semimetal transition 1−52609
InAs-GaSb superlattice, IR magnetoabsorption and luminescence study 1−52920
InAs-InSb solid solution heteroepitaxial layer structs., photoelec. and electrolum. characts. 1−25590

III-V semiconductors continued
InAs-oxide-Pb junction, tunnelling cond. oscills. in quantising mag. field 1−25806
InAsPSb DH stripe-geometry lasers 1−15186
InAs(Sb) film, amorphous-cryst. transform., elec. props. 1−34704
InAsSb hybrid focal plane arrays 1−5399
$InAs_xSb_{1-x}$, direct gap, electron transport study 1−42792
InAsSbP-InAs superlattice growth, organometallic VPE method 1−26393
$In_{0.72}Ga_{0.28}$ $As_{0.6}P_{0.4}$, absorption, emission and gain spectra, calc. 1−43155
InGaAs LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InGaAs VPE, suppression of InP substrate thermal damage and PH_3 contamination 1−48277
InGaAs/InP Zn-diffused back-illuminated p-i-n photodiodes, MBE growth 1−26388
InGaAs-InAsP heterojunction, VPE growth, long wavelength transferred electron photocathode appl. 1−3628
InGaAs-InP avalanche photodiodes with separated absorpt. and multiplication regions, improved characts. 1−45011
InGaAs-InP avalanche photodiode with LPE and VPE layers, separated absorpt. and multiplication regions 1−45012
InGaAs-InP p-i-n photodiodes for lightwave communications, 0.95 to 1.65 μm wavelength 1−45009
$p\text{-}In_{0.53}Ga_{0.47}As$, fast photocond. detector with response to 1.7 μm 1−45004
$In_{0.53}Ga_{0.47}As$ photodiode characts. 1 to 1.7 μm, low dark current and low junction capacitance 1−45008
$In_{0.53}Ga_{0.47}As$, photoexcited, hot carrier relaxation 1−3449
$In_{1-x}Ga_xAs$, MBE surface electronic and crystallographic props. 1−7491
$In_{1-x}Ga_xAs\text{-}GaSb_{1-y}As_y$, semiconductor superlattices by MBE and their characterization 1−2417
$In_{1-x}Ga_xAs\text{-}GaSb_{1-y}As_y$, semiconductor superlattices, review 1−30817
$In_{1-x}Ga_xAs\text{-}GaSb_{1-y}As_y$, superlattices, electroreflectance, band struct. 1−52916
$In_xGa_{1-x}As_1$ LPE growth on GaAs, elec. current controlled 1−35191
InGaAsP BH laser emitting at 1.3 μm, CW electrooptical props. 1−46346
InGaAsP buried-waveguide heterostruct. injection lasers, fabrication, elec. props., optical characts. 1−41707
InGaAsP CW heterolasers, wide resonator and strip type designs 1−1578
InGaAsP, composition, refr. index and lattice mismatch 1−11990
InGaAsP DH lasers fabrication, stripe-geometry, high-efficiency, with chemically-etched mirrors 1−11014
InGaAsP DH laser, internal SHG 1−29280
InGaAsP DH pulsating-beam lasers, 1.3 μm, optical and elec. characts. 1−41708
InGaAsP diode lasers, mode-locking 1−19342
InGaAsP double heterostructure lasers, self-sustained pulsations, negative resistance 1−33681
InGaAsP, energy band struct., virtual cryst. model and electrorefl. spectra 1−2871
InGaAsP epitaxial layers, lattice mismatch determ. 1−38675
InGaAsP, equilibrium calcs. for vapour phase epitaxial growth 1−34598
InGaAsP LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InGaAsP LPE layers, electrorefl. meas. band edge energy and spin-orbit splitting 1−48053
InGaAsP laser, 1 Gbit/s modulated, intensity fluctuation noise improvement by light injection 1−19337
InGaAsP layer lattice-matched to InP, contact with AuZn, comp. depend. 1−3063
InGaAsP p-n junction photodetectors, LPE prep. and props. 1−13125
InGaAsP phase diagram and LPE growth conditions, for lattice matching on InP 1−43279
InGaAsP photodiodes noise *(German)* 1−19448
InGaAsP/InP buried crescent diode lasers, 1.3 μm, transverse mode stabilization 1−33730
InGaAsP/InP DH laser, facet degradation caused by oxidation 1−46337
InGaAsP/InP DH laser diode, with single transverse mode, accelerated ageing test 1−46339
InGaAsP/InP DH laser wafers high quality LPE growth under PH_3 ambient 1−53110
InGaAsP/InP photodiodes, wavelength demultiplexing 1−6681
InGaAsP-InGaAs p-i-n detectors for 1.3-1.6 μm fibre optic systems 1−18294
InGaAsP-InP aged laser diodes, self-oscillations and dynamic behaviour 1−46347
InGaAsP-InP buffer-layer loaded planoconvex waveguide lasers, high temp. CW operation, 1.5 micron 1−51501
InGaAsP-InP buried heterostruct. laser on p-InP substrate 1−15185
InGaAsP-InP burried-heterostructure DH laser characts., effect of cavity length 1−51479
InGaAsP-InP channelled substrate buried heterostructure laser emitting at 1.55 micron 1−15180
InGaAsP-InP DH laser degradation in water due to facet deterioration 1−19355
InGaAsP-InP DH laser, dark defects rel. to degradation under accelerated operation 1−41703
InGaAsP-InP DH lasers, self-sustained pulsation appearance during accelerated operation 1−41755
InGaAsP-InP DH laser emitting at 1.1 to 1.65 μm, wave confinement, beamwidth and threshold current 1−46342
InGaAsP-InP LPE layers, etching characts. of defects 1−20213
InGaAsP-InP narrow stripe buried heterostructure lasers, fabrication, characterisation 1−1585
InGaAsP-InP photodiode monolithic 1×10 array, small dark current and uniform responsivities 1−45010
InGaAsP-InP separated multiclad layer stripe geometry lasers emitting at 1.5 micron 1−33704
InGaAsP-InP wafers, surface morphology improvement, using dummy layer technique 1−53107
$In_{1-x}Ga_xAs_yP_{1-y}$ CW three-layer lasers, stripe geometry devices for 1.5 μm operation, LPE growth 1−11022
$In_{1-x}Ga_xAs_yP_{1-y}$, electroreflectance study 1−21172
$In_{1-x}Ga_xAs_yP_{1-y}$ laser, efficiency and threshold current, intervalence band absorpt. 1−11004
$In_{1-x}Ga_xAs_yP_{1-y}$, pressure dependence of hole mobility and its relation to alloy scattering 1−52559
$In_{1-x}Ga_xAs_yP_{1-y}$-InP LPE and VPE layers, transport props., defects and device considerations 1−47766

III-V semiconductors continued
$In_xGa_{1-x}As_yP_{1-y}$ photodiodes with dark current limited by diffusion, generation recomb. and tunnelling 1−45007
$In_xGa_{1-x}As_yP_{1-y}$ submicron layers, LPE growth and evaluation for microwave FETs 1−2845
$In_{1-x}Ga_xP$, lattice thermal cond., scatt. mechanisms *(Russian)* 1−7400
$In_{1-x}Ga_xP$, mixed zincblende cryst., critical point phonon composition depend. 1−2577
$In_{1-x}Ga_xP$:Zn, hole transport props., Hall mobility 1−47686
$In_xGa_{1-x}P$ surface, Schottky barrier heights for Au, compositional depend. 1−16363
InGaPAs heterostructures, thin-layer LPE, non-diffusion-limited cryst. growth 1−47409
$In_{1-x}Ga_xP_{1-y}As_y$ lattice matched LPE layers on GaAs, photoluminesc. 1−31178
$In_{1-x}Ga_xP_{1-z}As_z$ ($z \leq 0.01$), LPE on GaAs (100), lattice consts. and photoluminesc. 1−48282
$In_{1-x}Ga_xP_{1-z}As_z$ visible-spectrum (∼6700 Å) LPE laser, continuous room-temp. photopumped operation 1−46368
$In_{1-x}Ga_xP_yAs_{1-y}$, LPE growth and photolum. meas. 1−26396
$In_{0.5}Ga_{0.5}Sb$ film, amorphous-cryst. transform., elec. props. 1−34704
InN films, phys. props. 1−50436
In_2O_3:Sn film prep. by activated reactive evaporation, elec. resistivity and transmittance 1−16389
InP (100) oriented epitaxial layers, chem. state, Auger study 1−47403
InP (110), defect gap states 1−7696
InP (110), dynamical anal. of LEED intensities 1−34557
InP (110), surface struct., LEED study 1−7441
InP (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
InP (110) surface anion vacancies, bound-state energy level calc. 1−16332
InP (110) surface atomic geometry, LEED obs. 1−20521
InP (110) with Ag overlayers, film growth, Schottky barrier formation 1−34593
InP, adsorption of CO, CO_2, interaction mechanisms, surface atomic structs., meas. 1−25578
InP anodic oxide interface formation obs. 1−16372
InP atomically clean surface prep. by pulsed laser irrad. 1−8456
InP bicryst., lattice dislocations generation by migrating boundaries 1−20210
InP, CVD film growth for polycryst. solar cells 1−35183
InP crystal photoluminescence, influence of surface energy band bending 1−16597
InP, crystn. from nonstoichiometric soln., mol. struct. of P in In-P soln. 1−52041
InP, Czochralski grown single cryst., etch features 1−7173
InP, Czochralski-grown single cryst., dislocation clusters 1−53080
InP, deep defects, optical and ESR spectroscopy, review 1−30676
InP, deform. pot. of fundamental exciton spectrum 1−8093
InP, elastic anharmonicity rel. to high press. phase transition 1−38433
InP epitaxial layer growth using metalorganic cpd. 1−48269
InP epitaxial layers, growth control by plasmon excitation electron losses 1−16203
InP, etching, local, in Br_2-dimethylformamide soln. 1−39484
InP films, electrodeposition 1−35190
InP, impurity levels and electrical characteristics 1−20250
n-InP, inhomogeneous cryst., transverse magnetoresistance 1−20776
InP, integral dielec. functions, resolution into component parts 1−31114
InP, ion implanted, elec. charact., implant temp. effect 1−7196
InP LEC crystals, deep impurity levels, DLTS and photoluminesc. study 1−47557
InP, LEC grown twinfree crystal annealing technique 1−12646
InP LPE layers, heavily doped, visible photoluminesc. emission 1−43152
InP LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InP, large wavevector acoustic phonon propagation 1−47184
InP, lattice thermal cond., scatt. mechanisms *(Russian)* 1−7400
InP, linear electro-optical coeff. meas. 1−21170
InP, MBE with gas source for P 1−35179
InP MIS Schottky diode, fabrication, diode characts. 1−7705
InP MISFET, p-channel inversion-type, fabrication and reduction of interface states 1−12163
InP MISFETs, anodic oxide layer growth 1−38851
InP MOS system, semiconductor-insulator interface states, photocapacitance transient study 1−52658
InP MOSFET, surface cond. and magnetoconductivity props. 1−52639
InP, meas. of dipole domains using point-contact probe 1−52570
InP monocrystals for optical communication systems *(Czech)* 1−11053
InP, n and p type, low resistance ohmic contacts 1−30823
InP, nonradiative states, photoacoustic spectroscopy 1−21261
InP, optical transmission, luminesc. and Raman spectra under hydrostatic press. 1−35007
InP, phonon pulse propag., spatial and temporal characts. 1−15989
InP polycrystal oxides and interfaces, AES, SIMS and XPS obs. 1−16379
InP, radioactive ^{119}In and ^{119}Sb implantation, radiogenic Sn defects, Mossbauer study 1−47102
InP, reactive ion etching in $CCl_2F_2/Ar/O_2$ 1−43546
InP, SSD growth and charact., substrates for IR LED 1−53111
InP Schottky barrier, adsorbed layer influence 1−52642
p-InP Schottky barriers, elec. characts. meas., solar cells 1−25790
InP single cryst., elastic moduli and press. derivatives 1−34398
InP solar cells, grain boundary and interface investigations using AES and complementary surface anal. techniques 1−21884
InP solar cells, thin film polycrystalline semicond. p-n junction, efficiency calc. 1−13118
InP, structural defect detection by electrochem. etching 1−47074
InP substrate, suppression of thermal damage in InGaAs VPE 1−48277
n-InP, thermal cond., thermoelectromotive force and elec. cond. meas., electron irradiation effect *(Russian)* 1−38407
InP, thermal oxidation, oxide film props., MOS diode props. 1−7740
InP, thermal oxidation, Raman scatt. study 1−39477
n-InP, thermally detected EPR, impact ionisation of shallow donors 1−47939
InP, time resolved phonon spectroscopy with picosecond time resolution 1−45036
InP, VPE growth on LPE $In_{0.53}Ga_{0.47}As$ 1−53106
InP, velocity bunching of near-zone-edge phonons, intense tunable phonon source near 10 Å 1−42489
InP:Be,Fe, SIMS studies of dopant profiles, review 1−30268

III-V semiconductors continued
InP:C(Si)(Ge)(Sn), elec. characts. 1−12113
InP:Cr, electron beam irrad., EPR meas. 1−38978
InP:Cr, S ion implantation, sheet resistance, carrier density 1−2477
n-InP:Cr, VPE, photoconductivity study 1−47699
InP:Cr(Fe), photocond. relax. kinetics 1−20809
InP:Fe, deep level spectroscopy 1−34649
InP:Fe, p-i-n structs., photocapacitance 1−38844
InP:Fe, Si implanted annealing, CVD SiO_2 encapsulation 1−38396
InP:Ge_7 dislocation free cryst. growth 1−35167
InP:Mn, pure and doped, nucl. relax. mechanism 1−21075
InP:SiH_2^+, annealed, shear dislocation and interstitial loop obs. 1−11751
p-InP:Zn, effect of heat treatment, carrier conc. meas. 1−25726
InP:Zn, shallow and selective diffusion of Zn 1−30482
InP:Zn p-n junction, control of Zn doping for growth by LPE 1−25300
InP/Langmuir film MIS devices and associated structs., electrical behaviour 1−47756
n-InP-Au Schottky diodes, bias-dependent photoluminesc. intensities 1−43157
InP-GaInAs buried heterostruct. laser, low threshold current CW operation 1−46376
InP-GaInAsP buried heterostructure lasers on semi-insulating substrates 1−33703
InP-$In_{0.58}Ga_{0.42}As_{0.84}P_{0.16}$, wavelength division solar cells, diode struct., conversion efficiency calcs. 1−13123
InP-$In_{1-x}Ga_xAs_yP_{1-y}$ embedded mesa stripe laser, two-step LPE fabrication and props. 1−15181
InP-InGaAs heterojunction phototransistors, photoresponse 0.95 to 1.6 μm 1−45015
InP-InGaAsP heterojunction laser, emission polarization, internal strain effect 1−51483
InP-InGaAsP-InP double heterostructure laser, with inhomogeneous excitation, bistable operation 1−41695
InP-metal contacts, growth study 1−16362
n-InP-n-$Ga_{1-x}In_xAs_{1-y}P_y$-p-$Ga_{1-x}In_xAs_{1-y}P_y$ emitting diodes, stability study 1−34779
InP-Pd Schottky contacts, comparison with GaAs and Si Schottky diodes 1−34795
InP-SiO_2 MOSFETs, cond. and magnetoresistance 1−38857
InP-Zn, open ampoule diffusion, abrupt junction form. 1−2476
InP_xAs_{1-x}, direct gap, electron transport study 1−42792
$InP_xAs_ySb_{1-x-y}$ solid solution, optical props. 1−26294
InP(100 surface), electron stimulated oxidation, Auger spectra 1−8169
InSb (110) surface, defect struct., chem., struct. and elec. props. 1−52627
InSb (110) surface atomic geometry, LEED obs. 1−20521
InSb (110) surfaces, ideal and relaxed, electronic struct., scatt. theoretic method 1−7697
InSb, acoustoelectrically amplified phonons, study by anomalous transmission of X-rays 1−15978
InSb and electrochemically grown anodic oxide, optical props. meas. 1−48024
InSb, anodic oxidation kinetics *(Russian)* 1−21779
InSb, average band gap 1−7516
InSb, bulk and surface cond. in intense mag. field at low temp. 1−34717
InSb, carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
InSb, carrier multiplication in thin space-charge layer struct., internal photoelectric effect 1−20866
InSb, collision narrowing of ESR line 1−34940
InSb crystal, appl. in optical transistor *(French)* 1−24449
InSb, crystal energies of ZnS, NaCl, CsCl and β-Sn structs., pressure-induced transforms., calc. 1−20108
InSb, cyclotron-phonon resonance, line width investigation 1−3265
n-InSb, degenerate, cold electron photoinjection at 1.8K 1−47702
n-InSb, degenerate, magnetoplasma surface waves in Faraday geometry 1−34732
InSb dielectric function and surface microroughness, spectroscopic ellipsometry 1−16241
n-InSb, doped, mag. freeze-out and metal-nonmetal transition 1−47716
InSb, effective density of states in cond. and valence bands, arbitrary band struct. 1−12009
N-InSb, elec. resist. and magnetoresist., anomalous temp. depend. below 100 mK 1−47682
InSb, elec. resist. inhomogeneity depend. on dopant conc. 1−20741
n-InSb, electron plasma wave parametric conversion to EM wave 1−16307
n-InSb, electron runaway in strong mag. fields and breakdown 1−25743
InSb, electronic charge densities, pseudopot. method 1−47465
InSb, extinction contour in electron microscopic images 1−11643
InSb Fabry-Perot resonator, nonlinear, optical bistability and transphasor action 1−46433
InSb, Faraday-type magneto-microwave Kerr effect, Hall mobility *(French)* 1−52922
n-InSb film, H_2 exposed, elec. transport props. 1−52673
InSb films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
InSb films, amorphous and crystalline, electrical props. 1−20729
n-InSb, Hall coeff., mag. freeze-out on subsidiary minima associated levels 1−47678
InSb, IR absorpt. spectroscopy developments 1−48067
InSb, IR optical bistability and transphasor action obs. 1−46438
n-InSb, impact ionisation of excited impurity levels 1−20753
n-InSb, impurity cond. and minimum metallic cond., Hall effect, magnetoresist. meas. 1−42796
InSb, In and Sb, oxidation of surface, obs. by LEED, AES, XPS and UPS 1−53321
InSb, interband Faraday rotation, intensity induced 1−52919
InSb inversion layers, electronic props., subband struct. 1−25804
n-InSb, ion acoustic wave excitation 1−52593
InSb, laser induced damage, optical heating 1−15925
InSb MOS structure, relaxation time shortening with voltage, localised generation in space-charge region as cause 1−30834
p-InSb, magnetophonon effect and light-hole effective mass 1−7642
n-InSb, magnetophonon resonance, new peak, temp.-range 77 to 180K 1−2991
n-InSb, magnetoresistance anisotropy 1−20775
InSb model LMK magnetometer for high mag. fields 1−33011
n-InSb, modulational instability of EM wave in magnetised plasma 1−2996
InSb monocrystals for optical communication systems *(Czech)* 1−11053

III-V semiconductors continued
InSb monolithic charge injection devices, fabrication and evaluation 1−5389
n-InSb, multitransit acoustic noise amplification in alternating elec. field 1−20826
p-InSb, n^+-layer form. by ion bombard. and laser irrad. 1−21312
InSb, narrow band gap semiconductor, highly excited electronic states, picosecond IR spectra 1−52494
InSb, narrow-gap, electronic props. of n-channel inversion layers 1−47752
n-InSb, nondegenerate magnetoplasma, ATR spectrum due to surface polaritons, temp. depend., 8 mm region 1−16552
InSb, nonlinear light absorpt. investigation 1−26158
InSb, nonlinear microwave magnetoplasma reson. and avalanche breakdown 1−30756
InSb, optical bistability and transistor action 1−29327
InSb, optical bistability 1−46426
InSb, oxidation, oxide film phase comp., In-Sb-O phase diagrams 1−43327
InSb, phonon emission, optical to acoustical decay 1−15973
p-InSb, phonon induced intersubband resonance in inversion layer 1−47750
n-InSb, phonon-assisted cyclotron reson. linewidth 1−47953
InSb, photoacoustic spectra in strong absorption region 1−47174
InSb, photomagnetoelectric effect, least-squares fitting, semiconductor parameters determ. 1−52604
InSb, piezoelectric semiconductor, acoustic wave excitation by Alfven wave in solid state plasma 1−16308
InSb plasma slab, microwave and sub-mm wave transmission in Faraday config., hot electrons effect 1−25751
InSb, Q-switch spin-flip Raman laser action, pulsed electric field conditions 1−15200
n-InSb, quantum limit Hall effect, transverse magnetoresistance, stress depend. 1−30773
n-InSb, radiative recombination, quantum efficiency 1−3485
InSb, refractive index change caused by laser beam irradiation 1−12470
InSb solid and liquid, elec. cond. and Hall effect meas. technique 1−36704
InSb spheres array, depolarisation effects, microwave magnetoplasma reson. meas. 1−12135
n-InSb, stimulated Raman scatt. of laser rad., in static mag. field 1−43123
InSb, stoichiometry, temp. effect on (110) surfaces 1−47346
InSb, surface optical constants, ellipsometric obs. 1−31119
InSb, third-order nonlinearity, microscopic mechanism 1−15233
InSb, two-photon absorpt., photocond., freq. depend. 1−3432
InSb, two-photon absorption, double-beam linear dichroism study 1−26165
n-InSb, two-photon absorpt., dual-beam meas. interference phenomena 1−28075
n-InSb, variable range hopping, correlation effect, longitudinal magnetoresist. meas. 1−12131
InSb, X-ray band charge model for reevaluation of quasiforbidden reflections 1−42336
InSb:Bi, solid solution, liquid-phase epitaxy 1−16761
p-InSb:Ge, US attenuation at low temps. 1−15962
InSb:H films, Hall coeff., carrier mobility rel. to impurity in-diffusion 1−38870
InSb:Zn p-n junctions fabricated by ion implantation with subsequent drive-in diffusion 1−3054
InSb/GaSb multilayer struct., diffusion enhancement due to ion bombardment during deposition 1−3621
InSb-anodic oxide system, optical props. study by ellipsometry 1−26160
InSb-CdTe pair superlattice, elec. optical and struct. props. 1−38846
n-InSb-i-GaAs film Hall convertors, characteristics 1−44906
InSb-PbTe pair superlattice, elec. optical and struct. props. 1−38846
MBE surface electronic and crystallographic props. $GaSb_{1-y}As_y$, MBE surface electronic and crystallographic props. 1−7491
Mo-GaAs contact, Schottky barriers 1−12179
Pd-Ge-n-GaAs as-deposited contacts study 1−7735
Si/GaP(110) interface and superlattice electronic struct. 1−52635
Si-GaP heterojunction V-groove multijunction solar cells 1−53612
Si_xGe_{1-x}-GaAs heterojunction avalanche transit diodes, recombination props., elec. characts. 1−38847
SiO_2/GaAs sputter deposited system, interface layer formation 1−38671
Zn-Ga-P, phase equilib., temp. depend. 1−31431
ZnSe-GaAs heterojunctions, DLTS study, majority carrier trap assignment 1−38745
ZnSe-GaAs heterojunctions, close-spaced prep., photoelec. props., Zn vapour treatment effect 1−39774
$(ZnSe)_x$-$(GaP)_{1-x}$, nonlinearity and laser beam self-action *(Russian)* 1−8036
$(ZnSe)_x$-$(GaP)_{1-x}$ mixed semicond. crystals, dynamic hologram recording and erasure 1−33640

III-VI semiconductors
Al-TlGaSe$_2$-Al MIM struct., barrier height, current-voltage characts. and tunnel current meas. 1−38867
CdS:Ni, field-emission cathode, deep capture centre effects on emissivity 1−3583
CdTe, electronic charge densities, pseudopot. method 1−47465
GaS layer semiconductor, Brillouin and Raman scatt. 1−16577
GaS, optical props. and phonon modes, high press. phase transform 1−48060
GaS, phonon modes and stability up to 200 kbars, Raman spectra and absorpt. meas. 1−12503
GaS(Se), elec. strength, lifetime-under-load 1−26124
GaS(Se), layered crysts., electronic spectrum, press. effects, optical absorpt. and photoluminesc. meas. 1−52915
$Ga_2S_3(Se_3)(Te_3)$, energy bands and optical props. 1−47455
GaSe amorphous films, charge transport processes 1−47655
GaSe, cathodoluminescence spectra, kinetics 1−3499
GaSe crystals, optical props. of band edge exciton, 10K 1−35002
GaSe, elec. resist. under press. 1−47648
GaSe, exciton phonon interaction *(Russian)* 1−2887
GaSe, excitonic emission, direct and indirect, photoluminesc. 1−48161
GaSe layer semiconductor, Brillouin and Raman scatt. 1−16577
p-GaSe, layer semiconductor single crystal, anomalous photocond. *(Russian)* 1−47700
β-GaSe, layered, calc. of elastic moduli 1−3817
GaSe, magneto-optic effects in exciton absorpt. spectra obs. in megagauss fields 1−48039

III-VI semiconductors continued
GaSe metal-semicond.-metal struct., phototrigger effect 1−3020
GaSe, photoelectron spectra, core-level peak intensity, extended fine struct. 1−8192
ε-GaSe, preresonance multiphonon Raman light scatt. 1−21208
ε-GaSe, Raman spectra, hydrostatic press. influence 1−3417
GaSe, thermal-electrical instability, low-freq. oscills. of current 1−3021
GaSe thin film, exciton absorpt. spectrum 1−34634
$GaSe_{1-x}S_x$, mixed crystal, polytype depend. of intralayer bond length 1−47038
$GaSe_xTe_{1-x}$:Sn, residual photocond. and current-voltage characts. 1−20811
$GaSxSe_{1-x}$, $0 \leq x \leq 1$, spiral growth from vapour *(Russian)* 1−47026
GaTe, Raman scatt. press. effects 1−8073
$GaTe_xSe_{1-x}$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
$GeSe_2$, amorphous, optical consts. in intrinsic absorpt. edge region *(Russian)* 1−21163
In ohmic contact fabrication to stratified III-VI monocrystals 1−52653
In-Te system, liq. phase equil., existence limits of two-phase region, crit. demixing temp. 1−42528
$In_xGa_{1-x}Se$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
InSe, cryst. growth by vapour phase chem. transport, polytypism 1−35156
InSe films, optical props. and photovoltaic device appls. 1−42826
InSe, IR anal., independent oscillator and factorised model 1−52928
InSe, layered crysts., electronic spectrum, press. effects, optical absorpt. and photoluminesc. meas. 1−52915
InSe metal-semicond.-metal struct., phototrigger effect 1−3020
InSe, optical phonons and crystalline symmetry, Raman and IR spectra 1−43121
InSe, photoelectron spectra, core-level peak intensity, extended fine struct. 1−8192
InSe, Shubnikov-de Haas oscill., cyclotron resonance 1−47684
InSe:Fe, impurity effect on optical spectra *(Russian)* 1−31177
InSe:Zn, photoluminesc. emission band associated with Zn acceptor level 1−48159
InSe-GaSe heterojunctions, elec. props. in darkness 1−20865
InSe-GaSe heterojunction, formed by optical contact, I-V characts., luminescence 1−42853
In_4Se_3 crysts., layered, anisotropy of X-ray scattering 1−29980
In_4Se_3, refl. spectra and optical functions 1−52965
$InSe_{1-x}S_x$, single crystal, current limited by space charges *(Russian)* 1−47660
In_2Te_3, energy bands and optical props. 1−47455
In_2Te_3 thin films, optimum substrate temp. for electron beam evaporation prep. and elec. props. 1−42656
InTe(Se) film, amorphous-cryst. transform., elec. props. 1−34704
PbTe-In_2Te_3 system, phase comp., homogeneity region, electrophys. props. 1−42512
Sb_2Te_3-Ga_2Te_3 system solid solns., thermal cond. and electrophys. props., 300-800K, complex valence band obs. 1−47308
TlSe-type crysts., long-wavelength optical phonons, vibr. spectrum, correlation anal. 1−20333
$TlSe_xS_{1-x}$ crysts., Raman scatt., optical phonon freqs. 1−31149
ZnSe, elec. cond. under plastic deform., dislocation motion effects 1−52567
ZuO:Cu, impurity states, dynamic Jahn-Teller coupling 1−25662

illumination *see lighting*

image amplifiers *see image intensifiers*

image convertors
see also fluorescent screens; image intensifiers
C-CD liquid crystal light valve, electrical to optical image conversion 1−11165
camera for measurements on magneto-optical spectra in ultrahigh magnetic fields 1−40872
deconvolution holographic TEM, image converter, electrostatic phase diaphragm *(French)* 1−50280
far IR image conversion using free thin oil films 1−1719
luminescent techniques for visualization of invisible images 1−12551
negative discharge development in symmetrical air gaps 1−15587
nuclear physics, imaging system, development of high-resolution demagnifying image tubes with mag. focusing *(Czech)* 1−45767
optical pyrometric system using electron-optical convertors 1−267
optico-physical parameters of high-speed processes, new meas. apparatus and methods 1−23286
passive visible to IR image transducer for dynamic simulation 1−24524
photoelectric image convertor time-contrast characteristic definition and calc. 1−46581
Synchroscan picosecond streak camera system 1−18313
TEM, transfibre-optic photography system using image transmission element utilising 6 μm dia. fibres 1−5436
two-photon-resonant image upconvertors, thickness aberrations 1−19388
two-photon-resonant upconvertor, with nonlinear medium 1−6619
visible to IR image convertor for dynamic IR target simulation 1−24522

image iconoscopes *see television camera tubes*

image intensifiers
coherent optical data processing system, appl. to photographically recorded astronomical spectra 1−17775
discharge growth obs., over polluted HV insulators 1−15741
M9 shchv image tube for 6-m telescope 1−36184
manipulator for channel electron multiplier array, for TEM of polymers 1−385
medical X-ray image intensifier systems in 1980 1−43978
phase conjugating mirror with CW gain, optical image amplifier 1−29340
steel, TV image intensifier fluoroscopy, masking effects 1−31776
streak camera system, picosecond, design and performance characts. 1−14198
X-ray intensifier, panel-type, physical assessment of imaging performance 1−32230
X-ray intensifier of the RUM-20M system, photography of 1−39982
Al, TV image intensifier fluoroscopy, masking effects 1−31776

image orthicons *see television camera tubes*

image processing *see picture processing*

image sensors
see also television camera tubes
astronomical solid state sensors 1−49523
C-CD area array X-ray sensors 1−5388
colour encoding, high-speed recording system 1−5417

image sensors continued
crossed-grid charge locator, high-resolution imager for X-ray telescope 1−27383
direct electronic Fourier transform camera 1−14196
dissector tubes, photometric characts. in photon counting operation 1−19469
electronographic emulsions, sensitometric calibration and linearity 1−27389
electrooptical devices for high-speed photography 1−367
electrothermographic characts. of polymers, humidity and ambient temp. effects 1−18322
extrinsic charge-extraction device, extrinsic-Si focal plane array architecture 1−5380
focal plane architecture, review 1−5377
focal plane technology, conf., Los Angeles, CA, USA (Feb. 1980) 1−5376
focal-plane CCD signal processing circuits 1−5382
Inficon's SENTINEL 200A, improved signal output 1−36644
integrated circuit for image Fourier transforms *(French)* 1−46582
integrated focal plane array approach to large area IR focal plane architecture 1−5379
integrated imaging irradiance sensor for closed-loop adaptive optics 1−46583
IR signal processing under zodiacal light background 1−40356
microcomputer based image alignment system 1−46584
minicomputer control, real time, integrated imaging irradiance wavefront sensor 1−46585
nomenclature for focal surface radiometry 1−36719
optical gauging with image sensing camera and programmable microprocessor controller 1−44884
parallel plate proportional counter, light from electron avalanches and background rejection, X-ray astronomy appl. 1−9377
staring mosaic sensor system design 1−24516
time delay and integration focal plane assembly with optical contiguous pixel format 1−5387
visual analyzer for perception of space and time image signals, transfer function construction *(Russian)* 1−26907
wavefront sensors and deformable mirrors for visible wavelengths 1−46493
X-ray topographic image detectors and image quality factors 1−40920
AlGaAs/GaAs, backside illuminated, imaging CCD 1−33052
(Hg,Cd)Te materials technology for IR image sensors, advances 1−39228
InSb monolithic charge injection devices, fabrication and evaluation 1−5389
Se, amorphous, photoreceptors, residual pot. 1−43942

image storage tubes
digital storage oscilloscope types and facilities *(Dutch)* 1−27953
Hewlett-Packard HP 1980 digital storage oscilloscope *(German)* 1−27952
videostore system, medical angiography appl. 1−35878

images, optical *see optical images*

imaging, acoustic *see acoustic imaging*

imaging, infrared *see infrared imaging*

IMMA *see ion microprobe analysis*

immiscibility *see solubility*

impact (mechanical)
see also ballistics; impact strength
Al, type 6061-T6, dynamic pressure-shear loading using anisotropic crystals 1−7259
axisymmetric struct. with material and/or aereal discontinuity, longitudinal wave propag. 1−46687
bar, finite elastic-viscoplastic, impact dynamic loading, dynamic response 1−24756
cement-mortar plates, fracture under in-plane impacting load by an explosive, numerical simulation *(Japanese)* 1−3897
Charpy specimen, pre-cracked, simple formula for dynamic stress intensity factor 1−24747
collision between 2 columnar objects, energy apportionment after the collision 1−58
collision between 2 columnar objects, impact force 1−56
collision between 2 columnar objects, kinematics after the collision 1−57
cracks, penny-shaped, embedded in layered composite, normal and radial impact 1−15446
elastic half-space, impact loading, self-similar problem, shock waves 1−37853
erosion of brittle materials by solid particle impact 1−26628
flying plate impact in solids, nonuniform shock wave attenuation 1−19606
generation of missiles and destructive shock fronts and their consequences 1−838
high speed impact on the membrane floating on the surface of a liquid *(Russian)* 1−6833
high-energy impact phenomena 1−53251
infinite plate, transverse impact-excited flexural vibrations 1−15443
Mars and other planets, evidence for form. of complex impact craters 1−4806
membrane floating on liquid surface, transverse impact *(Russian)* 1−38619
metal, erosion by particulate matter, temp. effects 1−48520
metal plates, circular, analytical puncture study 1−31634
metals, impact compression testing, high speed 1−31806
MgO, erosion by solid particle impact, mechanisms 1−16906
mild, impact loaded, polymorphic transform., metallographic investigations 1−39334
missile impact damage, 3-D numerical prediction using central finite difference formulation 1−53
missile impact damage, partition of impact energy between local deformation and target response 1−54
missile impact damage against reinforced concrete structures 1−841
missile impact damage to nuclear and chemical installations, conf., Leicester, England (March 1980) 1−12
missile impact on metal structures 1−840
missile impact with reinforced concrete structures 1−839
Moon, basin-forming impact events rel. to surface morphology and stratigraphy 1−4786
Moon, morphologies, relative ages and form. rates of small impact craters in lunar regolith 1−4793
noise, time history analysis 1−29454
oscillator with reflectors at both sides, nonlinear system, stationary random vibration 1−9822
particle impact on glass, adiabating heating model 1−3831

impact (mechanical) continued
planetology, impact and volcanism rel. to state of lunar controversy in (1979) 1−4787
plastics, impact testing with spring device 1−21672
PMMA, erosion damage *(Japanese)* 1−3936
PMMA, impact response determ., compression, shear loading 1−15950
polymers, impact tensile test device 1−26689
polymers, impact testing, crack-blunting mechanisms 1−43502
PVC-ABS blends, impact behaviour rel. to styrene-acrylonitrile/butadiene rubber/PVC comp. 1−21582
radiated sound power from Al plate excited by periodic impact, theoretical estimation *(Japanese)* 1−19499
relief forming of metal surfaces when tumbling in a polymeric process medium 1−35278
rigid plastic solid, oblique compact of rigid sphere 1−19651
rotation paraboloid, impact with elastic plate *(Russian)* 1−11361
Saturn rings, meteoroids impact as cause of east-west asymmetry 1−49572
shock wave research, continuous loading, experimental techniques 1−39583
short cylinder impacted by thin bar, elastic wave motion 1−24725
sound generation by transverse impact on circular plate 1−19500
steel, austenitic, impact properties at low temp. *(Japanese)* 1−26624
steel, cylindrical rod, impact loaded, plastic deform. and dislocation struct. along axis *(Czech)* 1−3836
steel pipes, producing V-notches in impact test specimens 1−26690
strain measurement in plane impact expts. by longitudinal resistance gauge 1−5302
structural materials, durability during sudden drop-impact loads 1−30300
testing, stress-strain diagram determ. 1−17005
thin strips, stress state due to longitudinal impact, numerical cal. accuracy 1−1855
water drops, impact with unyielding dry metal surface 1−24856
LiF, erosion by solid particle impact, mechanisms 1−16906
MgO, effect of approach direction on damage due to spherical particle impact 1−8417
NaBr, surface distortion on cleavages after dynamic impacts 1−34405
Si single crystal, erosion by angular Al_2O_3 particles 1−39461
SiC, hot-pressed, anomalous solid-particle erosion rate 1−26629
TaC fibre reinforced Co-Ni-(Cr), Cotac composites, material transport methodology, appl. to impact wear 1−21593
Ti-Al-Sn-Zr-Mo-Si (5, 5, 2, 2, 0.25 wt.%), wear under repetitive compound impact 1−12883
Ti-Al-Zr-Mo-Si (6, 5, 0.5, 0.25 wt.%), wear under repetitive compound impact 1−12883
U-Ti (0.8 wt.%), deform. under shock compression 1−7258

impact avalanche transit-time diodes *see IMPATT diodes*

impact ionisation
alkali metal halide laser-induced intrinsic damage, avalanche and multiphoton ionisation models 1−39192
fluoride thin films, pulsed laser damage threshold at 0.26 to 1.06 μ 1−37530
insulator, wide band gap, laser-induced breakdown, freq. and focal volume dependence obs. 1−39195
MOS tunnel junctions, optically induced bistable states, switching phenomenon 1−47746
multilayer structures, avalanche multiplication process, low electric field 1−38843
oxide thin films, pulsed laser damage threshold at 0.26 to 1.06 μ 1−37530
$p\text{-}n^{-}\text{-}n^{+}$ junction with metal electrode, homogenous surface breakdown instability 1−42856
semiconductor, homogeneous, avalanche-breakdown-induced space charge oscillations 1−16291
solid electron-avalanche breakdown theory 1−39193
wide-band dielectric, avalanche ionisaton by laser radiation *(Russian)* 1−34987
$Ga_{1-x}Al_xSb$ avalanche photodiodes, resonant impact ionisation 1−47737
$Ga_{1-x}Al_xSb$ photodiodes, impact ionisation resonant enhancement 1−34715
$Ga_{1-x}Al_xSb$, resonant enhancement of intrinsic impact ionization involving spin-orbit split-off valence band states 1−52572
n-GaAs, current noise due to impact ionization of shallow neutral donors 1−20752
GaAs, high-field transport, Monte Carlo method and pseudopot. band struct. 1−47659
GaAs, impact ionisation of free exciton 1−16290
GaAs, photocurrent noise observed by resonant photoexcitation 1−52602
GaSb and solid solns., p-n junctions, avalanche multiplication and impact ionisation 1−34783
n-InP, thermally detected EPR, impact ionisation of shallow donors 1−47939
n-InSb, impact ionisation of excited impurity levels 1−20753
InSb, nonlinear microwave magnetoplasma reson. and avalanche breakdown 1−30756
Si avalanche-plasma light emitter, physical anal. 1−48167

impact phenomena *see collision processes*

impact strength
see also fracture toughness; notch strength
acrylonitrile-butadiene-styrene, effects of light and heat on rubber content and impact strength 1−48499
brittle materials, statistical variation of strength 1−8418
concrete, deformation and fracture under impact and blast shock loading 1−43466
fibre cable design and props. 1−11116
glass, strengthening by ion-exhange method 1−39480
glass fibre epoxy resin tubes, impact damage mechanisms 1−48456
glass fibre reinforced cement, lightweight, polymer impregnated, phys. and mech. props. 1−12751
graphite fibre reinforced laminate, US eval. of impact damage 1−35466
laminated glass-plastic sheets, resist. to breakage 1−31599
magnetic impulse impact testing, high-speed equipment 1−12951
oxide ceramic materials, effect of machining on strength 1−43457
plastics, fibre reinforced, impact compressive fracture, anisotropics props. *(Japanese)* 1−31610
PMMA, tensile and Charpy impact tests, comparative study rel. to fracture mechanics 1−43503
polycarbonate, cold rolling and residual stress effect on impact strength 1−48370

impact strength continued
polycarbonate, tensile and Charpy impact tests, comparative study rel. to fracture mechanics 1−43503
polymers, impact testing, crack-blunting mechanisms 1−43502
polypropylene, injection moulded, effects of recycled plastic and compound additives on props. 1−26591
polypropylene, reinforced moulding compounds 1−53192
polystyrene, impact, impact strength correl. with rubber phase volume fraction 1−35360
PVC-ABS blends, impact behaviour rel. to styrene-acrylonitrile/butadiene rubber/PVC comp. 1−21582
solid, hard, shock effect on flexible bonds, incl. external medium press. *(Russian)* 1−37831
steel, 21Cr-14Mn, grain-boundary precipitation and fracture behaviour 1−48502
steel, 5 Ni and 9 Ni, heat treatment effect on microstruct. and cryogenic fracture props. 1−8348
steel, austenitic, impact properties at low temp. *(Japanese)* 1−26624
steel, C-Mn-Nb, Al killed, high temp. and mech. props. *(French)* 1−21494
steel, electroslag refined En 52, fatigue crack growth rates and fracture toughness 1−39420
steel, hot-rolled, low-C, finished at high temps., microalloying effects 1−16879
steel, impact induced tensile failure 1−39452
steel, impact toughness testing, sharp and ordinary notched specimens 1−17003
steel, martensitic, heat-resistant, components in fast breeder reactors, review *(German)* 1−18747
steel, mild, fracture toughness and Charpy impact transition temp. relationship 1−3901
steel, Mn (6-12 wt.%), inter-relationship of microstructs. and mech. props. 1−31576
steel, Ni-Cr-Mo-V, struct. and mech. props., TEM study *(Korean)* 1−12743
steel, type En3B, diffusion bonded interfaces, impact and fracture toughness testing 1−21578
steel, V-Nb, micro-alloyed, mech. props., effect of external factors *(Slovak)* 1−12854
steel, W-Mo-Co-Cr-V, high-speed, sintered, microporosity and O content effect on props. 1−53141
steel 12Kh1MF, long-time strength eval. using short-time mech. charact. 1−39391
steel armour plate, texture influence on mech. and ballistic props. 1−43367
steel X20Cr13, mechanical props. optimization by simulating heat treatment *(German)* 1−8342
steels, high Mn, sinter-forged, mech. props. *(Japanese)* 1−31536
steels, StE70 and 15NiCuMoNb5, rel. between impact strength and lateral expansion *(German)* 1−43406
strengthening and toughening by heat treatment in eutectoid temp. range *(Japanese)* 1−53212
styrene-butadiene block polymer, tensile and impact strength, viscoelasticity and moduli, effect of mol. orientations 1−34252
Al-Zn-Mg ribbed panels, corrosion and mech. props. 1−31755
Fe, cast, nodular graphite, brittle and ductile fracture surface, SEM obs. rel. to microstruct. 1−43527
Fe-Ni-C (5.5, 0.06 wt.%), scavenging effect of precipitated austenite 1−8349
Ni-Cr-Al-W-Ti-Mo-Co, precipitation strengthened, microchem. heterogeneity and mech. props. 1−39343
$(NiSi_{0.2})_3(Mo_{0.25}W_{0.15}Cr_{0.4})_3C$, intergranular embrittlement caused by precipitation 1−26594
Ti, impact damage on leading edges from small hard objects 1−48465

IMPATT diodes
cavity stabilised oscillator for ESR spectroscopy 1−36714

impedance, acoustic *see acoustic impedance*

impedance, electric *see electric impedance*

impedance, electric, measurement *see electric impedance measurement*

impedance, measurement, electric *see electric impedance measurement*

impedance matching
acousto-optic devices design and fabrication 1−37601
dielectric heating, EM waves in industrial HF ovens, model simulation of periodic structure *(French)* 1−24322

imperfections, crystal *see crystal defects*

impermeability *see permeability*

impulse amplifiers *see pulse amplifiers*

impulse generators *see pulse generators*

impulse voltages *see transients*

impurities
for impurity vibrations see "lattice localised modes" or "molecular vibrations in solids"
see also chemical analysis; crystal inclusions; crystal purification; diffusion in solids; impurity-defect interactions; impurity distribution; impurity electron states; interstitials; magnetic impurity interactions; phonon-impurity interactions; segregation; semiconductor doping
2 D Ising model with impurity bonding, phase transformations *(Russian)* 1−40723
adsorption from liquid stream by spherical particle, process and kinetics 1−48727
alkali halide solid soln., luminesc. and struct. of SeO_3^{2-} and O_2^- impurity centres 1−12543
alkali metal halides, off-centre instability induced by exchange forces 1−2928
alloy, binary, interstitial diffusion, substitutional impurity atom effect 1−20440
alloys, binary, surface segregation, impurities effect 1−52407
amorphous semiconductor, chemical bond approach to atomic and electronic struct. *(Japanese)* 1−42680
Auger spectroscopy in single crystals, diffr. effects 1−35593
chalcogenide glasses, struct. and transport props. impurity and defect effects *(Slovak)* 1−15804
corundum, doped, spectra and radioluminesc. kinetics, impurities effect 1−3463
crystal, diatomic impurities, localised modes, nonradiative transitions 1−47195
crystals, excited impurities, nonradiative decay, localised modes, depend. on impurity conc. 1−47196

impurities continued
cubic crystals, with impurities,, atomic diffusion, correlated-walks theory 1−7391
cylindrical cryst. growth stability, from 2-component melts, impurities effect 1−30117
diamond, synthetic films, H occurrence, IR spectroscopy 1−8080
electrochemical system, electrodynamics, appl. to IR and optical transitions in systems containing impurities 1−35549
epitaxial growth, effects of deposition conditions, impurities and structural defects, review 1−38681
exciton phases, long-range order destruction, pinning and fluctuation interband mechanism 1−2883
fast flux test facility, sodium and cover gas impurities, removal, chem. anal. 1−18726
film impurity breakdown model, laser-induced damage 1−39194
galvanised coatings on Al, corrosion under wet storage conditions 1−12922
galvanised coatings on Fe, corrosion under wet storage conditions 1−12922
graphite, rhombohedral phase, temp. stability 1−34469
halogenate crystals, mechanoluminescence 1−52995
impure materials, effective diffusion coeff. of point defects 1−38598
ion diffusion, imperfections, electrochem. technique 1−25502
ionic crystal, surface charge, impurity effects, theory 1−20848
ionic crystals, with anisotropic impurity colour centres, optical memory device appls. 1−8101
Ising systems with bond impurities, concentration expansion 1−32928
isotopically disordered insulating solids, shear viscosity 1−2585
Kapitza heat flow via non-localized interface modes 1−20545
lattice structural instability temp., nonlinear depend. on impurity conc. 1−2596
metals, BCC, quantum states and diffusion mobility of H impurity atom *(Russian)* 1−52362
metals, H(D) interaction with radiation defects 1−25316
metals, impurity electromigration, phonon drag effect *(German)* 1−42582
metals, low-melting, sample prep. with given impurity content 1−8254
metals, welded, collecting media for determ. of diffusible H_2 1−7344
molecular crystals, surface impurity, meas. of luminesc. polarisation, mol. orientation determ. 1−52986
monatomic fluid, dynamic struct., light impurity effects 1−2305
naphthalene, lightly doped crystals, singlet exciton transport, correlated hopping model, fluoresc. meas. 1−3450
nematic liquid crystals, molecular orientation on inorganic surfaces, impurity effect 1−42293
nonlinear signal propagation in a one-dimensional anharmonic lattice with impurities 1−18034
Permalloy film, ferromag., mag. state variation due to impurity diffusion forming antiferromag. inclusion *(Russian)* 1−30992
PVC pipes, rigid, fracture study using SEM 1−8405
quartz, powder, elec. cond. 1−30474
semiconductor, compound, MBE, nonstoichiometry and carrier conc. control 1−2847
semiconductor, counter-doped, transient photocond. 1−3009
semiconductor, thermochemistry, book contrib. 1−47260
semiconductor, VPE, review, book contrib. 1−48272
semiconductor, with impurities, topologically disordered system, theory, random cell model 1−30252
semiconductor materials and structures, inhomogeneity complexes *(Polish)* 1−2489
semiconductors local field effects, review 1−48000
steel, fracture resistance of VNS-2USh with different amounts of diffusionally mobile H_2 1−16887
steel, low-C, solid soln. hardening by Si 1−31473
steel, martensitic transformation and struct. state, effect of implanted H, in 10Kh16N4B *(Russian)* 1−12741
steel, Ni-Cr, P-doped, comparison of Auger electron spectroscopy and etching method for grain boundary segregation of P 1−3749
steel, Ni-Cr, temper embrittlement, calc. of transition temp. changes 1−16875
steel, Ni-Cr (4, 1.5 wt.%) type 18Kh2N4VA, tempered and quenched, impurity effect on intercrystalline fracture 1−31509
steel, stainless type 316, diffusion of Mo^{99}, Zr^{95}, and Co^{60} 1−16094
steel bimetal, high Mn with C steel, surface layer peeling, P conc. influence 1−43607
strong-coupling superconductors, paramag. impurity effect on crit. temp., sp. ht. jump, crit. field, and tunnelling characts. 1−12230
superconducting transition temp., pair susceptibility and coherence length 1−12225
superconductor, anisotropic, paramagnetic impurities, BCS theory 1−42892
superconductor, demagnetisation of Ce impurities, zero-bandwidth limit 1−42893
superconductors with paramagnetic impurities, gap anisotropy 1−42888
TCNQ salt, $Me\phi_3As(TCNQ)_2$, non-Ohmic elec. cond., giant dielec. const., and mag. reson. studies 1−42753
Tokamak fusion test reactors, thermal testing of coated materials for limiters and protective plates 1−18893
transition metal hydrides, thermal dissoc. press., purity influence 1−43653
TTF-TCNQ, impurity pinning on Peierls transition in N chains system 1−7539
volatile impurities, thermotransport in resistance heated cylindrical rods 1−38597
XPS, quantitative analysis, influence of thin overlayers, without ref. samples 1−43726
-αZircaloy-4-oxygen alloys, high temp. (600-800°C) thermally activated deform. 1−3821
Ag, TDPAC study of internal oxidation of impurities 1−47986
Ag-Pd-In, dil., In-Pd impurity interaction effects, gamma ray ang. correlation study 1−34359
AgBr microspheres, subsurface space charge and surface charge 1−47080
AgBr:Cd^{2+}, thermal expansion coeff. associated with impurities and vacancies 1−25471
Ag_2SeO_4:Ni^{2+}(Cu^{2+}) single crysts., gel growth, X-ray diffr. and IR spectra 1−12644
Al alloy, H_2 charged, internal friction meas. 1−53226
Al alloys, 2219 and 7075, ion-implanted, SIMS study of D_2 trapping 1−26787
Al anodic film, coloured materials and photoluminesc. centres distribs. 1−43164
Al, melts, static, degassing by insoluble purge gases 1−12993
impurities continued
Al, thermal expansion and sp. ht., heavy impurity atoms influence 1−52319
Al:H, lattice relax. energy due to impurity 1−30253
$AlBr_3$-KBr melt, specific and molar elec. cond., Br dissolution effects 1−52325
AlN, thermal cond. impurity effects 1−16117
Al_2O_3, electrical props., influence of impurities and sintering atm. *(German)* 1−35404
Al_2O_3, optical props., influence of impurities and sintering atm. *(German)* 1−35406
α-Al_2O_3:Pb, impurity location, channelling technique 1−2544
As_2Se_3, glassy, metal-nonmetal transition obs. on addition of 3d elements 1−47715
As_2Se_3, rate consts. of crystn., temp. depend., additives effect 1−47004
Au, liquid, impurity diffusion 1−25477
Au spherical crystals, topography and surface melt after purification by pre-melt in air 1−2781
Au:Sb, foil, bulk impurity, surface segregation, XPS 1−42413
BaF_2:Y^{3+} crystals, thermally treated, clustering of defects, ionic thermal current study 1−34722
$BaO-B_2O_3$ glasses, Ni^{2+} ions diffusion behaviour *(Japanese)* 1−20475
$BaTiO_3$:H, positions of H impurities, IR absorpt. study 1−26185
$CaO-B_2O_3$ glasses, Ni^{2+} ions diffusion behaviour *(Japanese)* 1−20475
CdS, excitonic solid, press. quenching, anomalous mag. and elec. behaviour 1−30327
CdS:Cu sintered layer, prep. and spectral sensitivity 1−53118
CdTe:P, electrical props. and photolum. spectra *(Japanese)* 1−47674
$CdTl_2Te_4$:Au(Ag)(Cu), impurity solubility determ. by microhardness method 1−7200
Ce with rare earth impurities, electron transition 1−42535
CeSb:Bi(As), magnetization and neutron diffr. studies 1−47915
Co-Cr-Al (10, 11 wt.%), influence of Pt addition on Al_2O_3 scale adherence in oxidation 1−35433
CsCl(Br)(I):Li^+(Na^+), impurity ion off-centre displacements, defect energies 1−11772
CsI:Tl scintillation crysts., photoluminesc. anisotropy 1−3488
Cu, liquid, impurity diffusion 1−25477
Cu, liquid, impurity diffusion 1−25478
Cu surface, ion bombarded, pyramid and core form. 1−16649
Cu-Bi, striation and faceting of grain boundaries due to Bi 1−52150
Cu-Sb (0.15 at.%), inner adsorption and collection recrystn., temp. depend. *(Russian)* 1−8315
Cu-SiO_2 precipitate-strengthened, morphology of strengthening phase *(Russian)* 1−47418
CuCr/Pb, proximity sandwiches, transition temp. Cooper limit 1−7788
Fe, cast, influence of additions on adsorption of unwanted impurities *(Russian)* 1−31465
Fe compacts from fine powders, sintering behaviour, effect of purity 1−39274
Fe contaminants in float glass, effect on solar transmittance 1−13091
Fe surface in Na-Hg, Zn impurity adsorption 1−48728
Fe-Si (3 wt.%), non-oriented sheets, excess dynamic loss, grain size, precipitated Al_2O_3 particles, and lamination thickness effects 1−16461
Fe-Si (3.5 to 4.5 wt.%), plasticity, effect on interstitial impurities and thermomech. treatment 1−8344
FeF_2:Mn, pure and doped, mag. polaritons and Mn impurity mode, AFMR study 1−43018
$Fe_3O_{4-x}F_x$, $Fe_{3-x}M_xO_4$ (M=Co, Cr, Ni), Mossbauer spectroscopy, substitution effect on Verwey transition 1−12438
GaAs, Auger recombination, impurity assisted 1−47676
n-GaAs, current noise due to impact ionization of shallow neutral donors 1−20752
GaAs LPE layers, residual impurities, photoluminesc. and IR photocond. meas. 1−2474
GaAs, semiinsulating, single cryst., prod. by three temp. boat method *(Japanese)* 1−48251
GaAs:Si+Ge(Sn), IR absorpt., plasma resonance and Hall effect meas., impurity effect on props. 1−3381
GaAs:Te(Sn)(Cr), fast neutron irrad. effects on props. 1−25331
GaAs:Ti(Zr), LPE growth, influence of additions 1−39250
GaP, vapour phase epitaxial growth, influence of NH_3 on growth rate 1−3634
GaSb, Auger recombination, impurity assisted 1−47676
Ge:Ga, lightly doped, US hole-burning of acceptors 1−15964
Ge-S glass fibre prep. with reduced OH, SH content 1−41854
GeSe amorphous films, chem. modification, elec. props. 1−34713
GeTe:Cu, rhombohedral and cubic, kinetic effects 1−38789
H trapping in metals, improved model 1−52334
H_2, liquefaction, impurity removal by adsorption on activated C and silica gel 1−52439
H_2, solid, insulator hydride with H atom impurities, props. 1−38614
^{4}He HCP crystals, sound vel. and attenuation, ^{3}He impurities effect 1−25526
^{4}He HCP crysts., acoustic props., effects of ^{3}He impurities 1−16140
Hz, in Ne-Ar gas mixtures, effect on breakdown and ionization pots. 1−38175
InP, impurity levels and electrical characteristics 1−20250
InSb, elec. resist. inhomogeneity depend. on dopant conc. 1−20741
p-InSb:Ge, US attenuation at low temps. 1−15962
KCl, F-centre optical stability, impurity ion effects 1−2438
KCl:Ca^{2+}(Ba^{2+})(Pb^{2+})(Sr^{2+}), impurity ion effect on lattice parameter 1−52122
KCl:Ca^{2+}(Sr^{2+}), impurity aggregation incubation times, Monte Carlo simulation 1−20256
KCl:Ca^{2+}(Sr^{2+})(Eu^{2+}), gamma irrad. effects on lattice parameter and colour centre conc. 1−52176
KCl:OH^-, adiabatic electrocaloric effect *(Russian)* 1−26135
$KClO_3$, thermal decomp., effect of defect struct. due to doping and irradiation, semicond. props. 1−26727
$KNbO_3$ crysts., elec. cond. and dielec. props., impurity effects 1−52904
Kr, solid, insulator hydride with H atom impurities, props. 1−38614
Li_3N, cryst., glassy props. at temps. 20 mK to 100K, acoustic and dielec. behaviour 1−2570
Mg single cryst. with heavy rare-earth impurities, thermal expansion and magnetostriction 1−20985
Mg, thermal expansion and sp. ht., heavy impurity atoms influence 1−52319
MgO:Cr^{2+}(V^{3+}), heat-pulse phonon scatt. by Jahn-Teller impurities, stress effects 1−15996
Mo:C, ductility, ageing effects 1−21509

Impurities continued
N_2, solid, with O impurities, heat capacity anomalies *(Russian)* 1−2648
NaCl, F-centre optical stability, impurity ion effects 1−2438
NaCl, influence of impurity and indentation time on dislocation rosettes 1−52142
NaCl:$Cu^+(Mn^{2+})$, recombination luminesc. 1−39164
$NbSe_3$:Ta(Ti), Frohlich cond., impurity effect 1−47625
Ni-Cr-Si (20, 3 wt.%), containing small addition of Ce, high-temp. oxidation 1−26681
Ni-S(Te)(Bi), striation and faceting of grain boundaries due to S and other elements 1−52150
Ni-SiO precipitate-strengthened, morphology of strengthening phase *(Russian)* 1−47418
$Ni_{0.89}Fe_{2.11}O_4$, phase equil., stoichiometry and lattice parameter, additives effect 1−38505
O_2 impurity effect on heat capacity of solidified gases 1−52309
Pb:Au, superconducting, US energy gap meas. 1−42904
$Pb(Zr,Ti)O_3$, ceramics doped with multiple impurities, internal bias field effects 1−43071
Pd, permeability of and interaction with H_2 in glow discharge, gas impurities effect 1−31903
PuO_2, PuO_2-UO_2 mixtures, impurity content spectral anal. 1−5984
RbCl:OH^-, adiabatic electrocaloric effect *(Russian)* 1−26135
Re, magnetic props. in supercond. state, purity effect *(Russian)* 1−25832
$Sb_{1-x}In_x$, conc. and temp. depend. of elec. quadrupole interaction for ^{111}Cd, TDPAC study 1−3310
ScH_x:Er, proton interactions in vicinity of impurity 1−20255
Si (VI), CVD epitaxial, temp. depend. of P doping element incorporation 1−42408
Si crystals, O-striation and thermally induced microdefect 1−25298
Si Czochralski crystal pulling process for controlling O_2 content 1−48248
Si, diffusion of B and P, oxidation enhanced 1−20458
Si, doping profiles simulation *(French)* 1−20469
Si, float zone grown single cryst., impurity striations and dislocation loop series *(Chinese)* 1−20211
Si, impurity decay, laser IR flaw detection 1−52128
Si, metallurgical-grade, diffused solar cells, impurity gettering 1−4180
Si, shallow impurity anal. by low temp. Fourier transform IR spectroscopy 1−12536
Si solar cells, using polycrystalline Si with controlled Ti additions, props. obs. 1−32015
Si surface, (111), Te-stabilised, struct. anal., LEED study 1−2787
Si thin film, ion beam sputtered, impurity content determ. 1−25588
Si:B,In, photoluminesc., relative impurity concs. exciton transfer 1−38399
Si:H, amorphous film, H content, IR spectra and 25 MeV α-particle elastic scatt. studies 1−39127
Si:In(B), exciton capture cross section, photoluminesc. 1−39153
Si:Na, neutron activation determ. of Na content 1−21809
Si-Al-O-N, thermal cond. impurity effects 1−16117
SiC epitaxial layers, growth kinetics influence on N_2 solubility 1−38683
Si_3N_4, thermal cond. impurity effects 1−16117
SiO_2:B-SiO_2-Si, two-step diffusion of B into Si by spin-on source *(Korean)* 1−25507
Sn, liquid, impurity diffusion 1−25478
Sn whiskers, micro-AES obs. 1−42663
SrO-B_2O_3 glasses, Ni^{2+} ions diffusion behaviour *(Japanese)* 1−20475
Ta separation from Nb 1−4076
Ti, slip band development in single crysts. containing 0.1-0.6 at.% interstitial impurities, 4.2 to 423K 1−15898
Ti, thermal expansion and sp. ht., heavy impurity atoms influence 1−52319
TiH_x, thermal dissoc. press., purity influence 1−43653
n−TiO_2:Al electrodes, behaviour in photoassisted oxidation of water 1−20801
$(Ti_{1-x}V_x)_4O_7$, impurity-induced stabilisation of intermediate phase 1−12048
W, bubble nucleation study using thermal desorption spectrometry, clusters of 2 to 100 He atoms 1−2809
W, doped, volumetric defect formation, rel. to reduction with H_2 of WO_3 *(Polish)* 1−47075
W:K, recovery and recrystn. 1−31494
Xe, solid, insulator hydride with H atom impurities, props. 1−38614
Y_2O_3:LiF, compaction kinetics 1−8259
Y_2O_3-ZrO_2 thermal barrier coating, resistance to hot salt corrosion 1−31709
$ZnCl_2$ battery, H_2 evolution and Zn nodular growth 1−31866
ZnO, XPS, C contaminant buildup and sputtering behaviour 1−53057
ZnS:Mn thin film electroluminescent devices, luminesc. props. and cryst. struct., effect of Cl 1−48168
ZnTe, diffusion and lattice location of Li 1−20464

impurity and defect absorption spectra of inorganic solids
after p and α reaction, Mossbauer spectra 1−3302
alkali halide crysts., doping with Pb ions by thermal treatment, annealing, optical absorpt. meas. 1−7186
alkali halide F-centres, hyperfine const. and light absorption, MS Xalpha method 1−39128
alkali halides:Eu^{2+}, optical absorpt., emission and excitation spectra 1−39125
alkali halides, point defects, two-photon spectroscopy 1−3440
alkali halides, radiation damage studies using two-accelerator facility 1−42434
alkaline earth oxides, anion vacancy centres, review 1−38366
anthracene crystal, annealing influence on low-temp. fluorescence, exciton *(Russian)* 1−35096
citrine, natural, smoky quartz centres, EPR, IR spectra, thermoluminesc. meas. 1−26035
corundum, doped, spectra and radioluminesc. kinetics, impurities effect 1−3463
diamond, GR defect, high-resolution luminesc.-excitation spectra 1−39140
diamond, GR transitions, mag. field meas. 1−21176
diamond, laser modulated absorpt., photoconductivity 1−26238
diamond, N_2 impurities, mol. form of impurities from IR absorpt. spectra 1−48123
diamond, type IIa, electron irrad., vacancy and optical meas. 1−2511
disordered ferromagnetic chain, dynamic response, alloy transfer matrix approx. 1−16431
doped semiconductor, optical meas. of approach to Anderson transition 1−48127
electronic eigenstates and optical lineshapes of impurities and vacancies 1−47552

impurity and defect absorption spectra of inorganic solids continued
feldspar, orthoclase $KAlSi_3O_8$, optical absorption spectrum 1−31176
ferroelectrics, displacive, with impurities, electric field dependence of Curie temperature and microwave absorption 1−16534
fluoride cryst., defect equilibria, laser spectrosc. 1−3441
fluoride crystal windows, adsorbed film influence on VUV spectral transmission change 1−37569
fluorite, synthetic, absorption spectra, radiation effects 1−25266
glass:Nd^{3+}, optical homogenous linewidths, comp. depend. 1−43141
glass, effect of Fe contaminant on solar transmittance of float glass 1−13091
glass systems, ESR and opt. obs. of Nd^{3+} complexes behaviour 1−52842
heliostat glasses, absorptive losses due to Fe^{2+} impurities 1−13092
Jahn-Teller system, reduction factors and emission spectra 1−47586
Jahn-Teller system, vibronic eigenstates and absorpt. spectra 1−47585
KI(Br)(Cl), mag. circular dichroism of off-centred Cu^+ and on-centred Cu^+ 1−8047
nitrates, electron-phonon interaction of NO_2^- impurity 1−25391
oxide materials, small polaron aspects of defects 1−2909
photodichroic silicate glass surface laser recording material, recording effects 1−6626
polyacetylene:I film, optical prop., electronic gap 1−48180
α-quartz, point defects and radiation damage processes 1−15934
quartz, swept Premium-Q, radiation effects 1−15927
quartz, synthetic, electron irrad., optical absorpt. of Al associated hole centre 1−16587
quartz resonators and oscillators, radiation effect 1−15927
scheelite type crystals, thermally and optically stimulated processes 1−3502
semi-classical absorption band shape in Jahn-Teller systems 1−7570
semiconductor, strongly doped, excitonic absorpt. spectra *(Russian)* 1−43149
semiconductors, impurity optical absorpt. and photoionisation spectra *(Russian)* 1−43150
semiconductors, multiphonon struct. of optical transitions to impurity resonance states 1−47550
semiconductors, shallow impurity level nonlinear spectroscopy, photoconductivity 1−43147
superlattice with minizones, selection rules and absorption lineshapes for electron transitions 1−43085
tetragonal compounds: Sm^{2+}, optical spectra, relativistic radial integral estimate 1−52975
A_2Se_3:Cu(Ni,Mo), amorphous, RF cosputtered films, cond. temp. depend., optical absorpt., Fermi level shift 1−42781
AgCl, collision damage processes due to energetic heavy ions, optical absorpt. and EPR study 1−2534
Al_2O_3, aggregate defect centre, polarised luminesc. and optical absorption 1−3469
Al_2O_3-B_2O_3-P_2O_5 glasses, optical basicity, UV absorpt. wavelengths of impurity ions 1−43144
Ar:$NO_2(N_2)$, solid, matrix isolation Raman-spectroscopy at high pressure and at low temperature 1−43151
Au films, discontinuous, anomalous light absorpt., struct. 1−3516
BaF_2:K^+, impurity absorpt. in VUV region 1−43143
BaF_2:Sm^{2+}, strain shifts of energy levels, second-order orbit lattice parameters 1−12077
BaO:OH^- crystals, annealed, IR absorptions meas. 1−3443
$Bi_4Ge_3O_{12}$:$Nd^{3+}(Er^{3+})$, crystal field anal., optical spectra 1−38752
CaF_2, impurity centre resonance line inhomogeneous broadening 1−26248
CaF_2, transition metal ions interactions, review 1−25669
CaF_2:Er^{3+}, laser spectroscopy of defect chemistry 1−43142
CaF_2:$Er^{3+}(Pr^{3+})$ (Sm^{2+}), optical f-f transitions, strain modulation 1−12531
CaF_2:$Na^+(Y^{3+})$, impurity absorpt. in VUV region 1−43143
CaF_2:$Pr^{3+}(Er^{3+})$, strain shifts of energy levels, second-order orbit lattice parameters 1−12077
$Ca(OH)_2$, electron irrad. prod. O_2^- centre, ESR, ENDOR, optical absorpt., and Raman study 1−11789
CdF_2, transition metal ions interactions, review 1−25669
CdI_2:Bi(Ga)(In)(Pb)(Sn), optical props., absorpt. and emission bands *(Russian)* 1−43148
CdP_2, two-quantum spectra of impurity centres *(Russian)* 1−21250
CdS, absorption bands due to plastic deform., dislocation obs. 1−12535
CdS, photoconductivity, luminescence, low-temp. plastic deform. 1−38815
CdS:Ti^{2+}, multiphonon struct. of optical transitions to impurity resonance states 1−47550
CdSe, containing dislocations, exponential absorpt. edge 1−12534
CdSe, edge absorpt. spectrum, laser intensity effects 1−21229
CdTe:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
Cs_2CdCl_4:Ni^{2+} polarised electronic absorpt., emission and excitation spectra 1−26240
Cs_2GeF_6:ReF_6^{-2}, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
CsI crystals, bulk and surface absorpt. coeff. determ. in CO_2 laser radiation wavelength range 1−35006
CsI:NCO^-, Fermi doublets, temp. dependence 1−3446
Cs_2ReF_6:ReF_6^{-2}, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
$Cs_2ZrCl_6(Br_6)$:Re^{4+}, IR interconfigurational and mag. circular dichroism spectra 1−31170
Cu mixed halides, IR absorpt. and Raman scatt. study 1−48124
CuCl, optical gain, induced absorpt. in high density exciton system 1−8103
Cu_2O, exciton screening, two-photon absorpt. *(Russian)* 1−42695
EuP_5O_{14}, optical spectra, Eu^{3+} energy levels 1−8089
$Ga_{1-c}Al_cP$, imperfect crystals, two-phonon bound states 1−15967
GaAs, deep defects, optical and ESR spectroscopy, review 1−30676
GaAs, radiation defects, effect on properties, review 1−25319
GaAs:Cr and undoped, energy structure parameters determ. by thermal effect of short light pulser *(Russian)* 1−52487
n-GaAs:V, optical absorption and photolum. obs. 1−12580
GaAs-$Al_xGa_{1-x}As$ multi-quantum well struct., radiative recombination from quantum states 1−52990
GaP, deep defects, optical and ESR spectroscopy, review 1−30676
GaP, electron irradiation, optical absorption and photocond. meas. 1−38812
GaP:N, N-bound excitons, stress depend., zero-phonon luminesc. and absorpt. spectra 1−26268
GaP:N, valley-orbit splitting of N-bound exciton from stress-optical spectra 1−47485

impurity and defect absorption spectra of inorganic solids continued
GaP:S(Te)(Si), optical excitation of electrons bound to shallow donors, IR absorpt. lines 1−8100
$GdAlO_3$-$YAlO_3$-$LuAlO_3$, Nd activated, spectroscopic props. 1−26244
Ge, amorphous, pure and hydrogenated, for IR absorption 1−12502
Ge, doped, far-IR and photocond. obs. of impurity bands 1−48126
Ge, impurities and excitons, far IR spectroscopy *(Japanese)* 1−3447
Ge, shallow acceptors, photoionisation, cross section calc. 1−35078
Ge, shallow donors, valley-orbit splitting of 1s states, mag. field depend. 1−47581
Ge:As(Sb), far IR donor absorpt. and photocond., saturation 1−52970
Ge:B, exciton condensation kinetics at high excitation levels *(Russian)* 1−30648
GeO_2:OH reduced glasses, OH effect on UV optical absorpt. 1−31173
GeSe:Fe_x, amorphous films, 1−26293
$Ge_{1-x}Si_x$, imperfect crystals, two-phonon bound states 1−15967
$Ge_{1-x}Si_x$ alloy, IR spectra, local and quasi-local vibr. modes 1−16572
InSe:Fe, impurity effect on optical spectra *(Russian)* 1−31177
$KAl(SO_4)_2.12H_2O:Cd^{2+}$, short lived transient absorpt. spectra 1−52977
KBr matrix with dispersed quartz particles, IR extinction meas. 1−6476
KBr with V_k- and Ag^0-centres, generation efficiency, 80-300K *(Russian)* 1−21244
$KBr:BF_4^-$, IR spectra, vibr. absorpt. bands and Fermi reson., temp. depend. 1−52971
KBr:Ba(Eu), cryst., photoluminesc. and optical absorpt. of colour centres 1−3474
$KBr:ReO_4^-$, IR and Raman spectra, perrhenate ion T_d symm. 1−39126
$KBr:Tl^+$, optical absorpt. and MCD spectra, Tl^+ dimer bands 1−26242
$KBr(Cl):NCO^-$, Fermi doublets, temp. dependence 1−3446
KBr(I), Li-$(F_2^+)_A$ centre absorpt. and emission bands, potential laser action 1−52974
KCl, excited F-centre picosecond deactivation process 1−8102
KCl, F-centre optical stability, impurity ion effects 1−2438
KCl, optical bleaching of F- and M-centres under high press. 1−24463
KCl, radiation induced emission of F_2 centres 1−31175
KCl, self-trapped excitons, evolution of Frenkel pairs from excited states 1−35077
KCl, thermal and photothermal conversion of colour centres after high-dose electron irrad. *(Russian)* 1−16588
$KCl:Au^-$, evidence for crystal field splitting of $^3P_2$ state 1−25668
$KCl:Au^+$, electronic struct., optical absorpt. band meas., mol. cluster model 1−12530
$KCl:BF_4^-$, IR spectra, vibr. absorpt. bands and Fermi reson., temp. depend. 1−52971
$KCl:Cr^{3+}$, X-irrad., EPR, optical, and IR spectra 1−12392
$KCl:Ga^+$, optical absorpt., mag. circular dichroism, A and B bands 1−21222
$KCl:Hg^+$, optical absorpt. spectra, band assignment 1−48125
KCl:I, UV irrad., I ion motion, absorption and emission bands 1−21237
$KCl:Li^+$, press. induced off- to on-centre transition 1−20657
$KCl:OH^-$, photochemistry of OH^- defects and F-centres under UV and visible irrad. 1−21239
$KCl:OH^-$, UV photodissociation of OH^--centres, H defect form. 1−26247
KCl:Pb, Suzuki-like occlusion growth, photoluminesc. and absorpt. spectra anal. 1−2498
$KCl:Pb^{2+}$, impurity aggregates, low temp. absorpt., emission and excitation spectra 1−16589
$KCl:ReO_4^-$, IR and Raman spectra, perrhenate ion T_d symm. 1−39126
KCl:Tl, absorpt. spectra, colouring conditions, heat treatment 1−3445
$KCl:Tl^+$, electronic struct. rel. to A, B, and C absorpt. bands 1−25658
$KCl:Tl^+$, electronic struct. rel. to D absorpt. band 1−26246
KCl-Ag crystals with colloidal Ag centres, dichroism during polarised laser radiation *(Russian)* 1−26166
KCl-$EuCl_2$, precipitated Eu^{2+} phase, optical absorpt. and luminesc. spectra 1−39130
KCl(Br), absorption band polarisation due to self-trapped exciton 1−12529
KH_2PO_4, X-irrad., opt. absorpt. and thermolum., 13K to room temp. 1−31208
KI crystals with V centres, low temp. optical behaviour 1−48121
$KI:NO_2^-$, laser induced fluorescence and Raman studies 1−43171
$KI:NO_2^-$, matrix isolation Raman-spectroscopy at high pressure and at low temperature 1−43151
$KI:Pb^{2+}$, absorption spectra, charge transfer bands obs. 1−12533
$KI:ReO_4^-$, IR and Raman spectra, perrhenate ion T_d symm. 1−39126
$KMgF_3(ZnF_3):Eu^{2+}$, absorption spectra, Eu^{2+} interconfigurational transitions 1−21248
$KTaO_3$:Ni(Fe), identification of photochromic absorption, optical and ESR meas. 1−26239
$KZnF_3:Co^{2+}$, optically pumped, CW IR laser action 1−51487
$LaCl_3:Ho^{3+}$, crystal field energies of electronic ground state, absorption spectra 1−31172
LiCl, neutron irrad., V_N-centre, optical absorpt. and dichroic spectra 1−26243
LiF crystals, X_3^- centre absorpt. explanation of 11.0-eV band 1−12532
LiF, F_2^- centres, stimulated emission and optical absorption spectra 1−26235
$LiF:Mg^{2+}$, Z-centre growth, absorpt. spectra 1−25322
$LiIO_3$, influence of EM irrad. on optical props. *(Russian)* 1−21249
$LiNbO_3$:Fe, annealed in H_2, OH^- absorpt., spectral and ESR meas. 1−21241
$LiYO_2:Dy^{3+}$ single cryst., spectrosc. props. 1−16601
MgO, heavy ion implanted, annealing by proton bombardment, defect absorption bands, expt. 1−11794
$MgO:Li^+$, thermochemically treated, dielec. polarisation and optical absorpt. study 1−3320
$MgO-Al_2O_3-SiO_2-TiO_2$, TiO_3 role in glass ceramic form. 1−2339
$MgTi_2O_5:Mn^{2+}(Fe^{2+})(Co^{2+})(Ni^{2+})$ photoanodes coloration, solar energy appl. 1−31169
α-N_2:O_2 solid solution, light absorpt. in UV region *(Russian)* 1−39123
$NH_4Br:Tl^+$, impurity centre parameters, order-disorder transition effects, spectra meas. 1−25430
NaCl, absorption band polarisation due to self-trapped exciton 1−12529
NaCl, F-centre optical stability, impurity ion effects 1−2438
NaCl, synthetic and natural rock salt, electron irrad. induced F-centre and colloid form. 1−2512
NaCl, X-ray irrad. under DC field, F-centre absorption and gradient 1−3439
NaCl:Ca, air grown, thermally annealed, crit. flow stress, IR absorpt. meas. 1−7245
impurity and defect absorption spectra of inorganic solids continued
$NaCl:OH^-$, paralec. defect system, MM wave absorption 1−12604
NaCl:Sn, optical spectra and luminesc. 1−21264
NaCl-$EuCl_2$, precipitated Eu^{2+} phase, optical absorpt. and luminesc. spectra 1−39130
NaF, polarisation spectroscopy meas. of homogeneous linewidth of inhomogeneously broadened N_1-centre band 1−26245
NaI:Pb, absorpt. and emission spectra and luminesc. decay meas. 1−21246
$Na_2O-Nb_2O_5-P_2O_5$ glasses, crystn. tendency, optical props., and density 1−42319
Na_2O-SiO_2:Cr glasses, state of Cr ion under various O_2 press., optical absorpt. and EPR study 1−31174
$7Na_2O.23B_2O_3.70SiO_2$, phase-separating glasses coloured with Fe_2O_3, spectral props. 1−52972
Nb:H foil, H absorpt. and its effect on elec. props. 1−2932
Ni-Cr, disordered, impurity states, spectrosc. obs. 1−21240
Ni-Fe, disordered, impurity states, spectrosc. obs. 1−21240
P_2O_5.Al_2O_3.MO:Mn (M=Mg, Ca, Sr, Ba), X and gamma ray radiation induced struct. defect 1−52969
$PbMoO_4$ crystals, coloration, absorpt. bands, photocond., photo- and thermolum. 1−21243
$PbSe_{1-x}S_x$:Tl, impurity band position and width, elec. and optical props. 1−20659
$Pb(Zr,Ti)O_3$:$Fe_2O_3(Cr_2O_3)(MnO_2)$, solid solns., diffuse refl. spectra 1−31168
RbBr, absorption band polarisation due to self-trapped exciton 1−12529
RbBr, cation defects, X-ray and UV irradiation, optical investigation 1−26250
$RbBr:Ca^{2+}$, single crystals, optical absorption, thermoluminescence glow and emission spectra 1−8143
$RbBr:OH^-$, single crystals, optical absorption, thermoluminescence glow and emission spectra 1−8143
RbCl, self-trapped excitons, evolution Frenkel pairs from excited states 1−35077
RbCl, thermoluminescence glow, optical absorpt. and emission 1−53002
$RbCl:Eu^{2+}$, thermoluminesc., fluoresc., optical absorption 1−43194
RbI, Li-$(F_2^+)_A$ centre absorpt. and emission bands, potential laser action 1−52974
$RbI:Pb^{2+}$, polarised luminesc. meas. at liq. He temp. and optical absorption spectra 1−3467
$RbI:ReO_4^-$, IR and Raman spectra, perrhenate ion T_d symm. 1−39126
$RbI:Tl^+$, dimer centres, emission and absorption spectra 1−12568
Sb_2Te_3, ^{119}Sn defect, after p and α reaction, Mossbauer spectra 1−3302
Si, amorphous, pure and hydrogenated, for IR absorption 1−12502
Si amorphous thin films, H content from IR spectra and (α,α), 25 MeV ang. distrib. 1−39127
Si, Czochralski crystals, annealed at 800°C, oxygen-related donors, spectral study 1−26255
Si, defect formation mechanism during heat treatment *(Chinese)* 1−25272
Si, irradiated, uniaxial stress meas. on 0.97 eV line 1−31127
Si, polycrystalline, photocond. and absorption coeff. after plasma hydrogen annealing 1−38809
Si, semi-insulating film, H content, IR and Rutherford backscattering spectra 1−3378
Si, shallow impurity anal. by low temp. Fourier transform IR spectroscopy 1−12536
Si:Al(B)(Ga)(In)(Tl), acceptor bound excitons in mag. and uniaxial stress fields 1−47484
Si:F,H amorphous films, IR and photoemission spectra 1−53005
Si:H, amorphous, photoinduced optical absorpt. spectra 1−43145
Si:H, crystalline and amorphous, bombardment-produced disorder and SiH bonds 1−34379
a-Si:H characterisation of glow discharge and sputtered deposited films for solar cells 1−4194
a-Si:H film, preparation from SiH_4 plasma decomposition, elec. props. 1−34130
Si:Li, donor excitation spectrum, uniaxial stress effects, piezospectroscopy 1−48030
Si:N amorphous film, elec. and optical props., doping influence 1−47767
Si:O(C), annealing of neutron flux defects, IR absorpt. spectra study 1−42430
Si:P(As)(Li)(Li,O), electronic excitation spectra of donors, linewidth study 1−52976
Si:S, deep level isotopic effect optical study 1−34648
Si:Se, B, optical excitation spectra 1−16590
Si:SiO_2, IR absorpt. spectra, LO band due to SiO_2 platelets 1−39124
α-SiC, of various polytypes, absorption spectra of N impurity *(Russian)* 1−52979
SiC:B, acceptor photoionisation spectrum 1−43146
a-SiH_x film, photoconductivity, optical absorpt. edge 1−30779
SiO_2, silica, optical fibre fabrication during OH^-⇌OD exchange, 1.3 μm water peak reduction, absorption spectra 1−15291
SiO_2 thin layers, ion implanted, radiation damage, TSEE and IR spectra study 1−38412
SiO_2, vitreous, doping elements influence on γ-radiation resist., colour centre absorpt. band obs. 1−52978
SiO_2:Fe, vitreous, fundamental absorpt. edge 1−16591
$SiO_2:Sm^{2+}$, vitreous, photoluminesence and photoinduced absorption 1−16607
SiO_x glass layers ($x \leq 2$), ion irrad., B_2-centre form., UV spectra 1−38413
SnSb, ^{119}Sb defect, after p and α reaction, Mossbauer spectra 1−3302
SrF_2, F-centre Raman scatt. theory 1−3393
SrF_2: $Er^{3+}(Pr^{3+})(Sm^{2+})$, optical f-f transitions, strain modulation 1−12531
$SrF_2:Mn$, X-irrad., absorpt. and emission spectra, lifetimes 1−21238
$SrF_2:Na^+$, impurity absorpt. in VUV region 1−43143
$SrF_2:O^{2-}$, absorpt. bands of OH^-, O^{2-} ions, ionic cond. 1−21242
$SrF_2:Pr^{3+}(Sm^{2+})$, strain shifts of energy levels, second-order orbit lattice parameters 1−12077
$SrO:Co^{2+}$, off-centre substitutional defects, absorpt and EPR spectra, elec. field effect 1−3245
$Sr(PO_4)_3Cl:MnO_4^{3-}$, ligand-field excited state, Jahn-Teller effect, Franck-Condon factors 1−30687
$SrTiO_3$, conducting, colour centres, EPR and optical absorption meas. 1−3259
$SrTiO_3$:$LaCrO_3$ photoanodes, light induced photocurrents 1−30777
$ThBr_4:Pr^{3+}$, absorpt. and laser excited fluoresc. spectra, energy levels, crystal field parameters 1−48119
TiO_2, ion implantation effects, optical, elec. cond., and Rutherford backscatt. meas. 1−7217

impurity and defect absorption spectra of inorganic solids continued
TlCl, bulk and surface absorpt. coeff. determ. in CO laser radiation wavelength range 1−35005
YAG:Nd, three-photon absorption, Nd energy levels, fluoresc. decay study 1−39131
$YAlO_3:Tm^{3+}$, Stark effect obs. in polarised f-f absorpt. spectra 1−35076
YIG:Si^{4+}(Nb^{4+})(Sn^{4+})(Zr^{4+})(Ti^{4+})(Th^{4+}), site occupancy of Fe^{2+} ions, optical absorpt. and MCD study 1−48122
ZnS:Ag, optical transition: at Ag centres 1−3444
ZnS:Co, impurity centre resonance line inhomogeneous broadening 1−26248
ZnS:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
ZnS(Se)(Te):Cr, impurity of photogeneration transitions, photo-EPR and optical absorpt. meas. 1−31017
ZnSe:Al, IR absorpt. coeff. and free carrier conc. 1−43140
ZnSe:Co, high energy luminescence bands 1−8128
ZnSe:Mn(Fe), giant spin splitting of exciton states 1−31132
ZuO:Cu, impurity states, dynamic Jahn-Teller coupling 1−25662

impurity and defect absorption spectra of solids
see also impurity and defect absorption spectra of inorganic solids
ammonium oxalate:VO^{2+}, monohydrate crystals, electronic optical absorption spectra 1−39129
β-carotene:$I_2(SO_3)$, doping effects on spectroscopic studies 1−39072
fluorobenzene in benzene, impurity absorpt. spectra, concs. depend., mol. clusters 1−31171
ionic crystals, with anisotropic impurity colour centres, optical memory device appls. 1−8101
magnetic semicond., extrinsic, influence of s-d or s-f hybridisation on light absorption 1−26249
molecular crystal with impurity centres, reson. interaction effect on Stark effect 1−16264
naphthalenes, β-substituted, impurity absorpt. spectra, concs. depend., mol. clusters 1−31171
organic mixed crystals, substitutional impurities, charge overlap, vibronic transitions 1−16586
phenanthrene, cryst., radiation-induced radicals, optical absorpt. and EPR study 1−52973
polyacetylene:$I_2(AsF_5)(SO_3)$, doping effects on spectroscopic studies 1−39072
polyacetylene, solitons, doping effect on optical absorpt. spectra 1−21245
semiconductor, characterisation and props., review, book contrib. 1−47712
semiconductor, disordered, impurity band optical absorpt., density of states, electron-phonon interaction 1−26241
semiconductor, doped, optical transitions to D^- band, excitonic effects 1−48120
sodium acetylacetonate, elec. and spectral props., gamma irrad. effects 1−47639
TGS, X-irradiated, optical consts. and refl. spectra, 5 to 22 eV region 1−35070

impurity clustering *see segregation*

impurity-defect interactions
see also impurity-dislocation interactions; impurity-vacancy interactions
diffusion-controlled defect reactions, rate const., sink distrib. depend. 1−15922
dilute alloy, dopant-vacancy interactions *(French)* 1−2500
grain boundary half-loop, migrating, interaction with adsorbed impurity cloud, detachment effect 1−25317
H(D) interaction with radiation defects 1−25316
Inconel 600, interaction between S and microstructural defects, microsulphide nucleation 1−30272
semiconductor, interstitial defecton capture by attractive centre 1−20257
Al-Zn, irradiated, interstitial-solute interactions, mixed dumbbells, mol. dynamics study 1−7207
$Ca_{10}(PO_4)_6F_2$:Mn, X-ray induced defect centres, thermoluminesc. study 1−8142
Cu-Ag(In)(Ni), very dil., electron irrad., interstitial trapping by impurities 1−52179
Fe, flow stress, effect of H_2 on specimens of various purities 1−12817
Ge:In($^+$)(Sb^+), radiogenic Sn impurity defects 1−38365
Mo, H(D) interaction with radiation defects 1−25316
Mo, trapping of N due to defects generated by 50-400 keV H^+ and He^+ ions 1−47110
Ni, H(D) interaction with radiation defects 1−25316
Ni surface, ion-implanted, H^+ trapping 1−25305
Ni-Si(Ge)(Be), dil., interaction of solute atoms with vacancies and interstitials 1−34367
Si, doped crystals, influence of heat treatment on elec. props. 1−38798
Si:P, elec. activity, ESR study, heat treatment effects 1−31015
Zr-H(He), dil., positron annihilation meas., impurity effect 1−26297

impurity-dislocation interactions
see also dislocation locking; dislocation pinning
Al, superpure, reversible H trapping at grain boundaries 1−11874
Fe:H, yield and flow stress, orientation depend. 1−21563
^4He HCP crystals, sound vel. and attenuation, ^3He impurities effect 1−25526
NaCl, influence of impurity and indentation time on dislocation rosettes 1−52142
NaCl:Ca, air grown, thermally annealed, crit. flow stress, IR absorpt. meas. 1−7245
NaCl:Ca^{2+}, dislocation densities, macroscopic flow parameters 1−20221
Nb, internal friction, low temp., effect of H_2 1−15897
Pb, doped, HF internal friction and dislocation-impurity interaction *(Russian)* 1−30271
Pb, doped, hysteresis of low-temp. dislocation internal friction *(Russian)* 1−30322
Pd, cold-worked, diffusion of ^3H 1−20460
Pd-H system, elastic energy dissipation effects 1−20312
Si p-n junction, abrasion gettering effect on swirl defects 1−15892
Ti alloys, impurity-dislocation interaction energy, determ. from internal friction 1−42414
V, strain-ageing under constant stress 1−21496

impurity distribution
see also doping profiles; segregation
alkali halide Czochralski grown crystals, solidification front shape effect on cryst. perfection 1−7100
alloy, binary, zone refining, influence of distillation on impurity conc. 1−31341
alloys, impurity distrib., effect of interatomic interactions *(Russian)* 1−7204

impurity distribution continued
concentration profile determ. for case of conc. depend. diffusion coeff. *(Russian)* 1−11781
Czochralski crystal growth, heterogeneous impurity incorporation, lateral microscopic growth model 1−38312
diffusional impurity distribution during directed crystallisation *(Russian)* 1−15917
GaAs: Si(Ge)(Sn)(Se)(Te), liq. encapsulation Czochralski growth rel. to other techniques, elec. props. 1−3608
GaAs:Si+Sn(Ge)(Se), amphoteric dopants site distrib. and solubility 1−2491
ion bombardment impurity profile, collisional distortion 1−53029
laser interferometer bevel angle measurement for spreading resistance profiling 1−32957
metal compounds, impurity distrib., effect of interatomic interactions *(Russian)* 1−7204
metals, impurities distribution on dislocations, control by secondary ion emission method 1−21310
MOS structures, low-dose ion implants, on-line capacitance-voltage doping profile meas. 1−25803
p-n junction, impurity and defect diffusion and flicker fluctuations 1−25780
rare earth-nickel intermetallics, RNi_5, preferential site occupancy of ^{111}In 1−2494
ruby crystals, laser grown, luminesc. fluctuations and colour striations *(German)* 1−31204
sapphire profiled crystal growth, struct. inhomogeneity, Mo, Y and Cr impurity banded struct. 1−30109
Schottky contact, barrier height, non-uniformly doped surface layer effect 1−7710
semiconductor junctions, photocapacitive meas. technique 1−50167
semiconductor processing technology, SIMS, impurity profile scale quantitation 1−31286
semiconductors, heavily doped, band tailing, scatt. and impurity conc. fluctuation effects 1−47471
semiconductors, local electrophys. props. obs. using laser irrad. 1−3014
semiconductors, multiply doped, influence of electron-hole and donor-acceptor interactions of impurity distrib. 1−52169
solid solution, edge dislocation, in equilib. and gliding, vacancy and substitutional solute distrib. 1−20203
sputter rate meas. during SIMS, AES depth profiling, electro-optical technique 1−30266
steel, low C, Ni and Cu implanted plates, frictional props. 1−43539
steel, martensitic, fracture toughness, effect of interstitial impurities 1−16883
steel, Mn-Ni-Mo, heat affected zone, mech. props. after simulated heat treatment *(Czech)* 1−12768
steels, impurity distrib. and conc., SIMS anal., review 1−30269
ternary lamellar eutectic growth, solute conc. profiles 1−2496
$[(NH_4)_{1-x}Rb_x]_2SO_4$, ferroelectric crystals, dielectric and nonlinear optical props. 1−1643
Ag-Rh(Ir), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
AgBr:I, SIMS and ion scatt. spectrometry study of I distrib. 1−15918
$Ag_2SeO_4:Ni^{2+}(Cu^{2+})$ single crysts., gel growth, X-ray diffr. and IR spectra 1−12644
Al-SiO_2-Si:P Schottky barrier diodes, electron transport, fabrication 1−7707
$Al_xGa_{1-x}As$:Be LPE layers, doping characts., elec. props. 1−15914
$AlPO_4:Fe^{2+}$, impurity concentrations, EPR meas. 1−15933
Au-Pd(Pt)(Rh), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
$Bi_{12}SiO_{20}$, single crysts., impurity distrib. over crystallisation front 1−25188
C-Ge(Si):B, double layer struct., implanted ion distrib. backscattering meas. 1−7201
$CsCdCl_3$, crystal growth by unidirectional solidification and Czochralski method 1−3610
Cu film, high-dose Au^+ and Ta^+ implantation, sputtering limitations, backscatt. meas. 1−11775
Cu-Rh(Pt), dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
Fe film, high-dose Au^+ and Ta^+ implantation, sputtering limitations, backscatt. meas. 1−11775
Fe-Cr, electron beam effects in AES and SEM 1−20266
Fe-group ion penetration into Si, fracturing of Si 1−26397
Fe-Ti-C-Sb alloy, Sb trapping, chanelling study 1−34381
GaAs, breakdown voltage orientation depend. 1−7718
GaAs, high-purity epitaxial layers prep., elec. characts. 1−43274
GaAs semi-insulating substrates, characterization, key parameters, deep acceptor/donor level, accurate values 1−38742
GaAs:B,Cr, low temp. Cr redistrib. and gettering in absence of encapsulant stress 1−15916
GaAs:Cr, B, Si_3N_4-capped, annealing of damage and redistrib. of Cr 1−20248
GaAs:Cr, Mg ion implant distrib., elec. props. 1−7202
GaAs:Cr, role and thermal redistrib. of Cr, review 1−30265
GaAs:Cr, semi-insulating Cr profile after annealing in H_2-As_4 atmosphere 1−2490
GaAs:Mn, thermal conversion, photoluminescence spectra 1−8114
GaAs:P^+, ion implanted, defect and impurity distrib., He^+ backscatt. study 1−11777
GaAs:Se ion implanted, impurity profiles, diffusion, luminescence spectra 1−2479
GaAs:Si; LPE, VPE and gradient-freeze growth, doping effect on lattice parameters 1−2402
GaAs:Si(S)(Se)(Te), ion channelling study 1−34380
n-GaAs:Sn(Si), growth by mol. beam epitaxy, lateral uniformity 1−12660
$Ga_{1-x}In_xAs$:Te, LPE layers, doping behaviour, transport props. meas,. 1−20884
GaP, solubility limit of N during zone melting, entropy effects role 1−52294
GaSb pulled crystals, Czochralsi method, microscopic growth rates, mech. vibr. effects 1−47030
GaSb:Te pulled crysts., micron sized facets on growth interface and impurity striations 1−47390
Ge:Ag(Li), impurity effects in crystn., elec. and struct. props. 1−34365
Ge:B(P), ion implanted, lattice location of impurity ions after laser annealing 1−11778
Ge:Sb single crystal growth by Stepanov method, impurity distrib., resist. meas. 1−2359

impurity distribution continued
Ge:Sn, Mossbauer spectra of Sn impurity atoms 1−52875
Ge-Si:Sn, Mossbauer spectra of Sn impurity atoms 1−52875
$(GrTe)_{0.94}Bi_{0.05}Cu_{0.01}$ solid soln., Cu impurity entrainment by nonuniform temp. field 1−30484
InP polycrystal oxides and interfaces, AES, SIMS and XPS obs. 1−16379
KCl:I, UV irrad., I ion motion, absorption and emission bands 1−21237
KCl:Pb, solid solution, decomposition, optical investigation 1−20385
KCl:Sr(Na) Czochralski grown crystals, solidification front shape effect on cryst. perfection 1−7100
LiF:Na(K), ion implanted, aggregation stages, Rutherford backscatt. and SEM obs. 1−2493
$LiNbO_3$ flux grown single crysts., real struct., V^{3+} minor impurities 1−25186
MgO:Fe^{3+}, impurity distrib., EPR study 1−7205
Mo, trapping of N due to defects generated by 50-400 keV H^+ and He^+ ions 1−47110
MoO_3:H^+, ion implanted, profile, SIMS study 1−20253
Na_2O-SiO_2 glass, Fe^{3+} ion clusters form., ESR linewidth anomalies 1−52837
Nb, redistrib. of C by Ar^+ ion bombardment 1−25332
Ni-Cr-Mo-V rotor steel, temper embrittlement, role of Mn 1−8404
Ni-Cr(Al)(Cu) matrix, composition influence on Ni diffusion into W fibres *(Russian)* 1−47294
Ni-Cu, surface segregation, atom-probe field-ion microscope study 1−42611
Pb compounds, neutron activation anal. *(Russian)* 1−48769
$PbCl_2$-based phase, decomposition of KCl:Pb solid solution 1−20385
PbO-SiO_2 glass, Fe^{3+} ion clusters form., ESR linewidth anomalies 1−52837
PbTe:I, Soret effect, I redistrib. during gradient annealing 1−2702
Sb, electrical resistance, temp. depend. 1−16274
Si, anodic oxidation, mobile ion detection 1−16922
Si, Czochralski grown cryst. struct., effect of growth rate, dia. and impurity conc. 1−3611
Si, diffusion distribution of ionised impurities, microscopic obs. *(Chinese)* 1−52346
Si, electron beam effects in AES and SEM 1−20266
Si, multigrained, impurity segregation to grain boundaries, SIMS and AES study 1−30405
Si, proton-induced X-ray emission study of generation impurities 1−52168
Si solar cell efficiency, effect of Zn impurity 1−53611
Si:As, front and back surface annealing, scanned CW CO_2-laser irradiation 1−2475
Si:As polycryst. films, As segregation to grain boundaries 1−20387
Si:As(B)(As,B), ion-induced impurity displacement, effect of Fermi level 1−11795
Si:Au, Gd, Czochralski growth, optical nuclear polarisation and NMR study of Au cluster formation 1−2492
Si:B ribbons produced by Stepanov method, elec. active impurities 1−30113
Si:B(P), ion implanted, lattice location of impurity ions after laser annealing 1−11778
Si:In segregation and trapping after laser-beam annealing, growth vel. depend. 1−38536
Si:N(O), depth profiling by SIMS, background levels due to residual gases 1−31287
Si:O_2 uniform impurity distrib., Czochralski growth 1−16680
Si:P, ion implanted, quantitative Auger anal., chem. effects 1−20249
Si:P(Ar) ion implanted, radiation damage and defect annealing investigated using Rutherford backscatt. and EPR meas. *(German)* 1−20245
Si:P(As), capture impurities by crystal growth from gas phase 1−7104
Si:Sn, ion implanted, annealed, β-Sn precip., Mossbauer study 1−7341
Si:Sn, Mossbauer spectra of Sn impurity atoms 1−52875
Si-Ge:Bi, double layer struct., implanted ion distrib. backscattering meas. 1−7201
SiC(6H), electron mobility impurity conc. *(Russian)* 1−47687
SiO_2, chem. heterogeneity of amorphous films 1−30261
SiO_2:P, ion implanted, quantitative Auger anal., chem. effects 1−20249
Sm(Co,Cu,Fe,M)$_z$ magnets, M=Ti, Zr, Z=6.8, 7.25, microprobe and TEM study 1−52304
SnO_2:CaO ceramics, form. of surface microstruct. 1−8606
Tb, cold boat zone refining, effective segregation coeff. of O determ. 1−26382
Ti alloys, commercial, stress induced H redistribution 1−15919
Ti compounds, neutron activation analysis *(Russian)* 1−48769
TiO_2:H^+, ion implanted, profile, SIMS study 1−20253
W, redistrib. of C in γ-irradiated single crysts. *(Russian)* 1−7208
W:D, ion implanted, D ion trapping at grain boundaries, atom probe FIM study 1−15913
ZnS:Mn, AC thin film electrolum., memory effect, Mn distrib. effect 1−21276
ZrO_2:CaO ceramics, form. of surface microstruct. 1−8606
ZrO_2-Y_2O_3 cubic single cryst., inhomogeneities and γ distrib. 1−38400

impurity electron states
see also A-centres; Anderson model; charge compensation; deep levels; electron traps; heavily doped semiconductors; impurity scattering; OH^--centres; U-centres; Z-centres
alloys, disordered interstitial, band struct., single-site CPA calc. 1−16222
amorphous semiconductors, struct. and electronic props., review, book contrib. 1−47441
Anderson localisation and non-Ohmic effects, scaling argument for conductance 1−47574
Anderson localised states, diagonal and off-diagonal correlation effects 1−47573
Anderson model, symm., local spin magnitude 1−47571
cobalt phthalocyanine:$^{57}CoCl_2$, thermal treatment and charge transfer interactions 1−53416
deformable lattice, electron, hole and exciton interactions with phonon and impurity fields, review 1−34635
degenerate semiconductors and semimetals, quais-local levels, role in quantum oscills., electrical cond. and Hall meas. 1−38794
dilute f-electron systems, crystal-field and exchange splitting in cluster regime, neutron spectroscopy, calc. 1−47589
doped semiconductor, compensation and correl. effect on cond. near metal-nonmetal transition 1−47476
doped semiconductor, electron states, metal-nonmetal transition region 1−47563
impurity electron states continued
doped semiconductor, hopping and delocalisation, electron-electron interactions effect, Coulomb gap 1−47651
doped semiconductor, hopping transport coeffs. calc., review 1−47652
doped semiconductor, metal-insulator transition, cluster model approach 1−47478
doped semiconductor, NMR in impurity bands, metal-nonmetal transition region 1−47959
doped semiconductor, upper Hubbard band position and props. 1−47477
doped semiconductor with shallow impurities, uniaxial stress and strong mag. field effects on hopping cond. 1−47653
f semiconducting compounds, doped, local electronic struct., tight-binding formalism 1−47562
fast electron irrad., defect formation, annealing 1−20265
fluorene-pyrene-d_{10} mixed organic cryst. system, triplet state energy transfer 1−47929
fluorobenzene in benzene, impurity absorpt. spectra, concs. depend., mol. clusters 1−31171
Forster's deactivation relation, inhomogeneous spatial distrib. and acceptor active behaviour effects 1−2904
germanate glass:Bi^{3+}, $^3P_1$ and $^3P_0$ excited states, time-resolved laser-induced fluoresc. band narrowing study 1−3483
glasses, hole burning, softon-phonon scatt. and fast dephasing of impurity electronic transitions 1−16259
Hall mobility, carrier hopping in impurity band 1−7644
heavily doped semiconductor, impurity band density of states, variational calc. 1−34655
heavily doped semiconductor devices, rigid band anal. 1−52555
heavily doped semiconductors 1−12069
hopping conduction exponent, band-shape dependence for two-dimens. impurity bands 1−42776
II-VI semiconductors, deep acceptor levels associated with vacancies 1−31064
impurity-lattice relax. for simple mixed-valence impurity model, Fermi-liquid theory 1−38747
intermediate valence systems, local Fermi liq. theory 1−7563
ionic crystal, impurity doped, lattice relax. and elec. field gradient 1−7571
Jahn-Teller system, reduction factors and emission spectra 1−47586
Jahn-Teller system, vibronic eigenstates and absorpt. spectra 1−47585
luminescence quenching during inhomogeneous broadening of impurity centre spectral lines 1−31183
magnetic semicond., extrinsic, influence of s-d or s-f hybridisation on light absorption 1−26249
many-body impurity theory for metals and alloys, Wolff model 1−2905
metal, localised moments, induced antiferromag. polarisation, Wolff model 1−16427
metal-insulator transition approach from insulating side, dielec. anomaly 1−47479
metals, BCC, quantum states and diffusion mobility of H impurity atom *(Russian)* 1−52362
molecular crystal with impurity centres, reson. interaction effect on Stark effect 1−16264
Mott-Hubbard-Anderson model, modified, unrestricted Hartree-Fock pseudocluster calc. 1−47572
naphthalene crystal with impurity centres, reson. interaction effect on Stark effect 1−16264
naphthalene dimers, relax. mechanisms in excited state impurity mols. 1−47532
naphthalenes, β-substituted, impurity absorpt. spectra, concs. depend., mol. clusters 1−31171
noble metals and alloys, α-band hole excitation energies, hole-phonon interaction 1−7557
ODMR, in semiconductors 1−31064
phthalocyanine, metal-free, energy levels due to transition metal impurities 1−7555
phthalocyanine, metal-free, transition metal impurities effect, trap density, elec. and photocond. props. 1−7656
Poisson equation for impurity ion in dielectric medium, variational principle 1−2917
quasiatom approach, uniform density approx. 1−7558
radiationless electronic transition 1−30657
Raman scattering, resonant and non-resonant, interference in impurity centres *(Russian)* 1−26215
semiconductor, cubic, binding energies of excitons and acceptors, analytical expressions 1−25640
semiconductor, deep level spectroscopy, by optical excitation 1−30669
semiconductor, depleted layer spectroscopy 1−30670
semiconductor, disordered, impurity band optical absorpt., density of states, electron-phonon interaction 1−26241
semiconductor, disordered, Wannier excitons, single-site theory 1−12036
semiconductor, donor-bound exciton complex, ground-state energy 1−47487
semiconductor, fractional-charge impurities, existence of localised states 1−14327
semiconductor, large lattice relax. processes 1−34662
semiconductor, lightly doped, impurity band struct., review 1−20658
semiconductor, p-type cubic, acceptor ground state, US spectroscopy 1−16256
semiconductor, strongly doped, excitonic absorpt. spectra *(Russian)* 1−43149
semiconductor impurity band density of states, disordered Hubbard model 1−30665
semiconductor junctions, photocapacitance technique for obs. defect and impurity centres 1−50167
semiconductor physics, conference, Kyoto, Japan (Sept. 1980) 1−44693
semiconductor surface, charge transfer reactions, review 1−30574
semiconductor thin films, quantised, Wannier-Mott exciton decay on neutral impurity centre *(Russian)* 1−2875
semiconductor with spatially variable dielectric constant, pot. due to impurity ion 1−47564
semiconductors, acceptor level two-photon ionisation 1−47558
semiconductors, conf., Wurzburg, West Germany (Oct. 1979) 1−44702
semiconductors, deep impurities and defects, Green's function methods, review 1−47541
semiconductors, differential photoconductivity from impurity and defect states 1−7666
semiconductors, donor and acceptor bound phonons 1−47183
semiconductors, doped, impurity band struct. and hopping cond. 1−47549
semiconductors, doped, single-particle energy levels below metal-nonmetal transition 1−47566

impurity electron states continued
semiconductors, extrinsic, Fermi level, mathematical approach 1−47428
semiconductors, final state effects in deep impurity excitation spectra 1−2920
semiconductors, heavily doped, band tailing, scatt. and impurity conc. fluctuation effects 1−47471
semiconductors, heavily doped, impurity electron states calc. over wide impurity conc. range 1−42717
semiconductors, impurity optical absorpt. and photoionisation spectra *(Russian)* 1−43150
semiconductors, multiphonon struct. of optical transitions to impurity resonance states 1−47550
semiconductors, shallow impurity level nonlinear spectroscopy, photoconductivity 1−43147
semiconductors, spin density distrib. around mag. centres 1−42770
semiconductors and semimetals, electrical properties, press. effects 1−30739
n-Si, acceptors induced by plastic deform. 1−12062
spatially disordered system spectrum, impurity bands 1−30667
stilbene monocrystal, exciton diffusion anisotropy toward surface impurity, quantitative estimates 1−30640
superconductor, mag. impurity atom effect on props., band calc. 1−12222
TCNQ salt, NMe 4MePy-$(TCNQ)_2$, elec. props., one-electron semicond. model 1−25732
transition metal compounds, CDW, review 1−30653
zero-gap semiconductors, reson. acceptor states prod. by short-range defect pot., high mag. field behaviour 1−47561
Ag, electronic struct. of mag. impurities, first principles calc. 1−34653
Ag_xPd_{1-x}, electronic struct., KKR-CPA calcs. 1−25623
$Al_xGa_{1-x}As$:Ge, LPE grown, photoluminesc. 1−43156
$Al_xGa_{1-x}As$:Sn(Te), donor related centre, symmetry, ballistic phonon attenuation 1−16257
AlN, epitaxial layers, on α-Al_2O_3, prep. and props. 1−20578
AlN:Mn^{4+}, plasma discharge, photo-excitation and surface excitation, luminesc. kinetics 1−31191
Al_2O_3:Ni^{3+}, acoustic relax., Jahn-Teller model 1−42476
BaF_2:Ce^{2+}, photocond. due to autoionis. of ce^{2+}, threshold shift *(French)* 1−52600
BaF_2:Yb^{2+} configuration shift, metal-ligand exchange effects 1−12068
$BaTiO_3$:Fe, dopant valence state, charge compensation, Mossbauer and gravimetric meas. 1−7185
BeF_2 glass, ESR obs. of paramag. states and ferrimag. phases of Fe-group impurities 1−31019
$Bi_{12}SiO_{20}$, impurity levels, TSC meas. 1−25660
CaF_2:Ce^{2+}, photocond. due to autoionis. of ce^{2+}, threshold shift *(French)* 1−52600
CaF_2:Ce^{3+}, tetragonal impurity centres, struct. and spectrum 1−20662
CaF_2:Eu^{2+}, tunable optical phonon detector and generator 1−15979
CaF_2:R^{3+}, Hartree-Fock calc. of cryst. modified wave functions 1−34652
CaF_2:Sm^{2+}, phonon spectroscopy, fluoresc. obs. 1−12553
CaF_2:Yb^{2+} configuration shift, metal-ligand exchange effects 1−12068
CaO:Bi^{3+} 1−12076
$CdCl_2$:Mn^{2+}, cryst. field energy levels, luminesc. spectra study 1−31190
CdF_2:In, impurity-lattice relaxation, temp.-depend. decay of metastable state 1−30674
$CdGeP_2$:Cu(In)(Mn)(Ni) glasses, cond., temp. depend. rel. to cryst. state cond. 1−42780
$Cd_{1-x}Mn_xTe$, photoluminescence and Mn^{2+} d-levels 1−48130
CdP_2, nonlinear absorpt. spectra, light polarisation effect 1−19381
CdP_2, two-quantum spectra of impurity centres *(Russian)* 1−21250
CdS, ESR of shallow donors 1−34925
CdS, nonradiative states and defects, photoacoustic meas. with ZnO transducer 1−3459
CdS:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
CdS:Cu, photoconductivity degradation; role of shallow donors, expt. 1−34748
CdS:Ti^{2+}, multiphonon struct. of optical transitions to impurity resonance states 1−47550
p-CdTe metal-semiinsulator-metal struct., bulk polarisation change form. on light illum. 1−20806
CdTe p-n junctions prepared by Bridgman method, elec. props. and Hall effect study of impurity levels *(Japanese)* 1−38840
CdTe:Cl elec. cond., thermal activation energy and deep level obs. 1−7624
CdTe:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
CdTe:P, photoluminesc. and recomb. centres, heat treatment under component vapour press. 1−26258
CoF_2:Mn, coherent reconstruction of the spin wave spectrum *(Russian)* 1−3164
Cr-Ge alloys, dil., antiferromagnetism and elec. resist. 1−25697
Cr(100) with (1×1)-N struct., surface energy bands, XPS study 1−35148
$Cs_2ZrCl_4(Br_6)$:Re^{4+}, IR interconfigurational and mag. circular dichroism spectra 1−31170
Cu, electronic struct. of mag. impurities, first principles calc. 1−34653
Cu-Mn, Mn conc. changes effect on alloy surface at temp. lower than evaporation threshold *(Russian)* 1−21323
CuCl, diamagnetic anomaly model, energy bands, defect and impurity levels 1−20633
$CuGaSe_2$, edge luminescence spectra, impurity levels 1−8138
EuP_5O_{14}, optical spectra, Eu^{3+} energy levels 1−8089
α-Fe-Al(Si)(P)(B), dil., substitutional sp impurities, electronic struct. calc. 1−16253
FeCr, Cr conc. changes effect on alloy surface at temp. lower than evaporation threshold *(Russian)* 1−21323
FeS_2, marcasite, elec. cond. and band gap 1−25728
P-GaAs, circular polarisation of luminesc. in mag. field, Mott transition effects 1−52923
GaAs, deep defects, optical and ESR spectroscopy, review 1−30676
GaAs, electronic states associated with 3d transition metal impurities 1−25657
GaAs, far IR donor absorpt. and photocond., saturation 1−52970
n-GaAs, heavily doped, Debye screening length doping depend. 1−16249
GaAs, impurity photoconductivity peak chemical shift 1−20819
GaAs LPE layers, residual impurities, photoluminesc. and IR photocond. meas. 1−2474
GaAs Schottky gate FET, cond. oscillations in two-dimens. impurity bands 1−47745
GaAs, two-dimensional impurity band, electron state quantisation at low carrier conc. 1−30659
impurity electron states continued
n-GaAs:Cr, charge transfer induced by hydrostatic press., Hall effect meas. 1−47547
GaAs:Cr and undoped, energy structure parameters determ. by thermal effect of short light pulser *(Russian)* 1−52487
GaAs:Cr^{2+}, level splitting, Jahn-Teller interactions, theory 1−42728
GaAs:Mn, thermal conversion, photoluminescence spectra 1−8114
n-GaAs:O, electron states of local centres 1−34659
GaAs:Si layers, LPE, self-compensation of donors due to Si incorporation 1−38741
GaAs:Zn, heavily doped, photoluminesc., temp. and hole conc. depend. 1−3479
GaAs:Zn, heavily doped, photoluminesc., hydrostatic press. depend. 1−3480
GaAs-AlAs (110) interface deep substitutional sp^3-bonded impurity levels and Frenkel core excitons 1−16344
GaAs(P) with transition metal II and III series impurity ions, internal radiative transitions, photoluminesc. study 1−48138
GaAs(Sb), (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
$Ga_xIn_{1-x}As_yP_{1-y}$, shallow hydrogenic donors, IR photocond. and transmission meas., mag. field depend. 1−48054
GaN:C, pure and doped, yellow luminesc. mechanism 1−48148
GaP, deep defects, optical and ESR spectroscopy, review 1−30676
GaP, energies of electrons bound to N pairs. 1−30666
GaP LPE layer, residual donors, elec. characterisation 1−7761
GaP:Ge, donor state, role of high band minima in impurity theory 1−47534
GaP:N, excitonic molecule bound to N trap, uniaxial stress effect 1−25643
GaP:N, N-bound excitons, stress depend., zero-phonon luminesc. and absorpt. spectra 1−26268
GaP:N, valley-orbit splitting of N-bound exciton from stress-optical spectra 1−47485
GaP:N,S, nonradiative recomb., emitted phonon detection by calorimetric absorpt. spectroscopy 1−47181
GaP:N donor centres, compensation 1−38743
GaP:O, ODMR, two electron trap 1−31064
GaP:S(Te)(Si), optical excitation of electrons bound to shallow donors, IR absorpt. lines 1−8100
GaSb:Se,Te, conduction band minima, elec. props., hydrostatic press. effects meas. 1−30631
GaSb:Te, inversion of Γ and L cond. bands under hydrostatic press. 1−47457
GaSe, excitonic emission, direct and indirect, photoluminesc. 1−48161
GaSe(S), ODMR, bound and free triplet excitons 1−31064
Gd^{3+}, S-state splitting mechanism in low symmetry crystals 1−2926
Ge, excited hole state of donor bound excitons and parity selection rule 1−3457
Ge, far-IR and photocond. obs. of impurity bands 1−48126
Ge, impurities and excitons, far IR spectroscopy *(Japanese)* 1−3447
p-Ge, light hole band nonparabolicity, extrinsic photocond. meas. 1−47701
n-Ge, lightly doped, chemical shift and donor-electron radius 1−34656
Ge, photodielectric effect obs., acceptor excited states *(Russian)* 1−20804
Ge, shallow acceptor spectra, even parity excited states, central cell effects, calc. 1−47533
Ge, shallow acceptors, photoionisation, cross section calc. 1−35078
Ge, shallow donors, valley-orbit splitting of 1s states, mag. field depend. 1−47581
Ge, ultra-pure, physics, review 1−52518
Ge, ultrapure, shallow O-H donor complex, photocond., stress effects, H tunnelling 1−2912
Ge:As(Bi)(P), even parity excited donor states from bound exciton two-electron transitions 1−48143
Ge:As(Sb), far IR donor absorpt. and photocond., saturation 1−52970
Ge:B, mag. field depend. of far IR photothermal cond. spectra 1−3008
Ge:Cu(Sb), impurity energy level press. depend., elec. props. 1−20661
Ge:D^-, isolated D^- states and D^- complexes long-wavelength photocond. study 1−47535
p-Ge:Ga, resonant recombination of photo-excited light holes *(Russian)* 1−34750
Ge:In, quenched shallow acceptor ionisation energy 1−2910
Ge:Sb, heavily doped, resist. and Hall maxima in metallic range, degenerate electron gas model 1−47683
Ge:Sb, impurity cond., elec., thermal, and mag. props. 1−47641
Ge:Sb, very shallow photoconduction, trapping centres 1−12149
Ge:Sn, Mossbauer spectra of Sn impurity atoms 1−52875
Ge-Si alloys, electronic and optical props., effect of short range order 1−34615
Ge-Si:Se, solid solution, activation energy of upper donor level, Hall effect meas. *(Russian)* 1−47531
Ge-Si:Sn, Mossbauer spectra of Sn impurity atoms 1−52875
HCl(Br):Sb^{3+} complex, aqueous solutions, luminescence spectra and kinetics *(Russian)* 1−31197
$Hg_{1-x}Cd_xTe$, acceptor band theory *(Russian)* 1−47530
$Hg_{1-x}Mn_xTe$, magnetoresistance and Hall effect props. 1−2989
$In_{1-x}Ga_xP$:Zn, hole transport props., Hall mobility 1−47686
InP (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
InP, deep defects, optical and ESR spectroscopy, review 1−30676
InP LEC crystals, deep impurity levels, DLTS and photoluminesc. study 1−47557
InP, radioactive ^{119}In and ^{119}Sb implantation, radiogenic Sn defects, Mossbauer study 1−47102
n-InP, thermally detected EPR, impact ionisation of shallow donors 1−47939
InP:Fe, p-i-n structs., photocapacitance 1−38844
n-InSb, degenerate, cold electron photoinjection at 1.8K 1−47702
n-InSb, doped, mag. freeze-out and metal-nonmetal transition 1−47716
N-InSb, elec. resist. and magnetoresist., anomalous temp. depend. below 100 mK 1−47682
n-InSb, Hall coeff., mag. freeze-out on subsidiary minima associated levels 1−47678
n-InSb, impact ionisation of excited impurity levels 1−20753
n-InSb, impurity cond. and minimum metallic cond., Hall effect, magnetoresist. meas. 1−42796
n-InSb, phonon-assisted cyclotron reson. linewidth 1−47953
InSe:Zn, photoluminesc. emission band associated with Zn acceptor level 1−48159
KBr:Ag 1−34651

impurity electron states continued
KBr:$Ga^+(In^+)(Tl^+)$, trap depth, Jahn-Teller coupling constants 1−12076
KCl:Ag^0, electronic level calcs. 1−34651
KCl:Au^+, electronic struct., optical absorpt. band meas., mol. cluster model 1−12530
KCl:Ca^{2+}, Z_2^+-centres, Slater-type wavefunctions, absorpt. energies and splitting, calc. 1−16251
KCl:Hg_2^{2+}, optical absorpt. spectra, band assignment 1−48125
KCl:Li^+, press. induced off- to on-centre transition 1−20657
KCl:Pb, polarised A-luminesc. obs., 85K, kinetic investig. *(Russian)* 1−16603
KCl:Sn, luminescence, Sn^{2+} electronic states, decay time, mag. field effect 1−8123
KCl:Sn, polarised A-luminesc. obs., 15-300K, Jahn-Teller effect of activation centres *(Russian)* 1−16602
KCl:Tl^+, electronic struct. rel. to A, B, and C absorpt. bands 1−25658
KCl:Tl^+, electronic struct. rel. to D absorpt. band 1−26246
KCl:Tl^+, trap depth, Jahn-Teller coupling constants 1−12076
KI:$Ga^+(In^+)(Sn^{2+})(Tl^+)$, trap depth, Jahn-Teller coupling constants 1−12076
KI:NO_2^-, laser induced fluorescence and Raman studies 1−43171
$KTaO_3$:Ni(Fe), identification of photochromic absorption, optical and ESR meas. 1−26239
LaF_3:R^{3+}, Hartree-Fock calc. of cryst. modified wave functions 1−34652
Li with metallic impurities, spin-flip and resistivity scatt. of cond. electrons 1−38983
LiCl:Fe, γ-ray irradiation effect, defect struct., X-ray diffr. and Mossbauer meas. 1−43047
LiF:TiO_3, crystal excitation transfer mechanism to activator centres 1−35089
$LiNbO_3$:Cr, ferroelec., Cr^{3+}-Cr^{3+} excited state dipole moment interactions 1−21112
Li_3NiH, tunnelling system detection by excess sp. ht. 1−34484
MgO:Ga, photolum. and cathodolum. decay obs. *(Russian)* 1−16612
Na with metallic impurities, spin-flip and resistivity scatt. of cond. electrons 1−38983
NaCl:Cu^{2+}, fluorescence spectra 1−3455
NaCl:Fe, γ-ray irradiation effect, defect struct., X-ray diffr. and Mossbauer meas. 1−43047
NaCl:OH^-, paralec. defect system, MM wave absorption 1−12604
$NaHCO_2$:NO_2^-, $^1{}^3B_1$-$^1A_1$ electronic transition, IR absorpt., fluoresc. and phosphoresc. spectra 1−30658
Nb, self-trapped state of H isotopes and muons, theory 1−2911
Ni, electronic effects of S, grain boundary embrittlement 1−20654
Ni ferromagnetic, hyperfine field and relaxation time of impurities 1−7556
Ni-Cr, disordered, impurity states, spectrosc. obs. 1−21240
Ni-Fe, disordered, impurity states, spectrosc. obs. 1−21240
Ni-H, dil., electronic struct. and ordering of H 1−38746
Ni-H, electronic struct. of interstitial H by cluster-in-condensed-matter technique 1−20653
Ni-Mn, Mn conc. changes effect on alloy surface at temp. lower than evaporation threshold *(Russian)* 1−21323
Ni-Si(Ge)(Be), dil., interaction of solute atoms with vacancies and interstitials 1−34367
$Pb_{1-x}In_xTe$, solid soln. inhomogeneity due to impurity energy levels 1−20404
PbO, low temp. luminesc. rel. to exciton-impurity complexes 1−35087
$PbSe_{1-x}S_x$:Tl, impurity band position and width, elec. and optical props. 1−20659
PbTe:Ag, thermoelec. props., temp. depend. meas. 1−7646
Pd-H, dil., electronic struct. and ordering of H 1−38746
RbI:Tl^+, dimer centres, emission and absorption spectra 1−12568
$(SN\text{-}H)_x$, density of states of valence band, CPA calc. 1−20613
Sb_2Se_3, photocond. rel. to photo-EMF and photodielectric effect 1−42821
Si, amorphous, ODMR, deep centres 1−31064
Si, Czochralski crystals, annealed at 800°C, oxygen-related donors, spectral study 1−26255
Si, Czochralski crystals, oxygen-related donors, Hall effect and photoluminesc. study 1−26256
Si, donors, new type, photolum. anal. 1−47556
Si, impurity and defect energy levels, book contrib. 1−38748
Si, impurity level ionisation energy determ. 1−34660
Si, interstitial transition metal impurities, electronic struct., Xα calc. 1−47565
Si, many-exciton and exciton-impurity complexes, spectral study 1−12552
Si, nonradiative states and defects, photoacoustic meas. with ZnO transducer 1−3459
Si p-n junction, burst noise model, carrier trapping *(German)* 1−20837
Si rectifiers, recombination centres in base regions, energy levels, capture coeffs. meas. *(German)* 1−52649
Si, shallow acceptor spectra, even parity excited states, central cell effects, calc. 1−47533
n-Si, shallow donor polarisability, stress-induced shifts 1−47536
Si solar cell efficiency, effect of Zn impurity 1−53611
Si, substitutional donors and core excitons, shallow-deep instability 1−47560
Si:Al(B)(Ga)(In)(Tl), acceptor bound excitons in mag. and uniaxial stress fields 1−47484
Si:Au, thermal carrier generation, Au energy level determ. 1−42785
Si:B, photoconductivity spectra, H^--like impurity state delocalisation *(Russian)* 1−3016
Si:B,In, photoluminesc., relative impurity concs. exciton transfer 1−38399
Si:B(Li)(P), bound multiexciton complexes, exciton capture and Auger recomb. rates 1−48146
Si:B(Zn)(Al)(In), electronic eigenstates and optical lineshapes of impurities and vacancies 1−47557
Si:Cu, energy levels and degeneracy ratios of impurity levels *(Japanese)* 1−2906
n-Si:Cu(Ag)(Au), impurity states, solid solution precipitation, γ-irrad. effects 1−42718
Si:D^-, isolated D^- states and D^- complexes long-wavelength photocond. study 1−47535
Si:F,H amorphous films, IR and photoemission spectra 1−53005
Si:Fe p-n junction, deep level Fe ion dose depend. 1−16250
Si:Ga, electromigration of liq. inclusions 1−42577
Si:H, amorphous, Compton profile meas. 1−21288
Si:H, amorphous, gap states and recomb. processes *(Japanese)* 1−43175
Si:He(Ne)(Ar)(Kr), noble gas-divacancy complexes, electron states, EHT calc. 1−30663
Si:K, ion implanted, Hall effect, temp. depend. meas. 1−30770
impurity electron states continued
Si:Li, donor excitation spectrum, uniaxial stress effects, piezospectroscopy 1−48030
n-Si:Mn, photocond., thermal quenching effect 1−20810
Si:Mn solid solution precipitation elec. props. 1−20405
$Si:N_2$, tight-binding model for deep impurity levels 1−42715
Si:P, bound electron kinetics, elec. breakdown studies 1−47664
Si:P, bound multi-exciton complexes 1−47486
Si:P, charge carrier interactions in multiparticle exciton-impurity complexes *(Russian)* 1−52497
Si:P, Hall mobility, carrier hopping in impurity band 1−7644
Si:P, impurity cond., elec., thermal, and mag. props. 1−47641
Si:P, metal-nonmetal transition related data review 1−47474
Si:P(As)(Li)(Li,O), electronic excitation spectra of donors, linewidth study 1−52976
Si:S, deep level isotopic effect optical study 1−34648
Si:S(Se), excited donor states determ. by junction space charge techniques 1−47545
Si:Sn, Mossbauer spectra of Sn impurity atoms 1−52875
Si:Ti(Zr)(Hf), exchange impurity levels and photocond. 1−47709
Si:V, B, hole capture conc. at V centres, effect of B conc. 1−47672
Si-O, amorphous, electronic struct. of O impurity atom., LCAO calc. 1−12064
Si-SiO_2 interface, quasi-two-dimens. impurity bands in inversion layers 1−47753
SiC, 4H, 6H, and 15R polytypes, site effect on impurity levels, photolum. meas. 1−16255
SiC:B, acceptor photoionisation spectrum 1−43146
SiO_2, hole traps introduced by Cl 1−30758
α-Sn, n-type, acceptor resonances and electrically active point defects, galvanomagnetic and thermoelec. meas. 1−34657
SrF_2:Ce^{2+}, photocond. due to autoionis. of ce^{2+}, threshold shift *(French)* 1−52600
SrF_2:Eu^{2+}, tunable optical phonon detector and generator 1−15979
SrF_2:Yb^{2+} configuration shift, metal-ligand exchange effects 1−12068
$SrTiO_2$:Fe, photochromism of photosensitive Fe centres, ESR study 1−38977
Th, superconductor, 3d, 4f and 5f mag. impurity effects 1−47781
Ti electrode covered with Pt doped passive film, redox reactions 1−39624
TlInSe, impurity levels, elec. props. 1−20660
$U_xTh_{1-x}As(Sb)$, electronic struct., relativistic KKR-ATA calc. 1−47424
YAG:Nd, three-photon absorption, Nd energy levels, fluoresc. decay study 1−39131
ZnO:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
ZnO:Cu, electron irrad., ESR obs. of new Cu centres, electron configs. *(German)* 1−26029
ZnS:Ag(Cu), cryst. field splitting and energy levels, cluster calc. 1−47546
ZnS:Cu, t_2—e localised transition 1−47526
ZnS:Cu,Nd,Cl, thin film, direct current electrolum. and Nd luminescence centres 1−3495
ZnS:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
ZnS:Tm^{3+} Slater-Condon and spin-orbit param. 1−34670
ZnS(Se)(Te):Cr, impurity of photogeneration transitions, photo-EPR and optical absorpt. meas. 1−31017
ZnSe, doped with acceptor impurities, thermoluminescence, photoconductivity 1−43195
ZnSe:Co, high energy luminescence bands 1−8128
ZnSe(Te), donor species, bound excitons, photoluminesc. meas. 1−48135
Zn_2SiO_4:Mn phosphor, electron traps, photostimulated emission, phosphoresc. and photoluminesc. study 1−35084
$ZnSiP_2$, Hall effect study of thermal impurity-to-band activation energy conc. depend. 1−47688
n-ZnTe, diffusion of Al, cond. and lum. characts. of junction, impurity levels *(Japanese)* 1−20470
ZnTe, donor-acceptor pairs, selective pair luminesc. in external mag. field 1−39151
ZnTe, edge-emission, cathodolum. and isochronal annealing studies 1−35101
ZnTe, impurity states, ground and excited, Zeeman splitting, selective pair luminesc. 1−47595
ZnTe, selective excitation of donor-acceptor pairs, excitation and relax. processes 1−48136
ZnTe:Cu, donor-acceptor pair spectra, luminesc. 1−12576
ZuO:Cu, impurity states, dynamic Jahn-Teller coupling 1−25662

impurity scattering
used for carrier scattering by impurities
see also Kondo effect
alloys, dilute, Seebeck coefficient, low-temp., impurity and phonon scatt., theory 1−2947
conductance and transverse magnetoresist., quantum mechanical Boltzmann equation *(French)* 1−12085
dilute alloy, Seebeck coeff. at low temp., empty-core pseudopot. calc. 1−7596
dilute alloys, cluster model anisotropic electron lifetimes 1−34697
dilute alloys, thermoelectric effect theory, Debye phonons, impurity scatt. 1−20709
electron gas, self-consistent screening theory in presence of strong mag. field 1−16245
graphite, freeze-out effect and longitudinal magnetoresist. in quantum limit 1−47679
heavily doped semiconductor, screening length, calc. for Si with donor impurities 1−2983
hole semiconductors, impurity scatt. of hot electrons in space-charge region *(Russian)* 1−52568
n-InSb, heavily doped and compensated, electron transport, 4.2-300K 1−34707
inversion layer, ionised impurity scatt., density functional formalism 1−7692
Landauer formula, δ-dimens., energy quantisation case 1−52538
metal film, imperfections, contribution to thermoelectric power and conductivity 1−7584
metallic microcontacts, containing mag. impurities, elec. cond. *(Russian)* 1−20857
metals, disordered two-dimensional system, conductivity, Hall effect 1−52545
metals, magnetoresistance, linear increase in strong fields 1−2946
semiconductor, compensated, low temp. electron scatt. on charged impurities 1−52558

impurity scattering continued
semiconductor, electron mobilities from linearised Poisson eqn. for impurity-ion pot. 1−2964
semiconductor, heat conduction mechanisms 1−2725
semiconductors, carrier scattering by ionised impurities with nonlinear screening charge 1−42772
semiconductors, electron-hole liquid, electron scatt. by impurity centres 1−38727
semiconductors, heavily doped, band tailing, scatt. and impurity conc. fluctuation effects 1−47471
semiconductors, spin relaxation due to carrier exchange scatt. by paramagnetic impurities 1−12386
semimetals, ionised impurity scatt. and limited cond. 1−25684
superconductors, non-equilibrium, charge imbalance 1−25828
superconductors, scattering effects on elec. resistivity 1−3092
two-dimensional electron system, many-body effects on transverse cond. in strong mag. fields 1−12169
$Ba_{0.55}Sr_{0.50}Nb_2O_6$ solid solns., elec. cond. to 1100°C, electron and ionic components, thermo-EMF 1−38818
$(Bi_2Te_3)_{1-x}$-$(La_2Te_3)_x$ solid solns., electrophys., temp. and conc. depend. 1−38775
n-BiTeBr single crysts., IR spectra, Hall coeff. 1−20772
CdSe, hot-electron cond. characts. calc., scatt. mechanisms 1−25737
Cr-Al antiferromagnetic solutions, negative magnetoresist. 1−25706
Cu dilute solid solns., impurity potential model for residual resist. calc. *(Russian)* 1−47631
p-GaAs, carrier drag by photons, spectral characts. meas., scatt. mechanisms 1−30781
GaAs, carrier mobility limited by ionised impurity scatt. with nonlinear screening, calc. 1−47637
GaAs, conductance oscillations in two-dimens. transport in impurity band 1−7631
n-GaAs, epitaxial layer, persistent photoconductivity, illumination dose dependence 1−3003
GaAs film, electron diffusion length, dislocation and ionised impurity effects 1−30855
GaAs:C, electron scatt. at localised impurity pots. 1−47635
n-$Ga_{0.47}In_{0.53}As$, alloy scattering effects and calc. Hall mobility 1−42791
Ge:Hg, neutral impurity scatt., hole mobility 1−2963
Ge:Sb, heavily doped, resist. and Hall maxima in metallic range, degenerate electron gas model 1−47683
$Hg_{1-x}Cd_xTe$, hot electron drift velocity 1−38784
HgTe polycrystalline films, Hall coeff. and DC cond. meas. 1−38873
In-rare earth liquid alloys, dil., residual resist. of rare earth solutes and mag. susceptibility meas. 1−30707
n-InSb film, H_2 exposed, elec. transport props. 1−52673
n-InSb, phonon-assisted cyclotron reson. linewidth 1−47953
n-InSb, quantum limit Hall effect, transverse magnetoresistance, stress depend. 1−30773
K-Na(Rb), dil., Bloch election scatt. by impurities in relaxed lattices 1−42768
K-Na(Rb), dil., cluster model electron lifetimes 1−7597
K-Rb, elec. resist., inelastic impurity scatt. obs. 1−30719
$Pb_{0.82}Sn_{0.18}Te$, anisotropic current carrier scatt. *(Russian)* 1−7621
n-Si, pulsed CO_2 laser annealing, free carrier absorpt., theory 1−39191
n^+-Si-Al point contacts, ballistic electron injection, phonon spectroscopy and impurity-enhanced inelastic scatt. 1−3060
Si-SiO_2 interface in weak inversion, electron mobility, percolation model for high oxide charge samples 1−7748
Si-SiO_2 inversion layer, quasiparticle effective mass, ionic scatt. depend. 1−7691
Si-SiO_2 MOSFET, n-channel, Coulomb scatt. in band tail 1−7749
Si-SiO_2 MOSFET, Na^+ contaminated, scatt. in inversion layer, temp. depend. 1−7750
Sn-rare earth liq. alloys, dil., residual resist. of rare earth solutes and mag. susceptibility meas. 1−30707
ZnSe, elec. props. meas. 1−20750

impurity-vacancy interactions
alkali halide crystals, impurity-vacancy dipole random motion forming stable aggregates 1−30273
alkali halides, impurity-vacancy complexes, frequency and activation energy relationship for relax. 1−11785
alloys, diffusion pore growth, effect of impurity atoms *(Russian)* 1−7390
Rochelle salt, dielec. relax., contrib. of impurity-vacancy pairs *(Rumanian)* 1−12453
steel, austenitic stainless, equilib. vacancy conc., effect of P and B *(French)* 1−52172
Ag thin film bicrystals, gas bubbles generated by thermal aging, nucleation and growth mechanism 1−38693
AgCl:Cd^{2+}, ionic cond. and defect parameters 1−30452
AgCl:Cd^{2+}, point defect cluster calcs. and elec. cond. 1−11784
Al, radiogenic Sn defects from implantations of ^{119m}Sn and ^{119}Sb, Mossbauer study 1−42407
Al-Mg (0.03 at.%) alloy, dil., dislocation internal friction peaks with anomalous amplitude effect *(Chinese)* 1−21500
Al-Zn, dil., impurity-vacancy complex binding energy, pseudopot. method *(Russian)* 1−15921
BaF_2:Li(Na)(K)(Rb)(Cs), audiofrequency dielec. studies, 5.5. to 400K 1−31086
$Ca_{2x}Zr_{1-2x}O_{2-2x}$, defect struct., ionic cond., and diffusion 1−30450
Cu-Sc, dil., vacancy-Sc binding energy 1−7206
α-Fe, C-charged, electron irrad., mag. relax. after annealing above stage III 1−21016
KCl:Ca^{2+}(Ba^{2+}) (Sr^{2+})(Cd^{2+})(Pb^{2+})(Mg^{2+})(Sn^{2+}), X-ray irrad., complex interstitial halogen H_3-type defect, ESR study 1−47946
KCl:Pb, Suzuki-like occlusion growth, photoluminesc. and absorpt. spectra anal. 1−2498
KCl:Pb, Suzuki-like phase occlusions, thermal cond. and ionic thermocurrents meas. 1−2715
KCl:Pb, Suzuki-like phase nucleation, correlated thermal conductivity and ionic thermocurrent meas. 1−20487
KCl:Sn^{2+}, ionic cond., 373 to 800K 1−47284
NaCl:Ca^{2+}, impurity-vacancy pair clustering, activation energy 1−52171
Ni-Si(Ge)(Be), dil., interaction of solute atoms with vacancies and interstitials 1−34367
PbI_2:K^+(Bi^{3+}), vacancy transport, impurity-vacancy dipole props., ionic cond., dielec. loss and ionic thermocurrent meas. 1−2681
Si, electron beam irrad., defect form. 1−20264
Si:As(P), diffusion mechanism, vacancy generation 1−47296

impurity-vacancy interactions continued
Si:As(P), ion implanted, impurity-vacancy cluster interaction, ionisation enhancement 1−2501
$SrCl_2$:Na^+(K^+)(Rb^+), Cl^- ion-vacancy complexes, ionic thermocurrent study 1−2499
SrF_2:Li(Na)(K)(Rb), audiofrequency dielec. studies, 5.5. to 400K 1−31086
TlBr, ionic cond., press. and temp. depend., Schottky defect parameters 1−38589

incandescent lamps *see filament lamps*

inclusions in crystalline material *see crystal inclusions*

inclusive reactions, elementary particle *see elementary particle inclusive interactions*

independent particle model *see nuclear optical model; nuclear shell model*

indeterminancy
axiomatic quantum mechanics, uncertainty and complementarity, review 1−40666
Banach space, uncertainty relations and semi-groups 1−98
computer limitations due to irreversibility, uncertainty and relativity 1−49974
elementary and quantum behaviour 1−49973
energy-time uncertainty relation, time as dynamical variable 1−105
energy-time uncertainty relation 1−27825
EPR argument in quantum theory 1−44785
fundamental principles of quantum theory 1−9859
harmonic oscillator, 3-D, coherent, expectation values and uncertainties of radial and angular variables 1−5149
harmonic oscillator, damped, time-dependent, constants of motion and non-stationary wave functions 1−5156
Heisenberg's principle, proposed new test 1−32867
Heisenberg ring, q or p representations, creation and annihilation operators, coherent states 1−23041
microsystems, paradoxes in quantum and subquantum mechanics 1−101
relativistic statistics, relativistic particle in two-dimensional space-time 1−40665
time-energy uncertainty, construction and physical significance of time operator 1−106
time-energy uncertainty relation, implicit violation leading to divergencies in second order terms 1−28161
time-energy uncertainty relationships, explicit construction 1−5158
time-energy uncertainty rleation violation, QED divergencies 1−28162
timeless space-time, uncertainty relations and wave-particle dualism 1−36543
d, energy and struct. by the uncertainty principle, teaching 1−40630

indexing
No entries

indicating devices *see indicators*

indicating instruments *see indicators*

indicators
see also alarm systems
axle overheating, using bolometers and rail contacts *(German)* 1−50210
UV radiation indicator using photoresistant cells in bridge arrangement for art galleries, calibration *(Spanish)* 1−345
X-ray beam pointer, weld radiography appl. 1−36779

indium
see also nuclei with .....
adsorption on amorphous C substrate, atomic motion and distrib., STEM obs. 1−25566
atom, double-K-vacancy production, correl. effects 1−24095
atom, $M_{4,5}N_{4,5}N_{4,5}$ Auger electron spectrum 1−6220
atom, photoelectron spectra, initial and final state conds. 1−28937
diffusion in $Pb_{1-x}Sn_xTe$ solid soln. 1−30449
dirty film, scaling law for pinning forces 1−16417
dislocation glide and slip in single crysts. 1−15899
film, optical absorpt. spectrum, rel. to Ashcroft-Sturm theory 1−39171
film, superconductivity destruction by current *(Russian)* 1−42926
fine particles, positron annihilation 1−3529
isoelectronic series, sp^2 config., photoabsorption, HF calcs. 1−28904
liquid, solubility of O_2, determ. by Knudsen cell mass spectrometry and coulometric titration *(Japanese)* 1−25437
liquid, US speed, compressibility and struct. factor 1−46986
magnetoresistance, transverse, meas. 1−42746
metal, positron annihilation at low vacancy density 1−21289
metal contact surface, healing of micropores at uniform compression *(Russian)* 1−47338
molecular beam deposition on Si (111), growth, superstructs., elec. cond. 1−16208
molten, X-ray diffr. investig. *(German)* 1−52050
ohmic contact fabrication to stratified III-VI monocrystals 1−52653
oxidation of surface, obs. by LEED, AES, XPS and UPS 1−53321
particles in paraffin suspension, mag. props. 1−34912
slow neutron scatt. lengths and cross-sections, isotope effects 1−1324
superconducting bridges, with large dimensions Josephson effect 1−30885
superconducting film, depend. of flux flow viscosity coeff. on Ginzberg-Landau parameter 1−16416
superconducting film vacuum deposition, fine grain, at 110K 1−31354
superconducting microbridge, elec. props. and Josephson effect response to microwave radiation 1−47807
superconductivity under press., use as supercond. manometer 1−47607
surface EM wave attenuation meas. *(Russian)* 1−26155
surface photoelectric yield spectrum below plasmon energy 1−26363
thermal conductivity changes near critical temp. 1−20916
two-dimensional condensed phases on Si(III) *(Japanese)* 1−30583
vapour, stimulated electronic Raman scatt. 1−46441
Al:In, simple interstitial configurations at ^{111}In impurities 1−25261
$CdCr_2Se_4$:In^{3+}, spin-phonon relaxation processes 1−21044
$CdGeP_2$:In glasses, cond., temp. depend. rel. to cryst. state cond. 1−42780
CdI_2:In, optical props., absorpt. and emission bands *(Russian)* 1−43148
CdS:In growth by Piper-Polich method, In vapour effect 1−43253
CdTe:In, diffusion of In, deviation from stoichiometry 1−16092
CdTe:In, solution-grown, 1.4 eV luminesc. mechanism 1−43186
n-CdTe-In, contacts formation and stability 1−7736
Ge:In, quenched shallow acceptor ionisation energy 1−2910
Ge:In^+, radiogenic Sn impurity defects 1−38365
In, resistivity, thermal cond. and ultrasound vel. in temp. range 300 to 1000K 1−52541
In-P nonstoichiometric soln., mol. struct., crystn. of InP 1−52041
In+F_2 reactions, chemiluminesc., beam-gas study 1−48667
InI, hyperfine struct. and isotope shifts 1−45871

indium continued
InP, lattice thermal cond., scatt. mechanisms *(Russian)* 1−7400
^{A}In, A=111, 114m, comparison of In isotopes in dual-nuclude studies with ^{51}Cr, medical research 1−32319
^{111}In, preferential site occupancy in RNi_5 1−2494
^{111}In-labelled platelets, appl. to blood vessel damage evaluation 1−17491
Ir-IrO_2 electrode, faradaic processes 1−17064
KBr:In^+, trap depth, Jahn-Teller coupling constants 1−12076
KI:In^+, trap depth, Jahn-Teller coupling constants 1−12076
Nb-Nb_2O_5-In Josephson tunnel junctions props. for device appl. 1−52713
Pb-In layer, small-area Josephson junction prep., using scratched edge 1−42908
PbSnTe:In, nonequilibrium carriers, changes in defects and slow relax. 1−34723
$Pb_{1-x}Sn_xTe$:In ($0 \leq 0.2$), LPE layers, electron conc. control by In doping 1−25309
n-PbTe:In film, magnetoresist. and Hall effect meas. 1−7643
PbTe:In, slow relaxation of elec. resistance 1−20746
$Po_{1-x}Sn_xTe$:In, magnetic susceptibility in temp. range 4.2 to 1000K 1−3139
Si:B,In, photoluminesc., relative impurity concs. exciton transfer 1−38399
Si:In, acceptor bound excitons in mag. and uniaxial stress fields 1−47484
Si:In, electronic eigenstates and optical lineshapes of impurities and vacancies 1−47552
Si:In, exciton capture cross section, photoluminesc. 1−39153
Si:In, U_2 photoluminesc. line, evidence for complex isoelectronic centre 1−26257
Si:In segregation and trapping after laser-beam annealing, growth vel. depend. 1−38536
ZnS:In, low resist. n-type layers obtained by ion implantation 1−47106

indium alloys
see also indium compounds
IR-rare earth, dil., ferromag. props. 1−12272
rare earth liq. alloys, dil., residual resist. of rare earth solutes and mag. susceptibility meas. 1−30707
Ag-In, dil., TDPAC study of internal oxidation of impurities 1−47986
Ag-In (15%), Fourier X-ray line shape analysis of lattice defects from a single reflection 1−42372
Ag-Pd-In, dil., In-Pd impurity interaction effects, gamma ray ang. correlation study 1−34359
Al-Cu-In (4, 0.06 wt.%), precipitation of θ' phase *(Japanese)* 1−26470
Au-In-Sb, phase equilib., crystal struct. *(German)* 1−8281
$AuIn_2$, intermetallics, valence band struct., plasmon energies 1−25624
Bi-In alloys, molten, US vel. and absorpt. *(German)* 1−52232
Bi-In molten, X-ray diffr. investig. *(German)* 1−52050
Cd-In liquid alloys, viscosity 1−25484
$CeIn_3$, mag. ordering in presence of fast spin fluctuations, neutron scatt. study 1−20960
$CeInAg_2$, mag. susceptibility, elec. resist., cryst. field excitations, neutron spectroscopy 1−47865
$CeSn_{3-x}In_x$, Kondo effect in presence of cryst. elec. fields, resistivity and thermal expansion 1−25722
Cu-In, very dil., electron irrad., interstitial trapping by impurities 1−52179
Cu-In (10 at.%), supersaturated, enhanced diffusion and precipitation due to low energy ion bombard. 1−39210
Cu-In (4.6 wt.%) bicrysts., discontinuous precipitation study *(German)* 1−3741
Cu_7In_3, X-ray cryst. struct. determ. 1−30136
Fe-In, dil., nuclear spin-lattice relaxation time 1−34953
Hg-In amalgams, thermodynamic and electron transport props. in metal-nonmetal transition range 1−25770
In-Bi dil., supercond., ultrasonic attenuation rel. to annealing time, mag. field 1−34828
In-Bi(2.5 at.%), supercond., depend. of resistive losses on mag. field meas. *(Russian)* 1−20930
In-Cd, effect of temp. and conc. on elec. field gradient, PAC study 1−52536
In-Ga eutectic electrodes, photocurrents in NO_3 solns. 1−43689
In-Pb, effect of temp. and conc. on elec. field gradient, PAC study 1−52536
In-Pb (0.2, 2 wt.%), twin layer widening dynamics with applied stress 1−20239
In-Pb (10 wt.%), elastic twinning, superelasticity phenomenon 1−35322
In-Pb alloys, phase transformations and shape memory effect *(Japanese)* 1−31458
In-Pb-Au alloy, RF plasma oxidised tunnel barriers in Josephson junctions 1−3105
In-Sn, liq., TDPAD obs. of quadrupolar spin relax. rate and short-range order 1−31072
In-Sn, reactive ion sputtering in Ar-O_2 atmosphere, mechanism 1−48218
In-Sn alloy, superconducting tunnelling spectra, α-β transform at press. *(Russian)* 1−47803
In-Sn magnetron sputtering target, surface oxidation kinetics in Ar/O_2 mixture 1−16687
In-Tl, effect of temp. and conc. on elec. field gradient, PAC study 1−52536
In-Tl, resistivity, thermal cond. and ultrasound vel. in temp. range 300 to 1000K 1−52541
In-Zn liquid-solid mixture, self-diffusion coeff. conc. depend. using radioactive isotope method *(Russian)* 1−7370
InGaAsP, equilibrium calcs. for vapour phase epitaxial growth 1−34598
$In_{1-x}Mg_x$, electron-phonon interaction, phase transition *(Russian)* 1−42495
$LaNi_{5-x}In_xHy$, H_2 dissoc. press., effect of In 1−31855
Li-In, liq., ^{7}Li Knight shift and elec. resist. meas. 1−31047
Li-In, liq. alloy, struct. and elec. resist. calc. 1−25142
LiIn, thermodynamic and mass transport props. 1−21425
Mg-In, hydrogenation reaction rate 1−21714
MgIn $L1_0$-type ordered alloy, anisotropic lattice compression 1−34425
Nb-Ir, amorphous, supercond. props. 1−30869
Ni-In (5.52 wt.%), FCC, supersaturated, cellular precipitation kinetics *(German)* 1−8316
Ni-In FCC alloy, interdiffusion coeffs. determ. 900 to 1100°C 1−20478
$Ni_{1-y}In_yH_x$, ion implanted, mag. props., TDPAC spectra study 1−21099
Pb-Au-In plasma oxidised alloy Josephson junctions, ageing phenomena 1−3104
Pb-In, effect of superconducting transitions on plasticity *(Russian)* 1−42879

indium alloys continued
Pb-In, electron-phonon interactions under high press. rel. to supercond. props., meas. 1−42895
Pb-In (50 wt.%), solder alloy, stress relax., appl. of deform. modelling 1−12786
Pb-In alloys, RF sputter oxidation, ellipsometric study 1−7777
Pb-In mixed state superconductor, plastic deform. investigations 1−16866
Pb-In superconducting film vacuum deposition, fine grain, at 110K 1−31354
Pb-In superconducting microbridge, elec. props. and Josephson effect response to microwave radiation 1−47807
PbIn alloy supercond. tunnel junction electrode, ion beam inducer changes in oxide composition 1−52710
PdIn, coloured intermetallics, interband absorpt. meas. 1−31148
Pd_2MnIn, Heusler alloy, electrical resistance meas. 1−2934
$Pr_{1-x}La_xIn_3$, singlet ground state system, spin echo of ^{141}Pr nuclear relax. 1−52865
$Sb_{1-x}In_x$, conc. and temp. depend. of elec. quadrupole interaction for ^{111}Cd, TDPAC study 1−3310
Sc_3In, heat capacity peak disappearance around Curie temp. in high mag. field 1−47894
$Sc_5Ir_4Si_{10}ZZ$ 1−7772
Sn-In, dil., US absorpt. in intermediate state, 10-30 MHz 1−52705
Sn-Pb-In (37.5, 25 wt.%), solder alloy, stress relax., appl. of deform. modelling 1−12786
Ta-Ir, amorphous, supercond. props. 1−30869
Te-In, dil., liq., electronic behaviour 1−20695
$UNi_{5-x}In_x$, substitution study, X-ray obs., unit cell and microhardness 1−33294
Y-Ir eutectic, strain-induced lattice softening, supercond. transition temp. increase 1−30868
Zn-Bi-In alloys, solid-liquid interfaces, isothermal faceted to non-faceted equilib. transition 1−16154

indium antimonide
acoustoelectrically amplified phonons, study by anomalous transmission of X-rays 1−15978
anodic oxidation kinetics *(Russian)* 1−21779
band gap, average, microscopic theory 1−7516
bulk and surface cond. in intense mag. field at low temp. 1−34717
carrier mobility and density determ. by contactless magnetoplasma methods 1−18254
carrier multiplication in thin space-charge layer struct., internal photoelectric effect 1−20866
collision narrowing of ESR line 1−34940
crystal energies of ZnS, NaCl, CsCl and β-Sn structs., pressure-induced transforms., calc. 1−20108
crystal growth of bulk crystals, purification, doping and defects, review, book contrib. 1−48253
cyclotron-phonon resonance, line width investigation 1−3265
degenerate, cold electron photoinjection at 1.8K 1−47702
dielectric function and surface microroughness, spectroscopic ellipsometry 1−16241
effective density of states in cond. and valence bands, arbitrary band struct. 1−12009
electrical resistivity inhomogeneity depend. on dopant conc. 1−20741
electronic charge densities, pseudopot. method 1−47465
EMF development in inhomogeneous mag. field 1−20735
extinction contour in electron microscopic images 1−11643
Fabry-Perot resonator, nonlinear, optical bistability and transphasor action 1−46433
Faraday-type magneto-microwave Kerr effect, Hall mobility *(French)* 1−52922
film, amorphous-cryst. transform., elec. props. 1−34704
films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
films, amorphous and cyst., electrical props. 1−20729
III-V semiconductors, electronic struct. using simple orbitals 1−20629
interband Faraday rotation, intensity induced 1−52919
inversion layers, electronic props., subband struct. 1−25804
IR absorpt. spectroscopy developments 1−48067
IR optical bistability and transphasor action obs. 1−46438
laser induced damage, optical heating 1−15925
model LMK magnetometers for high mag. fields 1−33011
MOS structure, relaxation time shortening with voltage, localised generation in space-charge region as cause 1−30834
n-type, degenerate, magnetoplasma surface waves in Faraday geometry 1−34732
n-type, elec. resist. and magnetoresist., anomalous temp. depend. below 100 mK 1−47682
n-type, electron runaway in strong mag. fields and breakdown 1−25743
n-type, film, H_2 exposed, elec. transport props. 1−52673
n-type, Hall coeff., mag. freeze-out on subsidiary minima associated levels 1−47678
n-type, heavily doped and compensated, electron transport, 4.2-300K 1−34707
n-type, impact ionisation of excited impurity levels 1−20753
n-type, impurity cond. and minimum metallic cond., Hall effect, magnetoresist. meas. 1−42796
n-type, mag. freeze-out and metal-nonmetal transition 1−47716
n-type, magnetoresistance anisotropy 1−20775
n-type, multitransit acoustic noise amplification in alternating elec. field 1−20826
n-type, nondegenerate magnetoplasma, ATR spectrum due to surface polaritons, temp. depend., 8 mm region 1−16552
n-type, quantum limit Hall effect, transverse magnetoresistance, stress depend. 1−30773
n-type, Raman instability 1−35040
n-type, stimulated Raman scatt. of laser rad., in static mag. field 1−43123
n-type, two-photon absorpt., dual-beam meas. interference phenomena 1−28075
n-type, variable range hopping, correlation effect, longitudinal magnetoresist. meas. 1−12131
n-type magnetophonon resonance, new peak, temp.-range 77 to 180K 1−2991
narrow band gap semiconductor, highly excited electronic states, picosecond IR spectra 1−52494
narrow-gap, electronic props. of n-channel inversion layers 1−47752
nonlinear light absorpt. investigation 1−26158

indium antimonide continued
nonlinear microwave magnetoplasma reson. and avalanche breakdown 1−30756
optical bistability and transistor action 1−29327
optical bistability in semiconductors 1−46426
optical communication systems *(Czech)* 1−11053
optical properties, InSb crystals and electrochemically grown anodic oxide 1−48024
optical third-order nonlinearity, microscopic mechanism 1−15233
optical transistor appl. *(French)* 1−24449
oxidation, oxide film phase comp., In-Sb-O phase diagrams 1−43327
oxidation of surface, obs. by LEED, AES, XPS and UPS 1−53321
p-type, magnetophonon effect and light-hole effective mass 1−7642
p-type, n^+-layer form. by ion bombard. and laser irrad. 1−21312
phonon emission, optical to acoustical decay 1−15973
phonon-assisted cyclotron reson. linewidth 1−47953
photoacoustic spectra in strong absorption region 1−47174
photomagnetoelectric effect, least-squares fitting, semiconductor parameters determ. 1−52604
photovoltaic detectors, fast current amplifier 1−18299
piezoelectric semiconductor, acoustic wave excitation by Alfven wave in solid state plasma 1−16308
plasma slab, microwave and sub-mm wave transmission in Faraday config., hot electrons effect 1−25751
Q-switch spin-flip Raman laser action, pulsed electric field conditions 1−15200
radiative recombination, quantum efficiency 1−3485
refractive index change caused by laser beam irradiation 1−12470
solid and liquid, elec. cond. and Hall effect meas. technique 1−36704
spheres array, depolarisation effects, microwave magnetoplasma reson. meas. 1−12135
stoichiometry, temp. effect on (110) surfaces 1−47346
surface, (110), defect struct., chem., struct. and elec. props. 1−52627
surface, (110), surface atomic geometry, LEED obs. 1−20521
surface (110), ideal and relaxed, electronic struct., scatt. theoretic method 1−7697
two-photon absorpt., photocond., freq. depend. 1−3432
two-photon absorption, double-beam linear dichroism study 1−26165
X-ray band charge model for reevaluation of quasiforbidden reflections 1−42336
CdTe-InSb heterojunctions, SIMS and electrical meas. 1−30812
In-Sb-Bi, heterogeneous equilibria, liquid-phase epitaxy of InSb-based solid solutions 1−16761
InAs-InSb solid solution heteroepitaxial layer structs., photoelec. and electrolum. characts. 1−25590
InAsPSb DH stripe-geometry lasers 1−15186
$InAs_xSb_{1-x}$, direct gap, electron transport study 1−42792
InAsSbP-InAs superlattice growth, organometallic VPE method 1−26393
$In_{0.5}Ga_{0.5}Sb$ film, amorphous-cryst. transform., elec. props. 1−34704
$InP_xAs_ySb_{1-x-y}$ solid solution, optical props. 1−26294
n-InSb, electron plasma wave parametric conversion to EM wave 1−16307
n-InSb, ion acoustic wave excitation 1−52593
n-InSb, modulational instability of EM wave in magnetised plasma 1−2996
InSb monolithic charge injection devices, fabrication and evaluation 1−5389
p-InSb, phonon induced intersubband resonance in inversion layer 1−47750
InSb:Bi, solid solution, liquid-phase epitaxy 1−16761
p-InSb:Ge, US attenuation at low temps. 1−15962
InSb:Zn p-n junctions fabricated by ion implantation with subsequent drive-in diffusion 1−3054
InSb/GaSb multilayer struct., diffusion enhancement due to ion bombardment during deposition 1−3621
InSb-anodic oxide system, optical props. study by ellipsometry 1−26160
InSb-CdTe pair superlattice, elec. optical and struct. props. 1−38846
n-InSb-i-GaAs film Hall convertors, characteristics 1−44906
InSb-PbTe pair superlattice, elec. optical and struct. props. 1−38846

indium compounds
see also indium alloys; indium antimonide
F 1−52559
GaInAs lattice matched to InP, high-speed photoconductive detectors to 1.6 μm 1−45016
InGaAsP-InP heterojunction laser with corrugated waveguide laser 1−51484
InP MIS Schottky barrier solar cells, device parameters for n- and p-type InP 1−8721
salts, molecular absorpt. spectrosc. *(Japanese)* 1−48765
substrate, InAs heteroepitaxial layer deposition using MBE, elec. and struct. props. 1−3081
$AgGaS_2$-$AgInS_2$, solid solutions, growth of single crystals, phase diagram 1−35163
Al_2Se_3-In_2Se_3, In-rich region, X-ray diffr. study 1−7143
Bi_2Se_3-InTe, solid neutrons, range of existence, elec. cond., thermo-EMF, and thermal cond. meas. 1−30741
Bi_2Te_3-InS, thermoelectric props. of Bi_2Te_3-based solid solutions, phase diagram 1−34730
$CdIn_2S_4$, photoluminescence bands, recombination centres 1−39143
$CdIn_2S_4$:Cr photoluminescence spectra 1−21270
CdS substrate for $CuInSe_2$ MBE layers, growth, solar conversion efficiency 1−16695
n-CdS/n-InP/p-InP heteroface solar cell, with ultrathin window layer, external conversion efficiency 1−26834
n-CdS/p-$CuInSe_2$ solar cell heterojunction, minority carrier diffusion length 1−16297
CdS-InP heteroface solar cells, computer anal. 1−8720
$Cs_xIn(SeO_3H_{1-z}SeO_3).nH_2O$, preparation under hydrothermal conditions 1−39258
$CuGa_xIn_{1-x}Se_2$ thin films for solar cells prepared by flash-evaporation 1−13132
$Cu_{1/2}In_{1/2}Cr_2S_4$ spinel, high mag. field obs. of first order transition, mag. struct. and ordering 1−25942
$CuInS_2$ epitaxial layers obtained by chemical vapour transport, growth and props. 1−30588
$CuInS_2/S_n^{2-}$ system, photoelectrochemistry 1−43785
$CuInS_2$-GaP heterostructure prep. by LPE 1−52447
$CuInS_2(Se_2)$, crystal growth, chemical transport by I_2 1−31323
$CuInSe_2$ epitaxial layers, single-source evaporation prep., struct. and elec. props. 1−38690
n-$CuInSe_2$, photocond., band gap determ. 1−20807
$CuInSe_2$, reflectance near bandgap 1−52912
$CuInSe_2$:Fe, EPR characterisation 1−34929
$CuInSe_2$-$CuInS_2$ system, interaction of components, physicochemical characteristics 1−31432
$CuInTe_2$, secondary electron emission 1−16630
Cu_2S-In_2S_3 system, phase relations rel. to melt growth 1−3702
n-dS/p-InP heterojunction solar cells, CVD growth, multilayer growth apparatus 1−31358
$Dy(Ir_xRh_{1-x})_4B_4$ supercond. system, mag. props. 1−12223
$ErCl_3$-$InCl_3$, high temp. vapour complexes, laser-induced fluoresc. and Raman spectra 1−14950
$GaAs-In_yGa_{1-y}P_zAs_{1-z}$-$In_xGa_{1-x}As$ grading heterojunction form., LPE equilib. and step-cooling methods 1−21372
(GaIN)(AsP)DH lasers with Zn doping, temp. dependence of threshold current 1−51480
GaInAs PIN photodiodes, use as detector element in PIN-FET (preamplifier) hybrid fibre optic receivers 1−11173
GaInAs, Schottky barrier formation, anion vacancy electron states 1−52644
GaInAs-InP avalanche photodetectors, low dark-current high gain 1−45014
$n\text{-}Ga_{0.47}In_{0.53}As$, alloy scattering effects and calc. Hall mobility 1−42791
$Ga_{0.47}In_{0.53}As$-InP heterophotodiode with reduced dark current, good photoresponse 1.0 to 1.65 μm 1−45013
$Ga_{1-x}In_xAs$ PIN photodiodes, high-speed photodetector appl. in hybrid PIN-FET fibre optic receiver 1−11172
$Ga_{1-x}In_xAs$ solidus isotherms developed by the step-grading technique 1−16205
$Ga_{1-x}In_xAs$:Te, LPE layers, doping behaviour, transport props. meas,. 1−20884
$Ga_xIn_{1-x}As$, direct gap, electron transport study 1−42792
$Ga_xIn_{1-x}As$ layers, MBE, As_4 stabilization of InP substrates 1−3633
GaInAsP avalanche photodiode for guided wave optical signal processing 1−37634
GaInAsP layers lattice matched to InP substrates, phase diagram for LPE growth 1−48278
GaInAsP, reproducible LPE growth method 1−21368
GaInAsP/InP DH stripe laser with reactive-ion-etched mirror facets 1−24428
GaInAsP/InP heterostructure laser for guided wave optical signal processing 1−37634
GaInAsP/InP low-dark-current avalanche photodetector, noise characts., avalanche multiplication 1−33053
GaInAsP/InP terraced substrate lasers, single transverse mode operationat 1.3 μm wavelength 1−19354
GaInAsP-InP 1.3 μm CW laser grown by LPE, threshold current density 1−46344
GaInAsP-InP buried heterostructure lasers fabricated by selective etching and meltback process, 1.6 μm wavelength 1−11021
GaInAsP-InP buried heterostruct. laser, 1.6 μm, refractive index variation with injected carrier density and temp. 1−19333
GaInAsP-InP DH lasers with chem. etched facet 1−15183
GaInAsP-InP LEDs for 140 Mb/s and 280 Mb/s fibre optic communication systems 1−11171
GaInAsP-InP laser with chemically etched mirror, CW operation 1−1581
GaInAsP-InP lasers with good temp. dependence grown by low pressure metalorganic VPE 1−41719
GaInAsP-InP narrow-stripe injection laser emitting at 1.3 μm, CW and pulsed operation 1−46345
GaInAsP-InP proton-bombarded stripe-geometry DH laser, gain spectra 1−46343
GaInAsP-InP T-laser on semi-insulating substrate, 1.2 μm operation 1−46377
$Ga_{1-x}In_xAs_{1-y}P_y$-InP DH laser sources for 1.3 μm fibre-optic communications 1−41742
$Ga_xIn_{1-x}As_yP_{1-y}$, crystallisation path to phase diagram, rel. to LPE 1−48333
$Ga_xIn_{1-x}As_yP_{1-y}$ films, VPE, refractive index vs. wavelength meas. data 1−35106
$Ga_xIn_{1-x}As_yP_{1-y}$, shallow hydrogenic donors, IR photocond. and transmission meas., mag. field depend. 1−48054
$Ga_xIn_{1-x}As_yP_{1-y}$:Zn, valence band spin-orbit splitting 1−47459
$Ga_xIn_{1-x}As_yP_{1-y}$-InP DH strip waveguides with $Ga_xIn_{1-x}As_yP_{1-y}$ side bounding layers, single-mode guiding conditions 1−6568
(GaIn)P LPE process, simple numerical simulation method 1−20587
$Ga_{0.5}In_{0.5}P$, optical cooling of nuclei spin system, luminescence 1−21076
$Ga_xIn_{1-x}P$ (n) semiconducting alloys studies in photoelectrochemical cells 1−32033
$Ga_xIn_{1-x}P$, Raman spectra in strong and weak fields, phonon replicas 1−39082
$Ga_xIn_{1-x}P$:Si(Zn) LPE layers lattice-matched to GaAs, growth and elec. props. 1−21370
GaInPAs-InP buried mesastripe CW room-temp. heterojunction lasers, 1.24 to 1.28 μm range 1−46390
$Ga_xIn_{1-x}P_yAs_{1-y}$, III-V heterostructure devices for integrated optics 1−1725
GaP-InP-GaAs-InAs solid solns., energy band spectra and band gap depend. on comp. 1−20630
GaSb-InAs interface, electron-hole subbands 1−7722
$Ge_{1-x}In_{x-y}P_y$, epitaxial struct., radiative recomb. emission intensity 1−8139
(In,Ga)(As,P), VPE growth, n- and p-type doping, photolum., mobility and electron diffusion lengths 1−48267
In-Ga-P-As, LPE growth in vertical furnace of double heterostructures 1−35195
In-I, resonant Raman scatt. and luminesc. 1−12488
In-S, phase diagram, spinel-type solid solution, struct. study *(French)* 1−20147
In-Sb-Te, DTA, X-ray and metallographic study *(German)* 1−8287
In-Sb-Te ternary system, enthalpy of mixing at 918K 1−38540
In-Te system, liq. phase equil., existence limits of two-phase region, crit. demixing temp. 1−42528
$(InAS)_{1-x}(CdTe)_x$, E_1 and $E_1+\Delta_1$ transition energies, comp. depend., electrorefl. spectra 1−21173
InAs (110), defect gap states 1−7696
n-InAs accumulation layer, hybrid quantum oscills., transcond. in mag. field 1−16381
InAs, crystalline and amorphous, disorder activated Raman scatt. 1−48062

indium compounds continued
InAs, diffusion of Zn and Cd simultaneously 1−47297
InAs, electronic struct. using simple orbitals 1−20629
n-InAs epitaxial layers, carrier lifetime meas. 1−30856
InAs film, evaporated, magnetoresist. meas. 1−12216
InAs films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
InAs films, amorphous and crystalline, electrical props. 1−20729
InAs, IR absorpt. spectroscopy developments 1−48067
InAs, integral dielec. functions, resolution into component parts 1−31115
InAs laser, band-to-band Auger effect 1−1568
InAs MBE film on GaAs substrate, cross-sectional TEM study, dislocation props. 1−11987
InAs model BHT921 Hall effect magnetometer for high mag. fields 1−33011
InAs, optical rectification and photon drag 1−46436
p-InAs oxide inversion layer transport obs. at 77K 1−16375
InAs, phonon dispersion curves, X-ray thermal diffuse scatt. 1−42491
n-InAs, photocond. spectral distrib. 1−34738
InAs polycrysts., lattice dislocations generation by migrating boundaries 1−20210
InAs, resonance Raman scatt. near E_1 edge 1−39094
InAs, second-order Raman scatt. spectra 1−26206
InAs surface resonant Raman scatt. in MOS junctions 1−48066
InAs/GaSb superlattice electronic state localisation and complex bulk band structures 1−16351
InAs/GaSb(110) lattice-matched interface intrinsic and extrinsic states 1−16352
InAs/oxide interface inversion layer electron scatt. by polar interface phonons 1−16376
InAs-GaSb heterojunction superlattices, electronic props., fabrication and characts. 1−7720
InAs-GaSb heterojunction superlattices, spatially separated plasmas, anomalous acoustic plasmon form. 1−12137
InAs-GaSb semimetallic superlattices, far IR magnetoabsorpt. and cyclotron reson. 1−31131
InAs-GaSb semimetallic superlattices to heterojunction limit, Shubnikov-de Haas investigation 1−47735
InAs-GaSb superlattices, ion backscatt. and channelling 1−38673
InAs-GaSb superlattices, collective modes of two-dimens. plasma 1−47519
InAs-GaSb superlattices, semiconductor-semimetal transition 1−52609
InAs-GaSb superlattice, IR magnetoabsorption and luminescence study 1−52920
InAs-InSb solid solution heteroepitaxial layer structs., photoelec. and electrolum. characts. 1−25590
InAs-oxide-Pb junction, tunnelling cond. oscills. in quantising mag. field 1−25806
InAsPSb DH stripe-geometry lasers 1−15186
InAsSb hybrid focal plane arrays 1−5399
InAsSbP-InAs superlattice growth, organometallic VPE method 1−26393
InAs(Te)(Se) film, amorphous-cryst. transform., elec. props. 1−34704
InBi, pressure-induced electron transition, struct. parameters meas. by neutron diffr. 1−38362
InBr, emission and scatt. spectra under resonant excitation conditions 1−8094
InBr, two-photon dissociation excitation cross sections meas. 1−51251
InCl, α and β modifications, cryst. struct., stereochemically active $(5s)^2$ lone pairs 1−25214
InCl, $M_{4,5}N_{4,5}N_{4,5}$ Auger electron spectrum 1−6220
InCl, two-photon dissociation excitation cross sections meas. 1−51251
$InCl_3$, $M_{4,5}N_{4,5}N_{4,5}$ Auger electron spectrum 1−6220
$In_{2/3+x}Cr_{2-x}S_4$, cation-deficient spinel, crystallographic and mag. props. 1−34321
$In_{0.72}Ga_{0.28}$ $As_{0.6}P_{0.4}$, absorption, emission and gain spectra, calc. 1−43155
InGaAs LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InGaAs VPE, suppression of InP substrate thermal damage and PH_3 contamination 1−48277
InGaAs/InP Zn-diffused back-illuminated p-i-n photodiodes, MBE growth 1−26388
InGaAs-InAsP heterojunction, VPE growth, long wavelength transferred electron photocathode appl. 1−3628
InGaAs-InP avalanche photodiodes with separated absorpt. and multiplication regions, improved characts. 1−45011
InGaAs-InP avalanche photodiode with LPE and VPE layers, separated absorpt. and multiplication regions 1−45012
InGaAs-InP p-i-n photodiodes for lightwave communications, 0.95 to 1.65 μm wavelength 1−45009
p-$In_{0.53}Ga_{0.47}As$, fast photocond. detector with response to 1.7 μm 1−45004
$In_{0.53}Ga_{0.47}As$ photodiode characts. 1 to 1.7 μm, low dark current and low junction capacitance 1−45008
$In_{0.53}Ga_{0.47}As$, photoexcited, hot carrier relaxation 1−3449
$In_{1-x}Ga_xAs$, MBE surface electronic and crystallographic props. 1−7491
$In_{1-x}Ga_xAs$-$GaSb_{1-y}As_y$, semiconductor superlattices by MBE and their characterization 1−2417
$In_{1-x}Ga_xAs$-$GaSb_{1-y}As_y$, semiconductor superlattices, review 1−30817
$In_{1-x}Ga_xAs$-$GaSb_{1-y}As_y$ superlattices, electroreflectance, band struct. 1−52916
$In_xGa_{1-x}As_1$ LPE growth on GaAs, elec. current controlled 1−35191
InGaAsP BH laser emitting at 1.3 μm, CW electrooptical props. 1−46346
InGaAsP buried-waveguide heterostruct. injection lasers, fabrication, elec. props., optical characts. 1−41707
InGaAsP CW heterolasers, wide resonator and strip type designs 1−1578
InGaAsP, composition, refr. index and lattice mismatch 1−11990
InGaAsP DH lasers fabrication, stripe-geometry, high-efficiency, with chemically-etched mirrors 1−11014
InGaAsP DH laser, internal SHG 1−29280
InGaAsP DH pulsating-beam lasers, 1.3 μm, optical and elec. characts. 1−41708
InGaAsP diode lasers, mode-locking 1−19342
InGaAsP double heterostructure lasers, self-sustained pulsations, negative resistance 1−33681
InGaAsP, energy band struct., virtual cryst. model and electrorefl. spectra 1−2871
InGaAsP epitaxial layers, lattice mismatch determ. 1−38675
InGaAsP heterostructure, synthesis by LPE with Be doping 1−39255
indium compounds continued
InGaAsP LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InGaAsP LPE layers, electrorefl. meas. band edge energy and spin-orbit splitting 1−48053
InGaAsP laser, 1 Gbit/s modulated, intensity fluctuation noise improvement by light injection 1−19337
InGaAsP laser diodes, advantages, props., and appls. 1−37509
InGaAsP layer lattice-matched to InP, contact with AuZn, comp. depend. 1−3063
InGaAsP p-n junction photodetectors, LPE prep. and props. 1−13125
InGaAsP phase diagram and LPE growth conditions, for lattice matching on InP 1−43279
InGaAsP photodiodes noise *(German)* 1−19448
InGaAsP/InP buried crescent diode lasers, 1.3 μm, transverse mode stabilization 1−33730
InGaAsP/InP DH laser, facet degradation caused by oxidation 1−46337
InGaAsP/InP DH laser diode, with single transverse mode, accelerated ageing test 1−46339
InGaAsP/InP DH laser wafers high quality LPE growth under PH_3 ambient 1−53110
InGaAsP/InP photodiodes, wavelength demultiplexing 1−6681
InGaAsP-InGaAs p-i-n detectors for 1.3-1.6 μm fibre optic systems 1−18294
InGaAsP-InP aged laser diodes, self-oscillations and dynamic behaviour 1−46347
InGaAsP-InP buffer-layer loaded planoconvex waveguide lasers, high temp. CW operation, 1.5 micron 1−51501
InGaAsP-InP buried heterostruct. laser on p-InP substrate 1−15185
InGaAsP-InP burried-heterostructure DH laser characts., effect of cavity length 1−51479
InGaAsP-InP channelled substrate buried heterostructure laser emitting at 1.55 micron 1−15180
InGaAsP-InP DH laser degradation in water due to facet deterioration 1−19355
InGaAsP-InP DH laser, dark defects rel. to degradation under accelerated operation 1−41703
InGaAsP-InP DH lasers, self-sustained pulsation appearance during accelerated operation 1−41755
InGaAsP-InP DH laser emitting at 1.1 to 1.65 μm, wave confinement, beamwidth and threshold current 1−46342
InGaAsP-InP LPE layers, etching characts. of defects 1−20213
InGaAsP-InP narrow stripe buried heterostructure lasers, fabrication, characterisation 1−1585
InGaAsP-InP photodiode monolithic 1×10 array, small dark current and uniform responsivities 1−45010
InGaAsP-InP separated multiclad layer stripe geometry lasers emitting at 1.5 micron 1−33704
InGaAsP-InP wafers, surface morphology improvement, using dummy layer technique 1−53107
$In_{1-x}Ga_xAs_yP_{1-y}$ CW three-layer lasers, stripe geometry devices for 1.5 μm operation, LPE growth 1−11022
$In_{1-x}Ga_xAs_yP_{1-y}$, electroreflectance study 1−21172
$In_{1-x}Ga_xAs_yP_{1-y}$ laser, efficiency and threshold current, intervalence band absorpt. 1−11004
$In_{1-x}Ga_xAs_yP_{1-y}$-InP LPE and VPE layers, transport props., defects and device considerations 1−47766
$In_xGa_{1-x}As_yP_{1-y}$ photodiodes with dark current limited by diffusion, generation recomb. and tunnelling 1−45007
$In_xGa_{1-x}As_yP_{1-y}$ submicron layers, LPE growth and evaluation for microwave FETs 1−2845
$In_{1-x}Ga_xP$, lattice thermal cond., scatt. mechanisms *(Russian)* 1−7400
$In_{1-x}Ga_xP$, mixed zincblende cryst., critical point phonon composition depend. 1−2577
$In_{1-x}Ga_xP$, temperature gradient soln. growth 1−21337
$In_{1-x}Ga_xP$:Zn, hole transport props., Hall mobility 1−47686
$In_xGa_{1-x}P$ surface, Schottky barrier heights for Au, compositional depend. 1−16363
InGaPAs heterostructures, thin-layer LPE, non-diffusion-limited cryst. growth 1−47409
$In_{1-x}Ga_xP_{1-y}As_y$ lattice matched LPE layers on GaAs, photoluminesc. 1−31178
$In_{1-x}Ga_xP_{1-z}As_z$ ($z \leq 0.01$), LPE on GaAs (100), lattice consts. and photoluminesc. 1−48282
$In_{1-x}Ga_xP_{1-z}As_z$ visible-spectrum (~6700 Å) LPE laser, continuous room-temp. photopumped operation 1−46368
$In_{1-x}Ga_xP_yAs_{1-y}$, LPE growth and photolum. meas. 1−26396
$In_xGa_{1-x}Se$, solid solution, crystalline struct., energetic spectra *(Russian)* 1−47056
$InGe_2O_7$, $InSi_2O_7$, polymorphism under high pressure, and information from Eu^{3+} struct. probe 1−25240
InI, photoluminescence, donor-acceptor pair recomb. 1−8126
InI_x, x=1,2,3, solid-phase transitions at high press., disproportionation reactions 1−47227
$In_2Mo_6Se_6$ and $In_2Mo_6Te_6$, pseudo-one-dimens. metal, prep. and struct. characteriz. 1−38357
InN films, phys. props. 1−50436
In_2O_3 film prep., elec. conductivity and optical transmission 1−52453
In_2O_3 films, in metal sandwich, field-dependent elec. cond. 1−20883
In_2O_3 films, thermally evaporated, struct., elec., and optical props. 1−47405
In_2O_3 highly doped transparent heat-reflecting coating 1−52322
In_2O_3 transparent conducting films fabrication using vacuum deposition *(Korean)* 1−31355
In_2O_3:Sn, thin film, post-oxidised, electrical props. 1−47769
In_2O_3:Sn film prep. by activated reactive evaporation, elec. resistivity and transmittance 1−16389
In_2O_3:Sn films, RF reactively sputtered, optical props. *(Japanese)* 1−21284
In_2O_3:Sn RF reactively sputtered films, elec. props. *(Japanese)* 1−20882
In_2O_3:Sn sputtered films for solar selective transparent filters *(Japanese)* 1−21908
In_2O_3/SnO_2-SiO_x-n-Si solar cell for ground-based appls. 1−35659
In_2O_3/SnO_2-SiO_x-nSi structure for solar cells, characts. 1−17197
n-In_2O_3-p-Si heterojunction solar cells 1−4206
In_2O_3-SiO_2-Si structure, work function determ. from internal photoemission 1−25794
In_2O_3-SnO_2 conductive, transparent coating for thermal insulation *(French)* 1−39497
In_2O_3-SnO_2 layer deposition on glass substrate by spraying method 1−53089

indium compounds continued
In_2O_3-SnO_2 sprayed film, light transmission and resistivity optimisation 1−52456
$In_2O_3+H_3PO_4$, synthesis of alkali metal indium phosphates 1−12978
InP (100) oriented epitaxial layers, chem. state, Auger study 1−47403
InP (110), defect gap states 1−7696
InP (110), dynamical anal. of LEED intensities 1−34557
InP (110), surface struct., LEED study 1−7441
InP (110) surface, electron states, defects and chemisorbed Al, cluster calc. 1−52623
InP (110) surface anion vacancies, bound-state energy level calc. 1−16332
InP (110) surface atomic geometry, LEED obs. 1−20521
InP (110) with Ag overlayers, film growth, Schottky barrier formation 1−34593
InP, adsorption of CO, CO_2, interaction mechanisms, surface atomic structs., meas. 1−25578
InP anodic oxide interface formation obs. 1−16372
InP atomically clean surface prep. by pulsed laser irrad. 1−8456
InP avalanche photodiode, Si_3N_4 plasma CVD film as preferential diffusion mask 1−25589
InP bicryst., lattice dislocations generation by migrating boundaries 1−20210
InP, CVD film growth for polycryst. solar cells 1−35183
InP crystal photoluminescence, influence of surface energy band bending 1−16597
InP, crystn. from nonstoichiometric soln., mol. struct. of P in In-P soln. 1−52041
InP, Czochralski grown single cryst., etch features 1−7173
InP, Czochralski-grown single cryst., dislocation clusters 1−53080
InP, deep defects, optical and ESR spectroscopy, review 1−30676
InP, deform. pot. of fundamental exciton spectrum 1−8093
InP, elastic anharmonicity rel. to high press. phase transition 1−38433
InP, electronic struct. using simple orbitals 1−20629
InP epitaxial layer growth using metalorganic cpd. 1−48269
InP epitaxial layers, growth control by plasmon excitation electron losses 1−16203
InP, etching, local, in Br_2-dimethylformamide soln. 1−39484
InP films, electrodeposition 1−35190
InP, impurity levels and electrical characteristics 1−20250
n-InP, inhomogeneous cryst., transverse magnetoresistance 1−20776
InP, integral dielec. functions, resolution into component parts 1−31114
InP, ion implanted, elec. charact., implant temp. effect 1−7196
InP LEC crystals, deep impurity levels, DLTS and photoluminesc. study 1−47557
InP, LEC grown twinfree crystal annealing technique 1−12646
InP, LPE growth, book contrib. 1−48285
InP LPE layers, heavily doped, visible photoluminesc. emission 1−43152
InP LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InP, large wavevector acoustic phonon propagation 1−47184
InP, linear electro-optical coeff. meas. 1−21170
InP, MBE with gas source for P 1−35179
InP MIS Schottky diode, fabrication, diode characts. 1−7705
InP MISFET, p-channel inversion-type, fabrication and reduction of interface states 1−12163
InP MISFETs, anodic oxide layer growth 1−38851
InP MOS system, semiconductor-insulator interface states, photocapacitance transient study 1−52658
InP MOSFET, surface cond. and magnetoconductivity props. 1−52639
InP, meas. of dipole domains using point-contact probe 1−52570
InP monocrystals for optical communication systems *(Czech)* 1−11053
InP, n and p type, low resistance ohmic contacts 1−30823
InP, nonradiative states, photoacoustic spectroscopy 1−21261
InP, optical transmission, luminesc. and Raman spectra under hydrostatic press. 1−35007
InP, phonon pulse propag., spatial and temporal characts. 1−15989
InP polycrystal oxides and interfaces, AES, SIMS and XPS obs. 1−16379
InP, radioactive ^{119}In and ^{119}Sb implantation, radiogenic Sn defects, Mossbauer study 1−47102
InP, reactive ion etching in $CCl_2F_2/Ar/O_2$ 1−43546
InP, SSD growth and charact., substrates for IR LED 1−53111
InP Schottky barrier, adsorbed layer influence 1−52642
p-InP Schottky barriers, elec. characts. meas., solar cells 1−25790
InP solar cells, grain boundary and interface investigations using AES and complementary surface anal. techniques 1−21884
InP solar cells, thin-film polycrystalline semicond. p-n junction, efficiency calc. 1−13118
InP, structural defect detection by electrochem. etching 1−47074
InP substrate, $Ga_xIn_{1-x}As$ layers grown by MBE, As_4 stabilization 1−3633
InP substrate, suppression of thermal damage in InGaAs VPE 1−48277
InP, temperature gradient soln. growth 1−21337
n-InP, thermal cond., thermoelectromotive force and elec. cond. meas., electron irradiation effect *(Russian)* 1−38407
InP, thermal oxidation, oxide film props., MOS diode props. 1−7740
InP, thermal oxidation, Raman scatt. study 1−39477
InP, time resolved phonon spectroscopy with picosecond time resolution 1−45036
InP, VPE growth on LPE $In_{0.53}Ga_{0.47}As$ 1−53106
InP, velocity bunching of near-zone-edge phonons, intense tunable phonon source near 10 Å 1−42489
InP:Be,Fe, SIMS studies of dopant profiles, review 1−30268
InP:C(Si)(Ge)(Sn), elec. characts. 1−12113
InP:Cr, electron beam irrad., EPR meas. 1−38978
InP:Cr, S ion implantation, sheet resistance, carrier density 1−2477
n-InP:Cr, VPE, photoconductivity study 1−47699
InP:Cr(Fe), photocond. relax. kinetics 1−20809
InP:Fe, deep level spectroscopy 1−34649
InP:Fe, p-i-n structs., photocapacitance 1−38844
InP:Fe, Si implanted annealing, CVD SiO_2 encapsulation 1−38396
InP:Ge_7 dislocation free cryst. growth 1−35167
InP:Mn, pure and doped, nucl. relax. mechanism 1−21075
InP:SiH_2^+, annealed, shear dislocation and interstitial loop obs. 1−11751
p-InP:Zn, effect of heat treatment, carrier conc. meas. 1−25726
InP:Zn, shallow and selective diffusion of Zn 1−30482
InP:Zn p-n junction, control of Zn doping for growth by LPE 1−25300
InP/Langmuir film MIS devices and associated structs., electrical behaviour 1−47756
indium compounds continued
n-InP-Au Schottky diodes, bias-dependent photoluminesc. intensities 1−43157
InP-GaInAs buried heterostruct. laser, low threshold current CW operation 1−46376
InP-GaInAsP buried heterostructure lasers on semi-insulating substrates 1−33703
InP-$In_{0.58}Ga_{0.42}As_{0.84}P_{0.16}$ wavelength division solar cells, diode struct., conversion efficiency calcs. 1−13123
InP-$In_{1-x}Ga_xAs_yP_{1-y}$ embedded mesa stripe laser, two-step LPE fabrication and props. 1−15181
InP-InGaAs heterojunction phototransistors, photoresponse 0.95 to 1.6 μm 1−45015
InP-InGaAsP heterojunction laser, emission polarization, internal strain effect 1−51483
InP-InGaAsP-InP double heterostructure laser, with inhomogeneous excitation, bistable operation 1−41695
n-InP-n-$Ga_{1-x}In_xAs_{1-y}P_y$-p-$Ga_{1-x}In_xAs_{1-y}P_y$ emitting diodes, stability study 1−34779
InP-Pd Schottky contacts, comparison with GaAs and Si Schottky diodes 1−34795
InP-SiO_2 MOSFETs, cond. and magnetoresistance 1−38857
InP-Zn, open ampoule diffusion, abrupt junction form. 1−2476
InP_xAs_{1-x}, direct gap, electron transport study 1−42792
InP(100 surface), electron stimulated oxidation, Auger spectra 1−8169
In_5S_4, X-ray cryst. struct. determ. and refinement 1−11726
In_6S_7, photoelec. props. 1−34746
InSb, surface optical constants, ellipsometric obs. 1−31119
InSb:H films, Hall coeff., carrier mobility rel. to impurity in-diffusion 1−38870
InSe, cryst. growth by vapour phase chem. transport, polytypism 1−35156
InSe films, optical props. and photovoltaic device appls. 1−42826
InSe, IR anal., independent oscillator and factorised model 1−52928
InSe, layered crysts., electronic spectrum, press. effects, optical absorpt. and photoluminesc. meas. 1−52915
InSe metal-semicond.-metal struct., phototrigger effect 1−3020
InSe, optical phonons and crystalline symmetry, Raman and IR spectra 1−43121
InSe, photoelectron spectra, core-level peak intensity, extended fine struct. 1−8192
InSe reflection holograms, light scatts., noise characts. of reduced images *(Russian)* 1−37444
InSe, Shubnikov-de Haas oscill., cyclotron resonance 1−47684
InSe:Fe, impurity effect on optical spectra *(Russian)* 1−31177
InSe:Zn, photoluminesc. emission band associated with Zn acceptor level 1−48159
InSe-GaSe heterojunctions, elec. props. in darkness 1−20865
InSe-GaSe heterojunction, formed by optical contact, I-V characts., luminescence 1−42853
In_4Se_3 crysts., layered, anisotropy of X-ray scattering 1−29980
In_4Se_3, refl. spectra and optical functions 1−52965
In_6Se_7, photoelec. props. 1−34746
In_xSe_{1-x} amorphous film, density of localized states 1−25663
In_xSe_{1-x}-SnO_2 structure, photovoltaic effect 1−7657
$In_2Se_{2.93}Cl_{0.06}$, mag. and transport props., low temp. elec. cond. transition 1−12153
$InSe_{1-x}S_x$, single crystal, current limited by space charges *(Russian)* 1−47660
$In_{1.9}Sn_{0.1}O_3$ reactively sputtered optical coatings for 1064 nm lasers 1−37572
$In_{2-x}Sn_xO_{3-y}$/ZnO/merocyanine/Ag cells, photovoltaic effects 1−20800
$In_{2-x}Sn_xO_3$/Si solar cells, short circuit current 1−8707
$In_{2-x}Sn_xO_{3-y}$ film, effect of ambient atmos. in annealing 1−2850
$In_{2-x}Sn_xO_{3-y}$ transparent conducting coatings on Si solar cells and 'figure of merit' 1−48843
$In_{2-x}Sn_xO_{3-y}$-poly Si solar cells, interface study 1−43780
$In_{2-x}Sn_xO_{3-y}$-SiO_x-Si solar cells, automated steady-state admittance spectroscopy for surface studies 1−26832
In_2Te_3, energy bands and optical props. 1−47455
In_2Te_3 thin films, optimum substrate temp. for electron beam evaporation prep. and elec. props. 1−42656
$IrCl_6^{2-}$, negative isotropic g-factor, Raman meas. 1−24286
IrO_2, conduction-electron screening, XPS valence-band and core-level spectra 1−21327
$Pb_{1-x}In_xMo_6S_8$, struct., elec. and supercond. props. 1−42884
$Pb_{1-x}In_xTe$, solid soln. inhomogeneity due to impurity energy levels 1−20404
PbTe-In_2Te_3 system, phase comp., homogeneity region, electrophys. props. 1−42512
$Rb_xIn(SeO_3H_{1-x}SeO_3).nH_2O$, preparation under hydrothermal conditions 1−39258
Si-SiO_2-$In_{2-x}Sn_xO_{3-y}$ solar cell, barrier height lowering through interface states 1−43759
TlInSe, impurity levels, elec. props. 1−20660
$TlInSe_2$, single cryst., switching and memory effect 1−20830
$TlInSe_2$, vibrational props., IR reflectivity 1−35042
$TlInTe_2$-$TlRTe_2$ (R=Nd, Ce, Eu), current-voltage characteristics, switching effect 1−7673
$TlInX_2$-$TlRX_2$ (X=Se,Te), R=(Nd,Pr) systems, electrophys. and X-ray investigs., comp. depend. 1−52482
$ZnIn_2S_4$, Raman spectra, hydrostatic press. influence 1−3417

INDO calculations
acetylene, electron impact, rot. excitation and elastic scatt. calcs. 1−37117
aliphatic formate radicals, long-range EPR couplings 1−14820
alpha substituents, effect on δ ^{13}C chem. shifts, INDO approx. calcs. 1−19031
benzene, two-photon spectra, vibronic mechanism, INDO calc. 1−41449
benzosemiquinone radical anion, struct. and spin densities, INDO calcs. 1−4103
1,2-benzosemiquinone radical anion, struct. and spin densities, INDO calcs. 1−4104
biphenylene, mol. energy levels, CNDO and INDO calcs. 1−10668
dimenthylnitramine, single cryst., UV photolysis effects, ESR and INDO investig. 1−38984
electronic struct. of free radicals 1−10663
ethane, vicinal spin coupling const., dielec. solvent effect, INDO and CNDO/2 calc. 1−51119
Fermi contact term of spin-spin coupling const., calc. using FPT INDO method 1−24039

INDO calculations continued
formic acid dimer, double H^+ transfer and charge transfer transitions in H bonded system 1−14818
halogen compounds, spin-orbit splittings of ionisation pot., MOC, INDO and CNDO calc. 1−51126
α-hydroxytetronic acid, electronic struct. of free radicals 1−10663
imidazoles, electronic struct., substituent effect, INDO MO calc. 1−51118
methoxynitroanilines conformation, MINDO/3 and INDO/S-CI calcs. 1−51120
trans N-methylformamide, vicinal spin coupling const., dielec. solvent effect, INDO and CNDO/2 calc. 1−51119
molecular binding energy and geometry, SINDO1 SCF MO and INDO calcs. 1−37120
molecular ground states, containing C(N)(O) atoms, mol. geometries, IP, binding-energies and dipole moments, SINDO1 calc. 1−37121
molecular ground states, containing F(B)(Be)(Li) atoms, mol. geometries, binding energies, IP and dipole moments, SINDO1 calc. 1−37122
molecules, closed shell, vertical excitation energies, CNDO and INDO calcs. 1−45856
molecules with f block elements 1−41318
orbital program realising, d orbital inclusion 1−6168
organoboranes, B chemical shift, gauge invariant atomic orbital semiempirical theory 1−14934
oxyhaeme complex, optical spectrum, INDO-SCF-CI calcs. 1−1422
1-phenyl-3,3-dimethyltriazene, conform., MO calcs. 1−24041
polyenes, photoisomerisation, excited states, size and suddenness of polarisation effect, INDO, CI and MO calc. 1−21742
pyrroles, electronic struct., substituent effect, INDO MO calc. 1−51118
tetrachloroethane, vicinal spin coupling const., dielec. solvent effect, INDO and CNDO/2 calc. 1−51119
transition metal tricarbonyls, ground and ionic states, INDO calcs. 1−45852
$[Fe(CN)_5NO]^{2-}$, photochemical and spectral props. 1−10666
B hydrides, B chemical shift, gauge invariant atomic orbital semiempirical theory 1−14934
BeF radical in Kr(Ar) gas matrix, ESR and isolation spectra 1−24173
H_2CLiF in singlet and lower triplet states, pot. hypersurface, SCF MO LCAO, INDO and STO calc. 1−33389
HOO, struct. and bonding, CNDO/2 and INDO calcs. 1−45850
HOS (HSO), struct. and bonding, CNDO/2 and INDO calcs. 1−45850
HSS, struct. and bonding, CNDO/2 and INDO calcs. 1−45850
N_2O, metastable cyclic conformations examined by ab initio and NDO calc. 1−28878
O_3, metastable cyclic conformations examined by ab initio and NDO calc. 1−28878

INDOR
see also nuclear Overhauser effect
4-aminopyridine, four-bond interproton spin spin coupling studied by INDOR technique 1−14918
4-chloropyridine, four-bond interproton spin spin coupling studied by INDOR technique 1−14918
population redistribution, RF fields, Bloch's model transition probabilities, INDOR obs. 1−19123

induced anisotropy (magnetic)
bubble circuit, ion implanted, annealing 1−7915
cubic close packed CuAu-type alloys, elastic and mag. props., effect of atomic order *(Russian)* 1−7827
garnet film, ion-implantation conditions and annealing effects for contiguous disk bubble devices 1−7918
Permalloy crystals, induced mag. anisotropy annealing by positron annihilation method *(Russian)* 1−20974
rare earth alloys, amorphous, induced magnetism, singlet-singlet model 1−25902
$(Co_{0.89}Fe_{0.11})_{72}Mo_3Si_{15}B_{10}$ metallic glass ribbon, induced mag. anisotropy 1−38928
$Co_{73}Mo_2Si_{15}B_{10}$ metallic glass ribbon, induced mag. anisotropy 1−38928
Fe-Co-W semihard mag. alloy, mag. anisotropy *(Japanese)* 1−43544
Fe-Si, induced mag. anisotropy prod. by thermomag. treatment *(Russian)* 1−3170
Gd-Co-Mo sputtered films, perpendicular anisotropy rel. to oxidation during annealing 1−12281
$GdCo_3$ sputtered amorphous film, domain struct. depend on anisotropy 1−34913
$Gd_{21}Co_{79}$ amorphous films, induced mag. anisotropy, mag. field annealing effect *(Russian)* 1−25993
$Ho_3Al_5O_{12}$ garnet, field induced mag. moment and anisotropy 1−34876
$Mn_{1+x}Cr_{2-x}O_4$, spinel system, magnetic properties 1−47878
$NiFe_2O_4$, induced mag. anisotropy at low temp. 1−25928
PrSb, induced moment magnetism, neutron scatt. study 1−30944
$Tb_3Al_5O_{12}$ garnet, field induced mag. moment and anisotropy 1−34876
TbP, paramagnetic, soft modes and mode splitting 1−20350
$Ti_xNiFe_{2-x}O_4$, induced mag. anisotropy at low temp. 1−25928

inductance
p-n junction, secondary breakdown, current channelling, effect of external reactances on channelling stability 1−20867
variable-inductance contactless instrument transducer 1−27949

inductance measurement
ferrite core coils, meas. using direct-reading instrum. 1−40815
frequency counter, using resonance effect *(German)* 1−44951
Henry realization at NPL, self inductance in terms of capacitance and frequency 1−9963
HF mutual inductance bridges with high resolution 1−287
MHD pumps, velocity fluctuations, meas. of secondary inductance 1−299
mutual inductance standardisation resonance bridge with current comparator 1−28034
new bridge configuration 1−9994
standards comparator, inductance and capacitance *(Polish)* 1−5338
steel bar quenching region depth determ. using self induction coefficient of coil wound round bar *(Portuguese)* 1−44950

induction, electromagnetic *see electromagnetic induction*

induction heating
see also electric furnaces
conducting shells, near-surface induction heating electrodynamics eqns. *(Ukrainian)* 1−29525
industrial furnace heat balance calcs. using IR thermography 1−18233
Al_2O_3-SiO_2, fused mullite, variable comp., obtained by induction melting in cold crucible 1−12727

induction motors
DC, unipolar, armature toothed zone geometry effect on operating efficiency *(Russian)* 1−33595

inductor microphones *see microphones*

inductors
see also coils; transformers
natural, new constr. for use as quadrature phase standard 1−36617

industrial atmospheres *see air pollution*

industrial control
see also process control
self-adjusting microwave attenuation and phase shift monitor 1−28024

industrial economics *see economics*

industrial plants
continuous density meas. by vibrating system 1−27933
electric power generation through industrial waste heat recovery by vapour turbine and induction generator 1−26826
heat pumps for industrial and large-scale applications review *(German)* 1−43801
natural gas liquids plant methanol dehydration and freeze protection, m.pt. meas. 1−44937
noise, personal ear protection for industrial hearing conservation programmes, limitations 1−32264
noise diagnosis scheme, plant noise matrix 1−29457

industrial research management *see research and development management*

industrial standards *see standards*

inelastic electron tunnelling spectra *see tunnelling spectra*

inelastic electron tunnelling spectroscopy *see tunnelling spectroscopy*

inert anodes *see anodes*

inert gas compounds
see also argon compounds; helium compounds; krypton compounds; neon compounds; radon compounds; xenon compounds
halide excimer laser system, compact electron beam pumped 1−41745
halide high repetition rate minilaser, operating charact. 1−41666
halide laser, kinetic processes 1−37481
halide lasers, discharge excitation, modelling 1−37482
halide lasers, generation, meas. and utilisation of Xe excimer rad. prod. by nuclear reaction products 1−19327
halide lasers, high-power, fast-discharge system, elec. circuit design 1−41723
halides, transmission line driven lasers, discharge kinetics, collision processes, Boltzmann eqn. soln. 1−37471
halides, vibr. relax. studies 1−29268
halogen UV lasers, appls. in chemical industry *(German)* 1−41716
monohalide formation in transverse AC discharge 1−42242
neutral reactions involving rare gas halide molecules 1−39631
noble gas difluorides, relativistic pot. energy curves, SCF calcs. 1−6186
three-body Van der Waals coefficients, combination rules 1−1298

inert gases
see also argon; helium; krypton; neon; radon; xenon
adsorption, on metals, work function and bonding energy 1−47724
alkali-rare gas molecule, band shape and interaction pot. *(French)* 1−37257
Allende, carbonaceous chondrite, carbyne and inert gas composition and origin 1−44514
annihilation of positrons 1−6389
atom, electrons elastic scatt., phaseshifts, differential, integrated and momentum transfer cross sections 1−33561
atom, positron scatt., low energy meas. 1−6386
atom+CsF molecules rotational excitation, exponential approx. 1−41480
atom+I^-, electron detachment cross section determ. 1−33542
atom+inert gas, interaction pot., Baylis model calcs. 1−14835
atom+$N^+(O^+)$, near-resonant charge transfer processes, metastable states 1−6349
atom+Na, D line broadening, width, shift and asymmetry meas. 1−6206
atom+Sn, collision energy transfer 1−29100
atom scattering from Ag (111) surface 1−21311
atom-alkali atom, pot. calc. using Baylis model for electronic interaction 1−37288
atomic excited levels, dynamic polarisabilities 1−41331
atomic ion+Hg, charge transfer 1−37321
atoms, electronegativity 1−37351
atoms, excited states, photoionisation 1−14853
atoms, interaction pot. parameters, HF calcs. 1−6339
atoms, radioluminesc. mechanism, review *(Portuguese)* 1−24924
atoms, Thomas-Fermi differential equation, improved var. soln. 1−45848
atoms+CO_2(OCS) collinear collisions, vibr. transition probabilities, quantum mechanical calcs. 1−51279
atoms+H_2, distorted wave and close coupling calc. of cross sections above rot. transitions 1−10804
atoms+Li_2, rot. transitions, correspondence principle model, pot. surface 1−6347
carbonaceous chondrites (C3V), origin and inert gas isotope anomalies 1−49582
charge transfer processes 1−37325
condensation of multicomponent vapours in presence of inert gases 1−33885
condensed, localised excitation dynamics from energy, time resolved spectroscopy 1−31163
crystals, nodal surfaces of ψ-function, band struct. calcs. *(Russian)* 1−47427
dense, triplet interactions with multiparameter pot. 1−37295
diffusion of metal atoms, coeffs. calcs. 1−29819
dissociative recomb., vibr. excitation, rate coeffs. 1−46141
Earth atmosphere in primordial times, dissipation of inert gases into space 1−13575
electron beam produced inert gas plasma, emission spectra and short-pulse lasing obs. *(Japanese)* 1−24392
electron impact, autoionisation, Feshbach resonances, electroionisation and photon spectra 1−37332
electron impact excitation of high-orbital angular momentum states 1−24267
equation of state for high press., rel. to fission gas behaviour 1−15569
equations of state, optical data from MFP code 1−19854
equilibrium and transport properties, room temp. up to 1 GPa, dil. gas to solid range 1−38042
excimer laser system, compact electron beam pumped 1−41745
excimer lasers, VUV, operation, charact. and appls. 1−29250
excimers, vacuum UV spectroscopy *(German)* 1−10750
fluids, depolarised light scatt. spectral anal. 1−16575

inert gases continued
fluids, excess electron states theory 1−25137
glow discharge parameters, fluctuations 1−38183
high Rydberg atom inert gas atom collision, expt. probe for electron scatt. 1−41466
inert gas+alkali atom, collisional excitation in quasi-one-electron systems *(German)* 1−14996
inert gas+alkaline earth ion, collisional excitation in quasi-one-electron systems *(German)* 1−14996
inert gas+heavy alkali mixture, longitudinal orientation of electronic spin *(Spanish)* 1−14971
inert gas-Hg mixtures, multichannel discharges caused by anode oscill. 1−42227
ion, 3-body recomb. with F^-, quasiequilib. theory 1−1315
ion entrapment near Mo surface, thermal desorption spectra 1−30543
ion lasers, discharge plasma investigation using the KFPI Fabry-Perot interferometer 1−33660
laser-induced breakdown at KrF laser wavelength, threshold intensity meas. 1−42124
magnetised, ordered and disordered plasma structure obs. 1−7021
matrices, effects on electronic levels of isolated atoms, spectra 1−28902
meteorite composition, gas origin, evidence for presolar matter and superheavy elements 1−36231
mixtures, excimer laser, plasma, current runaway and spatial struct. formation 1−15159
molecular ion+Hg, charge transfer 1−37321
molecular ions, doubly charged, stability, pot. energy curve studies 1−41458
Murchison, carbonaceous chondrite, carbyne and inert gas composition and origin 1−44514
orientationally disordered solid, eqn. of state and internal phonon radiation press. 1−38493
penetration into metal, treated in glow discharge *(Ukrainian)* 1−38642
positive column plasma, medium-press., mol. ion and metastable atoms form., effect on electron temp. 1−11607
positron scatt., momentum transfer cross sections 1−46116
sedimentary rock, trapped noble gas composition 1−49238
solid, mean-square atomic displacements 1−20346
solid, valence excitons, one- and two-photon spectroscopy 1−31164
thermal unimolecular reactions, rate constants, incubation times, collision model, mixture rules 1−21697
trapped gases in meteorites, two types, origin in supernova 1−40439
vacuum pump, rarefied gas anal., meas. oil backstreaming *(French)* 1−32994
Ca+inert gas, collision induced dipole transitions 1−46066
Cs+inert gas, far wing profile, interaction pot. and oscillator strengths *(French)* 1−37154
Cs+inert gases, elastic collision cross section 1−19158
H_2-inert gas mixtures, Raman line vibr. broadening 1−1240
H_2-inert gas mixtures, thermal cond. meas. *(German)* 1−19853
Hg, separator ion source with Penning ionisation, efficiency meas. 1−6975
Hg+Hg (inert gases), spectral profile anal., collision broadening *(French)* 1−37155
I_2-inert gas, van der Waals complexes, vibr. predissociation, energy transfer, local mode anal. 1−29053
Li+inert gas, Li(2p) excitation, photon scattered atom coincidence meas. 1−1343
OCS+inert gas, collisional relax. of vibr. excited OCS 1−10826
Rb^*+inert gas collision, spectral broadening and shift 1−1179
Si:He(Ne)(Ar)(Kr), noble gas-divacancy complexes, electron states, EHT calc. 1−30663

inertial navigation
lateral and spatial, gyrodrifts optimum linear estimation *(Russian)* 1−40783

inertial systems
body force influenced flow computation, inertial relaxation method for numerical stability 1−19676
redundant gyroscopic systems, control moment vector 1−50121

infinite series *see series (mathematics)*

inflammability *see combustion*

information retrieval
see also information storage
numerical data retrieval, techniques and problems, conf., Washington, DC, USA (Sept. 1979) 1−13064
spectroscopy data, computer retrieval, review 1−35583

information retrieval systems
energy policy analysis screening system−a fast information retrieval system 1−39724
Meteorological Office archive of machinable data 1−54251
meteorology, synoptic charts and time-series graphs from Meteorological Office, England 1−54252
quantum chemistry literature data base 1−1073
watershed monitoring, information database development 1−32481

information science
see also publishing
high pressure documentation and data evaluation 1−27693

information services
high pressure documentation and data evaluation 1−27693
IAEA nuclear data programme, role in nuclear community and services to developing countries 1−737
NBS cryst. data products and services, user eval., questionnaire anal. 1−9794
quantum chemistry literature data base 1−1073

information storage
see also information retrieval
Catalogue of Stellar Identifications (CSI), microfiche edition 1−49538
chemical structures, representation by computerisation of simple notation 1−13067
climatological data, quality control and archiving methods for world surface data 1−49396
Meteorological Office archive of machinable data 1−54251
numerical data retrieval, techniques and problems, conf., Washington, DC, USA (Sept. 1979) 1−13064
planetary nebulae, catalogue and bibliographical index on mag. tape and microfiche 1−49539

information storage systems *see information retrieval systems*

information systems, management *see management information systems*

information theory
see also codes; correlation theory; decision theory and analysis; estimation theory; filtering and prediction theory; modulation; signal detection; signal processing; speech intelligibility
annual review of physical chemistry (book) 1−9789
living systems, Gibbs function flows from nucleotide pools 1−39863
molecular reaction dynamics, information theory, review 1−10799
narrow-band free-space links without extraneous noise, quantum bounds on information capacity 1−27813
reactor noise analysis, appl. of information divergence 1−753
remote sensing system for atmospheric press. field, information content anal. *(Russian)* 1−9276
rhesus monkey visual system, neurone signal processing 1−48991
strange attractors, chaotic behavior and information flow 1−40643
weather forecasting, long-range, significance of various types of information 1−22466
HF, $(X^1\Sigma^+)$ state, mol. props. and basis set quality, information theory 1−51091

information use
Meteorological Office archive of machinable data 1−54251

infrared astronomical observations
1218+304 (=2A 1219+305), BL Lacertae object, optical-IR spectrum, spectral flux distrib. 1−54603
V1016 Cygni, absolute spectrophotometry of O I 8446 Å line and Hα 1−54502
Allen's IR source in young cluster NGC 2264, red nebulosity IR obs. 1−13842
Ap and Bp stars, IR excesses 1−54505
Barnard 335, dark dust globule, luminosity and dust mass, radio and IR obs. 1−9630
Barnard 35, molecular cloud, CO emission, IR sources, 2 μm survey 1−49761
Be-stars, near IR spectra 1−27519
44=i Bootis, contact binary, IR light curves from K-band photometry 1−44590
44=i Bootis, IR light curves of contact binary 1−54551
3C 382, broad-line radio galaxy, visual-IR flux vars. 1−40556
ζ Capricorni, bright Ba star, spectrum anal. 1−44561
ρ Cassiopeiae, emission component obs. in circumstellar line profiles 1−49683
Centaurus A (NGC 5128), IR photometry of assoc. globular cluster 1−22849
2060 Chiron, V-band and JHK photometry rel. to surface material comp. 1−44503
Comet Bradfield (1979 X), CN band anal., near IR obs. 1−54421
Comet Bradfield (1980t), perihelion brightening and 1981 Jan. magnitudes 1−32662
cool stars, broad band near IR polarimetry 1−9489
R Coronae Austrinae dark cloud, polarimetric obs. of grain and mag. field props. 1−54577
BC Cygni, 8-13 μm obs. using new spectrophotometer 1−54379
V1016 Cygni, silicate feature shape from 8-13 μm spectrophotometry 1−4923
CH Cygni, symbiotic star, IR energy distrib. and silicate emission excess obs. 1−32706
V1668 Cygni (Nova 1978), visible and IR photometry rel. to optically thin dust shell 1−9499
detect. of forbidden C II 157 μm (1910 GHz) emission line from interstellar gas complex 1−4956
G333.6−0.2, IR emission from nonspherical H II region, blister model 1−22858
galactic near IR sources distrib. *(Japanese)* 1−22923
galactic plane, far IR survey 1−4952
galactic plane IR mapping from 0-320° source identification, 4-27 μm obs 1−54658
Galaxy, central parsec, motion and distrib. of ionized gas in compact clouds 1−36382
Galaxy centre region, K-band obs., polarisation mapping 1−54633
galaxy nuclei, criterion for Seyferts, JHK obs., IR excess interpretation 1−54612
GD 401 (=Gr 451), DB He white dwarf, Ca and Mg abundances 1−49643
ζ Germinorum, visible and near IR spectra of classical Cepheid 1−27520
GL 2613, 2699 and 2901, 8-13 μm obs. using new spectrophotometer 1−54379
globular clusters in M 31, IR photometry 1−22842
HD 112313, G5-type central star of new planetary nebula 339+88°1, IR photometry 1−13703
HD 115473, WR star, circumstellar dust emission, IR photometry and spectra 1−49686
HDE 226868 (Cygnus X-1), IR photometry from 2.3 to 10 μm and mass loss rate 1−36280
Herbig-Haro objects, H_2 emission interpretation 1−22861
89 Herculis (V441 Herculis), BVRI and radial vel. obs., further misdemeanours in light and vel. vars. 1−54487
HFE 2, IR source, mol. cloud dust temp., heating mechanism, IR obs. 1−54584
Hu 2-1 (VV 208), planetary nebula, spectrum in red and near IR 1−27576
Iapetus, brightness temp. and bright side bond albedo from far IR photometry 1−44485
IC 1848 A (W5 E), IR photometry and spectroscopy rel. to star form. 1−44533
interstellar C_2, detect. towards o Persei 1−54576
IRC +30219 (CIT 6), C star, emission line phase with shock spectrum obs. 1−27496
Kleinmann Low Nebula, far IR emission, polarisation interpretation 1−9621
L1551 molecular cloud, low luminosity for IR source discovery 1−22864
BL Lacetae objects, colours, JHK photometry 1−54656
late-type emission-line stars, photometry in 1.47 to 2.39 μm range 1−22814
lunar maria, absolute meas. of apparent temp. in IR *(French)* 1−4791
Lynds 43, mol. cloud, IR source, dust temp., heating mechanism, IR obs. 1−54584
α Lyra (Vega), meas. of absolute flux in K-band (2.2 μm) 1−4913
β Lyrae, He I 10830 Å emission line obs. rel. to circumstellar envelope radiation *(Russian)* 1−17876

infrared astronomical observations continued
M3, M13, globular clusters, chemical abundances in red giant stars 1−44597
M82, medium resolution spectra from 16 to 30 microns 1−49810
M 31, IR photometry of semistellar nucleus 1−22877
M 31, M 81 and M 94, Fe-peak abundances in nuclei, IR spectra 1−22876
M-type giants, late, in Magellanic Clouds, identification, coords., photometry and spectral obs. 1−49803
M-type stars, comparisons of temp. classes obtained by spectroscopic and photometric techniques 1−54485
M-type supergiant and giant stars in LMC, coordinates, finding charts and VRI photometry 1−49540
Magellanic Cloud globular clusters, red stars photometry and spectra 1−9493
Magellanic Clouds globular clusters, intermediate age, obs. of extended giant branches 1−9586
Markarian 10, struct. and brightness, halo search, IR, UV and visible obs. 1−54615
Markarian 501, BL Lacertae object, emission mechanism, X-ray to SHF obs. 1−54609
Milky Way, far IR survey from Sagittarius to Cygnus rel. to vars. in star form. rate and initial mass function 1−54618
NGC 1068, extended 20 μm emission from nucleus of Seyfert galaxy 1−22895
NGC 1068, Seyfert galaxy, medium resolution spectra from 16 to 30 microns 1−49810
NGC 2026, detect. of forbidden C II 157 μm (1910 GHz) emission line from interstellar gas complex 1−4956
NGC 4151, Seyfert galaxy, IR emission feature due to dust thermal emission 1−44632
NGC 6752, globular cluster, chemical abundances in red giant stars 1−44597
NGC 7000-IC 5070 (North America-Pelican nebula complex), possible exciting star discovery from IR obs. 1−36370
NGC 7027, 8-13 μm spectrum depend. on position in nebula 1−49752
NGC 7027, planetary nebula, dust, far IR emission line and continuum obs. 1−49744
NGC 7027, planetary nebula, O VI and Ne V forbidden IR emission line detect. 1−13835
NGC 7538, H II region, H_2 IR emission obs. 1−4955
Nova Cygni 1980, IR mags. (1980 December 13) 1−27526
Nova Cygni 1980, precise posns. and IR photometry 1−27524
Nova Cygni 1980, probable nova semi-accurate position and BVRI photometry 1−27521
Of and Be stars, near IR spectra up to 1.1 microns 1−49691
OH-IR stars, mass loss and luminosity determ., IR and VHF obs. 1−9496
Orion Nebula, detect. of CO J=21→20 (124.2 μm) and J=22→21 (118.6 μm) emission 1−9629
FU Orionis stars, medium resolution spectroscopy at 1 to 2 microns 1−49630
Periodic Comet Schwassmann-Wachmann 1, V-band and JHK photometry, (1980 December to 1981 February) 1−44503
PHL 5200, quasar, spectropolarimetry in visible and near IR 1−54654
faint photometric standard stars in E-regions, VRI obs. 1−27564
RX Puppis, spectroscopic evidence for return to symbiotic character 1−32707
QSO 2141+174 (=OX 169), Balmer line profiles self absorpt. UV to IR obs. 1−44664
QSO candidates of neutral colour, IR, UV, visible spectra obs. 1−49843
QSOs, variable and non-variable, JHK photometry, relevance to IR Hubble diagram 1−54656
quasars, IR and optical obs. of H lines 1−54651
quasi-stellar objects, optical and IR spectrophotometry of 14 QSOs 1−54650
Sagittarius A West, far IR O III forbidden line emission 1−22893
Sagittarius A West, source nature grain models 18 μm extinction and 16-30 μm spectra 1−49835
Saturn, PH_3 and trace constituents abundance, IR spectral obs. 1−9415
Saturn rings near IR reflectance spectrum obs., interpretation 1−22720
Sharpless 187 and 255, far IR obs. of molecular clouds 1−54592
shergottites, similarity to Vesta, IR spectra study 1−27434
SN (Evans) in NGC 1316, spectrum and JHK magnitudes (1981 March 12 to 25) 1−54532
solar line profiles, investigation of spectra obtained with double-pass monochromator *(Russian)* 1−9458
spectroscopic binary stars, obs. in near IR rel. to spectral classification of cool companions *(Russian)* 1−17877
spiral galaxies, props. of spiral arm spurs 1−40554
SS 433, far-red spectral scans 1−9515
SS 433, variability of light polarisation 1−9532
stars occulted by Neptune, 1981-1984, RI photometry 1−40418
stars occulted by Uranus, 1981 to 1984, RI photometry 1−40419
stars of early type, C III 9701-9718 Å multiplet 1−49637
stellar spectra, medium resolution obs. and classification criteria at 1 to 2 microns 1−49630
Sun, corona ring structure, IR obs. during eclipse 1−49595
Sun, detect. of 160-minute IR intensity vars. and search for sampling effect 1−17802
Sun, supergranule velocity field 1−4847
supergiant red variables in LMC, IR photometry rel. to period-luminosity relation 1−13779
supernova in NGC 4536, JHK photometry and visual magnitude estimate (1981 March 12 to 22) 1−54531
supernova remnants, far-IR emission from Tycho, Kepler and Cassiopeia A 1−22866
V711 Tauri (HR 1099), RS Canum Veneticorum binary star, TiO band system obs. rel. to starspot hypothesis 1−4940
T Tauri stars, Ca II IR triplet, visible and IR spectral obs. *(Russian)* 1−4911
T Tauri stars, obs. and interpretation of near IR line spectra 1−44549
Titan, brightness temp. and effective temp. from far IR photometry 1−44485
Venus IR polarisation at several phase angles, H_2SO_4 cloud model interpretation, IR obs. 1−40368
W3 region, high ang. resolution far IR obs. 1−44653
W3-IRS 5, forming O-type star, total luminosity from high ang. resolution far IR obs. 1−44653
W3-W4 region, star formation and embedded near-IR stars 1−22771
W3/4, large scale far IR struct., 60-120 micron obs. 1−9598

infrared astronomical observations continued
W51, strongest radiocontinuum region, IR map and new sources, JHKL photometry obs. 1−44655
Wolf-Rayet stars, catalogue of low-resolution spectra 1−49537
young stars with circumstellar envelopes, photometric study of H_2O absorpt. bands in near IR 1−22799
C stars, spectral classification criteria for $^{12}C/^{13}C$ ratio determ. 1−54500
C stars in Fornax dwarf spheroidal galaxy, IR spectroscopy 1−22792
C stars in Magellanic Clouds, luminosity distrib., identification charts, coords., photometry and spectral obs. 1−49803
H II regions, O III, O I and N III fine struct. lines obs. by far IR spectroscopy 1−17888
H II/molecular cloud complexes in southern hemisphere, 1.0 mm maps and radial density distribs. 1−13823
H_2, interstellar S(9), ν=0→0 rot. line detect. in Orion, IR obs. 1−49778
H_2O maser-assoc. IR objects in active star formation regions 1−54588
OH/IR supergiants, circumstellar envelopes, NH_3 absorption line obs. 1−22802

infrared astronomy
see also infrared sources (astronomical)
cosmic microwave background fine-scale anisotropy measurement, far IR techniques appl. 1−9741
daytime IR observation, water content and transparency of daylight atmosphere near large astronomical telescope 1−9247
detectors and imaging systems, thermal fluctuation improvements and applications 1−36738
extraterrestrial molecules, obs. in UV and IR from space 1−54370
far IR astronomy, appl. of Ge:Sb photometer to obs. of CO emission from Orion Nebula 1−9629
filters for far IR studies on Galileo-Jupiter and other missions 1−40350
Fourier spectrometer for airborne and ground-based astron. 1−36178
galactic plane, far IR survey 1−4952
interstellar dust cloud, UV, visible and IR optical depths calc. 1−40550
interstellar dust IR absorption spectra, comparison with silicates, carbonaceous chondrites and carbonates 1−35974
Large Aperture Telescope for IR and submillimetric astronomy 1−49512
lunar maria apparent temperature, absolute meas. in IR *(French)* 1−4791
near-IR spectral imaging Michelson interferometer 1−27398
photometer, for IR astronomy appls., design and construction *(Spanish)* 1−9375
planetary systems detect. by IR intrinsic thermal radiation 1−40532
point source location, coherent and incoherent IR imaging accuracies compared 1−27360
signal processing with zodiacal light background 1−40356
spectrophotometer for 8-13 μm obs. of late-type objects 1−54379
spectroscopic binary stars, obs. in near IR rel. to spectral classification of cool companions *(Russian)* 1−17877
stellar IR photometry method of determining absolute flux from α Lyrae (Vega) in K-band (2.2 μm) 1−4913
stellar spectral classification by photoelectric measurements of mol. bands, current status and future prospects 1−49632
stellar spectroscopy, medium resolution, at 1 to 2 microns, classification criteria 1−49630
submillimetre photometer, f/35, for NASA IR Telescope Facility, 350 μm to 2 mm passband 1−49525
UK IR telescope in Hawaii 1−44433
wide-field high-resoltuion low-scatter IR imaging system design 1−27359
X-ray burst sources and transients, coordinated optical, IR, radio and X-ray obs. in (1981) 1−36192
^{3}He portable cryostat for astrophysical IR bolometers 1−49518

infrared communication *see optical communication*

infrared detectors
see also bolometers; photodetectors
adiabatic demagnetisation, tempt. stabilised, for space appl. 1−36664
astronomical IR receiver, appl. to absolute meas. of lunar maria apparent temp. *(French)* 1−4791
atmospheric effects on InSb detector *(Hungarian)* 1−50205
black coatings with high elec. resist., for IR and visible detectors 1−37564
blast furnace burden surface temp. distrib. monitoring using Spirotherm IR sensor 1−27980
BLIP detectors, optical system for flexible matching of telescope 1−37578
calibration with spectral analysis microcomputer *(German)* 1−45020
direct capacitive coupling of IR detectors to CCD multiplexers 1−5378
dual spectral band IR thermoratioscope 1−263
extrinsic charge-extraction device, extrinsic-Si focal plane array architecture 1−5380
focal plane architecture, review 1−5377
focal plane array technology, review 1−5390
focal plane integration, visible and IR assemblies 1−5384
focal plane manufacturing and evaluation 1−5393
focal plane technology, conf., Los Angeles, CA, USA (Feb. 1980) 1−5376
focal-plane CCD signal processing circuits 1−5382
fork-shaped Darlington-pair photosensor for polluted environment *(French)* 1−32071
Fourier transform spectrometry, detector port radiation effect on insertion loss determ. 1−36746
GaInAs lattice matched to InP, high-speed photoconductive detectors to 1.6 μm 1−45016
integrated focal plane array approach to large area IR focal plane architecture 1−5379
integrated focal plane array design for optimum IR imaging performance 1−24517
IR/CCD focal planes, principles and practice 1−5383
laser output measurement detectors, recent developments and problems 1−29291
magneto-optic modulator, IR meas. appl. 1−5307
MIS radiation effects for IR focal plane arrays 1−5396
MOM contact wideband IR frequency detector and heterodyne mixer 1−45018
multichannel space-time analyzer for laser radiation, energy calibration 1−37523
nuclear and space radiation effects 1−5395
overheating of axle detector and indicator *(German)* 1−50210
parametric frequency conversion for IR detector, pump fluctuations influence on sensitivity 1−33057
photoacoustic method of detecting pulsed radiation energy 1−346
photoconductive detector, relative performance in const. current, voltage bias modes 1−36734

infrared detectors continued
planar multimode detector arrays for infrared and millimeter-wave applications 1−45017
pyroelectric, bulk-absorbing, with edge electrodes, response analysis *(Chinese)* 1−45005
pyroelectric detectors, S/N ratios, temp. resolution, range *(German)* 1−10015
pyroelectric IR detection and imaging, ferroelec. materials, review 1−5375
pyroelectric/CCD hybrid focal plane 1−5401
quantum detectors for infrared imagery *(French)* 1−23308
quantum device, operational price of high speed and performance 1−50202
quantum efficiency expressions for transverse longit. detectivity of non-background limited IR detectors 1−18297
quantum efficiency for transverse, longit. responsivity and detectivity, light attenuation effect 1−18296
reciprocal tracking laser communicator 1−41879
signal processing under zodiacal light background 1−40356
spectroradiometric apparatus for testing IR receivers 1−327
stabilized balanced optical detector 1−40856
staring IR focal planes, problems in meas. performance 1−5394
tactical IR imaging detector array criteria 1−24523
temperature reference radiation sources *(Hungarian)* 1−44984
temperature sensor use 1−18224
TGS:L-α-alanine pyrodetector for IR radiometers in unmanned interplanetary space stations 1−10016
TGS crystal preparation for pyroelectric thermal detector appls. 1−26378
thermal fluctuation improvements and applications 1−36738
thermal imaging system utilising pyroelectric detector arrays with solid-state readout techniques 1−5402
touchless IR temp. sensor by Sanyo, −80 to +1500°C *(German)* 1−18295
trends and appls. *(French)* 1−23307
$Cd_{0.21}Hg_{0.79}Te$, generation-recomb. noise 1−20834
CdSe-FTIROS containing IR visualizer 1−347
GaAlAsSb quaternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
GaAlSb ternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
$Ga_{1-x}Al_xSb$ avalanche photodiodes, resonant impact ionisation 1−47737
GaAs FET, for high gain optical detection 1−45003
GaInAs-InP avalanche photodetectors, low dark-current high gain 1−45014
$Ga_{0.47}In_{0.53}As$-InP heterophotodiode with reduced dark current, good photoresponse 1.0 to 1.65 μm 1−45013
GaInAsP avalanche photodiode for guided wave optical signal processing 1−37634
GaSb, low net donor conc., LPE growth for detector appls. in 1.3 to 1.6 μm region 1−48279
Ge n^+np avalanche photodiode, low-noise, performance in 0.8 to 1.5 μm region 1−45006
Ge-Au IR receiver, liquid N_2 cooled *(German)* 1−5313
(Hg,Cd)Te materials technology for IR image sensors, advances 1−39228
HgCdTe CCD detectors 1−5385
HgCdTe hybrid focal plane arrays, infrared imaging system 1−5398
HgCdTe mosaic arrays for hybrid focal plane appls. 1−5397
HgCdTe p-n photodiode, temporal and freq. responses 1−45021
HgCdTe photoconductive detector, relative performance in const. current, voltage bias modes 1−36734
HgCdTe wide-bandwidth photodiodes, CO_2 laser heterodyne performance 1−40853
HgCdTe/CCD self-scanned detector array thermal imaging system 1−24513
$Hg_{0.8}Cd_{0.2}Te$ photodiodes, wide bandwidth, DC and CO_2 laser heterodyne characts. 1−40855
$Hg_{0.8}Cd_{0.2}Te$:B n^+-p photodiodes, elevated temp., moderate bandwidth CO_2 laser heterodyne meas. 1−40854
$Hg_{1-x}Cd_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
$Hg_{1-x}Cd_xTe$ p-n junction diode elec. characts., tunnel contrib. 1−20859
InAsSb hybrid focal plane arrays 1−5399
InGaAs-InP avalanche photodiodes with separated absorpt. and multiplication regions, improved characts. 1−45011
InGaAs-InP avalanche photodiode with LPE and VPE layers, separated absorpt. and multiplication regions 1−45012
InGaAs-InP p-i-n photodiodes for lightwave communications, 0.95 to 1.65 μm wavelength 1−45009
$In_{0.53}Ga_{0.47}As$ photodiode characts. 1 to 1.7 μm, low dark current and low junction capacitance 1−45008
InGaAsP-InP photodiode monolithic 1×10 array, small dark current and uniform responsivities 1−45010
$In_xGa_{1-x}As_yP_{1-y}$ photodiodes with dark current limited by diffusion, generation recomb. and tunnelling 1−45007
InP-InGaAs heterojunction phototransistors, photoresponse 0.95 to 1.6 μm 1−45015
$LiNbO_3$ pyrodetector for IR radiometers in unmanned interplanetary space stations 1−10016
Nb, thin film microbridge under vortex flux flow, IR radiation detection 1−18300
PbS mosaic array, pulse-bias modulation 1−36737
$Pb_{1-x}Sn_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
$Pb_{1-x}Sn_xTe$ p-n junction diode elec. characts., tunnel contrib. 1−20859
$Pb_{1-x}Sn_xTe$, photovoltaic detectors, minority carrier lifetimes, resist.-area product 1−38807
Pt_2Si Schottky barrier detectors, monolithic IR CCD focal planes 1−5386
Si:In focal planes, hybrid, interconnected to direct injection multiplexer 1−40858
Si_xGe_{1-x} wavelength-selective IR detector 1−50203
Si_3N_4 epitaxial and pyrolytic deposition, temp, meas. using RADIAMATIC pyrometer 1−27984

infrared imaging
10 μ reflective Cassegrain scanning catadioptric system design 1−24519
astronomical near-IR spectral imaging Michelson interferometer 1−27398
astronomical point source location, coherent and incoherent IR imaging accuracies compared 1−27360
astronomical wide-field high-resoltuion low-scatter IR imaging system design 1−27359
infrared imaging continued
atmospheric temperature and humidity, remote single-ended meas. at 1.77 μm using continuously tunable source 1−9286
biomedical computer/thermograph interface improvement 1−8957
biomedical system for diagnostic thermography 1−8969
biomedical thermograms of bone and joint pathology, computer processing 1−8970
breast thermographs, direct meas. and on-line automatic interpretation 1−43943
derotation system for real time temp. patterns obs. on rotating components 1−41872
dielectric-loaded waveguides, electrical characts. for microwave thermography and local hyperthermia 1−43939
dual active/passive IR imaging systems 1−24518
Earth resource pushbroom scanner using 90-element 8-14 μ HgCdTe array 1−24514
electrothermographic characts. of polymers, humidity and ambient temp. effects 1−18322
evaluation of IR images *(Hungarian)* 1−50204
extrinsic charge-extraction device, extrinsic-Si focal plane array architecture 1−5380
far IR image conversion using free thin oil films 1−1719
flow visualisation in solar collectors using thermographic analysis 1−39827
focal-plane CCD signal processing circuits 1−5382
heat transfer processes in transparent media, thermograms *(Hungarian)* 1−51694
horizons in optics, conf., Pont-a-Mousson, France (Apr. 1980) 1−22942
image segmentation based on second-order statistics 1−33629
industrial furnace heat balance calcs. 1−18233
integrated focal plane array design for optimum IR imaging performance 1−24517
interferometric refractive index variation meas. in IR transmitting materials at 10.6 μm 1−10010
laboratory evaluation of thermal imaging systems 1−41874
laser imaging for publishing, comparison with photomaterials, review 1−37573
liquid crystal target, transient thermal behaviour 1−41871
literature survey of IR imaging and thermovision *(German)* 1−23311
medical optics and photonics, conf., Strasbourg, France (Nov. 1979) 1−5022
medical thermovision, Soviet, apparatus and results 1−8974
metal, photothermal transmission probing of subsurface struct. and thickness meas. 1−18219
microcomputer system for controlling an infrared scanning camera 1−44915
nomenclature for focal surface radiometry 1−36719
ocean surface thermal fronts, Mediterranean, NOAA5 satellite imagery *(French)* 1−32444
passive IR imaging system errors due to reflected ambient flux 1−24520
passive visible to IR image transducer for dynamic simulation 1−24524
photographic quality of IR radiation fields using ZnS-Cu, Co-luminophores *(Russian)* 1−28101
polycarbonate, thermal effects in necking, IR camera study 1−53233
polyethylene, thermal effects in necking, IR camera study 1−53233
polypropylene, thermal effects in necking, IR camera study 1−53233
polystyrene, pure and doped, electrothermographic behaviour 1−14199
pyroelectric IR detection and imaging, ferroelec. materials, review 1−5375
quantum detectors for infrared imagery *(French)* 1−23308
ray tracing programs for thermal imaging scanner, moving lens and mirror modelling 1−41873
refracting afocal systems in thermal imagers 1−33788
remote aerosol IR signature simulation model 1−27250
sea surface temps. along coast of Senegal and Mauritania, METEOSAT data in thermal IR band 1−27320
signal processing under zodiacal light background 1−40356
spectral imaging with Michelson interferometer 1−24512
staring mosaic sensor system design 1−24516
staring thermal imagers, low-power compensation technique for fixed pattern noise 1−5392
system simulation model 1−24521
systems technology, seminar, Washington, DC, USA (April 1980) 1−22947
tactical IR imaging detector array criteria 1−24523
temperature pattern classification based on tree-root structure 1−27987
thermal fluctuation improvements and applications 1−36738
thermal imaging system utilising pyroelectric detector arrays with solid-state readout techniques 1−5402
thermal sensing instrums. for energy conservation 1−23234
thermography, microwave, tissues diagnosis based on thermal noise meas. *(French)* 1−35859
trends and appls. *(French)* 1−23307
wide-field pushbroom or whiskbroom scanning imagers 1−24515
Ge lens performance improvement for use in thermal IR 8-13 μm waveband 1−6632
(Hg,Cd)Te materials technology for IR image sensors, advances 1−39228
HgCdTe hybrid focal plane arrays, infrared imaging system 1−5398
HgCdTe monolithic focal plane array structures 1−5381
HgCdTe mosaic arrays for hybrid focal plane appls. 1−5397
HgCdTe/CCD self-scanned detector array thermal imaging system 1−24513
InAsSb hybrid focal plane arrays 1−5399
InSb monolithic charge injection devices, fabrication and evaluation 1−5389
PbS-Si heterojunction, photovoltage responses, IR imaging appl. 1−30785
Pt_2Si Schottky barrier detectors, monolithic IR CCD focal planes 1−5386
Si wafers testing, interference effects suppression by doping with As 1−7188

infrared-infrared double resonance *see optical double resonance*

infrared radiometers *see radiometers*

infrared sources
coherent tunable IR sources, near and middle IR range, props. and appls. 1−1638
lasers used in atm. pollution monitoring 1−8787
nonlinear interactions for tunable IR radiation generation 1−46457
temperature calibration of IR radiation source 1−9986
Ba vapour, efficient near IR generation by four-wave mixing 1−29344
CO_2 light-weight flyable laser beacon development, modulation rate capability 1−41734

infrared sources continued
Cs vapour, tunable IR generation using 6s-5d Raman transition 1−29342
K vapour, stimulated electron Raman scatt., IR emission props. 1−46451
NO, diagnostic source between 1000 and 1600 nm, using YAG Nd laser and simple Raman conversion, description and appl. 1−51545
O_2, diagnostic source between 1000 and 1600 nm, using YAG Nd laser and simple Raman conversion, description and appl. 1−51545

infrared sources (astronomical)
AGFL 2591, protostar, 2-4 μm narrow band polarimetry 1−54659
Allen's source in young cluster NGC 2264, red nebulosity IR obs. 1−13842
Ap and Bp stars, IR excesses 1−54505
in Barnard 35 molecular cloud, CO emission, IR sources, 2 μm survey 1−49761
Becklin-Neugebauer object, protostar, 2-4 μm narrow band polarimetry, ice particle identification 1−54659
3C 382, broad-line radio galaxy, visual-IR flux vars. 1−40556
Cepheus OB3 molecular cloud IR source, radio continuum emission obs. 1−54493
CH Cygni, symbiotic star, IR energy distrib. and silicate emission excess obs. 1−32706
V1668 Cygni (Nova 1978), optically thin dust shell obs. 1−9499
detect. of forbidden C II 157 μm (1910 GHz) emission line from interstellar gas complex 1−4956
G333.6−0.2, IR emission from nonspherical H II region, blister model 1−22858
galactic centre, 2.4 micron emission inhomogeneities, interstellar extinction interpretation 1−9658
galactic near IR sources distrib. *(Japanese)* 1−22923
galactic plane, far IR survey of discrete sources and diffuse emission 1−4952
galactic plane IR mapping from 0-320° source identification, 4-27 μm obs 1−54658
galactic sources, 2.5-4 micron spectra, evidence for organic interstellar grains 1−13824
galaxies, dust shrouded, luminosity functions 1−49785
galaxies in X-ray clusters, radio and IR spectra prediction 1−36405
GL 2613, 2699 and 2901, 8-13 μm obs. using new spectrophotometer 1−54379
GL 2789 and 2139, H_2O maser sources, SHF obs. 1−54579
HD 20775, Herbig Be star, IR energy distrib. rel. to circumstellar envelope and mass loss rate 1−17850
HFE 2, IR source, mol. cloud dust temp., heating mechanism, IR obs. 1−54584
IC 1848 A (W5 E), evidence for star form. from IR photometry and spectroscopy 1−44533
interstellar amorphous grains, far IR emission efficiency, wavelength depend. 1−9623
interstellar clouds, collisional and IR radiative pumping of mol. vibr. states rel. to CO IR bands emission 1−27573
interstellar clouds, UV pumping of mol. vibr. states rel. to CO bands IR emission 1−27574
interstellar dense clouds, dust grains thermal radiation as cloud cooling mechanism *(Russian)* 1−49779
interstellar dense molecular clouds, energetics rel. to radio and IR emission *(Italian)* 1−9638
interstellar mol. clouds−H II region complexes, IR/radio flux ratio rel. to stellar mass function vars. 1−54618
IRC+10011, OH-IR star, circumstellar OH shell diameter, UHF obs. 1−44568
IRC 10442 (GL 5268-S), CO obs. 1−9720
IRC +30219 (CIT 6), C star, emission line phase with shock spectrum obs. 1−27496
IRS5, in W3, obs. of assoc. point radio source at 2.7 and 15.4 GHz 1−13873
Kleinmann Low Nebula, far IR emission, polarisation interpretation 1−9621
Kleinmann-Low nebula, nature 1−4963
in L1551 molecular cloud, low luminosity for IR source discovery 1−22864
late-type emission-line stars, photometry in 1.47 to 2.39 μm range 1−22814
Lynds 43, mol. cloud, dust temp., heating mechanism, IR obs. 1−54584
M82, medium resolution spectra from 16 to 30 microns 1−49810
Milky Way, far IR survey from Sagittarius to Cygnus rel. to vars. in star form. rate and initial mass function 1−54618
NGC 1068, Seyfert galaxy, medium resolution spectra from 16 to 30 microns 1−49810
NGC 2026, detect. of forbidden C II 157 μm (1910 GHz) emission line from interstellar gas complex 1−4956
NGC 6334, model involving IR echo of supernova in dust cloud 1−44579
NGC 7000-IC 5070 (North America-Pelican nebula complex), possible exciting star discovery from IR obs. 1−36370
NGC 7538, H II region, H_2 IR emission obs. 1−4955
Nova Cygni 1980, IR mags. (1980 December 13) 1−27526
novae, dust shells optical depths in IR 1−9517
OH 26.5+0.6, interpretation in terms of polysaccharides 1−13826
OH-IR stars, mass loss and luminosity determ., IR and VHF obs. 1−9496
Orion KL, detect. of methyl formate, EHF and UHF obs. 1−44613
Orion Nebula, detect. of CO J=21→20 (124.2 μm) and J=22→21 (118.6 μm) emission 1−9629
point source location, coherent and incoherent IR imaging accuracies compared 1−27360
quasars, Alfven wave driven cyclotron corona as model for nonthermal IR radiation 1−27630
reflection nebulae in far IR, model 1−49745
Sagitarrius A West, source nature grain models 18 μm extinction and 16-30 μm spectra 1−49835
Seyfert galaxies, IR luminosities and contrib. to cosmic background radiation in IR range *(Polish)* 1−32776
star formation regions, IR objects near H_2O masers 1−54588
stars in two-micron sky survey, CO microwave emission obs. 1−40478
supernova remnants, far-IR emission from Tycho, Kepler and Cassiopeia A 1−22866
supernovae of Type II, IR emission by dust grains in circumstellar shell 1−4927
W3 region, high ang. resolution far IR obs. 1−44653
W3-IRS 5, forming O-type star, total luminosity from high ang. resolution far IR obs. 1−44653
W3-W4 region, star formation and embedded near-IR stars 1−22771
W51, new IR sources in KL bands 1−44655
X-ray binary MXB 1730−333 in globular cluster Liller I, IR bursts 1−9729
X-ray burst sources and transients, coordinated optical, IR, radio and X-ray obs. in (1981) 1−36192
young stars with circumstellar envelopes, photometric study of H_2O absorpt. bands in near IR 1−22799
H II regions, O III, O I and N III fine struct. lines obs. by far IR spectroscopy 1−17888
H II/molecular cloud complexes in southern hemisphere, 1.0 mm maps and radial density distribs. 1−13823
OH/IR stars, circumstellar OH masers struct. from VLBI obs. 1−49836
OH/IR stars, OH and H_2O maser obs., Mira-type variables 1−9525
OH/IR supergiants, circumstellar envelopes, NH_3 absorption line obs. 1−22802

infrared spectra *see infrared spectra of diatomic inorganic molecules; infrared spectra of inorganic solids; infrared spectra of organic molecules and substances; infrared spectra of polyatomic inorganic molecules; spectra of inorganic liquids and solutions*

infrared spectra of diatomic inorganic molecules
band intensities of fundamental and overtone transitions, H bonding effect 1−45948
diatomic molecules, rattling motion in β-quinol clathrates, IR absorpt. obs. 1−6250
dipolar solutes, microwave and far IR spectra, mol. dynamics anal. 1−1233
As, repulsive states, predissociation pot. curves, mol. vibr., IR obs. 1−14882
CO adsorbed on Cu (100), isotopic mixture, collective vibr. modes, IR spectra 1−28971
CO, adsorbed on $Rh/SiO_2(TiO_2)$, catalytic reduction of NO 1−26766
CO, adsorbed on Ru (001), IR absorpt. spectrum 1−48093
CO, adsorption on Ni (110), IR ellipsometric spectroscopy study 1−8078
CO, chemisorbed on Cu(111) surface, IR spectra, dipole coupling effects 1−8054
CO, chemisorbed on Rh supported by Al_2O_3, IR spectra, temp. effect 1−8609
CO IR bands, interstellar, collisional and IR radiative pumping of mol. vibr. states 1−27573
CO in ρ Cassiopeiae, circumstellar line profiles emission component obs. 1−49683
CO, infrared radiation of molecules vibrationally excited in 4.7 μm band 1−37210
CO Ir bands, interstellar, role of UV pumping of mol. vibr. states 1−27574
CO on Ni evaporated film IR spectra, low temp. thermal detection technique 1−26209
CO, spatially resolved IR absorpt. meas., optical Stark effect 1−51208
CO_2, 10.6 μ absorpt. coeff. at high temps. 1−6256
$^{12}C^{16}O+N_2(Ar)$, line strength and collisional widths, tunable IR diode laser meas. 1−10785
CeO, laser induced fluoresc. expt., relative energies of low lying electronic states, vibr. freq. 1−41417
CrH in sunspot spectrum, $^6\Sigma^+$-$^6\Sigma^+$ IR system 1−9456
CuO electronic states, IR vibr. const. by laser induced fluoresc. 1−37209
H_2 adsorbed on SiO_2, IR spectra observation using vacuum cell 1−44944
H_2, heterolytic dissoc. on thermally activated MgO powder surface, IR obs. 1−21782
HCl+HF and HF+HCl systems, press. induced spectral line shifts 1−51246
HF vibr. rot. distrib. and IR chemiluminesc., prod. from F+HCL(HBr)(HI) 1−4062
$HF+Ar(CO_2)$, HF J=0-1 rotational line shape and param. *(French)* 1−51245
HF+Ar(Ne), HF band IR spectral line collisional narrowing 1−1283
I_2, dissociative states, two- and three-photon absorpt., UV, visible and IR emission 1−46047
I_2, ground vibr. level, dissoc. energies, Franck-Condon factors, IR obs. 1−45951
N_2-SF_6 mixtures, simultaneous IR transitions 1−37189
NO, adsorbed on $Rh/SiO_2(TiO_2)$, catalytic reduction by CO 1−26766
NO, atmospheric lines in balloon-borne IR solar spectra, identification 1−17687
NO-N_2 mixture, line strength and broadening, rot-vibr. anal., IR diode laser obs. 1−19092
NO-N_2-H_2O mixture, rot.-vibr. anal., IR diode laser obs. 1−19092
NS radical, IR diode laser spectroscopy 1−37194
$^{15}N^{16}O$, overtone bands, mol. consts. in IR spectra 1−1208
$^{15}N^{18}O$, overtone bands, mol. consts. in IR spectra 1−1208
O_2 singlet in solns., photosensitised luminesc. in IR region 1−14954
O_2, stratosphere composition, IR emission spectra from balloons and satellites 1−17672
OH, IR and Raman stretching bands, H-bonded, elec. anharmonicity effect 1−37208
SD free radical, IR laser mag. reson. detection 1−24148
SD radical, IR laser mag. reson. obs. 1−24149
SH, IR and Raman stretching bands, H-bonded, elec. anharmonicity effect 1−37208
SeD ($X,^2\Pi_{3/2}$), IR laser mag. reson. spectrum 1−6247
SeO, a-X electronic band system, IR emission spectra 1−37195
SeO, vibr.-rot. transitions, IR laser mag. reson. spectra, mag. hyperfine interaction 1−46000
TiN, matrix isolation Fourier transform IR spectra 1−51193
ZrCl, IR band system anal. 1−4759

infrared spectra of inorganic solids
alkali halides, IR absorption coefficient 1−31116
alkali halides, lattice dynamics calcs., phonon dispersion, specific heat, Raman and IR spectra 1−47188
alkali metal cpds., $AH_3(SeO_3)_2$, H-bonded, near IR spectra, inter- and intra-proton tunnelling 1−26184
alkali metal peroxydisulphates, solid state vibrational spectroscopy, TGA and DSC, thermal decomposition 1−35028
alkali silicate glass surfaces after reaction with water, IR spectra study 1−21190
alkali silicate glasses, F-containing, IR spectra and struct. 1−31140
alkali silicate glasses, hydrated, synthesis kinetics and props. of products 1−31412
aluminoborosilicate glass:ZrO_2, struct. IR and EPR obs. 1−21199

Infrared spectra of inorganic solids continued
borate glasses, S-doped, coloured and colourless, chromophores identity, Raman spectroscopy 1−21189
carbonaceous chondrite meteorites, IR spectra compared with interstellar dust absorpts. 1−35974
carbonates, amorphous, IR spectra compared with interstellar dust absorpts. 1−35974
citrine, natural, smoky quartz centres, EPR, IR spectra, thermoluminesc. meas. 1−26035
covalent semiconductors IR Faraday rotation 1−16545
diamond, N_2 impurities, mol. form. of impurities from IR absorpt. spectra 1−48123
diamond, synthetic films, H occurrence, IR spectroscopy 1−8080
disordered chains, vibr. state density calcs., IR and Raman spectra 1−43122
E-glass fibre, hydrolytic stability of silane coupling agents, Fourier transform IR spectroscopic study 1−39488
electrode-electrolyte interface, IR specular reflectance spectroscopy 1−35045
ferromagnetic semiconductor, simple two band s-d model with hybridisation, optical props. 1−43137
film, photoacoustic meas. of low-level absorpt. 1−48177
fluoroborate glasses, Tb activated, magnetooptical charcts. 1−43099
gallates, M_2O-Ga_2O_3, M=Na, K, Rb, Ag, Tl, superionic cond., lattice vibr. modes, IR and Raman spectra 1−3404
garnet films, absorption spectra by guided-wave optical spectroscopy 1−48179
glass, corrosion, surface and solution analytical techniques 1−16930
glasses, silicate, hydrated, nature of incorporated water 1−2636
graphite, intercalation compounds, lattice dynamics 1−34441
graphite intercalation compounds with Br_2, $AlCl_3$, $SbCl_5$, intervalence transitions and IR reflectivity 1−47584
graphite-$SbCl_5$ intercalation cpd., optical reflection studies of electronic props. 1−48094
greenhouse glasses with selective transmission of photosynthesis active radiation, thermal and optical props. 1−29363
highly transparent solids, laser wavelength modulation spectrometer for window absorption meas. 1−28077
IR spectra 1−12499
IR transparent material spectroscopic small loss meas. near 10 μm 1−18310
kaolin minerals, IR spectra classif., mineralogical aspects of KAKINO kaolin *(Japanese)* 1−48087
kaolin minerals, IR spectra classif. of kaolinite and halloysite *(Japanese)* 1−48086
metal cylinder, EM energy absorpt., 0.4 to 12 μm range 1−41574
metallic small particles, for IR absorpt., electric susceptibility 1−3408
methyl sulphide-mercury(II) chloride complex, Raman and IR spectra, struct., X-ray diffr., stretching vibr. 1−25245
micas, white synthetic, cell dimensions, polymorph type and IR spectra 1−47050
molecular solid, far IR spectroscopy under press., progress and problems 1−39105
MSb_2O_6, (M=Pb, Ca, Sr, Ba, Cd), vibrs., force field calcs., IR and Raman obs. *(French)* 1−31152
noble metals, small particles, far IR absorption 1−43126
oligophosphate glasses, vibr. spectroscopic studies, rel. to biological interest 1−43113
order-disorder phenomena, obs. by vibr. spectroscopy *(French)* 1−39069
oxide layers on metals, IR refl.-absorpt. spectra 1−48079
polyethylene, high press. investigation using FIR spectrometer 1−40879
polyvinylidene fluoride film, dielectric hysteresis, dipole rotation 1−34996
prep., cryst. struct., IR spectra, and chem. anal. 1−34305
pyridine N-oxide complexes of metal(II) halides and mixed ligands, IR spectra, metal-ligand modes assignments 1−31142
quartz, S1-UV, stimulated fluoresc. by ArF laser radiation 1−16592
quartz, swept Premium-Q, radiation effects 1−15927
quartz, synthetic, radiation-induced interstitial ion mobility 1−16098
quartz glasses, KI and KV, IR spectral absorpt. coeff. in upper temp. limit 1−12495
quartz resonators and oscillators, radiation effect 1−15927
rare earth selenites, synthesis and characterisation 1−25232
rare earth sulphides, ternary, AR_2S_4 (A=Ca, Sr, Mg, R=Y, Tm, Er, Ho), Raman and IR spectra 1−26218
refractory materials, fibrous, IR props. and radiative thermal cond. *(French)* 1−42591
sapphire, UV grade, stimulated fluoresc. by ArF laser radiation 1−16592
serpentines, synthetic, ordering, IR spectra and cell dimensions 1−43125
silicates, hydrated, IR spectra compared with interstellar dust absorpts. 1−35974
steel, chemical surface characterisation by SIMS, GDOS, DIMS and XPS 1−31953
steel, stainless, surface oxides, Fourier transform IR spectroscopic studies 1−31158
terbium phosphate glasses, Faraday effect in IR and visible region, magnetooptical characteristics 1−8046
transition metal complexes, $[M(\text{nicotinic acid})_2\ (\text{acac})_2]_n$, synthesis and characts., IR and photoacoustic spectra, chem. anal. and mag. susceptibility 1−48072
transition metal coordination compounds, IR luminesc. spectra 1−31200
transition metal dihalides, (Mn,Fe,Co,Ni), layered crysts., vibr. struct. of cryst. field spectra, IR absorpt. study 1−34668
transition metal telluromolybdates, IR and Raman spectra anal. 1−8058
Ag surface enhanced Raman scatt. from halides and pyridine vibrs. 1−52930
Ag-β-Al_2O_3, for IR absorpt. study 1−43108
AgCN, IR spectra, dispersion-induced distortion elimination by photoacoustic Fourier transform techniques 1−12483
$AgGaTe_2$, band gap from optical absorption study 1−38713
α-AgI, superionic conductor, far IR, microwave, and inelastic neutron scatt. meas. 1−2688
AgI-Ag_2O-GeO_2, superionic cond. glass, IR spectra 1−39084
AgI-Ag_2O-M_xO_y, M=B, Ge, P, V, As, Cr, Se, Mo, superionic cond., glass form. region determ. 1−30075
Ag_2SeO_4:Ni^{2+}(Cu^{2+}) single crysts., gel growth, X-ray diffr. and IR spectra 1−12644
Al, Kramers-Kronig anal. of optical data, self-consistency and sum-rule tests 1−8034
Al-Mg alloys, vol. plasmon dispersion meas. 1−30655
Al-rare earth disordered alloys, solar reflectance props. 1−13102
$Al_3Na(OH)_6(CrO_4)_2$, crystallographic and IR study *(French)* 1−47063

Infrared spectra of inorganic solids continued
η-Al_2O_3, hydroxyl coating, IR spectra 1−3390
Al_2O_3-SiO_2, sillimanite powders, shock-induced transformations 1−38453
$AlPO_4$, berlinite, cryst. growth, piezoelec. and optical props. 1−16529
As-Ge-S(Se) systems, optical and elec. props. 1−3387
As_2O_3, glass, struct. and vibr. props., IR and Raman spectra 1−30068
As_2O_3-$Li_2O(Li_2CO_3)$ phase diagram 1−8285
As_2Se_3, glassy, metal-nonmetal transition obs. on addition of 3d elements 1−47715
Au film, Au, with $KReO_4$ overlayer, broadband IR surface EM wave spectroscopy 1−35109
B_2O_3, vitreous, polarised Raman spectra, IR reflectivity 1−26204
B_2O_3-SiO_2 glasses, high SiO_2 content, sol-gel method synthesis, glass form. 1−43310
BaB_2O_4, alkoxy derived, form. and transform. 1−48309
BaF_2, stimulated fluoresc. by ArF laser radiation 1−16592
BaO:OH^- crystals, annealed, IR absorptions meas. 1−3443
$Ba_2R^{3+}Ir^{+}O_6$ and $Ba_3R^{3+}Ir_2O_9$ (R=rare earth and Y) cryst. struct. and IR spectra *(German)* 1−38349
$Ba_5(ReO_5)_3Br$, IR and Raman spectra, ReO_5^{3-} vibr. spectra 1−8079
$BaTiO_3$, ferroelectric, dipolar modes, temp. depend., IR refl. meas. 1−12501
$BaTiO_3$:H, positions of H impurities, IR absorpt. study 1−26185
δ-Bi_2O_3, thermogalvanic power and fast ion cond. 1−34513
δ-$(Bi_2O_3)_{0.75}(R_2O_3)_{0.25}$, R=rare earth, thermogalvanic power and fast ion cond. 1−34513
δ-$(Bi_2O_3)_{1-x}(Y_2O_3)_x$, thermogalvanic power and fast ion cond., appl. to O_2 gauge 1−34513
n-BiTeBr single crysts., IR spectra, Hall coeff. 1−20772
CO chemisorption of metal catalysts, EELS study 1−25551
$Ca_2Al_3(OH)(SiO_4)_3$, zoisite, low-energy OH valence vibr. identification, H-D isotope effect on IR spectrum 1−21180
$Ca_8Al_{12}O_{24}(WO_4)_2$, IR, optical and Raman spectra, luminesc. meas. 1−52945
$CaCO_3$, aragonite, IR and Raman spectra 1−8072
$Ca_3(CaNb_2)O_9$, perovskites, vibr. spectra, order phenomena on octahedral sites *(French)* 1−21205
$CaCr_2O_7.3H_2O$, phase composition and decomposition products 1−39599
CaO-Al_2O_3-B_2O_3 glasses, Ni^{2+} absorpt. spectra *(Japanese)* 1−21216
$Ca_2(PO_4)_2$:Cr, Ni, whitlockite struct., IR spectrosc. obs. 1−26197
CaS:Pb^{2+}, non-phonon transition in impurity centre, hyperfine interaction *(Russian)* 1−43124
$CaSO_3.0.5H_2O$, new phases, X-ray diffr. identification *(Japanese)* 1−20172
$Ca_{10-x}Sr_x(AsO_4)_6(OH)_2$, IR spectra, fundamental freqs. 1−31154
$CaWO_4$, IR reflection spectra, anharmonic damping mechanisms 1−48081
$CdCr_2Se_4$, Faraday rot., IR absorpt. in mag. field, near absorpt. edge 1−3375
$CdGa_2S_4$, polarised IR refl. spectra, factor group anal. of lattice vibr. 1−35033
CdTe, far IR dielec. spectrum, multiphonon struct., crit. point anal. 1−31156
CdTe:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
$Cd_{1-x}Zn_xS$ thin films for solar cells, dielectric response (0.4 to 250 μm) as a function of struct. and comp. 1−13133
Co black, electroplated selective absorpt. coating, struct., thermal stability, preparation 1−2833
$CoSiF_6.6H_2O$, polarised absorption spectra, vibr. anal. 1−52934
$CoSiO_4$, olivine and spinel phases, IR spectra 1−12499
Co_2SiO_4, spinel phase, IR spectra 1−12499
Cs_2CdCl_4:Ni^{2+} polarised electronic absorpt., emission and excitation spectra 1−26240
CsCl, ionic lattice dynamical behaviour study 1−25386
$CsCoCl_3$, one-dimens. Ising antiferromag., multiple far IR mag. excitations 1−16435
CsI crystals, bulk and surface absorpt. coeff. determ. in CO_2 laser radiation wavelength range 1−35006
CsI:NCO^-, Fermi doublets, temp. dependence 1−3446
$CsNb_2O_{18}$, struct. study by IK absorpt. and diffusion Raman spectra *(French)* 1−25218
Cs_2O-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
$Cs_3R_2(NH_2)_9$, R=Ce,Nd,Sm, struct. and props. *(German)* 1−34315
$Cs_2ZrCl_6(Br_6)$:Re^{4+}, IR interconfigurational and mag. circular dichroism spectra 1−31170
$Cs_3[Mo_2O_6F_3]$, cryst. struct. and vibr. spectra 1−34314
Cu aggregated film, interband transitions, optical props. meas. 200 to 1000 nm 1−43197
Cu mixed halides, IR absorpt. and Raman scatt. study 1−48124
CuCl, pure and stoichiometric, synthesis 1−4075
Cu(II) complex, phenyl-1, 9-diphenyl-1, 3; 7, 9-nonantetraones, IR-visible spectra and mag. susceptibility 1−21188
$CuLn(WO_4)_2$ (Ln=rare-earth or Y), cryst. struct. and thermal stability 1−30201
$ErCrO_3$, adiabatic spin reorientation obs. 1−25953
Eu-ZZ 1−12029
EuB_6, optical constants, spectral depend. of light reflection 1−3358
EuO, reflectivity spectra as function of temp. 1−26217
$EuO_{1-\delta}$, nonstoichiometric, IR reflection spectra, charge carrier props. 1−21209
Eu_3S_4, optical spectra, energy level scheme 1−12524
α-F_2, solid, lattice vibr. calc., Raman and far IR spectra, intermol. forces 1−20326
$Fe_{2-x}Cr_xO_3$, solid soln., IR spectra 1−31134
$Fe_{3-x}Cr_xO_4$, solid soln., IR spectra 1−31134
$Fe_3K(OH)_8(CrO_4)$, crystallographic and IR study *(French)* 1−47063
$Fe_{1-x}Mn_xCl_2$, disordered mixtures, lowest Fe^{2+} spin excitations by microwave absorption at high freqs. 1−3383
Fe_2O_3 $[Na_2O.2SiO_2]_{1-x}[Fe_2O_3]_x$ glass, IR study of crystallisation 1−2336
α-Fe_2O_3, haematite, optical absorption spectrum near IR to UV, and photocond. meas. 1−3384
Fe_3O_4, magnetite, optical props. in range 0.03 to 12 eV 1−12498
β-FeOOH porous cryst. struct. 1−52118
FeS_2, far IR refl. spectra, optical and dielec. consts., effective charges 1−52957
$FeSiF_6.6H_2O$, polarised absorption spectra, vibr. anal. 1−52934
$FeSiO_4$, olivine and spinel phases, IR spectra 1−12499
$Ga_{1-c}Al_cP$, imperfect crystals, two-phonon bound states 1−15967
GaAs:Si+Ge(Sn), IR absorpt., plasma resonance and Hall effect meas., impurity effect on props. 1−3381

infrared spectra of inorganic solids continued
GaAs-AlGaAs heterostructure superlattices, far IR emission of 2D electron gas 1−52941
$Ga_xIn_{1-x}As_yP_{1-y}$, shallow hydrogenic donors, IR photocond. and transmission meas., mag. field depend. 1−48054
GaP crysts., elec. props. meas. by IR absorpt. 1−47645
GaP, electron irradiation, optical absorption and photocond. meas. 1−38812
n-GaP, uniaxially deformed, IR absorpt. spectra 1−21207
GaP:N donor centres, compensation 1−38743
GaP:S(Te)(Si), optical excitation of electrons bound to shallow donors, IR absorpt. lines 1−8100
GaSb, energy gap temp. depend., electroreflectance spectra 1−48037
GaSe, exciton phonon interaction *(Russian)* 1−2887
$GdAlO_3$-$YAlO_3$-$LuAlO_3$, Nd activated, spectroscopic props. 1−26244
$Gd(MoO_4)_3$, improper ferroelec., optical props. meas. 1−21230
Ge, absorption edge in direct transition region after fast neutron bombardment 1−30283
Ge, amorphous, pure and hydrogenated, for IR absorption 1−12502
Ge, dielectric function expansion into elementary parts, intrinsic absorpt. spectra 1−16578
Ge, doped, far-IR and photocond. obs. of impurity bands 1−48126
Ge, electron-hole drop, far IR magneto-oscills. 1−48041
Ge excitonic binding, free carrier screening, spectroscopic search 1−3416
Ge, IR absorpt. spectroscopy developments 1−48067
Ge, impurities and excitons, far IR spectroscopy *(Japanese)* 1−3447
p-Ge nondegenerate magnetoplasma, ATR spectrum due to surface polaritons, temp. depend., 8 mm region 1−16552
Ge, shallow donors, valley-orbit splitting of 1s states, mag. field depend. 1−47581
Ge:As(Sb), far IR donor absorpt. and photocond., saturation 1−52970
Ge-As(Sb)-S(Se) two layer antireflection coatings for YIG near IR detector elements *(Russian)* 1−41800
Ge-P-S chalcogenide glass fibres 1−16751
Ge-S-Se(Te) and Ge-Se-Te systems, vitrification regions, IR spectra, microhardness, glass and crystn. temps. 1−42307
$a\text{-}Ge_xSe_{1-y}$, glass and film, IR and photoluminescence study 1−21275
$Ge_{1-x}Si_x$, imperfect crystals, two-phonon bound states 1−15967
$Ge_{1-x}Si_x$ alloy, IR spectra, local and quasi-local vibr. modes 1−16572
H_2, solid, IR spectra, zero phonon transitions 1−48058
H_2, solid, molecular, induced near IR absorpt. spectrum, density effect, 4.2K 1−39103
HF-$NaNO_2$ films formed on Si, comp. determ. by IR spectroscopy, aerial oxidation 1−3955
HfI_4, X-ray struct. anal., IR and Raman spectra *(German)* 1−34308
$Hg_{1-x}Cd_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
$Hg_{1-x}Cd_xTe$, narrow band gap semiconductor, highly excited electronic states, picosecond IR spectra 1−52494
$Hg_2(H_2PO_4)_2$, $Hg_3(PO_4)_2$, Raman and IR spectra 1−21194
Hg_2SeO_4, Raman and IR spectra 1−21194
HgTe, far IR magneto-optical transitions, Γ_8-band anisotropy, selection rules 1−16551
In film, optical absorpt. spectrum, rel. to Ashcroft-Sturm theory 1−39171
InAs, IR absorpt. spectroscopy developments 1−48067
InAs-GaSb semimetallic superlattices, far IR magnetoabsorpt. and cyclotron reson. 1−31131
InAs-GaSb superlattice, IR magnetoabsorption and luminescence study 1−52920
$In_{0.72}Ga_{0.28}$ $As_{0.6}P_{0.4}$, absorption, emission and gain spectra, calc. 1−43155
InGaAsP LPE layers, electrorefl. meas. band edge energy and spin-orbit splitting 1−48053
In_2O_3:Sn films, RF reactively sputtered, optical props. *(Japanese)* 1−21284
InP, thermal oxidation, oxide film props., MOS diode props. 1−7740
$InP_xAs_ySb_{1-x-y}$ solid solution, optical props. 1−26294
InSb, IR absorpt. spectroscopy developments 1−48067
InSb, narrow band gap semiconductor, highly excited electronic states, picosecond IR spectra 1−52494
n-InSb, nondegenerate magnetoplasma, ATR spectrum due to surface polaritons, temp. depend., 8 mm region 1−16552
n-InSb, two-photon absorpt., dual-beam meas. interference phenomena 1−28075
InSe films, optical props. and photovoltaic device appls. 1−42826
InSe, IR anal., independent oscillator and factorised model 1−52928
InSe, optical phonons and crystalline symmetry, Raman and IR spectra 1−43121
$In_{2-x}Sn_yO_{3-y}$ film, effect of ambient atmos. in annealing 1−2850
K, IR and optical props., nearly-free-electron model 1−8033
KBr:BF_4^-, IR spectra, vibr. absorpt. bands and Fermi reson., temp. depend. 1−52971
KBr:ReO_4^-, IR and Raman spectra, perrhenate ion T_d symm. 1−39126
KBr(Cl):NCO^-, Fermi doublets, temp. dependence 1−3446
KBr(I), Li-$(F_2^+)_A$ centre absorpt. and emission bands, potential laser action 1−52974
KCN, stress aligned ferroelastic, librational-translational modes, Raman and IR studies 1−3392
KCN, stress aligned ferroelastic, Raman and IR studies 1−21202
KCl:BF_4^-, IR spectra, vibr. absorpt. bands and Fermi reson., temp. depend. 1−52971
KCl:Cr^{5+}, X-irrad., EPR, optical, and IR spectra 1−12392
KCl:OH^-, photochemistry of OH^- defects and F-centres under UV and visible irrad. 1−21239
KCl:OH^-, UV photodissociation of OH^--centres, H defect form. 1−26247
KCl:ReO_4^-, IR and Raman spectra, perrhenate ion T_d symm. 1−39126
KCl(Br)(I), IR absorption coefficient 1−31116
K_2CrO_4, IR reflection spectra, anharmonic damping mechanisms 1−48081
K_2FeF_4, 2-D antiferromagnet, far IR absorpt., magnon modes 1−8075
KHF_2, IR spectra, interion interactions 1−39075
KH_2PO_4, near IR spectra, inter- and intra-proton tunnelling 1−26184
KH_2PO_4, refl. spectra and phase transition mechanism *(Korean)* 1−12496
$KHSO_4$, KDSO$_4$, Raman and IR spectra study 1−21193
KI:ReO_4^-, IR and Raman spectra, perrhenate ion T_d symm. 1−39126
KIO_3.2LiIO_3 salt, IR spectra, cryst. growth and morphology *(Chinese)* 1−3377
$KNbO_3$, ferroelec., correlation of soft modes in orthorhombic and cubic phases, IR reflectivity studies 1−52935
KNb_3O_{18}, struct. study by IK absorpt. and diffusion Raman spectra *(French)* 1−25218
K_2O-Al_2O_3-P_2O_5-TiO_2 system, glass form., props. depend. on chem. comp., struct. interpret. 1−52077
K_2O-CaO-BaO-B_2O_3 glasses, IR spectra and struct. interpretation 1−43128
K_2O-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
$KReO_4$, IR reflection spectra, anharmonic damping mechanisms 1−48081
$K_3(ReO_2(CN)_4)$ IR and Raman spectra, dichroic bheaviour, internal and lattice vibr. 1−26194
K_2SO_4, IR reflection spectra, anharmonic damping mechanisms 1−48081
$KTh_2(PO_4)_3$, vibr. spectra *(German)* 1−48088
$K_4UO_2(CO_3)_3$, cryst. struct., X-ray diffr., Raman and IR obs. 1−20134
$KZnF_3$:Co^{2+}, optically pumped, CW IR laser action 1−51487
$K_6[(CN)_5CoO_2Co(CN)_5].H_2O$, $K_5[(CN)_5CoO_2Co(CN)_5].H_2O$, resonance Ramans and IR spectra 1−48078
LaB_6, optical constants, spectral depend. of light reflection 1−3358
$LaCoO_3$, CO adsorpt., 113-773K, IR obs. 1−20572
$LiErP_4O_{12}$, growth and spectral props. 1−26380
LiF, F_2^- centres, stimulated emission and optical absorption spectra 1−26235
LiF, IR absorption coefficient 1−31116
LiF:OH, IR absorpt. spectra, hydrogen bond formation on γ-irrad. 1−20263
LiF-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
$Li_{0.5}Ga_{2.5-x}Cr_xO_4$, correlation between crystalline struct., optical props., vibration spectra 1−30125
$Li_xH_{1-x}RP_2O_7$ (R=Tm, Yb, Lu), prep., cryst. struct., IR spectra, and chem. anal. 1−34305
$LiNbO_3$, dielectric const. temp. depend., IR reflectance spectra 1−21106
$LiNbO_3$:Fe, annealed in H_2, OH^- absorpt., spectral and ESR meas. 1−21241
Li_2O-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
$Li_2O.2SiO_2$ glass, ion implanted, phase separation and crystn. 1−30081
$LiTaO_3$, dielec. props., temp. depend., Raman spectroscopy study 1−16569
$LiYO_2$:Dy^{3+} single cryst., spectrosc. props. 1−16601
MgF_2, stimulated fluoresc. by ArF laser radiation 1−16592
Mg_2GeO_4, olivine phase, IR spectra 1−12499
MgO, atomic C content, IR anal. of OH-containing defects 1−31146
MgO, heavy ion implanted, annealing by proton bombardment, defect absorption bands, expt. 1−11794
MgO, microcryst., IR spectrum, surface relax. effects 1−52929
MgO powder, H_2 dissoc. on surface, IR obs. 1−21782
MgO spheres, IR absorpt. spectrum, general soln. of Maxwell eqns. 1−26207
MgO:Fe, near IR absorpt. due to Fe^{2+}-Fe^{3+} interactions 1−21200
MgO-Al_2O_3-SiO_2-TiO_2, TiO_2 role in glass ceramic form. 1−2339
MnO-TiO_2-SiO_2 glasses *(Japanese)* 1−2667
MnS_2, far IR refl. spectra, optical and dielec. consts., effective charges 1−52957
$MnSe_2$, far IR refl. spectra, optical and dielec. consts., effective charges 1−52957
$MnSiF_6.6H_2O$, polarised absorption spectra, vibr. anal. 1−52934
$MnTe_2$, far IR refl. spectra, optical and dielec. consts., effective charges 1−52957
Mo (VI) oxocompounds, spectroscopy and struct. 1−37356
MoS_3, amorphous, struct. study rel. to electrochem. behaviour 1−30061
$MoSe_2$ (2H), Raman scatt. and IR reflectance 1−8057
N_2 solid, α phase, high press. cell for far-IR absorpt. study up to 10 kbar in 10-300K temp. range 1−40878
$NH_4Ce(SO_4)_2.4H_2O$:Gd^{3+}, EPR and IR spectra, phase transitions, spin-lattice relax. 1−34936
$NH_nD_{4-n}NO_3$, (0<n<4), phase IV, IR and Raman vibr. spectra, heteroionic coupling 1−3379
NH_4NO_3, phase V, inelastic neutron scatt. and vibr. spectra study 1−52954
$(NH_4)_2SO_4$ powder, Fourier transformed IR photoacoustic spectra 1−8053
$(NH_4)_3[Mo_2O_2F_9]$, $(NH_4)_2[MoOF_5]$, cryst. struct. and vibr. spectra 1−34314
$NH_3.H_2O$, solid phase IR spectra 1−48057
N_2O_4, cryst. Raman and IR spectra 1−43106
Na, IR and optical props., nearly-free-electron model 1−8033
Na_2-SiO_2 glasses, Ni^{2+} absorpt. spectra *(Japanese)* 1−21216
$[Na_4Al_3(SiO_4)_3X]_2$, (X=Cl, Br), Raman spectrum and phonon modes 1−52944
NaCN, stress aligned ferroelastic, Raman and IR studies 1−21202
NaCl:Ca, air grown, thermally annealed, crit. flow stress, IR absorpt. meas. 1−7245
NaF-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
NaF(Cl), IR absorption coefficient 1−31116
$NaHF_2$, IR spectra, interion interactions 1−39075
Na_2MoO_4, IR and mass spectrometric anal. 1−39699
$NaNO_2$, X-ray Bragg reflection and IR absorption topography 1−48069
Na_2O-Al_2O_3-B_2O_3 glasses, Ni^{2+} absorpt. spectra *(Japanese)* 1−21216
Na_2O-K_2O-ZnO-Al_2O_3-SiO_3 glass, containing 11 wt.% water, IR spectra 1−26193
Na_2O-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
$7Na_2O.23B_2O_3.70SiO_2$, phase-separating glasses coloured with Fe_2O_3, spectral props. 1−52972
$NaTh_2(PO_4)_3$, vibr. spectra *(German)* 1−48088
Na_2WO_4, IR and mass spectrometric anal. 1−39699
$NaZr_2(PO_4)_3$-$Na_3Y_2(PO_4)_3$, ionic conductivity 1−2677
Nb intercalation compounds, $M_{1/3}NbS_2$ (M=Mn, Cr, Fe, Co, Ni), $Fe_{1/4}NbSe_2$, optical refl. spectra 1−21226
$NbOAsO_4.2H_3AsO_4.5H_2O$, cryst. synthesis and characts., thermal decomp. products 1−38341
$NdCl_3$ frozen dilute aq. soln., Nd^{3+} energy levels parametric anal. 1−52531
NdI_3, absorpt. spectrophotometry and X-ray diffr. studies 1−25235
NdOI, absorpt. spectrophotometry and X-ray diffr. studies 1−25235
Ni complex, bis(diethyldithio-carbamato)-Ni(II), IR matrix and polarised spectra 1−3388

infrared spectra of inorganic solids continued
Ni complex, $NH_4Ni[S_2C_2(CN)_2]_2.H_2O$, cryst. struct., elec., mag., and optical props. 1−25719
Ni(II) complex, phenyl-1, 9-diphenyl-1, 3, 7, 9-nonantetraones, IR-visible spectra and mag. susceptibility 1−21188
NiO microcrystals, IR absorpt. spectra, bulk and surface modes 1−8071
$Ni_3P_2O_7.xH_2O$, thermal dehydration 1−8549
$NiSiF_6.6H_2O$, polarised absorption spectra, vibr. anal. 1−52934
$NiSiO_4$, olivine and spinel phases, IR spectra 1−12499
NiTi, energy spectrum, optical props., structural transform. 1−30626
Pb surface, aqueous corrosion film, Raman and IR spectra study 1−21187
$Pb_5Ge_3O_{11}$ film on Si substrate, preparation and props. 1−16204
$Pb_{1-x}Ge_xTe$, refr. index and opt. energy gap, anomalies of temp. coeffs. at ferroelec. transition 1−26163
$PbI_2(2H)$, reflection and photoluminescence spectra, exciton polaritons 1−48156
PbO aq. corrosion films in 0.1 M chloride solns., IR and Raman spectra 1−8146
PbSe epitaxial films, optical props. meas. 1−31214
$Pb_{0.93}Sn_{0.07}Se$ and $Pb_{0.8}Sn_{0.2}Te$, reflectance and thermoreflectance spectra obs. in intrinsic absorpt. region 1−16583
$Pb_{1-x}Sn_xSe$ solid solution, optical and elec. props. *(Russian)* 1−3419
$Pb_{1-x}Sn_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
$Pb_{1-x}Sn_xTe_{1-y}Se_y$ solid solutions, IR spectra, band gap *(Russian)* 1−21214
n-PbTe, degenerate, modulation, of fundamental absorption by free carrier heating 1−48092
PbTe, narrow band gap semiconductor, highly excited electronic states, picosecond IR spectra 1−52494
$Pb(Zr,Ti)O_3$:$Fe_2O_3(Cr_2O_3)(MnO_2)$, solid solns., diffuse refl. spectra 1−31168
Pd complex, $PdCl_2$(meso-2,3-diaminobutane), vibr. spectra, low temp., IR and Raman obs. 1−48071
Pd particles randomly embedded in KCl, far IR radiation absorpt. 1−39096
PdIn, coloured intermetallics, interband absorpt. meas. 1−31148
Pt complex, $PtCl_2$(meso-2,3-diaminobutane), vibr. spectra, low temp., IR and Raman obs. 1−48071
Pt, particles, far IR absorption 1−43126
$(PtCl)Cl_2.(H_2O)_2$, Wolffram's red, resonance Raman scatt., lattice relax. 1−48064
Rb, IR and optical props., nearly-free-electron model 1−8033
RbI, Li-$(F_2^+)_A$ centre absorpt. and emission bands, potential laser action 1−52974
RbI:ReO_4^-, IR and Raman spectra, perrhenate ion T_d symm. 1−39126
$RbMnF_3$:Nd^{3+}, 10488 Å line position and width, thermal behaviour 1−52988
$RbNb_3O_{18}$, struct. study by IK absorpt. and diffusion Raman spectra *(French)* 1−25218
Rb_2O-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
$SbCl_5$-graphite, IR and Raman spectra, HF graphitic intralayer phonons study 1−39101
Sb_2O_3, vitreous, form., physicochem. props. and IR spectra 1−16573
Sb_2S_3 chain crystals, molecular-like-vibrs. 1−20332
SbSI chain crystals, molecular-like-vibrs. 1−20332
$Se_{1-x}Te_x$ films, electrical and optical props. 1−48190
Si, amorphous, pure and hydrogenated, for IR absorption 1−12502
Si, amorphous films, RF sputtering in silane, IR spectra and elec. cond. 1−43259
Si amorphous thin films, H content from IR spectra and (α,α), 25 MeV ang. distrib. 1−39127
n-Si, Auger recombination process, IR absorpt. meas. 1−21206
Si crystals, O-striation and thermally induced microdefect 1−25298
Si, Czochralski crystals, annealed at 800°C, oxygen-related donors, spectral study 1−26255
Si, defect formation mechanism during heat treatment *(Chinese)* 1−25272
Si, dielectric function expansion into elementary parts, intrinsic absorpt. spectra 1−16578
Si, exciton dynamical props., far IR laser magnetoabsorpt. study 1−48040
Si film, amorphous, electroabsorption spectra 1−21171
Si film, amorphous, RF sputtered in Ar-SiH_4 mixtures, optical and elec. characts. *(Korean)* 1−12652
Si hydrogenation by electrolytic method 1−38397
Si, IR absorpt. spectroscopy developments 1−48067
Si, IR spectroscopy of quasi-two-dimensional space charge layers 1−48065
Si, impurity decay, laser IR flaw detection 1−52128
Si inversion layer MOSFET, far IR emission from plasma oscills. 1−8076
Si inversion layers, intersubband spectroscopy, many-body and impurity effects 1−12506
Si inversion layers, valley degeneracy and intersubband spectroscopy 1−48068
Si, ion implantaion effect on optical props. 1−12472
Si, ion implanted, ps. pulsed laser annealing, dynamic behaviour 1−52158
Si, polycrystalline film deposited by chem. transport in plasma, optical spectra, XPS and other props. 1−39168
Si, quality characterisation techniques *(German)* 1−34708
Si semi-insulating film, H content, IR and Rutherford backscattering spectra 1−3378
Si, semi-insulating polycryst. deposition, model based on IR spectroscopic anal. 1−20580
Si, shallow impurity anal. by low temp. Fourier transform IR spectroscopy 1−12536
Si, surface structure after electric-spark treatment *(Russian)* 1−43550
Si wafers, interstitial O_2 determ., using internal calibration 1−26779
Si:Al(B)(Ga)(In)(Tl), acceptor bound excitons in mag. and uniaxial stress fields 1−47484
Si:B, laser annealed, IR reflectivity and transmissivity 1−12487
Si:F, amorphous, chem. bonding struct., IR absorpt. and XPS study 1−52942
Si:F, amorphous, RF sputtering prep., elec. and optical props. 1−53090
Si:F,H amorphous film, F atom behaviour to 900°C, gas evolution and IR absorpt. 1−48670
Si:F,H amorphous films, IR and photoemission spectra 1−53005
Si:H, amorphous, compositional anisotropy and microstruct., electron microscopy, Raman and IR spectra study 1−52070
Si:H, amorphous, struct. and lattice dynamic, random network model 1−52069
infrared spectra of inorganic solids continued
Si:H, amorphous evaporated film prep. and props. 1−43275
Si:H, crystalline and amorphous, bombardment-produced disorder and SiH bonds 1−34379
a-Si:H, gap state spectroscopy using two beam photoconductivity 1−38813
Si:H amorphous films, decomp. mechanism, IR spectra study 1−21720
a-Si:H film, preparation from SiH_4 plasma decomposition, elec. props. 1−34130
Si:H RF sputtered films, amorphous, oscill. strengths of Si-H vibrs., charges induced by the He^+ ion bombard. 1−3517
Si:H sputtered films, amorphous, guided wave optical spectroscopy, absorpt. spectrun, 0.8 to 1.9 eV 1−53004
Si:Li, donor excitation spectrum, uniaxial stress effects, piezospectroscopy 1−48030
Si:N amorphous film, elec. and optical props., doping influence 1−47767
Si:O(C), annealing of neutron flux defects, IR absorpt. spectra study 1−42430
Si:P, localised electron non-ohmic conductivity, Raman and IR spectra 1−2975
Si:P(As)(Li)(Li,O), electronic excitation spectra of donors, linewidth study 1−52976
Si:S, deep level isotopic effect optical study 1−34648
Si:Se, B, optical excitation spectra 1−16590
Si:SiO_2, IR absorpt. spectra, LO band due to SiO_2 platelets 1−39124
Si-SiO_2 inversion layer, plasmon dispersion, far-IR probe, review 1−12507
α-SiC, of various polytypes, absorption spectra of N impurity *(Russian)* 1−52979
SiC, oxidation, form. of Si-O-C ternary phases, obs. 1−16932
SiC, plasma deposition, film props. meas. 1−43277
SiC synthesis, in C implanted Si, RBS, IR and diffr. anal. 1−31393
Si_xC_{1-x}:H, amorphous system, chemical bonding states, XPS and IR study 1−52103
SiC(6H) crystals, photoelastic props. 1−48031
$Si_{1-x}Ge_x$:H glow discharge films, amorphous, struct. props., IR absorpt. and H evolution meas. 1−52071
$Si_2H_6(-d_6)$, crystalline, internal rot. barrier, force constants, IR and Raman obs. 1−39073
SiH(D)(F), amorphous, acoustic local mode, IR and Raman spectra meas. 1−12497
SiN plasma deposited films, structural and elec. props. 1−16391
SiO_2, amorphous, synthesised by shock compression of α quartz, physical props. 1−11815
SiO_2 film growth from water-alcohol solns. of tetraethoxysilane, spectral characts., chem. stability 1−3391
SiO_2 glass, fused, ion implanted, phase separation and crystn. 1−30081
SiO_2, stishovite,, Raman and IR spectra and X-ray powder diffr. 1−43131
SiO_2 thin layers, ion implanted, radiation damage, TSEE and IR spectra study 1−38412
SiO_2 very thin film growth and characterisation 1−7490
SiO_2, vitreous, spectral absorpt. coeff., 673 to 1673K 1−39060
SiO_2/TiO_2 optical interf. coatings prepared from colloidal solns. 1−37563
SiO_2-TiO_2 system, investigation of glasses and devitrificates, by vibr. spectroscopy *(Polish)* 1−35057
Si(100) and (110), surface states and O_2 adsorption, reflectometric study 1−8095
SmI_3, absorpt. spectrophotometry and X-ray diffr. studies 1−25235
SmS thin films, refl. spectra in vicinity of metal-semicond. phase transition 1−26295
Sm_3S_4, optical spectra, energy level scheme 1−12524
$SnHPO_4$ single cryst., polarised Raman spectra 1−48090
SnO_2 film, impurities influence on struct. and opt. props. 1−39167
SnO_2:Sb films, deposited by hydrolysis, elec., optical, and struct. props. 1−43284
SrO:Co^{2+}, off-centre substitutional defects, absorpt and EPR spectra, elec. field effect 1−3245
$Sr_3(SrNb_2)O_9$, $Sr_3(CaNb_2)O_9$, perovskites, vibr. spectra, order phenomena on octahedral sites *(French)* 1−21205
$SrTiO_3$, ferroelec., IR refl. spectra at high temp., dispersion, soft modes 1−21204
Sr[Fe(CN)$_5$NO] and hydrates, TGA-DTA, IR and X-ray powder diffraction study 1−31145
Ta intercalation complexes, $M_{1/3}TaS_2$ (M=V, Mn, Cr, Fe, Co, Ni), $Mn_{1/4}TaS_2$, optical refl. spectra 1−21226
$ThBr_4$:Pr^{3+}, absorpt. and laser excited fluoresc. spectra, energy levels, crystal field parameters 1−48119
TiO_2, ion implantation effects, optical, elec. cond., and Rutherford backscatt. meas. 1−7217
TiO_2-SiO_2 glass, phonons, Raman and IR studies 1−8060
$Ti_{1-x}V_xSe_2$, electron diffr. and IR study 1−12504
Tl_3AsS_4, struct., diffr. patterns, IR and Raman spectra 1−2406
Tl_3AsSe_4, struct., diffr. patterns, IR and Raman spectra 1−2406
TlBr, ionic lattice dynamical behaviour study 1−25386
TlCl, bulk and surface absorpt. coeff. determ. in CO laser radiation wavelength range 1−35005
TlCl, lattice dynamics, extended three-body force shell model 1−34435
$TlInSe_2$, vibrational props., IR reflectivity 1−35042
$TlNb_3O_{18}$, struct. study by IK absorpt. and diffusion Raman spectra *(French)* 1−25218
Tl_3PS_4, struct., diffr. patterns, IR and Raman spectra 1−2406
Tl_3PSe_4, struct., diffr. patterns, IR and Raman spectra 1−2406
TlSe-type crysts., long-wavelength optical phonons, vibr. spectrum, correlation anal. 1−20333
TlSe(S), vibrational props., IR reflectivity 1−35042
$TlTh_2(PO_4)_3$, vibr. spectra *(German)* 1−48088
$TmCl_3.6H_2O$, far IR vibr. spectrum, space group 1−26219
$Tm_2(SO_4)_3.8H_2O$, far IR vibr. spectrum, space group 1−26219
TmSe(S), mixed valent, optical refl., dielec. response function determ. 1−48116
U film, optical props. in range 0.6 to 25 eV, rel. to band struct. 1−12592
UAs(S)(Sb)(Se)(Te), optical spectroscopy, electronic struct. 1−48114
US(Se)(Te)(Sb), electronic struct., optical functions 1−30629
$VCl_2(Br_2)(I_2)$, with layered struct., Raman and IR studies 1−35039
V_2O_5-P_2O_5-optical absorption, electrical cond. and thermo EMF study 1−25748
V_8O_{15} films, optical props. in fundamental absorpt. region, metal-insulator phase transition mechanism 1−3522
$VbCrO_3$, Cr^{3+} exciton-Yb^{3+} spin flip simultaneous absorption 1−12490
WO_3 amorphous film, fundamental absorpt. edge, annealing and electrolytic coloration effects 1−35105

infrared spectra of inorganic solids continued
WS_3, amorphous, struct. study rel. to electrochem. behaviour 1−30061
YIG:Si^{4+}(Nb^{4+})(Sn^{4+})(Zr^{4+})(Ti^{4+})(Th^{4+}), site occupancy of Fe^{2+} ions, optical absorpt. and MCD study 1−48122
Yb film, thermally evaporated, optical props. and microcharacteristics 1−35111
$YbCrO_3$, metamagnetic transitions, IR spectra 1−16562
$YbCrO_3$, optical absorption spectra, Cr-Yb mag. interaction 1−12489
YbS thin-films, reflection, absorption, photocond., and photo-EMF spectra 1−3521
Zn blende semiconductors, two-photon absorpt. theory, three-band non-parabolic model 1−31160
Zn_3As_2 crystals, oriented, reflectivity spectra, 0.24-1.2 μm waverange 1−3429
$Zn_{2-x}(Co,Ni)_xGeO_4$ inverse spinel, order-disorder transitions possibility 1−38531
$ZnGeF_6.6H_2O$, ferroelastic transition, permittivity US wave, elec. cond. and IR absorpt. meas. 1−30297
$ZnO-B_2O_3$ glasses, IR spectra and struct. interpretation 1−43128
Zn_3P_2 crystals, unoriented, reflectivity spectra, 0.24-1.2 μm waverange 1−3429
ZnS:Ag_2 optical transition: at Ag centres 1−3444
ZnS:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
ZnS:Mn, polymorphic props. anal. by laser spectroscopy 1−47033
$ZnS_{1-x}Se_x$ mixed crystals, zone-edge phonons, IR and Raman study 1−25387
ZnSe:Al, IR absorpt. coeff. and free carrier conc. 1−43140
$ZrBr_4$, Raman and IR vibr. spectra, assignments and normal coord. anal. 1−52946
$ZrCl_4$, Raman and IR vibr. spectra, assignments and normal coord. anal. 1−52946
ZrS_3, one-dimens. charact., IR refl. and transmission study 1−39092

infrared spectra of organic molecules and substances
see also molecular rotation; molecular vibration
ABS/PVC blends, thermal degradation anal. under processing conditions 1−12778
acetamide, IR spectra, struct., pot. energy curves, vibr., orientations 1−24146
acetonitrile, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231
acetonitrile in carbon tetrachloride dil. soln., far IR dispersion meas. 1−37186
acetonitryl, oscillatory spectra, dipole-dipole intermolecular interactions 1−19098
acetylene, diode laser spectra of ν_5 and $2\nu_5^0-\nu_5^1$ hot bands, mol. const. determ. 1−37207
acetylene, IR spectra, vibr., vibr.-rot. coupling and centrifugal const. determ. 1−45964
acetylene IR absorpt. spectra and anharmonic force field 1−37193
acetylenes, substituted, CH stretching freqs., CNDO/2 calcs. 1−24050
acrylamide, IR spectra, struct., pot. energy curves, vibr., orientations 1−24146
adamantane, solid cubic phase, IR active fund. modes, temp. depend. 1−3376
adsorbate molecular on oxide surfaces, IR study 1−21217
alcohol-HCl complexes in Ar matrix and CCl_4 solns., IR spectra and H bonding 1−14881
trans-1-alkoxymethyl-2-halocyclohexanes, conform. equilib., IR and PMR spectrosc. 1−24169
6-amino-2-methyl-pyridine, IR absorpt. spectra, assignments 1−24131
2-amino-3-methyl-pyridine, IR absorpt. spectra, assignments 1−24131
2-aminomethylpyridine-transition metal ion complex, IR obs. 1−14888
ammonium oxalate, crystalline modifications, Raman and IR spectra *(Russian)* 1−43129
ammonium tetraphenylborate, IR spectra, cryst. struct. and H bonding 1−16558
analysis instrumentation, conf., Baton Rouge, LA, USA (Apr. 1980) 1−27682
aniline, cryst., vibr. factor group splitting 1−30332
anthracene, triclinic phase, electron diffr., struct., dynamics, IR and Raman active vibr., thermodynamic props. 1−47072
anthracene+Ar, van der Waals complex formation, IR spectral shift and lifetimes in supersonic jet 1−31837
anthracene-dianhydride pyromethyl acid complex, absorpt. spectra, exciton band shifts *(Russian)* 1−21215
L-arginine, IR spectra and struct., 4000-2000 cm^{-1} range *(Spanish)* 1−6260
automated calculation of optical constants in IR region 1−8030
azabicyclospirohydantoins, IR spectroscopic studies 1−12493
band intensities of fundamental and overtone transitions, H bonding effect 1−45948
benzene, $^1B_{2u}$←$^1A_{1g}$ two photon transition by multiphoton ionisation-supersonic beam techniques 1−24132
benzene, B const. IR obs. 1−10728
benzene ($-d_n$), effective charge distrib., IR gas band intensity 1−37192
benzisoxazole, 1,2- and 2,1-isomers, IR and Raman vibr. anal. *(French)* 1−19103
benzonitryl, oscillatory spectra, dipole-dipole intermolecular interactions 1−19098
ortho-benzoquinone derivatives, rel. between spectral characteristics and biological activity 1−53758
benzylnitryl, oscillatory spectra, dipole-dipole intermolecular interactions 1−19098
biacetyl, quantum beats, collision and mag. field effects 1−37183
biacetyl, triplet manifold, IR multiphoton pumping 1−1134
biphenyl, low freq. vibr. calc., IR and Raman spectra, neutron diffrac., phase transition 1−52933
bis(trimethylamine)alane in gaseous phase, struct., chemical anal. and IR spectra, diffr. pattern 1−6128
1-bromo-2-methylpropane, rot. isomerism, conform. retention, IR spectrosc. obs. *(German)* 1−31143
2-bromo-4-nitroanisole, IR absorpt. vibr. spectra 1−45949
2-bromo-5-nitroanisole, IR absorpt. vibr. spectra 1−45949
3-bromo-toluene, vibr. modes, IR spectra 1−16557
bromoform cryst., Raman and IR vibr. spectra and phase transformation 1−43107
bromomethane-d_3, N_6 band, IR spectra, centrifugal distortion const. 1−45955
1-bromopropane, rot. isomerism, conform. retention, IR spectrosc. obs. *(German)* 1−31143

infrared spectra of organic molecules and substances continued
1-butene-3-yne, mol. vibr. and rot., isotope effect, IR, Raman and microwave obs. 1−14896
t-butyl chloride and its solid soln. in tetramethylsilane, rotator phases, zero-Thz spectroscopy 1−33461
t-butyl formate, rotational isomerism; IR and Raman spectra study *(French)* 1−46162
4-tert-butyl-4-hydroxy-2.2,6.6-tetramethylpiperidine derivatives, conformation, proton NMR and IR obs. 1−14889
cadmium acetate dihydrate crystals, nonlinear optical props. 1−33739
carbon tetrafluoride, fine struct. splitting in ν_4 meas. by tunable diode laser 1−24142
carbon tetrafluoride, vibr., rot., isotope effects least-squares anal., laser stimulated IR 1−24141
carbon tetrafluoride laser tuning curves, $\nu_2+\nu_4$ combination vibr. absorpt. spectrum 1−46310
β-carotene:$I_2(SO_3)$, doping effects on spectroscopic studies 1−39072
cellulose carbonaceous films, IR study of oxidation mechanism with HNO_3 soln. 1−35021
charcoal in KBr, examination using IR flow cell 1−45035
charge-transfer cpds., quasi-one-dimensional, mol. vibr. studies 1−42481
1-chloro-2-methylpropane, rot. isomerism, conform. retention, IR spectrosc. obs. *(German)* 1−31143
chlorodifluoromethane, IR multiphoton dissoc. elec. field effects 1−46041
(trans-2-chloroethenyl)dichloroborane, isotopically selective IR photodissoc. 1−29057
chlorofluoroethylene, multiphoton dissoc., collisional effects of inert buffer gas 1−1292
chloromethylcyclopropane, IR and Raman spectra, conformational study 1−19102
chloropentafluoroethane, IR multiphoton excitation, energy redistrib. 1−46011
chlorotrifluoromethane, IR multiphoton absorpt., collisional energy transfer 1−46039
cholesteryl alkyl carbonates, IR spectra in solid and cholesteric liq. cryst. states 1−16565
cyanoacetic acid derivatives, NDO calcs., IR obs. 1−14886
cyanoacetylene, hot band rovibr. spectra 1−41382
cyanobenzene cation, vib. excited, IR laser photodissoc. 1−31874
cycloalkanes, IR spectra 1−39089
cyclobutanecarbonyl chloride and bromide and their α-deuterated compounds, IR spectra in vap., liq., and cryst. states 1−28968
2-cyclohexene-1-one, far IR spectrum and barrier to planarity 1−1216
cyclopentadienyl germanium trihalides, IR and Raman vibr. spectra and internal rot. barriers 1−1228
cyclopropane, ν_6 band, rot. consts., IR obs. 1−51204
cyclopropyl isothiocyanate, vibr. spectra and struct. 1−19097
dialkyl selenides, unbranched, vibr. spectra and conformations 1−1224
dianiline metal (II) tetracyanometalate compelexes, IR obs. 1−14887
2,6-dibromophenol, IR absorpt. spectra 1−41375
N,N-dibutylglycine in solns. and gas phase, IR spectra and struct. 1−1232
dicarboxylic acid, methylene chain rocking vibr. in IR spectra 1−43117
2,6-dichloroanisole, vibr. spectra 1−14879
1,1-dichlorobutane, vibr. anal., IR and Raman spectra 1−31144
dichlorodifluoromethane, intramolecular relax., temp. depend., isotope separation, IR multiphoton excitation 1−37191
3,6-dihydro-2H-pyran, ring deform., far-IR obs. 1−45960
4-6-dihydroxy-2-methyl pyrimidine, IR spectra 1−33460
1,8-dihydroxy-9-anthrone, struct., ^{13}C and ^1H NMR, IR spectra, X-ray crystallography, U.S.P. reference standard 1−20176
dihydro[5]helicene, vibr. optical activity and IR circular dichroism, dynamic polarisation model 1−10766
dimethyl cadmium, IR spectra, isolated C-H stretching freqs., methyl group geometries and dissoc. energies 1−14900
dimethyl dichalcogenides, struct., Raman and IR spectra 1−6268
dimethyl ether-formaldehyde complex, in solid N, IR spectra 1−1229
dimethyl fumarate, trans-trans and trans-cis conformers, vibr. spectra 1−10730
dimethyl mercury, IR spectra, isolated C-H stretching freqs., methyl group geometries and dissoc. energies 1−14900
dimethyl zinc, IR spectra, isolated C-H stretching freqs., methyl group geometries and dissoc. energies 1−14900
1,2-dimethyl-1,2,-diazetridine, mol. struct., electron diffr., microwave, IR and Raman spectra, force fields 1−45947
dimethylchloronium-d_n ions, IR photodissoc. by low intensity CW laser 1−31873
1,2-dimethylcyclopropane, cis- and trans-, IR and Raman spectra, vibr. anal., torsional study 1−52947
dimethylphosphine-d_3($-d_6$), microwave, IR and Raman spectra 1−45939
dinonylnaphthalenesulphonates, IR spectra, hydration effects 1−6257
dinonylnaphthalenesulphonic acid and 2 ethylhexanol, intermol. interactions and hydration, IR spectra 1−6336
1,4-dioxene, ring deform., far-IR obs. 1−45960
dipolar solute molecules in nondipolar rotator phase benzene and tetramethylsilane, zero-THz spectroscopy 1−33461
dipolar solutes, microwave and far IR spectra, mol. dynamics anal. 1−1233
1,3-disilacyclobutane-1,1,3-d_3(d_4), IR ring-puckering combination band spectra 1−37199
1,3-dithiole-2-thione, vibr., normal coordinate calcs., IR and Raman obs. 1−45959
1,3-dithiole-2-thione (and Se analogues), mol. vibrs., force consts., IR obs. 1−45957
electron donor molecules, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231
epichlorohydrin, IR and Raman spectra, conformational study 1−19102
ethane, mol. const., Fermi and Coriolis resonance, rot.-vibr. IR obs. 1−24133
ethane-d_3, least squares anal., rot.-vibr. IR obs. 1−24134
ethanes, substituted, CH stretching freqs., CNDO/2 calcs. 1−24050
p-p-ethoxyphenylazophenyl alkanoates, nematogenic homologous series, solid state IR spectra 1−16564
ethyl vinyl ether, vibr., rot. isomers, pot. function calcs. enthalpy determ., IR obs. 1−45963
ethylene, collision-induced microwave and far IR absorpt. 1−46080
ethylene, rot. lines, relax., time of flight anal., IR active modes 1−6254
ethylthionformate, struct. and vibr. spectra 1−24130
ferrocene, IR spectrum at high press., evidence of phase transition 1−8059
3-fluoro-toluene, vibr. modes, IR spectra 1−16557

infrared spectra of organic molecules and substances continued
fluorobenzene in benzene, impurity absorpt. spectra, concs. depend., mol. clusters 1−31171
fluoroform($-d_1$), integrated IR intensity and atomic polar tensors 1−37188
fluoroform-d, microwave IR spectra, rot. vibr. parameters, dipole moment, Stark effect 1−6246
fluoromethane-NaCl, evaporation and desorption by IR laser reson. excitation of mol. vibr. 1−20574
t-2-fluorovinyl free radical from F+acetylene reaction, IR vibr. spectra in solid Ar 1−28965
formaldehyde+HO_2, form. of hydroperoxy-hydroxy-methane, IR spectra 1−14880
formaldehyde complexes with HBr, Cl_2 and ICl, IR spectra, mol. vibr. 1−24144
formaldehyde-d_2(d_1), rot. resolved IR-UV double reson. spectra, rovibr. and rovibronic transition, mol. fluoresc. 1−41378
gas phase, hydrogen bonding, investigated by IR and microwave spectrosc. 1−24284
germaylazide-d_0 ($-d_3$), IR and Raman spectra, vibr. struct., normal coordinate anal., force const. 1−51205
tris(glycine)Ca II dibromide, IR spectra 1−45950
bis(glycine)Ca II dichloride tetrahydrate, IR spectra 1−45950
bis(glycine)Ca II diiodide monohydrate, IR spectra 1−45950
α-glycine cryst., NH_3^+ CH_2 free radical EPR, trapping matrix effect 1−26038
glycine in solns. and gas phase, IR spectra and struct. 1−1232
α-halogenoacetamides, rotational isomerism, IR study 1−10729
halogenoalkanes, mol. vibr. freq. tables 1−51310
halogenoalkyl ethers, mol. vibr. freq. tables 1−51310
halomethane cations, photochem., IR and visible absorpt. spectra 1−8585
halomethyl cations, photochem., IR and visible absorpt. spectra 1−8585
4-n-heptyl-4′-cyanobiphenyl, assignment of far IR absorptions 1−3397
1,5-hexadiene-3-yne, conformation, vibr. spectra, IR and Raman obs. 1−48074
hexamethylbenzene-tetracyanoethylene CT complex, IR spectra at high press. 1−48089
hexamethylenedimethylurethane, IR and Raman spectra, vibr. calc. 1−6258
hexamethylenetetramine, IR and Raman spectra of struct. and stability 1−43116
hexanes, 1,6-dichloro- and 1,6-dibromo-, Raman and IR spectra, mol. conformations and vibr., force const. 1−28969
1-p-hydroxyphenyl-(1′-p-phenolate)-dithianium monoperchlorate, mol. and cryst. struct. 1−30217
1,1′di-p-hydroxyphenyl-(1″-p-phenolate)-trithiophanium biperchlorate, cryst. struct. determ. 1−30218
1-p-hydroxyphenylthianium perchlorate, X-ray cryst. struct. determ., IR spectra 1−2420
8-hydroxyquinoline, IR absorpt. spectra 1−41374
8-hydroxyquinoline in solvents, intramol. H bonds, IR spectra 1−33459
imidazole(-d), C-H(D) and ring vibr. in IR spectra, ν^D/ν^H appl. 1−1225
imidazole crystals, H-bonds, ν_s modes, anharmonic interactions 1−26182
imidazole crystals, H-bonds, polarised light IR spectra meas. 1−21181
imidazole crysts., H-bond energy coupling, cryst. effect 1−34278
inclusion bands, due to occluded CO_2 in KBr pellets 1−14899
iodomethane, ^{129}I isotope shift in ν_6 band, tunable diode laser spectroscopy 1−41434
iodomethane-d_3, lowest fundamental, rot. transitions mol. consts., IR obs. 1−51198
IR spectra, absorpt. and dispersion intensity meas. 1−16555
isobutylene, vibr. phase relax. and freq. shift, solvent effects 1−10707
isophthalic acid, vibr., H bands, IR and Raman obs. 1−31155
laminated film, spectra separation of surface and 2nd layers by Fourier transform IR ATR spectrometry *(Japanese)* 1−8063
lanthanide complex, β-benzidinyl 2,4-dihydroxy propiophenone mag. and spectral obs. 1−31136
lead formate, thermal behaviour, IR spectrosc. investig. 1−52288
Lexan, thin polymer film, refractive index in IR region 1−16616
liquids, optical consts. meas. by IR spectrophotometry, combined transmission and ATR error control 1−14185
liquids, optical consts. meas. in IR by reflection spectrophotometer 1−14184
lithium oxalate, vibrational studies, IR and Raman spectra 1−12494
LIX63(HOx)-dinonylnaphthalenesulphonic acid mixtures, interfacial chem. aspects of Ni extraction 1−4128
maleic anhydride, cryst., vibr. spectrum, reson. interactions 1−3398
methane, $3\nu_3$ band, IR Fourier transform spectra, vibr. rot. consts. 1−6255
methane, ^{13}C, vibr. and rot. overtone, spectroscopic consts., isotope effects, algorithm 1−14865
methane, Doppler-free intracavity polarisation spectroscopy 1−14187
methane, solid, far IR and Raman spectra under high press., first-order phase transition 1−39106
methane absorption line, ν_4 band, PbSnTe laser freq. stabilisation 1−24143
methane line profiles near 1.1 μm in Saturn atmosphere 1−54415
methane-d_1, ground state rotational consts., excited states, IR obs. 1−51202
methane-d_2, vibr. energy transfer pathways, IR modes, fluorescence obs., rot.-vibr. calcs. 1−37245
methanes, substituted, CH stretching freqs., CNDO/2 calcs. 1−24049
methanethiol-d_3(d_4), gas phase IR and liq. phase Raman spectra, 4000-200 cm^{-1} *(French)* 1−51194
methanol, mol. vibr., in far IR laser, Stark effect, IR obs. 1−14883
methanol(-d_4), decomp. on Ni (100), IR spectra, thermal desorption, and LEED meas. 1−17108
methanol-formaldehyde complex in solid N, IR spectra 1−1229
methyl chloride, ν_1-ν_3 IR hot band and mol. parameters determ. 1−51196
S-methyl dithiocarbamate, mol. vibr. and conformation, IR and PMR spectra 1−45965
methyl fluoride, ν_3 fundamental and Stark effect, IR obs. 1−24140
methyl iodide, vibr.-rot. spectrum studied by diode laser spectroscopy, mol. const., nuclear quadrupole splitting 1−37206
methyl iodide-d_3, ν_3, K-band hot band, mol. consts. derived struct 1−37203
methyl isocyanide chemisorbed on Rh/Al_2O_3, IR spectrum 1−14902
methyl methylsilyl sulphide, rotational isomerism, vibr. spectra 1−10731
methyl titanium trihalide, IR and Raman vibr. spectra and rot. barriers 1−1227

infrared spectra of organic molecules and substances continued
methyl vinyl ether, high energy isomer conform., calc. from IR spectra 1−37353
N-methylacetamide in CCl_4 solvent, H bonding 1−10724
methylacetylene, rot. const., vibr., Fourier transform IR obs. 1−24135
methylene blue, IR intensities and Coriolis interactions 1−29041
N-methylformamide in CCl_4 solvent, H bonding 1−10724
5-methylresorcinol, IR and Raman spectra of struct. and stability 1−43116
5-methylresorcinol-hexamethylenetetramine, IR and Raman spectra of struct. and stability 1−43116
molecules, intramolecular H-bonds studied using IR and NMR spectroscopy, proton polarisability 1−14913
naphthalenes, β-substituted, impurity absorpt. spectra, concs. depend., mol. clusters 1−31171
o-naphthodiazoquinone derivatives, photochemical reactions, substituents effect 1−43685
organohydrogen silences, liq., Raman and IR bandshapes study 1−33456
Δ^4-1,3,2-oxazaphospholines, IR and Raman spectra, stretching vibr. assignment 1−1230
oxetane...HF heterodimer, geometry, H-bonds, IR and microwave spectra, rot. and centrifugal distortion const. 1−24145
pentachloronitrobenzene, rotator phases, zero-Thz spectroscopy 1−33461
pentahaloethanes, conformations and CH stretching IR overtone spectra, local mode description 1−51195
pentanes, 1,5-dichloro- and 1,5-dibromo-, Raman and IR spectra, mol. conformations and vibr., force const. 1−28969
perchloro-1,5-hexadiene-3-yne, conformation, vibr. spectra, IR and Raman obs. 1−48074
phenylethanes, substituted, vibr. circular dichroism of methyl deformation modes 1−37184
3-phospholene-d_0(-1-d_1), low freq. vibr. spectra, ring puckering pot. energy function 1−28949
phosphonyl groups, exocyclic, IR and Raman spectra, stretching vibr. assignment 1−1230
phthalazine hemiperchlorate, H bonds, Evans holes, struct., X-ray diffr., IR obs. 1−28962
phthalic acids, vibr., H bands, IR and Raman obs. 1−31155
PMMA, IR spectra, automated calculation of optical const. 1−8030
poly(β-propiolactone)-poly(vinyl chloride) system, Fourier Transform IR studies 1−16563
poly(trans-heptenylene), orthorhombic modification, vibr. spectroscopic studies 1−34245
poly(trans-pentenylene), orthorhombic modification, vibr. spectroscopic studies 1−34245
poly(vinylidene fluoride), cryst. struct. of phase IV 1−11739
poly-p-toluidine films, electrodeless glow discharge prod., dielec. props. meas., IR spectrum 1−48008
poly-p-xylylene films, optical props., heating and radiation effects 1−48181
polyacetylene:$I_2(AsF_5)(SO_3)$, doping effects on spectroscopic studies 1−39072
polyacetylene films, IR spectra, oxidative and radiative stability 1−16620
polyalkyloxycarbonyldecyl maleimides order, X-ray and IR obs. 1−38308
polyamideimide films, aromatic, degradation in NO_2 atmosphere 1−48545
polydiacetylene, model conjugated polymer, exptl. studies 1−20081
polydimethylbutadiene, trans, vibrational spectra and normal coordinate anal. 1−43111
polyethylene, cross-linked, water treeing obs. by IR Fourier transform spectroscopy 1−21654
polyethylene, cryst., soln.-grown, chain trajectory, IR and small angle neutron scatt. obs. 1−31150
polyethylene, crystalline, trans-gauche conc., CD_2 rocking mode vibr. meas. 1−11683
polyethylene, single crysts., defect modes for (200) GGTGG tight fold reentry 1−30343
polyethylene fibres, IR spectra, specimen prep. 1−53370
polyethylene single crysts., selective chem. modification 1−52948
polyethylene solid solns., struct. from vibr. spectroscopy and thermal anal. 1−15816
polyethylene-d_n mixed crystals grown from soln., IR spectra of chain organization 1−38297
polyisoprene, trans, two polymorphic forms, vibrational spectra and normal coordinate anal. 1−43111
polyisoprene with different structures, IR spectra obs., vibr. anal. 1−2349
polymer, solid state struct., mol. struct. calcs. applic., review 1−52082
polymeric composites, interface stressed state 1−48435
polymeric systems, IR spectra, graphical deconvolution correction for instrum. distortion 1−41381
polymers, Fourier transform spectrometry, detector port radiation effect on insertion loss determ. 1−36746
polymers, semicrystn., IR studies on deform. 1−35328
polymethine dye solns., spectral props. and degree of bleaching 1−15231
polyparabenzamide fibres, IR spectra, specimen prep. 1−53370
polyphenylene: AsF_5, highly conducting cryst., oligomers solid state synthesis 1−11697
polypropylene, molecular deform., IR spectra 1−11802
polypropylene laminated film, spectra separation of surface and 2nd layers by Fourier transform IR ATR spectrometry *(Japanese)* 1−8063
polystyrene, amorphous, molecular behaviour under tensile stress, IR and X-ray obs. 1−39383
polystyrene, atactic films, optical consts., attenuated total refl. spectrosc. determ. 1−53008
polythiazyl, epitaxial polymerisation, chemical defects 1−12998
polyurethanes, IR and Raman spectra, vibr. calc. 1−6258
polyurethanes, IR spectra, heating and loading effects 1−31157
polyurethanes, three-dimens., mech. props., liq. media influence 1−53247
polyvinylidene fluoride films, glow discharge polymerisation prep., dielec. and piezoelec. props. 1−31367
potassium fumarate, dihydrated, IR spectra and bonds *(French)* 1−2392
potassium fumarate dihydrate, Raman spectra, existence of H-bond *(French)* 1−48076
potassium hydrogen difluorofumarate, cryst. struct., hydrogen bonds, mol. vibr., X-rays obs. 1−15884
potassium hydrogen difluoromaleate, cryst. struct., hydrogen bonds, mol. vibr., X-rays obs. 1−15884
potassium oxalate, vibrational studies, IR and Raman spectra 1−12494
praseodymium fluoro β-diketonates, interelectronic repulsion, spin-orbit interaction bonding, IR spectra 1−51197
propionitryl, oscillatory spectra, dipole-dipole intermolecular interactions 1−19098

infrared spectra of organic molecules and substances continued
propynal, collisional energy transfer, vibr., IR multiphoton absorpt. 1−41478
propyne-$3d_1$, mol. vibr., polarisation, IR and Raman obs. 1−14901
pyrene, IR vibronically tangled spectra in biphenyl matrix 1−37196
pyridine, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231
pyridine, sorption as oxide catalysts, IR spectrosc. and gravimetric determ. 1−21198
pyridines, disubstituted, IR absorpt. spectra, assignments 1−33458
2-(α-pyridyl N-oxide)ethane sulphonic acid, hydrogen bonds, NMR and IR obs. 1−10734
quinoline monohydroxiderivatives, IR spectral anal. *(Spanish)* 1−6259
α-resorcinol, IR and Raman spectra, vibr. exciton states, fine struct., crystal and mol. transitions 1−39076
Saran, thin polymer film, refractive index in IR region 1−16616
silicone rubber, heat treatment effect on dissipation factors 1−3795
sodium acetylacetonate, elec. and spectral props., gamma irrad. effects 1−47639
sodium oxalate, vibrational studies, IR and Raman spectra 1−12494
solvent shifts, far IR spectra 1−1141
trans-stilbenes, fluorinated, vibrs. IR and Raman obs. 1−31151
styrene, mol. vibr., isotope effects, IR and Raman obs. 1−14893
sultam rings, five membered aromatic and aliphatic, IR spectral absorption bands 1−37212
TCNQ, absorpt. spectra, exciton band shifts *(Russian)* 1−21215
TCNQ salt, stilbene-TCNQ complex, absorpt. spectra, exciton band shifts *(Russian)* 1−21215
TCNQ salt, TCNQ-trimethylbenzimidazol, IR absorption temp. depend. 1−39066
TCNQ salt, TEA$(TCNQ)_2$ and Qn$(TCNQ)_2$, neutron irrad., IR spectra 1−31147
TCNQ salts, IR absorpt. temp. depend. 1−31133
TCNQ salts, TEA$(TCNQ)_2$ and Qn$(TCNQ)_2$, neutron irradiated, IR vibr. spectra 1−3421
Teflon fluorocarbon resin tape, use as IR window material 1−16556
tellurolesters, Te-alkylated, synthesis and IR spectra 1−4081
terephthalic acid, vibr., H bands, IR and Raman obs. 1−31155
tert-butanol, solid, phase transformations, IR study 1−16035
tertiary amines-carboxylic acids complexes in Ar matrix, IR spectra 1−10735
tetrafluoroethylene powder, reflectance and fluorescent properties 1−26183
tetrahaloethanes, conformations and CH stretching IR overtone spectra, local mode description 1−51195
tetrakis(trifluoromethyl) stannane, vibr., config., electron diffr., Raman and IR obs., normal coordinate anal. 1−45961
1,2,4,5-tetramethyl benzene, h_{14} and d_{14}, vibr. dephasing, spontaneous Raman spectra, temp. depend., IR spectra 1−8056
1,2,4,5-tetramethyl durene, h_{14} and d_{14}, vibr. dephasing, spontaneous Raman spectra, temp. depend., IR spectra 1−8056
tetrapropylammonium triidomercurate(II) cryst. at. struct., Raman and IR obs., 1−15883
thioacetamide-protonacceptor complexes, mol. vibr., hydrogen bonds, IR obs. 1−14892
thiocarbohydrazide ($-d_8$), electronic struct., conformation, vibr., IR obs. 1−45958
N-thiol-2 ethyl acetamide, Raman and IR spectra, struct., vibr., intermol. H-bonds *(French)* 1−24156
thiol-2 N-methylacetamide, Raman and IR spectra, struct., vibr., intermol. H-bonds *(French)* 1−24156
thiol-3 N-methylpropanamide, Raman and IR spectra, struct., vibr., intermol. H-bonds *(French)* 1−24156
thiomorpholides, IR spectra and bands 1−1237
thiopiperidides, IR spectra and bands 1−1237
thiourea, ferroelec., soft mode in disordered-incommensurate-commensurate transform 1−21139
thymine anion, tautomerism in solid state, IR and Raman spectral study 1−21195
2,4-toluene diisocyanate based polyether polyurethanes and polyurethaneureas, struct.-props. comparison 1−15819
trichloroacetic acid, rot. isomerism and conform. equilib., IR absorpt. spectra obs. 1−37211
1,1,1-trifluoro-2-propanone, mol. vibr., rot. isomerism, IR and Raman obs. 1−14894
trifluoromethane sulphenyl chloride, force fields, isotopic species, thermodynamic properties, IR and Raman obs. *(German)* 1−14897
trimethyl borane, normal vibrations or rigid molecule 1−33462
trimethylchlorosilane, liq., Raman and IR bandshapes study 1−33456
trimethylene selenide, ring puckering pot. functions, rot. consts., vibr., IR and microwave obs. 1−45946
trimethylene sulphide, ring puckering pot. functions, rot. consts., vibr., IR and microwave obs. 1−45946
triphenylplumbol($-d_1$), vibr., isotope effects, IR and Raman obs. 1−31153
triphenylsilol($-d_1$) vibr., isotope effects, IR and Raman obs. 1−31153
triphenylstanol($-d_1$), vibr., isotope effects, IR and Raman obs. 1−31153
Trogamid-T, thin polymer film, refractive index in IR region 1−16616
$(TTF)I_{0.71}$, reflectance spectrum, temp. depend. 1−3411
TTF salts, organic conductors, role of intramolecular vibrs. in Peierls transition 1−25631
TTF-TCNQ, intramolecular phase phonon absorpt. as probe for phase transitions 1−52955
TTF-TCNQ, near IR and visible reflectance spectrum, temp. depend. 1−3415
vibrational spectra, IR and Raman, computer aided interpretation based on CRISE program 1−48050
vitamin K_1-dihydrovitamin K_1 mixture, visible and IR spectra, charge transfer interaction, hydrogen bonding 1−39120
water+alicyclic ketones, hydrogen bonded complexes, IR spectra 1−51207
water+aliphatic ketones, hydrogen bonded complexes, IR spectra 1−51207
o-xylil-diamine N-oxide perchlorates, intramol. polarisable H-bonds in IR absorbance, screening effect 1−19096
o-xylil-diamine perchlorates, intramol. polarisable H-bonds in IR absorbance, screening effect 1−19096
AgI-type organic conductors, order-disorder phenomena, IR-active phonon mode obs. 1−52925
Al coordination complex, bis(pyridine)trichloro aluminium(II), struct. study by IR and Raman spectra 1−28970
C beds for adsorption of organic solvent vapours, IR obs. 1−28972

infrared spectra of organic molecules and substances continued
CF_3SCF_3, geometry and internal rot., gas electron diffr. 1−29140
CF_3XF, matrix isolation IR obs., prod. from F+trifluoromethyl halides 1−6243
$(CHF)^-$-HX (X=Cl, Br, I), photochem., IR and visible absorpt. spectra 1−8585
(CHX^-)-HF, (X=Cl, Br, I), photochem., IR and visible absorpt. spectra 1−8585
CN stretching IR absorpt. band, solvent behaviour, localised MO rationalisation 1−51206
CO_2 mol. in thermodynamically nonequilib. gas flows, vibr. temp. meas. 1−44920
$ClSCF_3$, geometry and internal rot., gas electron diffr. 1−29140
Cr complexes, $(C_6H_5)_nPRCr(CO)_5$ (where R=methyl, ethyl, i-propyl, t-butyl), synthesis and IR spectra, vibr., inductive effect 1−26195
F+methanol($-d_1$) ($-d_3$)($-d_4$), IR chemiluminescent reactions, vibr. and rot. relax., branching ratios and kinetic isotope effects 1−26750
$FSCF_3$, geometry and internal rot., gas electron diffr. 1−29140
$Fe(CO)_4$ Ar matrix isolated, laser photochemistry, IR obs. 1−41376
H-bonded complexes in liquids, theory of vibr. IR bandshapes 1−48052
NH production by IR multiphoton dissoc., emission, laser energy and pressure depend. 1−6248
NH_2 production by IR multiphoton dissoc., emission, laser energy and pressure depend. 1−6248
NH_3, prod. of NH and NH_2 by IR multiphoton dissoc., emission, laser energy and pressure depend. 1−6248
Si, Cu decoarated dislocations, IR and X-ray obs. of Cu extraction 1−25275
UF_6, vibr. excited mol., IR spectra, rot. transitions, band shape changes 1−37190
UO_2(hexafluoroacetylacetonate)$_2$.tetrahydrofuran isotopic selectivity in IR laser dissoc. 1−10794

infrared spectra of polyatomic inorganic molecules
alcohols, free O-H stretching vibr. fourth overtone, solvent effects 1−28963
band intensities of fundamental and overtone transitions, H bonding effect 1−45948
Co complex, cis-$(Co(en)_2(Im)Cl)Cl_2$ where Im=imidazole or substituted imidazole, ^1H and ^{13}C NMR and IR spectra 1−52852
dipolar solutes, microwave and far IR spectra, mol. dynamics anal. 1−1233
electrolyte solution and molecular liquid thermodynamic parameters from IR spectroscopy 1−29524
metal carbonyl molecules, CO-metal bond, IR intensity 1−28964
metal carbonyls, IR photodissoc. kinetics and mechanisms 1−35555
methane, ν_4 IR absorpt. with ultra-high resolution using tunable diode lasers 1−45956
$^{14}NH_3$, vibr., IR obs. 1−14885
pentaborates, isotope effects, IR and Raman obs. *(German)* 1−14898
polyatomic molecule multiphoton absorpt. dynamics, generalised Langevin theory 1−33526
stratosphere, molecular composition, IR emission spectra from balloons and satellites 1−17672
tetraborates, isotope effects, IR and Raman obs. *(German)* 1−14898
transition metal(II) nitrates imidazole complex(-d), IR spectra and internal vibr. 1−1226
transition metal(II) perchlorates imidazole complex(-d), IR spectra and internal vibr. 1−1226
transition metal μ-oxo-decahalides, reson. Raman, IR and electronic spectra 1−19100
transition metal complexes, Schiff bases, IR electronic spectra and mag. moments 1−21712
vibrational energy redistrib. on laser excitation of high levels *(Russian)* 1−33450
$[Os_{10}C(CO)_{24}]^{2-}$, vibr. freq. of interstitial C, ^{13}C enrichment, IR obs. 1−45962
Ag halide clusters, IR vibr. matrix isolated spectra 1−10881
B compounds, ground states, NDO calcs. 1−10733
$B_2H_6(B_2D_6)$, gaseous and crystalline phases, IR spectra, vibr. assignments, Fermi reson., force field calc. 1−41379
CO_2, decarboxylation of vinyl acetic and pyruvic acids, mol. vibr., IR obs. 1−33457
CO_2 gas, conc. determ. by He-Ne laser 1−17135
CO_2, IR spectra and mol. const. in 1.4-1.7 μm atmospheric window, Fourier transform spectroscopy 1−19090
CO_2 in Venus atmosphere, IR transmission for spectral region near 10 micrometres 1−4804
CO_2, infrared radiation of molecules vibrationally excited in 4.3 μm and 2.7 μm bands 1−37210
$^{13}C^{18}O_2$, rot. and distortion constants, IR obs. 1−14884
$^{12}C^{17}O_2$, IR Fourier transform spectra, rot. vibr. anal. 1−1217
$^{12}C^{17}O^{18}O$, IR Fourier transform spectra, rot. vibr. anal. 1−1217
$^{13}C^{16}O^{17}O$, Q-branch IR spectra 1−1219
$^{13}C^{17}O_2$, Q-branch IR spectra 1−1219
$^{13}C^{17}O^{18}O$, Q-branch IR spectra 1−1219
$^{13}C^{18}O_2$, Q-branch IR spectra 1−1219
$Cd^+NO_3^-$ IR spectra, formed from Cd+NO_2 matrix reaction 1−1220
ClCN, Rydberg transition, oscillator strengths IR obs. 1−41377
ClO_2, mol. vibr., isotope effects, spin-rotation interaction const., IR obs. 1−24137
ClO_4^-, mol. vibr., force constants, isotope effects, matrix isolation, IR obs. 1−14895
Co complex, $[CO(NH_3)_5NCSAg](ClO_4)_3$, mol. vibr., IR and Raman obs. 1−14906
CrO_2Cl_2, collisionless IR multiphoton excitation, emitter lifetime and vel. distrib. 1−37185
Cu complex, bis(biuretato)Cu(II,III), Raman and IR spectra, normal coord. anal. 1−1244
Cu complex bis(oxamidato)Cu(II,III), Raman and IR spectra, normal coord. anal. 1−1244
Cu halide clusters, IR vibr. matrix isolated spectra 1−10881
$Cu_nCl_mBr_{n-m}$ clusters, IR vibr. matrix isolated spectra 1−10881
D_2O, in benzene, far IR absorption intensity 1−1222
D_2O in solns., angular motion, for IR bandshapes 1−6249
FO_2, IR vibr. spectra and photodissoc., prod. from $F+O_2$ reaction in Ar matrix 1−39615
$^{74}GeH_4$, CARS and IR spectroscopy, vibr. states 1−14891
$H+Br_2(SF_5Br)(PBr_3)(SF_5)(SF_4)$, rale const. and vibr. energy disposal 1−39609
H_3BO_3, isotope effects, IR and Raman obs. *(German)* 1−14898

infrared spectra of polyatomic inorganic molecules continued
HCl in solns., angular motion, for IR bandshapes 1−6249
HDO in D_2O, overtone OH stretching spectrum, depend. on H-bonds 1−1234
HN_3, ν_3 fundamental, Stark effect, IR obs. 1−51201
HNO_3, absorption, temperature depend., 11.3-μm region 1−37182
HNO_3, IR spectra, rovibr. consts. 1−1218
HNO_3 IR spectroscopic study around 11.4 μm from Mont-Louis ground level obs. *(French)* 1−49357
HNO_3-O_3 bands near 1720 cm^{-1}, high-resolution IR balloon-borne solar spectra, laboratory spectra comparison 1−22483
HNSO, DNSO and $H^{15}NSO$, IR spectra, vibr. pot. function, centrifugal distortion const., harmonic force field 1−37201
H_2O, fundamental vibr., multiple internal reflections, absorptions, IR obs. 1−19094
H_2O, in benzene, far IR absorption intensity 1−1222
H_2O, in situ form., hydroxide lattices, proton conductivity, IR and thermally stimulated depolarisation obs. 1−24128
H_2O in solns., angular motion, for IR bandshapes 1−6249
H_2O, matrix isolated, vibr., multimers, intermolecular interactions, IR obs. 1−51199
H_2O, vapour, absorpt. meas. using tunable far-IR optically pumped laser, data in region 60-105 cm^{-1} 1−10727
H_2O vapour, continuum absorpt., IR obs. 1−19095
$H_2{}^{16}O$, enriched with $H_2{}^{17}O$, $H_2{}^{18}O$, rot., IR obs. 1−51200
$H_2{}^{17}O$ and $H_2{}^{18}O$ isotopic species, Fourier transform spectrum, ν_2 band analysis *(French)* 1−24129
HOCl bending modes, IR spectra analysis by Ebert spectrometer 1−37197
HOD, vibr. spectra in $H_2O(D_2O)$ solns., H bonding, fluctuation model calcs. 1−28984
$H_2Os_{10}C(CO)_{24}$, vibr. freq. of interstitial C, ^{13}C enrichment, IR obs. 1−45962
HPO_4^{2-} dimen., vibr. charact. from $SnHPO_4$ single cryst. Raman spectra 1−48090
H_2S, IR spectra, vibr. band anal., Coriolis interacting band, microwave transitions 1−41380
H_2Se, IR spectra, vibr. band anal., microwave transitions, ground state const., Coriolis interacting band 1−45953
H_3Sil, rot.-vibr. anal., force consts., IR obs. 1−51203
LiNCS dimerisation in aprotic solvents, IR and Raman vibr. study *(French)* 1−31847
MoF_6, laser isotope separation, rot. consts., IR absorpt. obs. 1−24139
N_2-SF_6 mixtures, simultaneous IR transitions 1−37189
NF_4AsF_6, vibr. spectra, isotope shifts, rel. to GVFF calcs. for NF_4^+ 1−6261
NH_2, Zeeman effect in IR spectrum, tunable diode laser obs. 1−14957
NH_3 laser system, optically pumped, calc.-expt. gain/absorpt. spectra evaluation 1−29263
NH_3, spatially resolved IR absorpt. meas., optical Stark effect 1−51208
$^{14}NH_3$, inversion and inversion-rot. spectra, IR-microwave two-photon and IR heterodyne meas. of ν_2 band 1−37205
$^{15}NH_3$, rot. and centrifugal distortion consts. far IR rot.-inversion obs. 1−24138
$NH_3.H_2O_2$, X-ray diffraction pattern, stretching vibrs., IR obs. 1−37187
$(NH_3)_2.H_2O$, X-ray diffraction pattern, stretching vibrs., IR obs. 1−37187
NO, rot. transitions studied in far IR region by high-reduction tunable spectroscopy 1−37202
NO_2, opt. prepared, collisionless IR multiphoton excitation, visible fluoresc. obs. 1−33527
N_2O, IR spectra, line strengths and self-broadened linewidths, vibr.-rot. interaction polynomial calc. 1−45954
N_2O in atmosphere, remote DF lidar meas. 1−13500
NOF_3, gas phase IR spectra 1−37200
$^{14}N^{16}O_2$, diode laser spectra of ν_2 band, rot. and spin-rot. consts. 1−37204
$Np(BD_4)_4$, vibr. spectra and normal coord. anal. 1−10726
$Np(BH_4)_4$, vibr. spectra and normal coord. anal. 1−10726
O_2/OCS/Ar, matrix samples, S_2-SO_2 energy transfer, photolysis, thermoluminesc., fluoresc., IR absorpt. 1−48703
O_3 anomalous dispersion, IR absorpt., band intensity meas. 1−45952
OCS solution in n-heptane liq., rot. relax., IR and Raman spectra, free vol. and viscosity effect 1−25138
O_2F_2, IR vibr. spectra and photodissoc., prod. from F+O_2 reaction in Ar matrix 1−39615
$OGeF_2$, IR spectra, prod. from GeO+F_2 matrix reaction *(German)* 1−31850
$OPCl_3$, IR and Raman matrix isolation spectra, band contour anal. and mol. force fields 1−1235
OsO_4, monoisotopic, absorpt. investigation using saturation spectroscopy 1−24150
$^{192}OsO_4$ gas, ν_3 band vibr.-rot. spectra using diode laser 1−1239
PH_3, ν_2 and ν_3 spectral lines, Jupiter atm. spectral radiative model appl. 1−1221
SCl_2, isotope effects, GVFF calcs., IR obs. *(German)* 1−14897
SF_6, collision-induced absorpt., far IR spectra anal. 1−41472
SF_6, high-resolution double-reson. spectroscopy of $2\nu_3 \leftarrow \nu_3$ transitions 1−41411
SF_6, IR spectral absorpt. intensities in ν_3 and ν_4 regions, hot bands, combination bands and isotopic transitions anal. 1−28966
SF_6, laser radiation interaction with molecules *(Russian)* 1−51210
SF_6, sub-Doppler optothermal spectroscopy 1−23319
S_2F_{10}, IR and Raman vibr. spectra and pot. consts. 1−1236
SO_2 absorption at DF laser IR wavelengths 1−13564
SO_2, IR spectra intensities, parametric anal. 1−46025
SO_2, $\nu_1+\nu_3$ combination band, IR spectral intensity 1−37198
SO_2 rot. absorpt., absorpt. band model, appl. to planet Venus, IR obs. 1−19093
SO_2/OCS/Ar and SO_2/Ar, matrix samples, S_2-SO_2 energy transfer, photolysis, thermoluminesc., fluoresc., IR absorpt. 1−48703
$SeOCl_2$, vibr., matrix isolation IR obs. 1−24136
Si_4Br_8, IR and Raman spectra 1−1223
Si_2Cl_6, IR and Raman spectra 1−1223
$^{28}SiH_4$, CARS and IR spectroscopy, vibr. states 1−14891
$Si_2H_6(-d_6)$, crystalline, internal rot. barrier, force constants, IR and Raman obs. 1−39073
$SiH_3NCO(S)(Se)$, LF bending motion and energy levels, far IR spectra 1−14890
SiH_3NCSe, LF bending motion and energy levels, far IR spectra 1−14890

infrared spectra of polyatomic inorganic molecules continued
U complex, $UO_2SO_3.4H_2O$-methylpyrazine, polymeric 7-coord. U(IV) geometry, IR spectra 1−19091
$U(BH_4)_4$, NMR, IR and Raman vibr., electronic spectra 1−51229
UF_6, $3\nu_3$ IR overtone band 1−6225
UF_6, absorpt. selectivity of CF_4 laser radiation for isotopic variants 1−51209
$UO_3(UO_2)_3$, Ar IR matrix isolation spectra at low freq. mode 1−28967
$Zn^+NO_2^-$ IR spectra, formed from Cd+NO_2 matrix reaction 1−1220
$Zn^+NO_2^-$ IR spectra formed from Zn+NO_2 matrix reaction 1−1220
infrared telescopes *see telescopes*
infrared transmitters *see infrared sources*
infrasonic waves *see acoustic waves*
initial value problems
batch fermentation model parameter estimation and math. props. 1−31824
beams, uniform, restrained, wave eqn., existence and uniqueness of solns. 1−6809
capillary liquid, in slit, stability margin of equilibria states 1−2549
Cauchy problem, 3+1 formulation for Einstein's eqn. solns., stability, initial value problem 1−18093
convection, cellular, projection-iteration procedure *(German)* 1−41938
covariant 2+2 formulation of the initial-value problem in general relativity 1−5190
Einstein-Yang-Mills theory, 3+1 formulation 1−32889
elastic circular tube, shearing motions and formation of shocks 1−19634
fission reactor, quench front, 2-D, implicit isotherm migration 1−18724
flow-blockage problems, subchannel models, initial-value methods 1−23719
fluid dynamics, laminar boundary layer flow, finite element algorithm 1−15466
fusion reactor flow blockage problems, simplified subchannel anal., initial value problems 1−10424
general relativity, initial value problem, dynamical formulation interrelationships 1−18106
general relativity, phase space formulation, canonical quantisation, book contrib. 1−18095
general relativity, vacuum field equations, regular and asymptotic characteristic initial value problem 1−40683
gravitational field, asymptotic structure, spatial infinity group, book contrib. 1−18100
halfspace, grey, optically thick, radiation and cond., integral anal. 1−1804
heat conductivity, two dimensional problem, numerical soln. by difference method *(German)* 1−37765
heat transfer two phase model in porous media and packed beds 1−38008
inhomogeneous collisionless plasmas, numerical treatment of linearised equations 1−2142
kinetic theory, general pairwise interparticle potentials, elimination problem 1−23102
Lipschitz constants and robust ODE codes 1−22998
long waves, small amplitude, propag. model eqn., initial and boundary value problem 1−18032
multistep methods for quasilinear parabolic equations 1−22995
Navier-Stokes equations, initial value problem in L^p, abstract existence theorem 1−29637
oscillations, free, of drops and bubbles, initial value problem 1−2066
plasma transport processes, initial value problem, recent developments 1−6932
plasma without magnetic field, two-fluid theory background *(German)* 1−42145
second order differential equations, hybrid numerical methods, periodic initial value problems 1−54351
shell, theoretical problems, total approximation method appl. 1−6769
unconstrained variational statements, numerical convergence, method of stiff springs 1−24729
Vlasov-Maxwell eqns. in one dimens., Cauchy and boundary-value problems 1−19864
wave propagation in continuous media, summed progressing wave formalism 1−18048
waves, liquid three-dimensional over periodic bottoms, including surface tension, soln. 1−2005
injection lasers *see semiconductor junction lasers*
injury by radiation *see biological effects of radiation*
inorganic insulators *see insulating materials*
inorganic molecule configurations
see also isomerism
alkaline earth metal hydrogen compounds, H-bonds, ^1H and ^{19}F NMR data, struct. anal. 1−6283
first-row dihydride systems containing 4 valence electrons, geometries from CNDO/2 method 1−33399
fluorides, tetrahedral and planar trigonal, LCAO MO theory, perturbation extension, spin coupling const. 1−1145
ionomer morphology, small angle X-ray and neutron scattering study 1−2344
metal clusters, matrix-isolated, assignment of electronic spectra, appl. of mag. circular dichroism 1−41532
metal diatomics, electronic struct., ab initio relativistic core pot. studies 1−41302
peroxides, molecular, struct. and conformation, MINDO calcs. 1−10662
pyrophosphatase of yeast, inorganic, X-ray structural study, calc. of phases and model at 6 Å resoln. 1−4246
$S_4N_4Cl_2$, X-ray struct. anal. 1−34336
second-row dihydride systems containing 4 valence electrons, geometries from CNDO/2 method 1−33399
transition metal(II) nitrates imidazole complex(-d), IR spectra and internal vibr. 1−1226
transition metal(II) perchlorates imidazole complex(-d), IR spectra and internal vibr. 1−1226
transition metal complex formation by metal salt-ligating molecule mixture 1−12964
transition metal complexes, electronic lability 1−51084
transition metal complexes, linear chain, struct. chem. and synthesis 1−42365
transition metal halides, second order energy and geometry, modified PCILO method 1−41319
van der Waals mols., struct. and orbital calcs. 1−6333
water, dimer and trimer struct., vibr. spectra 1−29135
water dimer, struct. prediction, semiempirical SCF supermol. approach 1−1098

inorganic molecule configurations continued
Ag halide clusters, IR vibr. matrix isolated spectra 1−10881
Ag_3, theoretical prediction of vibr. spectra of group IB trimers, mol. struct. determ. 1−51112
Ag_n, matrix-isolated, assignment of electronic spectra, appl. of mag. circular dichroism 1−41532
$Ar.SO_2$ van der Waals mol., struct. props. and inversion 1−1212
Au_3, theoretical prediction of vibr. spectra of group IB trimers, mol. struct. determ. 1−51112
BH, correlation energy, equilib. geometry, spectroscopic consts, Rayleigh-Schrodinger perturbation theory 1−41301
B_2O_3, electronic and geometric struct., ab initio calc. 1−51115
B_2O_3, mol. struct. SCF approx. calcs. 1−14812
BS, electronic struct. and doubling parameters, ab initio calc., fine struct., spin-orbit interactions 1−45819
$BaF_2.HF$, H-bonds, ^1H and ^{19}F NMR data, struct. anal. 1−6283
BaI_2, equilib. geometry, force field and vibr. freq., electron diffr. determ. 1−29116
Be_n cluster (n=2-5), struct., ab initio calcs 1−46188
BrO_3^-, electronic struct., SCF-Xalpha study 1−6161
CF_4, self-crystallising molecular models, geometrical supplement 1−34272
CIB=S, mol. rot., moments and configs., bond lengths, isotope effects, microwave obs. 1−14876
CO_3 struct., ab initio electron correl. calcs. 1−10675
CS_2, mol. struct. factor, bond lengths, neutron diffr. exam. 1−42286
$CaF_2.2HF$, H-bonds, ^1H and ^{19}F NMR data, struct. anal. 1−6283
CdF_2, photoelectron spectra, val. shell electronic struct., ab initio SCF MO calc., ionisation pot. 1−46021
ClO_3^-, electronic struct., SCF-Xalpha study 1−6161
Co complex, Co(II)-trimethylphosphine, tetra and pentacoord. compounds, mol. and cryst. struct., EPR spectra 1−52123
$Co_2(CO)_8$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
CoIII complexes, circ. dichroism, depend. on outer sphere config. 1−1266
Cr_2, charged and neutral, electronic struct., SCF-Xα-SW calc. 1−41305
CrO_2Cl_2, vibronic activity and structure change after 580 nm electronic transition 1−10745
Cu clusters, struct. and electronic props., binding energy, ab initio LCAO-MO-SCF study 1−41304
Cu halide clusters, IR vibr. matrix isolated spectra 1−10881
Cu_3, theoretical prediction of vibr. spectra of group IB trimers, mol. struct. determ. 1−51112
Cu_n, matrix-isolated, assignment of electronic spectra, appl. of mag. circular dichroism 1−41532
$Cu_nCl_mBr_{2-m}$ clusters, IR vibr. matrix isolated spectra 1−10881
DO_2, EPR and laser mag. reson. spectra, ground state parameters determ., mol. geometry 1−37230
Dy complex, $Dy[S_2P(C_6H_{11})_2]_3$, cryst. and mol. struct., trigonal prismatic vs. octahedral coordination 1−25233
FH, correlation energy, equilib. geometry, spectroscopic consts, Rayleigh-Schrodinger perturbation theory 1−41301
FSO radical, microwave spectra, spin-rot. and hyperfine consts. 1−45941
$Fe_2(CO)_9$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
Fe(III) complexes, biogenic amines in aq. solns., ^{13}C NMR and spin-lattice relax. 1−33477
H_2^+, nonadiabatic coupling, perturbation theory for breakdown of Born-Oppenheimer approx. 1−33375
H_3BO, structure props., ab initio SCF MO calcs. 1−10648
HF, localised orbital energy and moment contribs., depend. on geom. and basis set 1−37112
HNO_3-NH_3, H bonded system, ab initio SCF MO calcs. 1−45839
H_2O, localised orbital energy and moment contribs., depend. on geom. and basis set 1−37111
H_2O, localised orbital energy and moment contribs., depend. on geom. and basis set 1−37112
H_2O, triply and quadruply excited electronic config., multiconfig. SCF study 1−1054
H_2O_2, struct. and rot. barriers, ab initio calcs. 1−45834
$(H_2O)_8$ octamer struct., mol. interactions, polarisation model 1−6419
HOO, struct. and bonding, CNDO/2 and INDO calcs. 1−45850
HOS (HSO), struct. and bonding, CNDO/2 and INDO calcs. 1−45850
H_2S, photoelectron ang. distrib. meas. using Ne I, Ne II and He II resonance radiation, energy depend. 1−6313
HSS, struct. and bonding, CNDO/2 and INDO calcs. 1−45850
H_4SiO_4, $H_6Si_2O_7$, geometries and charge distribs., ab initio STO-3G MO calcs. 1−41316
H_2TeO_6, cubic, neutron structural refinement 1−15853
HX-HX', (X and X'=F and Cl), dimer struct. and interaction pot. 1−24282
Hf, localised orbital energy and moment contribs., depend. on geom. and basis set 1−37111
Hg_2Cl_2, mol. struct., ab initio generalised valence bond 1−45857
Hg_2F_2, mol. struct., ab initio generalised valence bond 1−45857
$(H\mu H)^+$, nonadiabatic coupling, perturbation theory for breakdown of Born-Oppenheimer approx. 1−33375
IO_3^-, electronic struct., SCF-Xalpha study 1−6161
K_3, mag. props., Xα scatt. wave techniques 1−45844
KOH, diatomics-in-mols. study 1−10646
KrHF quasimolecules, rot. spectra, nuclear spin-spin coupling, nuclear quadrupole coupling and mol. struct. 1−33478
Li_4 clusters, electronic and geometric struct., ab initio CI methods, catalytic activity 1−37377
$LiBH_4$, pot. surfaces and geometry, ab initio calcs. 1−24030
$LiBeH_4^-$, pot. surfaces and geometry, ab initio calcs. 1−24030
$LiCH_4^+$, pot. surfaces and geometry, ab initio calcs. 1−24030
$LiCl_4^+$, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
$LiCl_n$, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
LiH, correlation energy, equilib. geometry, spectroscopic consts, Rayleigh-Schrodinger perturbation theory 1−41301
Li_6H_6, struct. and stability, energy gradient method calcs. 1−41299
$Li[B(SO_3Cl)_4]$, X-ray cryst. struct. determ. 1−15870
Lu complex, $Lu[S_2P(C_4H_{11})_2]_3$, cryst. and mol. struct., trigonal prismatic vs. octahedral coordination 1−25233
$Mn_2(CO)_{10}$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
Mo (VI) oxocompounds, spectroscopy and struct. 1−37356
Mo_2, charged and neutral, electronic struct., SCF-Xα-SW calc. 1−41305
inorganic molecule configurations continued
Mo_2 compounds containing central $(M{\equiv}M)^{6+}$ unit, dynamic and static stereochemistry 1−41509
N_2, photoionisation cross sections, config. mixing, HF calcs 1−41300
N_2, solid, self-crystallising molecular models, geometrical supplement 1−34272
NH_3, conformational energy calcs., core and valence shell effect 1−10621
NH_3, convergence props. of valence bond calc., struct., bonds, inversion barrier 1−37123
NH_3, localised orbital energy and moment contribs., depend. on geom. and basis set 1−37111
NH_3, localised orbital energy and moment contribs., depend. on geom. and basis set 1−37112
N_2O, metastable cyclic conformations examined by ab initio and NDO calc. 1−28878
Na_4 clusters, electronic and geometric struct., ab initio CI methods, catalytic activity 1−37377
NaHe, $X^2\Sigma^+$-$A^2\Pi$ states, pot. and emission spectra 1−24160
NaOH, diatomics-in-mols. study 1−10646
Ne_3 interaction energy, SCF nonadditivity calcs. 1−51099
Ni complex, bis(diethyldithio-carbamato)-Ni(II), IR matrix and polarised spectra 1−3388
Ni complex, macrocyclic complexes in soln., ligand ring size effect 1−8536
$Np(BD_4)_4$, vibr. spectra and normal coord. anal. 1−10726
$Np(BH_4)_4$, vibr. spectra and normal coord. anal. 1−10726
O_3, metastable cyclic conformations examined by ab initio and NDO calc. 1−28878
OC-HBr complex, microwave spectrum and mol. struct. 1−51192
OH-O H bond, empirical pot. calcs. 1−41454
PF_2HSe, mol. struct. gas electron diffr. and liq. cryst. NMR determ. 1−46142
PH_3, convergence props. of valence bond calc., struct., bonds, inversion barrier 1−37123
PLi_3, struct. and inversion barrier, ab initio SCF CI calc. 1−14804
Pb complex, bis(p-aminobenzoato)Pb(II), crystal and mol. struct. studied by X-ray diffr. 1−42356
Pb complex, nitrato-(p-aminobenzoato)lead (II), crystal and mol. struct. studied by X-ray diffr. 1−42357
$Pt(H)_2(PH_3)_2$, cis and trans. struct., energy gradient with effective core pot. approx., ab initio MO method 1−37086
$Pt(PH_3)_2$ structure, energy gradient with effective core pot. approx., ab initio MO method 1−37086
RbOH, diatomics-in-mols. study 1−10646
SH_4, configs., pot. energy surface, CI calcs. 1−45862
SiF_4, self-crystallising molecular models, geometrical supplement 1−34272
$(SiH_3)_2O$, electronic struct., rel. to silicates 1−14813
SiI_4, self-crystallising molecular models, geometrical supplement 1−34272
SiS, electronic struct. and perturbations, wavefunctions, spectroscopic const., SCF-CI energies 1−41312
$SrF_2.HF$, H-bonds, ^1H and ^{19}F NMR data, struct. anal. 1−6283
$TaCl_n$ gaseous mols., thermodynamic props., mol. struct. and vibr., review 1−31895
$U(BH_4)_4$, NMR, IR and Raman vibr., electronic spectra 1−51229
UCl_6, self-crystallising molecular models, geometrical supplement 1−34272
UF_6, self-crystallising molecular models, geometrical supplement 1−34272
W complex, tetrahydridoatetrakis (tri-iso-propylphosphito)tungsten, crystal and mol. struct. determ. by X-ray struct. anal. 1−42355
W_2 compounds containing central $(M{\equiv}M)^{6+}$ unit, dynamic and static stereochemistry 1−41509
WCl_6, self-crystallising molecular models, geometrical supplement 1−34272
ZnF_2, photoelectron spectra, val. shell electronic struct., ab initio SCF MO calc., ionisation pot. 1−46021

inorganic molecule electronic structure *see molecular electronic states*

input-output media (computers) *see computer peripheral equipment*

insolubility *see solubility*

inspection
see also quality control; reliability; testing
AGR irradiated fuel element inspection by holography 1−45715
automatic product anal. using X-rays 1−48625
fluorescent NDT, for materials inspection 1−43621
IC line width meas., BMG 160 pattern width meas. instrum. based on model-E projection microscope 1−23304
image anal. using table digitiser, programming fundamental qualities in local anal. *(German, English)* 1−8519
image analysis, equip. 1−4040
Jeep door body distortion non-contact mean system 1−24470
large parts, calc. and prep. of split combined probe for US inspection 1−39572
magnetic rubber inspection, conventional and innovative appls. 1−48596
metal, hot, split probes with US lines study 1−39571
metals, hot, ultrasonic inspection 1−8500
nuclear power station inspection by high-resolution large-volume holography 1−41646
optics in metrology and quality assurance, seminar, Los Angeles, CA, USA (Feb. 1980). 1−27662
P-scan system, for US weld inspection 1−53368
pressure vessels, US inspection 1−48595
schizeophonics inspection 1−43620
semiconductor device handling procedure for safe SEM exam. 1−5437
steel, hot, ultrasonic inspection 1−8500
steel, welded joints and surfacing, US inspection, industry standard 1−39573
transducer with nonuniform coil winding density, theory of eddy current inspection 1−39579
UHF inspection, method of adapted filtering, flow signal eval. in near zone 1−4038
US, Fresnel lenses appl. 1−39562
wafers in microelectronic cct. manufacture, model-E projection microscope 1−23303
weld inspection, P-scan system 1−53368
weld inspection, US P-scan system *(German)* 1−39557
Si wafer characterisation by visible light scatt. and interference *(Japanese)* 1−48627

instability *see stability*

instrumentation
see also aerospace instrumentation; computerised instrumentation; digital instrumentation; digital readout; display instrumentation; nuclear instrumentation; physical instrumentation control; signal generators
calibration and verification of instrumentation for trace analysis 1−31966
conference, Moscow, USSR, (May 1979) 1−27675
fluctuation phenomena in instrument science 1−218
instrumental parameters, estimation by super-modified simplex optimisation procedure 1−44869
laboratory procedures for evaluation quality maintenance 1−32973
NDT, report 1−53397
oil production, Norwegian Continental Shelf, environmental and structural instrumentation on platforms 1−27964
optics, from fundamental knowledge to applications *(French)* 1−24353
resonant wire technology applied to process control instrument design 1−23256
scientific/technological meas. techniques and instrumentation, theoretical, physical and metrological development problems 1−23142
solar cells performance parameters determ., signal processing set-up 1−50161

instruments
see also individual types of instruments, e.g. astronomical instruments, bridge instruments, optical instruments
conference, Moscow, USSR, (May 1979) 1−27675
ebulliometer modification for accurate determ. of vapour-liq. equil. 1−28151
kinematic design of fine mechanisms 1−40777
mechanical measuring instrument mechanisms, probabilistic model, sinusoidal and tangent mechanisms 1−23157

insulated gate field effect transistors
cyclotron resonance of electron inversion layers 1−3264
Hall resistivity, non-Ohmic, obs. at low-temps. in 2-D electron gas 1−38859
III-V semiconductor IGFET, MESFET and JFET problems and prospects 1−16374
inversion layer system, electron correlation and Hall mobility 1−34804
ion selective FET chemical sensor, design and applic. *(Japanese)* 1−21819
MOS ion implementation of B ions, lateral spread under mask edge 1−38402
MOS transistors, XPS studies of structure-induced radiation effects at Si/SiO_2 interface 1−43239
MOSFET, (110) and (111) surfaces, anomalous behaviour of electron transport 1−12202
MOSFET, (111) surfaces, inversion layers with sixfold valley degeneracy 1−12201
MOSFET, ballistic electron injection, phonon and sub-band spectroscopy of Si inversion layers 1−3068
MOSFET, crit. temps. for obs. of valley-splitting 1−7746
MOSFET, emission spectra from subbands in inversion layers 1−12585
MOSFET, enhanced valley splitting in surface quantum states, temp. depend. 1−12173
MOSFET, gate bias effect on hot electron trapping 1−12191
MOSFET, inverted surfaces, valley splitting, magneto-quantum oscillations 1−12199
MOSFET, magnetic breakdown in tipped superlattice 1−52467
MOSFET, many-body enhancement of valley splitting at finite temp. 1−52656
MOSFET, Shubnikov-de Haas oscillations, in (100) inversion layers, lineshape analysis, valley splitting 1−12200
MOSFET, submm. laser cyclotron reson. of inversion layers at low electron densities 1−12194
MOSFET inversion layers, high mag. field expts., valley degeneracy 1−7756
MOSFET inversion layers, high-index surfaces, far IR study 1−12208
MOSFET on sapphire and spinel, magnetocond. oscillations, (100) inversion layer obs. 1−12205
MOST, n-channel, quantum model for Shubnikov-de Haas oscillations 1−12198
n-channel, B oxidation-enhanced diffusion reduction 1−30472
RF sputtered Mo thin films on oxidised Si wafers, 7059 glass plates, MOSFET appl. 1−30847
SAW detector appl. *(German)* 1−51677
siloxane, plasma polymerised, IGFET, fabrication, characts. 1−7741
SOS, effects of strain on electron surface mobility 1−42867
SOS MOSFET, magnetocond. oscillations, (100) inversion layer obs. 1−12205
SOS MOSFETs LF excess noise 1−52672
GaAs, oxide film growth by anodization in O plasma, appl. to fabrication of devices and ICs 1−12915
InP MISFET, p-channel inversion-type, fabrication and reduction of interface states 1−12163
InP MISFETs, anodic oxide layer growth 1−38851
InP MOSFET, surface cond. and magnetoconductivity props. 1−52639
InP-SiO_2 MOSFETs, cond. and magnetoresistance 1−38857
Si (100)N channel inversion layers, carrier concentration and mobility 1−7639
Si graphoepitaxy using strip-heater oven 1−7485
Si inversion layer MOSFET, far IR emission from plasma oscills. 1−8076
Si resistors, low freq. elec. noise, temp. depend. 1−47719
Si-SiO_2, MOSFET, lattice scatt. mobility of n-inversion layers at low temp. 1−7752
Si-SiO_2 MOSFET, n-channel, Coulomb scatt. in band tail 1−7749
Si-SiO_2 MOSFET, n-channel, electron-phonon interact. in inversion layers at low temp. 1−7751
Si-SiO_2 MOSFET, Na^+ contaminated, scatt. in inversion layer, temp. depend. 1−7750
Si-SiO_2 MOSFET, non-metallic cond. at low temp., two-dimens. behaviour 1−7753
Si-SiO_2-electolyte ISFET, pH effects, interface states 1−7730

insulating coatings
see also varnish; waxes
parylene conformal insulation coatings for coil winding industry 1−53366
radiative loss reduction coating performance, 77 to 4.2K 1−51693
Al_2O_3 plasma deposited coatings, effect of impregnation and thermal ageing on insulating props. 1−12773

insulating materials
see also asbestos; ceramics; composite insulating materials; dielectric materials; gaseous insulation; glass; insulating thin films; mica; organic insulating materials; thermal insulating materials
ageing processes, acquisition possibilities *(German)* 1−29935
cryogenic insulating materials, thermal and elec. resist., loading effect 1−14139
epoxy insulation, long-term dielec. strength, elec. field and defects effects 1−43069
HV experimental breakdown investigations on insulating materials, reporting recommendations by CIGRE committee *(French, English)* 1−21125
spodumene concentrate ceramic, prep., elec. insulator 1−31389
AlN-Y_2O_3, electro-insulating ceramics prep. by sintering 1−21402
SF_6-N_2 (CO_2, air) mixtures, field breakdown gradient 1−2268

insulating materials, acoustic *see noise abatement*

insulating materials, thermal *see thermal insulating materials*

insulating oils
breakdown probability obs., temperature effect 1−21126
transformer oil, extraction of dissolved gas *(German)* 1−31929
Cu sulphurisation prevention in transformer insulating oil, anticorrosion coating props. *(Japanese)* 1−21622

insulating thin films
see also dielectric thin films; electronic conduction in insulating thin films
anodic film on superpure Al, high field ionic cond. 1−25493
black coatings with high elec. resist., for IR and visible detectors 1−37564
capacitance, effect of spatial dispersion of permittivity 1−34974
composite resistive films based on PbO-B_2O_3-SiO_2 and BaO-B_2O_3-SiO_2 sintered glass, electrical props. *(Slovak)* 1−53304
phosphosilicate glass CVD film on Si substrate, stress temp. depend. 1−2660
phosphosilicate glass film on Si substrate, SiOH and SiH groups 1−16199
polymeric films, shock induced electrical switching 1−34757
tetracene polycrystalline film in MIM and MIS structures, action spectra of photocurrent 1−34749
Ag/CaF_2/Al thin film struct., AC conduction 1−47758
Al/CaF_2/Al thin film struct., AC conduction 1−47758
Al-SiO/B_2O_3-Au thin film struct., AC measurements *(French)* 1−52662
AlN sputtered films, elec. props. and interface anal. by AES 1−34818
Al_2O_3 barrier films vacuum deposition, for high Schottky barriers 1−31353
Al_2O_3, formation kinetics in low temp. plasma 1−4002
Al_2O_3 thin films, Schottky emission 1−30807
BeO thin film, preparation, optical and thermal props. 1−16206
CuCl film, excitonic molecule two-photon excitation, Raman scatt. 1−30645
In_2O_3 film, formation mechanism on glass 1−12900
InSb-anodic oxide system, optical props. study by ellipsometry 1−26160
$Pb_5Ge_3O_{11}$ film on Si substrate, preparation and props. 1−16204
Si-SiO_2 system electrophysical props. and oxide film growth correlation 1−25807
SiN plasma deposited films, structural and elec. props. 1−16391
SiN_x film, in-line plasma CVD system for prep. *(Japanese)* 1−31360
Si_3N_4 films, N-H bond decomp. mechanism 1−39623
Si_3N_4/SiO_2 composite CVD films, pattern etching in HF/glycerol mixtures 1−31694
Si_3N_4-SiO_2-Si_3N_4 stacked insulators, dual-injector MIM and MIS structures 1−25808
SiO dielectric characts. meas. by thermally-stimulated depolarisation currents, dipolar relaxation times 1−34976
SiO, obliquely deposited, struct., use in liq. crystal devices *(Japanese)* 1−2837
SiO_2 amorphous films, thermally grown, 1 nm pores, TEM obs. 1−34591
SiO_2 film, Auger spectroscopy investigation 1−12607
SiO_2 film, cathodolum. meas. 1−3497
SiO_2 film deposition by oxidation of SiH_4, growth rate calc. 1−43272
SiO_2 film growth from water-alcohol solns. of tetraethoxysilane, spectral characts., chem. stability 1−3391
SiO_2 films, direct thermal nitridation in anhydrous NH_3 gas 1−16920
SiO_2, low press. CVD, gas phase comp. meas. 1−21357
SiO_2 MOS structure, electrophys. parameters, influence of H_2O absorpt., TCD technique *(Russian)* 1−47373
SiO_2, RF sputtered film, anomalous etching phenomenon *(Japanese)* 1−3954
SiO_2 thin films, chemically grown on Si, phys. and elec. props. 1−48254
SiO_2 thin layers, ion implanted, radiation damage, TSEE and IR spectra study 1−38412
SiO_2 thin layers struct. homogeneity, luminesc. meas. *(German)* 1−43185
SiO_2, undoped, cathodolum. spectra, intrinsic defects assignment of emission maxima *(Russian)* 1−16619
SiO_2 very thin film growth and characterisation 1−7490
SiO_2:B preparation, B diffusion from doped oxide source into Si 1−39245
$Si_xO_yN_z$ films for MIS struct., memory hysteresis meas. 1−3071
SnO_2 film, formation mechanism on glass 1−12900
Ta_2O_5 film on Si, RF-sputtered, optical and electrical props. 1−30828

insulation
see also cable insulation; electric breakdown; insulating coatings; insulating materials; insulators; transformer insulation
circular plate, sound insulation for single sound pulse 1−29423
HTGR, thermal insulation system, transient behaviour of gas flow 1−18718

insulation, thermal *see thermal insulation*

insulation testing
cryogenic insulation thermal cond. meas., steady-state apparatus 1−5325
cryogenic insulation thermal cond. meas. by cylindrical boil-off calorimeter 1−5314
gaseous dielectrics, symposium, Knoxville, USA (Sept. 1980) 1−5031
hyperboloidal electrodes, Laplace eqn. solution, appl. to dielectric testing in nonuniform elec. fields 1−11616
low-temperature insulation thermal cond. meas., single guarded cold plate apparatus improvement 1−5324
partial discharges, external (corona), in air 1−15704
polyethylene, cross-linked, water treeing obs. by IR Fourier transform spectroscopy 1−21654
polyimide thin films, use as insulators in semicond. devices, props. 1−20892
PVC thermoplastic resin, arc resist. at low temps. *(Japanese)* 1−34986

insulation testing continued
solid insulating materials, ageing processes, acquisition possibilities *(German)* 1−29935
thermosetting resins, arc resist. at low temps. *(Japanese)* 1−34986
insulator-metal boundaries *see metal-insulator boundaries*
insulator-semiconductor boundaries *see semiconductor-insulator boundaries*
insulators
i.e. insulating devices. For materials see insulating materials
see also insulation
chains, behaviour during corona discharge *(Rumanian)* 1−2263
contamination, XPS examination method 1−8199
discharge development in support insulation structures 1−15728
flashover across the surface of an electrolyte: arresting arc propagation with narrow metal strips 1−11605
HV, nondestructive US method of controlling sintering 1−8496
HV, polluted, discharge growth obs. using image intensifier 1−15741
HV insulator strings, stresses caused by arcs and their anal. and characterisation *(Hungarian)* 1−38162
hydrophobic pastes application, effects on discharge voltages *(Russian)* 1−53322
insulating structures, discharges, relationship between electric strength and electric fields 1−15729
integral equations
see also integro-differential equations
AC machines, combustion chambers with variable cross section, acoustic oscillations *(Russian)* 1−29453
aerofoil, transonic flow with embedded shocks, integral equation calc. 1−2014
antenna effects on biological body calc. 1−22058
axisymmetric elastic solids, stress conc. at grooves, boundary integral eqn. method *(Russian)* 1−19640
bas blast circuit breaker arcs, scaling laws during high current phase 1−34155
bound state problem, integral eqns., teaching 1−9799
calculating quasi static fields in media with hysteresis 1−12357
Cauchy integrals, analogues for separation and continuation of EM fields within conducting matter 1−22206
circular ring, strain in plane of another material, elastic equilib. *(Russian)* 1−46671
continuous media mechanics, quasistatic mixed problems, integral eqn. solution 1−29556
dielectric cylinder, electrostatic capacity calc., electronic transducer math. model *(Russian)* 1−48018
diffusion in media with two families of diffusion paths 1−52331
digital image restoration using quadratic programming, Fredholm integral eqn. soln. 1−6491
dynamical systems, first integrals 1−17988
Dyson equation for stochastic integral eqns. 1−14070
eclipsing binaries light curves anal., Fourier techniques for integral transforms 1−17866
eclipsing binary stars light curves, Laplace and Hankel transforms for Fourier anal. 1−13802
elastic half-space Green's tensors for boundary integral eqn. method *(Japanese)* 1−24678
elasticity, nonlocal theory, integral models, boundary-value problems and surface forces 1−29539
EM radiations in closed surface interior, vectorial integral equations *(French)* 1−81
EM scattering, formulations for wide scatterers 1−51347
EM wave diffraction by a strip, mixed boundary conditions 1−29185
EM wave diffraction in transient regime by conducting and dielectric obstacles, integral eqn. anal. *(French)* 1−1465
EM wave scatt. by dielectric solids, surface space time integral eqn. anal. for smooth Gaussian pulse 1−1464
EM wave scatt. by inhomogeneous fixed obstacles with zero conductivity 1−1462
fast electrons, asymptotic transform. of elastic collision 1−34386
first kind, appl. in experimental physics 1−15642
four body problem, integral equations from different approaches 1−679
four-body problem, quantum mechanical soln. 1−27819
Fredholm, anal. of antiplane shear waves, diffraction by Griffith crack, rigid strip 1−6808
Fredholm, radioactive source distrib. appl. 1−10613
Fredholm eqn. spectrum for radiative transfer in plane layer of finite optical thickness 1−9358
generalized Gel'fand-Levitan equation and variational relations of the Kaup-Newell equation 1−5166
H-polarised EM wave on open cylindrical surface, diffraction problem solving, numerical methods 1−15056
hard sphere fluids, triplet correl., integral eqn. soln. 1−46968
inclined ellipsoids of revolution, laminar boundary layers 1−11367
inhomogeneous atmospheres, radiative transfer theory 1−6752
integrated optics, wave propag. problems in guiding structures, boundary formulation 1−6686
Ising model two-dimensional, use of transition-matrix element in continual integrals calc. 1−9946
jets, circular supersonic-turbulent layer interaction, separation flow integral and difference eqns. calc. 1−2055
laminar boundary layer separation, integral method anal. 1−1910
laser mode-locking, homogeneous gain lasers, closed form solns. 1−15198
laser resonator characteristics, integral diffr. eqn. soln. 1−6585
layered, three-dimens. medium, multiphase flow, inverse problem, Fredholm integrals soln. 1−2073
Lennard-Jones fluid, fifth virial coeff. in two dimens., integral equation results 1−11652
light propagation, Huygens-Fresnel description in terms of generalised analytic functions 1−46215
light scattered by random media, coherence tensor propag. eqns. 1−41585
magnetic field, three-dimensional, numerical soln. using boundary integral eqns. 1−10885
magnetic field equation, nonlinear, singular, integral, mathematical study 1−51342
modified Bars-Durgut equation with polynomial eigenfunctions 1−5585
neutral particles, scattering by two-dimensional exponential corrugated potential 1−23037
non-relativistic mechanics, complete set of integrals, constants of motion 1−5140
nonlinear viscoelasticity, numerical anal. 1−33906
nonperturbative method for energy level and scatt. integral eqn. soln. 1−44789
integral equations continued
nuclear power plant reduced-load-operation strategy, Fredholm integral eqn. 1−14640
numerical integration, one-dimensional and multidimensional 1−13994
open resonator with dielectric insert 1−11599
open unstable resonators, approx. diffraction formulae compared 1−1602
optical waveguide mode computation, integral eqn. approach 1−41828
optimum calibration signals, calc. for limiting dynamic errors of meas. instruments 1−23150
Ornstein-Zernike integral eqns., generalised recursive solns. 1−185
Orr-Sommerfeld eqn. solution in hydrodynamic stability theory 1−6845
plasma diagnostics, Abel's inversion modification 1−15657
plasma diagnostics, high temperature, integral method *(Russian)* 1−15643
plasma equilibrium, toroidal, maintaining field current calc. *(Chinese)* 1−19928
Poisson's equation with point source of unit intensity, singularity and positioning constants 1−51338
potential problem solutions using reduction to Fredholm integral equations 1−33590
refractometry of axisymm. objects, schlierengram analysis using Abel integral eqn. standard forms 1−11593
response function for transient heat conduction in semi-infinite medium 1−29504
rhesus monkey visual system, neurone signal processing 1−48991
sampling theory for linear integral transforms [optical implementation] 1−41614
scattering inverse method, stability of solution of Abel's integral eqn. 1−44776
Schrodinger equation, high-order semiclassical phase integral evaluation 1−32864
shells, linear theory, recent developments review 1−6766
Signorini problem in semi-coercive cases, finite element anal. 1−37790
singular integral eqn. of scatt. theory, single method of numerical soln. 1−33245
singular integral equation involving derivative of Cauchy principal-value integral 1−32833
singular internal eqns. soln. by discrete vortex method, incorrectness and regularisation *(Russian)* 1−36493
singular nonlinear transonic integral eqn., numerical soln. problems 1−29716
singularity in integral equations of 3-dimens. EM field, subtraction 1−24325
solution using Chebyshev series 1−13996
spheres, concentric spherical, natural convection heat transfer in porous media, numerical anal. 1−1988
spline collocation soln. of integral eqns. for laminar boundary layers and heat radiation 1−42011
stellar system dynamics, collision integral divergence in discontinuous random process scheme *(Polish)* 1−32729
stress, numerical evaluation from displacement data, integral procedures. 1−1831
subsonic flow, relax. drag, nozzle and cascade profiles *(German)* 1−11421
texture function, inversion formula in terms of ang. distrib. functions 1−53196
three particle amplitudes, contour rots. method 1−5761
time-space boundary elements for transient heat conduction problems 1−29505
transonic flow, integral equation method, recent developments 1−37961
vibrating bodies, natural frequencies, narrower ranges using integral eqns. *(German)* 1−80
vibrating plates, finite element analysis of mixed boundary integral 1−15442
weakly nonlinear integral eqns., Volterra and Fredholm, method of multiple scales 1−44758
integral transforms *see transforms*
integrated circuit manufacture
Used for commercial manufacture only
see also masks; photolithography
GaAs, semiinsulating, single cryst., prod. by three temp. boat method *(Japanese)* 1−48251
integrated circuit technology
See also under specific integrated circuit headings
see also semiconductor technology
CVD of Si compounds, used for IC manufacture 1−43269
electrical metrology, effect of superconducting IC technology 1−36600
electron beam lithography, variably-shaped electron beam system, beam shape and profile evaluation, book contrib. 1−401
electron beam projector design, zoom achromate and alignment technique, book contrib. 1−400
fundamental-mode VHF/UHF miniature acoustic resonators and filters on Si 1−41930
III-V compounds, devices and epitaxy techniques 1−12958
inhomogeneity complexes, formation and influence on production yield *(Polish)* 1−2489
ion beam milling, appl. 1−48547
ion deposition and etching, simultaneous, for pinhole-free thin films of controlled thickness 1−8230
ion implantation, bipolar and MOS technology, CCD devices and precision resistor appls. 1−47104
layered semiconductors, hot electrons, appl. in VLSI circuits and optoelectronic devices 1−7625
metal-semiconductor contacts, metallurgical and elec. characterisation 1−12190
phosphosilicate glass film on Si substrate, SiOH and SiH groups 1−16199
plasma techniques appl. in semicond. field *(Italian)* 1−35187
SEM appl., submicron lines meas. system 1−18330
SOS, ion-microprobe mass anal. appl. to ion implantation 1−25299
visual inspection of wafers in microelectronic cct. manufacture, model-E projection microscope 1−23303
VLSI, hot-wall CVD W process 1−48271
X-ray lithography system 1−18343
Al and Al:Si, thin film conductors, influence of SiO_2 layer passivation on electromigration *(Slovak)* 1−25490
GaAs, oxide film growth by anodization in O plasma, appl. to fabrication of devices and ICs 1−12915
(Hg,Cd)Te materials technology for IR image sensors, advances 1−39228
$MoSi_{(2)}$ metallisation for VLSI and FET gate electrodes, RF diode co-deposition of refractory metal silicides 1−31349

integrated circuit technology continued
Si, oxide film growth by anodization in O plasma, appl. to fabrication of devices and ICs 1−12915
Si_3N_4/SiO_2 composite CVD films, pattern etching in HF/glycerol mixtures 1−31694
SiO_2, etching in tetrafluoromethane gas plasma using planar-type reactor 1−53318

integrated circuit testing
electron probe analysis *(German)* 1−45086
electron reflection microscopy and digital image processing *(German)* 1−18336

integrated circuits
see also hybrid integrated circuits; large scale integration; linear integrated circuits; masks; microwave integrated circuits; monolithic integrated circuits; substrates; thick film circuits; thin film circuits
100-channel IC integro-differential discriminator 1−1033
strobed integral pulse height discriminator 1−1034

integrated memory circuits
LSI materials, U and Th trace anal. 1−26796
neutron damage, nuclear reactions in semiconductors and particle prod. cross-sections 1−34372
proton damage, nuclear reactions in semiconductors and particle prod. cross-sections 1−34372

integrated optics
see also fibre optics; optical films; optical modulation; optical waveguides; semiconductor junction lasers
A/D convertor, electrooptic, comparatorless 1−1721
absorbing thin films, absorpt. coeff. determ. with optical waveguides 1−6683
acousto-optic modulation at GHz frequencies using integrated optic technology 1−41885
acousto-optical spectrum analyser 1−19477
acoustooptic TE-TM mode convertor, wide-band, using doubly confined struct. 1−1723
active three-layer slab waveguides, leaky mode calc. 1−19423
autofocusing integrated system and method of manufacture 1−24531
birefringent film, thin-film, fabrication by applying controlled stress 1−24530
bistable optical devices *(Japanese)* 1−41764
bistable switching and triode operation using $LiNbO_3$ directional coupler 1−46591
Bragg RF spectral analyser integrated optical ccts. 1−24533
buried planar optical waveguides, mode anal. 1−46552
chalcogenide glass thin film waveguide fabrication by laser evaporation 1−6694
channel waveguides, impurity diffused, arbitrarily graded-index, optical field calc., linear segment layer approx. 1−6648
chirped grating holography, Fe_2O_3 antirefl. layer beneath photoresist. for standing-wave reduction 1−29235
circuit limits and charact., review 1−41891
conference, Chicago, IL, USA (Oct. 1980) 1−40593
conflection lens, focused narrow oblique beam third order aberrations 1−19403
corrugated waveguide, light polarisation change 1−11088
corrugated waveguide distributed feedback, effective index method, TM polarisation 1−15286
coupled waveguides, nonlinear interaction of waves, phase matching of coupled modes 1−33757
coupled-waveguides, coupling-length trimming by metal loading 1−46553
curved waveguide coupling efficiency meas. using two-core fibre coupler 1−41883
demultiplexer, two-dimens. grating unit cell, for thin-film waveguides 1−15284
device fabrication by MBE 1−1741
device limits and charact., review 1−41891
dielectric film with sinusoidally corrugated surfaces, propagation charact. calc. 1−1729
diffused waveguides, refr. index profile reconstruction 1−51611
diode laser device, high-speed modulation with injection from curved waveguide branch 1−37502
directional coupler switch, remote controlled 1−46593
double pole double throw electro-optic switch with N-type electrode 1−11182
electro-optic oscillator using integrated Mach-Zehnder interferometer for optical communication systems 1−11176
electro-optic waveguide TE to TM mode convertor with low drive voltage 1−11183
electro-optical deflector with ZnO thin film 1−19417
electrooptic deflectors, prism-type, thin-film 1−51605
electrooptic prism deflector, linear phase shift electrodes 1−6682
Fabry-Perot bistable optical signal processor 1−24447
fibre-optic guided propagation and integrated optical circuits 1−37627
frequency shifter modulator 1−37631
gas waveguide lasers, book contrib. 1−11029
geodesic and nonuniform refractive lenses, generalized formulas 1−51640
geodesic components for guided wave optics 1−11179
geodesic lens, diffr. limited, search for substitute contours 1−41882
geodesic optics components 1−15287
glass based waveguide structures, review 1−46596
glass thin film optical waveguide, light scatt. reduction by CO_2 laser annealing 1−11087
glass waveguides, Ag diffused, light loss control and reduction 1−37604
grating coupler, thin film *(Chinese)* 1−19422
grating couplers, uniform and linearly tapered, outgoing beam intensity profile 1−46590
grating device for coupling and focusing in thin-film optical waveguide 1−37600
guided mode coupling in background of distributed rad. 1−37635
guided-wave acousto-optics, wideband real-time signal processing 1−15290
halved directional couplers for 180°-turns in integrated optics 1−51641
heterodyne detector with integrated diffr. grating 1−24537
holographic grating beam expander, guided-wave, fabrication and performance 1−41633
hybrid bistable optical devices, integrated versions for signal processing, review 1−1620
III-V heterostructure devices for integrated optics, wet chem. etching 1−1725
imaging irradiance sensor for closed-loop adaptive optics 1−46583
InGaAsP-InP heterojunction laser with corrugated waveguide laser 1−51484

integrated optics continued
interferometric filters 1−1722
ion implantation effect on surface layer optical charact., integrated optics appls. 1−11184
ion-exchanged waveguides, internal thin-film optical element fabrication using heating process 1−11089
IR acousto-optic materials, appls., requirements and cryst. development 1−37565
laser amplifier, thin-film waveguide, with lossy cladding, small-signal gain improvement 1−15260
laser amplifier based integrated optical circuit proposals, OPATT props. 1−41886
layer waveguides, diffused, one mode, parameter determ. 1−51610
lightwave system appls., phys. principles of devices 1−24529
low-loss waveguides, limited phase-space attenuation meas. 1−41829
Mach-Zehnder waveguide modulation, design and performance 1−33832
magneto-optical waveguides, hybrid modes, anal. 1−51642
measuring system for planar optical waveguide property exam. 1−15262
miniaturization limits in optical systems 1−46208
mode conversions at dielec. waveguide steps, interference patterns 1−29406
modulated periodic slab, vector coupled-mode eqns. 1−29187
multimode fibres, planar optical coupling element prod. by the two-step ion-migration 1−33804
multimode integrated optics using dielectric and hollow metallic waveguides 1−41889
multimode optical waveguide with modulated boundary, Bragg diffr. 1−24497
multimode strip waveguides fabricated by field-enhanced ion exchange, index profiles 1−19429
multimode waveguide, longitudinally inhomogeneous, parabolic transverse refr. index profile, pulse dispersion 1−33802
multispectral data vector subtraction integrated optical cct. 1−24534
multivibrators using electrooptically controlled bistable optical devices 1−46592
nonlinear Fabry-Perot optical logic device operating characteristics 1−24448
optical communication, conference, York, England (Sept. 1980) 1−9774
optical communication, review *(German)* 1−6498
optical digital computing, survey 1−15083
optoelectronic circuits for signal processing and data transmission functions, monolithic wafer technology 1−41880
oscillator for optical communication system appl. 1−46594
passive dielectric waveguide with index modulation, three-mode coupling, theory 1−19421
photoresist grating mask prep. method 1−51646
photoresist grating mask preparation method 1−1728
planar dielectric light-waveguide produced by ion exchange method 1−15263
planar microlens, distrib. index from monomer exchange diffusion on plastic substrate 1−41887
planar waveguide, Bragg diffr. by limited-aperture gratings, theory 1−46595
planar waveguide, model props. determ., efficient numerical technique 1−41843
planar waveguide optics, appl. of optical gratings *(Czech)* 1−11181
polarisation optical devices fabrication, by applying stress, to rubber waveguides 1−24494
polymer optical circuits for multimode optical fibre systems 1−6684
prism coupling selectivity in anisotropic uniaxial waveguide 1−41881
prism waveguide coupler in strong coupling regime, theory 1−41827
quartz glass, ion implantation effect on surface layer optical charact., integrated optics appls. 1−11184
radiating DFB structures, coupled wave method 1−1726
refractive index measurement of dielec. sheet at MM wave freqs., quasioptical method using waveguide 1−29407
RF spectrum analyser using Si detector/CCD array, GaAlAs laser and $LiNbO_3$ chip, acousto-optical processing 1−41892
ring waveguide, low-loss, resonance effects 1−29409
SAW acoustooptic convolver 1−29410
self-focusing media with variable index of refraction, book contrib. 1−29351
self-imaging devices for optical communications 1−19476
semiconductor laser devices, physics, book 1−5037
semiconductor laser diodes coupled to short optical fibres, noise charact. 1−15265
semiconductor laser with waveguide active region, for integrated optics 1−51644
signal processing devices and systems, seminar, Los Angeles, CA, USA (Feb. 1980) 1−22946
signal processing periodic structure technology 1−24532
single-mode optical branching waveguides, normalised power transmission 1−37605
single-mode optical fibre coupling to single-mode thin-film waveguides using photoresist lenses 1−6656
spectrum analysis using optical processing 1−37429
step-tapered channel waveguides, radiation losses 1−11178
strip waveguide, transmission loss due to TE-TM mode coupling and dielec. loss 1−6651
surface plasmon holography 1−41630
tapered grating optical coupler, coupling efficiency, theoretical anal. 1−24498
TE_0-TE_1 optical waveguide mode convertor using chirped gratings 1−33830
thickness, refractive index and dispersion determ. of waveguiding thin film with Abbe refractometer 1−6650
thin film control and characterisation using scanning laser beam 1−6692
thin film grating, coupled wave anal. of obliquely incident waves 1−41884
thin planar surface lenses, primary aberrations, two-dimens. diffr. theory 1−1724
thin-film lasers on nonwaveguide layers 1−15192
two-dimensional focusing holographic grating coupler 1−15285
volume holographic finite-beam conversion with perfect fidelity 1−1518
wave propag. problems in guiding structures, boundary formulation 1−6686
waveguide Bragg grating lenses, plane and cylindrical wave coupled-mode theory 1−37632
waveguide Bragg grating lenses, two cylindrical guided waves coupling 1−37633
waveguide switch based change in total refl. critical angle caused by dielec. chip touching waveguide surface 1−33831

integrated optics continued
waveguides fabrication, stress-induced, in thin-film transparent rubbers 1−24493
wavelength selective filters using grating struct. superimposed on thin film optical waveguide, visible spectrum 1−24479
wavelength-selective deflectors using diffr. gratings written directly into birefringent photochromic optical waveguides 1−11079
As_2S_3 film, controlled growth for coupling integrated optical devices 1−41888
CdTe optical directional coupler fabrication by electron beam lithography and ion etching 1−29408
(GaAl)As buried heterostruct. laser with buried optical guide, transverse mode control 1−15288
GaAlAs integrated optoelectronics, review 1−15289
GaAs electro-optic directional coupler integrated with detector, bistable operation 1−37630
GaAs epitaxial layers for photoelastic optical directional couplers 1−51639
GaAs monolithic optical bistable devices, integration of directional coupler switch with output channel detector on single chip 1−11185
GaAs thin film optical waveguide, fabrication of chirped gratings 1−15256
GaAs-GaAlAs integrated struct. for mode locking a diode laser 1−41754
GaAsP integrated optics optron, characts. 1−24535
GaInAsP avalanche photodiode for guided wave optical signal processing 1−37634
GaInAsP/InP heterostructure laser for guided wave optical signal processing 1−37634
$LiNbO_2$ waveguide electro-optic Bragg deflectors, high deflection efficiency, low insertion loss 1−11080
$LiNbO_3$ 3-branched optical waveguide, 4-port optical switch appl. 1−19474
$LiNbO_3$ acousto-optic collinear TE_m-TE_n mode convertor, optimisation of conversion of guided optical waves 1−24495
$LiNbO_3$, He ion implanted, refractive index profile, appl. to integrated optics 1−19475
$LiNbO_3$ integrated-optics strip modulators 1−1727
$LiNbO_3$, ion exchange in $TlNO_3$ melt optical waveguide fabrication 1−29386
$LiNbO_3$ operational integrated optical RF spectrum analyser 1−1720
$LiNbO_3$ single crystal thin film light guide waveguiding props. 1−15261
$LiNbO_3$ surface diffused waveguide parameter influence on acoustooptic interaction efficiency freq. depend. 1−51643
$LiNbO_3$ travelling-wave optical waveguide intensity modulator up to 18 GHz 1−33798
$LiNbO_3$ waveguides, diffused, tunnel radiation coupling investigation 1−33800
$LiNbO_3$:Ti diffused anisotropic waveguide, leaky-mode loss coeffs., approx. calcs. 1−29387
$LiNbO_3$:Ti in-diffused optical waveguide fabrication 1−1692
$LiNbO_3$:Ti in-diffused optical waveguide TE-TM mode splitter, expt. and theoretical results 1−11071
$LiNbO_3$:Ti indiffused waveguide bends, measured losses 1−1689
$LiNbO_3$:Ti interferometric waveguide electro-optical A/D convertor 1−24486
$LiNbO_3$:Ti optical waveguide channel branches, splitting ratios, branch parameters 1−6647
$LiNbO_3$:Ti waveguide system, refl. substrate mode absorpt. in integrated optical spectrum analysers 1−41890
$LiTaO_3$, He ion implanted, refractive index profile, appl. to integrated optics 1−19475
$Ta_2O_xN_y$ birefringent thin-film waveguide with taper, TM_0-TE_0 conversion 1−11180
ZnO optical waveguide, second harmonic generation 1−46447
ZnO-YIG-GGG thin-film waveguides, hybrid modes optical propag. and conversion props. 1−24536
ZnTe:O implanted extrinsic photodetector for visible integrated optics 1−6685

integrating circuits
accelerator integral radiation dose meas. circuit 1−941
digital integrator in recording circuit of atomic absorption spectrophotometer 1−17128
linear capacitance meter, using integrating cct. and ICs *(Spanish)* 1−304

integrating spheres *see photometry*

integration
cometary orbits computation, recurrent power series integration for catalogue of one-apparition comets 1−44511
double integration of curves, balance 1−50120
EM propagation in dielectric materials with nonlinearly varying parameters, general VKB method appl. 1−15057
nearly-Hamiltonian systems 1−40339
Monte Carlo theory and practice 1−9934
Navier-Stokes equations for solar wind, upstream integration for viscous effects anal. 1−32588
path integrals in phase space, discretisation problems, comment on previous work 1−14042
planetary theories, discussion of results *(French)* 1−40336
planetary theories, numerical integration by Tchebychev series *(French)* 1−44418
planets, long-period perturbations construction, new approach 1−40334
shells and plates thin composite variable thickness geometrically nonlinear theory 1−33892
Taylor and Laurent expansions of general spatial analytical functions *(German)* 1−5089
thin strips, stress state due to longitudinal impact, numerical cal. accuracy 1−1855
time integration of 3-D kinetic eqns. using Pade approximation 1−45587

integro-differential equations
see also Boltzmann equation; Fokker-Planck equation; Liouville equation; master equation; Vlasov equation
boundary layers, unsteady, large scale periodic solns. 1−1909
coagulation with fragmentation, evaluation of system of masses 1−48743
elasticity, nonlocal theory, integro-differential models, boundary-value problems and surface forces 1−29540
inhomogeneous atmospheres, radiative transfer theory 1−6752
jet, plane, potential flow past convex surface 1−2044
laser pulse propagation in particulate medium 1−19263
media with moving boundaries, radioactive atom diffusion, integral transform method soln. 1−18722
nonlinear intermediate long-wave eqn., anal. and soln. method 1−49951

integro-differential equations continued
nonuniform molecular fluids, struct., integrodifferential eqns. for density-orientation profile 1−30019
particle production in early Universe, nonlocal, quantum effects, anisotropic model 1−17921
reactor models, coupled-core, stability analysis 1−45635
spinor theory, two-point function, phase-space trajectories method 1−18366
steady-state skin effect numerical soln., integrodifferential approach 1−52590
turbulent boundary layer characts. near separation prediction method, analytic treatment 1−24772
vortices, uniform, corotating, eqn. shapes 1−29706
^4He, superfluid, surface waves excitation 1−2727

intelligence, artificial *see artificial intelligence*

intelligibility, speech *see speech intelligibility*

intensification *see amplification*

intensity measurement
see also acoustic intensity measurement
No entries

interactive systems
see also interactive terminals; online operation
biomedical images quantitative reading methods 1−53837
computer graphics, interactive image processing package *(French)* 1−49274
digital high performance image processing and laser beam recording system 1−46246
geomag. and gravity anomaly data interpretation, interaction computer graphics method 1−32543

interactive terminals
see also interactive systems; remote consoles
gas chromatography, VISTA interactive microcomputer-based data system, multichannel control 1−8627
liquid chromatography, VISTA interactive microcomputer-based data system, multichannel control 1−8627

interatomic potentials *see potential energy functions*

intercalation compounds
alkali metal donor compounds with graphite synthesis and characterisation, X-ray diffr. study 1−35200
alkali metal intercalated tin compounds, temp. depend. ^{119}Sn Mossbauer studies, lattice dynamics 1−31067
alkali metal intercalation compounds, Fermi surface obs. by Shubnikov-de Haas and magnetoreflection methods 1−47436
alkali-graphite intercalates, lattice gas disorder, X-ray diffuse scatt. pattern 1−2289
alkalimetal-graphite intercalation compounds, electrical resist. and X-ray charact. 1−34755
chemical reaction kinetics, kinetics, diffr. obs., review 1−31827
CsC_8, sp. ht., 0.48 to 90K, electronic and lattice contribs. 1−25451
ferrocene-FeOCl intercalation phase, characterisation by low temp. Mossbauer spectroscopy *(German)* 1−3308
ferrocene-FeOCl intercalation phase, phase changes and thermal behaviour, DTA, X-ray diffr. and Mossbauer study *(German)* 1−3309
graphite, acceptor intercalated, band struct. model and electrostatic effects in stages 3 and 4 1−38703
graphite, active masses in galvanic cells *(German)* 1−35635
graphite, donor and acceptor type, ^{13}C NMR study 1−31049
graphite, donor and acceptor-intercalated, optical reflectivity and positron annihilation angular correlation 1−39053
graphite, highly oriented pyrolytic, intercalation and deintercalation with Li 1−48291
graphite, intercalation and desorption kinetics 1−34584
graphite, intercalation compounds, lattice dynamics 1−34441
graphite, intercalation kinetics, surface profilometric study 1−43286
graphite, kinetic model of first intercalation 1−43285
graphite, pristine and intercalated with K, press. effect, X-ray diffr. meas. 1−34420
graphite, self-consistent charge densities, band structs., staging energies, calc. 1−38701
graphite fibre-bromine, electrodes for conc. cell *(Japanese)* 1−21866
graphite intercalated with K, island growth and orientational locking 1−16788
graphite intercalation by NO_2^+ ion attack 1−39620
graphite intercalation compound with AsF_5, magneto-oscillations 1−38763
graphite intercalation compound with AsF_5, order-disorder transitions 1−39333
graphite intercalation compound with AsF_5, single cryst. struct. studies by X-ray diffr. 1−42364
graphite intercalation compound with O, cluster model studies 1−37379
graphite intercalation compound with TaF_5, F NMR and relaxation props. 1−39001
graphite intercalation compounds, conf., Provincetown, MA, USA (May 1980) 1−32798
graphite intercalation compounds, cooperative effects and materials 1−38734
graphite intercalation compounds, elastic interaction between intercalants, 2-D model 1−34280
graphite intercalation compounds, elec. cond. 1−47643
graphite intercalation compounds, electronic energy bands 1−47520
graphite intercalation compounds, positron annihilation 1−43208
graphite intercalation compounds, stage sequence regularity 1−34261
graphite intercalation compounds with AsF_5, HNO_3 and Rb, de Haas-van Alphen effect 1−42677
graphite intercalation compounds with Br_2, $AlCl_3$, $SbCl_5$, intervalence transitions and IR reflectivity 1−47584
graphite intercalation compounds with ClF, BF_3 and PF_5, NMR showing presence of ions 1−47960
graphite intercalation compounds with HNO_3, $HFSO_3$, Br, Li, KHg, quantum oscillatory effects 1−42678
graphite intercalation compounds with KH, KHg, RbHg, X-ray, EPR and NMR studies and struct. 1−42363
graphite intercalation compounds with KHg and RbHg, reaction mech. and thermal stability 1−39622
graphite intercalation compounds with KHg and RbHg, struct. and electronic props. 1−38769
graphite intercalation compounds with Li, K, Rb, Cs, UPS, XPS and AES studies 1−48238
graphite intercalation compounds with $NO_2BF_4(PF_6)(SbF_6)$, elec. resistivity and X-ray spacings 1−38768

intercalation compounds continued
graphite intercalation compounds with $PdCl_2$, $FeCl_3$, $CuCl_2$ and WCl_6, electronic props. 1−42679
graphite intercalation reactions, gas phase oxidation strengths and reactivity 1−39671
graphite lamellar compounds, high-field ^{13}C NMR and in-plane localized density of states model 1−38992
graphite stage-2 intercalation compounds, order-disorder transform. 1−42537
graphite with $FeCl_3$, contrib. of $FeCl_3$ to optical absorption 1−35069
graphite-alkali metal compounds, intercalate layer struct. 1−34329
graphite-alkali metal intercalation cpds., electronic struct. 1−38705
graphite-AsF_5 intercalation cpd., NMR and ESR studies 1−39000
graphite-Br_2 intercalation cpd., oxidation catalyst 1−48682
graphite-Br compounds, thermal gravimetric anal. of desorption 1−8614
graphite-$FeCl_3$ intercalation compounds, small-angles X-ray scatt. 1−34331
graphite-$FeCl_3$ intercalation cpd., stage I and stage II, low freq. plasmon spectra 1−47522
graphite-halogens, phase transitions, X-ray diffr., DSC 1−34474
graphite-K intercalation cpd., electron energy loss studies rel. to pristine graphite 1−48208
graphite-K-Tl alloy insertion, optical and crystallographic data *(French)* 1−43288
graphite-Li intercalation cpd., stage 2, in-plane ordering, XPS study 1−48239
graphite-metal intercalation cpd., stage 1, formula and struct. 1−47135
graphite-Ne intercalation cpd., conductivity reduction, tight binding calc. 1−47628
graphite-$NiCl_2$ intercalation cpd., synthesis, struct. and intercalation method 1−48290
graphite-R6, sp. ht., 1.5 to 6K 1−38552
graphite-$SbCl_5$, synthesis and optical tests of its environmental stability 1−8249
graphite-$SbCl_5$ intercalation cpd., optical reflection studies of electronic props. 1−48094
intercalation compounds with AsF_5, $FeCl_3$, B, electron energy loss spectroscopy 1−48207
lanthanide intercalated graphites prep. and struct. *(French)* 1−20136
layer, elec. cond., electron-phonon coupling tight-binding calc. 1−2948
layered compounds, intercalation chem. and diffusion 1−13968
Li intercalated graphite, electronic props. of various stages 1−2859
low dimensionality solids, chemical bond anisotropy *(French)* 1−38324
mag. shielding const., ring current and atomic mag. anisotropy effect calc. 1−51253
pyrene-AsF_5 intercalation cpd., NMR and ESR studies 1−39000
pyrographite, intercalation by NO_2^+ and NO^+ salts, chem. oxidation 1−31703
pyrographite-Li, synthesis, conductivity, struct. and chem. composition 1−47627
stage 1 acceptor intercalate, idealized, with inequivalent cond. layers, collective excitations 1−47521
Ag_2F, intercalation by acceptor organic mol., struct. studied by X-ray diffr. 1−34327
Ag_xTaS_2, diffusion coeffs. and activation energies for Ag transport 1−7396
$Ag_xTa(Ti)S_2$, intercalated, struct. and staging 1−30185
$Ag_{0.33}TiS_2$, intercalate order-disorder transition, Raman scatt. study 1−3400
AsF_5-graphite intercalates, band struct., optical props., structural energy 1−47463
AsF_6-NO_2SbF_6 intercalated graphite, 1−38989
BaC_6, prep. and phys. props. 1−35205
Br_2-graphite compounds, EXAFS study 1−35119
$C_7(HSO_3F)_x(SbF_5)_{1-x}$, formation and elec. resistivity 1−39621
$C_{36}K$, intercalation cpd., lattice phonons, inelastic neutron scatt. obs. 1−42490
C_8K intercalation cpd., superconductivity 1−7792
C_8K, type I and type II supercond. props. *(Japanese)* 1−12234
C_6Li intercalate, electronic band struct. 1−47461
C_xN graphite intercalation cpd., residual N effect on electronic props. 1−47629
$C_{16}(NO_3H)$, Fermi surface and band struct. 1−47437
$C_{24}Rb$, graphite intercalation compound, phase transitions 1−38534
$C_8Rb(K)$, order-disorder transitions, lattice-gas theory 1−7123
Cs-graphite intercalates, phase transition, Raman study 1−47231
Cs-graphite intercalation cpd., struct. variations, temp. and press. variations, X-ray diffr. 1−34460
Cs-graphite stage-1 intercalation cpd., structural study at high temps. 1−34273
CsC_{24} intercalation cpd., mag. susceptibility transitions 1−38904
$Cs_{1-x}K_xC_8$, magnetic susceptibility anomaly 1−20952
$Cs_{1-x}Rb_xC_8$, magnetic susceptibility anomaly 1−20952
FeOCl intercalation compounds, hyperfine interactions, van der Waals lattice modes 1−38751
KC_{24} intercalation cpd., mag. susceptibility transitions 1−38904
KC_{24} lamellar graphite compound, insertion of benzene *(French)* 1−43287
KC_{24}+benzene-d_6 intercalation, kinetic neutron diffr. study 1−39619
KC_8 intercalation cpd., electronic band struct. calc. 1−47433
KC_8, sp. ht., 0.48 to 90K, electronic and lattice contribs. 1−25451
$KC_8(C_{24})$ graphite intercalates, X-ray lattice const. and compressibility meas. 1−2413
$KC_{24}(benzene)_2$, struct. and props. 1−42368
$KHgC_4$, struct. anal. *(French)* 1−20137
$KHgC_4(C_8)$ intercalation cpd., synthesis and low temp. sp. ht. 1−38554
$K_xNa_{1-x}Cy$ ($0.45<x<1$), synthesis and resistivity 1−8248
Li-$(CF)_n$ organic electrolyte batteries, discharge characts. of graphite fluoride cathode 1−35638
Li-graphite intercalation compounds, neutron scatt. 1−34330
LiC_{12} lamellar cpd., sp. ht. and mag. susceptibility 1−42550
Li_xTiS_2, pulsed NMR study of Li ion motion 1−16501
Na-TiS_2 cell with organic electrolyte, ambient temp. recycling 1−21868
Na_xCoO_2, electrochemical intercalation, battery material *(French)* 1−31375
Nb intercalation compounds, $M_{1/3}NbS_2$ (M=Mn, Cr, Fe, Co, Ni), $Fe_{1/4}NbSe_2$, optical refl. spectra 1−21226
$NiCl_2$-graphite intercalates, ESR study 1−34931
RbC_{24} intercalation cpd., mag. susceptibility transitions 1−38904
RbC_8, sp. ht., 0.48 to 90K, electronic and lattice contribs. 1−25451
$RbHgC_4$, struct. anal. *(French)* 1−20137
$Rb_{1-x}K_xC_8$, magnetic susceptibility anomaly 1−20952
intercalation compounds continued
$SbCl_5$-graphite, IR and Raman spectra, HF graphitic intralayer phonons study 1−39101
SrC_6, prep. and phys. props. 1−35205
Ta intercalation complexes, $M_{1/3}TaS_2$ (M=V, Mn, Cr, Fe, Co, Ni), $Mn_{1/4}TaS_2$, optical refl. spectra 1−21226
TaS_2 (2H) diffr. obs. reaction kinetics, review 1−31827
TaS_2 (pyridine)$_{1/2}$ 1−30874
Tl_2S, intercalation by acceptor organic mol., struct. studied by X-ray diffr. 1−34327
VSe_2 layer compounds, mag. susceptibility, CDWs, prep. condition effects 1−42943

interdiffusion *see diffusion*

interface electron states
amorphous materials, calc. methods, review 1−30801
bimetallic interface, vacancy electronic struct., tight-binding model 1−25785
depleted layer spectroscopy 1−30670
double layer, generalised mean spherical approx. 1−34770
electrode surface, plasmon polariton spectroscopy, review 1−34763
electrode-electrolyte interface, double layer and adsorpt., nonlocal electrostatic approach, review 1−34769
helicons at semiconductor-ferrite interface, theory 1−25752
heterojunctions in thermal equilibrium, extrinsic and intrinsic heterojunctions theory 1−3055
heterometal superposed film, energy band theory *(Chinese)* 1−3031
III-V semiconductor interfaces with metals and oxides, Fermi level pinning 1−52622
inversion layer, ionised impurity scatt., density functional formalism 1−7692
metal-semiconductor couples, interfacial intermixing reaction at room temp., triggering mechanism 1−38602
metal-semiconductor interface props., book contrib. 1−38850
metal-semiconductor junctions, clean, etched, and reactive interfaces, charge neutrality level 1−7737
MIM tunnel conductance oscillatory struct. 1−30839
MOS capacitor, determ. of interface state parameters by DLTS 1−12193
MOS structure, trapped electron discharges 1−42861
MOS structures, interface state density calcs., effect of errors in semicond. consts. 1−38862
MOS structures under constant gate-current bias influence, quasistatic and nonequilibrium phenomena 1−20874
MOS-structure, determ. of interface state density and capture cross section 1−30832
polyacetylene-Mg(Au) contacts, Schottky-barrier form. mechanism, XPS study 1−47730
Schottky-barrier diode, barrier height reduction by thin doped surface layer 1−7708
semiconductor, polar interface atomic reconstruction stability 1−16326
semiconductor, scattering theoretical method appl., review 1−30802
semiconductor heterojunctions, energy-band profile and interface pot. step 1−7698
semiconductor-metal interface, atomic redistrib., photoemission studies 1−52440
semiconductor-metallic screen interface, magnetoplasma polariton modes in Faraday geometry 1−52634
semiconductors, bounded, fully macroscopic description, appl. to Si-SiO_2 interface 1−42842
semiconductors, interface states and resons., tight-binding calc. 1−25786
Si MIS inversion layer, many-body effects, subband struct. 1−7743
superconducting sandwich system, no-phonon contribs., crit. temp., high perpendicular elec. field effects 1−12220
two-dimensional electron system, CDW state in strong mag. fields 1−12168
two-dimensional electron system, many-body effects on transverse cond. in strong mag. fields 1−12169
two-dimensional system, coupled plasma-acoustic oscillations on surfaces 1−12175
Al-Ga_2Se_3-Si and Al-Ga_2Se_3-SiO_2-Si structs., electrostatic characts., effect of interface states 1−52655
Al-GaAs (110) interfacial layers, photovoltage saturation and recomb. 1−38814
Al-ZnP_2-Si and Al-ZnP_2-SiO_2-Si structs., electrostatic characts., effect of interface states 1−52655
AlN/Si MIS struct., elec. characts., interface states 1−47747
Al_2O_3-CdSe interface in thin-film transistor, accumulation, electron states 1−20872
Au-Al periodic structs., electronic struct., nearly-free-electron model 1−47446
Au-oxide-n-GaAs structure, long-wave photocond. involving semicond.-dielec. interface states 1−52660
Au-SiO_2-Si capacitor, dipole layers at metal-SiO_2 interface 1−3067
CdS MIS devices, trapping effects 1−47757
CdSe thin film transistors, TSC spectra, electron traps, ageing mechanism 1−38863
CdSe/$As_2Se_3Tl_x$ thin layer system, photocapacitance effect 1−47711
Cu-H_2SO_4 boundary, in situ photoemission spectra study, adsorpt. effects 1−35149
Cu_2S/CdS solar cell, I-V relationship 1−4176
p-Cu_2S-n-ZnS heterojunction, current flow and energy band diagram meas. 1−34782
$Ga_{1-x}Al_xAs$-GaAs LPE interface structure and composition, STEM and cathodoluminescence obs. 1−16350
n-GaAs electrolyte electroreflectance spectra and space-charge region obs. 1−16359
GaAs MOS interface states and bulk energy levels, transient capacitance spectra 1−16377
GaAs MOS structure, internal photoemission 1−47748
n-GaAs MOS system, interface states density and dynamic props., photocapacitance and deep level transient spectra 1−12209
n-i-p-i-GaAs, periodic doping struct., MBE study 1−2849
n-GaAs, Schottky barrier, proton bombarded, anal. of defect states by transient capacitance methods 1−30671
GaAs semiconductor-oxide-electrolyte interface 1−34801
n-GaAs/electrolyte photoelectrochemical system, surface charge and specific ion adsorption effects 1−42858
GaAs-$Al_{1-x}Ga_xAs$ superlattices and quantum wells, two-dimens. confined carriers, electron-phonon coupling, reson. magneto-phonon effect 1−7725
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, inelastic light scatt. obs. of multilayer two-dimens. electron gas 1−12516

interface electron states continued
GaAs-$Al_xGa_{1-x}As$ heterostructure, electronic props. of two-dimens. system 1−7723
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, electronic props. and multi-interface structs., two-dimens. electron gas 1−12186
GaAs-$Al_xGa_{1-x}As$ multilayers, two-dimens. elec. transport at high mag. fields 1−7724
GaAs-AlAs (110) interface deep substitutional sp^3-bonded impurity levels and Frenkel core excitons 1−16344
GaAs-$AlGa_{1-x}As$ superlattice, heavily doped subband struct., band bending, low temp. mobilities 1−7721
GaAs-AlGaAs heterojunction superlattices, inelastic light scatt. spectroscopy of confined carriers 1−16355
GaAs-$Ga_{1-x}Al_xAs$ semiconductor superlattices by MBE and their characterization 1−2417
GaAs-Ge (110) interfaces, heterojunctions and overlayer systems, electronic struct., scatt. theoretic method 1−7697
n-GaAs-K_2Se-K_2Se_2-KOH/C photoelectrochemical cells, role of interface states 1−43787
GaAs(110)-Al(Au), interface electronics struct., Schottky barrier form., photoemission study 1−8198
GaSb-InAs heterojunction, electron-hole subbands 1−7722
Ge/GaAs/CuBr heterojunction interface energy band discontinuity transitivity test 1−16346
Ge-GaAs (110) heterojunction, overlayer systems for ARUPS interface study 1−42852
Ge-GaAs polar (100) interface, electronic and struct. props., total energy, calc. 1−52647
Ge-GaAs(110) segregated overlayer system, electronic struct., tight binding calc. 1−52628
InAs/GaSb(110) lattice-matched interface intrinsic and extrinsic states 1−16352
InAs-GaSb heterojunction superlattices, electronic props., fabrication and characts. 1−7720
InAs-GaSb semimetallic superlattices to heterojunction limit, Shubnikov-de Haas investigation 1−47735
$In_{1-x}Ga_xAs$-$GaSb_{1-y}As_y$ semiconductor superlattices by MBE and their characterization 1−2417
$In_{1-x}Ga_xAs$-$GaSb_{1-y}As_y$ superlattices, electroreflectance, band struct. 1−52916
InP MISFET, p-channel inversion-type, fabrication and reduction of interface states 1−12163
InP MOS system, semiconductor-insulator interface states, photocapacitance transient study 1−52658
p-InP Schottky barriers, elec. characts. meas., solar cells 1−25790
Ir-IrO_2 electrode, faradaic processes 1−17064
$MgAl_2O_4$-metal contact, photoemission, photocond., irrad. effects, band struct. 1−3017
Nb-Nb_2O_5 interfaces, residual RF losses and tunnel currents and caused by interface states 1−52714
Pd-Si interface reactive Schottky barrier formation obs. 1−16366
Pd-SiO_2-Si MIS devices, gas effects on interface state spectrum 1−38864
Pd(100), photoemission from rare gas monolayers 1−8200
Pt-Si (111) interface, electronic struct. of cpds. formed 1−43250
Si (111), adsorbed Ag, electronic. struct., EELS meas. and band struct. calc. 1−7699
Si (111) surface with Pd monolayer, electronic struct., self-consistent pseudopotential method 1−25782
Si (111)-Ag interface photoemission spectra and electron state systematics 1−16367
Si (111)-Au interface photoemission spectra and electron state systematics 1−16367
Si (111)-Ni interface photoemission spectra and electron state systematics 1−16367
Si (111)-Pd interface photoemission spectra and electron state systematics 1−16367
Si (111)-Pd(Pt) interfaces, electron states, cooling effect, AES and photoemission study 1−12634
Si (111)-Pt interface photoemission spectra and electron state systematics 1−16367
Si (111)-Pt(Ni)(Pd) interface UV photoemission study of electronic props. 1−53047
Si, IR spectroscopy of quasi-two-dimensional space charge layers 1−48065
n-Si junction with aq. electrolyte, interface state photocurrent spectroscopy 1−12187
Si MOS solar cells, efficiency improvement due to surface states and oxide charges 1−4183
Si MOSFET inversion layers, high mag. field expts., valley degeneracy 1−7756
Si MOSFET on sapphire and spinel, magnetocond. oscillations, (100) inversion layer obs. 1−12205
Si surface, adsorption of metals from aq. electrolytes, capacity, photocapacity and current pot. of interface *(Russian)* 1−2830
Si:H, amorphous, film-substrate and film-vacuum interfaces, field effect meas. 1−7622
n-Si/electrolyte photoelectrochemical system, surface charge and specific ion adsorption effects 1−42858
Si/GaP(110) interface and superlattice electronic struct. 1−52635
Si/SiO_2 interface, Auger lineshape calc., chemisorbed O effects 1−43226
Si/SiO_2 interface in MOS transistors, XPS studies of structure-induced radiation effects 1−43239
Si-Al interface, PES and Auger studies 1−53046
Si-SO_2 interface, admittance meas., localised electron states 1−38856
Si-SiC heterojunction, elec. and photoelectric props. 1−42854
Si-SiO_2, energy and electric field depend., interface state parameters 1−42862
Si-SiO_2, interface, evidence for SiO using surface soft X-ray absorpt. near edge spectroscopy 1−8159
Si-SiO_2, localised states, review 1−30801
Si-SiO_2, MOSFET, lattice scatt. mobility of n-inversion layers at low temp. 1−7752
Si-SiO_2, surface conduction, interaction with surface states 1−42868
Si-SiO_2 interface, collective ground state in inversion layers in extreme quantum limit, cyclotron reson. obs. 1−12195
Si-SiO_2 interface, defect generation during electron beam lithography *(Japanese)* 1−38854
Si-SiO_2 interface, defect states, chem. bonding approach 1−52659
Si-SiO_2 interface, fully macroscopic description 1−42842
Si-SiO_2 interface, interaction induced transition at low densities in inversion layer 1−7755
interface electron states continued
Si-SiO_2 interface, polaron and bipolaron states in inversion layers 1−7694
Si-SiO_2 interface, quasi-two-dimensional electron systems in space charge layers 1−7747
Si-SiO_2 interface, struct. and electronic props. of SiO_x region 1−20576
Si-SiO_2 interface electronic struct., EELS study 1−42866
Si-SiO_2 interface state field generation in γ-irrad. MIS struct. *(Russian)* 1−3043
Si-SiO_2 interface states, annealing using Ar-ion-implant-damage-gettering 1−12165
Si-SiO_2 interface states, influence of acceptor or donor dopants 1−34800
Si-SiO_2 inversion layer, quasiparticle effective mass, ionic scatt. depend. 1−7691
Si-SiO_2 inversion layer, many-body effects and electron mobility, room temp. 1−7693
Si-SiO_2 inversion layer, cond. in two-dimens., effects of long range components of random pots. 1−7754
Si-SiO_2 inversion layer, plasmon dispersion, far-IR probe, review 1−12507
Si-SiO_2 inversion layers, elec. breakthroughs in vicinal planes, valley splittings 1−7695
Si-SiO_2 inversion layers, valley splitting and related phenomena, review 1−12170
Si-SiO_2 inversion layers, n-channel, electron energies calc. using self-consistent pot., valley splitting 1−12172
Si-SiO_2 layer structs., interface defect-impurity characts., surface study by UV illumination 1−20873
Si-SiO_2 MOS capacitor, (100) inversion layers, uniaxial stress effect on cyclotron reson. 1−12203
Si-SiO_2 MOS capacitors, oxide traps and interface states 1−42864
Si-SiO_2 MOS inversion layers, Hall cond. under strong mag. fields, Landau level width 1−12197
Si-SiO_2 MOS structure, (100) inversion layers, biaxial stress effect, mass bands shift, Shubnikov-de Haas spectrum 1−12204
Si-SiO_2 MOS system, electron transport in inversion layers at high mag. fields, substrate bias effect 1−12196
Si-SiO_2 MOS system, n-channel, interface effect on electronic struct., scatt. of Bloch waves 1−12171
Si-SiO_2 MOSFET, (111) surfaces, inversion layers with sixfold valley degeneracy 1−12201
Si-SiO_2 MOSFET, (110) and (111) surfaces, anomalous behaviour of electron transport 1−12202
Si-SiO_2 MOSFET, n-channel, Coulomb scatt. in band tail 1−7749
Si-SiO_2 MOSFET, n-channel, electron-phonon interact. in inversion layers at low temp. 1−7751
Si-SiO_2 MOSFET, Na^+ contaminated, scatt. in inversion layer, temp. depend. 1−7750
Si-SiO_2 MOSFET, Shubnikov-de Haas oscillations in (100) inversion layers, lineshape analysis, valley splitting 1−12200
Si-SiO_2 MOSFET, submm. laser cyclotron reson. of inversion layers at low electron densities 1−12194
Si-SiO_2 system, interface-state density determ., single freq. approx. method 1−7688
Si-SiO_2 system, tight-binding calcs. 1−38853
Si-SiO_2 transition regions, phys. and chem. props., state-of-the-art 1−7479
Si-SiO_2-$In_{2-x}Sn_xO_{3-y}$ solar cell, barrier height lowering through interface states 1−43759
Si-SiO_2-electolyte ISFET, pH effects, interface states 1−7730
Si-SiO_x interface, chemical and electronic structs., XPS, UPS, and X-ray excited Auger spectra *(French)* 1−3578
n-α-SiC-n-β-SiC heterojunction, elec. props., energy band struct. 1−30814
SiO-Te evaporated MIS struct., interface state density determ. 1−20876
SiO_2/Si interface-state generation in radiation-hard oxides 1−42838
SiO_2/Si MOS structures, radiation-induced interface states 1−52617
SiO_2-Si, chemically grown SiO_2 films, phys. and elec. props. 1−48254
Si(111), bonding states during thermal oxidation, AES study 1−8172
Si(111)-Ge heterojunction interface, band discontinuity investigation 1−7689
W-Ni MIM point contact diodes, electron tunnelling and polarity reversal 1−52661
Zn-electrolyte interface, electrochem. oxidation, electron states, photocurrent study 1−35546
ZnO films, RF sputtered onto Si and SiO_2/Si, struct. and interface oxidation state 1−2842
ZnO/CdTe heterojunctions, spray pyrolysis prepared, photovoltaic props. 1−3004
ZnS-ZnS (111-0001) interface electronic struct. 1−3040
n-ZnSe/electrolyte junction, electrolum. under anodic polarisation, adsorpt. effects 1−16360
ZnSe-ZnSe (111-0001) interface electronic struct. 1−3040

interface phenomena
see also adsorption; crystal surface and interface vibrations; interface structure; Kapitza resistance; semiconductor-electrolyte boundaries; surface phenomena
adhesive wear model based on variations in strength values 1−38446
adsorption at interfaces, decohesion, influence of thermodynamics 1−11971
aliphatic alcohols, adsorpt. on water solution interface, hydrocarbon chain-length and solvent depend. *(French)* 1−52396
anisotropic two-phase media, periodic elastic fields, appl. to interfacial dislocations 1−38368
α-β brass, bicrystals, two-phase, deform. and fract. 1−15901
conducting viscous fluid layer surrounding solid rod, surface current, axially symmetric perturbations 1−2092
crystal-liquid interface, soft-sphere model, surface stress calcs. 1−2598
cyclohexane-aniline system, adsorption at liq.-vapour interface 1−7427
density variations, in vicinity of planar, spherical and cylindrical interface 1−15940
diffusion field ahead of growing columnar front, columnar-equiaxed transition 1−38566
discharges effects on electrolytes 1−17110
dislocation generation model, shock-wave deform. 1−20208
disperse system, stress tensor relationships for cases of planar, spherical and cylindrical interfaces 1−8620
electrochemical system, electrodynamics, appl. to IR and optical transitions in systems containing impurities 1−35549
electrochemical systems, adsorpt. phenomena 1−35548
electron transfer induced by light absorpt. 1−34765
ellipsometry, review 1−33037

interface phenomena continued
EM surface waves along dielectric media, Raman spectroscopy appl. *(French)* 1−19243
epoxy-Al adhesive joints, environmental fracture, crack tip processes and adhesive-cohesive transition 1−16872
fluid local densities at interfaces, Born-Green-Yvon approach 1−20515
fluid-solid boundary; interface waves involving cavitation 1−11432
Gaussian beam reflection from nonlinear interface 1−6599
glass-CS_2 nonlinear interface, reflectivity expt. study 1−46428
grain boundary energy, computed, vol. depend. 1−15906
Hamaker constants, approx. calc. method and effect of EM lag 1−26767
immiscible fluids, pinned on slot, multiple equil. shapes and stability 1−34548
inhomogeneous EM wave reflection at interface-absorbing medium interface 1−6429
ionic crystals intrinsic conductors, interfacial space charge and capacitance 1−39035
Lennard-Jones fluids, binary mixture, liq.-vap. interface theory, surface tension and density profile calc. 1−34551
Lexan, thin polymer film, refractive index in IR region 1−16616
linear slip interfaces, elastic wave behaviour 1−15301
lipid bilayer, water interfaces, surface tension, Monte Carlo simulations 1−38620
lipid multilayer, interaction with water 1−17101
liquid in vicinity of solid surface, single-body correlation function, atom-atom approach 1−16167
liquid-liquid interfacial behaviour meas. with deep-channel surface viscometer 1−30521
liquid-vapour diffuse interface dynamics 1−16152
liquid-vapour interfacial oscill. amplitude 1−11957
longitudinally inhomogeneous travelling wave excitation conditions at nonlinear interface, system wave state diagram 1−46427
membrane, semipermeable, particle and heat exchange, Gibbs eqn. and entropy flux 1−16150
metal interfaces, electrodynamic boundary conditions 1−30798
metal-electrolyte interface, lattice gas model 1−34797
metal-nonlinear crystal interface, far-IR radiation generation by difference-freq. mixing of surface waves *(Chinese)* 1−46442
non-metallic solids and liquids, interface effects in elec. response 1−52907
photoemission from metal electrode into electrolyte soln., review 1−35151
plane inverse gravimetry problem for contact surface 1−5103
polyacrylamine gel deswelling at semipermeable membrane interface under reverse osmosis 1−13040
polymer interface, properties, compressibility effects, stability 1−38237
polymer interface properties, compressibility effect 1−38251
polymer-solvent system, phase separation, surface layer form. 1−38240
rare earth alloy, RFe_2H_x (R=Gd, Tb, Ho, Er, Tm, $2.7 \leq x \leq 3.3$), H_2 desorpt. kinetics 1−25579
sapphire-$NaBrO_3$ interface, Raman scatt. in total reflection conditions 1−16571
Saran, thin polymer film, refractive index in IR region 1−16616
seal film characteristics, obs. and anal. 1−43644
semiconductor physics, conference, Kyoto, Japan (Sept. 1980) 1−44693
semiconductor surfaces and interfaces, conference, Paris, France (Nov. 1979) 1−5025
semiconductor-ferrite boundary, coupled surface helicon-spin waves *(Russian)* 1−42847
semiconductor-metal boundaries, oblique surface helicon waves 1−42807
shear viscosity measurement method using decay of surface motions at rotated gas-liq. interface 1−38621
silane-filler interface, filler desorption test, technique for direct study of water attack 1−47333
smectic-A, nematic and isotropic phases, interfaces and thin films, unified model, orientational ordering 1−25160
solar mirror degradation, Ag-glass interface deterioration in second surface mirrors 1−13094
solid-electrolyte interface, ellipsometry, review 1−33037
solid-electrolyte interfaces, conf., Snowmass, CO, USA (Sept. 1979) 1−32797
solid-electrolyte interfaces, nontraditional approaches, review 1−34575
sorption method for separation, kinetic and dynamic relationships, diffusion mechanism of interfacial transfer 1−21834
spreading resistance correction factors, continuum formulation 1−20718
steel, austenitic stainless, neutron irrad., the trapping at Ti-rich MC particles in type 316+Ti 1−25330
steel, high strength, low alloy, ductile failure, effect of temper-embrittling heat treatment 1−35356
steel plates, brass clad, fatigue crack growth and crack closure behaviour *(Japanese)* 1−43482
superconductor-normal phase interface resistivity and magnetoresistance *(Russian)* 1−7794
surface plasmons as probe for electrochem. interface 1−35550
surface polaritons, refraction by interface 1−52633
surface roughening for two-dimensional percolation above p_c 1−23126
surfactant-polymer interactions in dilute aq. solns., thermodynamic model 1−30022
thermal diffusivity, flash method of measurement, one-dimens. problems, theory 1−6746
thoriated W filaments in alloy matrix, interaction at 1200-1600°C 1−16106
three-phase contact line, balance eqns. of momentum *(Ukrainian)* 1−38617
transition acoustic emission from moving thermo-optic source 1−1754
trigonal crystals, acoustic wave refraction at interface 1−25546
Trogamid-T, thin polymer film, refractive index in IR region 1−16616
two-component system cryst. growth, nonequilibrium props. 1−7107
US refl. at lossy liquid-lossless isotropic solid interface, choice of square root in calc. coeff. 1−29433
vapour film on vertical surfaces during film boiling, interfacial instability 1−34553
viscous fluids, superposed, with interfacial heat and mass transfer, Rayleigh-Taylor stability 1−20513
water, liquid-vapour interface, Monte Carlo simulation of surface props. 1−34545
water-air interface, spreading of thin liquid films 1−20517
wire regelation at low temperatures 1−16023
Ag-Cd-Sn alloys, internal oxidation kinetics *(Japanese)* 1−25509
Al, anodised, colouring by means of optical interference effects 1−21641
Al coated Fe, effect of preliminary deform. on coating/substrate interaction 1−16841

interface phenomena continued
Al foil in H_3BO_3-$N_2B_4O_7$ soln., excitation processes at the electrolyte-electrode interface 1−35098
Al-Si (12.7wt.%), eutectic alloys, growth temp. and interflake spacing during directional solidification 1−8289
Au with submonolayer Ag deposits, Raman intensity enhanced from adsorbed pyridine and cyanide 1−35049
Au-Ag/steel sliding couples, running props., fundamental aspects and technological implications 1 solubility concept 1−26636
Au-Al intermetallic compound formation 1−2707
Au-Al thin film couples, layered phase growth, optical study 1−7488
Fe, liq., O_2 transfer rate from slag *(Japanese)* 1−25438
Fe-Cr-Y alloys, oxide adherence, role of Y 1−43603
Fe-Ti-C-Sb alloy, Sb trapping, chanelling study 1−34381
$Ga_{1-x}Al_xAs$-GaAs interface strain characterisation by electrolyte electroreflectance 1−16349
GaAs, thermally annealed plasma-oxidized films, interfacial reactions, thermodynamically driven 1−21765
^{4}He, liquid-Au(W) interface, Kapitza resistance, sound transmission *(Russian)* 1−30542
^{4}He, thin solid slabs, interface effects and propag. of second sound pulse 1−16141
NH_4Cl-H_2O, unidirectionally solidified, direct obs. as function of gravity level 1−7497
Na/β''-Al_2O_3 interface, resistance rise in Na-S cells 1−21871
Nb fibre reinforced Cu-Sn, supercond. props. *(Japanese)* 1−25821
NbTi:Cu superconducting wire, lap joint resistance, intrinsic crit. current 1−47829
Ni extraction, with LIX63(HOx)-dinonylnaphthalenesulphonic acid mixtures, interfacial chem. aspects 1−4128
O_2, Pt/ZrO_2 interface, steady-state DC polarisation characts. 1−34504
Pd-Ag/steel sliding couples, running props., fundamental aspects and technological implications 1 solubility concept 1−26636
Si/SiO_2 system, SiO_2 viscoelastic behaviour during heat treatment, X-ray topography study 1−39362
Sn-Pb molten alloys, dissoln. of solid Cu under static conditions 1−34481
Ti alloy-steel joints, contact phenomena, effect on strength 1−17021
Ti-Al-V-Sn (6,6,2 wt%), subcritical crack growth under sustained load 1−53270
Ti+α-SiC solid-state reaction 1−13038
α-Zr, oxidation at high temp., diffusion in semi-infinite system 1−12925

interface structure
alkali halide, molten, liquid-vap. interface, struct. and surface tension 1−38628
anisotropic two-phase media, interfacial extrinsic and intrinsic dislocation arrays, stress fields 1−38369
antiferromagnetic Ising model, spin-1, interface struct. and kinetic phase transition 1−42962
BCC refractory metals, surface oxide softening 1−12936
brass, interfacial extrinsic and intrinsic dislocation arrays, stress fields, α-β boundaries 1−38369
coatings, composition-depth profiling, interface anal., ball cratering and scanning Auger microprobe 1−21824
crystal interface, point defect equilibrium number calcs., adhesion energy 1−11744
crystal-melt interface, configurational entropy calc. 1−7061
crystal-melt interface, hard-sphere density distrib., thermal motion, perturbation theory appl. 1−47365
electrode surface, plasmon polariton spectroscopy, review 1−34763
electrode-electrolyte interface, IR specular reflectance spectroscopy 1−35045
explosive-bonded plates, molten pockets at interface 1−35500
FCC crystals, hard-sphere, systematic study of tilt-boundaries 1−15905
FCC metallic crysts. in liquid alloys, equilib. shapes 1−16155
heliostat mirror degradation inhibition during wet process manufacture 1−12914
metal-oxide, oxidation, conf., Poitiers, France (June 1980) 1−44694
metal-oxide interface, theoretical models *(French)* 1−47392
metal-semiconductor couples, interfacial intermixing reaction at room temp., triggering mechanism 1−38602
metal-semiconductor interface props., book contrib. 1−38850
metals, alloys and semiconductors, oxidation, conf., Poitiers, France (June 1980) 1−44694
MOS-structure, determ. of interface state density and capture cross section 1−30832
p-n junction, inhomogeneities, nondestructive obs. method using flying-spot scanner and chopped photon beam 1−47739
pinning and roughening, one-dimens. model of interfaces and steps 1−52444
polymer surface and interface anal. methods, review 1−20534
polymeric composites, interface stressed state 1−48435
semiconductor, polar interface atomic reconstruction stability 1−16326
semiconductor interfaces and steps, pinning and roughening, one-dimens. model 1−52444
semiconductor-metal interface, atomic redistrib., photoemission studies 1−52440
solid-electrolyte interface structure, non-traditional approaches, trends and prospects 1−32793
solid-liquid interface, soft-core model, mol. dynamics study 1−30559
SOS structure, 20 Å layers, stimulated Raman scatt. study 1−15216
stainless steel, adhesive bonding, interface region 1−21693
steel, alloy, isothermal thickening of cementite allotriomorphs 1−39338
steel, mild, nitro carburised composition-depth profiling, scanning Auger microprobe 1−21824
steel austenitic stainless, surface characterisation after various treatments 1−35452
transition metal silicide form. by ion implantation of transition metal-Si struct. 1−38398
water, liquid-vapour interface, Monte Carlo simulation of surface props. 1−34545
Ag/polymer interface reactions of polymer coated solar mirrors 1−12931
Ag-glass interfaces of solar mirrors, Auger anal. of diffusion 1−12910
Ag-Mo bimetal epitaxial films, orientation relations at interface *(Russian)* 1−2831
Al, incompatible bicrysts., strain accommodation 1−21558
Al/p-Si MIS solar cells, phys., struct., elec. and optical characts 1−43758
Al-Cu-Si, planar growth, role of constitutional undercooling 1−3718
Al-SiO_2 interface, solid state reaction, XPS and TEM study 1−47391

interface structure continued
Al-SiO_2-Si p-n junction struct., defect detect. using SEM in EBIC mode 1−20229
Al_2O_3/molten Fe, interfacial tension meas. *(Japanese)* 1−2778
AlSb oxide-semiconductor interface, AES and Raman scatt. anal. *(French)* 1−42642
Au/Cr bifilm, heat treated, elec. resist. increase rel. to interdiffusion 1−7394
Au-Ni bimetal epitaxial films, orientation relations at interface *(Russian)* 1−2831
Au-Si amorphous interface struct., AES and EELS study 1−30575
Au-Sn-Al metallizations on GaAlAs LED, interfacial void struct. 1−16195
$CoSi_2$-Si, heterostruct. growth by MBE 1−16692
Cr-Si thin film interactions, silicide phase form., Rutherford backscatt. obs. 1−38679
Cu, incompatible bicrysts., strain accommodation 1−21558
Cu/W (110) surface, static SIMS study 1−31290
Cu_2S film growth on CdS faceted substrate, growth rate, morphology, grain boundaries 1−34590
Cu_2S-CdS films in solar cells, grain size, dislocation density and microscopic defect struct. 1−35660
Cu_2S-CdS solar cells with rough interfaces, theoretical anal. 1−53610
Er-Si interfacial reaction, silicide form., ion implantation effect 1−38672
Fe-Ni alloy, evaporated thin film on SiO_2, comp. profile, ESCA study 1−30587
Fe-Sn interface reaction, Mossbauer spectroscopy study 1−26085
Ga-Mo, field ion microscopy, struct. of Ga, field emission current *(Japanese)* 1−31319
Ga-Mo, field ion microscopy, temp. depend. of evaporation field *(Japanese)* 1−31320
Ga-W, field ion microscopy, struct. of Ga, field emission current *(Japanese)* 1−31319
Ga-W, field ion microscopy, temp. depend. of evaporation field *(Japanese)* 1−31320
$Ga_{1-x}Al_xAs$-GaAs LPE interface structure and composition, STEM and cathodoluminescence obs. 1−16350
GaAs oxide layers, surface and interface roughness and morphology determ. 1−30532
GaAs, thermal oxidation of GaO_xN_y covered surface, Auger-sputtering study 1−21612
GaAs-$Al_xGa_{1-x}As$ multiquantum well superlattice interface disorder, photoluminescence and absorption obs. 1−16353
GaSb:Te pulled crysts., micron sized facets on growth interface and impurity striations 1−47390
GaSb(As)(P), substrate, thermally annealed anodic films, oxide-substrate and oxide-oxide reactions 1−35570
Ge-GaAs polar (100) interface, electronic and struct. props., total energy, calc. 1−52647
InAs MBE film on GaAs substrate, cross-sectional TEM study, dislocation props. 1−11987
InAs-GaSb superlattices, ion backscatt. and channelling 1−38673
InAsSbP-InAs superlattice growth, organometallic VPE method 1−26393
Mo, diffusion couples with nitrides, TEM and X-ray obs. *(Japanese)* 1−47305
Nb-Si interface, ion bombardment induced silicide form., backscatt. study 1−11986
Ni monolayer on Si, lattice localisation by thin cryst. channelling 1−47129
NiO/Ni interface, composition profile, Auger electron peak shape anal. 1−42641
$NiSi_2$-Si, heterostruct. growth by MBE 1−16692
Pd film, VPE on Ag, Au, pseudomorphic growth and interdiffusion 1−38694
Pd/W (110) surface, static SIMS study 1−31290
Pd-Si, amorphous and cryst., silicide form. at interface, Raman scatt., and Rutherford backscatt. study 1−52441
Pd-Si interface, ion beam induced epitaxy of Pd_2Si 1−16196
Pd_2Si-PdSi thin film system, thermal stability, reversible phase transform. 1−25581
Si (111)-Au(Ag)(Ni), interface, localised state density, Schottky diode interface states 1−52654
Si (111)-Pd interface, chem. processes at liq. N_2 temp., angle-integrated photoelectron spectra obs. 1−31304
Si/Pt superstructures on Si (111) and (100), LEED, AES study 1−16194
Si-Al_2O_3 heteroepitaxial interface, high resolution TEM obs. 1−52443
Si-Mo(Pd)(Ta) interface, implantation induced silicide form., SIMS study 1−30576
Si-Pt_xSi shallow contacts, codeposited Pt_2Si and $Pt_{1.2}Si$, struct., Schottky barrier height 1−12188
Si-SiO_2, interface, evidence for SiO using surface soft X-ray absorpt. near edge spectroscopy 1−8159
Si-SiO_2 interface, intergranular glassy phases, electron microscopy 1−16193
Si-SiO_2 interface, MeV ion backscatt. study 1−16647
Si-SiO_2 interface, morphological obs. 1−7480
Si-SiO_2 interface, one dimensional periodic struct. *(Russian)* 1−2786
Si-SiO_2 interface, struct. and electronic props. of SiO_x region 1−20576
Si-SiO_2 interfaces, oxide uniformity determ. by XPS spectra intensity anal. 1−13061
Si-SiO_2 transition regions, phys. and chem. props., state-of-the-art 1−7479
Si-TiN(TaN)-Al intermetallic, high temp. stable contact structs. 1−11984
SiO_2/GaAs sputter deposited system, interface layer formation 1−38671
SiO_2/molten Fe, interfacial tension meas. *(Japanese)* 1−2778
SiO_2/Si interface in MOS transistors, XPS studies of structure-induced radiation effects 1−43239
SiO_2/Si interface-state generation in radiation-hard oxides 1−42838
SiO_2-Au(Al), interface reactions, XPS study 1−38674
Si(111), bonding states during thermal oxidation, AES study 1−8172
Tb-Si interfacial reaction, silicide form., ion implantation effect 1−38672
Te-Se-Cd, sandwich structure, extent of CdSe layer at Se-Cd contacts 1−7478
W-Mo bimetal epitaxial films, interphase boundary struct. *(Russian)* 1−11985
Zn-Bi-In alloys, solid-liquid interfaces, isothermal faceted to non-faceted equilib. transition 1−16154
ZnO films, RF sputtered onto Si and SiO_2/Si, struct. and interface oxidation state 1−2842
ZnSe layer on Ge (111) substrate, formation of transition layer 1−34589

interface tension *see surface tension*
interface vibrations *see crystal surface and interface vibrations*
interfaces, computer *see computer interfaces*
interfaces, mechanical *see mechanical contact*
interfacial energy *see surface energy*
interfacial tension *see surface tension*
interfacial waves *see surface waves (fluid)*
interference (wave)
see also acoustic wave interference; electromagnetic wave interference
quantum interference and the classical limit 1−10111
interference spectrometers
astronomical near-IR spectral imaging Michelson interferometer 1−27398
echelle vacuum spectrometer, 5m, diffraction-limited resolving power, optical props. 1−18308
Fourier spectrometer, laboratory type LFS-1000, test results 1−359
grating spectrometer, cooled, with IR photodetector 1−40881
high-resolution spectrometer/interferometer design, rocket-borne 1−36730
tunable diode laser spectrometer optical calibrator 1−36745
VUV Mach-Zehnder inteferometer with CaF_2 optics, Xe oscillator strength meas. 1−50235
interference spectroscopy
see also Fourier transform spectroscopy
backward-fluorescence spectroscopy, Doppler-free, in vapours 1−28066
coherent spectroscopy, apparatus for bulk or surface polariton studies 1−40871
Fabry-Perot, theory *(Japanese)* 1−10021
Fabry-Perot interferogram, spectrum reconstruct. method for IR spectroscopy 1−45037
Fabry-Perot spectrometry, thermosphere temp. and wind meas. 1−4648
IR spectral imaging with Michelson interferometer 1−24512
pulsed light spectroscopy concepts 1−40864
saturated absorption within Fabry-Perot resonator, appl. to spectroscopy *(French)* 1−11050
ultracold neutron small energy change recording 1−37051
He-Ne CW laser, type LG-126, interference study of laser radiation spectral comp. 1−37460
N_2^+ first negative band system, interferometric meas. of linewidths and spin doubling 1−14963
interference suppression
acoustic noise suppression in speech using two microphone adaptive noise cancellation 1−29473
atomic absorption spectroscopy using furnace atomizer, interference reduction using autosampler 1−13050
frequency-domain adaptive interference rejection, effect of array errors 1−29465
IR testing of Si wafers, interference effects suppression by doping with As 1−7188
microwave radiometers, device for increasing noise immunity 1−18298
radiotelescopes, antenna feeder interference suppression by substitution method 1−9369
RATAN-600 radio telescope, antenna noise temp. reduction using anti-noise screens 1−9366
reflection seismology, characts. of methods of multiple noise waves suppression for W Siberian platform 1−9111
sidelobe interference suppression using adaptive null processor 1−37709
thermocouples grounded, wire shielding 1−260
weather forecasting, numerical, development using short period noise waves filtering *(German)* 1−9218
interferometers
see also acoustic wave interferometers; electromagnetic wave interferometers; interferometry
dilatometer for materials with low rates of expansion 1−27920
dilatometers, high resolution signal interpolator system 1−27918
neutron interferometry applications 1−30001
interferometry
see also acoustic wave interferometry; electromagnetic wave interferometry; holographic interferometry; interferometers
computerised processing and analysis of interferograms *(Polish)* 1−50199
electron interferometry with a Siemens Elmiskop 102 for EM microfield meas. 1−36772
Fabry-Perot interferometer in gravitational wave field *(Russian)* 1−9915
gamma-ray reference lines, remeasurement, review 1−36920
image recovery from incomplete astronomical interferometric meas., Simplex Algorithm appl. 1−49527
neutron interferometry applications 1−30001
perfect crystal X-ray and neutron interferometry 1−36782
intergalactic matter
see also clusters of galaxies; galaxies
Abell 1656 and 1367, diffuse radio emission intracluster gas interpretation, VHF obs. 1−36416
in Abell 2255, distorted radio sources as evidence of intergalactic gas 2.5-5 Mpc from cluster centre 1−9682
Abell 576, rich galaxy cluster, X-ray struct. obs. rel. to intracluster gas temp. and microwave diminutions 1−44650
3C 129, radio galaxy, intergalactic medium interaction with circumgalactic medium rel. to tail struct. 1−9700
EM beams, propag. in inhomogeneous medium rel. to radio sources morphology 1−36420
explosion-dominated intergalactic medium, galaxy form. 1−54619
far UV emission, upper limit to extragalactic contrib. to far UV diffuse background 1−9738
galaxies interaction with intergalactic medium, gas flow past massive object and gravit. drag 1−13864
gas, interaction with interstellar gas from disk galaxy 1−17892
high-velocity H I clouds, high-sensitivity 21 cm survey 1−9619
high-velocity H I clouds and Magellanic Stream, distances estimation 1−40540
hot intergalactic gas, contrib. to fluctuations of microwave background radiation 1−9742
intracluster gas, influence on dynamical evolution of clusters of galaxies 1−9696
intracluster gas and evolution of galaxy clusters 1−9679
intracluster gas heating by relativistic electrons, collective effects 1−9644
intracluster gas in X-ray clusters, interaction with galactic halos rel. to radio spectra 1−36405
intracluster gas infall model for radio emission from cD galaxies, rel. to VLA obs. at 20 cm 1−40555
intracluster material accretion onto elliptical galaxy, spiral galaxy form. 1−36409

intergalactic matter continued
intracluster medium, cluster radio halo prod. from cosmic ray protons 1−4984
intracluster medium in a poor Zwicky cluster containing PKS 2247+11 1−36422
Kelvin-Helmholtz instability in clusters of galaxies, rel. to galaxies interstellar gas stripp 1−4985
Magellanic Stream absorpt. in Seyfert galaxy Fairall 9 optical spectra 1−49812
Magellanic Stream and high-velocity H I clouds, distances estimation 1−40540
magnetic field of Coma cluster, origin 1−40569
magnetic fields in galaxy clusters, morphology 1−49825
'pancake' structures in early Universe, adiabatic perturbations theory rel. to Universe large scale struct. 1−9755
particle beams, turbulent magnetic waves from shear flow instabilities 1−32769
QSO evolution rel. to uniformly distrib. IGM 1−22918
quasars Lyman alpha absorbing clouds, possible nature 1−44662
ram-pressure stripping of spiral galaxies in dense clusters, computer simulations 1−44627
temperature restriction from ionisation of He 1−9706
UV diffuse background, review 1−13887
UV spectroscopy of interstellar and intergalactic matter 1−32736
X-ray absorption effects on quasar spectra 1−32748
X-ray emission, implications for cosmology 1−9754
H I Lyman α absorption in quasars rel. to superclusters 1−54641
H I regions, high vel., extragalactic or galactic nature 1−49764
H I regions, space density upper limit, SHF obs. 1−49813

intermediate bosons
axion decay into electron pair, partial decay rate 1−14438
baryon number nonconservation 1−10134
charmed mesons, nonleptonic decay, W-exchange, pole model 1−23493
composite quarks and leptons and the Higgs boson mass 1−5490
cosmological baryon asymmetries evolution, superheavy gauge boson role, SU(5) unification 1−27642
cosmological baryon asymmetry evolution, Higgs boson role 1−27643
decay products, ang. distrib. *(Russian)* 1−41021
dynamical symmetry breakdown in weak interactions 1−45173
E(6) and topless bottom decays 1−18477
electroweak symmetry breakdown, subgroup alignment in hypercolor theories 1−33140
gauge boson formal decompositions, $W^{\pm}$, Z, A and gluons 1−421
gauge bosons, decoupling of superheavy particles in grand unified theories 1−10121
Goldstone bosons from quantum field theory, spontaneous symm. breaking 1−23408
grand unified theories, spontaneous breaking 1−18421
GUTs, gauge boson resolution, preons, proton decay 1−50364
hadronic $W^{\pm}$ and Z^0 prod., nonleading QCD corrections 1−14337
heavy Higgs bosons in the Weinberg-Salam model 1−481
heavy weakly interacting fermions, masses and lifetimes, cosmological constraints 1−44683
Higgs boson, gauge hierarchies and mass bounds, weak symmetry breaking 1−5559
Higgs boson, hadronic decay width, perturbative QCD corrections 1−14348
Higgs boson, light, cosmological consequences 1−40928
Higgs boson, mass, cosmological lower bound 1−18409
Higgs boson decay, spherocity, thrust, quark mass effect. 1−10161
Higgs boson hadronic decay width, renormalisation group estimate in QCD 1−50477
Higgs bosons, decoupling of superheavy particles in grand unified theories 1−10121
Higgs meson mass from vacuum instability at zero temp., chiral symmetry breaking 1−18415
Higgs meson radiatively induced mass, higher order calc. in SU(5) 1−10223
Higgs model generalisation without dipole ghosts 1−36795
Higgs particle virtual effects in gauge theory, weak processes, Weinberg-Salam model 1−50371
Higgs particles, mass spectrum from gauge theory spontaneous symmetry breakdown 1−5455
high p_T polarisation in inclusive interactions, $W^{\pm}$, Z^0 exchange, interference with gluon exchange 1−18528
horizontal flavour chirality, Fermion mass matrix, CP-nonconservation 1−50345
lepton number nonconservation 1−10134
mass bounds for neutral generation-changing gauge bosons 1−23463
mass ratio, m_W/m_Z, and neutrino mixing 1−40961
minimal SU(5) model, baryon generation, K-M mechanism, superheavy Higgs boson decay 1−50362
neutral heavy Higgs boson decay into weak vector boson+lepton pair 1−10135
neutrino oscillations, extra Higgs boson model, theoretical pattern 1−14293
nucleon decay, flavour mixing 1−45276
parity violation effects from neutral gauge boson of supersymmetric theories 1−14267
scalar boson, quantum flavour dynamical mass calc. 1−14364
six quark model, mass and mixing angle predictions from infra-red fixed points, grand unification 1−28262
skew-symmetric tensor gauge field theory dynamically realized in the QCD U(1) channel 1−50377
SO(14), inclusion of generations 1−40956
SO(n) symmetry breaking, vector and adjoint representations, of Higgs potential 1−10105
SO (10), partial unification, Higgs bosons 1−33141
spin-1 superpartner of spin-3/2 goldstino (gravitino), neutral current phenomenology 1−5558
$SU(2)_H$, lowest mass horizontal gauge boson limits from μ, τ and K decays 1−28265
SU(2)×U(1) model, triple boson vertex, charged Higgs particle prod. 1−10126
SU(2)—U(1) spontaneous symm. breaking, vector. boson mass operator in mag. field *(Russian)* 1−50333
SU(3)×SU(2)×U(1) invariant effective gauge theory, grand unification, superheavy vector boson mass 1−50356
SU(5) grand unification theory 1−45174
SU(5) model, proton lifetime 1−18422

intermediate bosons continued
SU(5) unification, $\sin^2\theta_W$ renormalisation, O(α) corrections, W-bosons 1−14298
super unified gauge theory, generation unification, Cabibbo angle, Higgs bosons, O(14) model 1−28257
superheavy fermions interacting through superheavy gauge bosons, role in early Universe 1−54360
topless gauge theories, neutral currents, SU(2), CP violation and neutral gauge bosons 1−14317
unified electro-weak model in SU(3) *(Chinese)* 1−18423
unified theories, dimensional renormalisation scheme use, superheavy gauge boson mass in SU(5) 1−45176
Universe, baryon asymmetry, kinetics of origin *(Russian)* 1−40588
vacuum instabilities in models with spontaneous symmetry breaking, Goldstone bosons 1−36826
Weinberg-Salam model, lepton self-mass, Higgs scalar and heavy-quark masses 1−33137
Weinberg-Salam model, symmetry breaking, alignment of weakly gauged subgroups 1−10120
ed→ed, parity violation 1−28322
e^+e^-, two photon processes, Higgs boson prod. rates 1−18533
e^+e^- annihilation, QCD tests, jets, gluonium, Higgs bosons and unconfined quarks 1−10237
e^+e^- annihilation, Z^0 asymmetries in jets, quark fragmentation model test 1−45332
$e^+e^-\rightarrow$HX, heavy charged Higgs particle prod. at very high eneriges 1−45333
$e^+e^-\rightarrow\mu^+\mu^-(e^+e^-)$ PETRA/PEP energies, electroweak theory implications 1−533
$e^+e^-\rightarrow W^+W^-$, same helicity e^- and e^+, gauge theories and sum rules 1−18463
$e^+e^-\rightarrow W^+W^-(Z^0Z^0)(Z^0H^0)$, vector boson density matrix from Weinberg-Salam model *(Russian)* 1−36872
$e^+e^-\rightarrow W^+W^-\rightarrow q\bar{q}\mu\bar{\nu}_\mu$, Weinberg-Salam model framework 1−10184
F^+ semileptonic decay, SU(4) 20-plet dominance and W-exchange gluon bremsstrahlung models 1−10198
$\mu^-N\rightarrow e^+N^*$, lepton nonconserving reaction mediated by Higgs particles, branching ratios 1−45295
$\nu(\bar{\nu})$N, deep inelastic cross sections, scaling logarithmic breaking, quark parton model *(Russian)* 1−5618
$\bar{\nu}_e\rightarrow W^-Z^0$, differential and total cross-sections, calc. 1−14368
$\bar{\nu}_e e\rightarrow W^-H$, differential and total cross-sections, calc. 1−14368
$\bar{\nu}_e e\rightarrow W^-\gamma$, differential and total cross-sections, calc. 1−14368
p decay, Georgi-Glashow SU(5) model, intermediate vector boson mass, lifetime, $\sin^2\theta_W$ 1−45193
$\bar{p}p$, large p_T effects, intermediate and Higgs bosons, narrow charmonium like resonances 1−10288
pp($\bar{p}$), charge-charge correlations and detection of weak vector bosons by hadronic jets 1−45341
pp($\bar{p}p$)→$W^{\pm}$X, 200-600 GeV, single lepton characts., Weinberg-Salam QCD calcs. 1−33202
pp($\bar{p}p$)→γZ^0X, 200-600 GeV, single lepton characts., Weinberg-Salam QCD calcs. 1−33202
W, radiative decomposition, mag. moment *(Russian)* 1−40999
W boson, mass and propagator, leptonic and hadronic corrections, form factors 1−14319
$W\rightarrow e\bar{\nu}$, EM corrections in Weinberg-Salam model 1−14395
W prod., quark-parton model for high energy interactions 1−28283
$W\rightarrow q\bar{q}\gamma$ ($q\bar{q}g$), unified approach, decay spectra asymmetries, decay rates 1−45180
W-boson pair production in $e^+e^-\rightarrow W^+W^-\rightarrow q\bar{q}\mu\bar{\nu}_\mu$ 1−10184
W^0 leptonic decay width, standard SU(2)×U(1) model calc. 1−50479
Z boson, mass and propagator, leptonic and hadronic corrections, form factors 1−14319
$Z\rightarrow\nu\bar{\nu}$ decay in Weinberg-Salam model, lepton universality deviations 1−33148
Z^0, radiative and Higgs decay into heavy quark bound state, rates, enhancement 1−10219
$Z^0\rightarrow q\bar{q}g$, spherocity, thrust, quark mass, QCD Weinberg-Salaam model calc. 1−14347
$Z^0\rightarrow q\bar{q}\gamma(q\bar{q}g)$, unified approach, decay spectra asymmetries, decay rates 1−45180

intermediate state
current-induced, dynamic resistance 1−16414
kinetic coefficient temp. depend. *(Russian)* 1−42925
softening due to elec. current during plastic deform. *(Russian)* 1−20927
Sn, US absorpt. in intermediate state, 10-30 MHz 1−52705
Sn-In, dil., US absorpt. in intermediate state, 10-30 MHz 1−52705

intermediate valence compounds *see mixed valence compounds*

intermetallic compounds *see alloys*

intermodulation
anisotropic solid, nonlinear acoustic wave propag. *(French)* 1−7265
biological VHF/UHF EM field meas. by electrodeless insulated probes 1−32299

intermodulation measurement
No entries

intermolecular forces
see also Van der Waals forces
acetone-benzene, binary liq. mixtures, viscosity meas., interaction study 1−38226
acetonitryl, oscillatory spectra, dipole-dipole intermolecular interactions 1−19098
atom-atom pot., intermolecular separation, config., partial wave order 1−41517
benzonitryl, oscillatory spectra, dipole-dipole intermolecular interactions 1−19098
benzylnitryl, oscillatory spectra, dipole-dipole intermolecular interactions 1−19098
chloroform-acetone, binary liq. mixtures, viscosity meas., interaction study 1−38226
cyclohexanone, electrostatic potential, oblate-spheroidal dipolar approx. 1−24205
dense fluid, IR, Raman and Rayleigh spectroscopy of mol. interactions, review 1−39104
dicarboxylic acid, methylene chain rocking vibr. in IR spectra 1−43117
discrete level struct., classical stochasticity, quantum mechanical dynamics 1−51097
fluid, square-well, molecular dynamical calcs. of viscosity above critical density 1−25135
fluid mixtures under pressure 1−30357

intermolecular forces continued
fluids, angular pair correl. function, spherical harmonic expansions 1−30020
G 1−45869
glyoxal vapour, collision induced intersystem crossing, temp. effect 1−29017
Hamaker constants, approx. calc. method and effect of EM lag 1−26767
hydrocarbons, long-range interaction coeffs., point charge model 1−14977
imidazole, H^+ motion in H bond 1−34276
intercalation agents, mag. shielding const., ring current and atomic mag. anisotropy effect calc. 1−51253
ion-ion mean force potential depend. on ion-molecule and molecule-molecule potentials *(Russian)* 1−29078
lactams, 1,3- and 1,4-, intermolecular NH....O H bonds, selective binary and ternary NMR 1−41457
Lennard-Jones liq., classical transport coeff., zero freq. component 1−34211
liquid, molecular, shock-wave data explained by statistical mech. and intermol. forces 1−38425
liquid crystal optical spectra, long-range activity effect in intermol. interaction 1−8067
liquid crystals and plastic crystals at high pressure 1−38272
long range intermolecular forces, effects on mol. props. 1−6337
methane crystals, intermol. pot. and cryst. field, two-centre expansion 1−12074
methyl alcohol-toluene, binary liq. mixtures, viscosity meas., interaction study 1−38226
natural abundance samples, ^{13}C-^{13}C long range coupling, two dimens. spectroscopy 1−41455
nematogens, interaction energies, anisotropic dispersion forces, steric influences 1−34220
nucleic acid bases, mag. shielding const., ring current and atomic mag. anisotropy effect calc. 1−51253
pentahaloethanes, conformations and CH stretching IR overtone spectra, local mode description 1−51195
phenol, electrostatic potential, oblate-spheroidal dipolar approx. 1−24205
phthalimide derivatives, fluoresc. polaris., intermol. interactions effects 1−29025
polar diatomic molecules, electrostatic energy, multipole expansion and point charge models 1−37285
polyethylene, long-range contributions in polymer contribution 1−19226
polymers, long-range contributions, in computation 1−19226
polymers, long-range forces, multipole expansion technique 1−19227
polymers, quantum theory, conf., Namur, Belgium (Feb. 1979) 1−17938
propionitryl, oscillatory spectra, dipole-dipole intermolecular interactions 1−19098
purine+water, base stacking, intermol. energy and interactions 1−1116
rhodamine dyes in alcoholic solns., electronic excitation migration 1−43161
solvent shifts, far IR spectra 1−1141
tetrahaloethanes, conformations and CH stretching IR overtone spectra, local mode description 1−51195
theories, review 1−29079
thymine anion, tautomerism in solid state, IR and Raman spectral study 1−21195
toluene, electrostatic potential, oblate-spheroidal dipolar approx. 1−24205
valence-repulsion energy calcs. using approx. mol. orbitals 1−14970
van der Waals mols., struct. and orbital calcs. 1−6333
virial coefficients, appl. in reconstructing potential of intermolecular interaction 1−51260
virial-type series, rate of convergence anal. 1−42117
water, dimer and trimer struct., vibr. spectra 1−29135
water+alicyclic ketones, hydrogen bonded complexes, IR spectra 1−51207
water+aliphatic ketones, hydrogen bonded complexes, IR spectra 1−51207
Ar+methane, interaction cross section 1−46064
CO_2, solid, phonon processes, repulsive forces, Gruneisen parameters, Raman obs. 1−39074
CO_2, vibr. rot. lines, broadening coeffs. calcs. 1−29045
DF+DF, V-V energy transfer, cross-correl. trajectory study 1−14989
D_2I_2, van der Waals complexes, intermol. pot. and photodissoc. study 1−10800
H^+ transfer, intermolecular forces, configs., isotope effects 1−19154
H_2 liquid, intermol. pot. and thermodynamic props. 1−30027
H_2, pure rotational Raman spectrum, foreign-gas press. broadening 1−19104
H_2, solid, molecular, induced near IR absorpt. spectrum, density effect, 4.2K 1−39103
$(H_2)_2$ spectra in zero mag. field 1−33372
HCl+HF and HF+HCl systems, press. induced spectral line shifts 1−51246
HF+HF, V-V energy transfer, cross-correl. trajectory study 1−14989
$(HF)_2$, electrostatic energy, multipole expansion and point charge models 1−37285
H_2I_2, van der Waals complexes, intermol. pot. and photodissoc. study 1−10800
$(LiH)_2$ electrostatic energy, multipole expansion and point charge models 1−37285
$Li^+(H_2O)_n$, interaction pot., nonadditivity 1−14978
N_2 crystal, lattice dynamics with ab initio intermol. pot. 1−38476
NH_3+He collisions, energy transfer 1−6360
$(NH_3)_3$, 3-body nonadditive interaction energy calcs. 1−46049
OC-HBr complex, microwave spectrum and mol. struct. 1−51192
$(SCH)_2$, fluoro and cyano-substituted counterparts, bonding mode, ab initio calc. 1−45820
SF_4, chemical shielding with intramol. interactions and rovibr. motion 1−45869
$(SN)_x$, bonding mode, ab initio calc. 1−45820
transition metal complexes, $[M(CH_3CN)_6]^{2+}$, M=Mn, Fe, Co, Ni, Cu, Zn, Urey-Bradley force constants, normal vibrations and Raman active fundamental frequencies 1−35019

intermolecular mechanics
see also association; intermolecular forces; kinetic theory of gases; liquid structure; liquid theory; Morse potential; potential energy functions
acetone, liq., C=O stretching vibr., intermol. coupling, isotope dilution investig. 1−6224
acetonitrile, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231

intermolecular mechanics continued
α-alanine, aq. soln., ion-solvent interaction in cationic, anionic and zwitterionic form. 1−19044
aromatic chromophores, partially oriented photoexcited states in synthetic bilayer membranes, weak interactions 1−4123
atom+linear rigid rotor, collisional energy transfer, sensitivity anal. 1−37298
butane, isotropic C_6, C_8 and C_{10} interaction coeff. 1−29073
butyric acid, crystalline state, mol. config., atom-atom pot., pot. energy curves calc. 1−25247
carbon tetrachlorides, liquid, Brillouin lines in polarised light scatt., vibr. relax., intermol. forces, collision model appl. 1−21219
collisional energy transfer, sensitivity anal. 1−37298
3,5-dichlorotoluenes, NOE values and methyl relax. times of methyl, monodeutero methyl and dideutero methyl groups 1−1264
dinonylnaphthalenesulphonic acid and 2 ethylhexanol, intermol. interactions and hydration, IR spectra 1−6336
electron donor molecules, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231
electron donor-acceptor complexes, review 1−14975
electrostatic interaction between two ions in ideal dipolar gas 1−46835
ethane, isotropic C_6, C_8 and C_{10} interaction coeff. 1−29073
exchange perturbation theory, anal. continuation 1−29076
gas viscosity coefficient, inversion, mol. interactions 1−6914
hydrocarbon-water interaction energies, model calcs. *(German)* 1−46059
hydroxyl-containing compounds, vibration freq. of H groups, intermol. and ion-mol. interactions 1−10801
interaction potential influence on ion-ion mean force potential *(Russian)* 1−19157
intermolecular forces, ad hoc symmetrisation of polarisation wave function 1−37289
lanthanide shift reagents, intermol. exchange kinetics, ^1H NMR investig. 1−24172
lauric acid, crystalline state, mol. config., atom-atom pot., pot. energy curves calc. 1−25247
Lennard-Jones molecules, heuristic model, molecular dynamics calc. 1−33533
liquid mixtures, Faraday effect, mag. rot., dispersion const. and excess mag. rot. 1−48043
liquids, intermolecular forces, Myers-London model 1−11649
liquids, optical Kerr const. electronic part, interacting mol. hyperpolarisabilities 1−46466
methane, isotropic C_6, C_8 and C_{10} interaction coeff. 1−29073
methane, solid, beta phase, theory of nuclear spin conversion 1−2353
nonpolar exchanges, FSGO model *(German)* 1−46060
nucleotides in aq. soln., intermol. association, ^1H NMR, microscopic equilib. const. and Gibbs energy determ. 1−21705
polyatomic mol., nonpolar, interaction pot. model 1−51256
propane, isotropic C_6, C_8 and C_{10} interaction coeff. 1−29073
propionic acid, crystalline state, mol. config., atom-atom pot., pot. energy curves calc. 1−25247
cyclo-propylene, isotropic C_6, C_8 and C_{10} interaction coeff. 1−29073
protein domain coalescence, diffusion controlled kinetics, orientation, inter-domain forces and hydration effects 1−39868
pyridine, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231
sequential intramolecular dynamics, random coupling relation 1−1299
smectic mesophases, intermolecular interaction model for molecular dynamics study 1−25163
smectic-A, nematic and isotropic phases, interfaces and thin films, unified model, orientational ordering 1−25160
solute-solvent interactions, NMR relax. studies, book contrib. 1−10761
solvation shell vibrations, density fluctuation, oscillations, dynamical interaction, hydrodynamic treatment 1−19073
valence-repulsion energy calcs. using approx. mol. orbitals 1−14970
valeric acid, crystalline state, mol. config., atom-atom pot., pot. energy curves calc. 1−25247
CO, ^{13}C NMR, chemical shielding variation with intermol. interaction and rovibrational motion 1−45989
CO-He, interaction pot., calc. using SCF-CI surface and pressure broadening data. 1−37291
CaHCl system, collinear interactions, val. bond diatomics-in-mol. method appln., pot. energy surfaces 1−1143
$CdBr_2$-$PbBr_2$($CdCl_2$), molten, mixture, intermol. free length and interactions 1−15783
$CdCl_2$-$CdBr_2$($PbBr_2$), molten, mixture, intermol. free length and interactions 1−15783
Co complexes, $Co_2(CO_6)L$ (L=substituted acetylene), dinuclear transition, electronic struct., He(I) and (II) photoelectron spectra 1−6315
Fe complexes, electronic struct. of dinuclear transition, He(I) and (II) photoelectron spectra, ab initio SCF calc. 1−6316
$Fe_3(CO)_6S_2$, electronic struct. of dinuclear transition, He(I) and (II) photoelectron spectra, ab initio SCF calc. 1−6316
H_2O, liquid, struct. modeling by Monte Carlo methods, intermol. interactions calc. by pot. functions 1−7069
He-He, intermol. pot. energy surfaces, calc. by variation perturbation method 1−33534
K-K_2, interaction pot. surfaces calc., scatt. transport coeff. determ. 1−14973
KHF_2, IR spectra, interion interactions 1−39075
Li-Li_2, interaction pot. surfaces calc., scatt. transport coeff. determ. 1−14973
N_2 in solid, liquid and gas phases, props. studied using pairwise additive intermol. pot. 1−37294
N_2-N_2, repulsive interactions obtained through combining rule 1−37287
ND_3 collision integrals, internal state polarisations, DWBA approach 1−14976
ND_3, vibr. intermol. modes meas. by coherent inelastic neutron scatt., elastic const. 1−34430
NH_3 collision integrals, internal state polarisations, DWBA approach 1−14976
NH_3, intermolecular pots., SCF-MO calcs. 1−46052
$^{15}N_2$ gas, ^{15}N reson. freq. meas., chemical shielding variation with intermol. interaction and rovibrational motion 1−45989
Na-Na_2, interaction pot. surfaces calc., scatt. transport coeff. determ. 1−14973
$NaHF_2$, IR spectra, interion interactions 1−39075
NaK, rotationally inelastic energy transfer studied by polarised laser fluores., intermol. anisotropies 1−10824
Ne-n-$H_2(D_2)$ mixture, intermol. free length and interactions 1−15783

intermolecular mechanics continued
$PbBr_2$-$CdCl_2$($CdBr_2$), molten mixture, intermol. free length and interactions 1−15783
$SiCl_4$, liquid, Brillouin lines in polarised light scatt., vibr. relax., intermol. forces, collision model appl. 1−21219
$SnCl_4$, liquid, Brillouin lines in polarised light scatt., vibr. relax., intermol. forces, collision model appl. 1−21219

intermolecular vibrations *see molecular rotational-vibrational energy transfer*

intermolecular vibrations (molecular crystals) *see lattice dynamics of molecular crystals*

internal combustion engines
ceramic coatings in diesel engines, microstruct. and thermal effects 1−30597
diesel, soot emission from spray combustion flame at high ambient press. *(Japanese)* 1−17055
diesel engine testing by portable smokemeter 1−32076
diesel engined mobile motor generating set, permissible noise levels, causes and damping measures *(German)* 1−1764
exhaust emission analysis by IR laser 1−17335
laser Doppler anemometry measurements carried out for JCE project on engines, anal. of expt. errors 1−2116
marine diesel engines, emission props. of flames *(Russian)* 1−4095
mixture control, study *(Spanish)* 1−17336
propane-air microwave stimulation combustion bomb in extended lean limit 1−39642
standby generators, noise attenuation, measures to be taken in installation design *(German)* 1−15322
H_2-O_2-inert gas engine perform. 1−8772

internal conversion
see also conversion electron spectra
gravitational field effect, model calc., exptl. detection possibility 1−14495
HF atomic model, internal conversion calc. 1−50553
Mossbauer spectra of E_1 transitions, hyperfine struct., interference effects 1−26100
nuclear deformation effects on electronic ground state in IC coeff. calcs. 1−45462
odd deformed nuclei, neutron E2 transition IC penetration matrix elements 1−668
radioisotope production by neutron activation, X-ray emission intensities meas. 1−21832
^{160}Dy, L-subshell internal conversion coeff. to E2 transition ratio 1−23603
$^{106}Ag^m$ decay, γ and IC spectra, ^{106}Pd levels from hadronic vibrator anal. 1−667
^{133}Ba, excited state mag. moment meas. following internal conversion *(Russian)* 1−41339
^{155}Dy γ-rays, IC electrons and $\gamma\gamma$ coincidences from ^{155}Ho decay 1−659
^{155}Dy levels, γ-spectra and IC spectrum from ^{155}Ho β^+ decay 1−33217
^{147}Eu level scheme, γ-transitions, IC spectra and eγ coincidences from ^{147}Gd decay 1−45422
$^{152}Eu^m$ IC e^- and e^+ spectra, ^{152}Sm, ^{152}Gd E0 transitions 1−661
Fe unfilled atomic shells, internal conversion theory *(Russian)* 1−37165
^{57}Fe spin polarised electrons, internal conversion coeff., rel. to electron density at nucleus 1−33241
$^{180}Hf^m$, E2 transition γ-ray intensities 1−5737
^{159}Ho levels, γ-spectra and ICe$^-$ and e^+ from ^{159}Er decay 1−636
$^{110}In^m$, decay scheme, γ-multiplarity and IC coeffs. 1−28408
levels, J^π, transitions and IC coeffs. from ^{96}Sr decay 1−36904
$^{106}Rh^m$ decay, γ and IC spectra, ^{106}Pd levels from hadronic vibrator anal. 1−667
^{122}Sb, 61 keV transition, total internal conversion coeff. 1−45463
^{88}Sr 1836 keV state deexcitation, e^+ search from ^{88}Y decay 1−669
$^{99}Tc^m$, decay rate, chem. effects, internal conversion prob. 1−45460
$^{99}Tc^m$, gravitational field effect calc. 1−14495
^{235}U plasma, isomeric level excitation via inverse internal electron conversion *(Russian)* 1−45458
^{182}W, L-subshell internal conversion coeff. to E2 transition ratio 1−23603
^{A}Yb, A=170, 172, L-subshell internal conversion coeff. to E2 transition ratio 1−23603

internal conversion in atoms *see Auger effect*

internal conversion in molecules *see nonradiative transitions*

internal fields, crystal *see crystal field interactions*

internal friction
see also Bordoni effect; damping; Snoek effect; Zener relaxation
β-brass, quenched, internal friction 1−43400
dislocation motion, unified theory incl. thermal activation and inertial effects 1−15891
dislocations, vacancies and interstitials, book contrib. 1−2460
dislocations in alloys, amplitude-dependent internal friction calcs. 1−38375
epoxy resin and fibre glass cloth-epoxy composite, Young's modulus and internal friction, temp. depend. 1−43391
ferroelectrics, displacive-type, lattice viscosity in paraelec. phase, temp. depend. 1−42501
ferroelectrics, internal friction features and shear modulus at Hz freqs. 1−25370
ferromagnets, magnetoelastic dislocation internal friction, magnon damping *(Russian)* 1−31004
fibre glass cloth-epoxy composite, dynamic Young's moduli and internal friction 1−43390
glass, alkali-borate and alkali-borosilicate, internal friction spectra as function of temperature *(French)* 1−7253
Homalite 100, energy loss during crack propag. and arrest 1−38440
internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
low-frequency study, instrumentation, computer software, expt. techniques 1−12952
metal powders, RF echoes in normal and superconducting states 1−3542
Nimonic 90, creep, friction stresses and anelasticity 1−12837
organic monomolecular film, thermal-mech. props. detected by vibrating reed 1−52457
oxide glass, viscoelastic and plastic behaviour near glass transition 1−35297
plasma arc sprayed coating, internal friction, amplitude depend. 1−35301
polyethylene, amorphous solitons, defect diffusion and dielect. relax. 1−16521
polystyrene, branched model, hydrodynamic studies 1−38573
powders, RF echo formation mechanism *(Russian)* 1−3346

internal friction continued
quartz, synthetic, resonator, Na acoustic loss depend. on electron irrad. and electrodiffusion 1−2565
rocks, internal friction measurement, by stress-strain curve method 1−9146
shear wave internal friction, freq. dependence of E.North American continental crust 1−22283
solid solution strengthening, high temp., studied through internal friction 1−21470
steel, N ion implantation, modification of mech. props. 1−21587
steel 20GS2, mech. props. after holding under stress in $Ca(NO_3)_2$+NH_4NO_3 solution 1−35447
vibrating structures, internal friction determination method 1−29635
Ag coatings, mech. props. meas. 1−12784
Ag-Hg-Sn dental alloy, Young's modulus and mech. damping 1−31515
Al alloy, H_2 charged, internal friction meas. 1−53226
Al, coatings, mech. props. meas. 1−12784
Al-Cu (0.5 wt.%) anomalous internal friction phenomenon *(Chinese)* 1−52228
Al-Cu dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Mg (0.03 at.%) alloy, dil., dislocation internal friction peaks with anomalous amplitude effect *(Chinese)* 1−21500
Au coatings, mech. props. meas. 1−12784
Au-Cd alloy, internal friction peaks assoc. with martensitic and reverse martensitic transform. at LF *(Chinese)* 1−48404
C fibres, Cu coated, high temp. background of internal friction 1−39359
Co, internal friction at spin reorientation transforms. *(Russian)* 1−42463
CoPt, internal friction peaks due to a coating effect 1−26529
Cu foils, obs. of dislocation motion at 20K during microdeform., TEM 1−30232
Cu, isothermal internal friction, high temp., 370-680°C 1−53225
Cu-Al, isothermal internal friction, high temp., 370-680°C 1−53225
Cu-based composite materials, fracture laws and singularities *(Russian)* 1−3885
Cu-Fe (0.1-2.0 at.%), internal friction, effect of preliminary US deform. *(Russian)* 1−8361
Cu-Zn-Al alloy, internal friction during martensitic transform., new aspects 1−38448
β-CuZnAl quenched, internal friction 1−43400
Fe, irradiated or deformed, internal friction peaks α and β_1 1−20313
Fe wire, cold-worked, internal friction peaks due to a coating effect 1−26529
Fe-C, pure, mech. props. under thermal and deformed ageing conditions 1−26503
Fe-Cr alloys, dissolved H effect on plastic deform. *(Japanese)* 1−31535
Fe-P-C glass, viscoelastic and plastic behaviour near glass transition 1−35297
Ge, coatings, mech. props. meas. 1−12784
Ge:Cu, internal friction in dislocation cores 1−25371
^{4}He, HCP cryst., dislocation motion 1−47327
^{4}He:^{3}He, HCP cryst., dislocation motion 1−47327
K_2O-SiO_2 system glasses with BaO and CaO additions, low-temp. mech. relax., US obs. 1−52233
$La_{0.80}Al_{0.20}$ amorphous alloy, internal friction and Young's modulus 1−20314
NaF_2:Ca^{2+}, internal friction, charged dislocations, plastic props. 1−11812
Na_2O-K_2O-B_2O_3-SiO_2 glasses, high SiO_2, internal friction near transition to viscous-flow state 1−42462
Na_2O-SiO_2, system glasses with BaO and CaO additions, low-temp. mech. relax., US obs. 1−52233
Nb, deformed, H and D effect on internal friction 1−12785
Nb, internal friction, low temp., effect of H_2 1−15897
Nb_2, H cold work peak 1−8338
Ni ferrites, internal friction, temp. depend. 1−30323
Ni-Zn ferrites, internal friction, temp. depend. 1−30323
$Ni_{82-x}P_xB_8$, amorphous, nuclear spin-lattice relaxation time anomalies on ^{31}P and ^{11}B 1−26064
non-linear internal friction, dislocation interactions 1−2462
Pb, doped, HF internal friction and dislocation-impurity interaction *(Russian)* 1−30271
Pb, doped, hysteresis of low-temp. dislocation internal friction *(Russian)* 1−30322
Pd-H system, elastic energy dissipation effects 1−20312
Pd-H system, elastic energy dissipation effects in α+β and β phase comp. ranges 1−42460
Re, twinning strained, internal friction freq. and orientation depend. *(Russian)* 1−47169
Se, vitreous, viscoelastic and plastic behaviour near glass transition 1−35297
Si_3N_4 hot pressed, grain-boundary sliding role in fracture at high temps. 1−26598
Ti alloys, impurity-dislocation interaction energy, determ. from internal friction 1−42414
Ti-Ni, time depend. of internal friction near phase transformation temps. *(Russian)* 1−47170
Zr, cold-worked, low-temp. internal friction 1−7252

internal friction of liquids *see viscosity of liquids*

internal mechanics, molecular *see molecular vibration*

internal mechanics of atoms *see atomic structure*

internal modes *see molecular vibration in solids*

internal stresses
acoustical interferometric method for internal stress distrib. meas. in solid 1−51725
alloys, residual stresses curves, nondestructive determ. after chemothermal treatment 1−8502
anelastic deform. in creep, stochastic model *(Czech)* 1−47153
anisotropic media, inhomogeneous, elastic stress wave propagation and dynamic compactness of stress waves 1−15439
athermal yielding mechanisms at medium temp., review 1−12833
axial, determ. using semicylindrical specimens 1−19659
BCC metals, plastic deform. activation anal. using stress and temp. jumps 1−21539
boride layers, on steel, dry sliding friction, invest. of failure mechanism 1−12894
cast Fe stress-strain state microinhomogeneity, rel. to fatigue failure *(Russian)* 1−21573
ceramics, effects of stresses on strength 1−39432
composite materials, antifriction, stress distrib. 1−21596
creep, micromechanical modelling using distributed parameters 1−38438

internal stresses continued
crystal deform., in-situ obs. of basic deform. and other dynamic processes 1−2447
crystals and polycrystalline aggregates, cyclic loading, constitutive eqns. 1−3830
Czochralski grown semi-transparent crystals, effect of thermal fields on dislocation distrib. and density 1−38313
diffusion coating, optimum conditions determ., residual stresses calc. 1−35411
disclinations, straight, near free surface, stress fields calc. 1−52135
dislocation loops, halo contrast in electron microscopic images *(Russian)* 1−7176
dynamic fatigue, flaw characts., residual contact stresses influence 1−26600
epoxide resins, shrinkage and internal stress during curing *(Japanese)* 1−25354
fatigue crack closure, residual stress fields assessment using Westergaard stress function 1−46705
fatigue crack propag. in region of tensile or compressive residual stress *(Japanese)* 1−43491
ferrites, magnetodynamic characteristics, influence of internal stresses *(German)* 1−52821
fibres, tape-type cable, residual stresses and their reduction 1−1716
film materials, universal test instrument 1−16993
films, internal stresses measurement 1−29634
fission reactor fuel cladding tubes, meas. of residual stress by X-ray method *(Japanese)* 1−33292
glass, flat, calc. of stresses produced by heat treatment 1−16823
glass, flat, ion-exchange strengthening, calc. methods 1−53249
glass, internal stresses effect, on fracture toughness 1−26599
glass, strengthened by ion exchange and quenching, durability, temperature-force depend. 1−43509
glass fibre reinforced polypropylene, injection molded, residual stresses *(Japanese)* 1−3690
glaze coating on ceramics, thermal shock resist., underglaze layer effect 1−12898
graphite, nuclear, residual strain effect on thermal cond. 1−773
Incoloy 800 type, high temp. creep, effect of precip. strengthening 1−31547
metal, oxidation at high temp., internal stresses role, review *(French)* 1−53343
metals, ductility reserve, effect of local residual stresses close to notch roots and cracks 1−31556
metals, statistical theory of hysteresis loop *(Czech)* 1−3837
newsprint roll, centre-wound, centrifugally induced stresses 1−19572
nonoxide ceramics, residual strain effect on high press. densification, TEM. Obs. 1−53145
optical fibre preform anisotropy determ. 1−19462
phospholipid liquid crysts., hydrated, martensitic transform. driven by mol. conformation change 1−34464
piecewise-inhomogeneous bars and cylindrical parts, residual stress determ. 1−29558
plate, rectangular, stability under bilateral compression with residual stress *(Russian)* 1−37821
polycarbonate, cold rolling and residual stress effect on impact strength 1−48370
polyethylene, high density, injection molded, residual stresses *(Japanese)* 1−3690
polymer-filled-film., deform. and stresses eval., interphase layer separation 1−8372
polymers, stress relax., modified site model anal. 1−3814
polypropylene, injection molded, residual stresses *(Japanese)* 1−3690
polypropylene, injection-moulded, residual stresses and ageing 1−35290
precipitation hardened alloys, fatigue behaviour, influence of microplasticity and crack initiation 1−31653
quantitative nondestructive meas., review 1−43622
residual stresses, induced by fatigue cracking 1−25363
residual twin boundary motion, dislocation description 1−11771
ruby, fluorescence, R_1 line, macroscopic inhomogeneous broadening, obs. 1−12537
semiconductor, internal stresses induced by micro inclusions 1−52213
semiconductor heterostructures, residual stresses determ. by photoluminesc. 1−21255
shells, cylindrical welded joints, stress and strain calcs. 1−37808
silicate enamel on steel 1−3999
solar cell arrays for space appls. structural behaviour 1−39784
steel, aluminised 08kp, ductility, residual stresses, and redistrib. by heating 1−26571
steel, austenitic stainless, surface finish effect on residual stress distrib. and SCC susceptibility in boiling $MgCl_2$ 1−43616
steel, C, fatigue crack propagation cyclic stress hysteresis effect at elevated temp., strain ageing 1−26581
steel, C, fatigue crack tip, macroscopic residual stress distrib. 1−8412
steel, C, welded, residual stress and fatigue, X-ray diffr. study *(Chinese)* 1−35350
steel, Cr-Ni, two-ductile-phase alloy, plastically deformed, average internal stress 1−26555
steel, eutectoid, rail, fatigue crack propagation 1−31658
steel, high strength, 30 Cr MnSiNi2A, shot peening residual stresses effect on fatigue behaviour 1−3889
steel, martensitic transformation and struct. state, effect of implanted H, in 10Kh16N4B *(Russian)* 1−12741
steel, mild, vibratory stress relief, fundamental study 1−12776
steel, residual stresses in oil- and water quenched cylinders, influence of diameter *(German)* 1−3790
steel, stainless, corrosion cracking in carbon chlorides, machining influence 1−53351
steel, tool, abrasive wear, effect of internal notches 1−16909
steel, two-ductile-phase, Bauschinger effect 1−16849
steel and Fe, plastic deform. instability, influence of thermal activation 1−21537
steel machine parts, strengthened by residual stresses, laws of fatigue fracture 1−31621
steel plates, brass clad, fatigue crack growth and crack closure behaviour *(Japanese)* 1−43482
steels, metastable, Kh18N(10-15), plastic deform., low temp., martensitic transform., mag. susceptibility meas. *(Russian)* 1−26541
stress intensity factors at propagating tips of bifurcating crack and skew, elastodynamic anal. 1−46699
stress relaxation, use of Li's equation 1−24699
internal stresses continued
subgrain boundaries, numerical study of long-range internal stresses 1−25289
thermal barrier coatings, plasma-sprayed ceramic, resistance to cyclic thermal exposure 1−31630
viscoelastic plate, fibre reinforced, cooled from cure temperature to room temperature, residual stresses 1−20428
weld, subcritical fatigue crack growth, residual stress effect 1−39448
X-ray powder diffr., for stress anal. of polycrystn. materials 1−27967
X-ray residual stress measurement, in metals at Chalk River Nuclear Labs. 1−28141
Ag coatings, mech. props. meas. 1−12784
Ag, film, annealing effect of internal stress *(Japanese)* 1−2851
Al, Al-Cu(Si), evaporated films, lattice parameters and homogeneous elastic stresses, $\sin^2\Psi$ meas. method 1−30604
Al alloy, vibratory stress relief, fundamental study 1−12776
Al, coatings, mech. props. meas. 1−12784
Al, cyclic creep behaviour and internal stresses 1−11807
Al electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
Al, incompatible bicrysts., strain accommodation 1−21558
Al-Mg (2 wt.%), β-phase precipitates dissolution, internal strain effect, fracture charact. study 1−26473
Al-Mg (2 wt.%), creep mechanism at high temp., stress depend. 1−38378
Al-Zn (11 wt.%), polycrystn., dislocation struct. during transient and steady state creep 1−12839
$2Al_2O_3.SiO_2$-Al_2O_3 mullite-corundum ceramic, heat resist. and strength rel. to fracture surface struct. 1−43476
Au coatings, mech. props. meas. 1−12784
Be (0001), adsorption of H, surface relax. and induced stress, SCF MO cluster calcs. 1−38659
Be film, quench-condensed, vol. depend. of supercond. T_c 1−25824
BeO-SiC composites, obs. on nature of micro-cracking 1−39427
Co, internal friction at spin reorientation transforms. *(Russian)* 1−42463
Cr, P to AF_1 phase transition to mag. ordered state during thermocyclic treatement *(Russian)* 1−38937
Cu, incompatible bicrysts., strain accommodation 1−21558
Cu, polycrystalline, cyclic stress-strain response, ion implantation effect 1−21531
Cu-Sn-Be, vol. changes, warping and residual stresses during heat treatment 1−3805
Fe, cast, abrasive wear, effect of internal notches 1−16909
α-Fe, plastic deform. by determ. and anal. of creep data 1−12845
Fe-Si (6 wt.%), single cryst., stress relax. 1−43411
$(\gamma\text{-}Fe_2O_3)_x(Fe_3O_4)_{1-x}$ acicular particles, mag. props. 1−47917
GaAs-GaP heterostructures, residual stresses determ. by photoluminesc. 1−21255
GaP, liq. encapsulated Czochralski grown crysts., photoelastic meas. of residual stress 1−2371
$Gd_2(MoO_4)_3$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
Ge, coatings, mech. props. meas. 1−12784
Ge:Li, thermal conductivity down to 0.06K, internal strain effect 1−16120
InP-InGaAsP heterojunction laser, emission polarization, internal strain effect 1−51483
KBr-KI mixed crysts., microhardness studies 1−47161
LiF, internal stress evolution, mobile dislocations *(Russian)* 1−30304
LiF:Mg, internal stress evolution, mobile dislocations *(Russian)* 1−30304
$LiNH_4SO_4$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
MgF_2 film, porous, tensile stress due to adsorpt. of water vapour 1−7496
Mn ferrite single crystal, Young's modulus, internal stresses, acoustic loss 1−2553
Mo electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
Nb, etch angle control, by internal stress variation 1−21623
Nb_3Sn, multifilamentary, formed by solid state diffusion, growth, and struct., supercond. props. 1−48301
Nb_3Sn multifilamentary composites, improved strain resist. 1−47831
Nb_3Sn superconducting composite produced by modified external diffusion method, props. 1−47834
$Ni_3B_7O_{13}Br$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
PbS, internal stresses and obstacles to dislocation motion, thermal activation analysis 1−20300
Si, amorphous glow-discharge films, internal stresses and thermal expansion coeff. 1−42661
Si, ribbons produced by Stepanov method, struct. and electrophysical props. 1−30113
Si:As, implanted, interaction of mech. stress with residual defects 1−11774
$TbFe_2$ films, microstresses and coercive force meas. *(Russian)* 1−25994
$Tb_2(MoO_4)_3$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
W electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
W, vapour phase deposited, residual stresses, annealing effect 1−48431
WC electrospark powder metal deposited coatings residual stresses, and fatigue of, coated specimens *(Russian)* 1−43591
YAG:Nd, Czochralski cryst. growth, needle-like stress zones and dislocations due to constitutional supercooling *(Chinese)* 1−52095
ZnTe thin films, reflectivity spectra, prep. conditions effect 1−48189

internuclear double resonance *see INDOR*

interplanetary magnetic fields
see also interplanetary matter
auroral zone, radiowave absorpt., diurnal var., effect of interplanetary mag. field sector polarity 1−32584
azimuthal component rel. to polar cusp current systems 1−4717
azimuthal magnetic field at Jupiter 1−9411
B_x-component, influence on magnetopause reconnection 1−22637
comet and primordial dust orbits, effect of interplanetary mag. field, Lorentz scatt. appl. 1−22669
comet light outbursts interpretation involving interplanetary mag. field 1−22726
cosmic ray modulation, effects of mag. field direction on 22-year intensity cycle 1−36145
cosmic ray propagation, anisotropy in interplanetary space from diffusion propagation 1−36124

interplanetary magnetic fields continued
cosmic ray solar modulation, 27-day intensity variation (1936-1965) 1−22646
cosmic ray solar modulation, effect of wavy interplanetary current sheet 1−54333
cosmic rays anisotropic diffusion, effect of interplanetary mag. field vars. 1−36125
direction effect on magnetosphere mid-latitude hydromagnetic energy spectra 1−40271
directional discontinuities, min. variance errors 1−13654
disturbances, rel. to cosmic ray intensity fluctuations during Forbush decreases 1−36136
fluctuations rel. to MHD propagation directions, Pioneer 10 and 11 obs. 1−4735
geomagnetic activity rel. to sector struct. of interplanetary field 1−22631
geomagnetic variations of mid-latitude, effect of interplanetary field component 1−13730
global structures, influence on cosmic ray modulation 1−22648
Hale sector boundaries, effect on geomag. activity index A_p 1−54329
heliosphere, solar wind and interplanetary mag. field, plasma aspects *(German)* 1−22658
heliosphere from 1 to 8.5 AU, mag. field directions depend. on heliocentric dist. 1−40421
heliospheric current sheet crossings, geomagnetic activity 1−22634
ionospheric electric fields (equatorial) influenced by interplanetary mag. field 1−44358
large scale magnetic topology, determ. from solar radio bursts hectometric and kilometric obs. 1−4897
magnetosphere asymmetries assoc. with the IMF y-component 1−40284
magnetosphere cusp proton signature rel. to interplanetary mag. field 1−40274
magnetosphere interaction, Kelvin-Helmholtz instability at magnetopause and geomag. pulsation activity var. 1−22638
magnetosphere polar cap elec. field, depend. on interplanetary mag. field B_z component 1−54330
microstructure near 4 and 5 AU, Pioneer 10 and 11 obs. 1−4734
nonlinear particle interactions and rigidity dependence of cosmic ray scintillations 1−4729
radiation from relativistic ions due to transition scattering in random magnetic fields 1−32656
sector boundaries, crossings by Earth rel. to global geomag. activity 1−13391
sector boundary passage effect on equatorial anomaly in Indian Zone 1−22612
sector polarity, effect of changes on reduction of geomag. data from polar cap 1−17558
sector structure, effect on Jupiter decametre radio emission 1−27417
sector structure, rel. to solar wind vel. anomalies and cosmic ray intensity and anisotropy vars. 1−36148
sector structures rel. to sunspot distrib. *(Russian)* 1−17807
solar wind, mag. field strengths meas. from Voyager obs. of Type II radio bursts 1−4894
solar wind influence on galactic cosmic ray propag. 1−4722
solar wind magnetic traps, cosmic ray modulation effects 1−36139
solar wind stream classification based on mag. field lines 1−22657
Sq focus position affected by interplanetary mag. field quiet days 1−27328
warped heliospheric current sheet for 1976, deduced from photosphere mag. field obs. 1−27355

interplanetary matter
see also comets; cosmic dust; interplanetary magnetic fields
charged dust in Jupiter magnetosphere, trajectory and spatial distrib. 1−22717
cosmic ray modulation, influence of interplanetary mag. field global struct. 1−22648
cosmic ray modulation region, dimensions from cosmic ray intensity/solar activity relation 1−36147
cosmic rays, anisotropic diffusion in interplanetary space 1−36125
cosmic rays, anisotropy in interplanetary space 1−36124
deep-sea spherules from Pacific clay, fused interplanetary dust model 1−54431
disturbances, rel. to cosmic ray intensity fluctuations during Forbush decreases 1−36136
dust, radiation force experienced, theory 1−44494
dust albedo determ. from zodiacal light brightness 1−44493
dust cloud, numerical simulation of Poynting-Robertson and collisional effects 1−27353
dust grains, distrib. of temp. maxima for micrometeorites decelerated in Earth's atmosphere 1−22742
dust grains, optical reflectivity meas. for single micron size irregularly shaped grains 1−13656
dust grains, size distrib. and physical props. from lunar microcrater anal. 1−44492
dust grains electrostatic potential, influence of thermoionic effect 1−36155
dust particle density above ecliptic plane, from Earth obs. 1−54418
Earth climate and life, influences of the interstellar medium 1−22481
electron oscillations in solar wind, comparison with emissivity of type III radio bursts 1−4737
galactic cosmic rays, particle density gradients from numerical soln. of propag. eqn. 1−36126
heliosphere, influence on galactic cosmic rays behaviour during solar cycles 19 and (20) 1−36144
heliosphere from 1 to 8.5 AU, mag. field directions depend. on heliocentric dist. 1−40421
Lyman-alpha emission in downwind direction, Copernicus obs. 1−44483
meteoroids, results of Pioneer 10 and 11 expts. in interplanetary space and near Saturn 1−40428
primordial dust orbit, effect of interplanetary mag. field, Lorentz scatt. appl. 1−22669
Saturn rings, accretion and form. 1−40407
scintillation of radio sources, solar wind vel. determ. 1−4845
scintillations temporal spectra, effects of jet struct. of solar wind 1−13655
shock waves from solar flares, cross dimens. from geomag. var. obs. *(Russian)* 1−13647
solar motion antiapex direction gas-dust tail, effect on evolution of size and shape of cometary orbits 1−13732
solar wind, electron density distrib. from solar radio bursts hectometric and kilometric obs. 1−4897

interplanetary matter continued
solar wind, model for cosmic ray intensity modulation during solar cycle (20) 1−54334
spherules in zodiacal cloud, obs. in deep-sea sediments 1−4822

interplanetary medium *see interplanetary matter*

interpolation
see also function approximation
boundary-value problems, time-space boundary element formulation 1−40654
D variables, discrete normalised orthogonal polynomials, local representation 1−14800
response curves anal. using singular-value decomposition *(Japanese)* 1−5093
response curves automatic interpolation method and application to radiation spectral data processing 1−23400
shock wave, strong, transonic small disturbance theory appl. 1−2015
solar eclipses phase determination, anal. of Bessel interpolation method and differential corrections method *(Italian)* 1−9349
stochastic interpolation functions, appl. to optimisation 1−27875
stress calculations, stiffness matrix constructed using sliding interpolation 1−24687
undamped elastic shell natural frequencies, finite element calc. 1−24716

interstellar dust *see cosmic dust*

interstellar magnetic fields
see also interstellar matter
B2 1615+35, head-tail radiogalaxy, mag. field and plasma parameters, UHF, SHF obs. 1−49837
Boomerang Nebula, highly polarised bipolar nebula, for dust grains mag. alignment 1−9636
R Coronae Austrinae dark cloud, polarimetric obs. of grain and mag. field props. 1−54577
cosmic dust interaction, role of mag. fields in suprathermal grains prod. 1−17883
cosmic rays accelerated in interstellar space, energy spectrum 1−44394
Crab Nebula, mag. field distrib. from aperture synthesis map at 23 GHz 1−9605
Crab Nebula filaments, mag. field model from radio emission obs. 1−13837
in disc galaxies, MHD flow problem soln. for superdense cores form. 1−54617
galactic corona, effect of mag. field on heating of thermally conducting stratified gravitating gas 1−4753
galactic disc magnetic field, turbulent dynamo theory 1−13683
galactic magnetic field, scale height from supernova remnants radio brightness gradients 1−54526
galactic spiral shocks, effects of mag. field energy density on vertical gas struct. 1−9647
Galaxy magnetic field from rot. measures of extragalactic radiosources 1−49797
giant cloud complexes, role of mag. fields in constraining translational motion 1−54578
M51, spiral galaxy, mag. field bisymmetric open spiral config. 1−27602
M81 spiral galaxy, mag. field bisymmetric open spiral config. 1−27602
M87, jet mag. field alignment from obs. at 15.4 GHz with 5 km telescope 1−9701
magnetosound waves dissipation due to interaction with cosmic rays *(Russian)* 1−49459
North Polar Spur, mag. field meas. in H I shell and radio continuum shell 1−44652
radio galaxies, magnetogasdynamic explosion model for shock front interaction with mag. field 1−36391
radio sources, extended 1−9702
shock waves with mag. precursors, struct. 1−44608
supernova remnants, relativistic charged particles accel. by supersonic MHD turbulence 1−17743
Vela X, plerionic supernova remnant, mag. field evolution 1−17886

interstellar matter
see also cosmic dust; H I regions; H II regions; interstellar magnetic fields; nebulae
26.131 MHz anomalous absorption line in Cassiopeia A direction, identity 1−9639
135, 335, dark clouds, CO obs. C and O isotope ratios 1−49775
absorption lines in Nova Cygni 1978 of Mn II and Fe II 1−40485
abundances, depletions and far-UV extinction in ρ Ophiuchi cloud 1−32733
accretion disc round supermassive black hole, selfgravitation, star form. and orbits *(Russian)* 1−22788
in active galaxies nuclei, gas kinematic model rel. to Balmer line profiles 1−44645
amorphous grains, far IR emission efficiency, wavelength depend. 1−9623
RW Aurigae, T Tauri star, UV spectrum obs. rel. to interstellar extinction 1−9488
Barnard 335, dark dust globule, luminosity and dust mass, radio and IR obs. 1−9630
Burnham's nebula and T Tauri, H_2 Lyman band emission, model, EUV obs. 1−49655
3C 129, radio galaxy, intergalactic medium interaction with circumgalactic medium rel. to tail struct. 1−9700
in 3C 382, broad-line radio galaxy, hot dust thermal radiation rel. to IR flux vars. 1−40556
3C 390.3, N-galaxy, continuum and line emission vars. rel. to internal extinction 1−13855
Canis Major OB1 association, distrib. and kinematics of interstellar component 1−36347
carbynes, implications of carbonaceous chondrite composition 1−44515
Carina Nebula, field OB stars, to determine distance of Carina OB1 1−54563
Carina-Crux-Centaurus-Norma region of Milky Way, var. of stellar colour excess 1−27578
γ Cassiopeiae line of sight, interstellar medium cloud struct. and element abundances 1−44604
Cepheid variables, reddening corrections rel. to determ. of physical props. from VBLUW photometry 1−22825
Cepheus OB3 molecular cloud, radio continuum emission obs. from IR source 1−54493
clouds, collision with galactic disk 1−54590
clouds grain scatt. props. effect on photochemistry efficiency 1−54581
collapsing rotating cloud, fragmentation criteria 1−44538
comet formation from interstellar matter, Lyttleton scheme *(Russian)* 1−4823

interstellar matter continued
comets, evidence for interstellar origin from long-period comets orbital statistics 1−44512
comets, evidence for interstellar origin from perihelia distrib. for long-period comets 1−44510
compact clouds in central parsec of Galaxy, motion and distrib. of ionized gas 1−36382
R Coronae Austrinae dark cloud, polarimetric obs. of grain and mag. field props. 1−54577
coronal intercloud gas effect on H I region spectrum evolution 1−32740
cosmic rays, concomitant accel. and propag. models rel. to secondary nuclei/primary nuclei 1−44395
CRL 2688, bipolar refl. nebula, model with light scatt. by dust comp. 1−49763
cyanoacetylene-d_1, detect. in Taurus Molecular Cloud 1 (TMC 1) 1−9628
cyanobutadiyne (HC_5N), detect. in four interstellar dark clouds 1−49773
cyanoethynyl radical (C_3N), detection in Taurus dark clouds 1−22870
cyanohexatriyne, rot. anal., in interstellar medium, microwave obs. 1−24124
Cygnus direction, absorption and density gradients 1−32747
Cygnus Loop supernova remnant, evidence for depleted interstellar abundances from filament emission line spectrum 1−27584
dark cloud near refl. nebula NGC 1333, struct. and grain radii 1−36368
dark clouds size distrib. used to determine galaxy distance and dust content 1−44648
dense cloud containing X-ray source, H II region excitation, optical emission 1−49760
dense interstellar clouds, and cooling processes *(Russian)* 1−49779
dense molecular clouds, energetics rel. to radio and IR emisson *(Italian)* 1−9638
density of ambient interstellar medium, effects on supernova remnants evolution and supernova statistics 1−44609
diffuse bands, laboratory production of candidates 1−21696
diffuse clouds, nonlinear hydrodynamics of acoustic instabilities 1−22851
diffuse line at 4430 Å, origin, photoelec. obs. 1−49766
in disc galaxies nuclei, superdense gaseous cores form. 1−54617
distribution, mass and spatial, from Kα lines in background X-ray spectrum *(Russian)* 1−22897
dust, Mg and (Fe, Si) phase separation 1−9631
dust as surface for H_2 recomb., energy distrib. *(Russian)* 1−49782
dust assoc. with evolved late type star winds, effect on interstellar medium 1−36285
dust cloud, UV, visible and IR optical depths calc. 1−40550
dust cloud containing supernova, infrared echo 1−44579
dust grain size spectrum origin 1−22871
dust grains, affect redox reaction on optical props 1−27575
dust grains, refractory, in solar neighbourhood, evolution rel. to interstellar metal depletions 1−4948
dust grains IR absorption spectra, comparison with silicates, carbonaceous chondrites and carbonates 1−35974
dust in M31 (Andromeda Nebula), distrib. from photometry of central region 1−44644
dusty cocoons round protostars, maser source population inversion and saturation behaviour 1−36374
in dwarf galaxies, stochastic self-propagating star form. model rel. to fractional gas mass 1−44624
1E 1145.1−6141, pulsating X-ray source, absorbed X-ray spectrum obs. 1−9722
Earth climate and life, influences of the interstellar medium 1−22481
electron density small scale irregularities determ. from pulsar scintillation obs. UHF obs. 1−44616
electron energy spectrum and galactic X-ray and gamma-ray emission 1−27347
electrons, distrib. from gamma-ray flux 1−9335
elephant-trunk globules formation in Rosette nebula, evidence from CO obs. 1−9610
in elliptical galaxies, causes of low gas content 1−22889
emission in radio and gamma-ray regions, origin 1−44657
ESO 313-N*10, peculiar galactic object, morphology and spectrum 1−17890
ethylene oxide, possible identification during search for interstellar glycine 1−44607
ethynyl, rotational levels hyperfine splittings *(Russian)* 1−32617
ethynyl radical (C_2H), detect. in cold dark clouds 1−9602
expanding features in inner Galaxy, CO obs. 1−49798
extinction, spatial distrib. and galactic structure 1−9634
extinction correction for narrow line radiogalaxies, optical emission line spectrophotometry obs. interpretation 1−54604
extinction in three N.Milky Way regions from UBV obs. 1−17891
extinction in W51 in optical 1−44655
extinction of galactic centre 2.4 micron emission 1−9658
extinctions determination from general star counts, accuracy and precision 1−9620
formaldehyde, 2 cm emission in ρ Ophiuchi dark cloud 1−22867
formaldehyde, 4.8 GHz obs. of galactic centre region 1−9633
formaldehyde, obs. in Sagittarius B2 radio source *(Russian)* 1−32746
formaldehyde (H_2CO), obs. of 3_{12}-3_{13} line 1−27577
formaldehyde in Galactic Centre line/continuum ratio, SHF obs. 1−54623
formyl cation+CO reactions, laboratory studies of isotope fractionation and interstellar implications 1−44611
formyl ion (HCO^+), line profiles self reversals 1−44603
formyl ion emission in galactic centre, 3.4 mm obs. of formyl ion emission 1−36383
furan, unsuccessful search 1−40538
G40.5, previously unrecognised supernova remnant in Aquila, evidence for interstellar depolarisation 1−27585
G93.3+6.9, highly polarised supernova remnant, rot. measure and interstellar depolarisation from radio obs. 1−32741
galactic coronae heating, self-gravitating cond. stratified gas threaded by mag. fields 1−4753
galactic gas sheets and discs, normal modes refl. and transmission coeffs. 1−13679
galactic halo gas existence from interstellar Ca and Na lines obs. 1−49754
galactic halos in X-ray clusters of galaxies, plasma instabilities rel. to radio spectra 1−36405
galactic plane density function from star counts towards dense mol. clouds 1−54389
interstellar matter continued
galactic spiral shocks, vertical struct., thermal phase effects and self-gravity 1−9647
galactic winds, star formation rel. to giant shells around normal elliptical galaxies 1−9670
in galaxies, interstellar gas consumption time scale from star form. density in Universe 1−44678
in galaxies in dense clusters, computer simulations of ram-pressure stripping 1−44627
Galaxy, central region, bending wave theory for tilted gas disc 1−49819
galaxy dark mass rel. to Hubble type 1−36411
gas, from disk galaxy, interaction with intergalactic gas, ablation 1−17892
gas cloud, contraction by large external press., hydrodynamics and evolution *(Russian)* 1−4957
gas cloud containing high vel. star, accretion, effects on star evolution 1−40542
gas clouds, gravitationally collapsing, fragmentation due to thermal instabilities 1−54597
gas clouds, isothermal, gravitational collapse and fragmentation numerical method 1−36196
gas clouds collapse and star form. hydrodynamics and temp. 1−44621
gas density, results from cosmic rays ^{10}Be abundance 1−4730
gas density in irregular galaxies rel. to star form. rate 1−13858
gas in spiral galaxies *(Chinese)* 1−40565
gas stripping in clusters of galaxies, role of Kelvin-Helmholtz instability 1−4985
gas-dust clouds, laboratory simulation of physicochemical processes rel. to molecules form. 1−13844
gaseous halo in disk galaxy, dynamical behaviour 1−54629
giant cloud complexes, role of mag. fields in constraining translational motion 1−54578
giant molecular cloud-H II region complexes, far IR survey rel. to star form. rate and initial mass function 1−54618
glycine, search for lowest-energy conformer 1−44607
grain acceleration and cosmic ray origin and composition 1−27348
grain motion and destruction in clouds 1−13831
grains in reflection nebulae rel. to IR fluxes 1−49745
gravitational instability in flat gaseous systems, nonlinear stage 1−44430
HD 200775, Herbig B star, colour excess from UV, optical and IR obs. 1−17850
HD 44179 (Red Rectangle), discovery of optical mol. emission from bipolar nebula 1−4953
heated self-gravitating clouds cooling by conduction, equilib. states 1−49490
heated self-gravitating gas clouds cooling by conduction in external gravit. field, equilib. states 1−49491
Heiles 2 dark cloud, CO obs., SHF 1−36379
Herbig Haro objects, stellar winds as focusing mechanism 1−9607
HFE 2, IR source, mol. cloud dust temp., heating mechanism, IR obs. 1−54584
high galactic latitude interstellar gas, UV absorption obs. by IUE 1−54575
high-velocity clouds, H I emission-absorpt obs. 1−9615
high-velocity H I clouds, high-sensitivity 21 cm survey 1−9619
highly ionised C, N and S lines towards stars, UV spectral obs. 1−9595
Hodge 47, 52, dark clouds, search for H_2O maser, SHF obs. 1−49818
hot interstellar medium, filling factor rel. to supernova radio remnants surface brightness and galactic supernova rate 1−4949
Hu 2-1 (VV 208), planetary nebula, interstellar extinction from spectrum in red and near IR 1−27576
HVC 267+35+145, positive-velocity cloud complex, fine struct. obs. 1−13839
in IC 342, detect. of CO J=2→1 line 1−9608
IC 4997, young planetary nebula, interstellar extinction from UV spectrum 1−13838
intermediate velocity clouds in region of South Celestial Pole, supernova shell model 1−36373
interstellar far UV radiation field, spectrum and latit. depend. 1−9604
ionisation front structure, depend. on boundary conditions 1−32742
ionisation-shock fronts, instabilities and star form. 1−44539
IR sources, galactic 2.5-4 micron spectra, evidence for organic interstellar grains 1−13824
irregularities, spectrum and nature *(Russian)* 1−4966
isothermal cloud contraction, outer pressure increase effect *(Russian)* 1−40551
isotope fractionation in reactions of C^+ and formyl ion with CO, laboratory studies and interstellar implications 1−44611
Kleinmann Low Nebula, far IR emission, polarisation interpretation 1−9621
L134N, dark cloud, gravitational collapse from radiative transfer model, ^{13}CO SHF obs. 1−49757
L1551 molecular cloud, low luminosity for IR source discovery 1−22864
in LMC, interstellar lines obs. in UV spectra of FD 70 (HD 38282) and SK-71-45 (HD 269676) 1−27611
in LMC, ring nebulae assoc. with Wolf-Rayet stars 1−27598
local interstellar medium, C and O isotope ratios from dark cloud CO obs. 1−49775
local interstellar medium, comparison of solar backscatter and interstellar absorpt. meas. 1−27579
local interstellar medium, props. from X-ray characts. of Loop I (North Polar Spur) 1−36371
local medium, plasma as origin for soft X-ray diffuse background 1−49755
in local spiral arm of Galaxy, peculiar features of distrib. *(Russian)* 1−32764
Lynds 1204, interstellar dark cloud, internal motion from visible spectra obs. 1−4969
Lynds 1262, dark cloud, CO obs. C and O isotope ratios 1−49775
Lynds 1333, 1778, 129, dark clouds, CO obs. in SHF 1−36379
lynds 1627, 1630, extended dust clouds in Orion Molecular Complex, CO obs. 1−54596
Lynds 43, mol. cloud, IR source, dust temp., heating mechanism, IR obs. 1−54584
RR Lyrae stars, reddening corrections rel. to determ. of physical props. from VBLUW photometry 1−22825
M17, evidence for abnormal reddening law in dark cloud from stellar UBVRI photometry 1−27491
M17 nebula, nearby radio source features and position, SHF and UHF obs. 1−49776

interstellar matter continued
M1-92, bipolar refl. nebula, model with light scatt., by dust comp. 1−49763
in M82, detect. of CO J=2→1 line 1−9608
M82, internal reddening and extinction distrib. from photographic UBV surface photometry 1−49815
in Magellanic Clouds, chemical comp./epoch relation rel. to star clusters classification 1−9584
Magellanic Clouds, massive star form. and internal extinction, comparison with irregular galaxies 1−13849
magnetic monopole in interstellar medium, acceleration by neutron star 1−49704
magnetosound waves dissipation due to interaction with cosmic rays *(Russian)* 1−49459
Markarian 9, Markarian 10, type 1 Seyfert galaxies, 2175 Å absorpt. meas. from IUE spectra 1−54607
maser, diatomic 1−9640
meteoroids, contrib. to Saturn rings east-west asymmetry and terrestrial meteors and meteorites 1−49572
methane, spectroscopic const. determ. using microwave transitions from interstellar medium 1−10719
methyl cyanide, isotopic forms, vibr. rot. consts., mol. moments, hyperfine struct., appl. to radio-astronomy 1−13836
methyl formate, identification during search for interstellar glycine 1−44607
methyl formate detect. in Orion KL, Sagittarius B2 and W51, UHF and EHF 1−44613
methyl mercaptan, millimetre rot. spectrum 1−19088
molecular cloud Barnard 35, CO emission and IR source detect. in 2 μm survey 1−49761
molecular cloud ensemble, simulation of CO emission 1−54580
molecular cloud near K 3-50, relation to compact H II regions 1−54587
molecular clouds, H_2CO and HCO^+ abundance meas. rel. to cloud temp. and density models 1−9618
molecular clouds, MHD wave effects in collapsing fragments 1−13832
molecular clouds, relative abundances of ^{28}Si, ^{29}Si, ^{30}Si from EHF obs. 1−49756
molecular clouds, southern, J=1-0 transition of HCO^+ at 89 GHz 1−54595
molecular clouds, steady state hydrostatic models 1−27580
molecular clouds, turbulence, density, vel. dispersion, size, star formation, evolution, longevity 1−54593
molecular clouds, two-dimensional radiation-hydrodynamics calcs. rel. to stellar OB associations 1−44599
molecular clouds assoc. with Herbig Be/Ae and other young stars, densities from formaldehyde obs. 1−40541
molecular clouds disruption on collision with H II bubbles 1−13829
molecular clouds in direction of IRC 10442, discovery from CO obs. 1−9720
molecular clouds in M31 as spiral arm struct. tracer, CO obs. 1−36402
molecular clouds near Sharpless 68, 106, 140 and OMC2, NH_3 obs. 1−9635
molecular clouds of 3 kiloparsec arm, star form. and ionisation, H166α obs. 1−36384
molecular clouds structure, observational constraints and CO line formation 1−9632
molecular clouds turbulent vel. field stabilising against gravitational collapse, energy origin 1−49758
molecular clouds with prominent star formation 1−27587
molecular complexes in Orion and Taurus, OH obs. 1−17887
molecular formation at low temperature, radiative assoc. rate, effect of centrifugal barrier correction 1−36365
molecular gas towards galactic centre, evidence for massive nucl. disk 1−49790
molecules, present and future obs. from space 1−54370
molecules desorption on grains, Langevin eqn. and iterative extended Huckel appl. 1−49489
molecules formation in shock waves propag. from galactic nucleus 1−54632
Monoceros OB1 association, distrib. and kinematics of interstellar component 1−36347
nebulous blue object near Maffei 1, photometry, identification and visual extinction meas. 1−27597
negative molecular ions in dense interstellar clouds, detection possibility 1−49780
NGC 2261 and R Monocerotis, excited interstellar gas flow round circumstellar dust cone 1−27490
NGC 3293, young open cluster, interstellar reddening and relation to Carina Nebula complex 1−9587
NGC 4472, giant elliptical galaxy corona, nature from UV spectra 1−40564
NGC 5128 (Centaurus A), dynamical evolution of postcollision gas-dust disc 1−49792
in NGC 5128 (Centaurus A), kinematics from spectra and radial vels. of H II regions 1−36376
NGC 5138, open cluster, visual interstellar absorpt. from photoelectric UBV and DDO photometry 1−17814
NGC 6649, open cluster members reddening from UBV anal. 1−54566
in NGC 7385, H II region generation by thermal instability associated with creation of radio source 1−40552
NGC 7582, 2992, X-ray emission-line galaxies, internal extinction due to dust 1−13856
Norma III field, interstellar reddening distrib. from 1−49614
North Polar spur, radio and Hα obs. rel. to old interstellar shock wave-model 1−44652
OAO 1653−40 direction, equivalent H I column density from X-ray photoelectric absorpt. 1−27636
OB associations, UV interstellar extinction, TD-1 obs. 1−9591
OH 26.5+0.6, IR source, spectrum interpretation in terms of polysaccharides 1−13826
open star clusters, distances and interstellar reddening 1−36351
χ Ophiuchi direction, Copernicus UV obs. 1−22857
Orion A, HCN and HCO^+ and isotopes abundance distrib., EHF obs. 1−49838
Orion A, interstellar H_2O maser, radio obs. *(Russian)* 1−17893
Orion A, methyl formate, methane and NH_2D detect. 1−49774
Orion cloud complex, COS-B obs. of high-energy gamma-ray emission 1−22865
Orion Nebula, detect. of CO J=21→20 (124.2 μm) and J=22→21 (118.6 μm) emission 1−9629
Orion Nebula OMC-1 formaldehyde at 1 cm 1−9596

interstellar matter continued
I Orion OB association giant molecular cloud, components, CO obs. 1−54596
Perseus arm area OB stars, extinction from photometry obs. 1−36406
δ Pictoris, close binary star, doubled UV interstellar lines from IUE obs. 1−27559
plum pudding grains growth, role of condensation and radiation press. 1−40543
polarisation in spectrum of SS 433, visible obs. 1−27532
postshock molecular destruction, dissociation speeds 1−22869
presolar matter, evidence from noble gases in meteorites 1−36231
primordial interstellar gas cloud, gravitational fragmentation 1−9594
protocluster cloud, fragmentation rel. to cluster stars theoretical mass function 1−22785
protoplanetary cloud, contracting, interstellar dust coagulation in turbulent gas 1−44620
protostar, rotational collapse, ang. momentum advection 1−9606
protostar collapse, numerical modelling *(Russian)* 1−4906
protostellar clouds, rotating, adiabatic, collapse, equilib. and fragmentation 1−40472
protostellar clouds, rotating isothermal fragmenation, three-dimensional hydrodynamic calcs. 1−40471
pulsar pulses scattering by turbulent interstellar phase screen, fluctuation struct. 1−13793
pyrrole, search for EHF and SHF transitions in galactic centre 1−32731
pyrrole, unsuccessful search 1−40538
in quasars, multiple cloud model for C IV emission line profiles 1−9707
in quasars nuclei, gas kinematic model rel. to Balmer line profiles 1−44645
radioastronomy, recent developments, review 1−27742
radiowave dispersion effects and wide band signal focusing, implications for SETI 1−36202
reddened stars in Magellanic Clouds, diffuse interstellar absorpt., visible obs. 1−27618
reddening, MK system use, errors refinement, appl. to B-stars 1−36277
reddening corrections for Ap-stars, uvbyg$_1$g$_2$ pohtometry 1−17849
reddening in UV H I lines of Seyfert galaxies and low redshift quasar 1−49793
reddening in UV of normal nonsupergiant stars, interstellar extinction wavelength depend. 1−36278
reddening law in visible, determ. from stellar photometry 1−17889
reddening of foreground Galaxy A and F stars, towards SMC and LMC 1−27595
reddening of globular cluster M30 (NGC 7099), visible obs. 1−9589
reddening of main sequence stars in globular cluster NGC 288, BV photometry obs. 1−36199
reddening of stars in Ruprecht 44 cluster, distance determ. 1−54565
reddening towards south galactic pole 1−4958
rotating adiabatic gas clouds, collapse and equilib. rel. to star form. 1−44535
Ruprecht 55, young open star cluster, foreground colour excess from UBV photographic photometry 1−27571
Sagittarius A West, source nature grain models 18 μm extinction and 16-30 μm spectra 1−49835
V861 scorpii (HD 152667=OAO 1653−40?), high-temp. interstellar lines in UV spectrum 1−9566
V861 Scorpii direction, high ionisation interstellar lines obs. in stellar UV spectrum 1−40523
Seyfert galaxies nuclei, gas props. from permitted line profiles asymmetry *(Russian)* 1−9673
shock front of supernova remnant IC 443 interaction with interstellar medium 1−49759
shock waves with mag. precursors, struct. 1−44608
shocked gas toward Perseus OB2, assoc., optical meas. 1−22872
Small Magellanic Cloud interstellar C IV and Si IV UV obs. 1−13846
SN 1006, supernova remnant, interaction with interstellar matter 1−44671
spectral band 4430 Å, visual classification system applied to OB stars 1−4972
spectral lines, diffuse, pairing due to Platt's particles and similar larger aggregates 1−40546
spiral density waves in flat galaxies, nonlinear interaction 1−44646
spiral galaxies, early-type, effects of Galactic reddening and internal absorpt. on photometric props. 1−9652
in spiral galaxies outer regions, dust-to-gas ratios 1−44629
star formation by interstellar clouds collapse, one, two and three-dimensional models 1−40470
star formation role, self propagating, role inform. of spiral galaxy arms 1−36412
stellar open clusters form. from interstellar clouds, review 1−36354
stellar wind from hot luminous stars, effect on interstellar medium 1−4915
supernova in NGC 6946, colour excess from IUE obs. and colour temps. 1−13790
suprathermal dust grains, prod. 1−17883
Taurus dark clouds, reddening law from stellar UBVRI photometry *(Russian)* 1−32697
Taurus dust cloud towards 3C 123, interstellar lines, VHF and visible obs. 1−9599
Taurus interstellar dark cloud, anomalous UV extinction curve obs. 1−49772
TMC 2, dark cloud, gravitational collapse from radiative transfer model, ^{13}CO SHF obs. 1−49757
Trumpler 35 association, interstellar reddening rel. to membership of 20 day Cepheid RU Scuti 1−9508
ultracold molecular gas in Galaxy, search using CO obs. 1−9601
far-UV background radiation, galactic and extragalactic contribs. 1−9738
UV diffuse background, review 1−13887
UV extinction study of ρ Ophiuchi dark cloud 1−32734
UV spectroscopy of interstellar and intergalactic matter 1−32736
Virgo Cluster direction, foreground reddening from deep BV photometric anal. of background field 1−40559
NQ Vulpeculae (Nova 1976), spectroscopic obs. rel. to colour excess and distance 1−9516
W3, evidence for star form. in mol. cloud from radio obs. at 2.7 and 15.4 GHz 1−13873
W3, H II region/molecular cloud, H I emission in line of sight, SHF 1−54594
W3 molecular cloud core, kinematics, CO and ^{13}CO EHF obs. 1−49833
W3 region, mol. cloud props. from high ang. resolution far IR obs. 1−44653

interstellar matter continued
W49, W50, H_2O masers, radio obs. *(Russian)* 1−17893
C II, 157 μm (1910 GHz) forbidden emission line detect. from NGC 2024 and M42 1−4956
C II, new low-temp. dielectronic-like recomb. process rel. to interstellar C I radio recomb. lines 1−27363
C^++CO reactions, laboratory studies of isotope fractionation and interstellar implications 1−44611
C_2, detect. towards *o* Persei 1−54576
CH^+, implications for form. of H_2 obs. towards Pleiades and 23 Orionis 1−44602
CH^+, photodissoc. cross sections and rates in interstellar clouds 1−9603
C_2H^-, C_2^-, CN^-, detection by radioastronomy, interstellar medium 1−22874
C_3H, theoretical microwave spectral consts. 1−27364
C_3H^+, theoretical microwave spectral consts. 1−27365
C_4H^+, theoretical microwave spectral consts. 1−27365
CN, 113-5 GHz obs. of Taurus dark cloud and molecular clouds 1−22852
C_2N, theoretical microwave spectral consts. 1−27364
C_2N^+, theoretical microwave spectral consts. 1−27364
CO abundances in diffuse interstellar clouds, UV survey 1−44601
CO abundances in Magellanic irregular galaxies, comparison with spiral galaxies 1−9614
CO clouds gravitational effect causing star orbit and vels. diffusion 1−4909
CO, collisional and IR radiative pumping of mol. vibr. states rel. to IR bands emission 1−27573
CO emission maps in Canis Major OB1/R1 region, vel. struct., SHF obs. 1−49750
CO in Cepheus A, anisotropic mass outflow 1−22912
CO in NGC 2068, 2071, refl. nebulae in I Orion OB assoc. mol. cloud 1−54596
CO in Rosette molecular complex, Monoceros OB2 assoc. 1−22856
CO molecular clouds without prominent star form., struct., mass and abundances 1−9626
CO, obs. in (J=1 to 0) transition in area around Orion Nebula 1−27581
CO, UV pumping of mol. vibr. states rel. to IR bands emission 1−27574
CS in Orion Nebula, high ang. resolution obs. 1−9617
CS, isotopic abundance ratios meas. 1−9609
$^{12}C/^{13}C$ in formamide in Sagittarius A and B2, 19 cm obs. 1−27589
D/H fractionation in interstellar molecules, rel. to solar system D/H ratio 1−36263
D/H ratio, variation mechanisms, radiation press. and HD photodissociation 1−54574
DNC, theoretical microwave hyperfine consts. 1−27364
H I, anal. and interpretation of self-absorpt. lines 1−44610
H I, density in direction of white dwarf HZ 43 from Voyager 2 EUV and far UV obs. 1−49652
H I in region 320°≤l≤341°, +7°≤b≤+26°, kinematics 1−49768
H II regions in nearby galaxies, visual interstellar extinction meas. 1−4950
H II/molecular cloud complexes in southern hemisphere, 1.0 mm maps and radial density distribs. 1−13823
H^-, predicted $1s^2$-1s6p autoionisation resonance observed as diffuse interstellar line at 7581 Å 1−17884
H_2, IR emission obs. in H II region (NGC 7538) 1−4955
H_2, interstellar S(9), ν=0→0 rot. line detect. in Orion, IR obs. 1−49778
H_2, obs. towards Pleiades and 23 Orionis and comparison with interstellar CH^+ 1−44602
HCN, role of triplet H_2CN^+ isomers in form. in interstellar clouds 1−4066
H_2CN^+ triplet isomers, role in form. of HCN (HNC) in interstellar clouds 1−4066
$HCNH^+$, theoretical microwave hyperfine conts. 1−27364
H_2D^+ rel. to rot. energies in zero-point states of vibr. 1−28946
HNC, role of triplet H_2CN^+ isomers in form. in interstellar clouds 1−4066
HNC, theoretical microwave hyperfine conts. 1−27364
$HNCH^+$, J=1←0 transition freq., ab initio calc. 1−19011
H_2O maser detection in LMC H II region N159, SHF obs. 1−49818
H_2O maser emission, search in nearby galaxies 1−27582
H_2O maser in S128 H II region, detect. rel. to OB stars form. 1−54470
H_2O maser-assoc. IR objects in active star formation regions 1−54588
H_2O masers in Sagittarius B2, VLBI obs. 1−49748
H_2O masers in star formation regions, positions, SHF obs. 1−54579
He and Ne enrichment by planetary nebulae 1−54599
Li enrichment, flare stars as a possible source, visible spectra 1−54519
Mg I line in spectrum of κ Orionis, vel. struct. anal. using coherent optical data processing system 1−17775
NH_2 clouds, 23 GHz obs. 1−22855
NH_3 in absorpt. cloud towards W3(OH), excitation absorpt. lines obs. 1−32737
Na abundance, implications of Na I D-line emission obs. in Comet West 1−27419
Na I, very-high-resolution spectroscopy 1−27592
$^{22}Ne/^{20}Ne$ ratio, possible enhancement rel. to cosmic rays anomalous isotope comp. 1−54335
OH 205.1−14.1, OH maser source, H_2O 22.2 GHz emission brightening (1981 January 10) 1−36378
OH, interstellar maser action, pumping mechanism, population inversion, spectra 1−24121
OH main line anomalies in interstellar clouds 1−32739
OH maser near Herbig-Haro object GGD37, position meas. 1−13841
OH, weak neutral currents and anomalous polarisation 1−41508
PN and PH_3, radio search for interstellar lines 1−32732
S III in M82, 18.7 μm forbidden emission line obs. in medium resolution IR spectra 1−49810
Si, chemistry in dense interstellar clouds 1−13827
SiH, Λ doubling and core polarisation 1−37181
TiO towards mol. clouds, limits and implications, EHF obs. 1−9622

interstitials
see also Cottrell atmospheres; crowdions; Snoek effect
alkali halides, irradiation colouring, heterogeneous nucleation model 1−2507
alkaline earth fluorides, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
alloy, binary, interstitial diffusion, substitutional impurity atom effect 1−20440
alloys, disordered interstitial, band struct., single-site CPA calc. 1−16222

interstitials continued
alloys, interstitial, exchange diffusion theory *(Russian)* 1−7367
alloys, interstitial atomic arrangement and mobility at high degrees of interstice filling *(Russian)* 1−2430
alloys, phase relations rel. to binary and ternary oxides, effect of order-disorder transitions 1−38320
BCC metals, softening and hardening effect by interstitial atoms 1−21499
diamond, aggregation of N impurities including platelet formation 1−43345
diffusion coeff. of impurity, conc. depend. 1−2703
dislocations, vacancies and interstitials, book contrib. 1−2460
dislocations in metallurgy, book 1−27
FCC crystals, hard-sphere, systematic study of tilt-boundaries 1−15905
FCC lattice, interstitial atom diffusion *(Russian)* 1−2704
FCC metal, radiation-enhanced self-diffusion 1−52340
FCC metals, self-interstitial formation energies, elastic calc. 1−7167
graphite, pyrolytic, electron irradiated, thermal cond., phonon-interstitial scatt. 1−25512
III-V semiconductor optoelectronic devices, degradation modes 1−46351
impure materials, effective diffusion coeff. of point defects 1−38598
ion-damaged, extended, interstitial chains and dislocation dipoles, electron microscopy study 1−47076
irradiation induced void evolution, point defect fluctuations role 1−42419
irradiation produced point defects, perturbation soln. of chemical rate eqns. 1−34345
local density of states, Green function method 1−7165
metal, BCC, interaction of screw dislocations with interstitial atom clusters *(Russian)* 1−30270
metals and alloys, irradiated, vacancy dislocation loop growth 1−38410
microplastic strain, diffusion-dislocation mechanism 1−30299
Mossbauer relaxation of lattice atoms in presence of diffusing interstitials 1−16511
photon degradation, dissociation of defect pairs 1−13135
quartz, synthetic, radiation-induced interstitial ion mobility 1−16098
quartz, synthetic, resonator, Na acoustic loss depend. on electron irrad. and electrodiffusion 1−2565
radiation-induced athermal diffusion, cross-recomb. mechanism 1−42417
semiconductor, interstitial defecton capture by attractive centre 1−20257
semiconductor, thermochemistry, book contrib. 1−47260
star sapphire, chemical effects accompanying precipitation 1−11873
steel, interaction between Bauschinger effect and strain ageing 1−12810
steel, martensitic, fracture toughness, effect of interstitial impurities 1−16883
steel, stainless, FV448 martensitic, void swelling resistance after fast reactor irradiation 1−784
steels, structural, fatigue softening, influence of freq. and temp. 1−30316
transition metal interstitial alloys, phase relations rel. to binary and ternary oxides, cryst. field effects 1−38755
two-component system, interstitial diffusion thermodynamics and kinetics 1−7392
AgBr microspheres, subsurface space charge and surface charge 1−47080
AgI, pure and Al_2O_3 dispersed, ionic cond. and thermoelec. power 1−47285
AgI-type solid electrolyte, triplet correls., two-dimens. mol. dynamics model 1−34515
Al alloy, H_2 charged, internal friction meas. 1−53226
Al:In, simple interstitial configurations at ^{111}In impurities 1−25261
Al-Cr, (0.07 at.%), interstitial trapping, channelling meas. 1−20282
Al-Fe, dil., interstitial sites for localised diffusion of Fe, Mossbauer γ radiation interference study 1−21096
Al-Sn, 0.03 at.%, irrad.-induced defects, trapping by Sn atoms, channelling-backscatt. study 1−11793
Al-Zn, irradiated, interstitial-solute interactions, mixed dumbbells, mol. dynamics study 1−7207
$AlCr_2C$ struct. type interstitial phases, dimensional anal. 1−2351
Ar, solid, self-interstitial atom struct. determ. 1−25259
BaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
CaF, undoped and YF_3 doped, transition to superionic state, impurity effect 1−38819
CaF_2, and related compounds, phase transitions, thermodynamics 1−52291
CaF_2, impurity centre resonance line inhomogeneous broadening 1−26248
CaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
CaF_2:Er, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
CaF_2:Pr, high temp. thermoluminesc. peak, diffusion controlled, obs. 1−26287
Cd, electron irradiated, defects study by X-ray scatt., lattice parameter and elec. resist. meas. *(German)* 1−7210
CdO:S, defect struct., elec. and diffusion props. 1−30748
CdSe, intrinsic defects, nature, charge, energy position and role in cond. 1−11745
CdTe:P, localised vibrational modes due to P defects in substitutional or interstitital sites 1−47197
Cr_2O_3, oxidation product of Cr, props. and defect struct. 1−31735
Cu-Ag (2 at.%), radiation-induced segregation near grain boundaries and voids, direct obs. 1−16789
Cu-Ag(In)(Ni), very dil., electron irrad., interstitial trapping by impurities 1−52179
Cu-Fe (2 at.%), radiation-induced segregation near grain boundaries and voids, direct obs. 1−16789
Cu_2O, self-diffusion of O, SIMS meas. 1−2682
$DyFe_2$-H_2 system: magnetism and pressure-composition isotherms to 1400 atm 1−20962
Fe alloys, solid solution hardening and softening in single crysts., 4.2-300K 1−26488
Fe, irradiated or deformed, internal friction peaks α and β_1 1−20313
Fe magnetic aftereffect of interstitial oxygen 1−52809
Fe, single crystal, deformation and fracture, influence of C in solid solution on the effects *(French)* 1−43474
Fe-C, solid solution softening 1−26487
Fe-Ni alloy, austenitic, thermodynamics of dissolved C, ternary terms role 1−52314
Fe-Si (3.5 to 4.5 wt.%), plasticity, effect on interstitial impurities and thermomech. treatment 1−8344
GaAs, degradation and luminesc., effect of intrinsic defects 1−21252
GaAs, electron irradiation induced defects, annealing study 1−2426
GaAs, point defects in doped single crystals of A^3B^5 compounds, review 1−25264

interstitials continued
GaAs:Se ion implanted, impurity profiles, diffusion, luminescence spectra 1−2479
Ge:Au, fast electron irrad., defect formation, annealing 1−20265
Ge:B(P), ion implanted, lattice location of impurity ions after laser annealing 1−11778
Ge:$In^+(Sb^+)$, radiogenic Sn impurity defects 1−38365
Hg, electron irrad., defect prod. and recovery 1−52180
KCl:$Ca^{2+}(Ba^{2+})$ $(Sr^{2+})(Cd^{2+})(Pb^{2+})(Mg^{2+})(Sn^{2+})$, X-ray irrad., complex interstitial halogen H_3-type defect, ESR study 1−47946
KCl:Mn, monochromatic thermolum., recomb. kinetics model 1−3500
$LaNi_5H_x$, substituted, H coords., number, vol. and dissoc. press. 1−25205
$LaNi_{5-x}Mn_x$ and hydrides, thermodynamic and struct. props. 1−25204
Mg, vacancy clusters and interstitials, computer simulation of lattice, static properties 1−7166
MgO, atomic C content, discussion 1−30225
Mo and alloys, irrad. induced void evolution, point defect fluctuations role 1−42419
Mo, diffusion mobility of H and He, intrinsic interstitial effects 1−30483
Mo, interstitial atoms, migration in presence of H_2 1−2674
Nb, H mobility around O and N interstitial trapping sites, phonon assisted tunnelling 1−7384
Nb, lattice distortions and elastic relax. energies due to interstitial H 1−7163
Nb, self-trapped state of H isotopes and muons, theory 1−2911
Nb single crysts., softening and hardening effect by interstitial atoms 1−21499
Nb:H foil, H absorpt. and its effect on elec. props. 1−2932
Nb-O system, deviation from Arrhenius behaviour, interstitial atom diffusion 1−20467
Nb_2, H cold work peak 1−8338
Nb_4H_3, structure sequence during temp. variation *(Russian)* 1−25199
Ni, diffusion of He at high temp. *(German)* 1−42584
Ni, lattice distortions and elastic relax. energies due to interstitial H 1−7163
Ni-H, dil., electronic struct. and ordering of H 1−38746
Ni-H, electronic struct. of interstitial H by cluster-in-condensed-matter technique 1−20653
^{61}Ni, radiation-enhanced self-diffusion 1−52340
Pb-Ag alloys, interstitial solid solution strengthening 1−21472
$Pb_{1-x}Sn_xTe$ ion implanted films, implantation induced damage 1−7191
Pd, lattice distortions and elastic relax. energies due to interstitial H 1−7163
Pd-H, dil., electronic struct. and ordering of H 1−38746
Pd-H system, elastic energy dissipation effects 1−20312
Pd-H system, elastic energy dissipation effects in $\alpha+\beta$ and β phase comp. ranges 1−42460
Pt-O anodic alloys, O content determ. 1−8469
RbBr, cation defects, X-ray and UV irradiation, optical investigation 1−26250
Si cascade damage, simulations 1−34383
Si, Czochralski grown, annealed, rod-like defects, self-interstitial nature, model 1−20243
Si, diffusion of Au, kick-out mechanism 1−20472
Si, diffusion of Au, mechanism and kinetics, self-interstitials role 1−25501
Si, diffusion of B and P, oxidation enhanced 1−20458
n-Si, γ-irrad., electrically active interstitial defects 1−2510
Si, impurity diffusion, role of self-interstitials 1−38593
Si, interstitial transition metal impurities, electronic struct., Xα calc. 1−47565
Si, mechanical props. of heat treated Czochralski grown cryst. 1−35303
Si single neutral vacancy and vacancy-interstitial pair form. energies 1−47079
Si:B, electron irrad., interstitial B, negative-U system, DLTS obs. 1−2913
Si:B, electronic defect levels, DLTS meas. 1−30656
Si:B(P), ion implanted, lattice location of impurity ions after laser annealing 1−11778
Si:Li, donor excitation spectrum, uniaxial stress effects, piezospectroscopy 1−48030
Si:Yb, laser annealing after ion implantation 1−25308
Si-B3 interstitial complex, spatial distrib. after H^+ ion implantation, EPR meas. 1−11743
Si-SiO_2 system electrophysical props. and oxide film growth correlation 1−25807
SiO_2, vitreous, anomalous heat capacity, effect of interstitial ^{4}He 1−30414
α-Sn-Co, state of soln. of Co, Mossbauer study 1−42587
^{119}Sn impurities initially implanted in group IV semiconds., isomer shift study 1−16509
$SrCl_2$, undoped and Gd doped, transition to superionic state, impurity effect 1−38819
SrF_2, anti-Frenkel defect density and mobility 1−25260
SrF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
Ta, lattice distortions and elastic relax. energies due to interstitial H 1−7163
TaS_2 (1T), paramag. moments and localisation 1−20953
^{181}Ta Mossbauer line motional narrowing due to H diffusion, correlation time calcs. 1−7987
Ti alloys, commercial, stress induced H redistribution 1−15919
Ti, slip band development in single crysts. containing 0.1-0.6 at.% interstitial impurities, 4.2 to 423K 1−15898
Ti-Al (5.3 at.%), slip band development in single crysts. containing 0.1-0.6 at.% interstitial impurities, 4.2 to 423K 1−15898
Ti-O, interstitial solid solution, plastic deformation, low temp. peculiarities 1−43421
Ti-V-(Si) BCC alloys, high temp. deform., 500-800°C 1−16862
V, lattice distortions and elastic relax. energies due to interstitial H 1−7163
V, strain-ageing under constant stress 1−21496
V-Zr dil. alloy, ^{48}V self-diffusion 1−52338
VSe_2 layer compounds, mag. susceptibility, CDWs, prep. condition effects 1−42943
Zn, electron irradiated, defects study by X-ray scatt., lattice parameter and elec. resist. meas. *(German)* 1−7210
ZnS:Co, impurity centre resonance line inhomogeneous broadening 1−26248
ZnSe-GaAs heterojunctions, DLTS study, majority carrier trap assignment 1−38745
Zr hydrides, band struct. calc. 1−25608

interstitials continued
ZrH_x, x=1.84, 1.65, low-temp. phase transition, elastic moduli determ. 1−2624
ZrNi hydrides, stoichiometries and interstitial site occupations, prediction 1−30224
ZuO:Cu, impurity states, dynamic Jahn-Teller coupling 1−25662

intersymbol interference
optical communications through dispersive medium, photocounting performance bound, error probability 1−46231

intersystem crossing *see nonradiative transitions*

intramolecular potentials *see potential energy functions*

intramolecular vibrations *see molecular vibration; molecular vibration in solids*

intrinsic magnetisation *see spontaneous magnetisation*

Invar
deformation before heat treatment, effect on props. and fine struct. 1−43440
Fe-Ni Invar, magnetisation in γ-phase, tension-related incomplete phase transform. 1−34915
ferromagnetic metals, invar phenomena, magnetovolume effect 1−3234
lattice dynamics, phonon dispersion relations, inelastic neutron scatt. 1−47185
Mossbauer spectroscopy of metals and alloys, review *(Japanese)* 1−21094
point defect formation energy *(Russian)* 1−20199
RF collapse effect, effect of surface anisotropy, Mossbauer study 1−39012
Cr-Fe-Mn Invar alloys, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924
$(Fe,Ni,Co)_{90}Zr_{10}$, amorphous, Invar charact., thermal expansion, mag. props., and elec. resist. 1−7926
Fe-B Invar-type amorphous ribbons, magnetoelastic props. 1−7927
Fe-Ni, metamagnetism imposed on ferromagnetism *(French)* 1−52773
Fe-Ni film 1−7903
Fe-Ni invar alloy, anomalous thermal expansion 1−38559
Fe-Ni Invar alloy, mag. struct., neutron diffr. study 1−7810
Fe-Ni invar alloy, martensitic transformation, symmetrical relationship of phases *(Russian)* 1−43335
Fe-Ni Invar thin sheets, magnetoelastic props. 1−7927
Fe-Ni(Pd)(Pt) Invar alloys, mag. and thermal anomalies 1−42949
Fe-Pt Invar alloys, high field mag. props. 1−34909
$Fe_{0.65}Ni_{0.35}$ Invar alloys, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924

inversion layers
disordered two-dimensional system, density of states and cond., electron correlations 1−52462
electron correlation and Hall mobility 1−34804
electron-phonon interaction and magneto-optical anomalies 1−15993
III-V semiconductor, subband struct., electron-phonon interaction effect 1−12177
impurity scattering, density functional formalism 1−7692
MOS inversion layers, supercond. transition temp., plasmon effect 1−20898
MOS structure, electron irrad. influence on Hall mobility of holes in inversion layers 1−3072
MOSFET, obs. of non-Ohmic Hall resist. at low temps. in 2-D electron gas 1−38859
plasmon dispersion, far-IR probe, review 1−12507
polar semiconductors, subband structure of n-channel inversion layers 1−47729
semiconductor space charge layers, many-body effects 1−47751
semiconductor surface space charge layers other than Si, review 1−12176
solar cells, inversion-layer MIS with anti-refl. coatings, electrostatic effects 1−48833
ternary semiconductors, n-channel inversion layer, diffusivity:mobility ratio, alloy composition effects 1−3044
two-dimensional electron layers and strong field mixing effects 1−12174
two-dimensional electron system, many-body effects on transverse cond. in strong mag. fields 1−12169
two-dimensional system, coupled plasma-acoustic oscillations on surfaces 1−12175
two-dimensional system, spatially separated plasmas, anomalous acoustic plasmon form. 1−12137
two-dimensional system electron props., conf., Lake Yamanaka, Japan (Sept. 1979) 1−5024
Au-cermet-Si contacts, elec. charact. meas. 1−7744
n-GaAs MOS system, interface states density and dynamic props., photocapacitance and deep level transient spectra 1−12209
$GaAs-Al_{1-x}Ga_xAs$ superlattices and quantum wells, two-dimens. confined carriers, electron-phonon coupling, reson. magneto-phonon effect 1−7725
$GaAs-Al_xGa_{1-x}As$ heterostructure, electronic props. of two-dimens. system 1−7723
$GaAs-Al_xGa_{1-x}As$ heterojunction superlattices, electronic props. and multi-interface structs., two-dimens. electron gas 1−12186
$GaAs-Al_xGa_{1-x}As$ heterojunction superlattices, inelastic light scatt. obs. of multilayer two-dimens. electron gas 1−12516
$GaAs-Al_xGa_{1-x}As$ multilayers, two-dimens. elec. transport at high mag. fields 1−7724
$GaAs-Al_xGa_{1-x}As$ superlattice, heavily doped subband struct., band bending, low temp. mobilities 1−7721
GaSb-InAs interface, electron-hole subbands 1−7722
$Hg_{1-x}Cd_xTe$, n-channel inversion layer, diffusivity:mobility ratio, alloy composition effects 1−3044
p-InAs oxide inversion layer transport obs. at 77K 1−16375
InAs/oxide interface inversion layer electron scatt. by polar interface phonons 1−16376
InP MOSFET, surface cond. and magnetoconductivity props. 1−52639
InP-SiO_2 MOSFETs, cond. and magnetoresistance 1−38857
InSb inversion layers, electronic props., subband struct. 1−25804
InSb, narrow-gap, electronic props. of n-channel inversion layers 1−47752
p-InSb, phonon induced intersubband resonance in inversion layer 1−47750
$MoSe_2(S_2)$ electrode in apriotic solvents, photochem. reactions and inversion layer formation 1−13019
Si (001) MOSFET, cyclotron reson. of electron inversion layers 1−3264
Si (100) inversion layer, phonon-limited electron mobility 1−38834
Si (100) inversion layers, cyclotron reson. lineshape under uniaxial stress 1−12207
Si (100) MOSFET, inverted surfaces, valley splitting, magneto-quantum oscillations 1−12199

inversion layers continued
Si (100)N channel inversion layers, carrier concentration and mobility 1−7639
Si (111) inversion layer, exchange-correlation effects, strain-enhanced valley-occupancy phase transition 1−47728
Si (111)-SiO_2 MOS system, surface supercond. of inversion layer electrons 1−20912
p-Si, (100) oriented, oscillatory electronic heat capacity in inversion layer in quantizing mag. field 1−52311
Si, charge carrier transfer anisotropy in inversion layers *(Russian)* 1−2984
Si, IR spectroscopy of quasi-two-dimensional space charge layers 1−48065
Si inversion layer, obs. of interaction and localisation effects in two dimensional electron gas 1−20844
Si inversion layer, quantised, electron mobility due to phonon scatt. 1−34799
Si inversion layer MOSFET, far IR emission from plasma oscills. 1−8076
Si inversion layers, exchange-correlation effects, valley occupancy phase transitions 1−52509
Si inversion layers, intervalley electron-electron coupling effect on cyclotron reson. lineshape 1−12206
Si inversion layers, intersubband spectroscopy, many-body and impurity effects 1−12506
Si inversion layers, valley degeneracy and intersubband spectroscopy 1−48068
n-Si inversion layers, valley splitting and valley degeneracy factors 1−52479
Si MIS, many-body effects, subband struct. 1−7743
Si MOS inversion layer, at low densities, Anderson localisation 1−30830
Si MOS inversion layers, negative magnetoresistance 1−52657
Si MOS struct., with n-channel inversion layers, gate-controlled surface capacitance 1−3065
Si MOSFET, emission spectra from subbands in inversion layers 1−12585
Si MOSFET, many-body enhancement of valley splitting at finite temp. 1−52656
Si MOSFET inversion layers, high mag. field expts., valley degeneracy 1−7756
Si MOSFET inversion layers, high-index surfaces, far IR study 1−12208
Si MOSFET on sapphire and spinel, magnetocond. oscillations, (100) inversion layer obs. 1−12205
Si/SiO_2 interface inversion layer electron scatt. by polar interface phonons 1−16376
Si-SiO_2, interface, elec. breakthroughs in vicinal planes, valley splittings 1−7695
Si-SiO_2, MOSFET, lattice scatt. mobility of n-inversion layers at low temp. 1−7752
Si-SiO_2, many-body effects and electron mobility, room temp. 1−7693
Si-SiO_2, quasiparticle effective mass, ionic scatt. depend. 1−7691
Si-SiO_2 interface, collective ground state in inversion layers in extreme quantum limit, cyclotron reson. obs. 1−12195
Si-SiO_2 interface, cond. in two-dimens., effects of long range components of random pots. 1−7754
Si-SiO_2 interface, interaction induced transition at low densities in inversion layer 1−7755
Si-SiO_2 interface, morphological obs. 1−7480
Si-SiO_2 interface, n-channel, electron energies calc. using self-consistent pot., valley splitting 1−12172
Si-SiO_2 interface, plasmon dispersion, far-IR probe, review 1−12507
Si-SiO_2 interface, polaron and bipolaron states in inversion layers 1−7694
Si-SiO_2 interface, quasi-two-dimensional electron systems in space charge layers 1−7747
Si-SiO_2 interface, quasi-two-dimens. impurity bands in inversion layers 1−47753
Si-SiO_2 interface, valley splitting and related phenomena, review 1−12170
Si-SiO_2 interface in weak inversion, electron mobility, percolation model for high oxide charge samples 1−7748
Si-SiO_2 MOS capacitor, (100) inversion layers, uniaxial stress effect on cyclotron reson. 1−12203
Si-SiO_2 MOS inversion layers, Hall cond. under strong mag. fields, Landau level width 1−12197
Si-SiO_2 MOS structure, (100) inversion layers, biaxial stress effect, mass bands shift, Shubnikov-de Haas spectrum 1−12204
Si-SiO_2 MOS system, electron transport in inversion layers at high mag. fields, substrate bias effect 1−12196
Si-SiO_2 MOS system, n-channel, interface effect on electronic struct., scatt. of Bloch waves 1−12171
Si-SiO_2 MOSFET, (111) surfaces, inversion layers with sixfold valley degeneracy 1−12201
Si-SiO_2 MOSFET, (110) and (111) surfaces, anomalous behaviour of electron transport 1−12202
Si-SiO_2 MOSFET, enhanced valley splitting in surface quantum states, temp. depend. 1−12173
Si-SiO_2 MOSFET, n-channel, Coulomb scatt. in band tail 1−7749
Si-SiO_2 MOSFET, n-channel, electron-phonon interact. in inversion layers at low temp. 1−7751
Si-SiO_2 MOSFET, Na^+ contaminated, scatt. in inversion layer, temp. depend. 1−7750
Si-SiO_2 MOSFET, non-metallic cond. at low temp., two-dimens. behaviour 1−7753
Si-SiO_2 MOSFET, Shubnikov-de Haas oscillations in (100) inversion layers, lineshape analysis, valley splitting 1−12200
Si-SiO_2 MOSFET, submm. laser cyclotron reson. of inversion layers at low electron densities 1−12194
Si-SiO_2 MOST, n-channel, quantum model for Shubnikov-de Haas oscillations 1−12198
Si-SiO_2 transition regions, phys. and chem. props., state-of-the-art 1−7479
Si-SiO_2-Al MOSFET, ballistic electron injection, phonon and sub-band spectroscopy of Si inversion layers 1−3068
Si(111)/SiO_2 interface, superconductivity mechanism 1−52685
WSe_2 electrode in apriotic solvents, photochem. reactions and inversion layer formation 1−13019

iodine
see also nuclei with .....
adsorbed Ag(111), azimuthal depend. of angle resolved photoelectron diffr. 1−12638
adsorption, on Cu (111) and (100) surfaces, EXAFS obs. 1−25564
amorphous, form. and Raman scatt., semicond. props. 1−53093
amorphous semiconductor, onefold-coordinated, Raman spectra 1−35036
atom, $^2P_{1/2}$ and $^2P_{3/2}$ states, absolute quantum yield spectral depend. in perfluoralkyl iodides photolysis 1−8595
atom, absorption spectrum around 5915 Å, calibration and assignments 1−45888
atom, laser potential, electrically generated $^1\Delta O_2$ pumping 1−46324
atomic, coherent reson. pulse propag. 1−29347
atomic, excitations of inner 4d shell 1−51173
atomic photodissociation laser, hyperfine relax. 1−51465
β-carotene:I_2, doping effects on spectroscopic studies 1−39072
cellulose acetate:I_2, current-voltage characts. 1−7626
chemisorbed on Ag (111), angle-resolved photoelectron diffr. study 1−39224
chemisorption on Zr, AES study, thermodynamics of adsorbed layer form. 1−35571
coadsorption on Pt (111) with Cl, LEED and AES study 1−25573
electrical resistance at high press. and low temp. 1−34700
electrical resistance up to 500 kbar and down to 2.7K 1−30737
high pressure metal-insulator transition *(Chinese)* 1−25630
hyperfine interactions, in diiodobenzophenone, lowest triplet state 1−1133
laser, contrast ratio meas. using high-speed spark shutter 1−1611
laser, flashlamp-pumped CF_3I photodissociation, with optically thick medium 1−6548
laser, repetitively pulsed, photodissoc., high average power operation at 1.3 μm 1−46323
laser cavity alignment, mode-matching techniques 1−1594
laser oscillator, sealed-off, repetitively pulsed 1−29300
laser photolytically pumped by nuclear-induced XeBr fluoresc. 1−24411
laser pulse absorpt. in K and Cs vapours 1−11509
laser system, h igh power, structure and performance 1−51469
molecular dissociation obs. at high press. by X-ray diffr. 1−20316
molecule, absorpt. spectrum, 12600 to 14000 cm^{-1}, Fourier spectroscopy 1−19107
molecule, CC I_2, B-state, higher rovibr. level hyperfine struct. studied by Ar^+ laser induced fluoresc. 1−5131.1
molecule, D→X UV fluoresc. spectra 1−1271
molecule, dissociative states, two- and three-photon absorpt., UV, visible and IR emission 1−46047
molecule, electronic-vibr.-rot. states, stimulated resonance Raman effect 1−37547
molecule, electronically excited, prod. from diiodomethane photodissoc. 1−33521
molecule, eQq hyperfine parameters meas. for X, 1_g, O_g^+ and B states 1−6227
molecule, hyperfine predissociation phenomena obs. *(French)* 1−11050
molecule, laser excited fluoresc. 1−10771
molecule, multiphoton ionisation spectroscopy 1−37284
molecule, UV laser multiphoton excitation 1−29068
molecule in aqueous solutions, chemical effects of gamma radiation 1−8587
molecule measuring cell in frequency stabilised lasers *(Czech)* 1−51449
molecules, ground vibr. level, dissoc. energies, Franck-Condon factors, IR obs. 1−45951
molecules, limiting near-dissociation behaviour, theory of deviations 1−29075
polyacetylene:I_2, doping effects on spectroscopic studies 1−39072
polyacetylene:I_2, semicond., photoelectron spectra and X-ray induced AES 1−35146
polyacetylene:I, metallic cond., freq. and elec. field depend. 1−30730
polyacetylene:I film, optical prop., electronic gap 1−48180
radioactive I, chemical behaviour in BWR's 1−6041
radioisotope removal from gas using selective block sorbents 1−28712
in seawater, I_2 prod. by O_3 dry deposition vel. to atmosphere and ocean chemistry 1−44252
structural phase transition at ∼210 kbar 1−34476
thyroid protection after reactor accident, risks and benefits of iodine tablets *(German)* 1−44027
in troposphere, possible role in photochemistry 1−40171
vapour, correlated third-harmonic generation using photon-echo process 1−51549
vapour pressure meas. in range 10^4-10^0 Pa, using γ-AgI as solid electrolyte in galvanic cell 1−32993
volatile fission products release following reactor accident 1−41193
AgBr:I, SIMS and ion scatt. spectrometry study of I distrib. 1−15918
CdS:I, resonant Raman study of bound excitons 1−8077
HgI_2:I_2, photoelectric and optical properties 1−42811
I flowing-type laser produced by mixing with nuclear produced O_2 1−24410
I IX, spectrum obs. 300 to 80 Å, level designation 1−28913
I pulse-periodic photodissoc. laser, magnetoplasma compressor radiation pumping 1−51466
I^-, transition from uncollapsed to collapsed excited f-wave functions via post collision interaction Auger effect 1−19068
I-Hg-Na-Dy discharge, radiation transport, temp. profile calcs. 1−38193
I+H_2→IH+I, collinear quantum mech. reaction probabilities, calcs. using hyperspherical coords. 1−39594
I^-+inert gas atoms, electron detachment cross section determ. 1−33542
I^-+Ne, electron detachment cross section determ. 1−33542
I^-+$SO_2(CO_2)$, reactions, gas phase cluster prod. 1−4061
I^++Ag impact parameter depend., K-vacancy prod. 1−6350
I_2, in inert gas, seeded supersonic beams, coding 1−6332
I_2-inert gas, van der Waals complexes, vibr. predissociation, energy transfer, local mode anal. 1−29053
I_2+Ar*(K) 1−10832
I_2+K_2, mol. chemiluminesc. spectra obtained using beam-gas arrangement 1−8573
I_2+Na_2, mol. chemiluminesc. spectra obtained using beam-gas arrangement 1−8573
I_3^-, linear solvation energy relationships, free energies of form., solvent effects *(French)* 1−48717
$I(^2P_{1/2})$+H_2, electronic-vibr. energy transfer, optoacoustic meas. 1−10823
^AI, A=123, 125, 131-2, biokinetics, mean dose and dose distrib. 1−44026
^{125}I activity, coincidence sum peak assay using solid state detectors 1−6112
^{125}I, airborne, activated C badges as detectors 1−27007
^{125}I labelled NaI soln., penetration of protective gloves as a route of intake 1−27010
^{125}I, monitoring of airborne contamination during handling 1−27009
^{131}I, internal contamination of nuclear medicine lab. personnel 1−53913
^{131}I, monitoring of airborne contamination during handling 1−27009

iodine continued
^{131}I, obs. of deposition onto vegetation and biological half-life 1−8789
^{131}I release prop. distrib. calc. following spent fuel handling accident 1−5922
I_2, $A^3\Pi_{1u}$ state, vibr. const. 1−37218
KCl:I, UV irrad., I ion motion, absorption and emission bands 1−21237
$MoSe_2$:$2I^-/I_2$ liquid junction photocell, effect of temperature on power output 1−48869
$MoSe_2$:I_2-electrolyte junction, photoinduced layer phenomenon 1−52652
Na+I, ion-pair formation, differential cross section 1−29106
O_2-I CW chemical laser, kinetics 1−51467
O_2-I chemical laser, operating parameters 1−46328
O_2-I chemical laser, temp. depend. of reaction rate consts. 1−51468
O_2-I potential laser, electrically pumped, theoretical anal. 1−41675
O_2-I transfer laser, kinetic model 1−46329
PbTe:I, Soret effect, I redistrib. during gradient annealing 1−2702
Se:I, liq., surface tension and heat expansion, temp. depend. *(French)* 1−25533
WSe_2:$2I^-/I_2$ liquid junction photocell, effect of temperature on power output 1−48869
ZnS:I; blue luminesc. band nature, annealing in high vac. influence 1−35094

iodine compounds
2,2-diphenyl-1-picrylhydrazyl-I_2, complex, chemical stability, vapour pressure data, elec. cond. 1−21759
halogen compounds, spin-orbit splittings of ionisation pot., MOC, INDO and CNDO calc. 1−51126
naphthalene-I_2, complex, chem. stability, solidus-liquidus curve, elec. cond. 1−21759
in troposphere, possible role in photochemistry 1−40171
$Ag_7I_4AsO_4$, vitreous solid electrolyte, molar heat capacity 1−7354
D_2I_2, van der Waals complexes, intermol. pot. and photodissoc. study 1−10800
H_2I_2, van der Waals complexes, intermol. pot. and photodissoc. study 1−10800
Hg-As-S-I system, glass form. processes, Raman spectra 1−34239
$I_2Ar_aHe_b$, van der Waals mol., photodissoc., fluoresc. spectra, vibr. and rot. distrib., predissoc. 1−39659
IBr, curve crossing, repulsive potentials probed by laser induced half collisions 1−10791
IBr, line broadening by predissoc. in spectrum, rot. transitions, vibr. bands 1−46042
IBr, liq., surface tension, temp. coeff., max. bubble press. method obs. 1−38624
IC+F_2, chemiluminescent reactions studied by crossed mol. beam technique 1−39644
ICl, curve crossing, repulsive potentials probed by laser induced half collisions 1−10791
ICl, E-state quenching rate consts., radiative lifetimes 1−37267
ICl, liq., surface tension, temp. coeff., max. bubble press method obs. 1−38624
IF 140 kW laser, small signal gain and operating parameters, 472.7 nm transition 1−41671
IF, blue-green lasing in discharge pumped gas mixtures, gain meas. 1−37475
IF discharge-pumped laser, multi-line emission (480-496 nm) 1−37463
IF, E-state quenching rate consts., radiative lifetimes 1−37267
IF laser, optically pumped, $B^3\Pi(O^+)$—$X^1\Sigma^+$, 7200-6500 Å range 1−24400
IF, lasing and emission spectra meas. at 491, 484 nm 1−24399
IF, TEA laser based on D′—A′ transition 1−19323
IF_5 in excited vibr. state, microwave spectra, Coriolis reson., rot. const. 1−45943
IF_4O^-, anion, mol. consts., modified Urey-Bradley force field calcs. 1−41359
IF*, lasing in He-CF_3I-NF_3 mixtures at 491, 484 nm 1−37474
I_2N_2 van der Waals mols., fluoresc. excitation and dispersed fluoresc. spectra 1−46010
I_2N_2He van der Waals mols., fluoresc. excitation and dispersed fluoresc. spectra 1−46010
IO_3^-, electronic struct., SCF-Xalpha study 1−6161

ion-atom collisions *see atom-ion collisions*

ion beam effects
see also ion-surface impact; ionoluminescence; plasma-beam interactions
alkali halides, using two-accelerator facility 1−42434
alkali silicate glasses, ion irradiated, water vapour action 1−8461
amorphous layers, ion-stimulated crystn. mechanism 1−2536
CHO cells, synchronised, effects of Ar ions 1−43914
convoy electrons from solids in coincidence with emergent projectile charge state 1−47124
DNA break rejoining capacity obs. after irrad. by accelerated ions in the spread Bragg peak 1−8919
etching of metals and fluoropolymers, aids adhesive bonding 1−35430
fast molecular ion interactions with matter 1−47134
focusing effects on total reflection coeff. near semichannel direction 1−52195
graphite, synthetic, twin formation and deform. due to ion irrad. *(Russian)* 1−15903
Hastelloy B, blistering and D trapping induced by D^+ bombardment 1−25336
heavy ion beam model for radiobiology 1−26950
heavy ion nuclear stopping power, thickness depend., calc. 1−20283
heavy ion nuclear tracks in solids, appls. 1−47120
heavy ions, low vel., channelling stopping-power oscills. calc. 1−20290
heavy ions in solids, 2.5-100 MeV/nucleon, range and stopping tables 1−5034
human cells, cell-survival rel. to depth for high-energy Ar ion beam 1−43915
ice, erosion by fast light ions, linear and nonlinear processes 1−15937
Inconel 600, blistering and D trapping induced by D^+ bombardment 1−25336
intestinal crypt cells, survival after exposure to high Z, high energy charged particles 1−26961
ion milling, new production technique 1−31706
ion-damaged, extended, interstitial chains and dislocation dipoles, electron microscopy study 1−47076
metal foils, ^{3}He implanted, local density meas. by Doppler shift attenuation method 1−34376
metal single crystals, effect of partial O_2 press. on noble gas ion bombardment 1−31276

ion beam effects continued
metal surface capacity absorpt., after ion bombardment *(Russian)* 1−35138
metals, D^+ irrad., ion retention and surface deformation correl., appl. to plasma-wall interactions 1−25306
metals, He ion bombardment, blister lid thickness and blister formation, interbubble fracture model 1−25337
metals, sputtered atom ionisation probability, effect of inert gas primary ion nature *(Russian)* 1−3555
Nimonic alloy PE 16, blistering and D trapping induced by D^+ bombardment 1−25336
Okorokov effects, heavy ions in crystal, peak profiles 1−2543
photochemical hole burning memories, controlled spatial distributions of colour centres 1−51583
plasma electrostatic wave excitation by far IR laser beam and ion beam 1−24970
plasma wall Z 1−24999
reactive ion etching *(Japanese)* 1−43557
sapphire, ion bombardment displacement damage, channelled-proton-induced X-ray meas. 1−38411
semiconductor, defect accumulation during light ion irrad. 1−20278
semiconductor, ion implantation, review, book contrib. 1−47107
spatially correlated ions, anal. of cell survival data for diatomic deuterium 1−26951
stainless steel, H recycling, plasma-wall interaction simulator 1−24993
stainless steel, He^+ and D^+ implantation, microstruct. modifications and surface blistering 1−25338
stainless steel, ion bombarded, roughness factor meas. *(Japanese)* 1−30535
stainless steel, type 304, blistering and exfoliation by the irrad., SEM and RBS 1−25334
stainless steel, type 316L, blistering and D trapping induced by D^+ bombardment 1−25336
stainless steel blistering under D^+ and He^+ simultaneous irrad. 1−25335
steel, austenitic, Cr-Ni(12,13 wt.%), irradiation induced phase transformations and orientation rel. 1−35254
steel, austenitic stainless 316, dual beam irradiation, vacancy loop effect on swelling 1−2531
steel, stainless, ion bombard. induced amorphous layers, Rutherford backscatt. and TEM study 1−7218
steel, stainless, type 304L, H recycling, mechanism, plasma-wall interaction 1−24994
steel, stainless type 316, H diffusion, under 10-100 keV ion bombardment *(Japanese)* 1−18744
thabdomyosarcoma tumour, rat, C and Ne ion irrad., cell survival and vol. rerponse characts. 1−8922
void nucleation and growth by radiation, formulation of problem 1−20181
Ag film deposition on Si, by ion cluster beams 1−12659
Ag, point defect clustering during heavy ion irrad. 1−52186
AgCl, collision damage processes due to energetic heavy ions, optical absorpt. and EPR study 1−2534
Al damaged layer, under He ion irradiation, mech. props. *(Russian)* 1−20275
Al, extended defects induced by Ni ion implantation, depth profile anal. by ion channelling 1−2533
Al, point defect clustering during heavy ion irrad. 1−52186
Al-Cu, study on the temp. of thermal spike 1−25256
Al-Mg_2Si, study on the temp. of thermal spike 1−25256
Al-Sn, 0.03 at.%, irrad.-induced defects, trapping by Sn atoms, channelling-backscatt. study 1−11793
Ar, solid, ion beam collision-induced hot spikes, time evolution 1−53033
Au foil, ^{3}He implanted, local density meas. by Doppler shift attenuation method 1−34376
Au-Si metastable alloy formation induced by ion-beam interface mixing 1−52160
B coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
BN, hard quasi-amorphous film prep. by ion beam deposition, struct. and props. 1−12671
C, diamond-like, quasi-amorphous film prep. by ion beam deposition, struct. and props. 1−12671
C films, laser evaporated, Ar ion bombardment effects 1−53094
CH_5 radicals, fragmentation energy, ion beam expt. 1−37322
CaF_2:Dy, thermoluminescent response under heavy ion bombardment 1−948
CaF_2:Mn, TLD, TL response and range of heavy charged particles, LET dependence 1−947
$CaSO_4$:Dy, thermoluminescence depend. on stopping power 1−26285
$CaSO_4.2H_2O$, gypsum, near-surface channeling of high-energy multiply charged ions 1−52204
Cu (100) surface, 10 keV Ar ion scatt. from ion-induced damage structs., energy spectra 1−21316
Cu, ion implanted with H^+ at ambient temp., spongelike blister obs. 1−7216
Cu, point defect clustering during heavy ion irrad. 1−52186
Fe, void swelling examination using C ion bombardment 1−47121
GaAs:Se ion implanted, impurity profiles, diffusion, luminescence spectra 1−2479
GaAs:Sn, LPE, ion implantation, cathodoluminesc. 1−39160
Ge film deposition on Si, by ion cluster beams 1−12659
Ge:P, light ion beam enhanced P-diffusion 1−11915
H_3O radical, fragmentation energy, ion beam expt. 1−37322
InP:Cr, S ion implantation, sheet resistance, carrier density 1−2477
p-InSb, n^+-layer form. by ion bombard. and laser irrad. 1−21312
KCl, positive ion bombard., particle track effects 1−52187
KCl, radiation damage, H^+, He^+ backscatt. and channelling study 1−52189
LiF, microhardness, influence of low-energy Ar ions and vacuum UV *(Russian)* 1−48488
LiF TLD, response of peak 5 and peak 6 to ion irradiations 1−1043
LiF:Mg, Ti, TLD, TL response and range of heavy charged particles, LET dependence 1−947
LiF:Mg, Ti, thermoluminescent response under heavy ion bombardment 1−948
$LiNbO_3$, reactive ion-beam etching to fabricate holographic gratings and waveguide components 1−1733
$Li_2O.2SiO_2$ glass, ion implanted, phase separation and crystn. 1−30081
Mo, diffusion mobility of H and He, intrinsic interstitial effects 1−30483
Mo erosion during ion irrad., influence of porosity level *(Russian)* 1−16962
Mo, sputtering of low energy He^+ bombardment 1−52185

ion beam effects continued
Mo surface, entrapment of inert gas ions, thermal desorption spectra 1−30543
Mo, surface erosion of polycrysts. by He ion bombardment, SEM obs. 1−42435
Mo, trapping of N due to defects generated by 50-400 keV H^+ and He^+ ions 1−47110
NH_4 radical, fragmentation energy, ion beam expt. 1−37322
Nb film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532
Nb films, ion irrad. influence on elec. and superconducting props. 1−20894
Nb foil, ^3He implanted, local density meas. by Doppler shift attenuation method 1−34376
Nb, ion-irradiated, void form., depend. on dil. O conc. 1−52184
Nb, redistrib. of C by Ar^+ ion bombardment 1−25332
Nb-Si interface, ion bombardment induced silicide form., backscatt. study 1−11986
Nb-Zr (1 wt.%), He^+ ion implanted, blister formation, SEM 1−34377
$Nb_{75}Ge_{25}$, amorphous thin films, supercond., resistivity, T_c after S ion irrad., annealing effect 1−42883
$Nb_{80}Si$, amorphous thin films, supercond., resistivity, T_c after S ion irrad., annealing effect 1−42883
Ni (001) with CO monolayer, CO ejection due to ion irrad. 1−8177
Ni, He^+ and D^+ implantation, microstruct. modifications and surface blistering 1−25338
Ni, hydrogen diffusion under 10-100 keV ion bombardment *(Japanese)* 1−18744
Ni, lattice constant, dependence on Ar^+ bombardment dose *(Russian)* 1−52190
Ni, oxidation, 180 keV He ion irrad. effects *(Russian)* 1−4003
Ni surface, ion-implanted, H^+ trapping 1−25305
Ni^+ ion bombardment of Ni and binary Ni alloys, effect on void nucleation and growth 1−52183
Ni-Cr-Mo, radiation blistering surface erosion by He ions, incidence angle effect 1−33345
NiO/Ni interface, composition profile, ion beam etching, Auger anal. 1−42641
γ'-Ni_3Si, ion-bombardment-induced disordering 1−30284
PbIn alloy supercond. tunnel junction electrode, ion beam inducer changes in oxide composition 1−52710
$Pb_{1-x}Sn_xTe$ ion implanted films, implantation induced damage 1−7191
Pd-Si interface, ion beam induced epitaxy of Pd_2Si 1−16196
$Pd_{80}Si_{20}$, metallic glass, elec. resistance, irrad. induced defects 1−25690
Pt, catalytic active sites, ion bombardment and FEM study 1−25537
RbBr, ion beam collision-induced hot spikes, time evolution 1−53033
Se, glassy, XPS under Ar ion bombard. 1−3564
Si (100) surface, atomically cleaned low temp. annealed, residual damage 1−7213
Si crystal, channelled ion energy loss, charge state depend., meas. 1−38418
Si, D^+ bombarded, vol. expansion and O incorporation 1−25302
Si ion implantation, profile of radiation disturbed layers by spreading current probe 1−52164
Si, ion projective ranges, resistance method 1−38416
Si:As, implantation damage and annealing effect, amorphous layer form., ellipsometric obs. *(Chinese)* 1−20244
Si:As(B)(As,B), ion-induced impurity displacement, effect of Fermi level 1−11795
Si:As(B)(P)(Sb), ion range and damage distrib., Boltzmann transport equation 1−42439
Si:H, crystalline and amorphous, bombardment-produced disorder and SiH bonds 1−34379
Si:H, dopable, quasi-amorphous film prep. by ion beam deposition, struct. and props. 1−12671
Si:H RF sputtered films, amorphous, oscill. strengths of Si-H vibrs., charges induced by the He^+ ion bombard. 1−3517
Si:P, extended defects induced by ion implantation, depth profile anal. by ion channelling 1−2533
Si:P, resist. distrib. after light ion bombardment, annealing effects 1−7613
Si:P, resistance profile after irrad. by light ion beam 1−7612
Si:P ion implanted, laser annealed, furnace annealing behaviour 1−2480
Si:P ion implanted layers, damage profile determ. 1−2478
n-Si-Pd_2Si contact interface, modification by ion implantation, I-V characts. 1−7734
α-SiC (6H), surface pot. change caused by annealing of defects due to bombardment of Ar ions *(Russian)* 1−2537
SiO_2 effectiveness for preventing Si-metal reactions in Si/Mo system 1−16202
SiO_2 glass, fused, ion implanted, phase separation and crystn. 1−30081
SiO_2:P film, P conc., AES study, electron and ion beam effects 1−34366
SiO_x glass layers ($x \leq 2$), ion irrad., B_2-centre form., UV spectra 1−38413
Ta film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532
Ti film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532
Ti film, sorption of N_2, stimulation by ion bombardment 1−47388
Ti surface, He^+ and H^+ irrad., gas bubble superlattice and surface struct. 1−25333
TiB_2 coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
TiC coating, thermal fatigue during electron and D^+ ion bombard., fusion reactor appl. 1−20279
TiO_2, ion implantation effects, optical, elec. cond., and Rutherford backscatt. meas. 1−7217
W, irrad., single atom sputtering events, near-surface depleted zone obs. 1−43231
Zr, annealed polycrystalline, ion simulation of neutron irradiation growth 1−34378
Zr foil, ^3He implanted, local density meas. by Doppler shift attenuation method 1−34376
Zr-Cu, supercond. amorphous alloy, ion irrad. effects 1−30863

ion beams
see also beam-foil spectra; beam-foil spectroscopy; energy loss of particles; ion beam effects; ion optics; ion-surface impact; mass spectrometers; particle accelerators; sputtering
cold welds, ion-beam cleaning 1−35429
confinement in cylindrical trap, appl. to mass spectrometry, theory *(French)* 1−374

ion beams continued
confinement in cylindrical trap, appl. to mass spectrometry, experiment *(French)* 1−375
contemporary problems in the physics of high-power electron and ion beams 1−1480
detection systems *(Japanese)* 1−45788
diffusion of narrow beam of charged particles, model 1−20291
dynamics, trapping and transport, electron neutralisation effects 1−29205
electron characts. from stripped ion beam 1−51015
equilibrium charge distributions of ion beams exiting carbon foils 1−45762
fast ion prod. in laser-irrad. spherical target 1−10048
fast ion production in laser irradiated plane target, electrostatic instability effects 1−10047
fusion applications of intense pulsed ion beams, review 1−33348
heavy, from HV pulse-powered plasma focus, characts. 1−37033
heavy ion target area fast neutron dose equivalent rates 1−14702
impurity diagnostics using pyrolitic C pulses 1−25061
inertial confinement fusion target, relativistic electron beam conversion to ion beam 1−6060
intense ion beams, in mag. field, stability, Vlasov-Maxwell eqns. 1−51016
large emittance, small momentum analysis system 1−10566
light-ion fusion, prod. of ion beams with mass greater than that of proton 1−6987
low density plasma, ion beam props. meas. using electron saturated Langmuir probe 1−34117
metastable peak shapes, apparatus broadening deconvolution and kinetic energy spread 1−1170
metastable peaks, instrumental parameters and kinetic energy release in linked scan 1−1171
optical Ramsey interference fringes, ion beam-laser beam interaction by Doppler switching 1−51367
oscillations in one dimens. RF elect. field, electron space charge distortion 1−23365
oscillations of focused beam, negative energy mode, instability 1−10571
plasma focus devices, light energy neutron and ion beam sources, review 1−18934
production in pinched electron beam diode 1−10564
production vacuum spark-discharge plasma, energy spread 1−52007
pulsed high-current ion beams 1−1482
surface treatment by ion beam technology, current status *(Japanese)* 1−6444
TRISTAN online mass separator, ion source, data anal., recent developments 1−10581
UNISOR facility, radioactive decay spectroscopy, nuclei far from stability appls., new developments 1−10578
Ar, relativistic ion beams, higher-order corrections to stopping power 1−25344
Fe, relativistic ion beams, higher-order corrections to stopping power 1−25344
H, impurity conc. meas. 1−50270
H_1 electron impact ionisation, cross sections, metastable states 1−29121
$^3H^{3+}$ acceleration using compact cyclotron 1−28757
He^+, electron impact ionisation, absolute cross sections, cross beam meas. 1−29120
N_2^+ ion beam, laser induced fluoresc. spectra 1−37232
Ne, relativistic ion beams, higher-order corrections to stopping power 1−25344
^{20}Ne ions, energy deposition in tissue in nm regions 1−22059
O_2^+, dissociation and predissociation, fast ion beams, laser obs. 1−19147

ion chambers *see ionisation chambers*

ion counters *see counters*

ion cyclotron resonance heating *see plasma heating*

ion cyclotron resonance spectra *see mass spectra*

ion cyclotron resonance spectroscopy *see mass spectroscopy*

ion density
see also plasma density
cometary atmosphere, solar wind modification of outer ion coma rel. to upstream ion density 1−32658
F-region, AE-E meas. rel. to neutral meridional winds 1−9316
plasma, ion density in strong Langmuir wave turbulence with self consistent Landau damping 1−27367
RF-ion source (RIG 10), discharge chamber length optimisation 1−15629
RF-ion source diagnostics in RIG 10, for intense ion beams 1−15654
spark diagnostics, impulse, using two-wavelength interferometry 1−15739
C in solar transition region, nonequilib. ionisation due to thermal diffusion and mass flows 1−36237
N_2, N_2-Ar mixtures, afterglow, following microwave excitation, electron, ion density enhancement 1−2265

ion emission
see also field ion emission; secondary ion emission; thermionic ion emission
desorbed ion energy and mass determ. by time-of-flight in cylindrical mirror analyser 1−5433
metal surfaces, emission due to electron bombardment up to 500 eV *(Polish)* 1−3548

ion engines
see also aerospace propulsion; rockets
RIT-10 thruster for geostationary satellite-station keeping 1−40305
Cs^+ ion source, liq., emission characts., field evap. theory predictions 1−5435

ion etching *see sputter etching*

ion exchange
A zeolite, dehydrated, Co exchanged, extended X-ray absorpt. fine struct. 1−26726
alkali boroaluminosilicate glass+fused alkali nitrates, ion exchange, equilib. and kinetics 1−43660
alkali feldspar dissolution, ion exchange rate, nuclear waste transport in groundwater 1−28637
alkaline earth carbonate-tungstate porous metal cathodes, synthesis and characts. 1−53115
anionic complex species transport through anionic exchange membrane 1−53469
benzene+halobenzene mixtures, H^+ transfer equilib. consts., ICR spectra 1−53408
chromatographic separation of Ba from Na, piezoceramics anal. 1−13052
electroplating plant effluent treatment system for metal recovery and waste water purification *(German)* 1−17035

ion exchange continued
extraction behaviour of Cu and Pb from binary soln. containing NO_3^- and Versatic acid 10 *(Japanese)* 1−26734
glass, flat, ion-exchange strengthening, calc. methods 1−53249
glass, strengthened by ion exchange and quenching, durability, temperature-force depend. 1−43509
glass, strengthening by ion-exhange method 1−39480
glass, surface layer, deformation props., changes after ion exchange 1−16163
glass fibre, refractive index gradient, focusing distrib., use of diffusion coeff. conc. depend. 1−41863
ion+molecule reaction, mechanisms, charge and ion exchange, isotope labels, ion cyclotron technique 1−31844
metallopolymer coatings, cathodic deposition 1−17063
multimode fibre-compatible planar optical waveguide and component fabrication 1−41898
optical fibre data highway multimode directional couplers 1−41878
polymer microspheres appl., hybrid, as efficient packing material 1−39616
power stations, thermal, problems of using HCl for cation generation in water treatment plants *(Rumanian)* 1−4052
resin, suspension in water, relative permittivity, elec. cond., high freq. dielec. relax. 1−43712
silicate glass, multicomponent, conc. and optical changes during ion exchange 1−48022
waste water desalination by ion-exchange 1−8544
zeolite T, prep. of highly exchanged H forms 1−43290
$AgNO_3$ liq.-glass plate substrate, Na^+ and Ag^+ exchange, planar dielectric light waveguide production 1−15263
Al, impurity determ., neutron activation anal. 1−8632
H^+/NH_4^+ ionic exchange in sulphonic membrane, membrane selectivity and interdiffusion pot. effect *(French)* 1−48732
$HCN^+ + HCN(CH_4)(NH_3)$ $(CO)(CO_2)(N_2)(O_2)$ reactions, reaction rates and prod. distrib. meas. by ICR techniques 1−53407
$LiNbO_3$, ion exchange in $TlNO_3$ melt optical waveguide fabrication 1−29386
Li_2O-SiO_2 glass, ion exchange isotherms rel. to bulk struct. expt. 1−31907
Na_2O-Al_2O_3-SiO_1 glass surface layers, elec. resistance in NaCl and KCl solns. 1−17072
Na_2O-Rb_2O-SiO_2, ion exchange between glass melts 1−20436
SiO_2/MgO synthetic clay, uses in radioactive waste treatment 1−28624
SiO_2-Na_2O-Li_2O-B_2O_3-Al_2O_3 (12, 12, 10, 6 mol. %), refractive index and the structural relaxation of glass obtained by ion exchange 1−43091

ion exchanging *see ion exchange*

ion excited X-ray emission *see ion microprobe analysis*

ion implantation
see also semiconductor doping
accelerator, single stage for ion implantation studies 1−21752
aggregate colour centres for optical memories, prod. by ion implantation, X-ray, γ and electron irrad. 1−42380
alloy, ion-implanted and annealed, thermal evolution to equilib. 1−7195
alloys, ion implantation and heat treatment studies *(Hungarian)* 1−16809
amorphous target, range relation estimates *(Chinese)* 1−42403
annealing, laser and electron beam techniques, devices and applications *(Japanese)* 1−48199
bipolar and MOS technology, CCD devices and precision resistor appls. 1−47104
cryostat, variable temp. 1−40796
diamond:Fe, in-beam implantation, Mossbauer effect study 1−16507
diamond, ion-implanted, cathodoluminesc. study 1−48172
diamond, ion-implanted, defect formation, cathodoluminesc. study 1−48173
direct ion implantation, miniature apparatus with laser ion source 1−23369
dose uniformity, computer program 1−52165
fission fragment implantation, surface activation technique 1−25310
garnet bubble films, mag. transition temp., ion-implantation, and annealing effects 1−38958
garnet film, (100) fourfold symmetric, charged domain walls 1−7874
garnet film, ion implanted, magnetization angles, effect of material parameters and drive field 1−7917
garnet film, ion-implantation conditions and annealing effects for contiguous disk bubble devices 1−7918
graphite, ion implantation, trapping, detrapping and replacement of H isotopes 1−25303
He^+ and D^+ implantation, microstruct. modifications and surface blistering 1−25338
integrated pressure transducers using piezoresistive elements 1−23216
low-Z materials, saturation and isotopic replacement with D 1−25301
magnetic bubble circuit, ion implanted, annealing 1−7915
metals, D^+ irrad., ion retention and surface deformation correl., appl. to plasma-wall interactions 1−25306
metals, mech. characts. change by ion implantation *(Hungarian)* 1−16897
metals, metastable alloy form. by ion implantation, channelling and TEM study 1−2486
metals and alloys, corrosion, aqueous, ion implantation effect 1−21649
MOS structures, low-dose ion implants, on-line capacitance-voltage doping profile meas. 1−25803
phase transitions, ion-implantation-induced, kinetics, review 1−52284
plastic materials, graded-index antirefl. surfaces produced by ion implantation 1−6689
PLZT ceramics, image storage appl., effects of Ar and Ne ion implantation obs. 1−15241
poly-p-xylylene films, optical props., heating and radiation effects 1−48181
Pyrex glass, Poole coeff., dimensional effect 1−16084
quartz glass, ion implantation effect on surface layer optical characts., integrated optics appls. 1−11184
radioactive ion implantation by d.c. sputtering technique, design, construction and performance of device 1−21348
ruby:Ti crystal growth in three-channel burner 1−7189
scanning in circular pattern, efficiency improvement 1−20246
semiconductor, defect accumulation during light ion irrad. 1−20278
semiconductor, review, book contrib. 1−47107
semiconductor physics, conference, Kyoto, Japan (Sept. 1980) 1−44693
semiconductor processing technology, SIMS, impurity profile scale quantitation 1−31286
semiconductors, equipment, model, profile determ. by HEIS and SIMS 1−7192

ion implantation continued
semiconductors, ion implanted, laser annealing, review 1−52157
semiconductors, laser annealing, of displacement damage 1−25307
semiconductors, laser annealing review 1−30258
SIMS, quantitative anal., appl. of ion implantation 1−31949
slowing down approx. to Boltzmann eqn., appl. to energy deposition and ion implantation 1−52196
SOS, ion-microprobe mass anal. appl. to ion implantation 1−25299
SOS films, ion implantation damaged, picosecond photocond., carrier lifetime 1−42809
stainless steel, He^+ and D^+ implantation, microstruct. modifications and surface blistering 1−25338
steatite microstructure stability increase, by Sb ions implantation *(German)* 1−53258
steel, austenitic 310, C-ion implantation effect in low-cycle fatigue 1−3920
steel, austenitic stainless, D_3^+ implantation, depth profiling and thermal desorption 1−25314
steel, low C, fatigue life enhancement by N_2^+ ion implantation 1−3913
steel, low C, Ni and Cu implanted plates, frictional props. 1−43539
steel, martensitic high-C, N implanted, Mossbauer surface study 1−12435
steel, N implanted, wear 1−35402
steel, N ion implantation, modification of mech. props. 1−21587
steel, stainless, sliding-wear reduction by ion implantation 1−3938
steel, Ti and N implanted, abrasive wear resistance 1−31684
steel, type 1018, endurance life increase by N implantation *(Hungarian)* 1−16871
steel, type 1018, ion-implanted, cavitation erosion 1−21594
surface layers, ion-implanted, props. studied by SAW 1−20542
Ag thin films, nucleation and interface formation 1−34600
Ag:He, epitaxial films, polymorphic transform, X-ray diffr. study *(Russian)* 1−2483
Al, extended defects induced by Ni ion implantation, depth profile anal. by ion channelling 1−2533
Al, ion implanted, radiation disorder and lattice location, channelling and Rutherford backscatt. meas. 1−52161
Al, radiogenic Sn defects from implantations of ^{119m}Sn and ^{119}Sb, Mossbauer study 1−42407
Al-Fe metastable alloys, ion implantation prod., thermal migration of Fe 1−7393
Al-SiO_2-Si:P Schottky barrier diodes, electron transport, fabrication 1−7707
Au:He, epitaxial layers, polymorphic transform., X-ray diffr. study *(Russian)* 1−2483
Au-Dy, ion implanted Dy cryst. field, Mossbauer study 1−47983
Au-Si metastable alloy formation induced by ion-beam interface mixing 1−52160
B-implanted doping layer substrates, diffusion *(German)* 1−7197
^7Be indirect recoil implantation in plastics using $^7Li(p,n)^7Be$ 1−25311
C surface, D^+ bombardment, isotope exchange 1−26333
C-Ge(Si):B, double layer struct., implanted ion distrib. backscattering meas. 1−7201
CdSe:Ag^+, electrical and photoelectric properties 1−20821
Co:N_2^+, implantation profiles, AES 1−42412
Cr film, ion implanted, gas plasma etching 1−31737
Cu, C-ion implantation effect in low-cycle fatigue 1−3920
Cu film, high-dose Au^+ and Ta^+ implantation, sputtering limitations, backscatt. meas. 1−11775
Cu, implanted with H^+ at ambient temp., spongelike blister obs. 1−7216
Cu, ion implanted with ^{161}Dy, crystal field, Mossbauer spectroscopy 1−16266
Cu, polycrystalline, cyclic stress-strain response, ion implantation effect 1−21531
Cu:Al ion implanted mirror oxidation for laser pulse reflectivity and damage resistance 1−29312
Cu:Pb single cryst. film, pulsed laser annealing 1−8341
Er-Si interfacial reaction, silicide form., ion implantation effect 1−38672
Fe film, high-dose Au^+ and Ta^+ implantation, sputtering limitations, backscatt. meas. 1−11775
Fe, H absorption affected by He, Fe and Pt implantation 1−7458
Fe-Cr(Ni), ion implanted, conc. profiles and electrochem. props. *(Japanese)* 1−42411
Fe-Ni-Cr(-Al), refractory alloys, oxidation behaviour, influence of Y implantation 1−48552
Fe-Ti-C, ion implantation of Sb, diffusion and trapping 1−7195
Fe-Ti-C-Sb alloy, Sb trapping, chanelling study 1−34381
Fe-TiC-Sb system, trapping of Sb by TiC precipitates 1−7389
GaAs, and IC fabrication applic., review *(Japanese)* 1−25312
n-GaAs, carrier reduction by Cr ion implantation 1−47103
GaAs, doping by ion implantation, review 1−25313
GaAs, heavily doped epitaxial layers, pulse electron beam annealing effects 1−15928
GaAs, ion implanted, carrier removal and charge compensation, annealing effects 1−12125
GaAs, ion implanted, recrystn. induced by laser annealing, Raman spectra study 1−52072
GaAs, ion-implanted, struct. and elec. profile meas. 1−11779
GaAs, semiinsulating, single cryst., prod. by three temp. boat method *(Japanese)* 1−48251
GaAs wafer, ion-implanted, semi-sealing capless anneal 1−21490
GaAs:Ar(Si) epitaxial layers and monocrysts., ion implanted, electrophys. and luminesc. props. 1−7663
GaAs:B,Cr, low temp. Cr redistrib. and gettering in absence of encapsulant stress 1−15916
GaAs:Cr, B, Si_3N_4-capped, annealing of damage and redistrib. of Cr 1−20248
GaAs:Cr, Mg ion implant distrib., elec. props. 1−7202
GaAs:Ga, Ge, dual implantation, Hall mobility and elec. resist. 1−38394
GaAs:Ge, As, dual implantation, amphoteric activity, Hall effect and elec. resist. 1−38395
GaAs:Ge, ion implanted, elec. props. and photoluminesc. 1−47646
GaAs:O, ion implantation, deep level prod., LCAO-MO calcs. 1−7552
n-GaAs:O^+, carrier compensation 1−7638
GaAs:P^+, ion implanted, defect and impurity distrib., He^+ backscatt. study 1−11777
GaAs:Se ion implanted, impurity profiles, diffusion, luminescence spectra 1−2479
GaAs:Si, radiation annealing 1−43373
GaAs:Si(S)(Se)(Te), ion channelling study 1−34380
GaAs:Sn, LPE, ion implantation, cathodoluminesc. 1−39160

ion implantation continued
GaAs:Te, implanted, He backscatt., laser annealing effects, carrier conc. 1−38391
$GaAs_{1-x}P_x$ (x=0.4, 0.65), minority lifetime enhancement by N ion implantation 1−38788
$GaAs_{1-x}P_x$, ion implanted, annealing by swept line electron beam, luminescence study 1−3453
GaP, lattice expansion due to proton bombardment, X-ray diffr. study 1−20276
Ge:B, ion implanted, disturbed surface layer struct., X-ray diffr. study 1−20247
Ge:B(P), ion implanted, lattice location of impurity ions after laser annealing 1−11778
Ge:Fe, in-beam implantation, Mossbauer effect study 1−16507
Ge:Fe, in-beam implantation, in external mag. field, Mossbauer spectra study 1−16508
Ge:$In^+(Sb^+)$, radiogenic Sn impurity defects 1−38365
GeS:Li(As), photocond., ion implantation effects 1−30780
Hf-Cu, supercond. amorphous alloys, low temp. ion implantation 1−30863
$Hg_{0.78}Cd_{0.22}Te$/CdTe planar IR photodiode, backside-illuminated 1−3080
InAs films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
InP ion implanted, elec. characts., implant temp. effect 1−7196
InP, radioactive ^{119}In and ^{119}Sb implantation, radiogenic Sn defects, Mossbauer study 1−47102
InP:C(Si)(Ge)(Sn), elec. characts. 1−12113
InP:Cr, S ion implantation, sheet resistance, carrier density 1−2477
InP:Fe, Si implanted annealing, CVD SiO_2 encapsulation 1−38396
InP:SiH_2^+, annealed, shear dislocation and interstitial loop obs. 1−11751
InSb films, amorphous and cryst., N_2^+ ion implantation, effect on elec. props. 1−7193
InSb:Zn p-n junctions fabricated by ion implantation with subsequent drive-in diffusion 1−3054
Li_2CO_3:$^3H^+$, ion implantation studied using single stage ion accelerator 1−21752
LiF:Na(K), ion implanted, aggregation stages, Rutherford backscatt. and SEM obs. 1−2493
$LiNbO_3$, He ion implanted, refractive index profile, appl. to integrated optics 1−19475
$LiNbO_3$:Ar, refractive index change due to ion implantation 1−26161
$Li_2O.2SiO_2$ glass, ion implanted, phase separation and crystn. 1−30081
$LiTaO_3$, He ion implanted, refractive index profile, appl. to integrated optics 1−19475
$MgAl_{0.2}Cr_xFe_{1.8-x}O_4$ ($0 \leq x \leq 0.6$), Cr effect on mag. and elec. props. 1−7190
MgO, heavy ion implanted, annealing by proton bombardment, defect absorption bands, expt. 1−11794
MgO:$Li^+(Na^+)(K^+)$, ion implanted, thermal colloid development, TEM obs. 1−2641
Mo, ion implantation, trapping and mutual release of D and ^3He 1−25304
MoO_3:H^+, ion implanted, profile, SIMS study 1−20253
$MoSi_2$, films produced by ion implantation, snowplow effects 1−42646
Nb film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532
Nb film, single cryst., Ar implantation and vacuum annealing effect on supercond. props. *(Russian)* 1−30859
Nb, supercond. thin film Josephson microbridges and SQUID, adjustment by ion implantation 1−12242
Nb-Si interface, ion bombardment induced silicide form., backscatt. study 1−11986
NbC, implanted with C ions, channelling process, Monte Carlo simulation 1−52202
Nb_3Sn, supercond. thin film Josephson microbridges and SQUID, adjustment by ion implantation 1−12242
Ni, C-ion implantation effect in low-cycle fatigue 1−3920
Ni, ion implantation of ^{58}Co for positron annihilation Doppler broadening meas. 1−32968
Ni surface, ion-implanted, H^+ trapping 1−25305
Ni-Al alloy, ion implanted, anneling behaviour, time evolution of conc. profiles, solubility and diffusion coeffs. 1−30254
Ni-Cr refractory alloys, oxidation behaviour, influence of Y implantation 1−48552
$Ni_{1-y}In_yH_x$, ion implanted, mag. props., TDPAC spectra study 1−21099
Ni_2Si, alteration of formation by ion implantation, backscattering spectroscopy study 1−47396
O_2, solid, Mossbauer studies of implanted ^{57}Co 1−47987
PLZT ceramic, ion implantation improvement of photoferroelectric imaging 1−38805
PbSe, dee levels in band gap created by intrinsic point defects 1−47551
$Pb_{1-x}Sn_xTe$ ion implanted films, implantation induced damage 1−7191
Pd-Si amorphous films, ion implantation prep., elec. resist. meas. 1−34363
$Pd_{1-x}Si_x$, amorphous, H(D) ion implanted, superconductivity 1−7765
Pd_2Si, ion-beam induced epitaxy at Pd-Si interface 1−16196
$Pd_{1-x}Si_xH_2$ amorphous film, ion implantation prep., supercond. props. 1−34363
Pt_2Si_3 metastable phase, ion beam induced formation, struct., props. 1−15838
Si and Si-SiO_2, proton damage range determ., bevel method 1−11798
A-Si, CVD coatings, H^+ implantation, effect on photoconductive response and doping efficiency 1−4192
Si, channelled-ion implantation, theory, method and effects *(Japanese)* 1−15915
Si, Czochralski crystal, intrinsic gettering using microdefects, double preannealing technique 1−15886
Si, D^+ bombarded, vol. expansion and O incorporation 1−25302
Si, disordered, laser beam annealing theory 1−26315
Si film, amorphous, ion implantation and H profiling, p-n junction form. 1−52156
Si film, CW laser annealed, electrical props. 1−30851
Si, ion implantaion effect on optical props. 1−12472
Si, ion implanted, disorder prod. and amorphisation 1−52188
Si, ion implanted, laser annealing, epitaxial regrowth 1−52450
Si, ion implanted, ps. pulsed laser annealing, dynamic behaviour 1−52158
Si, ion implanted, scanning-electron and pulsed-laser annealed, struct. and elec. props. 1−42401
Si, ion implanted, thermoelastic stress anal. of pulsed electron beam recrystallisation 1−7251
Si ion implanted layers, high-speed scanning electron beam annealing 1−20269
ion implantation continued
Si, ion-implanted, high dose rate, nonuniformity of sheet resist. following thermal anneal 1−52166
Si, ion-implanted, laser-induced solid phase epitaxial crystn. obs. by optical refl. 1−52446
Si, ion-implanted, lattice damage annealing, photoluminesc. study 1−11776
Si on sapphire, epitaxial layer, recrystn. after CW laser irrad., implanted film rel. to CVD 1−38678
Si p-n junction solar cell fabrication using glow discharge ion implantation doping 1−32031
Si, profile of radiation disturbed layers by spreading current probe 1−52164
Si, reactive ion implantation of O_2^+ and N_2^+, surface layer comp., electron spectroscopy 1−52162
Si semicrystalline solar cells, characterisation of thermally-diffused and ion-implanted cells 1−17200
Si, slip dislocation formation during CW laser annealing 1−47085
Si, solar cell fabrication by ion implantation and laser annealing 1−4186
Si wafers, temp. determ. by IR reflection coeff. meas. 1−14179
Si:As, amorphous, phase transitions prod. by pulsed electron irrad. 1−30364
Si:As, front and back surface annealing, scanned CW CO_2-laser irradiation 1−2475
Si:As, implantation damage and annealing effect, amorphous layer form., ellipsometric obs. *(Chinese)* 1−20244
Si:As, implanted, interaction of mech. stress with residual defects 1−11774
Si:As, ion implanted, CO_2 laser induced annealing and diffusion 1−52159
Si:As, ion implanted, scanned electron beam annealing 1−42402
Si:As,Ar, ion implanted, interf. in diffusion, backscatt., elec. meas., and TEM obs. 1−2484
Si:As (B), implant diffusion enhancement by low-temp. heat treatment 1−11908
Si:As polycryst. film, sheet resist. reduction by laser irrad., implantation dose and laser wavelength effects 1−52670
Si:As(B)(P)(Sb), ion range and damage distrib., Boltzmann transport equation 1−42439
Si:As(P), ion implanted, impurity-vacancy cluster interaction, ionisation enhancement 1−2501
Si:B, electronic defect levels, DLTS meas. 1−30656
Si:B, ion implantation undermask edge, tilt angle and mask edge angle depend. 1−38402
Si:B, ion implanted, amorphous, UV irrad. effects during thermal annealing 1−30275
Si:B, ion implanted, Hall effect and resist. meas. 1−2990
Si:B, ion implanted, range parameter meas. 1−34364
Si:B, ion implanted, sheet resist. calc. as function of surface ion dose *(German)* 1−2968
Si:B, ion implanted, simulated influence of amorphous layer on B ion range 1−2548
Si:B, ion implanted and surface deposited B distrib., laser annealing effects, SIMS meas. 1−30267
Si:B, ion-implanted, B distrib. after laser annealing, SIMS depth profiling 1−15920
Si:B, ion-implanted, radiation annealing using halogen lamp 1−11773
Si:B, ion-implanted layers, annealing investigation using Hall current method 1−30772
Si:B, laser annealed, IR reflectivity and transmissivity 1−12487
Si:B film, on sapphire, ion implanted, Hall effect and resist. meas. 1−2990
Si:B(P), ion implanted, lattice location of impurity ions after laser annealing 1−11778
Si:B(P)(As), ion implanted, laser annealing effects on elec. props. 1−2485
Si:Fe: in-beam implantation, Mossbauer effect study and channelling study 1−16507
Si:Ga,B, joint implantation, surface resistance 1−30255
Si:H, amorphous, CVD film, elec. and optical props. and localised state density *(Japanese)* 1−20608
Si:H,P film, amorphous, P conc. determ. using AES 1−30262
Si:K, ion implanted, Hall effect, temp. depend. meas. 1−30770
Si:N_2^+ implanted layer on p-Si, Corbino magnetoresist., lateral photovoltaic meas. 1−47738
Si:P, extended defects induced by ion implantation, depth profile anal. by ion channelling 1−2533
Si:P, ion implanted, furnace annealing, segregation, elec. props. meas. 1−15912
Si:P, ion implanted, quantitative Auger anal., chem. effects 1−20249
Si:P, ion implanted Hall effect, electrical cond. 1−2487
Si:P, ion-implanted, disordered layers, laser and thermal annealing, elec. props. 1−11780
Si:P ion implanted, laser annealed, furnace annealing behaviour 1−2480
Si:P ion implanted layers, damage profile determ. 1−2478
Si:P^+, damage structs., Rutherford backscatt., TEM study 1−38393
Si:P(Ar) ion implanted, radiation damage and defect annealing investigated using Rutherford backscatt. and EPR meas. *(German)* 1−20245
Si:P(B) amorphous films, ion implanted, elec. cond. meas. 1−52671
Si:P(B)(As), dopant segregation, Hall and resist. meas. 1−38401
Si:Pb(As), ion implanted, near surface regrowth effects 1−38390
Si:Pd ion implantation during Si hydrogenation by electrolytic method 1−38397
Si:Sn, ion implanted, annealed, β-Sn precip., Mossbauer study 1−7341
Si:Sn, structural state of implanted ^{119}Sn atoms 1−52163
Si:Te(Ag), ion implanted, solute trapping by moving interface 1−30470
Si:Yb, laser annealing after ion implantation 1−25308
Si-B3 interstitial complex, spatial distrib. after H^+ ion implantation, EPR meas. 1−11743
Si-Ge:Bi, double layer struct., implanted ion distrib. backscattering meas. 1−7201
Si-Mo(Pd)(Ta) interface, implantation induced silicide form., SIMS study 1−30576
n-Si-Pd_2Si contact interface, modification by ion implantation, I-V characts. 1−7734
Si-SiO_2 interface states, annealing using Ar-ion-implant-damage-gettering 1−12165
SiC ion implantation doped p-n junctions, struct. and props. 1−30813
Si_3N_4 buried layers, synthesized by ion implantation 1−42405
Si_3N_4, reactive ion implantation of O_2^+, surface layer comp., electron spectroscopy 1−52162
SiO_2 glass, fused, ion implanted, phase separation and crystn. 1−30081

ion implantation continued
SiO_2, reactive ion implantation of N_2^+, surface layer comp., electron spectroscopy 1−52162
SiO_2 thin layers, ion implanted, radiation damage, TSEE and IR spectra study 1−38412
SiO_2:P, ion implanted, quantitative Auger anal., chem. effects 1−20249
SmLuYCaGeIG system, bubble collapse temp. coeff., ion implantation and annealing effect 1−38959
SnTe:Kr(Xe) films, ion implantation effect on struct. and elec. props., recrystn. process 1−7194
^{119}Sn impurities initially implanted in group IV semiconds., isomer shift study 1−16509
Ta film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532
Tb-Si interfacial reaction, silicide form., ion implantation effect 1−38672
Ti film, implanted with N_2^+ ions, struct. transforms. and electrophys. props. 1−2532
Ti-Cu, supercond. amorphous alloys, low temp. ion implantation 1−30863
TiO_2, ion implantation effects, optical, elec. cond., and Rutherford backscatt. meas. 1−7217
TiO_2:H^+, ion implanted, profile, SIMS study 1−20253
VC, O^- implantation into lattice, structural mechanism 1−30257
W:D, ion implanted, D ion trapping at grain boundaries, atom probe FIM study 1−15913
WSi_2, films produced by ion implantation, snowplow effects 1−42646
Y-Sm-Lu-Ca-Ge garnet film, ion implanted bubble circuit, drive layer thickness effect 1−7916
ZnS:In, low resist. n-type layers obtained by ion implantation 1−47106
ZnS:P, ion implanted, p-type cond. 1−47105
ZnS(Se), ion alloying method for defect struct. control and phosphor activation, luminesc. characts. 1−12548
ZnTe:O implanted extrinsic photodetector for visible integrated optics 1−6685
Zr, superconductivity enhancement after H(D) implantation 1−20899
Zr-Cu, supercond. amorphous alloys, low temp. ion implantation 1−30863

ion lasers
inert gas, discharge plasma investigation using the KFPI Fabry-Perot interferometer 1−33660
inert gas plasma, electron-beam-produced, emission spectra and short-pulse lasing obs. *(Japanese)* 1−24392
UV laser design for newspaper printing 1−37508
Ag II hollow cathode laser, multiwatt operation 1−29259
Ar frequency stabilised lasers with iodine measuring cell *(Czech)* 1−51449
Ar ion CW lasers, radial ion drift influence on population density 1−51452
Ar ion-Nd:YAG mode-locked laser system synchronisation 1−46411
Ar, ionic line broadening obs. along high-current discharge axis 1−46297
Ar mode-locked ion laser, pulse synchronisation with mode-locked Nd:YAG laser 1−51531
Ar^+, frequency stabilization at 582 THz 1−36615
Ar^+ laser radiation, high-freq. modulation due to stable two-mode oscill. 1−29253
Ar^+ laser radiation, high-freq. modulation due to stable two-mode oscill., theory 1−29254
Ar^+ laser with rhodamine 6G saturable absorber, passive and double mode-locking 1−24441
Ar^+ mode locked laser with acousto-optical modulator *(Chinese)* 1−29251
Ar^+ pump laser for rhodamine 6G laser, reciprocal passive mode locking 1−41732
Cd, hollow-cathode pulsed metal-vapour ionic lasers, visible emission parameters 1−6545
Cu II hollow cathode laser, multiwatt operation 1−29259
He-Cd hollow-cathode lasers, output pulse optimal repetition freqs. 1−51460
He-Cd panchromatic hollow cathode laser emitting at 12 wavelengths 1−51507
He-Cd transverse RF discharge laser, excitation conditions optimisation 1−33668
He-Cd^+ laser with RF transverse pumping, laser transitions 1−29267
He-Cd^+ white light laser, const. current characts. 1−24403
He-Cd^+ white light laser using novel tube struct. 1−46370
He-Hg discharge, cathodic zone self consistent microscopic study 1−15163
He-Hg hollow-cathode lasers, output pulse optimal repetition freqs. 1−51460
He-Hg ion laser, pumping mechanism, Penning-like process, expt. 1−41667
He-Kr laser with transverse hollow cathode discharge, Kr II quasi-CW lines 1−24394
He-Se^+ lasers, noise props. and their relationship to moving striations 1−15162
He-Zn hollow cathode laser discharge, laser-level excitation, inert gas mixing effects 1−10989
Hg, hollow-cathode pulsed metal-vapour ionic lasers, visible emission parameters 1−6545
Kr^+ helical cophasal surface laser mode props. 1−29308
Li II ions, superluminosity 1−10992
Pb hollow cathode discharge laser action, excitation mechanism 1−51455
Pb II, CW laser oscill. of 1.32 μm, 537.2 nm, 666.0 nm and 939.6 nm transitions in hollow cathode discharge tube 1−29265
Tl, hollow-cathode pulsed metal-vapour ionic lasers, visible emission parameters 1−6545
Xe IV, excited by long square current pulse discharge, output waveforms *(Japanese)* 1−24393
Zn, hollow-cathode pulsed metal-vapour ionic lasers, visible emission parameters 1−6545

ion lenses *see lenses*

ion microanalysis
see also ion microprobe analysis
ceramics, chemical analysis, electron- and ion-beam methods advantages and limitations *(German)* 1−53508
ion backscattering, appl. to surface microanalysis *(Chinese)* 1−25544
ion scattering spectroscopy, quant. aspects 1−43234
monolayer surface analysis by low energy ion and secondary ion spectroscopy *(Chinese)* 1−25545
single-particle microanalysis and depth profiling by SIMS 1−4144
sputtering quantitative depth profiling, in surface anal. 1−47347
steel, low alloy, secondary ion microanalysis 1−21683
ZnS thin film, dopant conc. quantitative anal. by ion microanal. 1−11782

ion microprobe analysers *see ion microprobe analysis*

ion microprobe analysis
see also ion microanalysis
biological plasma, X-ray anal., proton and photon excitation comparison 1−26790
ceramics, chemical analysis, electron- and ion-beam methods advantages and limitations *(German)* 1−53508
digital mass control for an ion microprobe mass analyzer 1−28136
double-layer activation for the detection of non-uniform wear of corrosion 1−39702
hair mass meas. using proton backscatter in PIXE anal. 1−27931
heavy metal particles and cpds., ion microprobe anal. 1−32072
LTE model theory and appl. to quantitative anal. *(Chinese)* 1−26797
metals, impurities distribution on dislocations, control by secondary ion emission method 1−21310
meteorites, trace element distrib. from ion probe anal. 1−36230
nuclear ion microprobe at MeV energies, Rutherford backscatt., nuclear reactions and particle-induced X-ray emission signals 1−21827
PIXE, trace element microanalysis of mineralogical and biological samples using proton microprobe 1−21826
PIXE analysis using Kyoto Univ. cyclotron 1−17118
PIXE for characterisation of thin films and solid surfaces 1−48775
PIXE ion beam technique for detecting elements in ppm range *(Japanese)* 1−48212
PIXE scattering chamber, background suppression enhancement 1−28134
PIXE systems, spatially-resolved energy anal. 1−51027
prompt gamma-ray spectrometry with charged particles 1−13056
proton-induced X-ray emission study of generation impurities in Si 1−52168
quadrupole-based scanning ion microprobe time-of-flight effects 1−381
SIMS, image processing for surface element distrib. determ. 1−31283
SIMS instrumentation and imaging techniques 1−377
SOS, ion-microprobe mass anal. appl. to ion implantation 1−25299
steel, surface properties of cold rolled sheet, ion microprobe anal. 1−30406
steels, impurity distrib. and conc., SIMS anal., review 1−30269
teeth, PIXE studies on children 1−17471
trace element analysis with ion probe 1−379
Al_2O_3 anodic coatings, porous, density determ. and surface anal. using MeV ion beams 1−35419
$Cd_{1-x}Zn_xS$ thin films for solar cells, dielectric response (0.4 to 250 μm) as a function of struct. and comp. 1−13133
U corrosion mechanism investigation using stable isotopes with ion microprobes 1−31765

ion microscopes
see also field emission ion microscopes; ion microscopy
No entries

ion microscopy
see also field emission ion microscopy; ion microscopes
direct digitization system for quantification in ion microscopy 1−53488
surface topography, book contrib. 1−47348
Ni-SiO_2 film composite, dispersion hardened, struct., autoion microscopy *(Russian)* 1−38211

ion mobility
see also electrolytic ion mobility; ionic conduction in solids
air, negative ion mobility in negative corona discharge 1−15681
air ion-electron kinetics, spark breakdown, ion mobility and current 1−38179
cholesteric esters, ionic mobility determ. 1−20059
electronegative gases, compressed, ion mobility and recombination study 1−15577
HV laboratory atmosphere, mobility of ions formed during corona 1−46937
PCB, nematic, ionic mobility determ. 1−20059
swarm in weakly ionised gas, vel. distrib. function in const. mean-free-time encounter region 1−42120
trapped ions, light-pressure cooling in three-dimensions 1−194
CO_3^-, in N_2, ion mobility meas., 217-675K 1−2136
Cl^-, ion mobility in Xe and Cl^--Xe interaction pot. 1−2137
He, solid, quasiperiodic ionic current bursts, charged low-angle grain boundary motion 1−42606
^{3}He liquid, ion mobility 1−11945
NO_3^-, in N_2, ion mobility meas., 217-675K 1−2136
Na_2O-K_2O-B_2O_3-SiO_2 glasses, mobility of Na^+ and K^+ transport numbers 1−11904
No_2^-, in N_2, ion mobility meas., 217-675K 1−2136
SF_6, ionic and elec. processes 1−11493

ion-molecule collisions
see also charge exchange; ion-molecule reactions
charge exchange mass spectrometry technique for gas phase mol. structs. 1−10869
fast ion-beam collisions, atomic struct. investigations, life time determ. 1−29105
ion+polar molecule, vibr. excitation cross-sections, impact parameter calcs. 1−41460
ion+polyatomic molecule, charge exchange anal., reaction mechanism, rate const., electron attachment 1−26738
molecule organic, Li projectile stopping cross sections meas., bonding influence 1−24222
negative ions, collision-induced charge-inversion reactions, excited state form. 1−29111
polyatomic ions, collision-induced dissociation, peak profile calcs. 1−29086
polyatomic ions+gas molecule, drift-tube expt., kinetic theory 1−39595
$C^+ + H_2 \rightarrow CH^+(^1\Sigma^+) + H$, low-energy passage 1−6341
$Cl^- + H_2$ (D_2), electron detachment, energy losses meas. using time-of-flight technique, mol. dissoc. 1−6345
$Cl^- + N_2$, collisional detachment, reson. effect 1−14990
$D^+ + H_2$, charge exchange and electron loss cross-sections for various energies 1−29095
Fe^{4+} + thin gas targets, single and multiple electron loss cross section 1−46104
$H^- + BeH_2 \rightarrow BeH_5^-$, complex formation reactions, ab initio calculations of potential energy surfaces 1−8543
$H^+ + H_2(N_2)(O_2)$, H(2s) form., absolute cross-sections determ. 1−6378
H^+ + He, differential cross sections for proton energies 100, 150 and 225 keV 1−24216
$H^+ + N_2(O_2)$, Hα and Hβ emission cross sections, appl. to H aurora 1−37146
$H^+ + NH_3$(methane), ionisation cross sections 1−19161

ion-molecule collisions continued
$H^+ + O_2$, H^+ loss function, appl. to atmosphere 1−51281
$H_2 + Li^+$, rot. excitation of H_2, cross sections, energy-loss obs. 1−46068
$H_2^+ + Ar(Ne)(Kr)$, collisional electron loss, electron energy spectra 1−46105
$H_x^+ + H_2$, x=1,2,3, charge exchange and electron loss cross-sections for various energies 1−29095
$H_2S^{+\cdot} + Ag(H_2)$ collision induced and metastable dissoc., mass spectra 1−17037
$He^- + H_2(O_2)$, He^- detachment, cross sections meas. 1−41475
He^+ + dimethyl sulphite, S-O bond determ. using low energy particle accelerator 1−1332
$He^+ + SO_2$, S-O bond determ. using low energy particle accelerator 1−1332
$He^{2+} + H_2$, cross sections determ. by coincidence method, charge exchange, dissoc., ionisation 1−29109
$Li^+ + CO$, low angle scatt., pot. energy surfaces, CI calcs. 1−1306
$Li^+ + H_2$, rot. transitions *(Russian)* 1−41368
$N^+ + H_2$ reactive and nonreactive scatt., crossed beam study at energies below 3.6 eV 1−12985
$N^+ + N_2(CO)$, charge transfer, interference effects, fine struct. 1−41489
N_2 + ions, ionisation collisions, N_2^+ excited vibr. level system 1−29110
$N_2O + H^+(He^+)(O^+)$, 1 MeV bombardment, dissoc. ionis. 1−33537
$O_2 + H^+$, vibr-excitation, charge and energy transfer, time-of-flight obs., MO calcs. 1−46167
$UF_6^- + SF_6(UF_6)$, electrostatic energy anal. 1−41463

ion-molecule reactions
acetonitrile, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231
chemiluminescence from ion beam target-gas collisions *(Japanese)* 1−21729
comet comae, key ion-molecule reactions, rate conts. 1−54422
electrogenerated superoxide ion reaction with 2-phenylenediamine, obs. 1−13017
electron donor molecules, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231
formic acid-H_2O system, anal. using cylindrical ion storage device 1−18325
formyl cation + CO reactions, laboratory studies of isotope fractionation and interstellar implications 1−44611
interstellar cyanoacetylene, form. by ion-molecule reactions from DC_3N/HC_3N ratio in (TMC 1) 1−9628
interstellar molecule formation at low temperature, radiative assoc. rate 1−36365
ion + polyatomic molecule, charge exchange anal., reaction mechanism, rate const., electron attachment 1−26738
methane, condensed on Cu substrate at cryogenic temp., SIMS study 1−29148
methyl cation + $HCN \rightarrow CH_3HCN^+$, radiative assoc. at low press., ICR obs. 1−12969
neutral molecules, H^+ affinities 1−4056
polyatomic ions + gas molecule, drift-tube expt., kinetic theory 1−39595
pyridine, IR absorption bands, ion-molecular interactions, intermolecular H-bonds 1−1231
$Ar^{+2} + N_2$, near thermal charge transfer studied by stored ion technique 1−53413
$B^+ + H_2$ reaction chemiluminescence 1−48656
$C^+ + CO$ reactions, laboratory studies of isotope fractionation and interstellar implications 1−44611
$C^+ + D_2 \rightarrow CD^+ + D$, electronic degeneracy factors, pot. surface constraints, statistical phase space calcs. 1−53405
$C^+ + H_2O(D_2)$, chemiluminesc. reaction, $CH^+(CD^+)$ triplet emission 1−4060
$C^+ + H_2(D_2)$, association reaction studied using drift tube mass spectrometer techniques, rate coeffs. determ. 1−8561
$C^+ + H_2(D_2)$, chemiluminescent reaction, rot. and vibr. state distrib., surprisal anal. 1−48692
$CO^+ + NO \rightarrow (NCO)^+ + O$, reaction dynamics and mechanism, crossed beam study 1−43658
CO_2^{2+}, ion + molecule reactions at thermal energies, charge exchange, rate consts. 1−43665
CO_2^{2+}, reaction with small molecules, rate consts., selected ion flowtube method 1−43651
$CO_2 + Cl^-(I^-)(NO_2^-)(CO_3^-)(SO_3^-)$ reactions, gas phase cluster prod. 1−4061
$CO_2 + OH^- \rightarrow HCO_3^-$ aq. reaction, ab initio study 1−28857
$CO_2^+ + ZZ$ 1−21716
$CO_2CO_2^+ + ZZ$ 1−21716
CS_2, high Rydberg states and ion + mol. reactions, mol. beam photoionis. obs. 1−45873
Cl^+ + neutral molecule, reactions in ground and excited state of 300K 1−12970
$H^+ + CO$, inelastic scatt., core-excited resons. 1−37299
$HCN + C_2H_2^+$ reactions, modified selected ion flow tube study 1−17036
$HCN^+ + HCN(CH_4)(NH_3)$ $(CO)(CO_2)(N_2)(O_2)$ reactions, reaction rates and prod. distrib. meas. by ICR techniques 1−53407
$H_2O^+ + N_2(O_2)(NO)(N_2O)(Xe)(CO)(CO_2)(H_2S)(H_2)$, rate coeffs. and product ion distrib. 1−43649
$H_2O^+ + ZZ$ 1−21716
$He^+ + H_2$, HeH_2^+ excited state pot. energy surfaces and reaction cross sections 1−39608
$He^+ + N_2 \rightarrow N_2^+ + He$ reaction flowing afterglow anal., ambipolar diffusion assumption 1−53409
$K^+ + N_2$, clustering reactions, mobilities and longit. diffusion coeff. 1−12989
Mg^+, meteoric ion, reactions with molecules, rate consts., role in ionosphere 1−43664
$N^+ + CO$, luminesc. charge transfer reactions 1−53406
$N^+ + H_2$ reactive and nonreactive scatt., crossed beam study at energies below 3.6 eV 1−12985
N_2, condensed on Cu substrate at cryogenic temp., SIMS study 1−29148
$N_2^+ + O_2 \rightarrow O_2^+ + He$ reaction flowing afterglow anal., ambipolar diffusion assumption 1−53409
ND_n^+ + ethylene-d_0(-d_4), rate coefficients, product-ion distributions, mechanisms 1−31832
NH_n^+ + ethylene-d_0(-d_4), rate coefficients, product-ion distributions, mechanisms 1−31832
$N_2O^+ + H_2(D_2)$, reaction dynamics, isotope effects 1−12979
$N_2H_2O^+ + CO_2(N_2O)(SO_2)$(acetylene)$(NH_3)(NO)$, reactions anal. by drift-chamber mass spectrometer, rate coeff. determ. 1−39597

ion-molecule reactions continued
Na^+ ion reactions in stratosphere, laboratory meas. 1−17649
$Na + O^{2+}$, ground and metastable state reactions, charge exchange, rate consts., mass spectra 1−39634
$Ne^+ + N_2(CO)$, ion-neutral reactions, ionic vibr. excitation, drift, tube studies 1−43663
$O^- + CO \rightarrow CO_2$* chemiluminesc. reaction, energy disposition 1−31864
$O^+ + O_2(N_2)(H_2)$, thermal energy reactions, metastable states, charge exchange, mass spectra 1−39633
$O^{2+} + O_2(N_2)(CO_2)$, ground and metastable state reactions, rate consts., mass spectra 1−39610
$O_2 + Ar^+$, ion-neutral reactions, ionic vibr. excitation, drift, tube studies 1−43663
$O_2 + O^{2+}$, ground and metastable state reactions, charge exchange, rate consts., mass spectra 1−39634
$OH^+ + N_2(O_2)(NO)(N_2O)(Xe)(CO)(CO_2)(H_2S)(H_2)$, rate coeffs. and product ion distrib. 1−43649
$^{16}O^{16}O + {}^{18}O^+(^{18}O\ {}^{18}O^+)$, rate const., product distrib. and energy depend. meas. 1−17027
$SO_2 + Cl^-(I^-)(NO_2^-)$ reactions, gas phase cluster prod. 1−4061

ion optics
see also ion beams; ion microscopes; mass spectrometers
beam weak interaction with electrostatic field, monoenergetic charge particle analyser application 1−15068
magnetic analyzers of a generalized symmetry 1−24352
mass spectrometer ion optical system for high resolution and sensitivity *(Japanese)* 1−50267
microchannel plate ion detectors 1−45071
negative ion beam extraction from inverted sputter source, improvement 1−23917
neutralised ion beam focusing, Pierce instability effects 1−41553
plasma, extraction of ion beams, space-charge ion optics, review 1−10905
quadrupole mass filter, ion optical design 1−15069
SIMS, secondary ion optics, yield, working modes 1−29206
SIMS analytical requirements, ion sources and optics 1−28116

ion plating
Ag, thin films, ion sputtered and lapped compositional profiles, Auger electron spectroscopy 1−31246
Ag, thin films, nucleation and interface formation 1−34600
Au and Mo/Au ion-plated layers on stainless steel, friction props. in vacuum at elevated temps. 1−12878
Cr/C films, reactive ion plated, microhardness and struct. 1−53263
Cu-Al-Fe-Ni (14, 4.5, 1 wt.%), ion-plated coatings for sheet metal forming dies 1−30592
Si epitaxial solar cells, low temp. fabrication by ion-plating deposition 1−3635
Ti-Al-Sn-Zr-Mo (6, 2, 4, 2 wt.%), fatigue props. improvement by Pt ion plating 1−8425
Ti-Al-V (6, 4 wt.%), friction and wear, ion plating effect 1−31686
TiN, coating, deposition by thermionically assisted triode reactive ion plating 1−16704
ZnO thin film growth by reactive ion plating under high vacuum *(Japanese)* 1−3637

ion probe analysers *see ion microprobe analysis*

ion probe microanalysis *see ion microprobe analysis*

ion pumps
gas panel backfill process, pump efficiency improvement 1−272
hydrocarbon-free vacuum achievement by getter ion pump *(French)* 1−9991
$^3H^{3+}$ acceleration using compact cyclotron, tritium storage in getter pump 1−28757
Ti-wafer sputter-ion Penning discharge pump for high mag. field appls. 1−273

ion recombination
ambient gas, ionic recomb. coeff., temp. scaling 1−6352
atmospheric gas ions, dissociative recomb., vibr. excitation, rate coeffs. 1−46141
Cygnus Loop supernova remnant, H and He recomb. rel. to filament continuum emission 1−27584
diffusion-controlled reactions, escape and recomb. probabilities, reaction rate, Smoluchowski eqn. soln. 1−48661
electronegative gases, compressed, ion mobility and recombination study 1−15577
gaseous dielectrics, electron swarm data relevant to HV insulation 1−6920
hydrocarbon solns., ns time resolved radioluminesc. studies 1−53442
hydrogenic emission and recomb. coeffs. determ., appl. to exotic gaseous nebulae 1−27372
impurity ions in plasmas, recomb. by charge exchange 1−6376
inert gas ion, 3-body recomb. with F^-, quasiequilib. theory 1−1315
inert gas ions, dissociative recomb., vibr. excitation, rate coeffs. 1−46141
inert gas positive column plasma, medium-press., mol. ion and metastable atoms form., effect on electron temp. 1−11607
ion + neutral elastic collision, ion-ion recomb. 1−46062
ionisation chambers, P-2 type, response, ion recombination effect 1−28808
mesosphere, effects of Na^+ cluster ions form. on electron recomb. rate, laboratory meas. 1−17649
molecule, dissociative recombination, multichannel quantum defect calcs. 1−6351
nitrate ion glass, anhydrous, charged pair recomb., dispersive hopping temp. depend. 1−42564
plasma, Ca and Ni ion recombination and radiative emission rates 1−6929
polyethylene adipate, irrad., cation-electron pair recomb. by long-range tunnelling, isothermal luminesc. study 1−31206
polyethylene terephthalate, irrad., cation-electron pair recomb. by long-range tunnelling, isothermal luminesc. study 1−31206
quasars, recomb. models rel. to IR and optical obs. of H lines 1−54651
quasi-stellar objects, optically thick recomb. models rel. to optical and IR spectrophotometry 1−54650
stilbene, photoisomerisation and radical ion recomb., ^1H and ^{19}F CIDNP 1−12971
ter-molecular ionic recombination coeff., Langevin-Harper formula 1−41501
ter-molecular ionic recombination coeffs., universal curve 1−10797
tetramethylparaphenylenediamine, geminate ion recomb. fluoresc., elec. field effect 1−51235
universe anisotropic, recomb. dynamics, primordial radiation polarisation 1−44677

ion recombination continued
Ar, dense gaseous, alpha-particle induced scintillation, emission spectra 1−29833
Ar metastables, long-living, transport by own gas stream 1−15581
Ar_2^+, dissociative recombination coeffs., electron depend., plasma, shock heating 1−38129
Ba, doubly excited autoionising Rydberg states, electric field effect 1−1189
Be, isoelectronic sequence, dielectric recomb. rate 1−10620
C II, new low-temp. dielectronic-like recomb. process rel. to interstellar C I radio recomb. lines 1−27363
$CO^+.(CO)_n$, dissociative recombination of electrons, electron temp. depend., mass spectra 1−51315
H I recombination lines, quiet Sun intensity estimation 1−44529
H II regions, compact, near K 3-50, aperture synthesis obs. of radio recomb. lines 1−54587
H in quasar emission line clouds, theory of Lα, Balmer and Paschen lines and Balmer continuum 1−54653
H^+, beam-foil production of H, using thin C target, n=2 density operator 1−46077
H+ion, charge transfer recomb., Landau-Zener calcs., appl. to astrophysics 1−22671
$H^+ + H^-$, neutralisation reaction, asymmetry effect 1−46112
H_2^+ in thin carbon foils, 12.5 and 25 keV/amu, recombination yields 1−29092
He^+ dielectronic recomb. in DC hollow cathode discharge, He excited state population 1−51290
He+ion, charge transfer recomb., Landau-Zener calcs., appl. to astrophysics 1−22671
He_2^+ recomb. at high electron temp. in afterglow plasma 1−42243
$Kr^+ + F^-$, in Ar, plasma shielding effects, appl. to excimer lasers, Monte Carlo calcs. 1−38057
$Kr^+ + F^- + Ar$, ion recomb., plasma shielding effects 1−29839
N metastables, long-living transport by own gas stream 1−15581
Ne_2^+, dissociative recombination coeffs., electron depend., plasma, shock heating 1−38129
O_2^+, dissociative recomb., $O(^1S)$ quantum yield, appl. to F-region 1−22615
O_2^+ vibrationally excited, dissociative recombination 1−1393
SF_6, ionic and elec. processes 1−11493
Xe_2-Hg, form. of cluster ions, diss. recombination spectra 1−39635

ion solvation *see solvation*

ion sources
see also ion emission
accelerators, use in fusion research 1−18877
alkali ion source, CAD 1−14209
aluminosilicate-composite type ion source of alkali ions 1−23921
back-scattered ions spectroscopy using EM ion analyser *(Slovak)* 1−50275
beam generator, intense pulsed, utilizing laser-produced plasma 1−45074
beam sources with positive space charge compensation 1−45073
benzene, laser induced multiphoton ionisation mass spectrum 1−29051
cathode sputtering sources, O_2 stimulated secondary negative ion yields *(Russian)* 1−988
cathode-fall ion source 1−51012
3-chlorophenol, sequential fragmentation process, metastable peak assignment 1−51312
coaxial duoPIGatron source, design and development 1−23920
cold-cathode pig source for high-intensity Li^{3+} ion 1−28770
ECR ion source for multiply-charged oxygen beams 1−28767
electrohydrodynamic, electric field near anode 1−977
electron impact ion source for mass spectrometry 1−36764
electronic impact, filament electron emission current stabilizers *(Rumanian)* 1−28775
electrostatic accelerator ion buncher with pulsed distributed electric field 1−978
extraction grids, low energy, fabrication from etched Si wafer 1−41266
fusion reactors, Doublet III, neutral beam shielding 1−908
ICP Ar ion source for mass spectrosc. determ. of trace elements 1−50259
injection system for Tandem accelerator radioisotope dating devices 1−37022
ion equilibria kinetics studied by pulsed electron beam high pressure mass spectrometer, appl. of RF field 1−36761
ion impact desorption studies, SIMS apparatus 1−28119
ion storage device of cylindrical geometry and employing radiofrequency fields 1−18325
laser ion source for direct ion implantation apparatus 1−23369
lateral diffusion losses inside an improved constricted radial RF ion source 1−28769
magnetron ion source for antimony ions 1−28768
mass spectrometer source for analysis obs. neutral plasma components 1−45070
mass spectrometer sources for measurements by field-desorption method 1−45069
mass spectrometer system using tandem electrostatic accelerators, geochronological appls. 1−23361
metal ions, multiply charged, for cyclotrons 1−23902
microwave coaxial ion source and Lisitano coil plasma uniformity comparison 1−6974
negative ion beam extraction from inverted sputter source, improvement 1−23917
negative ion magnetron sources with grooved cathodes 1−37043
negative ion source, for alkali metals, duo plasmatron and charge exchange canal 1−10568
negative ion sources, Brookhaven autoconditioning system 1−10538
negative ions detection and elimination in time-of-flight mass spectrometer 1−40891
organic compounds as C emitter generators for field desorpt. mass spectrometry 1−50262
plasma, extraction of ion beams, space-charge ion optics, review 1−10905
plasma ion source with plane beam profile for UHV-SIMS measurements 1−23910
PN-400 Van de Graaff accelerator, ion source pulsing system modification 1−37027
polar ionosphere as magnetosphere ion source 1−22592
power transmission characteristics of a two-stage multiaperture neutral beam source 1−985
production in pinched electron beam diode 1−10564
QUISTOR, ion motion in pseudo-pot. well, phase space dynamics calcs. 1−5430

ion sources continued
resin bead as thermal ion source, SIMS 1−17125
RF, diagnostics in RIG 10, for intense ion beams 1−15654
RF (RIG 10), discharge chamber length optimisation 1−15629
scanning electron microscope 1−5442
simple low-energy-spread ion gun utilising B-A gauge for ion scatt. spectroscopy appls. 1−28113
SIMS analytical requirements, ion sources and optics 1−28116
spark source quadrupole mass spectrometer, development, performance *(Japanese)* 1−14207
super ion beam accelerator ignition of thermonuclear reaction 1−896
target ion source for on-line mass separation 1−28766
thermal negative ion sources, struct. and performance *(Japanese)* 1−22958
time-of-flight mass spectrometer for physiocochemical investigation of solid surface 1−382
TRISTAN online mass separator, ion source, data anal., recent developments 1−10581
UNISOR facility, radioactive decay spectroscopy, nuclei far from stability appls., new developments 1−10578
vacuum spark-discharge plasma, energy spread 1−52007
vacuum vibrator ion source, inductance effect 1−5434
^7Be indirect recoil implantation in plastics using $^7Li(p,n)^7Be$ 1−25311
Cs evaporator for high sensitivity SIMS 1−28117
Cs^+, liq., emission characts., field evap. theory predictions 1−5435
D^-, neutral injector based on negative deuterons 1−10552
$^{19}F^-$ from solid sputter source cones without spraying gases 1−23919
$(Fe_{1-x}Cr_x)_2O_3$, secondary ion emission yield variations 1−3551
Ga, based on surface ionisation 1−10569
GaAs characterisation by SIMS 1−31955
H^-, continuous 20 mA low pulsation coeff. 1−50269
H^-, duoPIGatron, use of hollow cathode 1−23901
H^- ions, surface-plasma source, gas efficiency 1−33362
$HCN + C_2H_3^+$ reactions, modified selected ion flow tube study 1−17036
$H_2S^{+\cdot} + Ag(H_2)$ collision induced and metastable dissoc., mass spectra 1−17037
Hg, separator ion source with Penning ionisation, efficiency meas. 1−6975
In, based on surface ionisation 1−10569
K-vapour cell with gravity recycling for negative ion source 1−37042
Nd ion formation, trace gas effect, mass spectra 1−17124
Ne^+ metastable beam, state purification by collinear optical pumping 1−986
$(Ni_{1-x}Cr_x)O$, secondary ion emission yield variations 1−3551
$^{16}O^-$ from solid sputter source cones without spraying gases 1−23919
Si semiconductor characterisation by SIMS 1−31955
Ta cathode arc current and yield of multiply charged ions 1−37035
W cathode arc current and yield of multiply charged ions 1−37035

ion-surface impact
see also particle backscattering; sputtering
adsorption, ultrahigh vacuum system for LEED, AES, and ion scatt. spectrometry studies 1−52438
alkali halides, ion-electron emission in near-threshold region of pot. energy 1−31253
amorphous target, ion multiple scatt., interatomic pot. from elastic energy loss meas. 1−26348
apparatus for low and intermediate energies 1−28126
Auger emission in ion bombardment of solids, orientation effects 1−3561
charge composition of ions scattered by the surface of a single crystal 1−31254
depth profiling using ion beam from nuclear reactions *(Japanese)* 1−48211
focusing effects on total reflection coeff. near semichannel direction 1−52195
frozen gas films, MeV ion bombardment anomalous sputtering yield, mechanisms, expt. 1−12618
graphite, bombarded by Fe, Kr, and Nb, X-ray spectra, transition energies and electron stripping probabilities 1−8160
impurity profile, collisional distortion 1−53029
Inconel 600 targets, ion sputtering, plasma-wall application 1−26336
ion scattering spectroscopy, quant. aspects 1−43234
low energy backscatt. from polycryst. C energy and ang. distrib. 1−26331
low energy projectiles in solids depth and lateral range, Monte Carlo study, Thomas-Fermi and HF calcs. 1−34382
metal hydrides, ion irradiation, decomposition and accel. gas release 1−4115
metal surfaces, H(D)(T)(^{4}He) ion sputtering, Monte Carlo calcs. 1−26337
metals, 5-30 keV H^+,H^- scatt. from surface, recoil energy distrib. 1−16640
metals, sputtered atom ionisation probability, effect of inert gas primary ion nature *(Russian)* 1−3555
mica, ISS/SIMS characterisation 1−48217
multiple scattering of ions in polyatomic materials 1−31261
neutralisation of ions near surface, one-electron model calc. 1−3558
nonequilibrium power-law distribs. of electrons in metals 1−43233
nonresonant charge transfer effects 1−31258
phosphors, CRT, surface stability, ion bombardment effects, ESCA study 1−47337
PIXE ion beam technique for detecting elements in ppm range *(Japanese)* 1−48212
planar beam backscattering at grazing incidence to surface 1−31265
polycrystals, ion scatt., computer simulation 1−53036
polymer surface and interface anal. methods, review 1−20534
secondary electron emission, kinetic, from electron and ion bombarded targets, transport theory 1−12609
semiconductor materials, ion implanted, mol. ion form., SIMS 1−31256
small-angle ion-surface dipole scatt. 1−53038
stainless steel, S impurity cleaning by H^+ impact desorption 1−25558
stainless steel, type 304, CO adsorbed layer, ion-induced desorption cleaning 1−25559
steel, stainless, type 304, roughness factors, Ar ion bombardment and glow discharge cleaning effect 1−26339
steel, stainless, type 316, ion sputtering, plasma-wall application 1−26336
steel, stainless, type 316L+N, roughness factors, Ar ion bombardment and glow discharge cleaning effect 1−26339
surface cleaning, UV/O_3 method, SIMS, ion scatt. spectrometry study 1−21602
surface shape development during sputter-depth profiling by AES 1−21319

ion-surface impact continued
surface topography, book contrib. 1−47348
surface trapping influence on low energy light ion reflection 1−53030
Ag-Al, surface segregation and precipitation phenomena 1−16780
AgBr, photographic action of positively charged N ions 1−21313
AgPd, secondary ion emission during O_2^+ sputtering, alloying effects 1−31285
Al, O^{q+} ion bombardment, convoy-electron prod., detection by coincidence expt. 1−37347
Al, quasifree-electron bremsstrahlung induced by H^+ bombardment projectile field 1−26349
Al-Ni, surface composition, XPS-ISS anal. 1−7443
Au, O^{q+} ion bombardment, axial channels and convoy-electron prod., detection by coincidence expt. 1−37347
Be, quasifree-electron bremsstrahlung induced by H^+ bombardment projectile field 1−26349
Be, X-ray prod. cross-section from light ion bombardment 1−8161
C, O^{q+} ion bombardment, convoy-electron prod., detection by coincidence expt. 1−37347
C, quasifree-electron bremsstrahlung induced by H^+ bombardment projectile field 1−26349
C surface, D^+ bombardment, isotope exchange 1−26333
Co, Auger spectra identification due to ion and electron impact 1−3553
Cr, Auger spectra identification due to ion and electron impact 1−3553
Cr-Ni surface, oxygen covered, O_2^+ ion bombarded, secondary ion form. and sputtering *(German)* 1−8185
CrNr, secondary ion emission during O_2^+ sputtering, alloying effects 1−31285
Cs-covered Ni surface, H and He ion beam scatt. meas. 1−16644
Cu (100), low energy Ar atom and ion scatt., ion fraction, ionisation, and neutralisation 1−12620
Cu (100), low energy Ne atom and ion scatt., ionisation and neutralisation 1−12619
Cu (100) surface, 10 keV Ar ion scatt. from ion-induced damage structs., energy spectra 1−21316
Cu (110) plane, Ar ion bombard., focusing of particles in surface half-channels 1−31252
Cu (410) surface, structure determ. by ion scatt. spectroscopy 1−20530
Cu, annealed and prebombarded surface, ion-induced desorpt. of adsorption layers 1−25557
Cu, ion bombarded, pyramid and core form. 1−16649
Cu, ion-(410) stepped surface impact, two scatt. energies 1−26346
Cu, low energy ion scatt., correlated atomic vibrs. effect 1−8180
Cu, sputtering behaviour, effect of ion bombardment induced orientation 1−8184
Cu/W (110) surface, static SIMS study 1−31290
Cu-Al, Ar^+ excited Al Auger electron emission 1−48216
Cu-In (10 at.%), supersaturated, enhanced diffusion and precipitation due to low energy ion bombard. 1−39210
Cu-Ni, composition of Ar ion bombarded surface layers at elevated temps. *(Japanese)* 1−53028
Cu-Ni, preferential sputtering by Ar ions, dose rate effect, AES study 1−16642
Cu-Ni, sputtering, Cu depletion from grain boundary region, 873K 1−26345
Cu-Ni, surface comp. under Ar^+ ion bombard., ion scatt. spectroscopy and in situ AES meas. 1−8182
Cu-Ni surface, oxygen covered, O_2^+ ion bombarded, secondary ion form. and sputtering *(German)* 1−8185
Cu-Si, Auger electron emission, Si(LMM), by Ar^+ ion bombardment, origin 1−26344
Cu_2 neutral molecule low energy sputtering 1−3556
CuBe, surface, photoemission from multiply charged Ti ion interaction 1−31262
Cu(100), adsorption of O_2, ion scatt. spectroscopy study in ultrahigh vacuum 1−52438
D, backscatt. from Cs, Ni and Cs/Ni surfaces D^- prod. model 1−26332
D^+, small angle scatt. from surfaces 1−26330
Fe, Auger spectra identification due to ion and electron impact 1−3553
Fe surface, Ar ion sputtering, plasma-wall application 1−26336
Fe, surface, D(H)(He) ion sputtering yield, ion fluence and O_2 partial press. effect 1−26335
Ge, proton irrad., damaged surface obs. using backscatt. *(Japanese)* 1−20528
Ge surface self-diffusion and struct. determ. by LEED refl. intensity profiles 1−25542
H, backscatt. from Cs, Ni and Cs/Ni surfaces, H^- prod. model 1−26332
H ions, reflection from stainless steel, at non-normal incidence 1−26329
H, small angle scatt. from surfaces 1−26330
H^-, small angle scatt. from surfaces 1−26330
H^+, low energy backscatt. from polycryst. C energy and ang. distrib. 1−26331
H^+, small angle scatt. from surfaces 1−26330
He^* interaction with solid surface, electronic state density determ. *(German)* 1−12616
HgCdTe, oscillations in scattered $^4He^+$ ion yield curves 1−26350
HgTe crystal, surface evaporation of Hg obs. using O^{5+} backscattering 1−8176
InSb/GaSb multilayer struct., diffusion enhancement due to ion bombardment during deposition 1−3621
LiF, microhardness, influence of low-energy Ar ions and vacuum UV *(Russian)* 1−48488
Mn, Auger spectra identification due to ion and electron impact 1−3553
Mo bombardment with energy-distributed He particles, blistering study by backscatt. methods 1−48209
Mo in Ar and Kr, matrix isolation UV absorpt. spectra 1−41336
Mo:K, sputter-induced erosion rate suppression, appl. to plasma walls 1−24998
^{14}N, ionised, polarisation of atomic transitions after ion beam surface interaction 1−33417
Nb, sputtering yield meas., torsion vacuum microbalance *(Japanese)* 1−27930
Nb surface, H^+ and neutron sputtering, 14-16 MeV, Monte Carlo calcs. 1−26338
Ni (001), adsorbed K atoms, small-angle K^+ ion-surface dipole scatt. 1−53038
Ni (001) with CO monolayer, CO ejection due to ion irrad. 1−8177
Ni (110), small-angle scatt. of intermediate-energy Ar^+ ions 1−31255
Ni (110) surface ion scatt. near Curie point 1−31267
Ni alloys, oxidation when flooded with O_2 under ionic bombard. 1−31768
ion-surface impact continued
Ni atom 4s-4p and 3d-4p transitions for sputtered atoms from metallic targets 1−46079
Ni-Si, Auger electron emission, Si(LMM), by Ar^+ ion bombardment, origin 1−26344
Ni(100), adsorption of O_2, ethylene, ion scatt. spectroscopy study in ultrahigh vacuum 1−52438
^{31}P ions in C, charge state equilibrium distance 1−12617
Pd/W (110) surface, static SIMS study 1−31290
Pd-Si Auger electron emission, Si(LMM), by Ar^+ ion bombardment, origin 1−26344
Pt (111), oxide form. caused by bulk dissolved Si, AES and ion scatt. study 1−35435
Si (001) reconstructed surface, multilayer distortions, effect of H_2 adsorption, ion scatt. study 1−34559
Si (111) surface, positive secondary ion emission relax. meas. 1−26352
Si (111)-(7×7) surface, atomic displacements, ion scatt. study 1−30536
Si, Auger electron emission, Si(LMM), by Ar^+ ion bombardment, origin 1−26344
Si, charge exchange with clean surface, Si^+ Auger type charact. rel. meas. 1−26351
Si, ion enhanced gas-surface reactions, kinetic model for etching mechanism 1−48549
Si, ion-enhanced gas-surface chem., incident ion mass depend. 1−48736
Si surface, low-energy ion bombardment, radiation damage, XPS study 1−31266
α-SiC, (0001) surface, Ar^+ bombardment, surface pot. *(Russian)* 1−43236
SiC surface, He^+ and D^+ ion sputtering, secondary ion anal. 1−26340
Si(111) 7×7, $L_{2,3}$ VV Auger spectrum lineshape, changes induced by adsorption and ion bombardment 1−8171
Si(111), adsorption and desorpion of CO and O_2, ion scatt. spectroscopy study 1−8181
Ti alloy, secondary ion emission under Ar^+ and O_2^+ ion bombardment, expt. 1−31284
Ti film, CO and H_2 impurity adsorpt. and desorpt., ISS obs. 1−25560
Ti in Ar and Kr, matrix isolation UV absorpt. spectra 1−41336
TiB_2, CVD films, surface composition and erosion yields subjected to D^+ bombardment 1−26334
TiB_2 coated limiters in tokamak fusion devices 1−18891
TiC (001), clean surface and O chemisorption, work function, XPS, UPS, and ion scatt. study 1−38634
TiC coated limiters in tokamak fusion devices 1−18891
VC film on C substrate, He ion backscatt. study of surface layer depth *(Japanese)* 1−48210
W, secondary ions from H ion bombardment of surface 1−3552
Zr in Ar and Kr, matrix isolation UV absorpt. spectra 1−41336

ion thrustors *see ion engines*

ionic conduction in solids
see also superionic conducting materials
alkali metal oxide-$SiO_2(B_2O_3)(GeO_2)$ glasses, alkali ion mobility 1−16085
alkaline earth fluorides, high-temp. cond. and ionic disorder, thermodynamic anal. 1−34510
amplitude modulated solitary ion motion in solids 1−30442
anodic film on superpure Al, high field ionic cond. 1−25493
classical particles hopping cond., influence of interactions 1−11896
disordering in external elec. field, ionic cond. change 1−11903
dispersed second phase type compds. 1−30459
Egyptian soil, corrosion behaviour of mild steel, effect of resist., water content, temp. differentials and particle size 1−39507
glass, alkali metal ion transport no. and mobility 1−42572
glass preparation by roller quenching, elec. and mag. props. 1−31409
glass science, conf., Los Angeles, CA, USA (July 1980) 1−27653
hopping ionic conduction, associated dielectric relaxation 1−34981
hydroxides, proton cond., H_2O in situ form., IR and thermally stimulated depolarisation obs. 1−24128
ice, proton mobility meas. 1−20452
ionic crystals, mass transfer and transport, quantum theoretical calc. of activation parameters 1−20447
ionic heat conduction in fluctuating mag. fields at low collision freq. *(Russian)* 1−52371
lanthanide oxides, structural anisotropy, physical and mechanical properties 1−7152
metal oxides with wide energy gap, possibilities of domination of ionic conduction *(Polish)* 1−42573
Nernst-Einstein relationcomputer orientated calc. method 1−42562
nitrate ion glass, anhydrous, charged pair recomb., dispersive hopping temp. depend. 1−42564
nylon 6, discharge current at high temp. 1−42567
nylon 6, elec. cond. meas. at high temp. 1−42566
octadecane, liq. and solid phases, elec. cond. mechanism, electrolytic purification process 1−7674
n-octadecane, pure crystal, elec. cond. props., defects role 1−7675
oxide film, on metals and semiconductors ionic transport during anodic growth *(French)* 1−47289
percolation mechanism, in impure solid electrolytes 1−30444
Percus-Yevick theory using a one-dimens. liquid as an analog 1−42281
photographic emulsions, meas. for determination of ionic conduction and space charge characts. 1−290
polypropylene films, elec. cond., effect of crystallinity 1−52342
polypropylene oxide networks filled with sodium tetraphenylboride, ionic conductivity 1−2687
pressure dependence 1−34518
Pyrex glass, Poole coeff., dimensional effect 1−16084
rare earth trifluorides with tysonite struct., ionic cond. at 200 to 600°C, heterovalent additives effect 1−38581
review of solid state ionics *(Japanese)* 1−47290
Schottky defect sp.ht. rel. to Arrhenius plot curvature 1−2650
semimetals, ionised impurity scatt. and limited cond. 1−25684
sodium 2,4-pentanedionate, elec. resist., piezoelec. and pyroelec. props. 1−47640
thermometers for fission reactor core temp. 1−27977
zeolites, dehydrated, cationic motion 1−2680
$AgAlS_2$, $AgGaS_2$, $AgAl_5S_8$, Ag_9AlS_6 and Ag_9GaS_6, silver ionic and electronic cond. 1−38820
AgBr microspheres, subsurface space charge and surface charge 1−47080
AgCl:Cd^{2+}, ionic cond. and defect parameters 1−30452
AgCl:Cd^{2+}, point defect cluster calcs. and elec. cond. 1−11784
Ag_9GaS_6, Ag ionic and electronic cond. 1−7680
AgI, dielec. props. and elec. cond. 1−47994

ionic conduction in solids continued
AgI, pure and Al_2O_3 dispersed, ionic cond. and thermoelec. power 1−47285
AgI-AgBr multiphase system and solid solutions, fast ion transport 1−30447
Ag_3PO_4, I- and II-modifications, cryst. struct., rel. to ionic cond. props. 1−34334
Ag_3SBr superionic conductor, ionic cond. and thermoelectric power 1−38583
Ag_3SbS_3, pyrargyrite, elec. cond. and Ag self-diffusion, 300 to 700K 1−20453
β''-Al_2O_3 ceramics, dense conductive, by spray-freeze/freeze-drying, props. 1−31541
β-Al_2O_3-Ba(Cd)(Sr)O, fast divalent ion conduction 1−30461
β''-Al_2O_3-H_3O^+, hydronium alumina, protonic transport, NMR study 1−30464
$Al(OH)_3$, H^+ conductivity, activation energies, vapour adsorption, conductivity measurements 1−25492
$Al(OH)_3$, proton cond., band model 1−47288
β-alumina:Li,Na, co-ionic cond. nuclear spin-lattice relax. study 1−52344
$Ba(NO_3)_2$, single crystals, ionic cond., 400 to 750K 1−2675
BeF_2-CsF glass, ionic transport meas., cond. anomaly obs. 1−30455
Bi_2O_3-Dy_2O_3 sintered oxides, high O^{2-} ion cond., phase diagram 1−47286
Bi_2O_3-Er_2O_3, O^+ ion conductors, prep. and props. for low temp. use 1−16088
$Bi_{0.765}Sr_{0.235}O_{1.383}$, superionic cond. and cryst. struct. *(French)* 1−38352
$Ca(OH)_2$, H^+ conductivity, activation energies, vapour adsorption, conductivity measurements 1−25492
$Ca(OH)_2$, proton cond., band model 1−47288
CaS, pure solid, ionic conductivity 1−16086
$Ca_{2x}Zr_{1-2x}O_{2-2x}$, defect struct., ionic cond., and diffusion 1−30450
CdO:S, defect struct., elec. and diffusion props. 1−30748
CdO.SiO_2.Na_2O photochromic glass, in faded state, dark current and dielec. relax. 1−26120
CsCl, ionic cond., press. and temp. depend., rel. to Schottky defect form. 1−34509
$Cu_{2-x}Se$, self-diffusion of Cu, ionic cond. 1−2691
$Gd_xZr_{1-x}O_{2-(x/2)}$ ceramic, ionic cond., grain boundary effects meas. 1−47291
H, metallic, resistivity, Jupiter's mag. field 1−36212
H_3O^+ β/β''-Al_2O_3, polycrystn., ceramic fast proton conductor 1−30456
$(H_3O)Al_3(SO_4)_2(OH)_6$, proton conducting membranes 1−30457
$(H_3O)_2Sb_4O_{11}(H_2O)_{1.1\pm0.15}$, protonic cond. study by PMR *(French)* 1−7373
KBi_2F_{10}, synthesis and ionic conductivity props. *(French)* 1−20448
$K_{1-x}Bi_xF_{2x+1}$ ($0.5\leq x\leq 0.7$), solid solns., synthesis and ionic conductivity props. *(French)* 1−20448
KCl, annealed purified single cryst., ionic conductivity, defect kinetics 1−2686
KCl, irradiated with X-rays and γ-rays, ionic cond. 1−11899
KCl:Sn^{2+}, ionic cond., 373 to 800K 1−47284
K_2O-Na_2O-SiO_2 glass, mixed alkali effect; failure of strong electrolyte/cationic interact. model 1−2676
K_2SO_4-Na_2SO_4-$ZnSO_4$ glasses, elect. cond. studies and mixed alkali effect 1−42570
$K_2S_6O_{14}$, ionic exchange props. by PMR *(French)* 1−7373
$K_2Sb_4O_{11}$, ionic exchange props. by PMR *(French)* 1−7373
(LaO)AgS layer compound, synthesis and ionic cond. *(French)* 1−38587
LiBr, diffusion and disorder, NMR and ionic cond. meas. *(German)* 1−30467
LiF−Li_2O-$Al(PO_3)_3$ glasses, transport no. for Li ions 1−20449
Li_4GeO_4-Li_3VO_4, Li^+ ion conductors 1−30458
LiI-H_2O-Al_2O_3 system, ionic cond. of intermediate comps. 1−20445
α-$LiIO_3$ single cryst., elec. cond. mechanism and low temp. cond., quasi-one-dimens. conductor *(Chinese)* 1−20444
$Li_{2.3}Mo_6S_{7.7}$, preparation and mass transport props. 1−34511
Li_2O-$2SiO_2$, glass, low temp. thermally stimulated depolarisation peaks 1−21117
Li_2O-WO_3 (MoO_3), rapidly quenched, glass-form. and ionic cond. meas. 1−34505
$(Li_2O$-$Na_2O)_{1/2}$-$2SiO_2$, glass, low temp. thermally stimulated depolarisation peaks 1−21117
$LiPO_3$-$ZnCl_2$, mixed glass, elec. cond. struct. approach *(French)* 1−20451
$Li_{4-x}(PO_4)_x(SiO_4)_{1-x}$ solid solution, NMR study of Li^+ ion diffusion 1−38988
Li_xTiS_2, pulsed NMR study of Li ion motion 1−16501
$LiZn(IO_3)_3$, cryst. struct. and phys. props. *(Chinese)* 1−53160
MgO, ionic cond. and Mg vacancy mobility 1−38586
$Mg(OH)_2$, H^+ conductivity, activation energies, vapour adsorption, conductivity measurements 1−25492
$Mg(OH)_2$, proton cond., band model 1−47288
$Mg_2Si_2O_4$-SiO_2 (1 mol.%) forsterite, ionic conductor, dielec. relaxation and dielec. function 1−3327
NH_4Cl, surface, point defect form., NH_3 and H_2O atms. effects, rel. to cond. 1−2439
Na-βGa_2O_3 thin film, high ionic cond. 1−34503
$Na_{3(1-x)}Al_x\square_{2x}PO_4$, x≈0.025 and 0.2, cryst. struct. rel. to ionic cond., powder neutron diffr. study 1−34335
$Na_{2-x}Ca_{1-x}Al_xSiO_4$, carnegieite phases, ionic cond. and crystallographic data 1−20450
$Na_{2-x}CaSi_{1-x}P_xO_4$, carnegieite phases, ionic cond. and crystallographic data 1−20450
NaCl:Cd^{2+}(Mg^{2+}), Suzuki precipitates, TEM obs. and ionic cond. meas. 1−2639
6NaCl.$CdCl_2$, Suzuki phases, ionic cond. 1−7379
NaI, self-diffusion and ionic cond., Arrhenius law, vacancy contrib. 1−2679
Na_2O borate glass, ion migration study, O^{2-} transport 1−21733
Na_2O-Al_2O_3-SiO_2 glass surface layers, elec. resistance in NaCl and KCl solns. 1−17072
Na_2O-B_2O_3-$(GeO_2)(SiO_2)$ glasses, alkali ion diffusion correlation effects 1−20446
Na_2O-K_2O-B_2O_3-SiO_2 glasses, mobility of Na^+ and K^+ transport numbers 1−11904
$(Na_2O)_2$:$11Al_2O_3$, cryst. struct. and ionic cond. 1−34333
$(Na_2O)_{1.07}$.$11Al_2O_3$, prep. and ionic cond. 1−30466
Na_2O.$3SiO_2$ glasses, with high water content, elec. cond. 1−42568
$Na_6P_2B_2O_{11}$ glass, fast ionic conduction 1−25498
$Na_8P_4B_2O_{17}$, glass, fast ionic conduction 1−25498

ionic conduction in solids continued
Na_3PO_4, high temp. II-modification, cryst. struct., rel. to ionic cond. props. 1−34334
Na_2S, lattice dynamics, inelastic neutron scatt. study 1−11823
$Na_4YSi_4O_{12}$, ionic cond., temp. depend. 1−38579
$NaZr_2(PO_4)_3$-$Na_3Y_2(PO_4)_3$, ionic conductivity 1−2677
β-PbF_2, anion disorder and ionic motion, X-ray diffr. study 1−34332
PbF_2-KF solid electrolytes, synthesis conditions influence on conductivity 1−42565
PbI_2:$K^+(Bi^{3+})$, vacancy transport, impurity-vacancy dipole props., ionic cond., dielec. loss and ionic thermocurrent meas. 1−2681
PbN_6, point defects and ionic conductivity 1−38582
$RbBi_3F_{10}$, synthesis and ionic conductivity props. *(French)* 1−20448
$Rb_{1-x}Bi_xF_{2x+1}$($0.5\leq x\leq 0.6$), solid solns., synthesis and ionic conductivity props. *(French)* 1−20448
SiO_2 film, dielec. breakdown retarded by annealing in NH_3 gas 1−26121
SrF_2, anti-Frenkel defect density and mobility 1−25260
SrF_2:O^{2-}, absorpt. bands of OH^-, O^{2-} ions, ionic cond. 1−21242
TlBr(Cl)(I), ionic cond., press. and temp. depend., Schottky defect parameters 1−38589
TlF-HfF$_4$ systems, ionic cond. meas. *(French)* 1−38580
TlF-ZrF_4 systems, ionic cond. meas. *(French)* 1−38580
$Tl_xNb_{2+x}F_{1-x}$, pyrochlore, ionic cond., ^{205}Tl and ^{19}F NMR study of ionic motion and struct. 1−30460
W, oxidation kinetics and determ. of O diffusion in WO_3 1−53333
Yb_2O_3, ionic transport number, O partial press. function *(French)* 1−7372
$ZnGeF_6.6H_2O$, ferroelastic transition, permittivity US wave, elec. cond. and IR absorpt. meas. 1−30297
ZrO_2, Ba-mica/Y_2O_3 stabilised composite, thermal diffusivity 1−2722
ZrO_2 layer formed by oxidation of Zircaloy-2, ionic cond. 1−48570
ZrO_2 probes for O_2 concentration meas., correction based on hybrid simulation *(Spanish)* 1−48770
ZrO_2-CaO-Bi_2O_3, O^+ ion conductors, prep. and props. for low temp. use 1−16088
ZrO_2-Sc_2O_3 (8mol.%), ionic cond. meas. by AC and DC techniques 1−25499
ZrO_2-Y_2O_3 (15 mol.%) ionic conductor, dielec. relaxation and dielec. function 1−3327
ZrO_2-Y_2O_3-CaO-MgO solid solutions, prep. and elec. cond. 1−31399

ionic conductivity in solids *see ionic conduction in solids*

ionic thermocurrents *see thermally stimulated currents*

ionisation
see also associative ionisation; autoionisation; charge exchange; electron attachment; electron capture; field ionisation; ion recombination; ionisation of atoms; ionisation of gases; ionisation of liquids; ionisation of molecules; ionisation of solids; ionisation potential; Penning ionisation; photoionisation; surface ionisation
HDE 226868 (Cygnus X-1), stellar wind ionisation contours rel. to UV lines intensity vars. 1−49720
interstellar diffuse clouds, nonlinear hydrodynamics of ionisation-coupled acoustic instabilities 1−22851
interstellar gas at large distances from galactic plane, ionisation stages from UV spectra 1−54575
interstellar molec. clouds ionisation, two-dimensional radiation-hydrodynamics rel. to OB associations form. 1−44599
K-shell ionisation cross-sections, for use in microanal. 1−31946
NGC 6720 (Ring Nebula), ionisation struct. of S and Ar from spectral line intensities 1−9611
North Polar Spur, ionisation processes rel. to two-shell struct. and radio emission 1−44652
planetary nebulae, ionisation ratios rel. to neutral O and N lines intensities 1−9600
Seyfert galaxies nuclei, gas ionisation rate from permitted line profiles asymmetry *(Russian)* 1−9673
solar chromosphere-corona transition region, nonequilib. ionisation due to thermal diffusion and mass flows 1−36237
solar prominences, ionisation, density and fractional volume from H I Lyman continuum obs. 1−27436
stellar atmospheres, ionisation and excitation equilibs. rel. to UV spectra 1−49609
universe, anisotropic, secondary ionisation rel. to primordial radiation polarisation and anisotropy 1−44677
H II regions, ionisation-shock fronts instabilities rel. to star form. 1−44539
H II regions structure and dynamics, interaction between ionisation front and precursor shock 1−9616

ionisation chambers
accelerator integral radiation dose meas. circuit 1−941
automatic detection at radionuclides emerging from a timed droplet column 1−21802
avalanche counters, parallel-plate, TOF and cross-section meas. 1−23959
beam-loss monitoring system with free-air ionization chambers 1−981
cavity ionisation, electron transport theory 1−42126
correlation amplitude analysis using IZOT-0310 minicomputer *(Ukrainian)* 1−24008
cosmic ray data acquisition and processing by Nairi-2 computer 1−4778
cylindrical, small, current collection and ionic recombination on pulsed irrad. 1−18955
tetrakis(dimethylamino)ethylene photoionisation detector, use in Xe gas scintillation proportional counter 1−23963
drift chamber vertex detector, operation at ISR 1−14742
drift chambers, cylindrical, azimuthal segments, two-dimens. readout 1−14743
dual type gridded ionisation chamber using liq. Xe 1−1027
electret ionisation chamber, cylindrical 1−6081
energy resolution improved by multihole collimators, alpha-particle spectroscopy 1−51032
equilibrium under ambient conditions, simple device for testing 1−18958
exposure meas., humidity correction *(Japanese)* 1−1004
fast fission chamber sensitivity for flux monitoring in PBHTGR 1−18812
free-air, guarded-wall, field distortion calcs. 1−51043
fuel rods, energy release, neutron and gamma components, Gray chamber meas. 1−28596
gamma ray environmental exposure measurement, Ge(Li), NaI(Tl) detectors, ionisation chamber comparison 1−1001
gamma-ray exposure from Co, response and wall correction factors calcs. 1−41275
gas detector system for mass and charge identification of heavy ions 1−23914
gated multistep avalanche chamber, high flux operation 1−23958

ionisation chambers continued
liquid ionisation chamber for neutron dosimetry 1−23977
liquid-methane pulsed ionization chamber, for neutrino detection 1−51039
multi-step avalanche chambers for FNAL experiment E605 1−14755
multichannel ionisation system, light nuclei beams monitoring 1−28804
multistep avalanche chamber as a detector in radiochromatography imaging 1−14756
multiwire chambers in corona region, comparison with proportional mode 1−14740
neutron dosimetry, effect of chambers' finite size 1−23864
P-2 type, response, ion recombination effect 1−28808
parallel plate avalanche counter to detect minimum ionizing particles 1−14754
radiation monitoring, master-slave dose-rate monitoring system with ionisation chambers 1−937
radiotherapy standard dose meter calibration 1−9028
recoil nucleus identification by time-of-flight avalanche counter 1−998
secondary standard dosimeters for X-rays and gamma-rays up to 2 MeV, calibration factors 1−41271
transition radiation detector for pion identification in the 100 GeV/c momentum region 1−14761
transmission line flash chamber for neutrino detection, driven by repetitive megamp per microsecond di/dt pulsar system 1−33368
wide-range ionisation fission chamber for reactor control and safety systems 1−23983
wire chambers, conf. Vienna, Austria (Feb. 80) 1−13915
wire chambers, test and calibration methods 1−14760
X-ray transition radiation detector 1−51040
Ar liquid multistrip ionisation chamber, prototype test 1−51044
Ar-ZZ 1−28807
Fe-Ar(liquid) sampling calorimeter for EM shower detection 1−1022
^{3}H, atmospheric measurement using source modulation technique 1−18984
Kr, filled proportional scintillation counters, VUV emission, transfer efficiency to MWPC 1−28807
MgF_2-NO ion chamber with O_2 gas filter as detector of solar H I Lyman-α radiation 1−4768
Pb-Ar(liquid) sampling calorimeter for EM shower detection 1−1022
SiO_2, amorphous, geminate recomb. of γ-ray excited electron-hole pairs 1−2982
Xe ionisation detectors photon energy depend. for computerised tomography, anal. 1−35880

ionisation gauges
air hydrocarbon monitor using membrane permeator and flame ionisation detector 1−32075
measurements in vacuum chambers with surface cryopumps 1−280
pulse-width modulation cct. based meter 1−279
review of vacuum science techniques *(Japanese)* 1−14128

ionisation of atoms
see also atomic electron impact ionisation
alkali metals, laser ionisation based on reson. saturation 1−45918
alkali unpolarised atom polarised nuclei, two-photon resonant ionisation, hyperfine struct. energy levels 1−6217
alloy films, sputtered, atomic conc. influence on ion emission yield 1−31292
atom+multicharged ion, collisional ionisation, single electron excitation calcs. 1−10814
atom ionisation by fast charged particles, K-shell electron spectra 1−46067
atoms, $1 \leq Z \leq 100$, photoionisation cross section and XPS, 0.132-4.509 keV 1−10699
atoms in electric and magnetic field, spectrum near zero-field ionisation limit 1−24066
Auger electrons, spin polarisation 1−24093
carbon tetrachloride-Ar, Rydberg state, ion pair formation, cross sections 1−19164
dense metal vapours, multiphoton ionis. and fluoresc., radiation scatt. and trapping 1−10689
dense metal vapours, multiphoton ionisation and fluoresc., radiation scatt. and trapping 1−14844
direct Coulomb M-subshell ionisation by charged particles, nonrelativistic PWBA calcs. 1−17944
electron energy distribution, relax. theory, eqn. for excitation rates and ionisation of atoms 1−15011
fast ion-beam collisions, atomic struct. investigations, life time determ. 1−29105
first row atoms and ions, self-interaction corrections in density functional formalism 1−51145
Glauber and eikonal approximations appl. to atomic collisions, book contrib. 1−33565
$H+H^+$, photon emission *(Russian)* 1−6370
heavy charged particle impact, K- and L-shell ionis. cross sections, plane wave Born approx. calcs. 1−13942
heavy charged particle impact, K- and L-shell ionis. cross sections calc. in plane wave Born approx., computer code 1−14991
heavy ion+atom collisions, QED in strong fields positron prod., δ-rays, inner shell ionisation 1−15004
hydrogenic atom, laser assisted soft-X-ray, multiphoton emissions 1−33437
inert gas atoms, excited states, photoionisation 1−14853
inner-shell ionisations by electron impact, sum-rule constrained binary-collision model 1−24266
K-shell ionization by protons and alpha particles 1−46094
metals, collisions of atomic particles, one-electron processes, accurate asymptotical treatment 1−41499
metals, sputtered atom ionisation probability, effect of inert gas primary ion nature *(Russian)* 1−3555
multifrequency laser radiation, radiation intensity spectra width 1−10701
multiphoton excitation and ionisation, collective emission effect near three photon reson. 1−10703
multiphoton ionisation, adiabatic and near-adiabatic model 1−24090
multiphoton ionisation, resonance effects 1−28939
open-shell electronic systems, ionisation processes, branching ratios 1−24065
photoelectron polarisation transition amplitude for photoionisation processes 1−45077
photoionisation, resonance and threshold effects 1−28934
photoionisation and photodetachment, interference effects, in homogeneous elec. field *(Russian)* 1−33438
photoionisation process theory for VUV photon energies 1−28932

ionisation of atoms continued
photoionisation rearrangement effects, RPA with exchange 1−28931
planewave Born-approximation calculations of L-shell ionization cross sections 1−19165
projectiles in solid targets, L-shell ionisation, K X-ray yield, capture cross sections 1−29091
Raman coupling between dressed states in resonant multiphoton ionization 1−41357
resonance ionisation in strong spatially inhomogeneous EM field 1−1192
scaled proton ionization cross sections in the Born approximation 1−1350
second row atoms and ions, self-interaction corrections in density functional formalism 1−51145
spin polarised photoelectrons, review 1−28935
three electron atoms, autoionisation radiative and nonradiative decay 1−41353
trichlorofluoromethane+Ar, Rydberg state, ion pair formation, cross sections 1−19164
unpolarised atoms, 2-photon reson. ionisation, polarised electron prod. 1−6216
Ag binding change effect on K-shell ionisation by deuterons and α-particles 1−10817
Ag+H(D)(He) ions, inner-shell ionisation, Coulomb deflection effect 1−15000
$^{27}Al(p,\gamma)$, 992 keV, K-shell ionisation, energy shifts 1−50600
Ar, asymmetry parameter, partial photoionisation cross sections, spin-orbit components 1−24087
$Au+H^+(He^+)$, impact ionisation, L-subshell alignment 1−6367
Au+H(D)(He) ions, inner-shell ionisation, Coulomb deflection effect 1−15000
B-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912
Ba, double ionisation in 5p threshold region 1−46037
Ba, VUV photoionisation angular distrib. meas. 1−28933
$^{137}Ba^+$, hyperfine splitting in ground state 1−46147
Be isoelectronic series ions, autoionis. states at. consts. 1−17947
Be-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912
C I, ^{3}P ground state photoionisation spectrum 1−51175
C in solar transition region, nonequilib. ionisation due to thermal diffusion and mass flows 1−36237
Ca, valence p shell ionisation, He II photoelectron spectra 1−45911
Cd, 4d-state, photoionisation, branching ratios, Dirac-Fock and Dirac-Slater calcs. 1−45917
Cd, electron impact ionisation efficiency curves determ. 1−24263
Cr magnetic dipole transitions in highly ionised gas 1−11567
Cr, Rayleigh and Compton cross sections of photon scatt. 1−19067
Cs, 7^2P excited states, photoionisation and photoelectron spin polarisation 1−19066
Cs, f-h and f-i intervals meas. using two- and three-photon microwave spectroscopy coupled with elec. field ionisation 1−24098
Cs I, laser induced autoionizing-like reson. in continuum 1−45913
Cs, photoionisation, quadrupole resonances, fine struct. electron spin polarisation 1−24088
Cs-Cs(K) systems, continuum-state pair absorpt., thermionic detect. of ionic fragments 1−41356
$Cs+O_2$, nonadiabatic collisions, eqn. for pot. surfaces, cross-section for ion-pair form. determ. 1−24212
Cu binding change effect on K-shell ionisation by deuterons and α-particles 1−10817
^{64}Cu, positron decay branch, K-shell ionisation 1−5738
D, backscatt. from Cs, Ni and Cs/Ni surfaces D^- prod. model 1−26332
Fe, magnetic dipole transitions in highly ionised gas 1−11567
Fe series, self-interaction corrections in density functional formalism 1−51145
Ge, gas phase high temp. photoelectron spectroscopy, relativistic config. interaction calc. 1−33436
H, atomic spectral lines, ionisation-induced attenuation, in plasma electric microfield 1−19880
H atoms, coupled to single quantised radiation mode 1−6221
H, backscatt. from Cs, Ni and Cs/Ni surfaces, H^- prod. model 1−26332
H I, photoionisation in strong mag. fields 1−49496
H in quasar emission line clouds, theory of Lα, Balmer and Paschen lines and Balmer continuum 1−54653
H, ionisation rate in uniform elec. field, model depend. 1−33556
H, positron impact, photon emission *(Russian)* 1−6370
H-like ions, 1s and 2s, ionisation probabilities, first Born approx. calcs. 1−1347
$H+C^{5+}(N^{5+})(O^{6+})$, electron capture and ionisation cross-sections calcs. 1−46108
H+fast stripped ion, ionisation, CTC peak asymmetry 1−46107
$H+H_2$, charged particle prod., cross sections, reaction mechanisms 1−37302
H+He, charged particle prod., cross sections, reaction mechanisms 1−37302
H^++He^+, ionisation cross-sections, charge depend. calcs. 1−1357
H^++Ne(Ar)(Kr), proton impact double-ionisation cross sections determ. 1−41468
H(1s)+Cs, H^- form., ang. distrib., differential electron attachment and elastic scatt. cross sections 1−41459
He excited states, autoionisation 1−45914
He in atmosphere of β Cephei star BW Vulpeculae, ionisation as mechanism for pulsations 1−40495
He, multiphoton ionization, EM field generation by laser radiation force 1−45919
He^+, electron impact ionisation, absolute cross sections, cross beam meas. 1−29120
He+Cs, rate const. meas. for Penning ionisation at thermal energies 1−33552
He^{2+}+H, ionisation cross-sections, charge depend. calcs. 1−1357
Hg, 5d-state, photoionisation, branching ratios, Dirac-Fock and Dirac-Slater calcs. 1−45917
I, neutral, excitation of inner 4d shell 1−51173
Kr, X-ray reson. Raman scatt., electron ejection 1−1161
Li, photoionisation, electron correl., HF calcs., photoelectron spectra study 1−51138
Li^+, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
Li-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912
$^{26}Mg(p,\gamma)$, 1288 MeV, K-shell ionisation, energy shifts 1−50600

ionisation of atoms continued
Na 3p+Na 3p, energy pooling, product signal depend. on laser power density, rate const., temp. depend. 1−19170
Na, laser induced ionisation, superelastic effects 1−10805
Na, laser ionisation based on reson. saturation 1−45918
Na, multiphoton ionization, EM field generation by laser radiation force 1−45919
Na+I, ion-pair formation, differential cross section 1−29106
Na+Na, crossed-beam collisions, in reson. laser fields, Penning and assoc. ionis. 1−37304
Ne, $1s^22s^22p^4(^3P)3s3p$ config., position of autoionis. terms, core correls. 1−10678
Ne, K-shell photoionisation, conjugate shake-up 1−1191
Ne-Ar positive column plasma, metastable atom density meas. 1−38154
Ni, magnetic dipole transitions in highly ionised gas 1−11567
Ni+H(D)(He) ions, inner-shell ionisation, Coulomb deflection effect 1−15000
O, proton loss function, differential ionization and stripping cross-sections 1−19201
O^{2+}/O^+ in gaseous nebulae, appl. to S abundance determ. 1−44606
Pb, excited state, two-step autoionisation, 5d spectra 1−45881
Pb, L_{III} subshell fluorescence yield meas. 1−37150
Pd+H(D)(He) ions, inner-shell ionisation, Coulomb deflection effect 1−15000
Rb, ionisation energies, Z+1 approx., photoabsorption spectra anal. 1−41334
Rb^+ ion, electron impact excitation of reson. lines, autoionis. *(Russian)* 1−6392
S in gaseous nebulae, S^{3+} abundances derivation rel. to nebulae total S abundance 1−44606
$Se^*(^1S)$ photoionisation cross section meas., 170-175 nm spectral region 1−19061
Sn, gas phase high temp. photoelectron spectroscopy, relativistic config. interaction calc. 1−33436
Sr, ionisation energies, Z+1 approx., photoabsorption spectra anal. 1−41334
Sr, valence p shell ionisation, He II photoelectron spectra 1−45911
Tb 1−10817
Th, L_{III} subshell fluorescence yield meas. 1−37150
Ti magnetic dipole transitions in highly ionised gas 1−11567
U, L_{III} subshell fluorescence yield meas. 1−37150
Xe, asymmetry parameter, partial photoionisation cross sections, spin-orbit components 1−24087
Xe, Rydberg and autoionising states, optogalvanic detection method 1−41352
Xe, UV multiphoton ionisation rates 1−37276
Xe, VUV photoionisation angular distrib. meas. 1−28933
Yb, double ionisation in 5p threshold region 1−46037
Yb, double-excited narrow autoionisation states 1−14852

ionisation of gases
see also atmospheric ionisation; electron avalanches; Townsend discharge
air ionisation and nonequilibrium radiation behind strong shock waves 1−34035
atomic vapour, dense, laser excitation and ionisation 1−29830
cavity ionisation, electron transport theory 1−42126
chamber design for negative ion interactions in swarm conditions 1−18329
corona, point-plane, electrical wind and ionic species obs. 1−20014
current growth theory 1−46946
electron degradation theory, recent developments 1−46848
gaseous dielectrics, electron swarm data relevant to HV insulation 1−6920
gases, ionisation, electron avalanches, Townsend' coeff., Monte Carlo calcs. 1−38188
glow discharge, overheat instability, CO_2 laser, ionisation *(Russian)* 1−25083
inert gas atoms, radioluminesc. mechanism, review *(Portuguese)* 1−24924
inert gas positive column plasma, medium-press., mol. ion and metastable atoms form., effect on electron temp. 1−11607
radioisotope preionisation of volume gas discharge 1−29944
spark breakdown potential in ternary gas mixtures, automatic meas. 1−15743
spark gap, ignition properties, influence of preionisation, obs. *(German)* 1−52005
streamer counter appl., positive point corona mechanism 1−14774
W values of low-energy electrons in several gases 1−42127
Ar/CH_4, energy dependence of W for 300 keV to 1.8 MeV protons 1−46847
CO_2 laser excited by preionised transverse discharge through a dielectric 1−33650
H_2, electron degradation theory, recent developments 1−46848
HCl-Ar mixture externally sustained discharge, energy charcts. and stability 1−42248
HCl-He mixture externally sustained discharge, energy charcts. and stability 1−42248
He, cathode fall and negative glow simulation studies 1−15718
He, electron swarm parameters 1−29831
He-Hg discharge, cathodic zone self consistent microscopic study 1−15163
N_2, electron-beam ionization discharge, negative differential conductivity 1−34178
Ne, electron swarm parameters 1−29831
O_2, discharge, electron beam controlled, kinetics of charged species, metastable species and ozone *(French)* 1−29934
O_2 discharge positive column multiple equilibria 1−7016
SF_6 binary mixtures, discharge parameters meas. 1−15578
SF_6, compressed, negative corona thresholds in space charge fields, mathematical model 1−11626
SF_6-N_2 (CO_2, air) mixtures, field breakdown gradient 1−2268
Xe ionisation detectors, X-ray intensity response 1−35881

ionisation of liquids
heptane-H_2O system, electrocapillary effect on ionis. of liqs., interfacial tension and energy 1−52394
molecules, electron ionising radiation fast and slow Rydberg enhancement 1−51302
oligomers, mass spectra charact. by liquid ionisation method *(Japanese)* 1−51313
organic compounds, mass spectra charact. by liquid ionisation method *(Japanese)* 1−51313

ionisation of liquids continued
tetramethylparaphenylenediamine, geminate ion recomb. fluoresc., elec. field effect 1−51235
thermodynamics of solutions with reactive components 1−39665
water, liquid, ionising radiation, Rydberg enhancement 1−53449
Ar, liq., free-ion electron yield and recomb. luminesc., elec. field effects 1−21269
Xe, liq., free-ion electron yield and recomb. luminesc., elec. field effects 1−21269

ionisation of molecules
see also molecular electron impact ionisation
acetaldehyde, multiphoton fragmentation and ionisation 1−29062
acetylene, photoionisation cross section, vibr. struct., photoelectron spectrum 1−33500
autoionisation, multichannel quantum defect theory 1−14966
aza-compounds, He(II) photoelectron spectra, valence ionisation energies and obs. vibr. progression tables 1−6318
benzene, $^1B_{2u}$←$^1A_{1g}$ two photon transition by multiphoton ionisation-supersonic beam techniques 1−24132
benzene, gas, UV laser ionisation, photoelectron energy distrib. 1−1290
benzene, laser induced multiphoton ionisation mass spectrum 1−29051
benzene cation, photolysis in Ar matrix, photoionis. and absorpt. spectrum 1−37177
benzene dimer cation, photolysis in Ar matrix, photoionis. and absorpt. spectrum 1−37177
benzonitrile, residence time, activated complex, isomers, photoelectron-photoion obs. 1−24191
bromomethane, pin polarised photoelectron prod., photoionisation 1−41429
butadiene, electronic struct., multiphoton ionis. obs. 1−29052
butadiene, four-photon reson. multiphoton ionisation spectra 1−29048
charge exchange mass spectrometry technique for gas phase mol. structs. 1−10869
diacetylene($-d_2$) cation, radiative and nonradiative decay rates, PES-photon coincidence technique 1−37275
diatomic molecular ions, electronic, vibr. and rot. predissociation 1−19149
diatomic negative ion, A_2^- photoionis., remote fine struct. 1−41444
diiodomethane, UV laser multiphoton excitation 1−29068
doubly charged ions, photoionisation and mass spectra 1−6325
ethylenes, halogen substituted, negative ion form., electron affinities, transmission spectra 1−37180
ethyliodide ions, kinetic energy release distributions, dissociation, photoelectron and photoionisation obs. 1−19135
fluorobenzene 3s Rydberg assignment 1−41388
formaldehyde, photoionisation cross sections, mol. orbital calcs. 1−24196
furan homologues, photoelectron spectra and electronic struct. computed by MS SCF Xα method, ionisation energies 1−33503
haloalkanes, UV multiphoton ionisation rates 1−37276
iodomethane, UV laser multiphoton excitation 1−29068
ionisation and dissoc. energies, alkali-metal beams 1−33579
ions, radiationless transitions, excited states, photoionisation quantum yields 1−19130
isonitriles, He(II) photoelectron spectra, valence ionisation energies and obs. vibr. progression tables 1−6318
laser multiphoton and multistep photoionization of molecules and mass spectrometry 1−46034
methane, condensed on Cu substrate at cryogenic temp., SIMS study 1−29148
methane, partial photoionisation cross sections, XPS 1−46020
methanol, Franck-Condon factors, vibr. struct. and PES 1−51243
methanol-d_0($-d_1$)($-d_3$)($-d_4$), condensed phase, IR laser-induced ionisation 1−37272
2-methylbenzotriazole, ionisation energy, photoelectron obs. 1−10782
methylcyanide ($-d_3$), photoionisation mass spectra 1−46036
molecular clusters, photoionisation, binding energies, spectra, mol. beam expts. 1−37273
molecular ion formation, electronic and vibr. branching radios, photoionisation, autoionisation 1−19142
molecules and solids, photoionisation cross section, Green's function method 1−1288
multiphoton fragmentation and ionisation 1−29062
multiphoton ionisation spectroscopy 1−29061
nitriles, He(II) photoelectron spectra, valence ionisation energies and obs. vibr. progression tables 1−6318
photoelectron polarisation transition amplitude for photoionisation processes 1−45077
photoionisation, molecular ion formation physics, review 1−29047
photoionisation, one photon selection rule, potential surfaces excitation and intramolecular relaxation 1−19151
photoionisation, resonance and threshold effects 1−28934
propane, ionisation energies, frozen orbital approx. calcs. 1−1273
small molecules, UV multiphoton ionisation rates 1−37276
spin polarised photoelectrons, review 1−28935
ten-electron hydrides, isoelectronic series, single orbital relax. with core ionis., Xα-SW calcs. 1−6160
tetramethylparaphenylenediamine, geminate ion recomb. fluoresc., elec. field effect 1−51235
triatomic molecular ions, electronic, vibr. and rot. predissociation 1−19149
triethylenediamine, laser multiphoton ionisation, vibronic/mass spectra 1−10788
uracil derivatives, energy density, deprotonisation, quantum calcs. 1−14806
Ar dimer, photoionisation cross section and autoionisation struct. 1−33515
CO, dissoc. and double photoionisation, threshold to 90 angstroms 1−46035
CO, K-shell Auger electrons angular distrib., photoabsorpt. anisotropy spectra 1−14968
CO, K-shell photoionisation, chemical effects 1−29050
CO, photoionisation by tunable VUV laser radiation 1−14967
CO, photoionisation cross section, mol. orbital calcs. 1−24196
CO_2, K-shell photoionisation, chemical effects 1−29050
CO_2, mol., dissociative and double photoionisation, cross section curve, mass spectra 1−19214
CO_2, photoexcitation and ionisation, theoretical studies in separated-channel static-exchange approx. 1−24198
CO_2, photoionisation cross section, mol. orbital calcs. 1−24196
CO_2-N_2-He plasma, electron drift vels., attachment and ionisation rates 1−38156

ionisation of molecules continued
CO_2+He(Ne) molecule+metastable atom collisions, Penning ionis. and ejected electron energy spectrum *(French)* 1−37316
CS_2, high Rydberg states and ion+mol. reactions, mol. beam photoionis. obs. 1−45873
CS_2, mol. beam photoionis. obs. 1−10789
$(CS_2)_9$, mol. beam photoionis. obs. 1−10789
$CS(X^4\Sigma^+)$ radical, Penning ionis., CS^+ ($B^2\Sigma$-$X^2\Sigma^+$) emission 1−10748
Co+Ne*(He*), Penning ionisation study of CO *(French)* 1−41481
$Cr(CO)_6$, free and coord. CO photoionisation spectra, many body effects, CNDO calcs. 1−51122
H_2, photoelectron angular distributions, rot.-vibr. preionisation, multichannel quantum defect theory calcs. 1−19141
H_2, vibr.-rot. preionis., multichannel quantum defect theory calcs. 1−1289
H_2^+, photoionis. cross-section, Gaussian function calc. 1−33518
H_2+H, charged particle prod., cross sections, reaction mechanisms 1−37302
$(H_2)_2$, photoionisation, autoionisation predissociation, spectra, mol. beam expts. 1−37273
HCl, electron transport, attachment and ionisation, arrival time spectra 1−37344
HF, 1π and 3σ orbitals, photoionisation cross-section calcs. 1−24197
H_2O, free radical form. under high power laser UV radiation, two-photon mechanism 1−29049
H_2O, partial photoionisation cross sections, XPS 1−46020
H_2O, photoionisation cross sections, static-exchange approx. Stieltjes-Tchebycheff calcs. 1−45832
He^{2+}+H_2, cross sections determ. by coincidence method, charge exchange, dissoc., ionisation 1−29109
He_2^{2+}, potential energy curves, energy widths, autoionising states, config. interaction calcs. 1−24048
$HgBr_2$, in gas mixtures, electron transport coeffs. electron swarm technique meas. 1−37342
$HgBr_2$, ionisation, dissociative attachment, cross sections, appl. to lasers 1−37341
I_2, multiphoton ionisation spectroscopy 1−37284
I_2^*, UV laser multiphoton excitation 1−29068
Li_2 dye laser irradiated, rot. transitions, pot. parameters, fluorescence obs. 1−10777
$LiCl_A^+$, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
$LiCl_n$, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
methane+H^+, ionisation cross sections 1−19161
N_2 + ions, ionisation collisions, N_2^+ excited vibr. level system 1−29110
N_2, condensed on Cu substrate at cryogenic temp., SIMS study 1−29148
N_2, dissoc. ionis., translational time-of-flight mass spectrosc. 1−5432
N_2, inner shell photoionisation, 44 to 65 eV 1−6326
N_2, K-shell Auger electrons angular distrib., photoabsorpt. anisotropy spectra 1−14968
N_2, photoionisation cross sections, config. mixing, HF calcs 1−41300
N_2, transport and rate coeffs., excitation and ionisation, electron swarm expts., Boltzmann anal. 1−37367
N_2, VUV photoionisation angular distrib. meas. 1−28933
N_2^+, autoionis. profile, triply-differential photoelectron investig., 710-730 Å 1−33519
N_2^+, vibr. levels, ionisation, photoelectron obs. 1−29038
N_2+H^+, mean energy expended per ion pair 1−22561
NH_3, expansion cooled, multiphoton ionisation spectra, photophysics and electronic excited state 1−24194
NH_3, partial photoionisation cross sections, XPS 1−46020
NH_3+H^+, ionisation cross sections 1−19161
NO detection by stepwise photoionisation, sensitivity and mass selectivity 1−33514
NO, photoionisation, autoionisation struct., relaxation, molecular beam method 1−37274
NO, photoionisation by tunable VUV laser radiation 1−14967
NO, photoionisation cross sections, shape resonance 1−41440
NO_2, multiphoton fragmentation and ionisation 1−29062
N_2O, photoionisation, molecular ion formation physics 1−29047
N_2O+H^+(He^+)(O^+), 1 MeV bombardment, dissoc. ionis. 1−33537
Na_2, ionisation and dissoc. energies, alkali-metal beams 1−33579
Na_2, two-step photoionisation, mol. orientation, depend. on alignmnet 1−41439
$Na^{39}K$, ionisation and dissoc. energies, alkali-metal beams 1−33579
NiCO, free and coord. CO photoionisation spectra, many body effects, CNDO calcs. 1−51122
$Ni(CO)_4$, free and coord. CO photoionisation spectra, many body effects, CNDO calcs. 1−51122
O^- detachment in gas mixtures, nonstationary drift method 1−41498
O_2, electronic states, vibr., autoionisation photoelectron obs. 1−51242
O_2, photoionisation, molecular ion formation physics 1−29047
O_2^+, ground state formation, vibr. branching ratios, photoelectron ang. distrib., autoionisation, photoelectron obs. 1−46018
O_2+H^+, mean energy expended per ion pair 1−22561
OCS, K-shell photoionisation, chemical effects 1−29050
OCS, molecular beam ionisation 1−41441
$(OCS)_2$, molecular beam ionisation 1−41441
$(OCS)_3$, molecular beam ionisation 1−41441
$OCS.CS_2$, molecular beam ionisation 1−41441
SiH_4 plasma, $Si_xH_y^+$ ionic species abundance 1−2232
U+O_2→UO_2^++e, associative ionisation 1−35518

ionisation of solids
No entries

ionisation potential
see also work function
actinides, bonding and struct. props. using inclined W systematics 1−47040
aliphatic monofunctional compounds, ionisation potentials, substituent effects *(French)* 1−29143
alkali halides, correlation between ionic radii, nuclear charges and ionization potentials 1−25192
alkaline earth chalcogenides, correlation between ionic radii, nuclear charges and ionization potentials 1−25192
amides, dipole moments, geometries, ionization pot., electronic props., MINDO calcs. 1−10660
atom-atom dispersion interactions, London approx. calcs. 1−29077
atomic anion, resonance states, electron affinities and ionisation pot., calc. using coordinate rot. of electron propagator 1−6182

ionisation potential continued
atomic ions, electrostatic and chemical potentials of electron cloud 1−51305
atoms, electronic wave functions long range behaviour, generalised Carlson-Keller expansion 1−51094
atoms, K(2)L(8)$3s^m3p^n$, formulae for evaluation of valence orbital ionisation pot. 1−41507
atoms, positron scatt., ionisation pot., binding energy, dispersion relation 1−46117
atoms (ions) isoelectronic series, SCF and Slater's orbital energy in open shell config. 1−33388
carbonyl group-containing mols., photoelectron spectrum, quantum-chemical study, pot. 1−6319
charge exchange mass spectrometry technique for gas phase mol. structs. 1−10869
2,2-dicyanovinylaromatics, intramol. charge transfer transitions 1−33578
difluoromethane, vertical ionisation pot., SCF and CI calcs. 1−51136
B-DNA reactive sites, electrostatic pot. screening by MG^{2+} 1−51330
electron pairing, rel. to first ionisation pot. and even/odd separation in periodic systems 1−28843
ethylene, energy independent Hamiltonian, excitation energies, ionisation pot., SCF methods, correl. effects 1−19023
ethylene, ionisation pot., electron affinity, excitation energy, multiconfig. MBPT calcs. 1−51135
first and second row atoms, lower excited configs., formulae for evaluation of valence orbital ionisation pot. 1−41507
first row atoms and ions, self-interaction corrections in density functional formalism 1−51145
halogen compounds, spin-orbit splittings of ionisation pot., MOC, INDO and CNDO calc. 1−51126
heteroatomic π-electron systems, photoelectron spectra, Green's function calcs. 1−24018
heterocycles, dipole moments, geometries, ionization pot., electronic props., MINDO calcs. 1−10660
hexahalogenobenzenes solid state, UV PES 1−53051
inert gas atoms, Thomas-Fermi differential equation, improved var. soln. 1−45848
ionic and covalent states, configuration interaction Coulomb field, point potentials calcs. 1−24047
linear molecules, $\pi\pi^*$ transitions, excitation energies, modified HAM/3 calcs. 1−19012
methane, electron impact, ionisation, fragmentation and reson. heats of formation 1−24270
methlene Rydberg states, ab initio MRD-CI study 1−33370
methyl groups, π electron system, PPP calcs. 1−1115
methyl iodide, quasi-atomic Rydberg states, high resolution absorpt. spectra, ionisation pot. 1−33475
methylcyanide ($-d_3$), photoionisation mass spectra 1−46036
O-methyloximes, polyenic Schiff bases, UV absorpt. and photoelectron spectra, rel. to visual pigments 1−41427
molecular anion, resonance states, electron affinities and ionisation pot., calc. using coordinate rot. of electron propagator 1−6182
molecular ground states, containing C(N)(O) atoms, mol. geometries, IP, binding-energies and dipole moments, SINDO1 calc. 1−37121
molecular ground states, containing F(Be)(B)(Li) atoms, mol. geometries, binding energies, IP and dipole moments, SINDO1 calc. 1−37122
molecular ions, doubly charged, stability, pot. energy curve studies 1−41458
molecular transition energies, transition functional schemes calcs. 1−28953
molecules, electronic struct. studied by self-consistent discrete variation Xalpha method, ionisation pot. calc. 1−6126
oximes, polyenic Schiff bases, UV absorpt. and photoelectron spectra, rel. to visual pigments 1−41427
phosphoryl compounds, photoelectron spectra, ionisation pot. 1−33504
porphyrins, low ionisation pots. and Rydberg states in photosynthesis 1−13020
prostaglandins, hydrophile-hydrophobe equilib., CNDO/SN calcs. 1−1113
radicals, ionisation energies, unrestricted MINDO/3 method 1−51129
second row atoms and ions, self-interaction corrections in density functional formalism 1−51145
tetrahalogeno-p-benzoquinones, solid state, UV PES 1−53051
transition metal tricarbonyls, ground and ionic states, INDO calcs. 1−45852
ureas, dipole moments, geometries, ionization pot., electronic props., MINDO calcs. 1−10660
Be, resonance states, electron affinities and ionisation pot., calc. using coordinate rot. of electron propagator 1−6182
CS_2, spin and symm. forbidden transitions, EELS 1−29125
Cd III, UV spectra and ionisation pot. 1−1158
CdF_2, photoelectron spectra, val. shell electronic struct., ab initio SCF MO calc., ionisation pot. 1−46021
$Co_2(CO)_8$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
Cs-He pairs, hyperfine shifts, broadening and temp. coeff., rel. to ionisation pot. and polarisability coeff. 1−28926
Fe series, self-interaction corrections in density functional formalism 1−51145
$Fe_2(CO)_9$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
GeO, Rydberg states, ionisation pot., UV obs. 1−10749
H_2, ionisation pot., electron affinity, excitation energy, multiconfig. MBPT calcs. 1−51135
HCl, valence orbitals, momentum distrib., ionisation pot., binding energy spectra 1−6317
HF, valence orbitals, momentum distrib., ionisation pot., binding energy spectra 1−6317
HNF_2, vertical ionisation pot., SCF and CI calcs. 1−51136
H_2O, ionisation pot., electron affinity, excitation energy, multiconfig. MBPT calcs. 1−51135
H_2O, transition energies, transition functional schemes calcs. 1−28953
H_2S, ionisation pot. of core levels, calc. by SCF-X_α-SW method 1−6162
He, electronic energy levels, Russell-Saunders coupling, ionisation pots., spectra, electron impact method 1−49901
$^{39,39}K_2$, ionisation and dissoc. energies, alkali-metal beams 1−33579
Li_2 and Li_{35} BCC cluster, Boyd-Whitehead CNDO parametrisation 1−45853
$Mn_2(CO)_{10}$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306

ionisation potential continued
MnO_4^-, ionisation pot. and optical transitions calc. by self-consistent discrete variation Xalpha method 1−6127
MoF_6, electronic struct., ionisaion pot., SCF DVM-Xalpha method based on HF functions 1−10632
$MoOCl_4$, electronic struct., ionisation pots., absorpt. spectra, SCF-Xalpha-SW theory calcs. 1−19030
N_2, dissoc. ionis., translational time-of-flight mass spectrosc. 1−5432
N_2, ionisation pot., basis set quality and configuration mixing effect 1−1124
N_2 ionisation potentials, one-electron propagator calcs. 1−29142
Na_2, ionisation and dissoc. energies, alkali-metal beams 1−33579
$Na^{39}K$, ionisation and dissoc. energies, alkali-metal beams 1−33579
Ne, electronic energy levels, Russell-Saunders coupling, ionisation pcts., spectra, electron impact method 1−49901
NiF_6^{4-} complex, modified Mulliken-Wolfsberg-Helmholtz method calcs. 1−24033
OF_2, vertical ionisation pot., SCF and CI calcs. 1−51136
Rb-He pair, hyperfine shifts, broadening and temp. coeff., rel. to ionisation pot. and polarisability coeff. 1−28926
SF_6, ionisation pot. of core levels, calc. by SCF-X_α-SW method 1−6162
SF_5Cl, electronic struct., SCF DVM Xalpha calcs. 1−33396
SO_2, ionisation pot. of core levels, calc. by SCF-X_α-SW method 1−6162
UF_6, electronic struct., ionisaion pot., SCF DVM-Xalpha method based on HF functions 1−10632
WF_6, electronic struct., ionisaion pot., SCF DVM-Xalpha method based on HF functions 1−10632
$WOBr_4$, electron spectra and one-electron props. 1−28872
$WOCl_4$, electron spectra and one-electron props. 1−28872
$WOCl_4$, electronic struct., ionisation pots., absorpt. spectra, SCF-Xalpha-SW theory calcs. 1−19030
$WSCl_4$, electron spectra and one-electron props. 1−28872
Xe VIII, hydrogenic terms and ionization pot. 1−45882
ZnF_2, photoelectron spectra, val. shell electronic struct., ab initio SCF MO calc., ionisation pot. 1−46021
ionisation time *see ionisation*
ionogen *see electrolytes*
ionoluminescence
benzene, in cyclohexane soln., indioluminesc., fluoresc. decay curves, quenching kinetics 1−43187
metal surface, ion bombarded, photon and secondary ion emissions 1−31270
B, ion bombarded, at., mol., and continuum radiation 1−39162
B_2O_3, ion bombarded, at., mol., and continuum radiation 1−39162
BaF_2, sputtered excited particle kinetic energies, secondary photon emission 1−16613
CaF_2, sputtered excited particle kinetic energies, secondary photon emission 1−16613
MgF_2, sputtered excited particle kinetic energies, secondary photon emission 1−16613
Si:N, N_2^+ form. during ion bombardment by assoc. ionis. with diabatic curve crossing 1−39203
SiO_2 thin layers struct. homogeneity, luminesc. meas. *(German)* 1−43185
SrF_2, sputtered excited particle kinetic energies, secondary photon emission 1−16613
ionosondes *see ionospheric measuring apparatus*
ionosphere
see also D-region; E-region; F-region; ionospheric electromagnetic wave propagation; ionospheric techniques; sporadic-E layer
anomalous structure over S.Atlantic geomag. anomaly, Japan satellite research 1−40299
Araks rocket expt. with electron injection expts., general description 1−44403
artificial electron beam ionisation, radar obs. of Zarnitza expt. 1−44366
artificial satellite plasma flow interaction, shuttle-era expts. 1−40204
aurora, dayside and nightside arc systems topological distinction and assoc. field-aligned currents 1−17720
aurora temporal sequences during substorms, rel. to synchronous orbit particle fluctuations 1−4674
auroral current system mag. field, three dimens., from field aligned and ionosphere currents 1−40250
auroral electrojet, irregularity phase vels., aspect angle depend. 1−40252
auroral electrojet activity index, rel. to midlatit. thermospheric winds and temps. 1−17714
auroral electron acceleration at low altitude, S3-3 satellite meas. 1−13626
auroral electron energy flux rel. to field aligned electron accel. 1−54315
auroral ionosphere, large-scale TIDs excitation rel. to transmission in F_2 layer 1−27337
auroral oval, UV imaging from Japanese satellites 1−40299
auroral particle acceleration, discrete narrow arc production, universal plasma process 1−36104
auroral plasma, longitudinal dielectric function 1−40253
auroral region, electron beam stimulated plasma waves obs. 1−32578
charge exchange in $O^{2+}+He \rightarrow O^+ + He^+$, rate coeff. anal. 1−37324
charge exchange induced H escape flux, latitudinal var. 1−9314
chorus (equatorial), indicative of elec. fields parallel to geomag. field 1−36099
columnar electron content, seasonal vars. above Havana 1−40261
conductivity calc. from auroral sounding rocket obs. 1−54316
conjugate observations of ELF-VLF emissions, micropulsations and aurorae 1−32574
convection electric fields and Birkeland currents, effect of high latitude cond. 1−40258
corpuscular stream ionisation of nighttime ionosphere 1−27329
counter-electrojet phenomena during afternoon, mechanism 1−44359
currents associated with chromosphere flares X-ray and UV radiation 1−32570
currents caused by diurnal tidal wind, three-dimens. struct. 1−40259
dark polar ionosphere, model of elec. fields and currents 1−22595
density enhancement during relativistic electron enhancement 1−36100
disturbance, large scale, to rocket flight with operating engine 1−54305
disturbance caused by earthquake horizontal movement, effect of sound vel. vertical gradient 1−22583
disturbance due to solar flare, temporal evolution of ionisation 1−22603
downward electron injection expt. (Araks), wave-particle effects 1−44373
DP-2 disturbances rel. to auroral equatorial boundary vars. 1−22564
drifts data analysis, efficient method using full correl. anal. 1−27300
dynamics of ionosphere over Brazil, obs. of airglow were structs. 1−44355
dynamo region, large scale electric field 1−22579
electric fields and magnetosphere coupling 1−49441
ionosphere continued
electric fields in polar ionosphere, rel. to influence of interplanetary mag. field B_z-component on magnetopause reconnection 1−22637
electrodynamics, wave and particle phenomena induced by Space Shuttle metallic tether 1−4745
electron content, harmonic anal. of ATS-6 obs. at Lancaster 1−49451
electron content, mid-latitude winter nighttime increases 1−40254
electron density, model profile for noontime equatorial lower ionosphere 1−13628
electron density fluctuations rel. to auroral radiowave absorption 1−22587
electron energy transfer rates 1−9309
electron injection experiments (Araks), wave generation by electron beam 1−44367
electron injection expt. (Araks), electron flux below 3 keV 1−44375
electron injection expt. (Araks), electrostatic wave production mechanism 1−44383
electron injection expt. (Araks), obs. of HF waves 1−44368
electron injection expt. (Araks), scattered electron flux. obs. 1−44374
electron injection expt. causing damping of rocket telemetry signal 1−44377
electron injection expts. (Araks and Zarnitza), plasma production and HF emission 1−44378
electron injection from rockets, detectable using radar 1−44365
electron injection of Araks expt., ion drift meas. 1−44376
electron precipitation, reproduction of features of inverted V-events in simulated double layers 1−22607
electron precipitation below 120 km from rocket electron injection expt. 1−44364
electron precipitation observed during Araks electron injection expt. 1−44372
electron temp. profile and solar activity depend. 1−54313
electron temperature variations during solar-max. conditions (200-3500 km) 1−40267
electron trajectory calc., simulation of Araks energetic electron injection expt. 1−44363
electrons collision frequency and transport props., theoretical anal. 1−13630
electrons leaving atmosphere, ionisation energy losses allowing for mag. field strength 1−4683
equatorial and high latitude scintillations 1−49453
equivalent current systems, determ. from harmonic coeffs. of solar and lunar daily geomag. vars. 1−17559
f_0F_2 prediction using mathematical modelling *(French)* 1−44362
following explosive Cs release expt. 1−17731
geoelectric field auroral effects, influence of meteorological phenomena 1−4568
HF radiowave emission in Araks electron injection expt. 1−44371
HF signal fluctuations in high-latitude ducts, during auroral substorms 1−22600
hiss (narrowband at 5 kHz), from plasmapause altitudes 1−44384
imperfect coupling with magnetosphere, MHD theory 1−22606
inhomogeneities of large-scale, anal. of radiowave fading obs. 1−22599
interpenetrating bi-Maxwellian gases, collision processes, strongly magnetised plasma flow 1−46863
interplanetary mag. fields and equilib. equatorial elec. fields 1−44358
ion acoustic waves, comparison of ionosphere and solar wind waves 1−17751
ion acoustic waves obs. after explosive release of Cs ion cloud 1−17730
ion drift motion 1−22573
ion-cyclotron whistlers near ion gyrofrequency, amplitude spectra 1−22630
ionisation irregularities, growth and decay 1−44385
Ionospheric Sounding Satellite-b, mission operation and results 1−40301
irregularities, satellite radio beacon studies 1−49450
irregularities of diffuse auroral F-region, nonlinear evolution 1−4690
lightning discharges between Earth and ionosphere/magnetosphere, cause of Earth's magnetic field 1−17675
lower ionosphere, electron collection by blunt probes 1−17752
magnetic storm time ion composition and temp. profiles 1−49442
magnetoactive plasma, formation of artificial periodic inhomogeneities 1−32581
magnetosphere coupling, electric and magnetic field studies, review 1−54314
magnetosphere ionosphere coupling flux, cross-L drifts, whistler mode and radio beacon data 1−40255
magnetovariational sounding of layered Earth in auroral zone, modeling of source 1−22210
metal wire in ionosphere plasma, transmission line model 1−32580
meteor trail ionisation dispersal, geomag. control of diffusion 1−9321
microburst electron group precipitation, conjugate obs., assoc. with ionosphere absorpt. 1−40256
model for medium solar activity conditions, ionosphere over Delhi 1−54307
photoelectron spectrum (ambient), satellite obs., 300-1000 km altitude 1−9320
photoelectron spectrum (ambient) during solar minimum, satellite obs. below 300 km 1−9319
plasma, suppression of current instabilities by strong RF field 1−40268
plasma bubble irregularities (equatorial) rel. to nightglow disturbances 1−36093
plasma clouds, stability and nonlinear evolution via contour dynamics 1−29873
plasma convection, elec. current circulation and field generation *(French)* 1−9308
plasma density irregularities, rel. to geometrical control of intensity and phase scintillation indices 1−27332
plasma density power spectra shape and radiowave scintillation 1−13639
plasma flow around satellites, shuttle-era expts. 1−40204
plasma flow between protonosphere and ionosphere, flux preserving method 1−22613
plasma hole produced by launching of HEAO-C, preliminary report 1−17723
plasma instabilities generation (auroral type) at low latitude 1−4692
plasma measured by Space Shuttle Electrodynamic Tether System 1−54317
plasma oscillations trapped by small-scale inhomogeneities, during disturbance 1−22596
plasma waves, ion cyclotron harmonic wave and electrostatic ion cyclotron waves 1−4691
plasmasphere, mid-latitude, H^+ and O^+ on force lines, motion and continuity eqns. 1−22515

ionosphere continued
plasmasphere simulation, modification of a very large test chamber 1−13633
polar caps, elec. field inhomogeneity, seasonal control 1−4713
polar cusp, current system rel. to By component of IMF 1−4717
polar ionosphere, plasma drift, properties of solar wind and radio waves *(Norwegian)* 1−13627
polar ionosphere as magnetosphere ion source 1−22592
poleward propagating auroral precipitation, plasma and magnetic field 1−9313
precipitating electron dynamics from bremsstrahlung radiation burst obs. at different longitudes 1−54304
quasi-trapped electron fluxes with energies >80 MeV at height of 200-250 km, meas. 1−36142
quiet-day electric fields, empirical model 1−9317
radio noise bursts during mag. disturbances at middle latitude 1−22626
radiowaves of high intensity causing disturbances of plasma 1−4677
scintillation measurement, 4-6 GHz 1−49454
SID phenomena, study of anomalous radio wave absorpt. 1−27330
solar eclipse, electron content and presence of TIDs 1−49443
solar wind influence on geomag. and auroral activity 1−54326
solar wind interaction, role of Pc 5 long period resonant hydromagnetic waves 1−22636
solar wind interaction affecting geoelec. field to explain Sun-weather relation 1−4600
sounding rocket electron beam expt., beam instability study 1−44382
sounding rocket electron injection expt., model of beam-plasma discharge 1−44381
sounding rocket electron injection expt., whistler freq. emission mechanism 1−44380
sounding rocket with electron injection expt., near rocket radioemission 1−44379
Sq(H) on abnormal quiet days 1−36097
Sq(H) variability on normal quiet days 1−36098
Sq and L variation elec. currents, location within ionosphere 1−27327
Sq focus position affected by interplanetary mag. field quiet days 1−27328
sudden freq. deviations, solar EUV and soft X-ray emission meas. 1−4842
TID phenomena, tropospheric source mechanism *(French)* 1−44356
topside auroral zone, ULF and VLF wave excitation 1−27340
topside ion temp. troughs at nighttime, induced by neutral winds 1−9318
total electron content irregular variations, global distrib. 1−4701
travelling ionospheric disturbances in F-region, VHF obs. 1−54309
travelling wave disturbance, simultaneous obs. at ground level and in ionosphere 1−32572
travelling wave disturbances due to partial solar eclipse 1−44386
valley above E-region max., deduction from O- and X-component group paths 1−4681
vertical electric currents at high-latitude (direct and reverse) 1−4711
VLF waves observed during Araks electron injection expts. 1−44370
wave disturbance phase velocity dispersion effect on coherence records 1−22604
wave propagation, coupling eqn. for EM waves and electroacoustic waves in inhomogeneous plasma *(Chinese)* 1−46867
wave reflection near lower hybrid freq. from inhomogeneous anisotropic ionosphere 1−4684
whistler mode waves generated by electron injection in Araks expt. 1−44369
X-ray bremsstrahlung following explosive Cs release expt. 1−17731
X-ray bremsstrahlung from auroral zone, obs. made at 30-60 km altitude with parachuted instruments 1−17732
X-ray bremsstrahlung precipitation due to electron injection expt. 1−49440
Ba, radial injection experiment at 571 km, expanding plasma effect 1−40251
Cs cloud release expt., stimulated electron acceleration obs. 1−17729
Cs ion release expt., obs. of EM pulse due to exploding payload 1−17728
Cs plasma cloud release expt., to study auroral precipitation 1−17727
He^+ density and temp. structure in topside polar subsonic outflows 1−4695
Mg^+, role of meteoric ion in ionosphere, ion-molecule reactions, rate consts. 1−43664
O_3 depletion and stratospheric minor constituents 1−54200
OH radiowave emission at 80-100 km altitude, rel. to ionsphere absorpt. 1−4688
Xe cloud release, crit. vel. interaction with ionosphere plasma 1−36101

ionospheric electromagnetic wave propagation
see also atmospherics
A1 absorption, meas. rel. to model electron-density profile for noontime equatorial lower ionosphere 1−13628
absorption, automatic system using RF pulse reflection technique 1−32551
anomalous radiowave absorpt. during SID phenomena 1−27330
atmospherics observations, azimuthal depend. of bandwidth and peak freq. 1−17721
auroral backscatter, results on 42 MHz fading 1−27335
auroral radiowave absorption rel. to electron density fluctuations in lower ionosphere 1−22587
D-region, auroral, partial refl. results explained in terms of acoustic waves 1−27334
D-region, refractive index to HF waves, Sen-Wyller formula 1−4698
D-region auroral absorption spike events, incoherent scatter radar obs. of electron densities 1−27333
D-region partial reflection expt., full polarization meas. 1−40264
Doppler effect on oblique radio paths 1−22597
Doppler shift of reflected signals, effect of wavelike electron density disturbances 1−22588
Doppler shifts and dispersion of ionospheric waves 1−22589
Doppler sounding from ground, inhomogeneities causing spectral broadening 1−22598
ducted decametric radio wave fields, computation method 1−22602
E_s propag. characts. deduced from oblique sounding expts. *(Japanese)* 1−4702
E_s-layer large scale inhomogeneous struct., refl. radio wave trajectories 1−22577
E-region, anomalous inogram multiple traces 1−49444
E-region, h_{max} diurnal variation, from 2.2 MHz absorpt. obs. 1−54310
Earth-air-ionosphere, propagation of electromagnetic waves in two media separated by a variable interface 1−36102

ionospheric electromagnetic wave propagation continued
Earth-ionosphere waveguide propagation, irregular spheroidal model 1−13635
echoes with great delay, mechanism proposal 1−22601
electroacoustic wave/EM waves coupling eqn. in inhomogenous plasma, derivation *(Chinese)* 1−46867
electron content, harmonic anal. of ATS-6 obs. at Lancaster 1−49451
ELF atmospherics, propag. constant and phase of wave impedance 1−44387
ELF propagation in Earth-ionosphere duct, simplified theory 1−32575
ELF propagation in Earth-ionosphere transmission line, worldwide model 1−32576
equatorial and high latitude scintillations 1−49453
equatorial scintillations, seasonal and geomag. control in two longitudinal sectors 1−27338
equatorial spread-F, backscatter meas. of assoc. 11 cm irregularities 1−17725
f_0F_2, meas. rel. to transmission of large-scale travelling ionospheric disturbances (TIDs) 1−27337
f_0F_2 prediction using mathematical modelling *(French)* 1−44362
F_2-layer, electron density stratification near equator and radiocommunication implications 1−4679
F_2-layer critical freqs., longit. distrib. rel. to lower atmos. press. 1−22594
F-layer, equatorial irregularity patches studies using SIRIO VHF transmission 1−22568
F-region, electron collision freq. A1 radiowave absorption meas. 1−22586
F-region ionis. irregularities near electrojet, fading obs. study 1−44360
F-region irregularities at nighttime, scintillation and radar obs. 1−17733
Faraday effect in reception of Explorer 27 signals and large-scale inhomogeneities 1−22599
heating by radio waves, artificial polar light phenomena obs. *(German)* 1−49446
HF fading on high latitude radio path, freq. spectra, mag. activity effects 1−22581
HF ionosphere refl. waves, effect of earthquake prod. atm. gravity wave 1−22582
HF oblique radiowave propag. in main trough region of ionosphere, amplitude distribs. and Doppler shifts 1−17734
HF radio environment in topside ionosphere, satellite obs. 1−32579
HF return signal characts. on Khabarovsk-Irkutsk path 1−22590
HF signal fluctuations in high-latitude ducts, during auroral substorms 1−22600
incoherent EM wave scattering, theory 1−54182
trans-ionosphere propagation, coherence loss of scintillating signals 1−54320
LF radiowave fading link with geomag. activity and major meteor showers 1−9310
magnetoactive ionospheric plasma, formation of artificial periodic inhomogeneities 1−32581
magnetosphere ionosphere coupling flux, cross-L drifts, whistler mode and radio beacon data 1−40255
mesospheric backscattering seen by VHF radar, depolarisation props. 1−22618
microwave propagation characteristics through mid-latitude ionosphere for ETS-II beacon signals at 1.7, 11.5 and 34.5 GHz 1−17726
N echoes, in equatorial region 1−32571
oblique propagation in ionosphere, SW range wave scatt. 1−22617
plasma disturbances due to intense radiowaves 1−4677
Polar Cap Absorption from solar radio burst obs. 1−22575
radio channels, AM and FM, bandwidth under propag. from Earth to ionosphere 1−4676
radio waves, ray tracing avoiding problems near refl. point 1−32555
radio waves in ionospheric wave ducts, multiple scatter effect on wave propag. 1−22580
radio-auroral scattering at two closely spaced frequencies 1−9311
radiowave absorption, anomalous latitudinal var. 1−40265
radiowave heating of ionosphere causing scintillation in VHF propag. 1−4693
radiowave oblique backscatter sounding, manifestation of Doppler effect 1−22578
radiowave propagation in horizontally inhomogeneous ionosphere, theory 1−4682
radiowave propagation problems and frequency ranges *(Czech)* 1−49449
radiowave scattering in plasmas 1−29881
reflection near lower hybrid freq. from inhomogeneous anisotropic ionosphere 1−4684
refractive index for rays in magneto-ionic theory, eqn. for homogeneous magnetoplasma 1−24976
relaxation of anomalous absorption of a test wave in artificial inhomogeneities 1−49448
satellite radio beacon, ionosphere irregularities obs. 1−49450
scattering by inhomogeneities produced by acoustic-gravity waves 1−27341
scintillation 1−27332
scintillation at VHF, UHF and L-band, equator region 1−4699
scintillation measurement, 4-6 GHz 1−49454
scintillation observations 1−49452
scintillation of transequatorial nighttime VHF waves, signal statistics 1−13636
scintillation of transequatorial nighttime VHF waves, signal statistics 1−13637
scintillation of VHF waves propagating from satellite to ground 1−49445
scintillations, effect of shape of plasma density power spectra 1−13639
SIRIO Faraday rotation data use in Voyager 1 and 2 spacecraft navigation 1−22659
SIRIO VHF beacon in Graz and Landau/Harz 1−22571
SIRIO VHF expts. 1−22567
slab thickness, empirical model for group delay corrections 1−44389
solar eclipse D-region ionis. depletion and VLF propagation 1−32573
solar eclipse MW radiowave propagation 1−54311
sounding rocket telemetry signal damped due to electron injection expt. 1−44377
spread-F, solar activity affecting occurrence and latitudinal extent 1−22593
spread-F irregularities in mid-latitude regions 1−40266
stratified anisotropic ionosphere, tensorial boundary condition for wave propag. analytical treatment *(German)* 1−27326
time delay variability in Mediterranean region 1−22570
trans-ionospheric propagation models 1−54321
transequatorial VFH propag. through equatorial plasma bubbles 1−4700
transionospheric radiowave propagation and signal statistics 1−44390

ionospheric electromagnetic wave propagation continued
travelling ionospheric disturbances in F-region, VHF obs. 1−54309
UHF and VHF NAVSAT signal propagation, leading to ranging errors 1−44357
ULF and VLF wave excitation in topside auroral zone 1−27340
valley above E-region max., deduction from O- and X-component group paths 1−4681
VHF, signal reception from geostationary ionospheric investigation satellite *(Spanish)* 1−54281
VHF scintillation and fluctuation of Faraday rotation caused by spread-F and sporadic-E over Kokubunji, Japan 1−27339
VHF scintillations and nighttime TEC enhancements above Arecibo 1−4697
VHF SIRIO emission, transmitted polarisation determ. 1−22569
VLF attenuation as function of azimuth, study using atmospherics 1−13520
VLF GBR 16 kHz signals, phase vars. at Naini Tal 1−22609
VLF signals reflected from ionosphere, meas. 1−13640
VLF waves propagation at low latits., lower ionosphere effects 1−13629
whistler exit-point of duct to ground, direction-finding of VLF technique 1−32540
whistler exit-point of duct to ground, VLF direction-finding technique 1−32541
whistler propagation at low latitudes, equatorial anomaly effect 1−17722
whistlers, low latitude obs. at Agra 1−22608
whistlers, self-focusing, rel. to ionospheric and magnetospheric propag. 1−49447
whistlers L-value determ. from ground and Interkosmos-10 1−13642
Cs ion release expt., obs. of EM pulse due to exploding payload 1−17728

ionospheric measuring apparatus
automatic system using RF pulse reflection technique 1−32551
electrodynamic tether attached to Space Shuttle, induced wave and particle phenomena 1−4745
electron collection by blunt probes in the lower ionosphere 1−17752
Ionospheric Sounding Satellite-b, mission operation and results 1−40301
sounding rocket electron injection expt., model of beam-plasma discharge 1−44381

ionospheric measuring instruments *see ionospheric measuring apparatus*

ionospheric propagation *see ionospheric electromagnetic wave propagation*

ionospheric techniques
see also electron density; ion density
Araks rocket expt. with electron injection expts., general description 1−44403
artificial satellite plasma flow interaction, shuttle-era expts. 1−40204
drifts data analysis, efficient method using full correl. anal. 1−27300
electron beam injection from rocket secondary effects upon interaction 1−22605
electron beams, artificial, appl. to magnetospheric research 1−36160
electron bunching in auroral ionosphere, MHz freq. rocket borne detection technique 1−27306
electron collection by blunt probes in the lower ionosphere 1−17752
electron injection from Araks rocket expt., electron trajectory calc. 1−44363
electron injection from rockets, detectable using radar 1−44365
f_0F_2 prediction using mathematical modelling *(French)* 1−44362
F-region, N(h) analysis of ionograms 1−54322
flux preserving method for protonosphere-ionosphere plasma flow studies 1−22613
HF radio noise in topside ionosphere, satellite meas. 1−32579
holographic radio camera, Bojarski exact inverse scatt. theory and holograph comparison 1−51413
incoherent scatter radar monopulse meas. interpretation method 1−40262
plasmasphere, mid latitude, ions on force lines motion and continuity eqns. soln. 1−22515
radar incoherent scatter method, using Barker coding and multiple pulse 1−32539
radio waves, ray tracing avoiding problems near refl. point 1−32555
signal flow graph technique for D-region negative ion chemistry studies 1−9315
signal reception from geostationary ionospheric investigation satellites, receiver design *(Spanish)* 1−54281
sounding rocket electron beam expt., beam instability study 1−44382
sounding rocket electron injection expt., model of beam-plasma discharge 1−44381
Tethered Subsatellite System, attachment to space shuttle orbiter, ionospheric studies appls. *(Japanese)* 1−36158
valley above E-region max., deduction from O- and X-component group paths 1−4681
whistler exit-point of duct to ground, direction-finding of VLF technique 1−32540
whistler exit-point of duct to ground, VLF direction-finding technique 1−32541
X-ray bremsstrahlung from auroral zone, obs. made at 30-60 km altitude with parachuted instruments 1−17732
Cs plasma cloud release expt., to study auroral precipitation 1−17727
Xe cloud release, crit. vel. interaction with ionosphere plasma 1−36101

ionotophoresis *see electrophoresis*

ions
see also atoms; electrolytic ions; hydrogen ions; negative ions
No entries

i.r. astronomy *see infrared astronomy*

i.r. detectors *see infrared detectors*

IR drop *see electric potential*

i.r. imaging *see infrared imaging*

i.r. sources *see infrared sources*

i.r. spectra *see infrared spectra of diatomic inorganic molecules; infrared spectra of inorganic solids; infrared spectra of organic molecules and substances; infrared spectra of polyatomic inorganic molecules; spectra of inorganic liquids and solutions*

irasers *see lasers*

iridium
see also nuclei with .....
adsorbed with W on W (110), adatom pair interactions, FIM study 1−47376
adsorption of water on reconstructed (110)(1×2) surface, LEED, XPS, contact pot., and thermal desorption meas. 1−38663
chemisorption of Co on (111) and (100) surfaces, angle-resolved polarisation-depend. UPS study 1−3576
coadsorption of H_2 and CO on (110) surface 1−7466

iridium continued
Cretaceous-Tertiary species extinction, element abundance and asteroid impact? 1−9157
energy linearised scheme, relativistic band struct. calc. 1−20607
oxidation kinetics at various O_2 press. *(Russian)* 1−48729
surface (100), reconstruction, struct. determ. by LEED intensity anal. 1−47345
surface (100) reconstruction, LEED anal. and struct. models 1−47344
valence and conduction band energy dispersions, angle-resolved photoemission study 1−21326
AgBr:Ir, optically detected mag. resonance 1−47979
CaO:Ir^{4+}, EPR spectra, cryst. field and mag. props. 1−3254
^{192}Ir sources, development for brachytherapy 1−32247
MgO:Ir^{4+}, EPR spectra, cryst. field and mag. props. 1−3254

iridium alloys
see also iridium compounds
rare earth alloys, R_5Ir_3 and R_3Ir_2, cryst. struct. 1−34289
Ag-Ir, dil., elec. field gradients, impurity distrib., TDPAC study 1−31077
$Ce(Pt_xIr_{1-x})_2$, cubic Laves phase, intermediate valence state detect., ESR and lattice parameter study 1−26032
Cu-Ir-O, liq., O soln. thermodynamics, Ir solubility, meas. 1−20391
Ir-Fe, dil., localised spin fluctuations 1−16393
Ir-Gd, dil., ferromag. props. 1−12272
Ir-W:Th, outward diffusion and external oxidation 1−39336
Nb_3Ir, nucl. relax., ^{93}Nb NQR study, rel. to supercond. transition temp. 1−26075
Pt-Ir catalytic layers, Ti supported, XPS study 1−43703

iridium compounds
see also iridium alloys
n-InP, thermally detected EPR, impact ionisation of shallow donors 1−47939
Ir-IrO_2 electrode, faradaic processes 1−17064
Ir(I) complexes, emission spectra and lifetimes, temp. effect 1−35080
IrO_x anodic film cells with fluoride electrolytes, electrochromism obs. 1−48033
IrO_x electrochromism, temp. depend. 1−39065

iron
see also nuclei with .....
α-phase, BCC, edge dislocations, core struct. and core energy, tight-binding calc. 1−42384
α-phase, BCC, screw dislocation motion under shear stress, tight binding calc. 1−42383
absorption of N_2, isotopic exchange 1−25571
abundance in Hyades star cluster 1−22850
abundance in rich galaxy clusters from protogalactic evolution model 1−13865
abundance in Sun's neighbourhood towards Galaxy anticentre *(Russian)* 1−13770
adsorption of CO, XPS, UPS and AES study 1−16182
adsorption of Cr, escape depth comparison between Auger electron and disappearance potential spectroscopy electron 1−26319
adsorption of H_3 on (110), (111), stepped (111) surfaces, LEED and thermal desorpt. study 1−11975
adsorption of H depend. on absorption affected by He, Fe and Pt implantation implanted He, Fe, Pt 1−7458
ageing, positron annihilation study 1−26516
Armco, fatigue crack growth rate and grain size 1−31619
Armco, magnetoelastic effect in ferromagnet, struct. and processing effects 1−34917
Armco, yield stress and tensile instabilities at room termp. 1−12815
Armco Fe, boronising, preliminary deform. influence 1−3995
Armco Fe, coating with TiC, appl. and props. 1−8482
Armco Fe, fracture, liq. Pb effect 1−31613
Armco Fe, pulsed high-power electrochem. treatment *(Russian)* 1−43594
Armco-Fe electron beam welding, vapour-gas separation speed *(Russian)* 1−16033
atmospheric rust, self-protection mechanism 1−21633
atom, in cryst. Ar matrix, electronic struct., Mossbauer isomer shift 1−24307
atom, integral Compton scatt. cross sections, for 279 keV γ-rays 1−1149
Auger electron appearance potential spectra, changes by CO adsorption *(Japanese)* 1−39184
Auger spectra identification due to ion and electron impact 1−3553
Barkhausen effect, influence of cyclic stressing in polycrysts. 1−30988
BCC, formation of ultrafine particles by gas evaporation, cryst. struct. and habits 1−25197
BCC, moment reversal calc. 1−3152
BCC, oscillatory mag. breakdown, model calc. 1−52468
BCC, screw dislocations, core struct. and core energy calc. 1−47084
BCC and FCC, ferromag. and antiferromag., mag. moments 1−30925
biomagnetic susceptometry of human Fe store, 1−8940
cathodically charged, boundary conditions for hydrogen permeation 1−2700
chemisorbed CO on (110) surface, angle-resolved photoemission 1−3575
chemisorption of acetylene, Hartree-Fock-Slater-LCAO studies, cluster models 1−52430
cluster, SW-X_α-SCF calcs. *(German)* 1−51333
coarse grained, cubic, lattice strain *(German)* 1−25198
coating, friction and wear features 1−31675
compacts from fine powders, sintering behaviour, effect of purity 1−39274
contaminants in float glass, effect on solar transmittance 1−13091
corrosion, in mixed gas environments at elevated temps. 1−3981
corrosion and passivation, bicarbonate effects 1−31726
corrosion behaviour 1−16942
corrosion by mixture of elemental S and water 1−4006
corrosion in HCl, inhibition by iodide and quinoline 1−26660
corrosion inhibition by n-alkylquaternary ammonium cpds., effect of ammonium group 1−39505
creep, struct. model, physical mechanism 1−39381
crystalline, amorphous and liquid, struct., freq. distrib. function 1−15832
cubic crystals, magnetically saturated, skew-symmetric stresses *(German)* 1−3235
cubic crystals, slightly distorted, Coulomb type defects, X-ray exam. *(Russian)* 1−2425
CVD of Sn on Fe or carburized Fe substrates 1−21358
DC mag. props., effect of sintering atm. 1−3940
determination in biological plasma 1−26790
determination in Ni electrolytic soln. using flame-atomic absorpt. photometry *(Chinese)* 1−48767

iron continued
determination in seawater by graphite furnace AAS 1−21800
diamond:Fe, in-beam implantation, Mossbauer effect study 1−16507
diffusion of C, thermodynamics and kinetics 1−7392
diffusion of high purity H and D 222 to 322K *(Japanese)* 1−47298
diffusion of Se *(French)* 1−38592
diffusivity of C at high temp. 1−7387
dislocation patterns, leading to initiation of ductile fracture 1−30238
dislocation processes, study using in-situ HVEM expts. 1−2448
electrochemical and corrosion behaviour in acetonitrile soln. 1−48561
electrochemical treatment, surface roughness smoothing mechanism in passivating electrolyte *(Russian)* 1−39518
electrodeposition of Ni on Fe powders, investigation of effect of process parameters 1−21639
electrolytic, creep deform., caused by cathodic H charging *(Japanese)* 1−31538
electrolytic, intergranular fracture 1−39547
electron and phonon spectra, press. depend. 1−34607
electron mean free path, spin depend. 1−30729
electronic configuration, model pseudopot., calc. 1−30625
electronic states near dislocations, SCF-Xα-SW calcs. 1−7551
equation of state, selfconsistent cell model calc. 1−30349
ethane(ethylene) surface, Fe vapour impact reactions, Mossbauer effect 1−31904
fatigue process in single crysts. temp. dependence 1−31648
FCC, diffusion of C, appl. of theory for vacancy motion 1−47303
α-Fe, vacancy migration, self-diffusion, review 1−20191
ferritic, strain hardening, axisymmetric vs. plane strain elongation 1−21483
ferromagnet, itinerant electron, effects of spin fluctuations 1−30959
ferromagnetic, polycrystalline film, Brillouin scatt. from magnons 1−26225
ferromagnetic, transient hyperfine field at recoiling Si, Pd and Pt ions 1−16267
ferrous materials, atomic emission spectrographic investig. of boride layer depth profiles *(German)* 1−21830
film, depth-selective conversion-electron Mossbauer spectra 1−21095
film, energy loss spectra, optically forbidden 3s subshell excitations 1−21308
film, high-dose Au^+ and Ta^+ implantation, sputtering limitations, backscatt. meas. 1−11775
fission fragment damage, comparison with fast neutron damage 1−2523
flow stress, effect of H_2 on specimens of various purities 1−12817
foil, Mossbauer effect, selective excitation double reson. lineshape 1−52877
fracture, brittle and viscous, EM emission 1−35382
fracture mechanism, in-situ HVEM study of single cryst. 1−3898
friction at low temps. 1−12887
galvanised, corrosion under wet storage conditions 1−12922
Hametag Fe base powder, influence on struct. of sintered Mn steel 1−39270
Herculis X-1, Fe line feature and soft X-ray implications 1−9723
hexagonal ε-martensite, mech. and mag. props. *(German)* 1−31426
hydrogen embrittlement and hydrogen-dislocation interactions 1−31585
hyperfine field of ^{197}Au at const. volume, temp. depend. 1−30689
impurities, incorporation in Au coatings being deposited from neutral electrolytes 1−38687
ingots, directionally solidified, deoxidised with Al, inclusion morphology and comp. 1−39330
internal friction peaks α and β_1 in irrad. or deformed specimens 1−20313
interplanetary Fe grains, influence of thermoionic effect on electrostatic potential 1−36155
interstellar dust, Mg and (Fe, Si) phase separation 1−9631
ion penetration into Si, fracturing of Si 1−26397
itinerant electron systems, single-site spin fluctuation theory 1−7846
K-lines from neutron star atm. in X-ray binary 1−9551
K-shell polarisation of O ions by spin depend. electron promotion 1−16513
liquid, elec. resist. and temp. derivative 1−30703
liquid, O_2 transfer rate from slag *(Japanese)* 1−25438
macro yield stress, temp. and strain rate depend. in high purity single crystal 1−12830
magnetic aftereffect of interstitial oxygen 1−52809
magnetic dipole transitions in highly ionised gas 1−11567
magnetic properties of plastically deformed single crysts. 1−47906
magnetic susceptibility meas. of δ to α transform. *(Russian)* 1−16036
mass transfer during electrohydrodynamic pulse treatment 1−2673
metallic film, ultra-thin, spin polarised, self-consistent band struct. calc. 1−30623
metastable alloy form. by ion implantation, channelling and TEM study 1−2486
neutral, in ISX-B, density and rel. distrib. by laser fluoresc. spectrosc. 1−25058
neutron penetration calc. *(Czech)* 1−5829
nitride hardening 1−43355
NMR study, crit. region and ferromag. phase 1−26067
NMR-ON study of ^{182}Ta and ^{183}Ta in Fe 1−34952
orbital and high-field susceptibility calcs. 1−16430
ore prospecting by γ-γ well logging, calibration of RSR-3 apparatus *(Russian)* 1−27295
oxidation: parabolic, rate constants and diffusion props. 1−16944
oxidation, of (111) surface, AES study 1−43704
oxidation kinetics, PIXIE study 1−48775
particles, S impurity redistribution due to ascending diffusion *(Russian)* 1−11906
passivation, in mixed dimethylformamide-water solvents, water and oxyanions effect 1−16946
passive Fe, pit formation in cathodic polarisation dissoln. of passive film and pit initiation 1−39514
photoemission, angle-resolved, spin fluctuation and exchange effects, calc. 1−31315
pionic atoms, relativistic fine struct. splitting 1−1415
plasma, impurity ion distrib. by multiple ionisation, runaway electrons role *(Russian)* 1−38081
plastic deform. instability, influence of thermal activation 1−21537
plastic deformation, energy of dislocation ensembles *(Russian)* 1−21520
polyacrylamide solns., effect of Fe^{+++} on drag reduction 1−46815
polycrystalline electrode impedance at 298K, obs. 1−8576
porosity development, thermodynamic determ. *(French)* 1−39318
powder, atomised, and hot forged materials, correl. of props. 1−53136
powder, dynamic hot pressing in vac., sintered material form 1−53125

iron continued
powder, filed, excess heat content, changeschanges during heating 1−12772
powder, heating 50 to 400°C, elec. cond. and strength changes 1−53218
powder, multidirectional spin system, NMR enhancement factor 1−34949
powder, sintering quality and hardness, effect of protective atms. 1−39276
powder compacts, pure and Cu-infiltrated, sintering behaviour on A_3-cyclic heating *(Korean)* 1−16714
powder compacts, strengthening by V_4C_3 precipitation *(Japanese)* 1−31469
powder filled polyethylene, wear mechanism, running-in effect 1−12882
powders, coefficient of external friction in pressing 1−12684
powders, prep. by vapour phase reduction of chlorides 1−43297
radioactive impurity removal by zone refining 1−23981
reduced by Al, effect of crucible material on inclusions 1−12995
relativistic ion beams, higher-order corrections to stopping power 1−25344
Riga Gulf, distrib. of Sc, Hf, Th, Ln, Ce, Eu, Mn, Fe, Co in bottom sediments and suspended matter *(Russian)* 1−13449
rust film, amorphous, short range struct., electron diffr. study 1−31739
scratched electrode, anion effects in aqn. soln. 1−48565
secondary ion yields, M^+ and M_2^+, temp. depend. 1−21309
shear modulus calc., variation limits *(Russian)* 1−43392
sheets AC magnetisation characteristics and iron loss testing using Epstein's apparatus *(Polish)* 1−40827
shielding, inelastic neutron scatt. cross-section 1−50949
shock waves, laser-driven, and twinning 1−38457
single crystal, deformation and fracture, influence of C in solid solution on the effects *(French)* 1−43474
single crystals, Hall effect results reviews 1−34688
sintered, fatigue curve, microstruct. and fractographic interpretation 1−31608
sintered, Fe_3P addition effect on mag. props. and struct. 1−52805
sintered and diffusion siliconised, effect on porous struct. 1−39537
slabs, empirical formulae for build-up factor calcs., wide conical beams of γ-rays 1−20261
soda-lime:Fe glass, appl. of thermally detected EPR 1−47939
soda-lime glass:Fe, thermally detected EPR 1−26024
solar cosmic ray particles, Fe-rich, interplanetary obs. from Prognoz 6 1−36130
solid solution softening in polycryst., high purity specimens 1−26487
specific heat and temp. coeff. of elec. resist. near Curie point *(Russian)* 1−25945
spontaneous magnetisation, modified Zener model 1−34864
strain hardening, effect of grain size and C content 1−21482
strengthening and loss of strength kinetics in adsorption fatigue 1−35376
substrate, Ag thin films, ion sputtered and lapped compositional profiles, Auger electron spectroscopy 1−31246
Sun, Fe abundance reduced to Kurucz-Peytreman oscillator strengths scale *(Russian)* 1−49594
surface, Ar ion sputtering, plasma-wall application 1−26336
surface, D(H)(He) ion sputtering yield, ion fluence and O_2 partial press. effect 1−26335
surface EM wave attenuation meas. *(Russian)* 1−26155
surface in Na-Hg, Zn impurity adsorption 1−48728
surfaces, boundary lubricant film form., role of non-metallic inclusions 1−16905
Taylors theory appl., to study of heterogeneity of deform. *(French)* 1−48414
TGS:Fe^{3+} thermal cond. diffusivity and split 1−34525
thermal ions in high speed streams, IMP 7/8 EPS detection in solar wind 1−17748
thermoelectric effect with in contact with compressed Cu 1−7595
thin film, oxide formation, Auger spectra 1−8467
thin films in contact with Al, spin polarised tunnelling, mag. suppression 1−42923
α-γ transformation, crystallographic peculiarities at continuous heating *(Russian)* 1−47034
tribomechanically loaded, strength of subsurface region, dislocation cell struct. 1−21592
unfilled atomic shells, internal conversion theory *(Russian)* 1−37165
void swelling examination using C ion bombardment 1−47121
wedge cavities, SEM obs. 1−3919
wetting of solid Fe by liquid Sn *(Japanese)* 1−2777
whisker matrices, porous material, thermal regenerators, isothermal pressure drop 1−38005
whiskers, single cryst., electrocrystn. 1−35215
whiskers, stress/strain curves rel. to dimensions and surface conditions 1−3819
wire, cold-worked, internal friction peaks due to a coating effect 1−26529
X-ray anomalous scattering by total reflection in L-edge region 1−35115
X-ray emission spectra, fine structs. obs. 1−10751
X-ray Faraday effect and optical activity 1−48047
yield strength and statistical grain size distrib. relationship in polycrysts. 1−20307
Al coated, effect of preliminary deform. on coating/substrate interaction 1−16841
α-Al, monocryst., diffusion of Cr and Fe *(French)* 1−16096
Al_2O_3:Fe^{3+}, Mossbauer spectrum response to nuclear dipole fields 1−26097
Al_2O_3:V^{3+}, anomalous ion sites obs. by phonon freq. crossing spectroscopy 1−15971
Al_2O_3/molten Fe, interfacial tension meas. *(Japanese)* 1−2778
Al_2O_3-SiO_2:Fe^{3+}, mullite, Fe^{3+} struct. position, powder diffr. obs. 1−25217
$AlPO_4$:Fe^{3+}, radiation effects, EPR and ENDOR meas. 1−15933
Al_2SiO_5:Fe^{3+}, andalusite, inversion ratio in Q and V-bands, maser props. 1−46272
$Ba_{0.5}Sr_{0.5}Nb_2O_6$:Fe^{3+}, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
$BaTiO_3$:Fe, dopant valence state, charge compensation, Mossbauer and gravimetric meas. 1−7185
BeF_2:Fe glass, ESR of paramag. states and ferrimag. phases 1−31019
Bi-Fe amorphous sandwiches, supercond., proximity effect and transition temp. meas. 1−42919
CdTe:Fe, distrib. of mag. impurities, mag. props. meas. *(Russian)* 1−52170
CdTe:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
Cr high-speed electroplating on Cu or Fe from dilute acid soln. 1−8244
$CuInSe_2$:Fe, EPR characterisation 1−34929

iron continued
EuO_2-Fe cermet, fabrication for coarse control arm tips in DIDO and PLUTO 1−53151
γ-Fe, antiferromagnetic, spin struct. study 1−34860
α-Fe, C-charged, electron irrad., mag. relax. after annealing above stage III 1−21016
Fe core collapse, bounce and shock wave propag. leading to supernova 1−40512
α-Fe, friction stressed single crystal, X-ray obs. 1−53299
Fe I lines, damping constants in solar photosphere 1−22757
Fe II, absorpt. lines in Nova Cygni 1978 (V1668 Cygni), anal. 1−40485
Fe II, electron-ion collision strengths, transition probability and population density 1−4756
Fe II 3969.4 Å in solar spectrum, spatial intensity vars. rel. to stellar Fe lines form. 1−32671
Fe II emission line stars R82 and R50 in Magellanic Clouds, spectral obs. 1−36407
Fe II identification in quasars 1−44665
Fe III sequestriation on polyacrylamidoxime resin for determ. in natural waters 1−53490
Fe ions, Na-, F- and O-like, low-lying excited states, UV spectra, radiative lifetimes meas. 1−14839
α-Fe, mech. props. rel. to cathodic H_2 charging at 300°C *(French)* 1−35326
α-Fe, modelling of defect displacement peak annealing *(Russian)* 1−47078
α-Fe, plastic deform. by determ. and anal. of creep data 1−12845
Fe powder nitridation, morphology and lattice distortions 1−35285
Fe sinters, magnetically soft, influence of P on props. 1−39476
Fe solar line Doppler shift, plasma rot. and large scale motion determ. 1−36241
Fe V and VI forbidden lines in spectra of RR Telescopii and eta Cornae 1−49663
Fe VII- term anal. 1−45883
Fe XVII in solar active region, X-ray emission line profiles anal. 1−54435
Fe XXI, Fe XXII in solar flare X-ray spectra, density sensitive line ratios meas. 1−32674
Fe XXV, electron impact excitation, relativistic distorted wave approx. calcs. 1−1383
Fe XXV ion reson. line in solar flare X-ray spectra, Doppler shift 1−36260
Fe^+ in F-region use to determine metal ions morphology 1−40257
Fe^{18+}, multiconfiguration relativistic HF Roothaan theory 1−19024
Fe^{2+} electronic structure, bacterial reaction centres, static magnetisation obs. 1−26877
Fe^{2+} impurities, effect on light absorption in heliostat glasses 1−13092
Fe^{2+}, Rayleigh and Compton cross sections of photon scatt. 1−19067
Fe^{23+} electron scattering R-matrix, Breit-Pauli Hamiltonian 1−10848
Fe^{25+} electron impact excitation, three-state close-coupling calc. 1−41496
Fe:H, yield and flow stress, orientation depend. 1−21563
Fe/Cu, microlaminate condensates, struct. and props. determ. 1−16721
Fe/H ratio in late type supergiants throughout galactic disc 1−36273
Fe/Ni alloy foil electroforming, anode material effects 1−48697
Fe-Al welding, influence of Ag layer on interdiffusion kinetics *(Russian)* 1−16091
Fe-graphite materials, sintering, reaction of grades S and KLZ graphites with Fe matrix on heating 1−53140
Fe-graphite powder materials, causes of wustite inclusion form. 1−39281
Fe-metalloid ferromagnetic metals, hyperfine fields 1−20680
Fe-N precipitation, rate depend. on alloying elements *(Japanese)* 1−31462
Fe-redox battery, performance characts. 1−48815
Fe-Si-C diffusion couple, anal. demonstration of Darken expt. 1−25510
Fe-Sn interface reaction, Mossbauer spectroscopy study 1−26085
Fe-Teflon composite, mag. props. meas., Fe microparticle dipole-dipole interactions 1−21014
Fe+graphite, X-ray spectra, transition energies and electron stripping probabilities 1−8160
$Fe+Hg^+(Xe^+)(Cs^+)$, charge transfer cross sections 1−37323
Fe^{4+}+thin gas targets, single and multiple electron loss cross section 1−46104
Fe_2, in solid matrix, reson. Raman spectra 1−37213
^{55}Fe, electron capture decay, Mn Kαα X-ray obs. 1−15005
Fe* stimulated emissions from transverse excitation of $Fe(CO)_5$ using KrF pulses 1−24085
Fe(110), S adsorption, surface reconstruction, LEED anal. 1−52403
GaAs:Fe, doping by MBE 1−47394
GaAs:Fe, high-resistivity LPE layers, photocapacitance 1−39253
GaAs:Fe, impurity electron states 1−25657
GaAs:Fe, MESFET, doping profile determ. by SIMS 1−30264
GaAs:Fe high resistivity layers, LPE growth by impurity doping 1−39256
GaP:Fe, deep traps, photoluminesc. study 1−12569
Ge:Fe, in-beam implantation, Mossbauer effect study 1−16507
Ge:Fe, in-beam implantation, in external mag. field, Mossbauer spectra study 1−16508
GeSe:Fe, amorphous films, 1−26293
H hot plasma, Fe impurity, inner shell bound-bound oscillator strengths, screened pot. 1−19878
H_2 charged, cathodically, at 300°C, mech. props. *(French)* 1−35326
H_2SO_4:Fe(Cu), phase relax. kinetics, electron spin-echo obs. 1−14946
InP:Be,Fe, SIMS studies of dopant profiles, review 1−30268
InP:Fe, deep level spectroscopy 1−34649
InP:Fe, p-i-n structs., photocapacitance 1−38844
InP:Fe, photocond. relax. kinetics 1−20809
InP:Fe, Si implanted annealing, CVD SiO_2 encapsulation 1−38396
InSe:Fe, impurity effect on optical spectra *(Russian)* 1−31177
$KMgF_3:Fe^{2+}$, dynamic Jahn-Teller effects in photoluminesc. 1−39147
$KMgF_3:Fe^{2+}$ appl. of thermally detected EPR 1−47939
$KMnF_3:Fe^{2+}$, effect of paramag. impurities on EPR linewidth 1−26022
$K_2NaAlF_6:Fe^{2+}$, ENDOR determ. of covalency 1−47973
K_2O-B_2O_3:Fe^{2+} glasses, fraction of non-bridging O, Mossbauer study 1−34965
$KTaO_3$:Fe, identification of photochromic absorption, optical and ESR meas. 1−26239
LiCl:Fe, γ-ray irradiation effect, defect struct., X-ray diffr. and Mossbauer meas. 1−43047
$LiNbO_3$:Fe, annealed in H_2, OH^- absorpt., spectral and ESR meas. 1−21241
$LiNbO_3$:Fe, composition inhomogeneities, defect types 1−38545
$LiNbO_3$:Fe, hologram decay with time varying cond. 1−1516

iron continued
$LiNbO_3$:Fe, holographic recording process, influence of spatially inhomogeneous incoherent illumination *(Russian)* 1−37442
$LiNbO_3$:Fe, photorefractive effect, photoconductivity 1−21167
$LiNbO_3$:Fe, polarised Raman scatt. spectra, optical damage effect 1−26213
$LiNbO_3$:Si, Fe, dopant conc. anal. by atomic absorption spectroscopy 1−20251
MgO:(Fe)(Cr), single crysts., dielectric behaviour 1−39023
MgO:Fe, ESR line broadening of Fe^{3+} at low temps. 1−12390
MgO:Fe, near IR absorpt. due to Fe^{2+}-Fe^{3+} interactions 1−21200
MgO:Fe, single cryst., elec. cond. at elevated temps. 1−42778
MgO:Fe^{3+}, EPR lineshapes in axial and cubic cryst. field 1−16472
MgO:Fe^{3+}, ESR study 1−34934
MgO:Fe^{3+}, impurity distrib., EPR study 1−7205
$MgTi_2O_5$:Fe^{2+}, photoanodes coloration, solar energy appl. 1−31169
Mo, Fe mass transfer under impulse loading *(Russian)* 1−20468
NaCl:Fe, γ-ray irradiation effect, defect struct., X-ray diffr. and Mossbauer meas. 1−43047
Ni plated Fe single crysts., surface film softening, effects of prestraining, temp. and orientation 1−12806
Ni-NiO-Fe ferromag. tunnelling junction, spin-polarised tunnelling of electrons *(Japanese)* 1−12210
$Pb_{0.92}La_{0.08}Nb_2O_6$:$Fe^{3+}$, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
Si:Fe, Cu impurity conc. determ. by neutron activation anal. *(German)* 1−31941
Si:Fe, deep states, photoluminesc. study, Zeeman splitting 1−48137
Si:Fe p-n junction, deep level Fe ion dose depend. 1−16250
Si:Fe: in-beam implantation, Mossbauer effect study and channelling study 1−16507
Si:Fe^+, Jahn-Teller centres, spin-phonon interactions, spin-lattice relax. 1−21042
SiO_2:Fe, vitreous, fundamental absorpt. edge 1−16591
SiO_2/molten Fe, interfacial tension meas. *(Japanese)* 1−2778
Sn-Fe amorphous sandwiches, supercond., proximity effect and transition temp. meas. 1−42919
$SrTiO_3$:Fe, photochromism of photosensitive Fe centres, ESR study 1−38977
TiO_2:Fe^{3+}, rutile, electron spin-lattice relax. time meas. 1−12388
UO_2 coated, fission fragment damage, comparison with fast neutron damage 1−2522
ZnS:Fe^{2+}, E-state energy splitting reduction, Jahn-Teller coupling 1−25671
ZnS:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
ZnSe:Fe, giant spin splitting of exciton states 1−31132

iron alloys
see also Elinvar; Invar; iron compounds; Permalloy; steel
Alnico, anisotropic permanent magnet, effect of magnetisation distrib. upon field calc. 1−12341
Alnico permanent magnets, elongated single domain particles, rotational hysteresis and magnetisation curling 1−12352
amorphous, magnetostriction and magnetisation meas. 1−16468
Armco Fe, low cycle fatigue, anal. based on hysteresis energy 1−39418
Armco Fe, microalloyed, recrystn. at critical degrees of deform., grain boundaries condition effect 1−43363
Armco Fe, quantitative anal. of intergranular surfaces orientation after deform. and recrystn. *(French)* 1−48362
Armco Fe powder, excess heat content, changeschanges during heating 1−12772
Armco-Fe, plasma-hydrogen oxidation *(Russian)* 1−16964
binary alloys, dil., intergranular segregation, effects of ferromagnetism 1−39337
bronze-Al, type D (CDA-614), laser surface melted, enhanced corrosion resistance 1−31724
cast, malleable, graphite inclusions compactness eval. 1−8498
cast, retained austenite transform. characts. during tempering with spheroidal graphite *(Russian)* 1−48343
cast Fe, abrasive wear, effect of internal notches 1−16909
cast Fe, ductile, hot rolling and forging 1−48403
cast Fe, graphite morphology, exam. by optical and scanning electron microscopy *(Chinese)* 1−48617
cast Fe, graphite morphology in wedge-shaped castings, study using SEM and optical microscopy 1−21440
cast Fe, graphite shape and amount influence on rolling contact fatigue strength *(Japanese)* 1−3896
cast Fe, graphite shape effect on mech. props. 1−43470
cast Fe, grey, Al addition effect on microstruct. and hardness 1−53261
cast Fe, high Cr/Mo, white, fracture toughness 1−53259
cast Fe, high strength, tensile props. and hardness, influence of Cu additions *(Chinese)* 1−35349
cast Fe, high-strength, annealability, S alloying effect 1−3720
cast Fe, influence of additions on adsorption of unwanted impurities *(Russian)* 1−31465
cast Fe, local microdeformation distribution in samples with different graphite forms 1−12823
cast Fe, Ni additions, strengthening and toughening by heat treatment in eutectoid temp. range *(Japanese)* 1−53212
cast Fe, Ni-hard, abrasive wear resistance *(Chinese)* 1−35395
cast Fe, nodular, fracture toughness, SEM obs. 1−43522
cast Fe, nodular graphite, brittle and ductile fracture surface, SEM obs. rel. to microstruct. 1−43527
cast Fe, reductive dissoln. of γ-FeOOH in corrosion scales in near-neutral waters 1−43568
cast Fe, torsion and tensile tests 1−3869
cast Fe, WC reinforced, interaction of reinforcing particles with high Cr matrix 1−16898
cast Fe, white 1−47045
cast Fe, with different shapes of graphite inclusions, damping capacity 1−42461
cast Fe 1−16908
cast Fe melt, Mg melting loss *(German)* 1−52260
cast Fe QC by magnetic noise envelope charact. *(Russian)* 1−16458
cast Fe stress-strain state microinhomogeneity, rel. to fatigue failure *(Russian)* 1−21573
cast Fe-Ni-Cr, white, abrasive wear-microstruct. interactions 1−21599
cast Fe-W, etch method for revealing carbides *(Chinese)* 1−53367
cast iron, influence of friction-strengthening treatment on struct., phase comp., wear resist. *(Russian)* 1−48521
cast iron, white, abrasive wear 1−48527

iron alloys continued
cast-Fe with lamellar graphite, determ. of elastic modulus *(German)* 1−26524
corrosion behavior, in high temp. $H_2+CO+CO_2$ gas mixture 1−48585
corrosion in high press. and temp. water *(Japanese)* 1−48574
crevice corrosion and corrosion cracking, conditions similarity 1−35444
deformed, with low energy of austenitic stacking faults, radiographic phase anal. 1−31781
Earth core, Fe alloy with slurry, simple model of motion 1−54029
electronic structure from positron annihilation 1−12022
ferromagnetic, non-transition element impurities, nuclear spin-lattice relaxation time 1−34953
ferromagnetic transition, thermodynamic treatment 1−16439
fracture, brittle and viscous, EM emission 1−35382
grain boundary segregation during quenching, method for evaluation 1−53189
grain boundary segregation phenomena, interpretation using scanning Auger spectroscopy 1−21453
Hastelloy alloy C-276, Ni-base superalloy, hydride form. 1−53271
Hastelloy alloys X and S, generation of reliable design data for long term high temp. creep appls. 1−39398
Hastelloy B, blistering and D trapping induced by D^+ bombardment 1−25336
Hastelloy G, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
Hastelloy X, Al_2O_3, coating, carburization resistance 1−30594
Hastelloy X, CVD-produced Ni-Si(-Cr-Ti) coatings 1−31362
Hastelloy X, recrystallisation-thermal etching of local plastic strain 1−43602
Hastelloy-X, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
Hastelloy-X filament produced by glass-coated melt spinning, mech. props. 1−53084
Haynes alloy no.20, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
Incoloy 600 (800), corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
Incoloy 800, corrosion in reactor model atmosphere at 800-1000°C *(Japanese)* 1−18745
Incoloy 800, differential composition profiles of passive films 1−17120
Incoloy 800, high temp. sulfidation, corrosion resist. 1−43611
Incoloy 825, scan rate effect on pitting potentials in acidic chloride soln. 1−39511
Incoloy-800, X-ray residual stress measurement, in metals at Chalk River Nuclear Labs. 1−28141
Inconel 600, blistering and D trapping induced by D^+ bombardment 1−25336
Inconel 600, coating with TiC, prod. methods and testing 1−26662
Inconel 600, differential composition profiles of passive films 1−17120
Inconel 600, electrolytic comp. and heat treatment effect on aq. crevice corrosion 1−39509
Inconel 600, high temp. sulfidation, corrosion resist. 1−43611
Inconel 600, interaction between S and microstructural defects, microsulphide nucleation 1−30272
Inconel 600, stress corrosion in hot soda solns., effect of additions and annealing *(French)* 1−39529
Inconel 600, surface inhomogeneity determ. using scanning probe impedance technique 1−26652
Inconel 600 targets, ion sputtering, plasma-wall application 1−26336
Inconel 600 tubing, nonsensitised, method for controlled stress corrosion cracking 1−16960
Inconel 600-diamond, bonded composites, cold sintering 1−21409
Inconel 617, secondary ion mass spectrometry for carburisation study 1−17140
Inconel 625 (Ni-Cr-Mo) fuel cladding, elevated temp. behaviour 1−48583
Inconel 625 and 718, H_2 permeation charact., 350 to 1050K 1−2697
Inconel MA 754, oxide strengthened, predeform. effect on creep and stress rupture 1−26559
Inconel X-750, temp. effect on fatigue-crack propag. 1−48469
Inconel X-750 alloy, high temp. fatigue effect on fracture toughness 1−53277
Inconel-600, X-ray residual stress measurement, in metals at Chalk River Nuclear Labs. 1−28141
ion implantation and heat treatment studies *(Hungarian)* 1−16809
metallic glasses, influence of transition metal substitutes on formation, stability and hardness 1−11687
nichrome, sheet, sp. ht. 2-30K 1−42546
Nichrome-Al film deposition in low vac., temp. coeff. of resist. characts. 1−43264
Nimonic alloy PE 16, blistering and D trapping induced by D^+ bombardment 1−25336
nodular cast Fe, MgS as cause of higher corrodibility rel. to grey type 1−43572
oxidation mechanism, super-heated steam 1−53345
Permalloy film, vapour deposited at various incidence angles, microstruct. 1−12001
powder production, atomisation of liq. metals using twin roller technique 1−3648
powders, resist. to shock comminution 1−53290
rare earth alloy, RFe_2H_4 (R=Gd, Tb, Ho, Er, Tm, $2.7\leq x\leq 3.3$), H_2 desorpt. kinetics 1−25579
rare earth alloys, RFe_2, magnetostrictive effects at spin reorientation transition, Mossbauer effect 1−47924
rare earth-Fe_2 alloy, Laves phase, neutron scatt. studies 1−25203
rare earth-Fe Laves-phase, exchange and cryst. field excitations 1−20972
rare earth-Si-Fe-Al alloy preparation 1−39280
soft magnetic metallic materials, book contrib. 1−30917
solid, reaction with liq. Zn, effect of Si conc. *(Japanese)* 1−43340
solid solution hardening and softening in single crysts., 4.2-300K 1−26488
ternary and binary, S vapour corrosion at elev. temps *(French)* 1−31745
tetrataenite, ordered FeNi meteoritic mineral, identification 1−17797
thoriated W filaments in alloy matrix, interaction at 1200-1600°C 1−16106
Al-Al_3-Fe eutectic alloy, structural modification by Na and Li additions 1−53166
Al-Cu-Mg-Fe-Ni, type 2618A alloy, fatigue threshold 1−48468
Al-Fe, dil., interstitial sites for localised diffusion of Fe, Mossbauer γ radiation interference study 1−21096
Al-Fe, dil., low-field Hall coeff. at 4.2K 1−7592
Al-Fe (0.02 wt.%), vacancies characteristics, elec. resist. temp. coeffs. 1−2431

iron alloys continued
Al-Fe (0.8 wt.%), recrystallisation kinetics, coarse particle distrib. effect 1−26523
Al-Fe metastable alloys, ion implantation prod., thermal migration of Fe 1−7393
Al-Fe-Ni system, phase equilibria, critical eval. of constitution 1−35233
Al-Mn(-Fe-Si), static softening at elevated temps. 1−35335
Au-Fe, precipitation of α-Fe after annealing, Mossbauer study 1−7986
Au-Fe amorphous film, Hall effect 1−34686
Au-Fe dilute alloy, dopant-vacancy interactions *(French)* 1−2500
Au-Fe spin glass, Landau model, fitting to exptl. data 1−25961
Au-Fe spin glass, relax. effects, magnetoresist. meas. 1−25956
AuFe, metallic spin glasses, computer model, RKKY interaction 1−21001
AuFe spin glass, specific heat, magnetisation relax. 1−52793
AuFe spin-glass, conc., small-angle neutron scatt. data, anal. 1−7861
AuFe spin-glass, conc., small-angle neutron scatt. data, anal. 1−12327
AuFe, spin-glass state, magnetoresist. meas. 1−12311
$Be_{20}Fe_{70}B_{10}$, amorphous alloys, investigation of ternary alloys with high specific strength 1−12814
Ce-Fe, amorphous, mag. props. and Kerr rot. 1−25970
(Ce-La) $[Co_{1-x}Fe_x]_5$, phase relations and mag. props. 1−8272
$(Ce\text{-}La\text{-}Nd\text{-}Pr\text{-}Fe)_2Co_{17}$, equilibrium relations among mag. phases 1−26427
Co-Fe-Si-B amorphous alloys, struct. changes during heating 1−2330
Co-Fe-Si-B amorphous alloys, mag. relax., permeability, domain walls 1−30983
Co-Fe-V alloy, stator core of aircraft electrical alternator, effect of flux and stress conditions on mag. props. 1−12376
Co-Ni-Cr-Nb-Fe, γ''-precip. strengthened, yielding behaviour 1−53237
$(Co_{0.89}Fe_{0.11})_{72}Mo_3Si_{15}B_{10}$ metallic glass ribbon, induced mag. anisotropy 1−38928
$Co_{58}Fe_5Ni_{10}B_{16}Si_{11}$ metallic glass, Votrovac 6010, Young's modulus changes during structural relaxation 1−43399
$Co_{71.4}Fe_{4.6}Si_{9.6}B_{14.4}$ amorphous alloy, Lorentz electron microscopy 1−12339
$Co_2Ga_{2-x}Fe_x$, vacancies and site occupation, Mossbauer, X-ray diffr., and density meas. 1−7984
Cr-Co-Cu-Fe permanent magnet alloys, deform.-aged, mag. props. 1−12342
Cr-Co-Fe permanent mag. alloy 1−12384
Cr-Fe, Auger L_3MM transitions, backscatt. factor calc., Monte Carlo method 1−21301
Cr-Fe, mag. props. and mag. interactions 1−30981
Cr-Fe antiferromag. alloys, press. effect on resist. min. 1−25720
Cr-Fe decomposed solid solns., singularities of mag. props. *(Russian)* 1−38930
Cr-Fe-Ni alloys, phase equilibria, review 1−8274
CrCoFe based permanent magnet alloys, mag. hardening 1−12343
Cu-Al-Fe-Ni (14, 4.5, 1 wt.%), ion-plated coatings for sheet metal forming dies 1−30592
Cu-Fe, dil., resist. and Hall effect, 4.2 to 77.3K spin glass behaviour *(Russian)* 1−30946
Cu-Fe, spin glass, Hall effect, elec. cond., mag. susceptibility *(Russian)* 1−47612
Cu-Fe (0.1-2.0 at.%), internal friction, effect of preliminary US deform. *(Russian)* 1−8361
Cu-Fe (2 at.%), radiation-induced segregation near grain boundaries and voids, direct obs. 1−16789
Cu-Fe (2 wt.%), generation of migrating boundaries by vacancies, precipitation kinetics 1−20237
Cu-Fe EFTEC 4S alloy for electronic uses, mech. and chem. props. *(Japanese)* 1−26405
Cu-Fe Kondo system, mag. Gruneisen parameter, thermal expansion and heat capacity meas. 1−42946
Cu-Fe single cryst., deformed and annealed, struct. changes of Fe particles 1−43459
Cu-Ni-Fe (26, 8 wt.%), precipitation, study by electron microscopy, X-ray diffr. and hardness meas. *(Japanese)* 1−3745
Cu-Ni-Fe alloy, corrosion mech. in air saturated aqueous NaCl soln. 1−16965
Cu-Ni-Fe alloy, corrosion mech. in air saturated aqueous NaCl soln., protective surface, layer composition 1−16966
Cu-Ti(Cr)(Mn)(Fe)(Co)(Ni), intercrystn. internal adsorpt., lattice constants *(Russian)* 1−47044
CuFe dilute alloy, NMR spin-lattice relaxation 1−26063
CuFe, electron-phonon interaction, Point-contact spectroscopy 1−11829
$DyFe_2$ (100) plates, mag. domain struct. 1−25978
$DyFe_2$, anisotropic hyperfine fields, mag. induced quadrupole interactions, Mossbauer studies 1−26083
$DyFe_2$, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297
$DyFe_2$-H_2 system: magnetism and pressure-composition isotherms to 1400 atm 1−20962
$Dy_{1-x}Fe_x$, amorphous, mag. props. in conc. range, $x\approx 0.3$ to 0.5 1−47907
Dy_6Fe_{23}, magnetostriction, anisotropic 1−26008
$DyFe_3H_x$, cryst. struct. and mag. props 1−7132
$DyFe_2Si_2$, solid solution, mag. susceptibility, lattice const. *(Russian)* 1−20967
$E_{75}Si_{13}B_{12}$ amorphous alloys, mag. props. *(German)* 1−30984
$ErFe_2$, H absorption isotherms, Lacher and Rees theories, enhancement 1−52417
$Er_{1-x}Fe_x$, amorphous, mag. props. in conc. range, $x\approx 0.3$ to 0.5 1−47907
$Er_{1-x}Y_xFe_2$, 77 to 650K, magnetisation and extraordinary Hall effect 1−34684
$Fd_{29}Ni_{49}P_{14}B_6Si_2$, metallic glass, fabrication of wire by drawing *(Japanese)* 1−3766
(Fe, Co, Ni)-(Zr, Hf) amorphous alloys, mag. props. 1−25905
$(Fe,Ni,Co)_{90}Zr_{10}$, amorphous, Invar characts., thermal expansion, mag. props., and elec. resist. 1−7926
$(Fe,Ni)_{100-x}B_x$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$(Fe,Ni)_3B$, amorphous and metastable cryst. struct. correlations, Mossbauer study 1−30076
Fe alloys, substitutional soln. softening 1−31471
Fe-(P) powder premix, sintering, effect of Fe-Mn-Cr-Mo-C carbide master alloy 1−3665
Fe-(Si-Cr-S-C), low alloy, (110) [001] orientated, optimised comp. for high permeability, low core loss 1−7889
Fe-Ag (50 vol.%) biphase system, plastic deform., elastic limit as function of conc. *(French)* 1−12820
Fe-Al, conc., self-diffusion meas. 1−52339

iron alloys continued
Fe-Al, corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
Fe-Al, ordering and phase separation 1−12722
Fe-Al, solubility, diffusional phase growth kinetics *(Russian)* 1−16043
Fe-Al (10 to 50 at.%), phase diagram *(German)* 1−31427
Fe-Al (17-27 at.%), twinning, 77K to room temp. 1−15907
Fe-Al (5 wt.%), BCC, surface topography changes during cyclic deform. early stage 1−21527
Fe-Al disordered alloys, disappearance of ferromagnetism, spin glass transition 1−38943
Fe-Al system, melting equilibria *(German)* 1−31419
Fe-Al-Si, sendust, mag. props., appl. as video head for high coercive tape 1−7892
α-Fe-Al(Si)(P)(B), dil., substitutional sp impurities, electronic struct. calc. 1−16253
Fe-Au mixed cryst., homogeneous, supersaturated, ^{197}Au Mossbauer spectrosc. investig. *(German)* 1−21102
Fe-B, amorphous, X-ray and neutron diffr. obs. 1−52079
Fe-B amorphous alloy, correl. between atomic and electronic struct. 1−30084
Fe-B amorphous alloy, density, anomalous behaviour 1−11682
Fe-B amorphous alloy, initial stages of crystallization 1−20068
Fe-B amorphous alloys, annealed, metastable Fe_4B phase, electron diffr. and microscopy study 1−38287
Fe-B amorphous alloys, crystn. *(Russian)* 1−47008
Fe-B amorphous alloys, Mossbauer spectroscopy study 1−43045
Fe-B Invar-type amorphous ribbons, magnetoelastic props. 1−7927
Fe-B metallic glasses, amorphous-crystalline transition photoemission 1−48242
Fe-B sputtered amorphous film, crystn. and atomic-scale struct. 1−11681
Fe-B sputtered films, Hall effect and anisotropic magnetoresist. 1−7588
Fe-B-M, (M=B, C, Si, P, Ge), metallic glasses, microhardness 1−48472
Fe-B-Mo amorphous alloy, high mag. field magnetisation, magnetoresistance 1−7593
Fe-B-Nb(W)(Mo), strengthening effects of alloying additions 1−31470
Fe-B(-Ni-P)(Si) amorphous alloy, ferromag., annealing and fabrication conditions, effect on mag. props. 1−12765
Fe-C, BCC, dislocation processes, HVEM 1−2448
α-Fe-C, lattice distortion due to C atoms 1−7184
Fe-C, pure, mech. props. under thermal and deformed ageing conditions 1−26503
Fe-C, quenched, solid solution softening 1−26487
Fe-C, saturated, kinetics of desulphurisation by slags *(Korean)* 1−17024
Fe-C (0.1 wt.%), substitutional and interstitial, dynamic and static strain ageing 1−43383
Fe-C (0.2 wt.%), powder forged, yield and fracture prediction by NDT 1−53385
Fe-C (1.5-7.2 wt.%) martensite, fresh and aged, interstitial atom configurations study by Mossbauer spectroscopy *(Japanese)* 1−31069
Fe-C alloys, cementite to ε-nitride conversion during nitriding 1−26674
Fe-C alloys, partition of N in hypo-eutectic and near-eutectic alloys 1−53190
Fe-C alloys, softening of Fe by C and jerky motion of screw dislocations during in-situ expts. 1−30235
Fe-C eutectic alloys, unidirectional solidification, growth temps. and limits of coupled growth 1−8297
Fe-C melts, coupling phenomena in transfer of elements between a gas phase 1−48676
Fe-C:S(Mg), liq. struct. determ. using X-ray anal. *(Russian)* 1−2312
Fe-C-Cu-S sintered material, mech. friction and linear props., depend. on Fe powder prep. method 1−21385
Fe-C-Mn (3.2, 0.35 wt.%) plasma sprayed coating, microstruct. 1−11997
Fe-C-Si alloy, partition of Si during eutectic solidification 1−16770
Fe-C-Si facing alloys, wear resist. and fatigue strength, effect of Si 1−16901
Fe-C(-Sb), metastable ε phase obtained by splat quenching *(Chinese)* 1−53209
Fe-C(P)(P-C) eutectic liq. alloys, viscosities by capillary method 1−25483
Fe-Co, soft X-ray appearance potential spectra 1−3538
Fe-Co Si liq. system, determ. of activity of components from gas solubility knowledge *(German)* 1−8269
Fe-Co-Si-B amorphous alloy sheets, eddy current losses, field annealing 1−12351
Fe-Co-Si-B amorphous alloys, spin echo NMR meas. 1−26076
Fe-Co-V (50, 0.4-2.0 at.%), ordering transformations 1−35251
Fe-Co-V (50, 2 wt.%), cc Al_2O_3 plasma deposited coatings, effect of impregnation and thermal ageing on insulating props. 1−12773
Fe-Co-W alloys, semihard mag. props. *(Japanese)* 1−26637
Fe-Co-W semihard mag. alloy, mag. anisotropy *(Japanese)* 1−43544
Fe-Cr, dil. alloys, mag. moment distrib. and environmental effects, neutron scatt. study 1−25933
Fe-Cr, electron beam effects in AES and SEM 1−20266
Fe-Cr, exchange anisotropy, hysteresis loop meas., ferromag./antiferromag. coexistence *(Russian)* 1−25924
Fe-Cr, ion implanted, conc. profiles and electrochem. props. *(Japanese)* 1−42411
Fe-Cr, phase diagram determination from thermodynamic data 1−12719
σ-Fe-Cr, sequence faults, perpendicular intersection, TEM obs. 1−2471
Fe-Cr, thin film, oxide formation, Auger spectra 1−8467
Fe-Cr (0 to 4 wt.%), morphology and lattice distortions after powder nitridation 1−35285
Fe-Cr (10 wt.%), breakaway oxidation mechanism 1−26649
Fe-Cr (13(18) wt.%), Na_2SO_4-coatings effect on oxidation and corrosion behaviour 1−16943
Fe-Cr (20 wt.%), effect of La or Y with Si on high temp. oxidation 1−8489
Fe-Cr (5 wt.%), salt-induced corrosion behaviour 1−16942
Fe-Cr (9 wt.%), corrosion mechanism in CO_2 1−35432
Fe-Cr alloy, σ-phase, brittle fracture stress under high hydrostatic press. and high temp. 1−53295
Fe-Cr alloys, dissolved H effect on plastic deform. *(Japanese)* 1−31535
Fe-Cr alloys, electrochemical corrosion in ultra-high purity conditions 1−39541
Fe-Cr alloys, influence of Cr on ^{119}Sn site hyperfine fields, Mossbauer study 1−34964
Fe-Cr alloys, S solubility 1−52302
Fe-Cr liquid alloys, activities meas. by transportation method *(Japanese)* 1−30393
Fe-Cr system, thermochem. data 1−48324
iron alloys continued
Fe-Cr-Al, corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
Fe-Cr-Co (55, 27, 17 wt.%), high-coercivity thermomag. treatment 1−42983
Fe-Cr-Co-Si permanent mag. alloy, mag. props. and Mossbauer spectra, heat treatment effect *(Chinese)* 1−52753
Fe-Cr-Co-V-(Ti), hard magnets, U and V-Ti additions effect on mag. and mech. props. 1−52798
Fe-Cr-Mo amorphous alloys, H embrittlement, effect of corrosion resistance and metalloid additives 1−53257
α-Fe-Cr-Mo single cryst., low cycle fatigue, shear band form. 1−31654
Fe-Cr-Mo-B amorphous alloy, anodic behaviour in HCl, Mo effects 1−21628
Fe-Cr-Mo-B system, ultrahigh strength metallic glass alloys 1−12807
Fe-Cr-Ni, sp. ht. anomalies obs. 1−30954
Fe-Cr-Ni passive film breakdown in H_2SO_4 by detection and anal. of electrochem. noise 1−39531
Fe-Cr-Ni system, elec. and galvanomag. props., 4.2 to 10K *(Russian)* 1−2942
Fe-Cr-Ni-Ta, liq., N solubility 1−2643
Fe-Cr-P-C, amorphous, corrosion props. rel. to alloy comp. 1−35427
Fe-Cr-Si, deform. induced σ phase precip. 1−31464
Fe-Cr-Si (9, 0.3(0.6) wt.%), corrosion mechanism in CO_2 1−35432
Fe-Cr-Ta, liq., N solubility 1−2643
Fe-Cr-Y alloys, oxide adherence, role of Y 1−43603
Fe-Cr-(Al), corrosion in mixed gas environments at elevated temps. 1−3981
Fe-Cr-(Ni) alloys exposed to oxygenated Na, form of $NaCrO_2$ 1−21770
Fe-Cr(Ni), ion implanted, electrochemical corrosion 1−4007
Fe-Cr(10 wt.%), high resoln. replica technique for thick oxide films, appl. to breakaway scale 1−26683
Fe-Cu, atmospheric rust, self-protection mechanism 1−21633
Fe-Cu, high-melting, heats of soln. meas. in an EM levitation field *(German)* 1−7333
Fe-Cu, phase diagram 1−21421
Fe-Cu, phase diagram calc., phase boundaries, thermodynamic props. 1−16753
Fe-Cu (1.8 wt.%), ausscheidung und kriechfestigkeit (Precipitation and creep resistance) *(German)* 1−3752
Fe-Cu (44 wt.%) two-phase alloy oxidation obs. 1−3967
Fe-Cu alloys, high density, sintered from composite powder, mech. props. 1−3668
Fe-Cu alloys, liq. phase sintered, microstructural development and evolution 1−39341
Fe-Cu compacts, sintering, anal. of dimens. changes 1−3662
Fe-Cu liquid alloys, activities meas. by transportation method *(Japanese)* 1−30393
Fe-Cu system, homogenisation, during sintering in a system with limited solubility of components 1−3672
Fe-Cu-(Ni), supersaturated ferrite form. during decomposition of austenite 1−31418
Fe-Ga alloy, struct. facets in order-disorder transform. *(Russian)* 1−38319
Fe-Ge (5 wt.%), BCC, surface topography changes during cyclic deform. early stage 1−21527
Fe-Mn, dil. alloys, mag. moment distrib. and environmental effects, neutron scatt. study 1−25933
Fe-Mn, mag. alloys, high-remanence square-loop, mag. props. 1−7894
Fe-Mn amorphous alloys, spin glass-ferromag. crit. line, expt. 1−7839
Fe-Mn foil, dislocation Burgers vector determ. by weak beam imaging in HVEM 1−20224
Fe-Mn PM compacts, sintering phenomena *(French)* 1−39265
Fe-Mn-Cr alloys, band struct. near Fermi level, elec. resist., thermo-EMF and mag. susceptibility meas. *(Russian)* 1−30622
Fe-Mn-Cr-Mo-C, carbide masteralloy, effect on Fe- and Fe-P powder premix sintering 1−3665
Fe-Mn-V-C (13, 2, 0.8 wt.%) austenite, ledge mechanism of growth of colonies of discontinuous precipitation 1−16785
Fe-Mo alloys, steady state creep anal. from viewpoint of recovery 1−16853
Fe-Mo-CaF_2 materials, sintered, frictional props. in Na liq. and vapour 1−21597
Fe-Mo(-P) premixes, effect of Mo on sintering 1−39273
Fe-Mo(4 at.%), non-Lorentzian shapes of diffusion broadened Mossbauer lines 1−16515
Fe-N alloys, stress orienting of $Fe_{16}N_2$ precipitates, interpretation of two step ageing expts., comment 1−53187
Fe-N alloys, stress orienting of $Fe_{16}N_2$ precipitates, two step ageing expts. interpretation, reply to comment 1−53188
Fe-N system, precipitate nucleation on dislocations 1−3739
Fe-Nb-Ni eutectic alloy, directionally solidified growth crystallography 1−35248
Fe-Ni, austenitic, thermodynamics of dissolved C, ternary terms role 1−52314
Fe-Ni, cooling rate effect on lath martensite morphology *(Japanese)* 1−48378
Fe-Ni, dil., mag. relax. and aftereffect, low temp., after electron beam irrad. 1−7956
Fe-Ni, ion implanted, conc. profiles and electrochem. props. *(Japanese)* 1−42411
Fe-Ni, mag. alloys, high-remanence square-loop, mag. props. 1−7894
Fe-Ni, martensitic transformation, resistive and magnetic meas. 1−52283
Fe-Ni, phase diagram, Mossbauer anal. 1−31424
Fe-Ni, phase diagram determination from thermodynamic data 1−12719
Fe-Ni, specific heat and temp. coeff. of elec. resist. near Curie point *(Russian)* 1−25945
Fe-Ni, surface magnetism, chemisorption of gases influence 1−34583
Fe-Ni (12 wt.%), effect of Ti minor additions on fracture toughness 1−39430
Fe-Ni (18 wt.%), ageing, positron annihilation study 1−26516
Fe-Ni (25.5 to 31.3 wt.%), shape-memory effect, local physical fields, changes in Mossbauer spectrum hyperfine struct. 1−38437
Fe-Ni (29.7 wt.%), superparamagnetic props. 1−3222
Fe-Ni (30 wt.%), acoustic emission anal. of γ→α transformation *(German)* 1−8306
Fe-Ni (30 wt.%), martensite nucleation, isothermal vs. athermal behaviour 1−16778
Fe-Ni (30 wt.%) alloy, cyclic plastic behaviour at 293 and 373K 1−39375

iron alloys continued
Fe-Ni (50 wt.%), non-metallic inclusions formation by deoxidation with Mn, Si, and Al 1−12770
Fe-Ni (8 wt.%), stable cellular growth 1−11705
Fe-Ni alloy, evaporated thin film on SiO_2, comp. profile, ESCA study 1−30587
Fe-Ni alloys, comparison of enthalpy change between $\alpha' \rightarrow \gamma$ and $\alpha \rightarrow \gamma$ transformations, comment 1−53173
Fe-Ni alloys, comparison of enthalpy change between $\alpha' \rightarrow \gamma$ and $\alpha \rightarrow \gamma$ transformations, reply to comment 1−53174
Fe-Ni alloys, creep rupture props., H_2 effects 1−16877
Fe-Ni alloys, exposed to oxygenated Na, form of $NaCrO_2$ 1−21770
Fe-Ni alloys, high temp. thermodynamic props. 1−20422
Fe-Ni base alloys, struct. and mag. props. of ageing in $\alpha \rightarrow \gamma$ transformations *(Russian)* 1−48342
Fe-Ni films, α to γ phase transform. under pulsed laser irrad. *(Russian)* 1−3735
Fe-Ni invar alloy, anomalous thermal expansion 1−38559
Fe-Ni Invar single crysts., plastic deform. 1−26530
Fe-Ni thin films, hyperfine field distribs. for Fe^{57} and Ni^{61} nuclei *(Russian)* 1−52874
Fe-Ni-B alloys, amorphous, corrosion behaviour 1−21637
Fe-Ni-B glass, diffusion rates 1−25491
Fe-Ni-C, alloy N31, reverse martensitic transform., habit planes *(Russian)* 1−12735
Fe-Ni-C (18, 0.98 wt.%), martensite lattice changes during tempering 1−8347
Fe-Ni-C (18, ~1 wt.%) martensite, atomic displacements due to C, X-ray meas. 1−7137
Fe-Ni-C (30.4, 0.39 wt.%), lenticular and thin plate martensite growth behaviour 1−16777
Fe-Ni-C (5.5, 0.06 wt.%), scavenging effect of precipitated austenite 1−8349
Fe-Ni-C duplex alloys, powder metallurgical prep., mech. props. 1−3660
Fe-Ni-C martensitic alloys, unstable flow mechanism, effect of C content and deform. rate 1−21543
Fe-Ni-Co film, production of stable, planar, micron-size magnetic domains 1−52818
Fe-Ni-Co thin film, relaxation processes under electron-nuclear resonance conditions 1−12428
Fe-Ni-Co(-Mo), maraging alloys, deformation and heat treatment, strength increase *(Russian)* 1−43371
Fe-Ni-Cr, cyclic strength at elevated temp. of alloys 800 and 800H 1−8413
Fe-Ni-Cr, heat resistant, compatibility with sintered Li_2O in static He 1−3969
Fe-Ni-Cr, Mo-bearing, surface film comp. and electrochem. props. 1−43612
Fe-Ni-Cr, surface oxides, Raman backscatt. spectroscopic studies 1−31159
Fe-Ni-Cr thin foils, precipitation behaviour 1−26475
Fe-Ni-Cr-Mn, deformed, discontinuous precipitation of γ' phase of 36NKhTYu *(Russian)* 1−26466
Fe-Ni-Cr-P-B glassy alloys, crevice corrosion 1−16956
Fe-Ni-Cr-Ti (30, 15, 2 wt.%), superalloy 1−43494
Fe-Ni-Cr-Ti (42, 5.4, 2.4 wt.%) 1−12654
Fe-Ni-Cr-V-P-B glassy alloys, sputtering prep., corrosion behaviour 1−16969
Fe-Ni-Cr(-Al), refractory alloys, oxidation behaviour, influence of Y implantation 1−48552
Fe-Ni-Mn (20, 5wt.%), isothermal martensite form. 1−48345
Fe-Ni-Mn-Ti (10, 5, 1.5 at.%), Mossbauer spectra, annealing and rolling effects on mag. props. 1−39013
Fe-Ni-Mo-C, reduction and decarburising annealing of atomised powders 1−31385
Fe-Ni-Nb-(Co), martensite ageing, Co-effect *(Russian)* 1−48380
Fe-Ni-P-B amorphous alloys, resist. and magnetoresist. meas., mag. contrib. to scatt. 1−30699
Fe-Ni-P-B amorphous alloy, prod. by high power CO_2 laser 1−43298
Fe-Ni-P-B-Cr amorphous alloy, high mag. field magnetisation, magnetoresistance 1−7593
Fe-Ni-S solid soln. as analogue of outer core, elec. cond. *(German)* 1−44101
Fe-Ni-Ta, liq., N solubility 1−2643
Fe-Ni-Ta (18, 6 wt.%), ageing, positron annihilation study 1−26516
Fe-Ni-Ta-(Co), martensite kinetics 1−3738
Fe-Ni-Ti, austenitic, cellular segregation entailing low-angle boundary migration *(Russian)* 1−12746
Fe-Ni-(C) alloys, recrystn. behaviour of austenite cold rolled, or formed by reverse martensitic transformations *(Japanese)* 1−26453
Fe-Ni(Mn), martensitic transform. temp., conc. depend., elastic wave generation *(Russian)* 1−16775
Fe-P, spontaneous microcrack nucleation at grain boundaries and brittle fracture *(Russian)* 1−26590
Fe-P amorphous alloy, struct. model, vibr. spectra and electronic states 1−25179
Fe-P system, melting equilibria *(German)* 1−31419
Fe-P-C, amorphous, corrosion behaviour, additive metallic components effects 1−35425
Fe-P-C glass, viscoelastic and plastic behaviour near glass transition 1−35297
Fe-P-M, (M=B, C, Si, P, Ge), metallic glasses, microhardness 1−48472
Fe-P(B), binary metallic glasses, short range order in theoretical models 1−47010
Fe-Pd (33 at.%), eutectoid decomp. of solid soln. *(Russian)* 1−26465
Fe-Pd alloy systems, linear magneto-striction and elastic props. 1−12374
Fe-Pd alloys, mag. environment model, moment disturbances 1−25932
Fe-Pd alloys, struct. and ordering, X-ray diffr. study 1−52286
Fe-Pt alloys, mag. environment model, moment disturbances 1−25932
Fe-S dilute solns., Gibbs free energy 1−16061
Fe-Sb-Ni(Co)(Cr), short range order, zero field NMR investigation 1−52850
Fe-Se, transformer steel, grain-oriented, noise 1−26004
Fe-Se-Te solid solution, mag. props. in ferrimagnetic and paramagnetic ranges 1−52776
Fe-Si, anisotropic electrical steel, mag. losses as function of induction amplitude 1−7883
Fe-Si, Barkhausen effect in oriented transformer sheets, role of grain boundaries 1−52800
Fe-Si, brittleness, physical prerequisites for overcoming it 1−8406
Fe-Si, conc., self-diffusion meas. 1−52339
iron alloys continued
Fe-Si, corrosion resistance at high temp., influence of atmos. and alloy compositions 1−43618
Fe-Si, induced mag. anisotropy prod. by thermomag. treatment *(Russian)* 1−3170
Fe-Si, liq., entropy of mixing, electronic contrib. 1−30398
Fe-Si, magnetisation dynamics study by small-angle neutron scatt. 1−3217
Fe-Si, melting equilibria, thermodynamic anal. 1−16754
Fe-Si, specific heat and temp. coeff. of elec. resist. near Curie point *(Russian)* 1−25945
Fe-Si, steel with diffuse plane cubic struct., mag. props., thermal and thermomag. treatment effect 1−7884
Fe-Si, transition correlation, fracture diagrams, elastoplasticity 1−24751
Fe-Si (1-2 wt.%), slip line pattern, influence of Si additives 1−11769
Fe-Si (3 wt.%), additional losses upon mag. reversal, extremal eqn. method 1−7879
Fe-Si (3 wt.%), AlN solubility product 1−20398
Fe-Si (3 wt.%), anal. of comp. of deform. texture 1−8324
Fe-Si (3 wt.%), coated with electroinsulating film, domain struct. and grain boundary obs. 1−39559
Fe-Si (3 wt.%), deformed single crystal, texture form. upon recrystallization in transition bands 1−8327
Fe-Si (3 wt.%), deformed single crystal, secondary disperse phase effect on texture form. 1−8329
Fe-Si (3 wt.%), development of single component textures upon secondary recrystallization 1−8325
Fe-Si (3 wt.%), domain struct. and EM losses in rotating mag. fields 1−7873
Fe-Si (3 wt.%), effect of Al, N, B on nitride phase form. 1−8310
Fe-Si (3 wt.%), electrical steels, physics and physical metallurgy, conf. Chelyabinsk USSR (Sept. 1978) 1−5015
Fe-Si (3 wt.%), fatigue cracks, 3-dimens. obs. of plastic zone using etching technique *(Japanese)* 1−3893
Fe-Si (3 wt.%), grain growth with (100) <1kl> orientation during annealing 1−8337
Fe-Si (3 wt.%), grain oriented, core losses, flux density depend. 1−7890
Fe-Si (3 wt.%), grain-oriented, decarburization, grain growth, mag. props. 1−8440
Fe-Si (3 wt.%), grain-oriented, mag. props., annealing coating and surface condition effects 1−8441
Fe-Si (3 wt.%), magnetisation curve calc., free crystal energy numerical minimisation 1−7880
Fe-Si (3 wt.%), non-oriented sheets, excess dynamic loss, grain size, precipitated Al_2O_3 particles, and lamination thickness effects 1−16461
Fe-Si (3 wt.%), plastically deformed, dislocation struct. rel. to mag. anisotropy *(Russian)* 1−11750
Fe-Si (3 wt.%), single crystal, asymmetry of deform. texture 1−8323
Fe-Si (3 wt.%), small deform. effect on grain size and texture 1−8330
Fe-Si (3 wt.%), texture form. during manufacture of ribbon with rib texture 1−8328
Fe-Si (3%) transformer plate, ferromagnetic domain structure *(Hungarian)* 1−25975
Fe-Si (3.2 wt.%), EM losses rel. to domain boundary motion nonuniformity 1−7872
Fe-Si (3.2 wt.%), single crystal, MgO film form. kinetics on (110) surface, magnetic props. 1−7924
Fe-Si (3.5 to 4.5 wt.%), plasticity, effect on interstitial impurities and thermomech. treatment 1−8344
Fe-Si (3.5%), plane-strain deformation near slot in plates 1−35310
Fe-Si (6 wt.%), single crysts., plastic deform. at high temps. 1−31566
Fe-Si (6 wt.%), single cryst., stress relax. 1−43411
Fe-Si (~4 wt.%), magnetostriction rel. to magnetisation processes in alternating mag. field 1−7923
Fe-Si alloy, (6 wt.%), solid soln. hardening and diffusion 1−43351
Fe-Si alloy (6 to 7 wt%), ribbon form, prep. grain struct., coercive force, annealing 1−8251
Fe-Si magnetostrictive films for tunable SAW devices 1−7928
α-Fe-Si single cryst., low cycle fatigue, shear band form. 1−31654
Fe-Si-Al, mag. props. in high-freq. region 1−7882
Fe-Si-B metallic glass, comp. effects on thermal stability, magnetostriction and Young's modulus 1−25174
Fe-Si-C alloy, C diffusion, thermodynamic evolution 1−25489
Fe-Si(Al), dislocations struct. and temp. depend. of mech. props. 1−8367
Fe-Si(3 wt.%), struct. formation during hot rolling *(Russian)* 1−39349
Fe-Sn, Sn segregation of grain boundaries, EXAFS meas. 1−43346
Fe-Sn liquid alloys, activities meas. by transportation method *(Japanese)* 1−30393
Fe-Sn-Mn alloys, sintered, mech. props. 1−53131
Fe-Ta, liq., N solubility 1−2643
Fe-Ti alloys, N-migration at low temps. 1−2692
Fe-Ti alloys, nitrogenated, thermochem. and nature of N absorp. 1−25433
Fe-Ti-C, ion implantation of Sb, diffusion and trapping 1−7195
Fe-Ti-C-Sb alloy, Sb trapping, chanelling study 1−34381
Fe-TiC-TiB_2, quasiternary system, struct. of eutectic alloys 1−21434
Fe-TiC-TiB_2 composite abrasive powder, strength 1−35265
Fe-V, dil. alloys, mag. moment distrib. and environmental effects, neutron scatt. study 1−25933
Fe-V (17.6 at.%), mag. diffusion anomaly 1−16082
Fe-V melt, composition effect on elec. resistance *(Russian)* 1−30712
Fe-V-Nb, nitride hardening 1−43355
Fe-W (20 wt.%), prepared by liq. quenching, modulated struct. 1−3806
Fe-W (8.5 at.%), discontinuous decomp. and hardening after quenching and ageing *(Russian)* 1−3743
Fe-W solid solutions, self diffusion of ^{59}Fe near Curie temp. *(Czech)* 1−47281
Fe-W-C system, phase equilibria calc. 1−21420
Fe-Zn, electrochemical study of intermetallic phase thermodynamics *(German)* 1−48322
Fe-Zn (-Si), electrochemical study of intermetallic phase form. kinetics *(German)* 1−43315
Fe-Zn composite electrochemical materials with SiO_2 dispersoid *(Russian)* 1−48302
Fe-Zr, glassy, d-band splitting, UPS and XPS study 1−12636
Fe-Zr amorphous alloy, mag. props. 1−12283
Fe_3C/Fe-C-Cr-Ni system, C diffusion in weldments, steady state model *(Czech)* 1−47282
$(Fe-Ni)_{86}B_{14}$ glassy alloys, mag. and struct. props. meas. 1−30982
FeAl, APW band struct., densities of states, complex dielec. function 1−7501

iron alloys continued
α-FeAl, k-state heterogeneous SRO 1−25445
$FeAl_3$, star-shaped cluster form. during rapid cooling, SEM obs. 1−31502
Fe_2Al_5, intermetallic compound formed at Fe substrate/Al coating interface, effect of preliminary deform. 1−16841
Fe_2Al_5 intermetallic compound, form. and annihilation, kinetic study *(Korean)* 1−34522
Fe_3Al, ordered, equilibrium phases 1−35252
$Fe_{1-x}B_x$ amorphous films, elec. resist. meas. 1−30700
$Fe_{1-x}B_x$ sputter films, prep. and struct., coercive field obs. 1−26386
$Fe_{100-x}B_x$ glassy alloys, crystallisation kinetics, Mossbauer and X-ray study 1−2334
$Fe_{100-x}B_x$, amorphous and annealed, Lorentz electron microscopy study 1−30065
$Fe_{80}B_{20}$, amorphous, irradiations at 20K, thermal and collision effects 1−34370
$Fe_{80}B_{20}$, amorphous, local disorder, EXAFS study 1−31232
$Fe_{80}B_{20}$, amorphous, Mossbauer recoilless resonant absorpt. intensities 1−26090
$Fe_{80}B_{20}$, amorphous alloy, X-ray struct. anal. *(Chinese)* 1−25164
$Fe_{80}B_{20}$ amorphous alloy, cold neutron scatt. obs. of local and extended defects 1−25177
$Fe_{80}B_{20}$, glassy, positron annihilation study 1−43211
$Fe_{80}B_{20}$ metallic glass ageing and crystallisation, TEM obs. 1−11685
$Fe_{83}B_{17}$ amorphous alloy, crystallisation high press. effect 1−20065
$Fe_{83}B_{17}$ ribbons and wires, thermal expansion meas. apparatus *(Japanese)* 1−23226
$Fe_{84}B_{16}$, glassy, annealing effects 1−8343
$Fe_{84}B_{16}$, metallic glasses, electrical resistivity and crystallisation 1−7576
$Fe_{85}B_{15}$, crystn. study of amorphous alloy prepared by melt quenching from different temps. 1−11690
$Fe_{88}B_{17}$, metallic glass, mag. correlation neutron meas. 1−3142
$Fe_{80}B_xM_{20-x}$, M=Ge,Si,C,P, Mossbauer investigation, distribution of hyperfine fields 1−31073
$Fe_{80}(B_{1-x}P_x)_{20}$ amorphous alloys, comp. depend. of crystn. 1−20070
$Fe_{100-x-y}B_xP_y(C_z)(Si_v)(Ge_v)$ glasses, microhardness, embrittlement and crystn. temps., comp. depend. 1−35354
$Fe_{82}B_{12}Si_6$, amorphous, Mossbauer study 2 to 796K 1−21098
$Fe_{82}B_{12}Si_6$ amorphous ribbons, Metglas 2605S, perpendicular mag. anisotropy, Mossbauer, X-ray diffr., and density meas. 1−52771
$Fe_{82}B_{12}Si_6$, amorphous to cryst. transform., Mossbauer, X-ray diffr. and density obs. 1−11688
$Fe_{84}B_{13}Si_3$, metallic glasses, electrical resistivity and crystallisation 1−7576
$Fe_{85}B_{14}Si_1$, noncrystallinity effect on phase transitions at high press., elec. resist. meas. 1−42531
ε-$Fe_3(C,N)$, formed by glow discharge, microstruct. study 1−39331
FeC_xB_{16-x} amorphous alloy, core loss meas. 1−12360
FeCo, elec. resist., order depend. determ. 1−47606
FeCo, electron energy spectra 1−52478
FeCo, high-temp. phase transition, kinetic props. 1−30382
Fe_xCo_{1-x}, surface atomic order and ferromagnetism 1−52404
$Fe_{74}Co_{10}B_{16}$, Metglas 2605CO, Mossbauer study, crystn. and Curie temps. 1−39015
$(Fe_xCo_{1-x})_{89}Cr_{11}$, Invar properties, role of crystal and electronic structure 1−20981
FeCoNi-SiB amorphous alloys, zero magnetostriction, heat treatment 1−3230
$Fe_{68}Co_{20}P_{12}$, amorphous electrodeposited alloy films, Barkhausen noise 1−21012
$Fe_{1-x}Co_xSi$ solid solutions, low-temp. specific heat, ferromagnetism 1−20419
$Fe_5Co_{70}Si_{15}B_{10}$, amorphous alloy, X-ray struct. anal. *(Chinese)* 1−25164
FeCr alloy, Cr conc. changes effect on alloy surface at temp. lower than evaporation threshold *(Russian)* 1−21323
$Fe_{0.76}Cr_{0.24}$, disordered alloy, charge-density anisotropy, X-ray diffr. meas. 1−42338
$Fe_{1-x}Cr_x$ alloy, conc. depend. of isomer shift of Fe^{57} *(Japanese)* 1−31068
FeCrAlY/calcium silicate corrosion-resistant thermal barrier coating 1−39530
$Fe_{100-y-z}Cr_yB_z$ amorphous alloy, saturation magnetization and Mossbauer spectra 1−25986
$Fe_{60}Cr_{10}Ni_{10}P_{13}C_7$, amorphous, corrosion behaviour 1−21637
$Fe_{70}Cr_{10}P_{13}C_7$, amorphous, corrosion behaviour 1−21637
$Fe_{70}Cr_{10}P_{13}C_7$, amorphous, corrosion behaviour, crystn. effect 1−35425
FeGe, helical mag. struct., phase transition, theory 1−16429
$Fe_{2-x}Ge(Ge_{1-y}Ga_y)$, β and η phase, struct. study *(French)* 1−30137
$Fe_{80-x}H_xP_{13}C_7$ (H=Zr, Nb, Mo, Ru, Rh, Pd, B, C, Si, P, As, Sn, Sb), thermal stability and related props. 1−20066
$Fe_{94-x}M_xB_6$ (M=Hf, Zr, Nb), glass form. comp. ranges and mech. props. 1−35353
$Fe_{80-x}M_xP_{13}C_7$ (M=Ni, Mn, Cr), amorphous, crit. phenomena, sp. ht. meas. 1−7845
$Fe_{78-x}M_xSi_{10}B_{12}$, (M=transition metal), metallic glass, form. and thermal stabilities, alloying substituents influence 1−26420
$Fe_{87}MnP_{17}$, amorphous electrodeposited alloy films, Barkhausen noise 1−21012
$(Fe_xMn_{1-x})_{75}P_{16}B_6Al_3$, amorphous, spin glass-paramag. phase boundary, exchange intractions 1−30957
$Fe_xMn_{1-x}Pt_3$, ordered, mag. transform. during temp. variations *(Russian)* 1−30938
$Fe_{0.12}Mn_{1.1}Sb$, environment of Sb, X-ray determ., anomalous dispersion method 1−15836
$Fe_{3-x}Mn_xSi$, sp. ht. capacity, 4.2 to 460K, mag. ordering effect 1−25955
$Fe_{0.85}Mn_{0.15}Ti$-H, surface poisoning by O_2, CO and H_2O 1−2806
$Fe_{0.9}Mn_{0.1}Ti$, activation and reactivity props. under $H_2(D_2)$ press., hydride phase struct. 1−20123
$Fe_{78}Mo_2B_{20}$, amorphous, anomalous thermal expansion on annealing, mag. struct. transitions 1−16069
$Fe_{78}Mo_2B_{20}$, amorphous, irradiations at 20K, thermal and collision effects 1−34370
$Fe_{80-x}Mo_xB_{20}$ metallic glass, elastic const. anomaly 1−2551
$Fe_6Mo_{18}Ni_{76}$, spin glass transition at 7K 1−3192
$Fe_{0.70}Ni_{0.30}$, disordered alloy, charge-density anisotropy, X-ray diffr. meas. 1−42338
$(Fe_{1-x}Ni_x)_{75}B_{25}$, $0 \leq x \leq 0.75$, metallic glass, short range order, Mossbauer study 1−31074
$(Fe_{1-x}Ni_x)_{80}B_{20}$ amorphous alloys, chemical ordering derived from crystn. temp. 1−20069
$Fe_{20}Ni_{60}B_{20}$, amorphous, corrosion behaviour 1−21637
iron alloys continued
$Fe_{40}Ni_{40}B_{20}$, amorphous, inhomogeneously deformed, domain wall pinning 1−30970
$Fe_{40}Ni_{40}B_{20}$, $Fe_{40}Ni_{40}P_{14}B_6$, amorphous, free vol. change during isothermal annealing, thermal expansion meas. 1−34493
$Fe_{40}Ni_{40}B_{20}$, metallic glass ribbons, surface B conc. meas. 1−21820
$Fe_{40}Ni_{40}B_{20}$, ribbons, coaxial jet melt spinning 1−21437
$Fe_4Ni_4B_2$, glassy, struct., semi-empirical model 1−7088
$Fe_{40}Ni_{40}B_{20-x}M_x$ (M=metalloid), amorphous, exchange interactions, Grest-Nagel model 1−7824
$Fe_{40}Ni_{40}B_{16}P_4$, glassy, positron annihilation study 1−43211
$Fe_{40}Ni_{40}B_{20}(P_{20})$, amorphous alloys, local electronic struct., cluster model 1−47578
$Fe_{40}Ni_{40}B_xP_{14}$, amorphous, local disorder, EXAFS study 1−31232
$Fe_{47}Ni_{25}B_{18}Si_{10}$ ribbons, amorphous, relationship between magnetic properties and struct. changes during annealing 1−47901
$Fe_{82-x}Ni_xCr_{18}$ ($10 \leq x \leq 36$) system alloys, elec. props. at low temps. *(Russian)* 1−16276
$Fe_{82-x}Ni_xCr_{18}$, low-field magnetic suscept. near critical concentration *(Ukrainian)* 1−38913
γ-$Fe_{82-x}Ni_xCr_{18}$ spin glasses, Hall effect *(Russian)* 1−47613
$Fe_{32}Ni_{36}Cr_{14}B_6$, Metglas 2826-A, Mossbauer spectroscopic data 1−26096
$Fe_{32}Ni_{36}Cr_{14}P_{12}$, amorphous, Mossbauer recoilless fraction and atomic rearrangements 1−39014
$Fe_{22}Ni_{36}Cr_{14}P_{12}B_6$, metallic glass ribbons, surface B conc. meas. 1−21820
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, Curie temp., anomalous props. in crit. region 1−7854
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, crit. behaviour, static magnetisation and AC susceptibility meas. 1−34893
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, anelastic relax., temp. and stress depend. 1−35296
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, amorphous, corrosion behaviour, crystn. effect 1−35425
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglas 2826A, oxidation kinetics, AES and ellipsometric obs. 1−35426
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, glassy, positron annihilation study 1−43211
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$, Metglass 2826 A, thermoelectric study 1−47619
$Fe_{44-x}Ni_{37}Cr_xP_{15}B_4$ metallic glass, comp. effect on thermal stability 1−25175
$Fe_{40}Ni_{38}Mo_4B_{18}$ metallic glass, mag., elec. props. 1−3147
$Fe_{40}Ni_{38}Mo_4B_{18}$, Metglass 2826, amorphous ferromag., Mossbauer obs. 1−47990
$Fe_{84.5-x}Ni_xMo_{3.5}B_{12}$ metallic glass, comp. effect on thermal stability 1−25175
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, ribbon, power loss and domain wall spacing, stress effects 1−12349
$Fe_{10}Ni_{70}P_{14}B_6$ amorphous alloy, spin-glass and mictomagnetic behaviour 1−7862
$Fe_{20}Ni_{60}P_{14}B_6$, amorphous, crit. phenomena and giant superparamag. moments above Curie temp. 1−42974
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, Mossbauer study in transmission and scatt. geometries 1−26089
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, Mossbauer recoilless resonant absorpt. intensities 1−26090
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, quenching effects, mag. anisotropy meas. 1−30936
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, quenched-in resist. rel. to atomic movements 1−34675
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, struct. relax., Curie temp. and hyperfine field distrib. meas. 1−34881
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous, struct. relax., positron annihilation study 1−47007
$Fe_{40}Ni_{40}P_{14}B_6$, glassy, positron annihilation study 1−43211
$Fe_{40}Ni_{40}P_{14}B_6$ metallic glass, proton irradiation effects, blistering 1−7214
$Fe_{40}Ni_{40}P_{14}B_6$, metallic glass ribbons, surface B conc. meas. 1−21820
$Fe_{40}Ni_{40}P_{14}B_6$, metallic glass, viscous flow and hot forming 1−43463
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, rotational power loss, freq. depend. determ. 1−12348
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, ribbons, power loss and domain struct., ribbon width depend. 1−12350
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, remanence and Matteucci effect meas. 1−12379
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, thermal expansion, annealing effect 1−30428
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, dynamic compaction processing prep., mech. props. 1−35355
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, oxidation kinetics, AES and ellipsometric obs. 1−35426
$Fe_{40}Ni_{40}P_{14}B_6$, thermally induced acoustic emission 1−4030
$Fe_{40}Ni_{40}P_{16}B_4$, thermal treatment effect as mech. props., TEM *(Russian)* 1−21492
$Fe_{80-x}Ni_xP_{20-y}B_y$ amorphous ferromagnetic alloys, short-wavelength elastic stress effect on coercive force *(German)* 1−31009
$(Fe_xNi_{1-x})_{80}P_{10}B_{10}$ amorphous alloy, inhomogeneous magnetization, small angle X-ray scatt. 1−25987
$Fe_xNi_{80-x}P_{14}B_6$, amorphous, spin-glass, elec. resist., negative magnetoresist. meas. 1−12098
$Fe_xNi_{80-x}P_{14}B_6$, amorphous, magnetoresistance studies 1−25705
$Fe_xNi_{80-x}P_{14}B_6$ amorphous alloys, resistivity, mag. contrib. determ. 1−30697
$(Fe_xNi_{1-x})_{75}P_{16}B_6Al_3$, amorphous, mag. and transport props. 1−7587
$(Fe_xNi_{1-x})_{75}P_{16}B_6Al_3$ amorphous ribbon, mag. phase diagram 1−7841
$(Fe_xNi_{1-x})_{75}P_{16}B_6Al_3$, amorphous, spin glass-paramag. phase boundary, exchange intractions 1−30957
$Fe_{29}Ni_{49}P_{14}B_6Si_2$, Metglas 2826B, thermal expansion, annealing effect 1−30428
$Fe_{29}Ni_{49}P_{14}B_6Si_2$, Metglas 2826B, wire or tube fabrication by drawing 1−39266
$Fe_{3-x}Ni_xSi$, hyperfine interactions, local-environment model 1−52537
$Fe_{100-x}P_x$, amorphous, vibr. spectrum 1−7277
$Fe_{86}P_{14}$, amorphous electrodeposited alloy films, Barkhausen noise 1−21012
$Fe_{100-x-y}P_xC_y(Si_v)(Ge_v)$ glasses, microhardness, embrittlement and crystn. temps., comp. depend. 1−35354
$Fe_{80}P_xM_{20-x}$, M=Si,C,B, Mossbauer investigation, distribution of hyperfine fields 1−31073
$FePd_3$:Sn, Mossbauer study of ^{119}Sn mag. hyperfine interaction *(Russian)* 1−7989

iron alloys continued
$Fe_{53}Pd_{47}$ aerosol powders, ordering, Mossbauer spectroscopy study *(Russian)* 1−43042
$FePt_3$, magnetic excitations in metallic antiferromag., neutron inelastic scatt. meas. 1−7818
$FePt_3$, metallic antiferromag., paramag. scatt. of neutrons 1−7806
$FePt_3$:Sn, Mossbauer study of ^{119}Sn mag. hyperfine interaction *(Russian)* 1−7989
Fe_3Pt:Sn, Mossbauer study of ^{119}Sn mag. hyperfine interaction *(Russian)* 1−7989
FeSi, anomalous paramag., polarisation anal. neutron scatt. 1−12259
FeSi, liq., entropy of mixing 1−30389
$Fe_{78}Si_{10}B_{12}$, amorphous alloy, X-ray struct. anal. *(Chinese)* 1−25164
$Fe_{78}Si_{10}B_{12}$ ribbons, amorphous, melt-spinning fabrication, effects of ambient gases on props. 1−25981
$Fe_{90-x}Si_xB_{10}$, amorphous, magnetisation and annealing effect, temp. depend. 1−47905
FeSn, antiferromag., anisotropic hyperfine fields, Mossbauer spectra study 1−31070
$Fe_{0.34}Sn_{0.66}$ amorphous alloy, mag. clusters 1−25985
Fe_xSn_{1-x}, amorphous, elec. transport and stability 1−30698
FeTi, activation and reactivity props. under $H_2(D_2)$ press., hydride phase struct. 1−20123
FeTi, activation for H absorption, electron microscopic study 1−4124
FeTi, bulk band struct., PES study 1−20616
FeTi, Compton profile determ. 1−3533
FeTi, ferromag. reson. after hydrogenation-dehydrogenation cycles, superparamag. cluster form. 1−43017
FeTi, hydriding alloy powder, thermal conductivity and comparisons of reactor systems 1−20699
FeTi industrial hydride reservoirs, technological aspects and characts. for H_2 storage 1−17320
FeTi, surface segregation by hydrogenation, ^{57}Fe Mossbauer conversion electron study 1−3303
FeTi-H, props. and appl. for H_2 generation and storage 1−21936
FeTi-H, surface poisoning by O_2, CO and H_2O 1−2806
FeTi-H(D) phases, precipitation and struct., TEM and neutron diffr. study 1−20122
$FeTi_x$ surface, reactivity with H_2 1−2783
$Fe_{0.5}Ti_{0.5}$, solubility and diffusivity of $H_2(D_2)$ at low conc. 1−20390
FeTi(-H), magnetic props. 1−20957
β-$FeTiH_{1.17}$, Compton profile determ. 1−3533
$FeTiH_x$, initial form. rate, activation process parameter effect 1−4071
α-$FeTiH_x$, lattice expansion as meas. of surface segregation, and H_2 solubility 1−2634
$Fe_{0.5}Ti_{0.5}H_x$, in equilib. with H_2 gas, phase diagram and thermodynamic parameters 1−8276
FeW, μ-phase, amorphous, annealing behaviour 1−12766
$Fe_{95-x}W_5B_x$, metallic glass, mag. props. and thermal stability meas. 1−20071
$Fe_{90.5}Zr_{9.5}$, amorphous, Mossbauer recoilless resonant absorpt. intensities 1−26090
Fi-Ni (32 wt.%) kine photometric study of martensitic transform. 1−35256
Gd-Co/Tb-Fe, amorphous multilayer films, mag. props., meas. 1−12362
Gd-Fe, amorphous sputtered thin films, TEM study *(Japanese)* 1−21018
Gd-Fe, amorphous thin film, perpendicular anisotropy, influence of O_2 adsorption 1−38926
Gd-Fe amorphous films, electron beam deposited, uniformity of mag. props. 1−47918
Gd-Fe films with weak magnetic anisotropy transverse and planar Hall effect *(Russian)* 1−42744
$Gd_2(Co_{1-x}Fe_x)_{17}$, mag. anisotropy, NMR study 1−31061
$Gd_{1-x}Fe_x$, amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
$(Gd_xFe_{1-x})_{0.9}B_{0.1}$, amorphous films, charged wall form. 1−7914
GdFeBi-CdS.Cu.Cl photoconductor sandwich, thermomagnetic switching effect 1−25944
$Gd_{0.2}(Fe_xCo_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
$Gd_{0.2}(Fe_xNi_{1-x})_{0.8}$, amorphous, mag. props. 1−3157
$(Gd_{0.26}Fe_{0.74})_{1-y}Sn_y$ amorphous films, mag., magneto-optical and switching props. 1−12346
$HoFe_2$, anisotropic hyperfine fields, mag. induced quadrupole interactions, Mossbauer studies 1−26083
$Ho_{1-x}Fe_x$, amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
Ho_6Fe_{23}, magnetostriction, anisotropic 1−26008
$HoFe_2Si_2$, solid solution, mag. susceptibility, lattice const. *(Russian)* 1−20967
$Ho_xTb_yDy_{1-x-y}Fe_2$, magnetic anisotropy and spin reorientations 1−20975
Inconel 800 H, model to predict carburisation profiles 1−25315
Ir-Fe, dil., localised spin fluctuations 1−16393
$Lu_{1-x}Fe_x$, amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
Mn-Cu-Fe (10.4, 1 wt.%), Mossbauer study of magnetic and martensitic transform. 1−52775
Mo-Fe, electronic struct., X-ray spectra *(Russian)* 1−20620
Mo-Fe Kondo system, mag. Gruneisen parameter, thermal expansion and heat capacity meas. 1−42946
$N_{59}Fe_{19}Si_8B_{14}$ amorphous composite alloy, fabrication 1−16713
Nb-Fe, intermetallic composition formation due to laser induced shock wave *(Russian)* 1−53017
Nb-Fe, laser irrad., atom redistribution, compound formation *(Russian)* 1−3545
Ni-base superalloy, surface film behaviour 1−53346
Ni-Cr-Fe, secondary ion emission yield variations 1−3551
Ni-Cr-Fe (75, 16, 9 wt.%), intercryst. diffusion and Cr descript. in presence of water vapour, ^{51}Cr tracers appl. *(French)* 1−47283
Ni-Cr-Fe-Ti-Al (14.7, 8.9, 2.25, 1.1 wt.%), γ' determ. by non-aq. electrolyte-potentiostatic method *(Japanese)* 1−31417
Ni-Cr-W-Mo-Fe-Al-Ti, ductility, effect of Mg and C 1−48434
Ni-Fe, corrosion in transpassive region, alloy comp. and medium acidity influence *(French)* 1−48577
Ni-Fe, disordered, impurity states, spectrosc. obs. 1−21240
Ni-Fe, disordered, spin wave damping, inelastic neutron scatt. study 1−7819
Ni-Fe, electrodeposited, film comp. and deposition efficiency, plating parameters effect 1−48281
Ni-Fe alloy structures analysis, thin-film magnetic heads fabrication 1−17123
Ni-Fe films, resonance oscills. in mag. structures, stroboscopic electron microscopic study *(German)* 1−30994
Ni-Fe soft mag. high permeability materials properties *(German)* 1−21011
iron alloys continued
Ni-Fe specimen, Bloch-wall resonance excitation in vertical field on smooth wall *(German)* 1−30971
Ni-Fe thin films, vacuum deposited, mag. and struct. props., substrate temp. effects 1−42985
Ni-Fe-Cr-Al, heat resistance in air at 800°C, struct. dispersion degree influence 1−35436
Ni-Fe-Cr-Nb alloy, γ'' phase, electron diffr. study *(Chinese)* 1−38327
Ni-Fe-Mn alloys of high const. mag. permeability 1−7887
Ni-Mo-Fe, constitution, mech. props. and dislocation struct. *(Russian)* 1−31528
Ni-Mo-Fe (29, 4 wt.%), high temp. corrosion in mixed HCl-H_2O vapour atm. 1−12919
Ni-Ti(Nb)(Mo)(Fe)(Co)(Cu)(Al) binary solid solns., anneal hardening 1−31474
Ni_3Fe, disordered, glide dislocation loops on (001) planes 1−38373
Ni_3Fe, disordered, plastically deformed, dislocation struct. 1−11763
Ni_3Fe, domain struct. after tensile deform. 1−7876
Ni_3Fe, mag. anisotropy induced by rolling, effect of O_2 *(Russian)* 1−3171
Ni_3Fe, ordered, neutron irrad. mag. relax. 1−25992
Ni_3Fe, polycrystalline ordered, slip propag., dislocation nucleation, super dislocations, HVEM obs. 1−38372
$Ni_{36}Fe_{32}Cr_{14}P_{12}B_6$, Metglas 2826A, creep and isoconfigurational flow 1−35321
$Ni_{75}Mn_{18}Fe_7$, disordered, ferromagnetic relaxation anomaly during spin glass transition *(Russian)* 1−31034
Pb-Sn-Fe-Cu (1, 0.06, 0.01 wt.%), nonuniform plastic flow, in simple tension, influence of material parameters 1−3822
Pd-Fe, dil., induced spin density distrib. 1−7809
Pd-Fe, inhomogeneous ferromag. ordering, small-angle neutron scatt. study 1−25885
Pd-Fe, internal oxidation and H_2 permeability *(Russian)* 1−2695
Pd-Fe, magnetic anisotropy in Pd rich alloys 1−7826
Pd-Fe film, compositionally modulated, mag. props. 1−12361
Pd-Fe-Si (5.1, 16.8 at.%) metallic glass, hot deform. 1−43454
$Pd_{1-y}Fe_yH_x$, spin glass, Mossbauer hyperfine and mag. susceptibility meas. 1−12312
PdFeMn, reentrant spin-glass system, neutron scatt. studies 1−12329
PdH_x-Fe matrices, lattice parameter and ^{57}Fe isomer shift meas. 1−7983
$(Pd_xPt_{1-x})_3Fe$, Hall effect meas., mag. heterogeneity effect *(Russian)* 1−12096
$Pd_{67}Si_{20}Fe_{13}$, metallic glass, mag. correlation neutron meas. 1−3142
Pr-Fe 1−25970
Pr-Fe amorphous alloys, melt-spin, prep. and coercive force 1−47900
PtFe, dil., ferromag. to spin glass transition, magnetoresist. study 1−30940
$Pt_3Mn_xFe_{1-x}$, specific heat, ferromagnetic-antiferromagnetic transition *(Russian)* 1−30967
Rh-Fe, dil., thermopower at low temp. 1−25709
Rh-Fe self-calibrating resistive SQUID thermometer, for below 0.5K 1−9982
Ru-Fe, dil., localised spin fluctuations 1−16393
Sc-Fe-Si system, crystallochem. analysis 1−52105
Si-Fe (3 wt.%) single crysts., containing pre-introduced deform. twins, cyclic deform. 1−3857
Si-Fe single crystal, differential movement in 180° Bloch wall *(German)* 1−30972
Si-Ni-Fe alloy thin films, formation kinetics structure and elec. props. 1−25595
$Sm(Co,Cu,Fe,M)_z$ magnets, M=Ti, Zr, Z=6.8, 7.25, microprobe and TEM study 1−52304
$Sm_2(Co, Cu, Fe, Zr)_{17}$ magnets, resin bonded 1−8252
$Sm_2Co_{10}Cu_{1.48}Fe_{3.16}Zr_{0.194}$ hard permanent magnet, domain wall pinning 1−7875
SmFe, splat quenched, mag. props. *(Russian)* 1−30989
$SmFe_2$, amorphous, quenched, mag. props. meas., 4.2 to 300K 1−38951
$Sm_{1-x}Fe_x$, amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
$Sm_{2-x}R_xCo_{10}Cu_{1.5}Fe_{3.2}Zr_{0.2}$ (R=Gd, Tb, Dy, Ho, Er) magnets 1−7901
Tb-Fe, elastic modulus from transverse sound-wave velocity along appl. mag. field 1−20297
Tb-Fe amorphous thin films, mag. props., magneto-optic memory appls. 1−12347
$Tb_{0.27}Dy_{0.73}Fe_2$, mag. domain struct. 1−47089
$TbFe_2$ amorphous, computer simulation of struct. 1−30062
$TbFe_2$ films, microstresses and coercive force meas. *(Russian)* 1−25994
$TbFe_2$, influence of demagnetising factor on longitudinal magnetostriction *(Russian)* 1−31001
$TbFe_2$, magnetic excitations, inelastic neutron scatt. studies 1−25888
$Tb_{1-x}Fe_x$, amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
Tb_6Fe_{23}, magnetostriction, anisotropic 1−26008
Tc-Fe, dil., localised spin fluctuations 1−16393
Te-Fe, dil., quadrupole interactions at ^{57}Fe, Mossbauer meas., 78 to 578K 1−12441
Th-Fe(Ni) systems, chemical diffusion 1−52365
$Th_2(Fe_{1-x}Co_x)_{17}$, ordering, neutron diffr. study 1−25890
Th_7Fe_3Hx, magnetic props. 1−20956
Ti-Al-Mo-V-Fe-Cu-Zr-Sn martensitic alloy, struct. and mech. props. 1−16791
Ti-Fe, activation cond. in alloys with negative resistance temp. coeffs. *(Russian)* 1−2938
Ti-Fe (1.4 wt.%), polymorphic transformation effect on positron annihilation characts. *(Russian)* 1−48427
Ti-Fe hydride storage system for electrical load-equilibration 1−43827
Ti-Ni-Fe system, phase relations and diffusion paths at 900°C 1−39311
Ti-V-Fe-Al (10, 3, 2 wt.%), phase transform. and tensile props. 1−43376
$TiFE_{0.9}Al_{0.1}$, absorption capacity for H_2 storage, equilibrium pressures 25-120°C 1−43814
TiFe hydrides, crystal structure 1−15837
TiFe, optical props. *(Russian)* 1−31113
$Ti(Fe_{0.5}Co_{0.5})$, off-stoichiometric, mag. props. 1−47923
$Tm_{1-x}Fe_x$, amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
U-Fe (14.3 at.%) amorphous alloys, struct. characts. of alloys formed by liquid quenching vs. irrad. techniques 1−15807
$U_{66}Fe_{34}$, glasses, mag. susceptibility, resistance, magnetisation 1−3148
$U(Fe_xCo_{1-x})_2$, exchange-enhanced paramagnetism and ferromag. behaviour obs. 1−25873
$U(Fe_{50}Mn_{50})_2$, quasi-binary alloy, AC magnetic susceptibility, 4.2 to 290K 1−47863
$(U_xZr_{1-x})Fe_2$, magnetization and Mossbauer studies 1−52806
V-Fe, electronic structure from positron annihilation 1−12022

iron alloys continued
V-Fe-H, band struct. characts., mag. susceptibility, electronic sp. ht. and Mossbauer isomer shifts 1−20614
W-Fe-Ni (5, 5 wt.%), prod. using mech. alloying technique 1−3663
W-Ni-Fe (90, 7, 3 wt.%), low-temp. brittleness 1−35380
YFe_2, NMR study of press. effect on magnetisation *(Russian)* 1−43035
$Y_6(Fe_{1-x}Mn_x)_{23}$ (x=0.8, 0.9), mag. struct. 1−25889
$Y_6(Fe_{1-x}Mn_x)_{23}$, preferential ordering of Mn and Fe, neutron diffr. studies 1−11723
$Y_{66}(Fe_xMn_{1-x})_{34}$ metallic glasses, chem. ordering, ^{57}Fe Mossbauer study 1−7985
YFe_2Si_2, solid solution, mag. susceptibility, lattice const. *(Russian)* 1−20967
Zr-Cr-Fe (1.14, 0.08 wt.%), β-quenched, abnormal grain growth during ageing, metallographic study 1−3796
Zr-Fe, amorphous, thermal stability, crystn. study by DSC and X-ray diffr. 1−30091
Zr-ZrV_2 alloying additions, supercond. eutectic, supercond. transition, microhardness and elec. resist. *(Russian)* 1−38877
Zr-ZrV_2 alloying additions, supercond. eutectic, influence on microstruct. *(Russian)* 1−39328
Zr_3Fe, amorphous and metastable cryst. struct. correlations, Mossbauer study 1−30076
$Zr(Fe_{1-x}Co_x)_2$, hyperfine interactions and local mag. ordering, Mossbauer and NMR study 1−47984
$Zr(V_{1-x}Fe_x)_2$ getter for H_2 1−18238

iron compounds
see also ferrites; iron alloys
$^{57}FeBO_3$, Mossbauer line shift, hyperfine interaction changes *(Russian)* 1−21097
braunite II, cryst. struct. rel. to bixbyite and braunite 1−15871
complexes, electronic struct. of dinuclear transition, He(I) and (II) photoelectron spectra, ab initio SCF calc. 1−6316
deerite, thermally activated electron delocalisation 1−16516
ferrocene-FeOCl intercalation phase, characterisation by low temp. Mossbauer spectroscopy *(German)* 1−3308
ferrocene-FeOCl intercalation phase, phase changes and thermal behaviour, DTA, X-ray diffr. and Mossbauer study *(German)* 1−3309
ferrocyanides, Mossbauer effect 1−52879
ferrospinels, microstruct. form. processes 1−53148
forsterite, pseudo-symmetries of crystallographic coordination polyhedra 1−15826
garnet film, initial stage of magnetisation switching, meas. 1−21013
germanates, hydrothermal synthesis 1−8207
graphite containing $FeCl_3$ and $MoCl_5(WCl_6)$, layer compounds, synthesis, gamma-resonance spectra and struct. 1−7147
graphite-$FeCl_3$ intercalation cpd., electron energy loss spectroscopy 1−48207
graphite-$FeCl_3$ intercalation cpd., stage I and stage II, low freq. plasmon spectra 1−47522
hematitic oxides, direct obs. of reduction, oxidation and annealing with aid of device for SEM *(German)* 1−31828
high spin-low spin transitions, Fe conc. effect, ligand field theory 1−25952
Inconel, C(O)(S) impurities, H discharge cleaning 1−26342
magnetite, Mossbauer effect, selective excitation double reson. lineshape 1−52877
minerals, X-ray spectra, of Fe atoms 1−12603
ore, determ. of Fe content by fluorescent X-ray spectroscopy, Co internal standard in binder-briquetted specimens 1−17143
oxide grains, interstellar, effects of redox reactions on optical props. 1−27575
oxide ore materials, high-temp. microscopy unit for blast furnace type conditions 1−53371
oxides, high-press. polymorphs of high density 1−49259
pyrrhotites, natural, thermomag. obs. of fine mag. lamellae, magnetite exsolution 1−17587
salts, mol. absorpt. spectrosc. *(Japanese)* 1−48766
tychite, crystal struct. determ. 1−2414
$[Fe(CN)_5NO]^{2-}$, photochemical and spectral props. 1−10666
AgCl-$FeCl_2$ liquid mixtures, excess enthalpies 1−16046
B_2O_3-PbO-Fe_2O_3 glasses, influence of equilibration time on phys. props. 1−26091
$Ba_4Fe_4S_{11}$, cryst. struct. and stability range 1−38351
$C_{14}FeCl_3$ and $C_{21}FeCl_3$ intercalation compounds, small angle X-ray scatt. study 1−34331
$Ca_2(Mg_{0.86}Fe_{0.14})(Mg_{0.92}Fe_{0.08}[B_2O_5]_2)$, cryst. struct. determ. 1−25229
CaO-Fe_2O_3-B_2O_3 glasses and glass-metal composites, prep., struct. and props. meas. 1−31414
CaO-Fe_2O_3-SiO_2 glasses and glass-metal composites, prep., struct. and props. meas. 1−31414
CaO-FeO-SiO_2, glass formation and properties 1−15808
$CoFe_xRh_{2-x}O_4$, Spinel, Mossbauer study 1−7982
$Co_{0.995}Fe_{0.005}S_2$, Mossbauer study in external mag. field, mag. struct., quadrupole splitting 1−26098
CoO-ZnO-Cr_2O_3-Fe_2O_3-TiO_2 system formation and colour of spinel solid soln. 1−16544
Cu II-Fe III heterobinuclear complex, crystal struct., antiferromag. coupling, molar mag. susceptibilty 1−47058
Cu-Li-Fe-O system, prep. and props. of spinel solid solns. 1−12708
$Cu_{0.5}Fe_{2.5}O_4$, struct., oxidation states, of Fe, Cu, spectrometric anal. *(French)* 1−20667
$Cu_{4.5}Fe_{1.5}S_{4.7}$, bornite, mag. transitions and mixed valences, mag. and Mossbauer studies 1−52778
$Cu_x^{II}Mn_{1-x}^{II}Fe_2^{III}(OH)_8$, phase transform., ferromag. props., ferrite form. *(German)* 1−25423
$DyFe_{0.9975}Co_{0.0025}O_3$, Morin type transitions 1−34880
$F_{1-x}O$, wustite powders, influence of CaO and MgO on metallisation kinetics, Fe whisker formation 1−12733
Fe bearing silicate melts, struct. and redox equilibria 1−39010
Fe chelate, therapeutic agents, Fe binding, EHT calcs. 1−1118
Fe complex, $[Fe(CH_6CH)_8]^{2+}$, Urey-Bradley force constants, normal vibrations and Raman active fundamental frequencies 1−35019
Fe complex, $[Fe(III)(EDIA)(O_2)]^-$, aq. soln., reson. Raman study 1−43115
Fe complex, bromodis(N,N-diethyldithiocarbamato) Fe(III), mag. ordered phase 1−30945
Fe complex, carboxilate, Mossbauer spectra, Dzialoshinskii exchange interaction effect, quadrupole splitting 1−31078

iron compounds continued
Fe complex, $FeCl_2$-bispyridine, electronic, structural and mag. props. of ^{57}Fe atoms created by ^{57}Co electron capture decay 1−26092
Fe complex, Fe(III), diethyl-dithiocarbamate, electronic ground state temp. depend. using variable temp. photoacoustic spectroscopy 1−50232
Fe complex, Fe(II) methanesulphonate, struct. isomerism, Mossbauer obs. 1−12432
Fe complex, $Fe(phenanthrolene)_3^{2+}$, ligand-ligand and spin-orbit interactions 1−14814
Fe complex, iodobis(N,N,diethyldithiocarbamato)iron(III), antiferromag., sp. ht. and phase transition 1−30951
Fe complex, pyridine-N-oxide perchlorate, $S=^1/_2$ Ising antiferromagnet, mag. susceptibility meas. 1−3156
Fe complex, trioxalato-Fe(III) complex formation in aq. soln., X-ray diffr. 1−48654
Fe complexes, Fe(pyridine N-oxide)$(H_2O)Cl_2$, IR spectra, metal-ligand modes assignments 1−31142
Fe oxide films, deposited on Au substrate, open circuit behaviour 1−53311
Fe oxides, structural changes during reduction, SEM *(German)* 1−43370
Fe-Al-O, phase equilibria 1−39325
Fe-CO, quantum chem. calc., general mechanism, balloon effect *(German)* 1−53472
Fe-Co-O system, thermogravimetry and X-ray diffr. study at 900°C *(French)* 1−39322
Fe-Mg silicates, s-electron density, molecular orbital calculation rel. to isomer shift 1−11719
Fe-N compounds, thin film synthesis by RF sputtering, Mossbauer and X-ray diffr. study 1−21347
Fe-O, equilibrium heating, to temp. of transition to gas-vapour phase 1−21710
Fe-O system, thermodynamic props., mathematical description 1−3710
Fe-O-SiO_2 system, thermodynamic props., mathematical description 1−3710
Fe-oxide-borate-glass melt, anodic processes 1−17071
Fe_{1-y}, semicond. props. at high temps. 1−7620
Fe_2B and FeB, thermodynamic props. 1−34490
$FeBO_3$, ferromagnet, magnetically tunable sound velocity 1−3228
$FeBO_3$ ordered mag. material, nuclear spin echo, enhancement factor effect *(Russian)* 1−43034
$FeBO_3$, weak ferromag., mag. domain struct. effects on cryst. imperfection, X-ray diffr. study 1−25976
Fe_3BO_6, phase transitions near Neel point *(Russian)* 1−12297
$Fe_3B_7O_{13}Br$, ferroelec., use in pyroelec. IR detection and imaging, review 1−5375
$FeBr_2$, lattice dynamics, inelastic neutron scatt. study 1−20331
$FeBr_2$, metamagnetism, collinear, Heisenberg term, magnon spectrum 1−7837
$FeBr_2(Cl_2)$, layered crysts., vibr. struct. of cryst. field spectra, IR absorpt. study 1−34668
$Fe(CN)_6^{3-/4-}$ nonaqueous electrolytes, stabilisation of n-CdSe photoanodes 1−35542
$FeCO_3$, siderite, metamagnetic transition in longitudinal pulse field, abnormal effects 1−12295
$Fe(CO)_5$, IR photodissoc. kinetics and mechanisms 1−35555
$Fe(CO)_5$, primary photochemical fragmentation, mol. dynamics 1−39661
$Fe(CO)_5$, transverse excitation, Fe* form., stimulated emission 1−24085
$Fe(CO)_5$-PF_3, photolysis, primary photochemical yields of fragments 1−43683
$Fe_2(CO)_9$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
$Fe(CO)_2(NO)_2$, He(I) and He(II) photoelectron spectra, correl. effects, ab initio calc. 1−19136
$Fe(CO)_2(NO)_2$, trapped centre, configuration EPR obs. 1−21056
$Fe_2(CO)_6S_2$, electronic struct. of dinuclear transition, He(I) and (II) photoelectron spectra, ab initio SCF calc. 1−6316
FeCl, UV system, rot. anal. and const. 1−24109
$FeCl_2$, anhydrous, neutron beam depolarisation, magnetoelastic effects 1−25886
$FeCl_2$, metamagnet, tricritical scaling and logarithmic corrections, magnetisation, sp. ht., and Faraday rot. meas. 1−20980
$FeCl_2$, metamagnetism, collinear, two-sublattice, field- and temperature-induced 1−7835
$FeCl_3$, solid, optical absorpt. spectrum, rel. to intercalation in graphite 1−35069
$FeCl_3$-graphite intercalation cpd., electronic props. 1−42679
$FeCl_2.2H_2O$, magnon-phonon interactions, magnetoelastic waves, selection rules 1−12373
FeCo, matrix isolation and Mossbauer spectra, electronic struct., isomer shift 1−41370
$Fe_{1-x}Co_xCl_2$, mag. props., order parameters effects 1−25938
$Fe_{1-x}Co_xCl_2$, randomly mixed antiferromag. with competing spin anisotropy, neutron diffr. study 1−16428
$Fe_xCo_{1-x}Cl_2$, metamagnetic crystals, electronic absorpt. spectra, temp. depend. 1−8098
$Fe_{1-x}Co_xCl_2.2H_2O$, random mixture with competing anisotropies, ordering, Mossbauer study 1−38912
$Fe_{3-x}Co_xO_4$, Mossbauer spectroscopy, substitution effect on Verwey transition 1−12438
$Fe_{1-x}Co_xS_2$, appl. of kinetic exchange interaction in doubly degenerate narrow band 1−3168
$(Fe_{1-x}Cr_x)_2O_3$, secondary ion emission yield variations 1−3551
$Fe_{2-x}Cr_xO_3$, solid soln., IR spectra 1−31134
$Fe_{3-x}Cr_xO_4$, Mossbauer spectroscopy, substitution effect on Verwey transition 1−12438
$Fe_{3-y}Cr_yO_4$, solid soln., IR spectra 1−31134
$FeCr_{2-x}Rh_xS_4$ spinels, room temp. Mossbauer obs. and interpret. 1−34966
$FeCr_2S_4$ film, elec. and galvanometric props. 1−38795
$FeCr_2S_4$, second-order phase transition, group-theoretical argument 1−11861
$Fe_2Cr_2S_4$, metal-semicond. transition, high temp. ferromagnetism *(Russian)* 1−34630
FeCu, matrix isolation and Mossbauer spectra, electronic struct., isomer shift 1−41370
$Fe_{1-x}Cu_xCr_2S_4$, Mossbauer spectral line shape in presence of electron hopping 1−21091
$Fe_{1-x}Cu_xCr_2S_4$, XPS study 1−16663
FeF_2:Mn, pure and doped, mag. polaritons and Mn impurity mode, AFMR study 1−43018
$FeF_2:Mn^{2+}$, Raman scatt. by local magnon modes 1−3412

iron compounds continued
FeF_3 thin films, mag. and Mossbauer reson. studies 1−21017
FeFe, matrix isolation and Mossbauer spectra, electronic struct., isomer shift 1−41370
Fe(III) complexes, biogenic amines in aq. solns., ^{13}C NMR and spin-lattice relax. 1−33477
Fe(III) haem complexes, EPR g-factors, crystal field anal. 1−48947
FeK alum, electron spin-lattice relax., mag. field depend. 1−3251
$Fe_3K(OH)_6(CrO_4)_2$, crystallographic and IR study *(French)* 1−47063
$FeLiO_2$, order-disorder phenomena, X-ray, neutron and electron scattering methods *(French)* 1−38318
$FeLu_2S_4$ pseudo-spinel, disordered cations, X-ray diffr. and Mossbauer obs. 1−25241
FeMn, matrix isolation and Mossbauer spectra, electronic struct., isomer shift 1−41370
$Fe_{1-x}Mn_xCl_2$, disordered mixtures, lowest Fe^{2+} spin excitations by microwave absorption at high freqs. 1−3383
$Fe_{1-x}Mn_xCl_2$, Raman scatt. from magnons and phonons 1−48070
$Fe_{1-x}Mn_xWO_4$, enthalpy of mixing 1−2638
$Fe_{0.5}Mo_6S_6I_2$, Chevrel phase materials, synthesis and props. 1−16051
$FeNbO_4$, prep. and photoelectronic props. 1−34741
$Fe_{0.25}Nb_{0.75}Se_3$, metal-insulator transition and CDWs, rel. to crystal struct. 1−47718
$Fe_{1/4}NbSe_2$, optical refl. spectra 1−21226
FeNi, matrix isolation and Mossbauer spectra, electronic struct., isomer shift 1−41370
$Fe_{3-x}Ni_xO_4$, Mossbauer spectroscopy, substitution effect on Verwey transition 1−12438
FeO, compressibility, energy dispersive X-ray diffr. in diamond anvil squeezer 1−21529
FeO, electronic states, rot. anal., UV obs. 1−51219
FeO, insulator-to-metal transition in oxides under high press., possibility of chem. reduction 1−7255
$(FeO_4)^{5-}$, s-electron density, molecular orbital calculation rel. to isomer shift 1−11719
FeO_x Berthollide ferrite films deposited by vacuum-arc evaporation 1−12658
FeO_x-MgO solid soln., mag. interactions between Fe atoms 1−38922
Fe_2O_3 (magnetite), oxidation, UV stimulated reaction? 1−4805
Fe_2O_3 $[Na_2O.2SiO_2]_{1-x}[Fe_2O_3]_x$ glass, IR study of crystallisation 1−2336
Fe_2O_3 antireflection layer beneath photoresist for standing-wave reduction in chirped grating holography 1−29235
γ-Fe_2O_3, condensation from vapour phase above a melt in a solar parabolic concentrator 1−7309
α-Fe_2O_3, cryst. growth by vapour phase reaction method 1−3586
Fe_2O_3, crystal struct. and isothermal compression 1−15873
α-Fe_2O_3, derived by dehydration reaction twinning effect on particle size broadening, electron microscope obs. 1−30246
α-Fe_2O_3, elec. resist. under ultrahigh static press. 1−16322
Fe_2O_3, γ to α transform., mag. reson. study, superparamag. 1−3266
αFe_2O_3, haematite, Hall effect in Morin transition region 1−25746
α-Fe_2O_3, haematite, optical absorption spectrum near IR to UV, and photocond. meas. 1−3384
α-Fe_2O_3, hematite, Kerr effect, surface anisotropy, mag. struct. *(Russian)* 1−43102
α-Fe_2O_3, hematite, mag. linear birefringence near Morin temp. *(Russian)* 1−43101
Fe_2O_3 impurity in PbO-SiO_2 and Na_2O-SiO_2 glasses, Fe^{3+} ion clusters form., ESR linewidth anomalies 1−52837
Fe_2O_3, kinetics of reduction by H_2 and Co *(Korean)* 1−17025
γ-Fe_2O_3 magnetic thin film disk media, prep. method by reactive sputtering 1−21350
γ-Fe_2O_3 microscopic particle mag. props. meas., remanence curves 1−18262
Fe_2O_3 pellets, reducibility, prep. and description *(French)* 1−35224
α-Fe_2O_3 photoanodes, photoelectrochem. props. 1−21734
Fe_2O_3, powder, sintering at low temp., atmos. effects 1−3676
γFe_2O_3 powder with $Co_xFe_{3-x}O_4$ coating, Mossbauer effect study *(Chinese)* 1−52871
Fe_2O_3 reduction by H_2, reaction kinetics 1−17319
γ-Fe_2O_3 sputtered thin film disc, prep. process 1−12651
α-Fe_2O_3, synthetic hematite, crystallite size distrib. shape effects, X-ray line profile anal. 1−20414
α-Fe_2O_3, weak ferromag., mag. domain struct. effects on cryst. imperfection, X-ray diffr. study 1−25976
Fe_2O_3:Li_2O, haematite, sintering, influence of nature of initial salts on chem. homogeneity, cryochemical method 1−35206
Fe_2O_3-Al_2O_3, diffuse reflection electronic spectra and Fe ion state 1−26234
α-Fe_2O_3-Al_2O_3 solid soln., mag. interactions between Fe atoms 1−38922
γ-Fe_2O_3-Fe_3O_4 solid solns., changes in coercive force with magnetostrictive anisotropy 1−12353
Fe_2O_3-MgO, diffuse reflection electronic spectra and Fe ion state 1−26234
Fe_2O_3-V_2O_5-VO_2 system cpds., press.-temp. diagram and thermodynamic characts. 1−43321
Fe_3O_4, ^{16}O substitution by ^{18}O influence in metal-insulator transition temp. 1−52490
Fe_3O_4, bipolarons, charge ordering, and Verwey transition 1−12047
Fe_3O_4, cryst. struct. at low temp. rel. to Verwey transition 1−11734
Fe_3O_4, ferrofluid, magneto-optical effects 1−26175
Fe_3O_4, magnetite, epitaxial growth on NaCl substrate by reactive evaporation 1−2836
Fe_3O_4, magnetite, magnetometric study, vibrating sample magnetometer *(Korean)* 1−49425
Fe_3O_4, magnetite, Mossbauer and μSR studies 1−12437
Fe_3O_4, magnetite, optical props. in range 0.03 to 12 eV 1−12498
Fe_3O_4, magnetite, temp. depend. of NMR at 10K 1−39006
Fe_3O_4, magnetite particles suspension, high coercive force, synthesis and coating 1−7899
Fe_3O_4, molecular polarons and valence fluctuations near Verwey transition 1−12046
Fe_3O_4 multidomain particles dispersed in nonmagnetic matrix, anhysteretic remanent magnetisation 1−35977
Fe_3O_4, partial charge ordering 1−11735
Fe_3O_4, phonon softening in low temp. phase, Mossbauer study 1−12439
Fe_3O_4, powder, sintering at low temp., atmos. effects 1−3676
Fe_3O_4, stoichiometric and vacancy doped, mag. aftereffects, 4.2 and 130K 1−12359
Fe_3O_4, Verwey transition, polaron form. 1−12032
Fe_3O_4, Verwey transition, electron correl. theory 1−12033
iron compounds continued
Fe_3O_4-Fe_2TiO_4 system, natural, oxidation reactions and defects 1−3942
Fe_3O_4-$MgAl_2O_4$ solid soln., mag. interactions between Fe atoms 1−38922
FeOCl intercalation compounds, hyperfine interactions, van der Waals lattice modes 1−38751
$Fe_3O_{4-x}F_x$, Anderson localisation of charge carriers in high temp.phase, resist. and thermopower meas. 1−12154
$Fe_3O_{4-x}F_x$, Mossbauer spectroscopy, substitution effect on Verwey transition 1−12438
$Fe_3O_{4-x}F_x$, sp. ht., role of octahedral Fe^{2+} ions 1−11879
$(\gamma$-$Fe_2O_3)_x(Fe_3O_4)_{1-x}$ acicular particles, mag. props. 1−47917
β-FeOOH porous cryst. struct. 1−52118
FeOOH, with metal hydroxides, spinel ferrite formation, crystal orientation during solid-solid reaction 1−48653
$Fe_2O_3.H_2O$, amorphous, multiple-site adsorption of Cd, Cu, Zn and Pb 1−39677
Fe_2P, pressure induced mag. transition 1−30941
$Fe_2P_{1-x}B_x$, ($x<0.15$), ^{57}Fe Mossbauer and X-ray study 1−26087
FeS, K X-ray absorpt. spectra of sulphur, energy band and MO calcs. 1−39181
FeS standard Gibbs energy of formation determ. using CaF_2 solid electrolyte 1−8577
FeS_2, far IR refl. spectra, optical and dielec. consts., effective charges 1−52957
FeS_2, K X-ray absorpt. spectra of sulphur, energy band and MO calcs. 1−39181
FeS_2, marcasite, elec. cond. and band gap 1−25728
FeS_2, Mossbauer spectra, crystal struct. 1−52880
FeS_2, no-standards quantitative EDS anal. *(Chinese)* 1−53497
$Fe_{1-x}S$, high vacancy content crystal, diffusion 1−47303
$Fe_{1-x}S$, nonstoichiometric, defect struct. and diffusion 1−7382
Fe_2S_3, K X-ray absorpt. spectra of sulphur, energy band and MO calcs. 1−39181
Fe_7S_8, planar defects and non-stoichiometry *(French)* 1−42394
$FeSO_4$ dosimeter, G-value for 3 and 14 MeV neutrons 1−44016
$FeSO_4$ passivation procedure for brass condenser pipes in power stations *(Rumanian)* 1−16961
$Fe_2(SO_4)_3$, weak ferrimagnetism, mol. field theory approx. anal. 1−12279
$FeSO_4.H_2O$, resonantly scatt. γ-ray angular distrib. *(Russian)* 1−12444
$FeSO_4.1H_2O$, PMR of isomorphous paramag. and diamag. monohydrates 1−52849
$FeSc_2S_4$, pseudo-spinel, disordered cations, X-ray diffr. and Mossbauer obs. 1−25241
$FeSiF_6.H_2O$, symmetric stretching vibr., temp. variation, Raman spectra 1−43112
$FeSiF_6.6H_2O$, polarised absorption spectra, vibr. anal. 1−52934
$FeSiF_6.6H_2O$, Raman spectra, phase transition mechanism 1−48091
$FeSiO_4$, olivine and spinel phases, IR spectra 1−12499
FeTe thin films, substrate influence on film struct., Mossbauer study 1−20581
FeTi, and hydrides, mag. props. *(German)* 1−34911
$Fe_{1-x}Ti_xO_4$, thermopower and elec. cond. near Verwey transition 1−12155
$Fe_{0.35}V_2O_5$ spin glass, mag. cluster blocking 1−12313
$FeWO_4$, enthalpy and Gibbs free energy of form. 1−2638
$FeYb_2S_4$ pseudo-spinel, disordered cations, X-ray diffr. and Mossbauer obs. 1−25241
$Fe_{0.25}Zn_{0.75}Cr_2(S_{1-x}Se_x)_4$ thiospinel system, Mossbauer investigation *(German)* 1−21092
$Fe(acac)_2$ complex, Mossbauer spectral study 1−31076
Ga_2-Se_3-FeSe, phase diagram, DTA, metallographic and X-ray diffr. study *(French)* 1−3708
Hg_2SiO_4-Fe_2SiO_4, olivenes, electrical cond. meas. 1−20738
(K, Na)(Li, Al, $Fe)_2$[Al, $Si_3O_{10}]_4$(OH, $F)_2$, zinnwaldite, local mag. fields on Al nuclei, NMR method 1−26048
$K_4Fe(CN)_6.3D_2O$, Raman spectra, OD stretching vibrs. 1−8068
$KFeF_3$, polarised Mossbauer study of hyperfine parameters 1−43044
K_2FeF_4, 2-D antiferromagnet, far IR absorpt., magnon modes 1−8075
$K_3(K_{0.333},H_2O_{0.667})_6Na_2(Na_{0.18},H_2O_{0.12})^+,H_2O_{0.500})_6Fe_6^{3+}O_2(SO_4)_{12}.6H_2O$, struct. rel. to parent cmpd. 1−42343
$La_{1-x}Sr_xFe_{1-y}Co_yO_3$ series, electrode for O_2 evolution, struct. and elec. cond. 1−31867
M=Mg, Ni, Zn, cation distrib., props. of brownmillerite phase 1−47052
(Mg, Fe) SiO_3, perovskite, synthetic high press. phase, TEM and X-ray diffraction studies 1−22328
$(Mg,Fe)_2Fe^{3+}BO_5$, ludwigite, defect structs., TEM study 1−38379
(Mg, $Fe)_3(PO_4)_2$, cation ordering, Mossbauer spectra study 1−21090
MgO-FeO solid soln., Debye temp. 1−20345
$MgSiO_3$-$FeSiO_3$ pyroxenes, elec. conductivity under thermodynamically controlled conditions 1−44177
Mg_2SiO_4-Fe_2SiO_4 olivines, elec. conductivity under thermodynamically controlled conditions 1−44177
Mn_2FeO_4, cation distrib., Mossbauer spectra 1−12433
$(NH_4)_3FeF_6$, phase transition study 1−21147
$Na_{12}Ca_3Fe_2[Si_6O_{18}]_2$, imandrite, cryst. struct. determ. 1−30195
Na_2O-B_2O_3-SiO_2:Fe_2O_3 phase separating glasses, spectral absorpt. 1−52972
$Na_2O.Fe_2O_3.4SiO_2$, Mossbauer spectra, quadrupole splitting 1−3306
NiFe, in solid matrix, reson. Raman spectra 1−37213
$NiFe_2O_4$, precip. from silicate glass, Mossbauer spectra temp. depend. 1−43043
$Ni_xFe_{3-x}O_4$, solubility in in aqueous boric acid soln., PWR coolant system during operation and cooldown 1−52299
$PbFe_xMo_6S_8$, supercond., sp. ht. capacity meas. 1−12236
PbO-B_2O_3-Fe_2O_3 solution for garnet LPE growth, ionic equilibria, elec. cond. meas. 1−7064
Pb(Zr,Ti)O_3:Fe_2O_3 solid solns., diffuse refl. spectra 1−31168
SiO_2-PbO-ZnO-FeO refractories, phase transitions during melting of Pb-Zn raw material 1−12737
$ThFe_4P_{12}$, cryst. struct. 1−34309
$TlCu_{2-x}Fe_xSe_2$, irreversible antiferromag. to ferromag. transition 1−34882
$V_{1-x}Fe_xO_2$, metal-insulator transition, press. effect 1−25635
$Y_3Fe_{5-x}In_xO_{12}$ garnet, refractive indices *(Russian)* 1−39061
γ-$(Zn,Fe)_3(PO_4)_2$, cation ordering, Mossbauer spectra study 1−21090

iron phosphate semiconductor glasses *see amorphous semiconductors*

irradiation effects *see radiation effects*

irradiation induced creep
core components, structural design criteria 1−39402

irradiation induced creep continued
fission reactor materials, swelling-irradiation creep opposition testing, technical basis 1−37000
metal, dislocation climb contrib. *(Russian)* 1−12792
metal, FCC single crystal, dislocation mechanisms responsible for irrad. induced creep, orientation depend. 1−42418
metals, high temp. He embrittlement, model based on grain boundary cavity nucleation and growth 1−15949
steel, austenitic stainless, in-reactor creep 1−21513
steel, ferritic, in-reactor creep 1−21513
steel, martensitic, heat-resistant, components in fast breeder reactors, review *(German)* 1−18747
steel, precipitation hardened, in-reactor creep 1−21513
steel, solid solution hardened, in-reactor creep 1−21513
stress induced preferred adsorption effect induced growth 1−20309
thin single crystal prep. for proton irradiation creep expts. 1−27942
Zircaloy-2 pressure tubes, cold-worked, creep ductility in-reactor 1−43430
Zr, rate theory of void swelling, irradiation creep and growth, bulk recomb. effect 1−779
Zr-Nb (2.5 wt.%), pressure tubes, cold-worked, creep ductility in-reactor 1−43430

Ising lattices
see also Ising model
anticommuting variable integrals, appl. to unsolved statistical mechanics models 1−40705
binodals and spinodals of binary solid solutions 1−20406
Cayley tree, random Ising model, thermodynamic limit for distribution function of effective field 1−7800
chains, finite and infinite spin, partition function, correlation length at low temp. 1−32925
compressible, weakly first-order transitions, theory 1−18169
connectivity index for lattices of nonintegral dimensionality 1−32930
continuous-spin Ising models, low temperature expansion 1−25857
correlation between frustrated plaquettes in the random bond square lattice 1−40718
correlation function of 1-D Ising model with power-law potential 1−27889
correlation functions, anticommuting variable integrals 1−27863
critical couplings, and indices, recursion eqns. 1−190
critical temperatures of square lattices 1−23122
ferromagnetic spin systems, periodic Gibbs states 1−42969
free fermion 32 vertex model, correlation functions 1−27858
frustration model, Ising and periodic 1−9948
general Ising systems, high temp. multigraph expansions 1−44844
hard-core binary lattice gases, circle theorem 1−9957
impurity magnetisation in Ising chain with transverse field 1−27887
instantons and the Ising model below T_c 1−187
interdependent planar Ising lattices 1−50065
isobutyric acid-water, critically quenched mix., struct. factor from light scatt. meas. 1−48103
kinetic Ising model with external noise, appl. of stochastic differential equation 1−32913
linear chain, pure site percolation problem in mol. field 1−44858
linear chain, random Ising model, thermodynamic limit for distribution function of effective field 1−7800
low-temperature series expansions for lattices of non-integral dimensions 1−50066
2,6-lutidine-water, critically quenched mix., struct. factor from light scatt. meas. 1−48103
one-dimensional Ising lattice, random bonds, Glauber model 1−27897
Onsager-Ising lattice, correlation functions of odd numbers of spins with finite separations 1−36578
partition function theorem for lattice with arbitrary spin 1−18175
partition functions as fermionic field theories, integrals over anticommuting variables 1−27862
phase diagram stability, non-symmetry breaking pair interactions 1−50059
pseudo-free 128 vertex model 1−27857
quantum Hamiltonian field theory, finite lattice methods 1−27891
random bond Ising model, real space renormalisation group 1−23120
random Ising systems, concentration expansion 1−32928
relaxational model, finite-size scaling theory for nonlinear relaxation 1−18166
renormalisation group calculations on a mixed-spin system in two dimensions 1−20990
square lattice Ising model, high-field expansions 1−20991
three-dimensional, closed-form approx., limitations of Q-approx. *(Chinese)* 1−44843
transverse model, quantum effects in critical props. 1−50064

Ising model
see also Ising lattices
2 D Ising model with impurity bonding, phase transformations *(Russian)* 1−40723
alloys, binary, surface atomic order and ferromagnetism 1−52404
antiferromagnet, amorphous, computer simulation 1−30900
antiferromagnet, nearly 1-D, quantisation of magnetic excitation continuum 1−12314
antiferromagnet, S=1, crit. temps., uniaxial anisotropy effect 1−25951
antiferromagnet, square lattice, in external mag. field, soln. in anisotropic limit 1−25969
antiferromagnetic chain, random anisotropic, low-temp. thermodynamic props. 1−25965
antiferromagnetic Ising chain with long-range forces, thermodynamic props. 1−34845
antiferromagnetic Ising model, spin-1, interface struct. and kinetic phase transition 1−42962
Ashkin-Teller model, phase transform. near decoupling limit 1−34902
Ashkin-Teller model, three-dimens., phase diagram 1−12320
binary alloy, bulk phase diagram, spin-1 antiferromag. Ising model 1−42961
commensurate-incommensurate transitions, competing interactions 1−25860
compressible magnet, first-order phase transition, thermodynamic functions, renormalisation group calc. 1−12325
continuous-spin Ising models, low temperature expansion 1−25857
correlation function, props. of non-linear partial difference eqn. 1−20945
correlation function calcs., real space dynamic renormalisation group 1−42978
correlation functions, two-point 1−7863
correlation inequalities and decay of correlations 1−3180

Ising model continued
correlation inequality and transition temperature 1−3181
correlation reduction theory for Ising model with spin 1/2 1−30950
critical couplings, and indices, recursion eqns. 1−190
cubic, with quenched site impurities, crit. behaviour, Monte Carlo calc. 1−12319
dilute magnets, dimensional crossover, crit. curves 1−12308
dilute s-state Potts model, thermal phase transition at percolation threshold 1−42972
diluted anisotropic magnet, crit. props. near percolation threshold 1−52790
diluted model with computing interactions 1−52786
dimerised Ising chain, with next nearest neighbour interactions, equal-time correlation functions 1−3130
disordered Ising model with internal degrees of freedom 1−34897
droplets in correlated site-bond percolation, Monte Carlo simulation 1−44855
dynamic critical phenomena, real-space renormalisation group formalism 1−3200
dynamics and statistical mechanics of classical Ising model in transverse field 1−25947
ferromagnet, crit. field and low temp. crit. indices 1−12324
ferromagnet, dipolar-coupled, upper marginal dimensionality 1−7866
ferromagnet, grand-canonical ensemble model, crit. temp., chem. pot. depend. 1−30961
ferromagnet, linear, Ising-Heisenberg model, excitation spectrum, low-temp. thermodynamics 1−3196
ferromagnet, semi-infinite, crit. behaviour, real-space renormalisation group transform. 1−12322
ferromagnetic finite system, real-space renormalisation group anal. 1−21004
ferromagnets, examples with nonconcave M at low H 1−25858
four-dimensional, crit. behaviour, Monte Carlo renormalisation group calc. 1−21008
free energy and frustration model correlation, analyticity props. 1−42980
frustrated, generalised, long range order and effect of dilution 1−20944
frustrated Ising model, critical temp. 1−16449
frustrated systems, dynamical models, appl. to spin glasses 1−5250
frustration model, Ising and periodic 1−9948
frustration potentials, phase transition 1−12310
gauge theory at negative temps., spin glasses 1−7858
graphite intercalation compounds, stage sequence regularity, isomorphism with Ising spin linear system 1−34261
group probabilities in 2-D Ising model 1−7799
hard disc system, Ising-like behaviour in thin layer 1−47209
Heisenberg-Ising model phase boundaries between paramag. and antiferromag. phases, paramag. and spin-flop phases 1−25960
helimagnets, two-dimens. X-Y model, crit. behaviour, theory 1−20994
infinitely many phases in a large class of Ising models 1−34844
instantons and the Ising model below T_c 1−187
ionic conductors, influence of interactions on hopping cond. of classical particles, kinetic Ising model 1−11896
iron bis-diethyldithiocarbamate halide system, 3 dimens. Ising ferromag., magnetisation and NMR 1−3211
Ising chain with transverse field, impurity magnetisation 1−27887
kinetic models, one-dimens., universality classes 1−25861
kinetic three-spin model on triangular lattice, Monte Carlo study at low temp. 1−34890
kinetics, influence of alternating field and nonequilibrium states 1−52741
Landua-Ginzburg eqn. for solid surfaces, oder parameters 1−18173
lattice systems with continuous symm., unbounded spins, free energy perturbation theory 1−27885
Lifshitz points in Ising systems with competing interactions 1−7867
linear chain with long- and short-range interactions 1−25949
linear transverse Ising model with four-spin interactions 1−7853
liquid mixtures, H-bonded, lattice model, phase diagram, critical points, Ising model 1−34468
macromolecular solutions, Flory-Huggins formula, rel. to Ising model 1−34214
magnetic chain, elementary excitations 1−7801
magnetic lattice gas 1−16420
magnetisation with spin-phonon interaction 1−34842
metamagnetism, collinear, two-sublattice, field- and temperature-induced 1−7835
metamagnetism, collinear, two-sublattice, high density expansion method 1−7836
metastability, statics and dynamics 1−7291
Migdal renormalisation-group transformation, arbitrary dimensions 1−3186
mixed Ising ferromagnet, critical props. 1−7869
multiphase behaviour and modulated ordering in soluble S=1/2 Ising models 1−34891
multispin interactions, first-order phase transitions 1−38947
n-vector model, thermal phase transition at percolation threshold 1−42972
nonlinear effects in transverse field *(Chinese)* 1−34843
one-dimensional, quantum and classical domain walls 1−38902
optimal real-space renormalisation 1−32924
phase transitions of 'extended' Ising models on a square lattice 1−34901
planar, in external mag. field, vertex model equivalence 1−7798
planar Ising model from transfer matrix and spinor algebras 1−36584
polymers, appl. of time-dependent Ising model and its hydrodynamic soln. 1−13264
polypeptide, helix-coil transition, projection operator methods 1−39877
psuedo one-dimensional H bonded ferroelectrics, soliton excitations 1−3339
quantum field operators, two-dimensional Ising model in scaling unit 1−28217
quantum Hamiltonian field theory, finite lattice methods 1−27891
quantum Hamiltonian formalism and symmetry crossover in one dimension for weakly anisotropic Heisenberg and planar systems 1−3204
quenched dilute random bond, crit. region approx. difference eqn. 1−14072
random bond mixtures, frustration and spin glass transition temp. in FCC lattice 1−3188
random Ising model, ferro- and antiferromagnetic binary mixture, entropy of spin-glass state at T=0 1−25958
random Ising model in transverse field in 1-D, renormalisation group study 1−20992
random Ising model on linear chain or Cayley tree, thermodynamic limit for distribution function 1−7800
random layered frustration models 1−34900

Ising model continued
random site Ising model on Cayley tree, higher order susceptibility divergence 1−191
random spin system, phase diagram, Bethe approx. 1−3191
random-bond, exactly solvable, free energy calc., transition to spin glass phase 1−52794
relaxational model, finite-size scaling theory for nonlinear relaxation 1−18166
renormalisation group calculations on a mixed-spin system in two dimensions 1−20990
Rochelle salt, ferroelec., statistics of quasi-one-dimensional model 1−21135
rotors, plane, correlation inequality, transition temperature 1−3183
roughening transition 1−11968
small spherical particles with dipole interaction, mag. props., Ising model 1−52808
spin glass, broken replica symmetry and metastable states 1−16445
spin glass, ground state props., analytic theory 1−20998
spin glass, real space dynamic renormalisation group 1−16444
spin glass, Sherrington-Kirkpatrick model, crit. dynamics 1−12307
spin glass, spatial spin correl. function 1−47899
spin glass, two-dimensional, Ising model, mag. correlations 1−3198
spin glass, with competing interactions 1−3193
spin glass models, non-exponential relaxation and remanence 1−3185
spin glass on a linear triangular lattice, random-bond Ising model 1−30949
spin glasses, model, mag. props. and linear response theory failure 1−30955
spin glasses for Ising models, long and short ranged 1−12336
spin S Ising model with transverse field, phase diagram 1−34884
spin system with random interactions, phase diagram, mean field theory 1−3190
spin-glass states, energy and entropy, square approx. 1−27896
square lattice Ising model, high-field expansions 1−20991
square-lattice, surface tension renormalisation group calcs. 1−42977
superlattice critical scatt. of neutrons and X-rays near Ising-like phase transformation 1−36574
surface thermodynamic functions, renormalisation group calc. 1−3202
tetramethylammonium cobalt trichloride, spin cluster resonance intensity temp. depend. 1−39017
three-dimensional, closed-form approx., limitations of Q-approx. *(Chinese)* 1−44843
three-dimensional, droplet model modified 1−16017
transverse field, low temp. props. and kinematical effects 1−14074
transverse Ising model, nonergodicity of transverse magnetisation 1−42968
transverse model, Green's function theory 1−3131
transverse model, quantum effects in critical props. 1−50064
transverse model dynamics, reaction field approx. 1−34896
trimethylammonium cobalt trichloride, one-dimensional ferromagnet, critical fluctuation dynamics 1−38915
two dimensional, partition function in presence of mag. field 1−20947
two dimensional, two spin correlation function, nonlinear partial difference eqns. 1−40932
two-dimensional, dynamic crit. phenomena, renormalisation group calc. 1−3201
two-dimensional, in random mag. fields, recursive transfer matrix model 1−34894
two-dimensional, use of transition-matrix element in continual integrals calc. 1−9946
two-dimensional, with frustrated squares, free energy, phase transition 1−20995
two-dimensional, with periodically distributed impurities, thermodynamic props. 1−52783
two-dimensional brickwork lattice, with second neighbour interactions in horizontal direction, exact soln. 1−52784
two-dimensional frustrated lattices, apparent universality violation 1−12306
two-dimensional fully frustrated systems, ground-state correls. and universality 1−21007
two-dimensional six-vertex system, fluctuations and polarization correlations 1−7297
Z_2 lattice gauge theory, connection to Ising spin glasses 1−30965
CO, adsorption and desorption rate on Pt(110), coverage determ. 1−8610
Ce monopnictides, mag. ordering 1−47876
Co complex, cobalt pyridine chloride, excitations and mag. ground sate, exchange parameters, spin cluster reson. 1−25880
$CsCoBr_3$, Ising-like antiferromagnet, quantisation of magnetic excitation continuum 1−12314
$CsCoBr_3$, one-dimens. magnon Raman spectrum, intercahin coupling effects 1−30932
$CsCoCl_3$, Ising antiferromag., one-dimens., spin dynamics, neutron scatt. study 1−52764
$CsCoCl_3$, Ising-like antiferromagnet, quantisation of magnetic excitation continuum 1−12314
$CsCoCl_3$, one-dimens. antiferromag., short-range-order, optical birefringence obs. 1−12304
$CsCoCl_3$, one-dimens. Ising antiferromag., multiple far IR mag. excitations 1−16435
$DyPO_4$, Ising antiferromagnet, intrinsic fluoresc. in mag. field 1−43172
$ErCrO_3$, adiabatic spin reorientation obs. 1−25953
Fe complex, pyridine-N-oxide perchlorate, $S=^1/_2$ Ising antiferromagnet, mag. susceptibility meas. 1−3156
$Fe_{1-x}Mn_xCl_2$, Raman scatt. from magnons and phonons 1−48070
K-Na exchange in human lymphocytes, appl. of time-dependent Ising model and its hydrodynamic soln. 1−13264
$K_2CuF_4:Mn^{2+}$, mag. impurity props. magnetic dipole light absorpt. *(Russian)* 1−47879
$LiTb_{0.3}Y_{0.7}F_4$, diluted uniaxial dipolar ferromagnet, crit. props. 1−7851
$LiTb_xY_{1-x}F_4$, Ising ferromag. random dilution at marginal dimensionality 1−20977
Rb_2CoF_4, order-parameter relax. below Neel temp., US attenuation study 1−12303
U monopnictides, mag. ordering 1−47876

island-like metallic thin films *see discontinuous metallic thin films*

islet-like metallic thin films *see discontinuous metallic thin films*

isobaric analogue resonances
see also nuclear collective states and giant resonances
$^{208}Pb(\gamma,p)$, isobar analogue E1 and E2 resonances, isospin purity breakdown 1−33247

isobaric analogue resonances continued
^{87}Y, energy levels deduced from $^{87}Sr(p,n\gamma)$ 1−5695
^{88}Y deduced analogue resonance from ^{87}Y produced in $^{87}Sr(p,n\gamma)$ 1−5695
$^{89}Y(\gamma,p)$, 13-24.6 MeV, absolute and differential cross sections, ang. distribs., analogue resonances 1−18621
^{69}Zn, 835 and 868 keV levels, studied through isobaric analogue resonance in ^{69}Ga and $^{68}Zn(p,p)$ 1−33220

isobaric analogue states
see also isobaric analogue resonances
Coulomb isospin mixing of nuclear states, isobaric states, Fermi transitions, review 1−45382
pion charge exchange to analogue states, isospin identities calcs. limitations 1−23686
^{209}At, double isobaric analogue state obs. in $^{209}Bi(\pi^+,\pi^-)$ 1−723
^{209}Bi isobaric analogue state excitation, direct-semidirect model of $^{208}Pb(p,\gamma)$ 1−10363
$^{13}C(\pi^+,\pi^0)^{13}N$, isobar excitation mechanism *(Chinese)* 1−41148
$^{208}Pb(n,p)$, 16.5-19.5 MeV, isobaric analog state excitation *(Russian)* 1−18622
$^{208}Pb(p,n)$, cross sections, giant Gamow Teller resonance, isobaric analog state 1−33250
$^{209}Pb(n,n')$, large neutron width level excitation *(Russian)* 1−688
^{49}Sc single particle and core excited states, spectroscopic factors, DWBA anal. of $^{48}Ca(^3He,d)$ 1−5696

isobars *see atmospheric pressure and density*

isoelectronic series
atoms, energy-density rel. and screening const. 1−37115
atoms, Hartree-Fock energy, isoelectronic changes 1−37096
atoms and ions, SCF and Slater's orbital energy in open shell config. 1−33388
diamagnetic susceptibility determ. 1−15026
energy changes calc. from energy-density functionals 1−37101
first row ions isoelectronic series, E1, M1 and M2 transition probability 1−37157
fourteen electron diatomic molecules, bond lengths, dissoc. energies, force consts. calcs. 1−46160
hydrogenic atom, laser assisted soft-X-ray, multiphoton emissions 1−33437
isoelectronic series, $Z \leq 55$, electron-ion pot. 1−51258
molecules, isoelectronic energy difference, perturbation theory 1−51081
N-electron atomic isoelectronic sequence, N=2 to 10, Rayleigh-Schrodinger perturbation expansion 1−45811
ten-electron hydrides, isoelectronic series, single orbital relax. with core ionis., Xα-SW calcs. 1−6160
three electron atoms, autoionisation radiative and nonradiative decay 1−41353
three-electron ions, S-, P- and D-states, Z-depend. perturbation theory calcs. 1−1090
total Hartree-Fock energy-eigenvalue sum relationship in atoms and ions 1−37093
Al I isoelectronic sequence, low lying $^2P^0$, ^2D and $^2F^0$ state lifetimes calcs. 1−45908
Ar, isoelectronic series, ferriclike ions, polarisabilities and sternheimer antishielding factor 1−51144
B I isoelectronic series, K XV to V XIX, spectra of transitions within second shell 1−28914
B-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912
B-like ions, Mg VIII and Si X, solar emission lines, density dependence 1−22763
B-like ions, relativistic f-values for elec. dipole transitions 1−6179
Be I isoelectronic series, Ar XV to V XX, spectra of transitions within second shell 1−28914
Be isoelectronic sequence, relativistic multichannel quantum defect theory 1−1178
Be, isoelectronic sequence, dielectric recomb. rate 1−10620
Be isoelectronic series, dielectronic recomb. rate coeff. 1−24245
Be, mag. dipole and elec. quadrupole transition probabilities 1−28924
Be-like ions, autoionis. states at. consts. 1−17947
Be-like ions, intermediate coupling collision strengths for Δn=O transitions produced by electron impact 1−49501
Be-like ions, intermediate coupling collision strengths for Δn=O transitions in $1s^22s^2$, $1s^22p^2$ and $1s^22s2p$ configurations 1−49502
Be-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912
Be-like ions C III, O V and Ne VII solar proton excitation rates for fine struct. transitions 1−13745
Be-like ions of elements from Mg to S, beam-foil lifetimes meas. 1−10704
BeI-like spectra, $2s^m2p^k$ (m=2, 1, 0) config. energy level compilation 1−37089
C I isoelectronic series, K XIV to V XVIII, spectra of transitions within second shell 1−28914
Ca XII, F-like, intrashell transition, probabilities and energy levels calcs. 1−1086
Cr atom and ions, Rayleigh and Compton cross sections of photon scatt. 1−19067
Cr magnetic dipole transitions in highly ionised gas 1−11567
Cu III to Ge VI, ion spectra, electric dipole transitions 1−19059
Cu isoelectronic sequence, quadrupole polarisation and dynamical correl. effects 1−24273
Cu, isoelectronic series ions, fine struct. separations explicit empirical formula 1−46145
Cu VI, emission spectra analysis in Fe III-Cu VI isoelectronic sequence 1−45890
F I-like spectra, $2s^m2p^k$ (m=2, 1, 0) config. energy level compilation 1−37089
F, mag. dipole and elec. quadrupole transition probabilities 1−28924
Fe, magnetic dipole transitions in highly ionised gas 1−11567
H-like atoms, approximate solution of the Dirac equation using the Foldy-Wouthuysen hamiltonian 1−18998
H-like ions, 1s and 2s, ionisation probabilities, first Born approx. calcs. 1−1347
He, excited state transitions, time-depend. Hartree-Fock theory 1−28847
He isoelectronic sequence, effective pot. model for calc. energy shift in ground state 1−24021
He isoelectronic sereis, lowest states, statistical electron correl. coeff. 1−45817
He, perturbation, isoelectronic series, eigenvalues, Hamiltonian linear 1−9857

isoelectronic series continued
He sequence, atomic excitation probability accompanying β-decay, electronic correl. effect 1−14825
He sequence, correlated atomic wave functions 1−14824
He-like atoms, highly ionised, electron impact excitation cross sections calcs. 1−1386
He-like ions, electron impact cross-sections and excitation rates 1−46132
He-like ions, intermediate coupling, collision strengths for Δn=0 transitions produced by electron impact 1−49500
He-like ions, Schrodinger eqn. using theory of restricted quantum-mecanical three-body problems 1−9852
HeI, isoelectronic sequence, 2s-2p transitions, fine struct. and wavelengths 1−1398
Li I isoelectronic sequence between Mg X and Ti XX, transitions between levels of principal quantum nos. 3 and 4, spectra 1−33409
Li I isoelectronic series, AR XVI to V XXI, spectra of transitions within second shell 1−28914
Li, isoelectronic sequence, quadrupole polarisation and dynamical correl. effects 1−24273
Li, mag. dipole and elec. quadrupole transition probabilities 1−28924
Li series, relativistic effects in three-electron atoms 1−14830
Li-like ions, excited ^2S states, core electron correls. calcs. 1−33406
Li-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912
LiI, isoelectronic sequence, 2s-2p transitions, fine struct. and wavelengths 1−1398
Mn VII-Cu XI, K I isoelectronic series spectra 1−33419
N I isoelectronic series, K XIII to V XVII, spectra of transitions within second shell 1−28914
Na I isoelectronic sequence fine struct. splitting of 3d and 4d terms 1−19040
Na isoelectronic sequence, quadrupole polarisation and dynamical correl. effects 1−24273
Na isoelectronic series, Z=25 to 80, ion energies by model pot. method 1−37130
Ne I sequence, wavelength predictions for likely observable lines 1−41337
Ne isoelectronic sequence, electron impact excitation, optical oscillator strength calc. 1−10845
Ne isoelectronic series, dielectronic recomb. rate coeff. 1−24245
Ne-like atoms, electron impact ionisation, distorted wave cross section 1−46137
Ni, magnetic dipole transitions in highly ionised gas 1−11567
O I-like spectra, $2s^m2p^k$ (m=2, 1, 0) config. energy level compilation 1−37089
O ions+H^+, collisional excitation calcs. 1−14979
O-like atomic system, appl. of multiconfiguration relativistic HF Roothaan theory 1−19024
Pd isoelectronic sequence, theoretical line strengths for $4d^{10}\ ^1S-4d^94f^1P^0$ reson. transition, HF calcs. 1−24068
S ions+H^+, collisional excitation calcs. 1−14979
Se XXVI, F-like, intrashell transition, probabilities and energy levels calcs. 1−1086
Ti magnetic dipole transitions in highly ionised gas 1−11567
Tm XLII, X-ray spectra from laser produced plasma 1−1159
Yb XLIII, X-ray spectra from laser produced plasma 1−1159

isomer shift
basalt glass-glass ceramic, mag. props., Mossbauer, ESR spectra 1−3307
meta-carborane, H^+ spin-lattice relax. time 1−3297
electron density at nucleus, press. depend., for elements K-Ra inclusive 1−33428
ethane(ethylene) surface, Fe vapour impact reactions, Mossbauer effect 1−31904
ferrocene-FeOCl intercalation phase, characterisation by low temp. Mossbauer spectroscopy *(German)* 1−3308
ferrocyanides, Mossbauer effect 1−52879
metals and alloys, Mossbauer spectroscopy, review *(Japanese)* 1−21094
rare earth alloys, RFe_2, magnetostrictive effects at spin reorientation transition, Mossbauer effect 1−47924
tetramethyl ammonium tetrachloroferrate, phase transition study 1−42532
Al, radiogenic Sn defects from implantations of ^{119m}Sn and ^{119}Sb, Mossbauer study 1−42407
Au(I) compounds, $(AuX_2)^-$ (X=CN, Cl, F), electronic struct. and Mossbauer hyperfine interactions 1−19124
$Co(acac)_2$ complex, Mossbauer spectral study 1−31076
CsSn thin film, electronic props. 1−25813
$Eu_{80}Au_{20}$, amorphous, electronic, mag. and struct. props. from hyperfine interactions 1−25680
$EuPd_2Si_2$, mixed valence system, Mossbauer effect and mag. susceptibility 1−52872
$Eu_{1-x}Pt_xPt_2$, high press. Mossbauer study of valence stability 1−7988
Fe atom, in cryst. Ar matrix, electronic struct., Mossbauer isomer shift 1−24307
Fe-M(3d) molecules (M=Mn, Fe, Co, Ni, Cu), matrix isolation and Mossbauer spectra, electronic struct., isomer shift 1−41370
Fe-Mg silicates, s-electron density, molecular orbital calculation rel. to isomer shift 1−11719
$Fe_{100-x}B_x$ glassy alloys, crystallisation kinetics, Mossbauer and X-ray study 1−2334
$Fe_{1-x}Cr_x$ alloy, conc. depend. of isomer shift of Fe^{57} *(Japanese)* 1−31068
$FeCr_{2-x}Rb_xS_4$ spinels, room temp. Mossbauer obs. and interpret. 1−34966
$Fe_{1-x}Cu_xCr_2S_4$, Mossbauer spectral line shape in presence of electron hopping 1−21091
$(FeO_4)^{5-}$, s-electron density, molecular orbital calculation rel. to isomer shift 1−11719
FeOCl intercalation compounds, hyperfine interactions, van der Waals lattice modes 1−38751
$Fe(acac)_2$ complex, Mossbauer spectral study 1−31076
KI, I^- Mossbauer isomer shift, press. depend., systematics with atomic number 1−43052
^{83}Kr, isomer shift calibration, internal connversion electron spectra and Mossbauer spectra 1−16510
$(Mg, Fe)_3(PO_4)_2$, cation ordering, Mossbauer spectra study 1−21090
Mn_2FeO_4, cation distrib., Mossbauer spectra 1−12433
NH_3:^{119}Sn, Sn binding, Mossbauer spectra 1−47981
$(Na_2O)_{1-x}(Fe_2O_3)_x.4SiO_2$ glass, Mossbauer spectra, quadrupole splitting 1−3306
$Na_2O.Fe_2O_3.4SiO_2$, Mossbauer spectra, quadrupole splitting 1−3306
Np intermetallics, mag. props., high press. Mossbauer study 1−47992

isomer shift continued
^{237}Np compounds, Mossbauer isomer shifts and electron densities of Np ions 1−47993
^{206}Pb, muonic, levels, prompt γ-rays and isomer shifts from $^{207}Pb(\mu^-,n\gamma)$ 1−23591
Pd-Ru-H, band struct. characts., mag. susceptibility, electronic sp. ht. and Mossbauer isomer shifts 1−20614
β-PdH_x, local environments of Rh and Ru, ^{99}Ru Mossbauer study 1−7979
PdH_x-Fe matrices, lattice parameter and ^{57}Fe isomer shift meas. 1−7983
Sb, Mossbauer isomer shift, press. depend., systematics with atomic number 1−43052
Sb_2Te_3, ^{119}Sn defect, after p and α reaction, Mossbauer spectra 1−3302
Si:Sn, ion implanted, annealed, β-Sn precip., Mossbauer study 1−7341
β-Sn, Mossbauer isomer shift, OPW calc. 1−31079
SnSb, ^{119}Sb defect, after p and α reaction, Mossbauer spectra 1−3302
SnTe, ^{119}Te defect, after p and α reaction, Mossbauer spectra 1−3302
^{119}Sn impurities initially implanted in group IV semiconds., isomer shift study 1−16509
Ta-H system, ^{57}Fe Mossbauer study 1−3305
V-Fe-H, band struct. characts., mag. susceptibility, electronic sp. ht. and Mossbauer isomer shifts 1−20614
γ-$(Zn,Fe)_3(PO_4)_2$, cation ordering, Mossbauer spectra study 1−21090

isomerisation
alcohols, protonated, unimol. water loss, incipient carbocations isomerisation, ion dipole interaction effect 1−17039
n-alkane, molecules, trans-gauche isomerisation, stochastic mol. dynamics 1−12980
n-alkane molecules, thermal degradation, kinetic parameters compilation 1−9777
alkanes branching errors, configs., heat of formation and reaction, NDO calcs. 1−19032
anthracenes, photolytic cycloreversion, exciplex form., UV obs. 1−33474
anthracenophanes crysts., absorpt. spectra and photoisomerisation, conformational effects 1−35554
1,3-di(9-anthryl)propane, single cryst., photoisomerisation 1−31877
aromatic azo chromophores, in polyethyl acrylate networks, isomerisation, photomech. effect 1−26736
bond energies and chemical reactivity 1−10861
butadiene, cis-trans photoisomerisation, triplet mechanism, reaction coord. and trajectory 1−43684
butane, liq., torsional dynamics, Kramers rate and torsion angle correl. times 1−8562
n-butane in liquid CCl_4 and rigid matrix, isomerisation, mol. dynamics study 1−8541
chromophores in bulk polymers, photochromism and free vol. theory 1−8027
condensed phase reaction model, rate consts., stable state picture 1−8553
cycloalkanes, branching errors, configs., heat of formation and reaction, NDO calcs. 1−19032
1,2-cycloheptadiene, struct. chirality probe 1−51306
cycloheptatrienes, transient mol. states in photoisomerisation, CARS spectra 1−13023
1,2-cyclohexadiene, struct. chirality probe 1−51306
cytochrome c, fast conformational changes, high press. stopped flow studies 1−41528
dipyridyls, CNDO/2 calcs. of torsional isomerisation and electronic struct. 1−10670
formaldehyde, radical cation, near-degenerate rearrangement, calcs. 1−39613
formyl radical isomers, pot. energy surface, ab initio CI calcs. 1−4048
gas phase reaction model, rate consts., stable state picture 1−8553
hydroxymethylene, radical cation, near-degenerate rearrangement, calcs. 1−39613
isoxazole, photochemical isomerisation, ab initio CI calcs. 1−1122
ketones, acyclic, cyclic, keto-enol tautomerism, ab initio investig. 1−4084
N-methyl benzaldimine, imine bond, photochemical behaviour, ab initio CI calcs. 1−1121
methylcyclopropane, isomerisation to butenes, vibr. energy transients, collisional relax. 1−33547
molecules, intervalence charge transfer and mol. tautomerism comparison 1−1052
multiphoton induced dynamics and thermodynamics 1−39605
perfluorobutadiene, isomerisation reaction studied by CO_2-laser induced fluoresc. and double reson. absorpt. 1−31840
perfluorocyclobutene, isomerisation reaction studied by CO_2-laser induced fluoresc. and double reson. absorpt. 1−31840
1-phenyl-2-(2-naphthyl)ethene triplets, lifetime, geometry, photoisomerisation mechanism 1−12968
poly-3,3′-azo dibenzoyl-trans-2,5-dimethylpiperazine, photochromic, photoresponsive effects, rel. to isomerisation 1−31853
poly-4,4′-azo dibenzoyl-trans-dimethylpiperazene 1−31853
polyacetylene, pure and AsF_5 doped, specific heat meas. 1−7353
polyacetylene film, elec. cond. meas. during cis-trans isomerisation 1−25815
polyacetylene films, O_2 induced isomerisation, Raman obs. 1−35527
polyenes, cis-trans photoisomerisation, triplet mechanism, reaction coord. and trajectory 1−43684
polyenes, photoisomerisation, excited states, size and suddenness of polarisation effect, INDO, CI and MO calc. 1−21742
stilbene, photoisomerisation and radical ion recomb., ^1H and ^{19}F CIDNP 1−12971
trans-stilbene, trans-cis photoisomerisation, two-photon absorpt. spectrum investig. 1−8539
stochastic impulsive models, mol. relax. and isomerisation reactions 1−26722
sulphonephthaleins indicator dyes, reversible isomerisation 1−35505
trans-thioindigo, photoisomerisation, transient species triplet state, picosecond obs. 1−28954
trichlorofluoromethane, γ-irradiated frozen solns., prod. of alkene and diene cation radicals, ESR studies 1−31029
unimolecular reactions induced by IR multiphoton excitation 1−35560
HCN, pot. energy surfaces, thermal isomerisation calcs. 1−35507
HNC→HCN, unimol. isomerisation, reaction path Hamiltonian, tunnelling effects 1−8554
Ni complex, cis-$NiCl_2[(C_6H_{11})_2PH]_2$, ^1H and ^{31}P NMR spectral anal. 1−14925

isomerisation continued
Ni complex, $NiBr_2[(C_6H_{11})_2PH]_2$, ^1H and ^{31}P NMR spectral anal. 1−14925
Ni complex, $NiI_2[(C_6H_{11})_2PH]_2$, ^1H and ^{31}P NMR spectral anal. 1−14925

isomerism
see also isomerisation; nuclear isomerism; rotational isomerism
acrolein, cis and trans conformers, geometry, ab initio calcs. 1−24024
trans-1-alkoxymethyl-2-halocyclohexanes, conform. equilib., IR and PMR spectrosc. 1−24169
alkyl chlorides tertiary vibr. anal. isomerism, IR and Raman spectra 1−10732
alkylbenzene isomers identification of chemical ionisation mass spectra *(Japanese)* 1−51314
azobenzene, conformational struct., non-empirical calcs. 1−10647
benzenedicarboxylic acid isomers, inelastic electron tunnelling spectroscopy 1−29069
benzonitrile, residence time, activated complex, isomers, photoelectron-photoion obs. 1−24191
benzylideneaniline, conformational struct., non-empirical calcs. 1−10647
bi-1-cyclopropen-1-yl and fluorosubstituted derivatives, isomer stability, electronic transitions, ab initio, STO calcs. 1−24035
1,3-butadiene, cis and trans conformers, geometry, ab initio calcs. 1−24024
4-tert-butyl-4-hydroxy-2,2,6,6-tetramethylpiperidine derivatives, conformation, proton NMR and IR obs. 1−14889
chlorine in n-alkanes, selective and reversible phototautomerism studied using photochemical hole-burning 1−26756
conjugated molecules, stability and adjacency matrix determinant calcs. 1−1062
1,3,6-cyclodecatriene, asymmetrical, mol. conform. calcs. 1−24278
cyclohexene epoxide, conform. and struct. isomerism 1−41512
1,3,6-cyclononatriene, asymmetrical, mol. conform. calcs. 1−24278
dimer, isomerism 1−1400
dimethyl fumarate, trans-trans and trans-cis conformers, vibr. spectra 1−10730
dithiocarbazic acid, S-methyl ester, ab initio, LCAO and MO calcs. 1−6149
enamines, E and Z isomer structs., ^{13}C NMR spectra 1−51230
ethyl acetate, mass spectral fragmentation, MINDO/3 calcs. 1−48673
2-fluorophenylisocyanate, mol. vibr. and rot., conformers, NMR and microwave obs. 1−10759
formamide cations, decomposition, rearrangement, struct. and energies of transition states 1−10665
formamide cations, molecular fragments, struct. and energies 1−10664
glyoxal, cis and trans conformers, geometry, ab initio calcs. 1−24024
glyoxal enol tautomers+formamide, charge transfer interaction, calcs. rel. to electronic theory of cancer 1−46110
haemoproteins, vibronic effects in geometry and stereochemistry 1−37354
β-hydroxyacrolein, planar conformers, geometries and energies, ab initio calcs. 1−45838
4-hydroxyuracil, normal mode vibr. freq. and thermodynamic props. 1−1202
4-hydroxyuracil tautomer, geometry optimisation, ab initio STO-3G calcs. 1−51102
metalloporphyrins, vibronic effects in geometry and stereochemistry 1−37354
trans-methylglyoxal, euqilib. geometry, ab initio force method calcs. 1−24027
monothio-β-diketones, tautomerism studied by PMR and PCILO calc. 1−51228
nitroaniline, (N-methylation), substitution, press. and solvent effects, isomers, charge transfer, luminesc. obs. 1−33554
nonanes, isomers, phys. and chem. props., graph-theoretical anal. 1−15029
norcarane, conform. and struct. isomerism 1−41512
optical enantiomers, Gibbs' phase rule 1−33575
silacyclopropane isomers, ab initio calcs. 1−18995
trans-stilbene, soln., photophys. props., excitation energy effects 1−10740
stilbene, triplet-triplet electronic energy transfer, quantum mechanical approach 1−19209
thymine anion, tautomerism in solid state, IR and Raman spectral study 1−21195
topological resonance energy, appl. to aromaticity prediction 1−41294
uracil, normal mode vibr. freq. and thermodynamic props. 1−1202
CO_2, cyclic isomer, MCSCF and CI calc. 1−24023
Fe complex, Fe(II) methanesulphonate, struct. isomerism, Mossbauer obs. 1−12432
H_2CN^+ triplet isomers, role in form. of HCN (HNC) in interstellar clouds 1−4066
Mo_2 compounds containing central $(M{\equiv}M)^{6+}$ unit, dynamic and static stereochemistry 1−41509
$Na_9(\beta\text{-}SiW_9O_{34}H).23H_2O$, X-ray cryst. struct. determ. 1−42344
$Pt(H)_2(PH_3)_2$, cis and trans. struct., energy gradient with effective core pot. approx., ab initio MO method 1−37086
Rh complex, dichlorobis(ethylenediamine)Rh(III) nitrate, cis and trans isomers cryst. struct. 1−34326
$(SCH)_2$, fluoro and cyano-substituted counterparts, bonding mode, ab initio calc. 1−45820
$(SN)_x$, bonding mode, ab initio calc. 1−45820
W_2 compounds containing central $(M{\equiv}M)^{6+}$ unit, dynamic and static stereochemistry 1−41509

isomorphism
graphite intercalation compounds, stage sequence regularity 1−34261

isothermal transformations
steel, eutectoid, deform. during pearlitic transform. under tensile stress 1−21445
steel, isothermal decomposition of austenite in steel 60N5 1−3694
steel, Ni-Cr-Mo-V-C, bainitic transform. struct. 1−53181
steel, stainless, maraging, austenite stabilisation and destabilisation 1−3737
steel and alloys, dilatometer for phase transform. obs., 20-1000°C 1−21441
thermoelastic equilib. at low temps. *(Russian)* 1−3736
Au-Cd alloy, internal friction peaks assoc. with martensitic and reverse martensitic transform. at LF *(Chinese)* 1−48404
Bi_2MoO_6, polymorphic transform. and relative stability 1−39332
Fe-Ni (30 wt.%), martensite nucleation, isothermal vs. athermal behaviour 1−16778

isothermal transformations continued
NH_4Br, heat capacity, 265 to 550K, II to I transition 1−16054
Ti-Nb (40 and 47 wt.%) alloys, quenched and aged, transform. struct. obs. *(French)* 1−16812

isotope detection
see also mass spectra
No entries

isotope effects
see also isotope shifts
A_2B_4 planar molecules, mol. vibr., generalised isotope rules 1−45927
acetaldehyde-(d_0+d_4), isotope effects, temperature dependence, photolysis, exciton-phonon coupling 1−28887
acetic acid in H_2O, ^{13}C and ^2H relax. times, NOE, isotope effects on correl. 1−14916
acetone, liq., C=O stretching vibr., intermol. coupling, isotope dilution investig. 1−6224
acetylene-d_2 laser development, high energy, line-tuned and ^{13}C isotopic operation 1−46316
alkali metal targets, H and D positive ion bombarded, H^- and D^- back-scatt. yields 1−43232
alkyl benzene cations, C-H hyperconjugation, nonradiative decay rates isotope effects 1−1130
8-anilino-1-naphthalene sulphonate, fluoresc. lifetimes, solvent isotope effects, temp. depend. 1−41416
anthracene-TCNB, order-disorder phase transition, deuteration effects obs. 1−2615
asymmetric top molecule, spin-rot. interaction, isotopic depend. 1−10760
benzene($-d_3$), vibronic struct., kinematic perturbations, deuterium effects, two-photon spectra 1−29064
benzene-d_0($-d_6$), adsorbed on Ag film, surface-enhanced Raman spectrosc. 1−35022
1:1 binary mixtures, ^{13}C and ^2H relax. times, correl. times, isotope effects 1−41401
1-butene-3-yne, mol. vibr. and rot., isotope effect, IR, Raman and microwave obs. 1−14896
carbon tetrafluoride, vibr., rot., isotope effects least-squares anal., laser stimulated IR 1−24141
cyano diamagnetic complexes, ^{15}N-^{13}C coupling consts., $^{15}N/^{14}N$ isotope effects on ^{13}C chemical shielding 1−41329
dibenzylketone, photolysis, ^{13}C mag. isotope effect, viscosity and temp. depend. 1−31881
1,1-dichloroethylene, anharmonic pot., ^{37}Cl isotope effect, vibr. frequencies 1−14863
dimethyl cadmium, IR spectra, isolated C-H stretching freqs., methyl group geometries and dissoc. energies 1−14900
dimethyl mercury, IR spectra, isolated C-H stretching freqs., methyl group geometries and dissoc. energies 1−14900
dimethyl sulphide-d_0($-d_3$)($-d_6$), normal vibr. freqs. and modes 1−24112
dimethyl zinc, IR spectra, isolated C-H stretching freqs., methyl group geometries and dissoc. energies 1−14900
ethylene, mol. vibr., generalised isotope rules 1−45927
ethylene-d_0($-d_4$), fundamental band assignments, Coriolis interactions 1−28947
fluoromethane-d_0(d_3), matrix isolated polyatomic mols. in inert gases, rotation assisted vibr. energy relax. 1−6359
fluoromethylethylether, struct., dipole moments, internal rot., isotope effects, microwave obs. 1−24126
formaldehyde-d_0($-d_2$) cation fragmentation, isotope effects, photoelectron-photoion spectra 1−29035
formic acid in H_2O, ^{13}C and ^2H relax. times, NOE, isotope effects on correl. 1−14916
ion+molecule reaction, mechanisms, charge and ion exchange, isotope labels, ion cyclotron technique 1−31844
methane, ^{13}C, vibr. and rot. overtone, spectroscopic conts., isotope effects, algorithm 1−14865
methane, second dielectric virial coeff. calcs. 1−10676
methane-d_0($-d_4$), pot. function anharmonic part determ. 1−1302
methanol+O, reaction rate, isotope effects, time of flight obs. 1−41521
methanol($-d_4$), decomp. on Ni (100), IR spectra, thermal desorption, and LEED meas. 1−17108
methanol-d_0($-d_1$)($-d_3$)($-d_4$), condensed phase, IR laser-induced ionisation 1−37272
methyl sulphido boron, mol. vibr. and rot. mol. moments, isotope effects, microwave obs. 1−14873
S-methylchlorothioformate, methyl barrier to internal rotation, quadrupole coupling consts., microwave obs. 1−51187
methylene blue, IR intensities and Coriolis interactions 1−29041
methylpropargylether, struct., dipole moments, isotope effects, internal rot., Stark effect meas., microwave obs. 1−51188
muon catalysis, isotope substituted molecule rotational relaxation, excited complexes *(Russian)* 1−10828
n-pentylcyanobiphenyl, liquid crystal, mol. conformation, deuterium effects, multiple quantum NMR obs. 1−28993
naphthalene, electron mobility in *a* direction, deuteration effects 1−12121
pentaborates, isotope effects, IR and Raman obs. *(German)* 1−14898
phosgene, mol. rot. and struct., bond lengths, isotope effects, microwave obs. 1−14875
phosgene, mol. struct., isotope effects, bond lengths, rot., electron diffr. obs. 1−15008
3-phospholene-d_0(-1-d_1), low freq. vibr. spectra, ring puckering pot. energy function 1−28949
tris(2-picolylamine) iron (II) chloride solvates, high-spin⇌low-spin transition, D isotope effect 1−3301
polar medium, H^+ transfer reactions, kinetic isotope effect 1−21694
polyacetylene:I_2, doping effects on spectroscopic studies 1−39072
polyacetylene, deuterated, film, resonant Raman spectra, isotope effects 1−39172
polyatomic molecules, isotopic invariants 1−28888
positron annihilation lifetime, deuterium isotope effect or normal compounds 1−30280
trans-2-propenethial, mol. vibr. and config., dipole moments, isotope effects, microwave obs. 1−14874
propynal-h_1(-d_1), phosphoresc. lifetimes, deuterium isotope effect in T_1 to S_0 radiationless transition 1−6302
rhamnose (-d), localized electron reactions, rate constants, radiolysis, ESR Obs. 1−37227
secondary ion emission, ionisation probabilities, isotopic effect 1−26347
secondary ion emission, ionisation probability, isotopic effect *(French)* 1−39201

isotope effects continued
selenophene, vibr. and struct. in nematic phase, isotope effects, proton NMR obs. 1−19114
squaric acid, phase transition, pseudospin model for H bond system 1−34994
strong coupling superconductor, isotope effect 1−3089
styrene, mol. vibr., isotope effects, IR and Raman obs. 1−14893
tetraborates, isotope effects, IR and Raman obs. *(German)* 1−14898
tetrafluoromethane, second dielectric virial coeff. calcs. 1−10676
thiomorpholine($-d_1$), conformation, rot. consts., vibr. excited states, microwave obs. 1−51190
thiourea-d_0($-d_4$), vibr., solvent and isotope effects, Raman obs. 1−24155
1,3,4-trichlorobenzene, oriented r_α struct., ^{13}C satellites in NMR spectra 1−41404
trifluoroacetate-trifluoroacetic acid in CH_2Cl_2, ^1H, ^2D and ^{13}C NMR 1−6285
trifluoromethane sulphenyl chloride, force fields, isotopic species, thermodynamic properties, IR and Raman obs. *(German)* 1−14897
triphenylplumbol($-d_1$), vibr., isotope effects, IR and Raman obs. 1−31153
triphenylsilol($-d_1$) vibr., isotope effects, IR and Raman obs. 1−31153
triphenylstanol($-d_1$), vibr., isotope effects, IR and Raman obs. 1−31153
uracil, force field, MNDO-MOCIC calcs., rel. to flavin vibr. spectra 1−28874
water molecules, isotopic vapour press. ratios calc. using Monte Carlo method 1−30407
weak itinerant ferromagnets, isotope effect on Curie temp. 1−3205
weak itinerant ferromagnets, isotope effect on Curie temp. 1−7856
Ag slow neutron scatt. lengths and cross-sections, isotope effects 1−1324
Br_2, vibr. and rot., isotope effects, fluoresc. obs. 1−24184
ClB=S, mol. rot., moments and configs., bond lengths, isotope effects, microwave obs. 1−14876
CO adsorbed on Cu (100), isotopic mixture, collective vibr. modes, IR spectra 1−28971
CO_2^+, $A^2\Pi_u$-$X^2\Pi_g$ band emission spectra, fermi resonance, vibronic parameters 1−19083
$^{13}CH_3F^{12}CH_3F$ mixture, light induced drift and splitting in continuous IR radiation field *(Russian)* 1−41438
$Ca_2Al_3(OH)(SiO_3)_4$, zoisite, low-energy OH valence vibr., H-D isotope effect on IR spectrum 1−21180
Cl+H_2 reaction, kinetic isotope effects for D and T substitution 1−48659
ClO_2, mol. vibr., isotope effects, spin-rotation interaction const., IR obs. 1−24137
ClO_4^-, mol. vibr., force constants, isotope effects, matrix isolation, IR obs. 1−14895
CoO, cation diffusion, isotope effect 1−2683
CsCl, B2 struct., diffusion kinetics and isotope effects for atomic migration via divacancies and triple defects 1−52343
D_2, electron impact, slow and fast excited H atom prod., isotope effect 1−6393
$D^{35}Cl+D^{37}Cl$, near-reson. vibr.-vibr. energy exchange, temp. depend. 1−1334
F+methanol($-d_1$) ($-d_3$)($-d_4$), IR chemiluminescent reactions, vibr. and rot. relax., branching ratios and kinetic isotope effects 1−26750
F+$NH_3(ND_3)$, reaction, isotope effect, IR chemiluminesc. obs. 1−8538
Fe, diffusion of high purity H and D 222 to 322K *(Japanese)* 1−47298
Ge, adsorption of H_2O and D_2O, slow surface states, charge exchange, isotope effect 1−42845
H^+ transfer, intermolecular forces, configs., isotope effects 1−19154
H_2, dissociative excitation, electron impact deuterium isotope effect 1−19197
H_2, electron impact, slow and fast excited H atom prod., isotope effect 1−6393
H_2, high pressure melting curves, isotopic effect 1−20504
H_2, liquid, equation of state, Debye temp., isotope effects, quantum corrections 1−34457
H_2+$Ar^+(Kr^+)$, charge transfer, atom abstraction, rate consts., isotope effects, mass spectra 1−39630
H_3BO_3, isotope effects, IR and Raman obs. *(German)* 1−14898
HCN, chemical shielding and coupling constants, isotope effects, NMR obs. 1−19121
$H^{35}Cl$ ($H^{37}Cl$) press. broadening of vibr.-rot. overtone bands 1−1285
$H^{35}Cl+H^{37}Cl$, near-reson. vibr.-vibr. energy exchange, temp. depend. 1−1334
HO_2, spin-rot. interaction, isotopic depend. 1−10760
H_2O, Raman scatt., IR absorption intensities, higher-order moments, SCF and CI calcs. 1−6265
H_2O, self-diffusion under high press., isotopic substitution effect, NMR spin echo obs. 1−38571
H_2O-D_2O equimolar mixture, vap. press. isotope effect 1−11875
H_2O-D_2O equimolar mixture, ideal behaviour 1−11876
H_2O-D_2O water mixture, muonic O and H isotope effects, X-ray intensity study 1−15043
^3He, light pionic atoms, isotope effects, K-series X-ray transitions 1−15041
In slow neutron scatt. lengths and cross-sections, isotope effects 1−1324
KCl:OH^-, phonon-assisted tunnelling and isotope effect, nonadiabatic treatment 1−38484
KH, spectroscopic constants, isotope effects, potential energy curve 1−24063
$KH_3(SeO_3)_2$, sound absorption near ferroelastic transition, isotopic H substitution effects 1−7263
$^6Li/^7Li$, light pionic atoms, isotope effects, K-series X-ray transitions 1−15041
$Mg_2NiH_4(D_4)$, Debye temp., nucl. reson. scatt. of gamma rays study 1−52252
ND_n^++ethylene-d_0($-d_4$), rate coefficients, product-ion distributions, mechanisms 1−31832
NH_2, spin-rot. interaction, isotopic depend. 1−10760
NH_n^++ethylene-d_0($-d_4$), rate coefficients, product-ion distributions, mechanisms 1−31832
$(NH_4)_{1-x}(ND_4)_xH_{1-y}D_ySeO_4$, isotopic effect, phase transition temp. shift, pyroelec. study 1−48011
NO, mol. const., isotope effects 1−14811
N_2O^++$H_2(D_2)$, reaction dynamics, isotope effects 1−12979
Nb-D system, supercond. transition 1−7766
ONCl, mol. rot. vibr. and force constants, isotope effects, microwave obs. 1−10722
$^{16}O/^{18}O$, light pionic atoms, isotope effects, K-series X-ray transitions 1−15041
OsO_4, monoisotopic, absorpt. investigation using saturation spectroscopy 1−24150

isotope effects continued
Pd-Si-H (D), superconductivity, isotope effect 1−7765
$RbAg_4I_5$, diffusion of Ag and isotope effect in superionic phases 1−38590
SCl_2, isotope effects, GVFF calcs., IR obs. *(German)* 1−14897
$ScH_2(D_2)$:Er, H(D) site energies, isotope effect, ESR study 1−21045
Se_2, matrix isolated, photonic and biphotonic excitation, fluorescence obs. 1−14869
SeD ($X^2\Pi_{3/2}$), IR laser mag. reson. spectrum 1−6247
Si:S, deep level isotopic effect optical study 1−34648
SiH_2F_2, mol. rot. and electronic states, isotope effects, microwave obs. 1−14877
α-TmH(D), electrical resistivity, ordered mag. struct. 1−20700
$TmH_x(D_x)$, solid solution, electron irradiated, low temp. elec. resist. 1−34679
U-Ti(Nb)(Mo), diffusion and solubility of $H_2(D_2)$, alloy and H isotope effects 1−20463
$VH_x(D_x)$, phase transforms., resistiometric and DSC study 1−30377
$YH_2(D_2)$:Er, H(D) site energies, isotope effect, ESR study 1−21045
Zr, superconductivity enhancement after H(D) implantation 1−20899

isotope exchanges
aromatic compounds, proton-induced fluoresc. quenching, nanosecond time resolved spectroscopy 1−6300
cobalt phthalocyanine:$^{57}CoCl_2$, space charge limited electron injection 1−53417
cobalt phthalocyanine:$^{57}CoCl_2$, thermal treatment and charge transfer interactions 1−53416
deuterium, separation by catalytic isotope exchange 1−936
isobutyric acid-D_2O fluid mixture, crit. exponents, isotope exchange effects 1−2609
low-Z materials, saturation and isotopic replacement with D 1−25301
substitution, incomplete, of several atoms of one element, equilib. consts., mass spectrosc. obs. 1−37349
C surface, D^+ bombardment, isotope exchange 1−26333
CO chemisorption on Ni (100), adsorbate-adsorbate interactions, desorpt. kinetic meas. 1−38643
D_2O separation characteristics for pair of dual temperature multistage-type H_2/H_2O exchange columns 1−19203
H_2 isotope exchange in hydrophobic catalyst bed for heavy water prod. 1−5855
N_2 adsorbed on Fe films, isotopic exchange 1−25571
^{18}O self-diffusion in LiO_2 polycrystals, gas-phase anal., rel. to cryst. struct. 1−893
T enrichment by isotope exchange using hydrophobic catalysts for nucl. fuel reprocessing *(German)* 1−28680

isotope relative abundance
see also element relative abundance
^{243}Cm, ^{244}Cm, meas. in Columbia River sediments 1−8777
Allende carbonaceous chondrite, Mg isotopic ratio, SIMS anal. 1−32670
Allende meteorite, high temp. inclusions and FUN anomalies origin 1−22746
basaltic rocks of oceanic islands, Pb isotopes and mantle evolution 1−54021
blood, human, isotope ratios of Ca and Fe, SIMS determ. 1−32329
ζ Capricorni, Ba star, $^{12}C/^{13}C$ ratio from spectrum anal. 1−44561
carbonaceous chondrites (C3V), origin and inert gas isotope anomalies 1−49582
chondrites, Sm/Nd isotopic evolution 1−13740
continental flood basalts, Nd and Sr isotopic comps. rel. to continential influence on generation 1−35980
Cretaceous-Tertiary species extinction, element abundance and asteroid impact? 1−9157
dibenzylketone, photolysis, ^{13}C mag. isotope effect, viscosity and temp. depend. 1−31881
galactic cosmic rays, Ne, Mg, Na and Al neutron rich isotopes 1−13649
global C cycle, ten-compartment model calibration and testing 1−9238
Hawaiian igneous rock origin, Ar and He isotope study 1−9138
heavy metal particles and cpds., ion microprobe anal. 1−32072
interstellar $H_2{}^{12}CO/H_2{}^{13}CO$ ratio, meas. from obs. of 3_{12}-3_{13} line 1−27577
interstellar medium 1−44611
intrusive rock Sr isotope geochemistry of Puerto Rico 1−13422
isotope ratio determ., control theory, fast magnetic peak switching, thermal ionisation mass spectrometers 1−28112
isotopic anomalies in the galactic cosmic-ray source 1−49463
Japan, volcanic rock Nd and Sr isotopes and tectonic structure 1−54082
lunar soil, Ca isotope fractionation by sputtering 1−54404
meteoric waters, changes of ^2H and ^{18}O enrichment during Pleistocene glaciation 1−54194
meteorite, Li isotopic composition of stones 1−22740
meteorites, isotopic anomalies rel. to origin of galactic cosmic rays 1−22641
molecules, natural abundance samples, ^{13}C-^{13}C long range coupling, two dimens. spectroscopy 1−41455
nuclear fuel solutions, elution of U and Pu 1−41174
Oklo natural nucl. reactor, fission yields and retention of fission products 1−13424
Ordovician-Devonian time scales, reassessment of Rb/Sr isotopic data 1−22264
E.Pacific Rise hydrothermal site, Mn and ^3He obs. in water samples 1−13489
Pleistocene lake in SE.Libya ^{13}C and ^{18}O concs. in sediments rel. to palaeohydrology 1−54150
residual gas analyser check-out method using isotope ratios of common gases 1−48772
seawater Nd isotopic composition of Atlantic 1−13490
SIMS analysis in conventional SEM 1−380
single-particle microanalysis and depth profiling by SIMS 1−4144
solar flare particles, isotopic comp. of Mg 1−54439
U isotopic abundance analysis by fine γ spectrometry 1−31962
water, isotope ratio determ. using CW chem. DF laser 1−35584
$^{36}Ar/^{40}Ar$ in Hawaiian igneous rocks, study of rock origin 1−9138
$^{40}Ar/^{39}Ar$ dating technique, thermal neutron interferences 1−44321
$^{40}Ar/^{39}Ar$ geothermometer for asteroid fragmentation events, meas. on meteorites 1−36235
^{10}Be, abundance rel. to galactic cosmic rays age 1−4730
C isotopes in local interstellar medium, from dark cloud CO obs. 1−49775
CS, interstellar, isotopic abundance ratios meas. 1−9609
$^{12}C/^{13}C$, in stratosphere, mass spectral obs. 1−36029
$^{12}C/^{13}C$ in formamide in Sagittarius A and B2, 19 cm obs. 1−27589

isotope relative abundance continued
$^{12}C/^{13}C$ primary cosmic ray isotopic composition, atm. effect 1−40292
$^{12}C/^{13}C$ ratio determ. in C stars, spectroscopic criteria 1−54500
$^{12}CO/^{13}CO$ in interstellar clouds, CO J=1—0 transition obs. 1−13830
^{13}C, ^{14}C in North Atlantic Deep Water, isotopic fractionation during O_2 consumption and carbonate dissolution 1−4537
^{13}C, behaviour in carbonate rocks during contact metamorphism rel. to isotope systematics in impure dolomitic limestones 1−40126
^{13}C, distrib. in Atlantic Ocean 1−4536
^{13}C transfer to and from atmos., reservoir models of C cycle 1−44287
$^{13}C/^{12}C$, benthic foraminifera isotopic equilib. rel. to deep equatorial Pacific circulation 1−49289
$^{13}C/^{12}C$ in tree-ring cellulos, indicator for past climate change 1−9239
$^{13}C/^{12}C$ ratio in tree rings and CO_2 compositional history of atmos. 1−13556
^{14}C, atmospheric, transport model including diffusion in stratosphere 1−36019
^{14}C, bomb-produced, distrib. at GEOSECS station 347 in E.North Pacific 1−4534
^{14}C, cosmogenic, anal. using multichannel scintillation arrangement for cosmic ray var. investigation 1−36188
$^{14}C/^{12}C$ ratio of ocean surface water, seasonal variability 1−35998
^{137}Cs, fallout radionuclide, in Pacific Ocean, vertical and horizontal distribs. from GEOSECS stations 1−9180
^{137}Cs in soils of Cumbria and Isle of Man 1−13189
D, effect on cosmological abundance of primordial black holes 1−13893
D/H ratio, in interstellar medium on γ Cassiopeiae line of sight 1−44604
D/H ratio, interstellar, implications of methyl formate and NH_2D detect. in Orion A 1−49774
D/H ratio, interstellar variation mechanisms, radiation press. and HD photodissociation 1−54574
D/H ratio in solar system, origin of D-enriched mols. 1−36263
D/H ratio in water, determ. under natural conditions using nuclear-physical methods *(Russian)* 1−27278
DC_3N/HC_3N, ratio in interstellar cloud TMC 1 (Taurus Molecular Cloud 1) 1−9628
^2H in rainwater, obs. in Negev Desert, Israel 1−17711
^3He abundance in white dwarf degenerate envelope, rel. to recurrent nova outbursts triggering 1−9500
^3He anomalies in deep Atlantic Ocean, distrib. 1−4540
$^3He/^4He$ in Hawaiian igneous rocks, study of rock origin 1−9138
$^3He/^4He$ ratio at solar surface, rel. to turbulent diffusion and solar neutrino problem *(French)* 1−44524
^4He primordial abundance in big-bang model with non-zero neutrino rest mass 1−49504
$^4He^{++}/^3He^{++}$ abundance ratio in solar wind from ISEE 3 obs. 1−40295
$^{176}Hf/^{177}Hf$ in oceanic basalt of mantle origin 1−44142
Li in Allende meteorite refractory inclusions *(French)* 1−40431
$^7Li/^6Li$, in upper atmos., lidar obs. 1−36091
Lu isotopes in Oklo natural nuclear reactor, Gabon *(French)* 1−40131
$^{25+26}Mg/^{24}Mg$ in cosmic rays, anomalous isotopic comps. rel. to stellar nucleosynthesis 1−54335
Nd and Sr isotopes of Namibian rocks, study of Damara orogenic event 1−40101
Nd ion formation, trace gas effect, mass spectra 1−17124
Nd isotopes of Reykjanes Peninsula basalts, indicating mantle inhomogeneities 1−40088
$^{143}Nd/^{144}Nd$, initial ratios in Sierra Nevada and Peninsular Ranges rel. to sources of continental crust 1−27127
$^{22}Ne/^{20}Ne$ in cosmic rays, anomalous isotopic comps. rel. to stellar nucleosynthesis 1−54335
O isotopes in local interstellar medium, from dark cloud CO obs. 1−49775
$^{16}O/^{17}O/^{18}O$ primary cosmic ray isotopic composition, atm. effect 1−40292
^{18}O abundance in deep-sea sediments, freq. sensitivity of climatic record 1−9240
^{18}O, behaviour in carbonate rocks during contact metamorphism rel. to isotope systematics in impure dolomitic limestones 1−40126
^{18}O in North Atlantic Deep Water, isotopic fractionation during O_2 consumption and carbonate dissolution 1−4537
^{18}O in rainwater, obs. of Negev Desert made with self-sealing sampler 1−17711
^{18}O in water of salt domes, study of water origin 1−13433
$^{18}O/^{16}O$, benthic foraminifera isotopic equilib. rel. to deep equatorial Pacific circulation 1−49289
Pb in Allende meteorite, U and Pb isotopes in inclusions and phosphates 1−40429
Pb in early Archaen gneiss from W.Greenland 1−40094
Pb isotope data, diagrammatic representation methods 1−4626
^{210}Pb, abundances in GEOSECS water profiles from N.Pacific Ocean 1−4531
^{210}Pb activity in Weddell Sea, correl. with water circulation and mixing 1−4532
^{210}Pb, concs. in sulphide precipitates at 21°N on E.Pacific Rise 1−17577
$^{210}Pb/^{226}Ra$, in deep-sea sediments and sediment pore waters from N.Equatorial Pacific 1−44163
Pd, isotope composition in meteorites, atomic weights, mass spectroscopic anal. 1−32667
^{210}Po, concs. in sulphide precipitates at 21°N on E.Pacific Rise 1−17577
Pu safeguards, nondestructive gamma-ray spectrometry of spent fuels 1−41173
$^{238/239/240}Pu$ in soils of Cumbria and Isle of Man 1−13189
$^{238}Pu/^{239,240}Pu$ ratio in Hudson River estuary sediments, rel. to Pu origin 1−53715
$^{238}Pu/^{239+240}Pu$ in Irish Sea intertidal sediments, rel. to Pu transport, deposition and immobility 1−43834
^{242}Pu safeguards abundance determ. using isotope correl. techniques 1−23763
Ra isotopes in sub-Arctic waters 1−9178
^{226}Ra activity in Weddell Sea, correl. with water circulation and mixing 1−4532
^{226}Ra, concs. in sulphide precipitates at 21°N on E.Pacific Rise 1−17577
^{226}Ra flux from deep-sea sediments 1−4489
^{226}Ra in deep seawater of E.Pacific Rise 1−4529
$^{226}Ra/^{230}Th$, in deep-sea sediments and sediment pore waters from N.Equatorial Pacific 1−44163
Rb/Sr geochronology and geochem. of Archaean polymetamorphic gneisses of SW.Greenland 1−13423
Rb-Sr in volcanic rocks of Afar, indicating mantle source region 1−13425
^{222}Rn flux from abyssal sediments, theoretical model 1−4488
isotope relative abundance continued
^{222}Rn, in Indian Ocean benthic boundary layer 1−9179
^{222}Rn in seawater just above ocean floor sediments, Pacific and Atlantic 1−4530
S in Precambrian sediments, implication for early life 1−9137
S isotopes in shale Fe sulphides, controlled by sedimentation rate 1−32388
$^{28}Si/^{29}Si/^{30}Si$, relative abundances in molecular clouds, EHF obs. 1−49756
Sr isotopes of Reykjanes Peninsula basalts, indicating mantle inhomogeneities 1−40088
T, bomb-produced, distrib. at GEOSECS station 347 in E.North Pacific 1−4534
T enrichment by isotope exchange using hydrophobic catalysts for nucl. fuel reprocessing *(German)* 1−28680
T, rates of input to world oceans 1−4533
Th, isotopic comps in deep-sea sediments and sediment pore waters from N.Equatorial Pacific 1−44163
Th-Hf-Ta geophys. data for tectonomagmatic classification of rocks 1−13418
Ti endemic isotopic anomalies leading to presolar nebula nucleosynthesis data 1−13739
U corrosion mechanism investigation using stable isotopes with ion microprobes 1−31765
U in Allende meteorite, U and Pb isotopes in inclusions and phosphates 1−40429
U-Pb isotopic age of metamorphosed tonalite in E.Alps 1−13421
$^{234}U/^{238}U$, in deep-sea sediments and sediment pore waters from N.Equatorial Pacific 1−44163
$^{234}U/^{238}U$ activity ratios in Indian groundwaters 1−26859
Zr isotopic ratio in meteorites, lunar samples and granite G2, mass spectra 1−51303

isotope separation
see also isotope exchanges; laser isotope separation; radiochemistry
aerodynamic separation by Jet Membrane process 1−45716
bromotrifluoromethane, isotopically selective IR multiphoton dissoc. 1−6328
cascade performance for large separation factors 1−28705
Daresbury Nuclear Structure Facility, isotope and recoil separators 1−10579
dichlorodifluoromethane, intramolecular relax., temp. depend., isotope separation, IR multiphoton excitation 1−37191
EM separation, 15 years' experience in Poland *(Polish)* 1−6038
fluoromethane, mol. vibr., isotopic excitation selectivity by CO_2 laser pumping 1−14857
formyl cation+CO reactions, laboratory studies of isotope fractionation and interstellar implications 1−44611
GSI online separator, Sn, Pb light nuclei, alpha-decay, mass 1−10360
interstellar medium 1−44611
isotope-separation, quantum and photoproduct yield evaluation in multi photon dissociation 1−4116
mass diffusion mechanism in gas discharge with travelling mag. field 1−23854
metal hydrides, props. and appls., conf., Colorado Springs, CO, USA (April 1980) 1−6
nuclear fuel solutions, elution of U and Pu 1−41174
online separator ISOCELE, prelim. results 1−10580
plasma centrifuge, isotope separation and enrichment 1−34126
target ion source for on-line mass separation 1−28766
TRISTAN online mass separator, ion source, data anal., recent developments 1−10581
UNISOR facility, radioactive decay spectroscopy, nuclei far from stability appls., new developments 1−10578
C^++CO reactions, laboratory studies of isotope fractionation and interstellar implications 1−44611
^{13}C, ^{14}C in North Atlantic Deep Water, isotopic fractionation during O_2 consumption and carbonate dissolution 1−4537
Ca isotope fractionation in ion-exchange chromatography 1−31925
D_2, quantum and photoproduct yield evaluation in multi photon dissociation 1−4116
H isotope absorpt. and separation by Pd and Pd alloys 1−21767
^3H to ^1H permeability ratio through Pd-Ag-Au alloy membrane 1−19799
He and Ne isotope separation in rotating H plasma 1−34128
He jet ion guide for on-line isotope separator 1−45764
Hg, separator ion source with Penning ionisation, efficiency meas. 1−6975
I, radioisotope removal from gas using selective block sorbents 1−28712
Li isotope separation, axial flow in plasma centrifuges *(Japanese)* 1−45726
^{18}O in North Atlantic Deep Water, isotopic fractionation during O_2 consumption and carbonate dissolution 1−4537
^{132}Sn-region, levels from rapid automated nuclear chemistry of fission products 1−14468
U enrichment and T separation by chemical exchange and plasma separation *(Japanese)* 1−33339
U, uphill transport across liq. membrane 1−21772
UF_6 tailings, cascade performance for large separation factors 1−28705
UF_6, U enrichment in centrifuge, numerical method for optimisation of gas flow field 1−10545
^{235}U enrichment by redox chromatography 1−781
^{235}U enrichment of U fuel for once-through cycle of PWR, optimisation 1−5978
^AXe, A=129-136, fission product isotopic anal. using mass spectrometer 1−31943

isotope shifts
see also atomic spectra
aldehydes, ^{18}O isotope shift in ^{13}C NMR spectra 1−14961
p-aminoazobenzene dyes, struct., isotope shifts, Raman obs. 1−10737
2-aminomethylpyridine-transition metal ion complex, IR obs. 1−14888
$B^2\Pi$ state perturbation by interaction with $B'^2\Sigma^+$, $b^4\Sigma^-$ and $a^4\Pi$ states 1−1250
binary mixtures, quantitative anal. by FT IR photoacoustic spectrosc. 1−53496
chloroform-chloroform-d, soln., isotope dilution study by Raman difference spectrosc. 1−37214
chloroperoxytrifluoromethane, isotope shifts, rot. constants, microwave obs. 1−10723
complex electronic configurations, formulae for matrix elements 1−19058
ethane-d_0(-d_6), Raman intensity calcs. 1−45967

isotope shifts continued
hyperfine struct. in isotope shift, nonrelativistic probability electron density function 1−45902
iodomethane, ^{129}I isotope shift in ν_6 band, tunable diode laser spectroscopy 1−41434
ketones, ^{18}O isotope shift in ^{13}C NMR spectra 1−14961
laser heterodyne spectroscopy of isotope shifts and hyperfine structure 1−28070
methane, ν_4 IR absorpt. with ultra-high resolution using tunable diode lasers 1−45956
methane-$d_0(-d_2)(-d_3)(-d_4)$, Raman intensity calcs. 1−45967
methyl-n-[^{18}O]butyl orthocarbonates, ^{18}O isotope shift in ^{13}C NMR spectra 1−45988
nicotinamide adenine dinucleotide, UV excitation, fluorescence-free reson. Raman spectra 1−33469
nuclear structure studied by atomic hyperfine spectroscopy 1−41504
nuclear structure studied by on-line hyperfine spectroscopy, laser techniques 1−41505
3-phospholene-d_0(-1-d_1), struct., microwave spectrum 1−28907
C, matrix elements 1−19058
Fr isotopes, D_2 optical reson. line, laser optical spectroscopy 1−19057
GaI, hyperfine struct. and isotope shifts 1−45871
$H_2{}^{16}O$, enriched with $H_2{}^{17}O$, $H_2{}^{18}O$, rot., IR obs. 1−51200
He, isotope shifts, Doppler-free two photon obs. 1−45920
^3He, and ^4He, 2^3P-3^3D transition isotope shift and hyperfine struct. 1−6210
Hg I, $6d^3D_1$-$6p^3P_0$ transition isotope shift meas. at 296.7 nm using saturated absorpt. spectroscopy 1−24461
Hg I UV transition saturation spectroscopic anal. using freq.-doubled CW ring dye laser 1−24462
InI, hyperfine struct. and isotope shifts 1−45871
Kr I, isotope shifts meas. in visible lines of arc spectrum 1−1172
N_2, spectroscopic constants of electronic ground state using CARS 1−33468
NF_4AsF_6, vibr. spectra, isotope shifts, rel. to GVFF calcs. for $NF_4{}^+$ 1−6261
Ne, hyperfine struct. and isotope shift of 640.2 and 626.6 nm lines 1−1175
O, matrix elements 1−19058
O_3, force field study *(German)* 1−45935
$OPCl_3$, IR and Raman matrix isolation spectra, band contour anal. and mol. force fields 1−1235
ReO, electronic transitions, vibr., rot., isotope shifts, UV obs. 1−51220
S_2F_{10}, IR and Raman vibr. spectra and pot. consts. 1−1236
SiS, E-X and D-X systems, isotope shift 1−1281
Sm, field and mass isotope shifts, J dependence, spectra 1−45880
SrCl, thermal emission electronic spectra, isotope shifts 1−45977
UO_2(hexafluoroacetylacetonate)$_2$.tetrahydrofuran isotopic selectivity in IR laser dissoc. 1−10794
Xe ions, hyperfine structures and isotope shifts of $5d^4D_{7/2}$→$6p^4P_{5/2}{}^0$ transition 1−46146

isotopes
see also radioisotopes
FCC lattice, octahedral and tetrahedral interstices, kinetics of isotopic interstitial atom ordering *(Russian)* 1−34259
fractionation in magmatic melts, crystal growth kinetic model 1−27102
gas source dual inlet mass spectrometer, valve-mixing correction for changeover valve 1−371
metals, surface recombination rate constant for H isotopes 1−7461
H isotopes, μ-mesic molecule energy level hyperfine struct. *(Russian)* 1−29151
Hg isotopes, atomic masses and mass differences 1−1397

isotopic generators *see radioactive sources*

isotopic spin (elementary particles)
see also baryon spin and parity; lepton spin and parity
geometric quantisation using fibre bundles 1−33131
internal state functions and internal equations of particles 1−28271
meson nonets from SU(3) theory, experimental evidence 1−28289
subnuclear physics, problems and fundamental concepts 1−28287
technicolour models, weak isospin breaking 1−496
three-body spinless decay, democratic formalism, hyperspherical harmonics representation vel. to SU_3 1−18474
n, spin precession in homogeneous mag. field *(Russian)* 1−40946
$\bar{\nu}_e d \rightarrow nne^+(n\bar{p}\bar{\nu}e)$, neutral-to-charged current breakup ratio, isospin breaking, scatt. lengths 1−45260
$\pi^- p \rightarrow K_s{}^0 K_s{}^0 n$, 3.95 GeV, cross-section, isotopic spin, prodn. props. 1−18511
ψ'-$\psi\pi^0$, η-π^0 mixing, spectral function sum rules 1−23492

iteration methods *see iterative methods*

iterative methods
see also predictor-corrector methods
bandlimited signal extrapolation, iterative coherent processor 1−51388
body force influenced flow computation, inertial relaxation method for numerical stability 1−19676
Boltzmann equation, existence and uniqueness theorems for solutions 1−27904
cascade flows, subsonic and transonic computation 1−2018
circular plates, finite element iterative method for optimal elastic design 1−37793
complementary variational-iterative scheme for nonlinear eqns. 1−5107
convergence, fission reactor power distrib. calcs. 1−45585
deployable optical system sensing and control 1−46497
dielectric fibres, TM wave scatt., iterative and eikonal solutions 1−15278
dividing and combining flow manifolds, finite-difference modelling 1−42001
elastic bars in torsion, multiparameter shape optimisation 1−11308
elastic-plastic large strain analysis, computational aspects 1−29570
elasticity theory, boundary value problem with mixed boundary conditions, numerical soln. *(German)* 1−33900
EM wave scatt. by inhomogeneous fixed obstacles with zero conductivity 1−1462
EPR spectra, first-order isotropic, iterative least-squares anal., computer program 1−310
Euclidean space-time, coefficient functions for S-matrix, projection iteration method in quantum field theory 1−5503
finite element analysis, extension to eigenvalue problems 1−728
flow, 3-D, boundary layer, over surface irregularities, numerical soln. 1−15468
fluid dynamics, laminar boundary layer flow, finite element algorithm 1−15466

iterative methods continued
fluid dynamics, subcritical compressible flow, finite element anal. and iterative soln. 1−19740
foetal eye lens and cornea growth control algorithm 1−8853
Helmholtz equation, exterior Dirichlet problem, inverse scatt. problem for LF acoustic waves 1−51648
hydrodynamic lubrication, of sliding axial bearings with plane parallel surfaces, load bearing capacity and heat develop. *(German)* 1−33946
incompressible and nearly incompressible media, elasticity, variational formulation, finite element anal. *(Russian)* 1−19565
inverse scatt. problem, numerical soln. 1−1489
irradiation produced point defects, perturbation soln. of chemical rate eqns. 1−34345
Ising model, correlation function, props. of non-linear partial difference eqn. 1−20945
kinetic theory of gases, frame indifference and iterative procedures 1−24908
layered shells, investig. of stresses and displacements in edge zone 1−9835
Lennard-Jones fluids, free surface, monotonic and oscillatory density profiles 1−2301
limited-angle 3-D reconstructions using Fourier transform iterations and Radon transform iterations 1−51392
linear algebraic eqns., numerical solution of sparse matrices 1−13997
metals, point contact spectroscopy, review 1−20858
multiphoton dissoc., soln. of master eqn. 1−1293
negative uniaxial crystal, TI-59 program for types I and IISHG critical phase match angles 1−11043
nematic mesomorphism, Kirkwood method *(Rumanian)* 1−38259
neutral particles, scattering by two-dimensional exponential corrugated potential 1−23037
neutron diffusion codes, effectiveness of adaptive acceleration method for inner iterations 1−45565
neutron transport theory calcs., projection-iteration process using elementary solns. 1−33278
optical computing conf., Washington, DC, USA (April 80) 1−49877
phase retrieval from two intensity distribs., algorithm convergence 1−51391
photographic grain sensitivity, statistical distrib. determ. *(German)* 1−5420
planetary theories, comvergence of iterative methods *(French)* 1−40336
planetary theory, construction by iterative procedure 1−40332
plastic flow of compressible material, consecutive approx. *(Russian)* 1−11327
quasi-Newton method in finite element calculations 1−23014
radio aperture synthesis, closure phases method 1−54393
Rayleigh Timoshenko coefficients calc. *(French)* 1−1874
reactor eqn. model soln., incomplete factorisation, comparison with variable directions method 1−10421
Schrodinger equation, many-electron, direct configuration interaction method 1−14826
Schrodinger equation, one-dimens., eigenvalue correction estimates, iterative scheme 1−89
seismic waves, iteration plan for calc. of bed vels. and wave front curvature 1−40080
shells, finite cylindrical, with and without surrounding fluid, free vibr. anal. 1−6827
shells and plates thin composite variable thickness geometrically nonlinear theory 1−33892
signal reconstruction from phase, iterative procedures 1−51390
space-limited images, iterative reconstruction 1−51389
stellar speckle interferometer data, photon noise effect on image reconstruction, computer expts. 1−54394
structural analysis of structures and continua with rigid parts, iterative soln. 1−9836
Thomas-Fermi and Emden-Fowler eqns., iterative techniques 1−37116
time-domain reflectometry, resolution enhancement by iterative superresolving technique 1−40812
tomographic image reconstruction from limited projections, using iterative technique 1−40909
tridiagonal vector recurrence relations, solns. and appls. 1−9877
trusses, elastic, optimal design by approximate compatibility 1−37794
vapour-liquid equilibria in binary systems, model-free methods 1−34466
vibrational anal. calc. using method based on steepest-descent algorithm 1−28950
VVER, neutron kinetics soln. efficiency *(Slovak)* 1−744
wavefront aberration inversion from point spread function data, numerically stable iterative method 1−15082
Bi, electron Fermi energy, at high temp., numerical iteration technique 1−34618
CO_2 nonequilibrium hypersonic flow over blunt bodies convection, friction stress calc. 1−19747

itinerant model of magnetism *see band model of magnetism*

IV-VI semiconductors
crystal growth at the Research Institute for Technical Physics 1−8206
crystal growth by sputtering review book contrib. 1−48260
crystal potential fluctuation influence on electron spectrum 1−20631
crystal structure and cubic/rhombohedral phase boundary 1−2404
cubic to rhombohedral phase transition, microscopic model 1−2384
Fermi level, carrier conc. depend. calc. 1−38712
heterojunction device materials, book contrib. 1−37513
optoelectronic devices, MBE techniques 1−3627
Ge-Se, p-T-x phase diagram, associated solution model 1−16021
GeS (001), site specific valence band densities, XPS and Auger spectra 1−16656
GeS, absorpt. edge meas., effects of imperfect light polarisation and sample alignment 1−26156
GeS film formation on Ge surface due to interaction with S vapour 1−38669
GeS, photoconductivity spectra, exciton effects 1−20820
GeS:Li(As), photocond., ion implantation effects 1−30780
GeSe (001), site specific valence band densities, XPS and Auger spectra 1−16656
GeSe amorphous films, chem. modification, elec. props. 1−34713
GeSe, amorphous thin films produced by sputtering, elec. props. *(German)* 1−2986
GeSe:Fe_x amorphous films, 1−26293
GeSe-GeI_4 system, diffusive and convective vapour transport 1−34266
$GeSe_2$, crystalline and glassy films, optical spectra and electronic struct. 1−48115

IV-VI semiconductors continued
$GeSe_2$, layered crystals, refl. and transmission spectra, indirect excitons *(Russian)* 1−48105
a-Ge_xSe_{1-x}, glass and film, IR and photoluminescence study 1−21275
$Ge_{1-x}Sn_xTe$, US wave velocity and elastic consts. 1−34396
GeTE-MnTe-PbTe, physicochemical props., in GeTe-based solid solution region 1−16022
GeTe based substitutional solid solns., comp. depend. of phase transition temp. and lattice parameters 1−42529
GeTe, homogeneity region 1−20411
GeTe, single crystal, growth from gas phase 1−35155
GeTe, thermoelectric props. during zone melting, US vibr. effect 1−7645
GeTe thin layer, short-range order struct., electron diffr. study 1−20579
GeTe:Cu, rhombohedral and cubic, kinetic effects 1−38789
GeTe-$(Bi, Sb)_2Te_2$ boundary, reactive diffusion processes 1−11919
GeTe-SnTe system solid solns., stoichiometry deviation influence on phase transition and struct. state 1−42530
$(GrTe)_{0.94}Bi_{0.05}Cu_{0.01}$ solid soln., Cu impurity entrainment by nonuniform temp. field 1−30484
InSb-PbTe pair superlattice, elec. optical and struct. props. 1−38846
Pb chalcogenides, free-carrier magneto-absorpt. by photon-ionised impurity magnetoplasmon processes 1−12479
Pb-Sn-Te system, liquidus surface, low-temp. part 1−42516
$Pb_{1-x}Ge_xTe$, structural instability, Ge ion local displacement effects 1−39051
PbO, electron-hole liq., condensation energy. luminesc. study 1−20640
PbS film, photoconductivity temperature dependence obs. *(Rumanian)* 1−42812
PbS, internal stresses and obstacles to dislocation motion, thermal activation analysis 1−20300
PbS layers, semiconducting models of Ag halide photography 1−10040
PbS mosaic array, pulse-bias modulation 1−36737
PbS-Sb(NiSb), Bridgman method growth, eutectics morphology *(Russian)* 1−47027
PbS-Si heterojunction, photovoltage responses, IR imaging appl. 1−30785
PbS-Si heterojunction, capacitance-voltage and I-V characts., energy band diagram 1−30816
$PbS_{1-x}Se_x$, Fermi level, carrier conc. depend. calc. 1−38712
PbSe, dee levels in band gap created by intrinsic point defects 1−47551
PbSe epitaxial films, optical props. meas. 1−31214
PbSe epitaxial layers, deep levels, Hall effect and photocond. obs. 1−12063
$PbSe_{1-x}S_x$:Tl, impurity band position and width, elec. and optical props. 1−20659
$Pb_{1-x}Sn_xS$:Na, Mossbauer study of Sn atom recharging *(Russian)* 1−43050
PbSnSe, phonon-plasmon coupled modes, band-to-band recombination 1−42710
$Pb_{0.93}Sn_{0.07}Se$ and $Pb_{0.8}Sn_{0.2}Te$, reflectance and thermoreflectance spectra obs. in intrinsic absorpt. region 1−16583
$Pb_{0.93}Sn_{0.07}Se$ epitaxial film, band struct. 1−42689
$Pb_{1-x}Sn_xSe$ solid solution, optical and elec. props. *(Russian)* 1−3419
$Pb_{1-x}Sn_xSe$, structural phase transitions 4.2-300K 1−20382
$Pb_xSn_{1-x}Se$, phase diagram, liquidus surface 1−38510
$Pb_xSn_xSe_{1-y}Te_y$ solid solns., laser heterostructs., fabrication and props. 1−33689
PbSnTe infrared detector, spectral response *(Japanese)* 1−40849
PbSnTe laser, freq. stabilisation on methane absorption line, ν_4 band 1−24143
PbSnTe:In, nonequilibrium carriers, changes in defects and slow relax. 1−34723
$Pb_{0.76}Sn_{0.24}Te$:Cd, low temp. photosensitivity 1−20814
$Pb_{0.78}Sn_{0.22}Te$:Ga, photoconductivity with relaxation times, temp. depend. 1−3022
$Pb_{0.8}Sn_{0.2}Te$, mag. field induced Wigner condensation 1−30652
$Pb_{0.82}Sn_{0.18}Te$, anisotropic current carrier scatt. *(Russian)* 1−7621
$Pb_{1-x}Sn_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
$Pb_{1-x}Sn_xTe$ crystal growth by vapour-liquid-cryst. mechanism 1−8217
$Pb_{1-x}Sn_xTe$ crystal growth rate, vapour-liquid-crystal mechanism 1−8218
$Pb_{1-x}Sn_xTe$ crystals, chemical lap polishing 1−21607
$Pb_{1-x}Sn_xTe$ cut crystals, disordered layer depth rel. to surface treatment 1−42391
$Pb_{1-x}Sn_xTe$ DFB DH laser, TE and TM coupling coeffs. 1−46348
$Pb_{1-x}Sn_xTe$ DFB laser diodes, LEP grown, broad continuous single-mode tuning range 1−15182
$Pb_{1-x}Sn_xTe$ film, comp. investig. using Auger spectra, optimal evap. conditions 1−42645
$Pb_{1-x}Sn_xTe$ ion implanted films, implantation induced damage 1−7191
$Pb_{1-x}Sn_xTe$ layers, LPE growth, struct., and elec. props. 1−47404
$Pb_{1-x}Sn_xTe$ layers on micasurface, Hall effect and cond., influence of air 1−30857
$Pb_{1-x}Sn_xTe$, mag. field induced Wigner condensation 1−47680
$Pb_{1-x}Sn_xTe$, narrow band-gap semicond., mag. susceptibility meas. *(Russian)* 1−42944
$Pb_{1-x}Sn_xTe$, p-T-x diagram rel. to cryst. growth by vapour-liq.-cryst. mechanism 1−11842
$Pb_{1-x}Sn_xTe$ p-n junction diode elec. characts., tunnel contrib. 1−20859
$Pb_{1-x}Sn_xTe$, photovoltaic detectors, minority carrier lifetimes, resist.-area product 1−38807
$Pb_{1-x}Sn_xTe$, second valence band and resonant states, effect on transport 1−20773
$Pb_{1-x}Sn_xTe$ solid soln., self-diffusion and diffusion coeffs. and mechanisms 1−30449
$Pb_{1-x}Sn_xTe$:In ($0 \leq 0.2$), LPE layers, electron conc. control by In doping 1−25309
$Pb_{1-x}Sn_xTe$/PbTe, Sn diffusion investigations 1−42585
$(Pb_{1-x}Sn_x)_{1-y}Te_y$, cryst. growth from melt, initial charge comp. effect on comp. and electrophys. props. 1−42513
$Pb_{1-x}Sn_xTe_{1-y}Se_y$ solid solutions, IR spectra, band gap *(Russian)* 1−21214
PbTe (111) surface, angle-resolved UV photoemission meas. 1−48222
PbTe, Bridgman grown single cryst., struct. perfection, thermal growth conditions influence 1−20089
PbTe crystals, chemical lap polishing 1−21607
n-PbTe, degenerate, modulation, of fundamental absorption by free carrier heating 1−48092
PbTe, mag. field induced Wigner condensation 1−30652
PbTe, polycryst., dipole-dipole coupling, ^{125}Te NMR obs. 1−16490
PbTe, sintering effect on elec. props. 1−16746
PbTe, thermoelectricity, phase diagrams and imperfection struct. 1−52589

IV-VI semiconductors continued
PbTe, US wave velocity and elastic consts. 1−34396
PbTe vacuum evaporated films, thermoelec. power 1−52587
PbTe:Ag, thermoelec. props., temp. depend. meas. 1−7646
$PbTe:Ag_2Te$, p-type pressed material, thermoelectric properties 1−42801
PbTe:I, Soret effect, I redistrib. during gradient annealing 1−2702
n-PbTe:In(Cu) films, magnetoresist. and Hall effect meas. 1−7643
PbTe-CdTe heterojunction, growth, photoresponse meas. 1−12183
$PbTe-In_2Te_3$ system, phase comp., homogeneity region, electrophys. props. 1−42512
PbTe-NiSb, Bridgman method growth, eutectics morphology *(Russian)* 1−47027
$PbTe-Pb_{1-x}Sn_xTe$ superlattice, hot wall preparation technique 1−38842
PbTe:In, slow relaxation of elec. resistance 1−20746
$Po_{1-y}Sn_yTe$:In, magnetic susceptibility in temp. range 4.2 to 1000K 1−3139
Si_xSe_y, optically induced diffraction grating props. and appls. 1−11041
SnO_2 film, CVD and elec. props. 1−43268
SnS, electronic band struct., pseudopotential calcs. 1−16229
SnTe epitaxial film, IR plasma reflectivity meas., hole conc. depend. 1−39166
SnTe, polymorphism at high press. 1−34274
SnTe, thermoelectric power analysis at 100K 1−16305
SnTe, US wave velocity and elastic consts. 1−34396
SnTe:Kr(Xe) films, ion implantation effect on struct. and elec. props., recrystn. process 1−7194
SnTe-PbTe system, film heteroepitaxy, optical synthesis conditions, degree of perfection 1−43265
$p-(SnTe)_{0.1}(PbSe)_{0.9}$ epitaxial layers, elec. props., band struct. *(Russian)* 1−38782

J particles *see psi mesons*

Jahn-Teller effect
allene cation radical, ESR spectra, Jahn-Teller distortion 1−14944
autolocalised barrier, Jahn-Teller symm. breaking *(Russian)* 1−47592
crystals, non-compact group O(2,1) and the Jahn-Teller effect 1−38754
cytochrome b_{562} and c, Raman study 1−43853
diamond, powdered, surface centre ESR charact. 1−31026
$E \otimes e$ Jahn-Teller effect, approx. analytical treatment 1−28890
Fermi resonance, E-e problem *(Russian)* 1−26154
ferroelastics and antiferroelastics, microscopic theory, dielec. and elastic props. 1−7239
ground state approx. based on Judd's isolated exact solutions 1−20678
group Vb metal hydrides, Jahn-Teller resonance states 1−20674
haemoproteins, vibronic effects in geometry and stereochemistry 1−37354
hexafluorobenzene ion in inert gas matrices, electronic transition, vibr. struct., absort. and laser induced spectra 1−6251
hydrides, electron-rich, VSEPR model, ligands of low electronegativity 1−10673
ionic crystals, luminesc., self-trapping excitons, holes, and electrons, review 1−12547
Jahn-Teller band shapes in strong coupling limit, adiabatic and Franck-Condon calcs., pot. energy surface 1−19041
magnetic insulators, Jahn-Teller ions, polaron effects and exchange interaction *(Russian)* 1−7536
metalloporphyrins, vibronic effects in geometry and stereochemistry 1−37354
methyl iodide-d_1, mol. Rydberg transitions, vibronic doubling 1−37170
methylcyanide (-d_3), photoionisation mass spectra 1−46036
molecular ions, vibr., electronic frequencies, Jahn-Teller effect, matrix isolation and fluorescence obs. 1−19129
molecular spectra, $E \otimes (\varepsilon + \varepsilon)$ Jahn-Teller effect 1−37133
multi-mode Jahn-Teller band shape, effective single-mode Hamiltonian 1−7569
1-phenyl-1-boracyclohexane, UV absorpt., phosphoresc. and MODOR spectra 1−29018
rare earth compounds, intermetallic, crystalline electric field effects studied by inelastic neutron scatt., review *(Russian)* 1−52532
reduction factors and emission spectra of Jahn-Teller system 1−47586
semi-classical absorption band shape in Jahn-Teller systems 1−7570
semiconductor, large lattice relax. processes 1−34662
semiconductors, phonon scattering at acceptors with Γ_8 ground states 1−15998
strongly coupled systems, optical absorpt. spectrum, temp. depend. 1−31110
transition metal dihalides, (Mn,Fe,Co,Ni), layered crysts., vibr. struct. of cryst. field spectra, IR absorpt. study 1−34668
trifluorobenzene radical cations, low temp. gas phase and matrix isolation spectra 1−4107
trifluorochlorine radical cations, low temp. gas phase and matrix isolation spectra 1−4107
Tutton salt crystals, Jahn-Teller centre configurations, lattice struct. 1−3248
Vb metal hydrides, Jahn-Teller reson. states, model calc. 1−7568
vibronic eigenstates and absorpt. spectra of Jahn-Teller system 1−47585
zinc porphin, Jahn-Teller unstable S_1-state, vibronic props., cryst. field effects 1−38753
$Al_2O_3:Mn^{3+}(Cr^{2+})$, thermally detected EPR study of $3d^4$ ions 1−26023
$Al_2O_3:Ni^{3+}$, acoustic relaxation loss 1−15963
$Al_2O_3:Ni^{3+}$, acoustic relax., Jahn-Teller model 1−42476
$Al_2O_3:V^{3+}$, hyperfine spectrum at 166 GHz, phonon freq. crossing spectroscopy 1−30494
$BaTiO_3:Pt^{3+}$, ESR spectrum, dynamic narrowing in rhombohedral phase, Jahn-Teller effect 1−52840
CaF_2, transition metal ions interactions, review 1−25669
$CaF_2:Sm^{2+}$ crystals, $4f^6 \rightarrow 15d$ to $4f^6$ luminesc. vibronic wing, vibr. spectrum and symm., Jahn-Teller pseudo effect 1−43168
$CaMn_7O_{12}$, bond lengths, Jahn-Teller distortion of Mn^{3+} octahedra 1−15878
$CaMoO_4$, $CaWO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
$CaO:Bi^{3+}$ 1−12076
$CaO:Cr^{2+}$, acoustic paramagnetic resonance expts. 1−16479
CdF_2, transition metal ions interactions, review 1−25669
$CdMoO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
$CdTe:Fe^{2+}$, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
$Ce_eLa_{1-e}F_3$, Raman scatt., magnetoelastic interaction of optical phonons 1−26216
$CsCuCl_3$, EPR line broadening, effect of cooperative Jahn-Teller effect 1−52833

Jahn-Teller effect continued
$(CuCl_4)^{2-}$, static distortions induced by Jahn-Teller effect, ang. overlap model, absorpt. and EPR spectra 1−20675
D_3, emission spectra, perpendicular bands near 7100 A, Jahn Teller interaction 1−1249
$DyVO_4$, ferroelastic antiferroelec., microscopic theory, dielec. and elastic props. 1−7239
$FeCr_2S_4$, second-order phase transition, group-theoretical argument 1−11861
GaAs:Cr^{2+}, Cr^{3+}, dynamical Jahn-Teller model 1−52533
GaAs:Cr^{2+}, level splitting, Jahn-Teller interactions, theory 1−42728
GaAs:Cr^{3+}, EPR, Jahn-Teller centre with stress dependent reorientation field 1−7940
GaP:Fe, deep traps, photoluminesc. study 1−12569
H_3, emission spectra, perpendicular bands near 7100 A, Jahn Teller interaction 1−1249
InCl, α and β modifications, cryst. struct., stereochemically active $(5s)^2$ lone pairs 1−25214
KBr:$Ga^+(In^+)(Tl^+)$, trap depth, Jahn-Teller coupling constants 1−12076
KCl:Au^-, evidence for crystal field splitting of $^2P_2$ state 1−25668
KCl:Ga^+, optical absorpt., mag. circular dichroism, A and B bands 1−21222
KCl:Pb, polarised A-luminesc. obs., 85K, kinetic investig. *(Russian)* 1−16603
KCl:Sn, polarised A-luminesc. obs., 15-300K, Jahn-Teller effect of activation centres *(Russian)* 1−16602
KCl:Tl^+, trap depth, Jahn-Teller coupling constants 1−12076
KI:Ga^+, Jahn-Teller coupling in ^1T_u excited level of Ga^+, emission bands obs. 1−35091
KI:$Ga^+(In^+)(Sn^{2+})(Tl^+)$, trap depth, Jahn-Teller coupling constants 1−12076
KI:Sn^{2+}, emission spectroscopy, temp. and excitation wavelength depend. 1−12577
$KMgF_3$:Fe^{2+}, dynamic Jahn-Teller effects in photoluminesc. 1−39147
$KNiF_3$, Jahn-Teller coupling consts. of Ni^{2+} 1−25672
$La_3S_4(Se_4)$, Jahn-Teller band transition, mag. props. 1−20679
M=Mg, Ni, Zn, cation distrib., props. of brownmillerite phase 1−47052
MgO:$Cr^{2+}(V^{3+})$, heat-pulse phonon scatt. by Jahn-Teller impurities, stress effects 1−15996
MgO:Cr^{3+}, struct. of $^4A_{2g}$−$^4T_{2g}$ zero-phonon spectrum 1−3427
MgO:Mn^{3+}, superconducting tunnel junction phonon spectroscopy 1−15968
MgO:V^{2+}, absence of strong Jahn-Teller effect in $^4t_{2g}$ excited state, Zeeman spectra 1−12481
MgO:V^{2+}, mag. and elec. dipole transitions, zero-phonon line shape 1−39149
MgS:Sb^{3+} phosphors, luminescence and excitation spectra meas. 1−39138
$Mn_{1+x}Cr_{2-x}O_4$, spinel system, magnetic properties 1−47878
NaK_2TiF_6, Jahn-Teller coupling consts. of Ti^{3+} 1−25672
NpO_2, ordered quadrupolar state with nearly zero mag. moment 1−20686
$Pb_{1-x}Ge_xTe$, structural instability, Ge ion local displacement effects 1−39051
$PbMoO_4$, $PbWO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
$PrCl_3$, antiferroelastic antiferroelec., microscopic theory, dielec. and elastic props. 1−7239
$RbCdCl_3$:Cu^{2+}, Jahn-Teller effect, ESR study 1−52535
$Rb_2Cr_{1-x}Mn_xCl_4$, single crystal, neutron diffraction study 1−20146
Si (100), surface dimer struct., cluster calc. 1−7440
Si (100) surface reconstruction, dimer bond form., cluster calc. 1−52408
Si (111) surface reconstruction modelled by small clusters, MINDO/3 calc. 1−52405
Si, (111) unreconstructed surface, vacancy electron states 1−7560
Si:Cr Jahn-Teller centre, EPR spectrum, nonlinear press. effect *(Russian)* 1−7943
Si:Fe^+, Jahn-Teller centres, spin-phonon interactions, spin-lattice relax. 1−21042
Si:N_2, tight-binding model for deep impurity levels 1−42715
SrF_2:Sm^{2+} crystals, $4f^{k-1}5d$ to $4f^k$ luminesc. vibronic wing, vibr. spectrum and symm., Jahn-Teller pseudo effect 1−43168
$SrMoO_4$, $SrWO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
$Sr(PO_4)_3Cl$:MnO_4^{3-}, ligand-field excited state, Jahn-Teller effect, Franck-Condon factors 1−30687
transition metal complexes, $[M(CH_3CN)_6]^{2+}$, M=Mn, Fe, Co, Ni, Cu, Zn, Urey-Bradley force constants, normal vibrations and Raman active fundamental frequencies 1−35019
UAs, lattice distortion, γ-ray diffr. investig. 1−47060
UO_2, lattice distortion, γ-ray diffr. investig. 1−47060
UO_2, lattice distortion and quadrupolar ordering 1−25220
UO_2, lattice mode competition and quadrupolar ordering 1−47591
ZnO:Cu, electron irrad., ESR obs. of new Cu centres, electron configs. *(German)* 1−26029
ZnS:Fe^{2+}, E-state energy splitting reduction, Jahn-Teller coupling 1−25671
ZnS:Fe^{2+}, far IR spectrum, low-lying Fe^{2+} energy states 1−21247
ZrH_x, electronic struct., FCC-FCT lattice distortion, photoelectron spectra study 1−48233
ZuO:Cu, impurity states, dynamic Jahn-Teller coupling 1−25662

jellies *see gels*

jellium
CDW and spin density waves 1−25651
chemisorbed molecules at surfaces, Raman scatt. 1−3406
clustering assumptions, translation invariance in dimension greater than one 1−50031
electron-positron correlations 1−47579
impurity atom in host electronic system, quasiatom approach, uniform density approx. 1−7558
local field at an irradiated adatom 1−20846
metal surface, electrodynamics, appl. to spectroscopy of adsorbed molecules 1−25783
metal surface, inhomogeneous electron gas, Hartree-Fock theory, surface energy and work functions 1−38827
metal surface, single-particle expectation values, variational principles 1−20845
metal surface, surface plasmon dispersion relation, bulk-selvedge coupling theory 1−8032
metals, surface bound positron-quantised jellium mode interactions 1−52527
point defects, electron density distrib., quadratic response theory 1−30661

jellium continued
transition metals, FCC, chemisorption of H_2 on (111) surfaces, embedded cluster calc. 1−12178
Al surface, lattice relax., semi-self-consistent density functional calc. 1−7435
Be, electron-electron correlations, X-ray scatt. meas. 1−34641
H adsorption on metal, density functional formalism in adsorption theory 1−2827

jet stream *see atmospheric movements*

jets
see also plasma jets; sprays
90° orifice Borda inlet free jet obs. 1−51841
air jet, plane, controlled sinusoidal perturbation, response of near field 1−2049
air jet impingement on solid boundaries, methods of avoiding jet screech 1−6882
amplitude and phase fluctuations of acoustic waves propagated in turbulent jet *(French)* 1−24577
aniline, fluoresc. excitation spectrum in supersonic free jet, inversion vibr. pot. 1−6295
annular jets of large inner diameter, effect of wake vortices 1−2046
anthracene+Ar, van der Waals complex formation, IR spectral shift and lifetimes in supersonic jet 1−31837
axisymmetric resonance tube, jet excited, aerothermodynamic aspects 1−46776
Bickley jet, non-parallel, spatial stability 1−46794
break-up in supersonic crossflow, wave phenomena 1−15521
brittle material, piercing and fracture using pulsed water jets 1−35386
buoyant submerged, water temp. and salt concentration effects 1−37985
choked airjet, turbulent and shock-assisted noise, pressure ratio effect 1−33953
circular nozzles, decay and diffusion of discharging jets 1−19776
circular supersonic-turbulent layer interaction, separation flow integral and difference eqns. calc. 1−2055
coannular, noise reduction under shock-free conditions 1−24593
coflowing jets and wakes, instantaneous velocity fields of coherent structures 1−29744
coherent structure of axisymmetric turbulent mixing layer, flow visualisation 1−51743
Cosserat fluid jet equations, finite difference soln. 1−37984
cylindrical duct, two component swirled jet propag., 'through' circulating flow onset 1−15549
dalembertometer for noise source study in air jets 1−14175
diffusion pump, ejecting action of high-press. low-density free jet 1−40805
elongational flow of dilute drag reducing fluids in a falling jet 1−51826
extragalactic jets, propag. through inhomogeneous media, appl. to radio-sources, galaxies and quasars 1−54624
extragalactic jets, shape and stability, hydrodynamics 1−54625
flame, low pressure, velocity profiles above thin flat plate in flame 1−2051
flat plates, perpendicular and inclined, impingement of underexpanded axisymmetric jets, shocks 1−11436
flow transition in the axisymmetric jet 1−51744
flow visualisation of interrupted jet, artificial excitation using spark 1−24900
fossil fuels, plasma chemistry, book contrib. 1−34179
fuel jet, internal struct., X-ray pulse method investig. 1−46795
gas jet density meas. by laser Rayleigh scatt. 1−23184
gas-solid two-phase jets, concentration, velocity, and particle size meas. 1−46796
heated jet discharged vertically into ambients of uniform and linear temperature profiles 1−19774
immersed jets with obstacles, numerical flow calc., hanging shock and separation flow regimes 1−19772
impinging air jet array with spent fluid removal, average convective heat transfer 1−33961
impinging jet on plane wall, evaporation, numerical model 1−15523
impinging jets in high speed flow, circulation flow, possible flame stabilisation 1−15527
integral invariant for jets of liquid into air 1−51836
interrupted, far field pressure meas. 1−19526
isotopes and mixtures, aerodynamic separation by Jet Membrane process 1−45716
jets, inverted vel. profile, acoustic noise, density effects 1−1952
Lagrange explosive cone-collapse calculations, jet form. computation 1−42078
laminar, circular cylindrical, curvature and boundary layer effect, higher order terms 1−19768
laminar-jet diffusion flames, Shvab-Zeldovich formulation 1−29798
Landau-Square jet, weak buoyancy forces effect *(German)* 1−37988
laser beam phase compensation using gas jets 1−46417
laser induced evaporating jet, structure anal. using rarefied gas dynamics 1−15514
linear velocity profile, long wavelength stability, solid walls effect 1−19673
liquid, injection in supersonic flow, angle effect, wind tunnel study 1−2043
liquid, viscoelastic jet stability, mass flux effect at surface 1−11426
liquid jet impingement region, simultaneous melting and freezing in stagnation region 1−42515
low Reynolds number supersonic jets, instability process 1−15522
methane gas mixing in air, conserved scalar imaging using linear spark 1−34020
microbubble growth rate in turbulent submerged water jet 1−15537
mixing layer characteristics, integral calc. method 1−29746
multicomponent axisymmetric laminar jets, heat and mass transfer, soln. procedure 1−19707
multiple jet configuration, rectangular jet development and struct., turbulence 1−19767
noise, effects of flight as observed in actual flight and in wind tunnels 1−19495
noise and flow correlation using laser Doppler 1−15520
noise emission in subsonic cold jets, intermittency 1−11390
noise generation in cavitating submerged jet 1−24776
noise generation in cavitating submerged water jet 1−24775
noise generation mechanisms of subsonic jets at low Reynolds number 1−19689
obliquely impinging circular jet, heat and mass transfer 1−24786

jets continued
opposing jets discharging normally into cross-stream, vector and scalar characts. 1−29742
E Pacific Ocean, equatorial, deep jet-like currents discovery and vel. struct. 1−17604
particle acceleration using explosively driven gas flows 1−24857
plane, potential flow past convex surface 1−2044
plane potential jets, rel. to labyrinth seals of turbomachines 1−15525
plasma chemistry, book 1−32811
plate, thermal and dynamical boundary layers, cooling of hot gases 1−1929
plate with source, cavitation flow 1−19763
polymer solutions, dynamic equilibrium shape of film formed by jet encountering obstacle 1−51837
pressure correlations, contaminating effect of probe noise 1−46624
propulsive jet flows in the transonic regime 1−11434
PWR main steam pipe break, steam free jet and impinging jet studies *(Japanese)* 1−45632
rectangular nozzles, three-dimens. struct., interaction with screen 1−2045
rectangular slots, incompressible turbulent jet flows, aspect ratio effects 1−51835
rotationally symmetric jet, singular points in linearised soln. *(German)* 1−37987
row of jets in crossflow, downstream mean vel. and conc. characts. 1−24859
secondary vortices in ring vortices and in jets *(German)* 1−29708
sharp edged orifice, jet shear layer transition to turbulence, vortices 1−37889
shear turbulence characteristics, large vortex effect on pressure pulsations 1−19683
shock-free, model, noise power spectrum, rel. to temp. and vel. 1−1951
shock-heated jet, spurious light amplification effect 1−34033
single and double concentric jet entrainment meas. in transition and flow establishment regions 1−24858
solar wind, effects of turbulence spectrum and jet struct. on temporal spectra of interplanetary scintillations 1−13655
sonic annular, interaction with counterstreaming supersonic flow, shock wave separation 1−19773
SS 433, kinematical anal. of precessing jet model after two observing seasons (1978 to 1979) 1−54507
SS 433, radio jets struct., strength and polarisation changes obs. 1−54520
stagnation point heat transfer conditions during jet impingement on an obstacle 1−11398
stationary inhomogeneous supersonic flow, with obstacle, pulsatile flow, numerical, difference scheme calc. 1−19770
stick-slip problem for round jet, large surface tension 1−51840
stochastic model theory for coherent turbulent structures in circular jets 1−51839
submerged laminar plane jets, angled injection into turbulent boundary layer, vortices 1−37986
subsonic round jet, acoustic excitation, vortex rings, visualisation 1−2048
supersonic, laser spectroscopy of polyatomic mols. *(Japanese)* 1−33451
supersonic base flow problem in presence of exhaust jet 1−19766
supersonic flow, interaction with 2-D lateral gas jet 1−51838
supersonic free-vortex aerodynamic window expt. study 1−46365
supersonic jet from conical nozzle, specific heat ratios effects, interferometric obs. 1−24864
supersonic molecular beam source using modified pulsed piezoelec. valve 1−2053
supersonic strongly underexpanded, pressure pulsations on an obstacle, noise 1−37983
swirling annular liquid jets, shape calc. 1−19771
thickness in high-speed two-dimensional planing 1−29745
thin jet from body encountering incompressible flow heat-on, exact soln. 1−19769
transient, water-steam, pipe-break accident in PWR, model *(Japanese)* 1−814
transverse supersonic stream, jet interaction, separated zone, heat and mass transfer 1−15526
turbulence suppression in free shear flows by controlled excitation 1−51758
turbulent, laser light scattering *(French)* 1−11435
turbulent Ar-methane jet, multiangular absorption diagnostics 1−2050
turbulent diffusion at interface between turbulent and non-turbulent flow 1−11387
turbulent free shear flow, self preserving theory, mixing, jets and wakes *(Chinese)* 1−29661
turbulent gas flow beyond one and two component nozzles in channel, mixing characts., expt. 1−6851
turbulent shear flow coherent structures in time dependent shear flows 1−1933
turbulent wall jets, mass transfer 1−29743
two dimensional turbulent jet, laminar and turbulent mixing layer characts. 1−46793
two phase heat transfer in horizontal tube with jet mixing 1−2063
two-dimensional water jet in rectangular channel, flow visualisation 1−42079
vel., turbulence intensity meas. by laser velocimeter, exit Mach number, temp. effect 1−2042
vertical gas jet injected into layer of granular material, circulation of solid phase 1−11437
vertical slender jets falling under gravity, nonlinear free boundary-value problem for potential 1−19775
vortex pairing in circular jet under controlled excitation, coherent structure dynamics 1−33995
vortex pairing in circular jet under controlled excitation 1−33994
vorticity shedding mechanism, acoustic wave absorption 1−2047
wall jets, second order effect 1−15524
water jet, dynamic-inlet, boat propulsion 1−2052
N_2, high-press. low-density, ejecting action, diffusion pump behaviour 1−40805
N_2 supersonic jet, press. and temp. distribs. CARS meas. 1−29808
N_2 supersonic jet, rotational excitation of mols. by slow electrons 1−33571

j.f.e.t. *see junction gate field effect transistors*

Johnsen-Rahbek effect *see adhesion; electrostatics*

Johnson noise *see thermal noise*

joining processes
see also brazing; cable jointing; soldering; welding
diffusion bonding with ultrasonic oscillations applied 1−35499

joining processes continued
explosive-bonded plates, molten pockets at interface 1−35500
optical fibre fusion splicing method for fieldwork in flammable environment 1−33838
Ti, superplastic forming/diffusion bonding, fabrication methods 1−31380

jointing, cable *see cable jointing*

jointing (electric connectors) *see electric connectors*

Jordan-Thiry field *see cosmology; general relativity*

Josephson effect
AC, appl. in meas. G/h 1−14061
Aharonov-Bohm effect in bound state problem 1−23049
capacitively shunted junction, plasma reson. in response and RF impedance in presence of thermal noise 1−42909
Cooper pair momentum. rel. to electrostatic potential 1−52718
cooperation number, rel. to coherence and AC Josephson Fiske effect 1−7786
cryogenic temperature scale establ. using Josephson junction noise and ^{60}Co γ-ray anisotropy thermometers 1−18222
current biased junction, eigenstates and eigenvalues 1−3110
current steps in voltage-current characts. due to microwave irrad., theory 1−34835
distributed Josephson S-N-S junction, thermoelectric effects *(Russian)* 1−52701
emission, short term freq. fluctuation by power supplY instability 1−25841
ideal shunted junction, intrinsic current noise characteristics, computer simulation 1−42913
Josephson junction in alternating EM field, vortex radiation *(Russian)* 1−12243
Josephson junctions, quantum noise, Cooper pairs 1−3103
Josephson phenomena; definition of terms for practical supercond. mats. 1−7775
Josephson short junction response time, RF SQUID application 1−3102
junction, large, vortex motion modulated by self field 1−7776
junction, low-probability punchthrough 1−52708
junction, zero-field resonance modes 1−34832
junction driven into nonequilibrium, Harris singularity of Josephson current *(Chinese)* 1−47802
junction fabrication, accurate control of edge slope of thin films 1−53314
junction oscillators, noise phenomena 1−30884
junction with double barriers, theoretical study 1−25837
junctions, series array, use of EM waves to obtain coherence 1−47799
junctions with large crit. current ×normal resist. product, high freq. response meas. 1−16412
long tunnel junctions, microwave radiation emission 1−52712
microwave signal amplitude detection, nonlinear distortion in Josephson junction 1−23269
microwave signal synchronous detection by Josephson junction 1−23270
nonlatching Josephson interferometer made with small-area junctions 1−47817
overlap geometry Josephson tunnel junction, microwave oscillators based on resonant fluxon propagation 1−7783
plasma oscillations on a DC Shapiro step 1−52720
point contact, clean, efficient higher harmonic generation meas. near crit. current 1−20923
quantum theory, current-biased eigenstates and excitation spectrum 1−42921
radiation driven Josephson junction, nonequilib. phase transition, theory 1−47820
resistively shunted junction, quantum noise theory 1−30889
semiinfinite Josephson line, fluxon reflection 1−34833
singly quasidegenerate Josephson junction parametric amplifier 1−16411
solder blob junctions, microwave induced current steps on current voltage characteristics 1−52716
solitons, Korteweg-de Vries and nonlinear transmission line eqns. *(Japanese)* 1−24968
SQUID, double, thin film, with Josephson tunnel junctions 1−38898
SQUID magnetometers advances 1−5344
superconducting electronics, Josephson junctions and SQUIDs 1−42916
superconducting materials, advanced, electronic appl. 1−7779
superconducting ring with Josephson weak link, QED flux tunnelling 1−42915
superconducting strip resonator, excitation by system of point Josephson contacts 1−42924
superconductor-normal-superconductor junctions in mag. field, resistively shunted Josephson junction model 1−42910
superconductor-semiconductor-superconductor junctions, elec. charact. exptl. study 1−34834
transient current states, in supercond.-insulator-normal metal-supercond. contact, calc. 1−25840
tunnel barrier oxides fabrication, by cathode rotation in RF plasma 1−21345
tunnel junction, cavity-mode excitation 1−12241
tunnel junction parameters at microwave freq. 1−7784
tunnel junctions, current-voltage characts., microshort effects 1−42911
tunnel junctions, reliability, review *(Japanese)* 1−47818
tunnel junctions, specific capacitance 1−47809
tunnelling current, Cooper pairs 1−52717
tunnelling junctions, Werthamer eqn. solution at T=0 1−7781
two-fluid models for describing nonequilibrium phenomena *(Dutch)* 1−47785
voltage standard using series array of 100 junctions 1−50156
weak link, EM wave stimulated emission 1−35075
weak link, macroscopic quantum electrodynamic effects in supercond. ring 1−42914
weak links, linear arrays, mutual voltage locking 1−42920
^3He superfluid, A-phase DC Josephson effect and quantum interference *(Russian)* 1−30508
In bridges, with large dimensions Josephson effect 1−30885
In superconducting microbridge, elec. props. and Josephson effect response to microwave radiation 1−47807
In-Pb-Au alloy, RF plasma oxidised tunnel barriers in Josephson junctions 1−3105
Nb based junction with evaporated Te barrier 1−52711
Nb, dry etching, variable-thickness-bridge fabrication 1−43599
Nb point contact, AC Josephson effect, shunt capacitance effect 1−3106
Nb, supercond. thin film Josephson microbridges and SQUID, adjustment by ion implantation 1−12242
Nb variable-thickness bridges, Josephson effects 1−42912
Nb/Ge layered composites, quasi-two-dimens. supercond. props. 1−3118

Josephson effect continued
Nb/Pb Josephson tunnel junctions, fabrication, props. 1−3101
Nb-based Josephson junctions, ion beam oxidation 1−3100
Nb-based tunnel junctions, Josephson current and proximity effect 1−52719
Nb-Bi junction with very short barrier length and very low capacitance 1−7780
Nb-Bi-Nb semimetal-barrier quasi-planar Josephson junction 1−47813
Nb-Nb_2O_5-Pb Josephson tunnel junctions, control of Josephson current density 1−52715
Nb-Nb_2O_5-Pb(In) Josephson tunnel junctions props. for device appl. 1−52713
Nb-Nb_xO_y-Pb Josephson tunnel junction, freq. depend. of quality factor 1−50157
Nb-NbO_x-Pb tunnel junction study, proximity effect *(Russian)* 1−47804
Nb-Pb submicron Josephson tunnel junctions, reactive ion beam oxidation 1−38897
Nb-Pb tunnel junctions, current amplitude calcs. 1−42917
NbN materials development for practical superconducting devices 1−52730
Nb_2O_5-barrier tunnel junctions, fabrication and elec. characts. 1−7778
Nb_3Sn microbridges, Josephson effect 1−47808
Nb_3Sn, supercond. thin film Josephson microbridges and SQUID, adjustment by ion implantation 1−12242
Nb_3Sn thin film tunnel junction with barrier form. by RF oxidation 1−47814
Pb alloy Josephson tunnel junction, anomalous DC characts. with high-power microwaves 1−20924
Pb-Au-In plasma oxidised alloy Josephson junctions, ageing phenomena 1−3104
Pb-Cr-Au alloy for Josephson junction appl., supercond. props. 1−47810
Pb-In alloys, RF sputter oxidation, ellipsometric study 1−7777
Pb-In layer, small-area Josephson junction prep., using scratched edge 1−42908
Pb-In superconducting microbridge, elec. props. and Josephson effect response to microwave radiation 1−47807
PbIn alloy supercond. tunnel junction electrode, ion beam inducer changes in oxide composition 1−52710
$(SN)_x$, superconductor, Josephson loops, AC susceptibility 1−7789
Sn fine particles, Josephson-coupled two-dimens. random array, resist. meas. 1−20922
V_3Si-SiO_x-Mo_3Re_2 superconducting tunnel junctions 1−47816

Joshi effect *see glow discharges*

Joule-Thomson effect
throttle element of apparatus for studying Joule-Thomson effect, thermal field calc. 1−44893

junction gate field effect transistors
III-V semiconductor IGFET, MESFET and JFET problems and prospects 1−16374
photo-FET, response characts., use as UV detector 1−33058
GuAs JFET, radiation effects 1−2505
Si resistors, low freq. elec. noise, temp. depend. 1−47719

junction lasers *see semiconductor junction lasers*

Jupiter
1979 J 1, orbital period from Voyager 1 obs. of transits across Jupiter 1−44476
airglow from night side and crescent, Voyager 2 UV spectral obs. 1−22714
astrometry from Uccle (1978) 1−17781
atmosphere, colour changes (1970-4) from four-colour photographic images 1−22719
atmosphere, magnetism and interior 1−49567
atmosphere, NH_3 absorpt. band time variations, visible spectra obs. 1−49569
atmospheric entry of probe, stagnation radiative heating, saturation effects 1−49469
Aurora excitation, limit on rotational energy available 1−44474
azimuthal magnetic field 1−9411
broadband kilometric radiation, occurrence rate, polarization and intensity 1−4817
Callisto, surface topography rel. to evolution of satellite interior 1−4813
cloud belts, convective instability with temp. gradient and rot. vector oblique to gravity 1−4760
comet family, perihelion longit. distrib. 1−17789
cometary captures, numerical anal. of temporary satellite captures 1−49574
commensurability cases of Sun-Jupiter asteroid problem, new results 1−40337
cosmic dust in magnetosphere, time var. and ring origin 1−32651
decametre radio emission, effect of interplanetary mag. field sector struct. 1−27417
decametric radiation max. freq. corresponding to gyrofrequency 1−13725
decametric radio emission dynamic spectrum, radio source diffraction model 1−49564
Europa, lineament and polygon patterns classification scheme 1−32647
Europa, petrological thermal history 1−36211
Europa, surface cracking due to thermal evolution 1−32648
Europa, tidal dissipation in ice crust 1−36210
formation, origin of main features and different kinds of celestial bodies in solar system 1−22697
formation, structure of gaseous envelope surrounding protoplanet 1−9414
future planetary probes 1−13663
Galilean satellites, great inequalities and libration terms of satellites I, II and III *(French)* 1−44472
Galilean satellites, lithosphere stress patterns and tectonic faults due to tidal distortion 1−44452
Galilean satellites, multicolour polarimetry *(Russian)* 1−49565
Galilean satellites, orbital evolution re-examination 1−4790
Galilean satellites, second-order theory of motion 1−40382
Galilean satellites, Voyager exploration 1−22716
Galilean satellites, water thermal migration 1−4814
Galilean satellites' crust permafrost existence and effects, crust expansion and fracturing processing *(Italian)* 1−44461
Galilean satellites orbits, appl. of periodic planetary-type orbits of general four-body problem 1−36164
Ganymede, crater statistics and thermal history 1−49568
Ganymede, grooved terrain due to volume changes 1−4813
Ganymede surface, bright and dark ray systems, comparison with Callisto *(Italian)* 1−44478

Jupiter continued
Gruneisen parameter near, pressure-induced phase transform., lattice dynamics theory 1−42502
hectometric emission, spectral characts. 1−40380
HF emission as studied by high gain broadband steerable array at Nancay, France 1−44434
Himalia (J VI), theory of motions with Laplace's variables *(French)* 1−36163
Io, effects of volcanoes on plasma torus and Jupiter magnetosphere 1−49562
Io, EM heating 1−44477
Io, interaction with plasma torus and Jovian mag. field 1−40378
Io, SO_2 frost on surface, UV and visible reflectivity 1−17782
Io, surface, geological units, morphology and tectonics from a geologic map 1−44475
Io, surface material chem. composition, inferences from spectral data 1−36209
Io, vapour explosions as cause of 5 μm outbursts 1−4815
Io control of radio emission 1−9413
Io plasma torus, mass-loading and diffusion-loss rates 1−49563
Io-Jupiter magnetosphere electrodynamic coupling, analogy with Space Shuttle metallic tether 1−4745
magnetic field origin, convective core 1−36212
magnetosphere, charged dust trajectory and spatial distrib. 1−22717
magnetosphere, energetic H_2^+ and H_3^+ detect. by Voyager 2 and evidence for ionospheric plasma source 1−17783
magnetosphere, inner, superthermal electrons and Bernstein waves 1−40379
magnetosphere, ring origin from Io volcanic dust, model 1−32650
magnetosphere, theory of scan plane particle flux anisotropies 1−40308
magnetosphere and Io plasma torus, effects of Io's volcanoes 1−49562
magnetosphere dust, effect on magnetosphere electrons and ions 1−32652
magnetosphere dust from Io volcanoes physical processes 1−32649
magnetospheric acceleration of large M/Q ions by H cyclotron waves 1−36114
magnetospheric cavity, Fermi-Compton scatt. due to magnetopause surface fluctuations 1−54413
mass, effect on evolution of orbits in outer part of asteroidal belt and in Kirkwood gaps 1−44468
mass from outer satellites motion *(Russian)* 1−49566
meteoroids in near-Jupiter space, results of Pioneer 10 and 11 expts. 1−40428
microwave emission, precission flux density meas. at 8420 MHz 1−44471
organic compounds synthesis in Jupiter atmosphere, role of lightning discharges 1−4816
outer satellites, method of surface of section applied to possible capture origin 1−44481
plasma sheet, dynamic expansion and contraction 1−9412
plasma sheet, nightside, static configuration obs. by (Voyager 2) 1−17784
polar aurora, enhanced emission, UV spectral obs. from IUE 1−44473
protoplanetary disc-Jupiter interactions, ang. momentum transfer rel. to disc struct. and Jupiter orbit 1−32614
radio emissions, latitudinal beaming, mode-coupling mechanism 1−22718
radio maps of disk and radiation belts at 6 cm 1−40377
red spot dynamics, drift solitons in an inhomogeneous plasma *(Russian)* 1−44480
rings, satellites and volcanic eruptions *(German)* 1−17786
rotation of clouds and interior, review 1−32646
satellite motion, de Sitter's theory of motion and disturbing function 1−40381
shape of rot. planet affected by internal motion 1−32645
Sun-Jupiter-Saturn system, qualitative dynamics 1−40333
synchrotron radiation, linearly polarised, position angle from 16 years obs. 1−27418
thermal structure at low latitude in 0.1-5 bar region 1−22715
Voyager project, obs. of atmosphere, ring and satellites 1−40306
H I Lyman α emission, spatial imaging 1−13724
H_2 bulge, co-rotating magnetospheric convection 1−54414
He-H solubility and phase separation 1−32653
PH_3 and trace constituents abundance comparison with Saturn 1−9415
PH_3, ν_2 and ν_3 spectral lines, Jupiter atm. spectral radiative model appl. 1−1221

K-capture *see nuclear electron capture*

K mesons *see kaons*

K-N interactions *see kaon-nucleon interactions*

Kalman filters
[CC] Pu $(NO_3)_4$ concentrator, safeguards design, applied estimation approach 1−18846
fetal heart rate variability, statistical modelling 1−9049
frequency tracker, improved numerical efficiency 1−11249
heat exchange parameters, identification by optimal dynamic filtration 1−1797
hybrid optical-digital Kalman two-dimensional nonlinear filter 1−24363
LOFT reactor plant, optimal estimation and control theory appl. 1−50905
recursive nonlinear image enhancement, vector model and Kalman filter design 1−46235

kaon-baryon interactions
see also kaon-baryon scattering; kaon-hyperon interactions; kaon-nucleon interactions
No entries

kaon-baryon scattering
see also kaon-baryon interactions; kaon-hyperon scattering; kaon-nucleon scattering
No entries

kaon decay
see also kaon hadronic decay; kaon leptonic decay
CP violation effect *(Russian)* 1−45273
decay modes and struct. from rishon graphical representation 1−543
lepton mixing and ν masses from β-decay and $(\pi, K)_{l2}$ decay 1−14371
$SU(2)_H$, lowest mass horizontal gauge boson limits from μ, τ and K decays 1−28265
$K^+ \rightarrow \pi^0 \nu \mu^+$ decay, low energy spectrum anal. 1−40984
$K^+ \rightarrow \pi^+ e^+ e^-$, intermediate-resonance contrib. 1−10195
$K^+ \rightarrow \pi^+ \pi^0 \pi^0$, 1 to 45 MeV, π^+ kinetic energy spectrum 1−23491
K_L^0 decay, $(\pi\mu)$ atoms, S-matrix element and form factor 1−40985
$K_L^0 \rightarrow \pi^\pm e^\mp \nu$, K_{e3} form factor, K^* dominance, Sirlin's relation 1−18471
$K_L^0 \rightarrow \pi^\pm \pi^0 e^\mp \nu$ rare decay, branching ratio and $\pi^\pm$ ang. distrib. 1−14372
$K_L^0 \rightarrow \pi\mu\nu$, K_L^0 form factors from Dalitz plot and branching ratio 1−33184

kaon decay continued
K_{l3}, K_{l4} decays, current algebra square root threshold singularity, chiral symmetry breaking 1−50416
K_L^0, γ-ray and photon energies using lead glass Cherenkov counter array 1−28803
$K^{*-}(890)\rightarrow K^-\gamma$, radiative decay probabilities 1−28320
$K^{*-}\rightarrow K^-\gamma$ EM transition rates, Coulomb dissoc. 1−45290
$K^-K_S^0$ decay channel of (π^-, $K^-K_S^0$), A_2^- production 1−10392
K_SK_S peripheral production and decay in $\pi^-p\rightarrow K_S^0K_S^0+$(n or Δ^0) 1−10260

kaon hadronic decay
see also kaon regeneration
relativistic quark model, $\Delta I=1/2$ enhancment 1−33178
$K^0\bar{K}^0$decay amplitude anal. in complex energy eigenstates model 1−50410
$K^\pm\rightarrow\pi\pi\pi$, CP violation in Kobayashi-Maskawa model 1−50422
$K_L^0\rightarrow\pi^+\pi^-\gamma$ branching ratio, relativistic quark model calc. 1−14370
$K_L\rightarrow\pi\pi$, $\Delta I=1/2$ rule, quark tadpole origin 1−549
$K^{*0}(890)\rightarrow K^+\pi^-$, from $\pi^-p\rightarrow K^{*0}(890)X^0$, 10 GeV/c 1−23515
$\pi^-p\rightarrow\Delta^0K^+\pi^-$, 9,12 GeV/c, backward K^{*0} prod., K* decay, differential cross sections 1−50463
$K\rightarrow 2\pi$ (3π), nonlocal quark model *(Russian)* 1−50418

kaon-hyperon interactions
see also kaon-hyperon scattering
No entries

kaon-hyperon scattering
see also kaon-hyperon interactions
No entries

kaon interactions *see kaon-baryon interactions; kaon-nucleus reactions; lepton-hadron interactions; meson-meson interactions; photon-hadron interactions*

kaon leptonic decay
$K\rightarrow\gamma l\nu$, electroweak anomaly, current algebra 1−33176
$K^+\rightarrow\pi^+e^-\mu^+$, neutral generation-changing gauge bosons 1−23463
$K_L^0\rightarrow\mu^\pm e^\mp$, neutral generation-changing gauge bosons 1−23463

kaon-nucleon interactions
see also kaon-nucleon scattering; kaon-proton interactions
$\bar{K}N$ induced channels, S=−1 baryons−an experimental review 1−10253
$\bar{K}N\rightarrow\Lambda\pi$, Adler constraints in soft pion limit; $\pi\Lambda\Sigma$ and $\pi\Sigma\Sigma$ coupling constants 1−23514
$KN\rightarrow\psi X$, cross-sections and gluon distribs. 1−10279
KN total cross section, inelastic screening corrections, diffraction parton model 1−10205
$K^-n\rightarrow\Lambda\pi^-$, differential cross-section and polarization, Regge pole model with phenomenological residue functions 1−45344
$K^+n\rightarrow K^0p$, 0.851-1.351 GeV/c, polarisation parameter, phase shift anal. 1−5648
$K^+n\rightarrow K^0p$, 0.851-1.351 GeV/c, charge exchange scatt., pol. parameters 1−23518
$K^\pm N$, 39.5 GeV/c, on W, inclusive muon pair prod. in continuum region 1−14429
$K^\pm N$ parametrs, scatt. length and coupling constants, $\bar{K}N$ multichannel anal. 1−50464
$K^\pm N\rightarrow\Psi X$, prodn. cross section, energy, X, P_T, target and helicity dependence 1−28359
$K^\pm p$, 39.5 GeV/c on W, ψ prod. cross sections 1−14428

kaon-nucleon scattering
see also kaon-nucleon interactions; kaon-proton scattering
pomeron, two-component, dynamical model 1−14419
rescattering in relativistic nuclear reactions 1−36879
$K^\pm N$ parametrs, scatt. length and coupling constants, $\bar{K}N$ multichannel anal. 1−50464

kaon-nucleus reactions
for inelastic kaon-nucleus scattering, see "kaon-nucleus scattering"
see also kaon-nucleon interactions
(K^-, π^-), Λ-hypernucleus prod. forward cross section in DWIA 1−50541
(K,X), 1s shell nuclei, review 1−50661

kaon-nucleus scattering
see also kaon-nucleon scattering
sigma-terms and scattering lengths from current algebra and PCAC for $\bar{K}^-$-nucleus system 1−45536
^{A}Ca(K^+,K^+), A=40,48, neutron densities and optical pots., cross sections 1−45416

kaon production
D^0-meson decays, $\Gamma(D^0\rightarrow K^+K^-)/\Gamma(D^0\rightarrow\pi^+\pi^-)$ *(Chinese)* 1−45272
$e^+e^-\rightarrow$hadrons, 1.6-2.2 GeV, DM1 results, pp̄ prod. cross sections, π, K, baryonium prod. 1−10243
$e^+e^-\rightarrow K_S^0K_L^0$, 1.4 to 2.18 GeV, K^+, K^0 form factors 1−45330
$e^+e^-\rightarrow K^+K^-$, 1400 to 2060 MeV, cross section and kaon form factors 1−45329
$e^+e^-\rightarrow K^\pm X$, inclusive spectra, DASP detector results at 4.0-5.2 GeV 1−28335
$\gamma p\rightarrow K^+\Lambda(1520)$, 2.8-4.8 GeV, strangeness exchange, total and differential cross sections 1−28330
hp, 63, 93 GeV, h=π, K, p, p̄, associated prod. of strange particles and φ mesons 1−28357
$Kp\rightarrow Xp$, 50 GeV, Kπ and Λp̄ resonant final states 1−45360
K^-p, 11 GeV, strange meson resonance (K*'s) prod. 1−45359
K^-p, 32 GeV/c inclusive production of strangeness, S=±1 vector and tensor resonances 1−5668
$K^-p\rightarrow K^-\pi^+n$, 11 GeV/c, $J^P=4^+$ K*(2090) resonance obs. 1−50470
$K^-p\rightarrow K^0X$, 32 GeV/c, one, two or three strange particles (K^n or Λ) in final state 1−36892
K^+p, 32 GeV/c, inclusive $K^{*+}(892)$ and $K^{*0}(892)$ prod., total, semi-inclusive cross sections 1−5667
$K^+p\rightarrow\pi^+K_S^0p$, 12.7 GeV/c, forward $K^{*+}(892)$ prod., Regge pole anal. 1−50469
$\bar{\nu}_\mu N$, production of neutral strange particles, charged current events 1−40980
pN, 200-240 GeV, $\pi^\pm$, $K^\pm$, p, p̄, d, d̄ etc. prod., long lived particle search 1−10265
pp, 70 GeV, $\pi^\pm$, $K^\pm$, p, p̄ prod. cross sections, transverse momenta 0.5-2.2 GeV/c 1−596
pp, Λk channel, three-component-dual-deck-model 1−41013
π^+d, 24 GeV/c, inclusive K_s^0, Λ and Λ̄ prod., cross sections and polarisation 1−33206
$\pi^-N\rightarrow K^+(K^{*+})N$, 3.9 GeV/c, strangeness changing double charge exchange, cross sections *(Russian)* 1−5645
$\pi^+n\rightarrow K^-K^+p$, 6 GeV, scalar mesons in ππ and $\bar{K}K$, unitary amplitude anal. 1−5644

kaon production continued
$\pi^+n\rightarrow K^-K^+p$, 6 GeV/c, K^-K^+ system amplitude anal., $\bar{K}K$ prod. amplitudes 1−33200
$\pi p\rightarrow KKp$, 50 GeV, resonant final states 1−45360
$\Pi^-p\rightarrow K_SK_S\Delta^0$, 15.4 GeV/c, peripheral production and decay of $K_S^0K_S^0$ 1−10260
$\pi^-p\rightarrow K_SK_Sn$, 15.4 GeV/c, peripheral production and decay of $K_S^0K_S^0$ 1−10260
$\pi^-p\rightarrow K_S^0K_S^0n$, 3.95 GeV, cross-section, isotopic spin, prodn. props. 1−18511
$\pi^-p\rightarrow K^-K^+n$, 6 GeV, scalar mesons in ππ and $\bar{K}K$, unitary amplitude anal. 1−5644
$\pi^-p\rightarrow K^-K^+n$, 6 GeV/c, K^-K^+ system amplitude anal., $\bar{K}K$ prod. amplitudes 1−33200
$\pi^-p\rightarrow K^0K^+K^-X$, 50 and 100 GeV/c, semi-inclusive, observ. of D and E mesons and three-kaon enhancements 1−10266
$\pi^-p\rightarrow K^0K^+K^-X$, 50 and 100 GeV, multikaon final state enhancements, D and E meson obs. 1−45364
$\pi^-p\rightarrow K^0K^\pm\pi^\mp X$, 50 and 100 GeV/c, semi-inclusive, observ. of D and E mesons and three-kaon enhancements 1−10266
$\pi^-p\rightarrow K^0K^\pm\pi^\mp X$, 50 and 100 GeV, multikaon final state enhancements, D and E meson obs. 1−45364
$\pi^-p\rightarrow K^0\Lambda(\Sigma^0)$, 3.95 GeV/c, differential cross sections and hyperon polarisation 1−18512
$\pi^-p\rightarrow K^0\Sigma^0$ (1385), 3.95 GeV/c, cross sections and Σ density matrix elements 1−5646
$\pi^-p\rightarrow K^+K^-n$, 10 GeV/c, K^+K^- system amplitude anal., f^0, f' resonances 1−23516
$\pi^-p\rightarrow K^+K^-n$, 18 GeV/c, pol. target, partial wave anal. for resonances 1−5656
$\pi^-p\rightarrow K^+\Sigma^-(1385)$, 3.95 GeV/c, cross sections and Σ density matrix elements 1−5646
$\pi^-p\rightarrow K^{*0}(890)X^0$, 10 GeV/c, beam fragmentation, exchange processes 1−23515
$\pi^-p\rightarrow K^{*0}$ (890)X^0, 10 GeV/c, inclusive prod., K^{*0} polarisation, reaction mechanism 1−5660
$\pi^-p\rightarrow K^{*0}(890)\Lambda^0/\Sigma^0$, 10 GeV/c, hypercharge exchange, K^{*0} polarisation 1−10254
$\pi^-p\rightarrow\Delta^0K^+\pi^-$, 9,12 GeV/c, backward K^{*0} prod., K* decay, differential cross sections 1−50463
$\pi^+p\rightarrow\pi^+p=^+k^-$, 11.5 GeV, localised particle prod., angular distrib., possible asymm. 1−10270
^{A}He(γ, K^+) A=3,4, cross section calcs. 1−18638
$\pi^-N\rightarrow\pi^\pm X(K^+X)$, 1.5-5 GeV/c, on C, Cu, Pb, inclusive meson yield at 162° *(Russian)* 1−598

kaon-proton interactions
see also kaon-proton scattering
hp, 63, 93 GeV, h=π, K, p, p̄, associated prod. of strange particles and φ mesons 1−28357
$\bar{K}p\rightarrow K\pi^+\pi^-$, N, final state qq̄ resonances 1−45358
$Kp\rightarrow pX$, 13-18.5 GeV, pp̄ final states 1−45361
$Kp\rightarrow Xp$, 50 GeV, Kπ and Λp resonant final states 1−45360
K^-p, 10, 16, 116 GeV/c, hadron prod. behaviour, jet comparison with νN and e^+e^- 1−50472
K^-p, 11 GeV, strange meson resonance (K*'s) prod. 1−45359
K^-p, 32 GeV/c, 3π rapidity correlations, inclusive and semi-inclusive diff. cross sections *(Russian)* 1−10271
K^-p, 32 GeV/c, exclusive reaction, many particle diffractive dissociation, event struct. *(Russian)* 1−5652
K^-p, 32 GeV/c, Λ prod., fragmentation, hypercharge annihilation and polarisation effects 1−595
K^-p, 32 GeV/c inclusive production of strangeness, S=±1 vector and tensor resonances 1−5668
K^-p, 4.2 GeV/c, Ξ(1320) and Ξ(1530) prod., total and differential cross sections 1−50462
K^-p, 70 GeV/c, hypercharge exchange reactions and hyperon resonance production 1−14422
$K^-p\rightarrow K^-\pi^+n$, 11 GeV/c, $J^P=4^+$ K*(2090) resonance obs. 1−50470
$K^-p\rightarrow K^0X$, 32 GeV/c, one, two or three strange particles (K^n or Λ) in final state 1−36892
$K^-p\rightarrow\Lambda\pi^0$, differential cross-section and polarization, Regge pole model with phenomenological residue functions 1−45344
$K^-p\rightarrow\pi^+\Sigma^-$, cross-sections, all-angle behaviour and phenomenological hard strings 1−10258
$K^-p\rightarrow\pi^\pm X$, inclusive π^+/π^- ratios, extended quark recombination model with valence quark annihilation 1−28358
$K^-p\rightarrow\Sigma^-\pi^+\pi^+\pi^-$, 4.2 GeV, partial wave anal. 1−28347
$K^-p\rightarrow$two-body final states, 1720 to 1796 MeV, high statistics data 1−36880
$\bar{K}^0p\rightarrow\Lambda\pi^+$, 1-8 GeV, backward cross-sections, energy and momentum depend., Λ polarisation 1−14417
$\bar{K}^0p\rightarrow\Sigma^0\pi^+$, 1-8 GeV, backward cross-sections, energy and momentum depend. 1−14417
K^+p, 32 GeV/c, inclusive $K^{*+}(892)$ and $K^{*0}(892)$ prod., total, semi-inclusive cross sections 1−5667
K^+p, 32 GeV/c, inclusive ρ^0 and φ prod., total and semi-inclusive cross sections 1−36886
$K^+p\rightarrow\Delta^{++}X^0$, 70 GeV/c, inclusive cross-section, evidence for Pomeron exchange and absorptive pion exchange 1−41018
$K^+p\rightarrow F^+\rightarrow\phi\pi^+$, 32 GeV/c, observation of narrow state at 2145 MeV/c^2 1−592
$K^+p\rightarrow K_S^0K_S^0X$, 32 GeV, $K_S^0K_S^0\pi^+\pi^-$ state obs. at 1.97 GeV 1−599
$K^+p\rightarrow K^+(p)X^+$, 32 GeV, inclusive single and double diffractive dissociations 1−5666
$K^+p\rightarrow K^+\pi^+\pi^-p$, 32 GeV/c, diffractive events, s- and t-channel helicity conservation *(Russian)* 1−23523
$K^+p\rightarrow px^+$, 70 GeV/c, inclusive cross-section, evidence for Pomeron exchange and absorptive pion exchange 1−41018
$K^+p\rightarrow\pi^+K_S^0p$, 12.7 GeV/c, forward $K^{*+}(892)$ prod., Regge pole anal. 1−50469
$K^+p\rightarrow\Pi^\pm X$, 70 GeV/c, cross-sections and inclusive momentum distribs. 1−45377
$K^+p\rightarrow\Xi^+(\Xi^-)X$, 32 GeV/c, production cross-sections 1−23525
$K^\pm p$, 32 GeV/c, inclusive hadronic fragmentation and quark counting rules, structure functions 1−28356
$K^\pm p$, 39.5 GeV/c, J/ψ prod., ψ/π cross section ratio, calence quark-antiquark fusion 1−28352
$K^\pm p$, low p_T hadronic reactions and inclusive resonance prod., quark-parton model, review 1−10283
$K^\pm p\rightarrow\eta X$, triple-Regge region 1−33203

kaon-proton interactions continued
$K^{\pm}p \rightarrow K^0\pi^{\pm}p$, 50 GeV observ. of spin-4 K* 1−23522
$K^{\pm}p \rightarrow \pi^0X$, triple-Regge region 1−33203
$K^-pA^0\pi^0(\Sigma^0\pi^0)$, 150 to 480 MeV, Y* resonance prod. 1−45345
kaon-proton scattering
see also kaon-proton interactions
amplitude and evaluation of KN σ-terms, inclusion of $\Sigma(1385)$ 1−36878
extrapolation to hyperon poles 1−41010
K^-p, 10.1 GeV/c, elastic scatt., differential cross section 1−36881
K^-p, 32.1 GeV, elastic and inelastic scatt. in impact parameter representation *(Russian)* 1−36882
kaon regeneration
K_S regeneration, inelastic screening corrections, diffraction parton model 1−10205
NΣK coupling constant from dispersion anal. of regeneration amplitude 1−584
kaon resonances *see meson resonances*
kaon scattering *see kaon-baryon scattering; kaon-nucleus scattering; lepton hadron scattering; meson-meson scattering; photon-hadron scattering*
kaons
see also kaon regeneration
generation by ring cyclotron 1−28765
mass differences, potential model with vacuum polarisation corrections 1−10180
mass in terms of quark mass ratios and weak-decay constants 1−10139
QCD, chiral-invariant, dynamical breakdown theory, π, K, η_0 appl. 1−14345
K^0-$\bar{K}^0$ mass matrix, CP violation large distance effects, penguin diagrams 1−18460
K*, off-shell suppression, two body radiative decays in vector dominance model 1−5624
$K^0 \rightleftarrows \bar{K}^0$, transition amplitude in MIT bag model 1−33162
Kapitza-Dirac effect
see also Schwarz-Hora effect
No entries
Kapitza resistance
anomalous, recent developments, review *(Japanese)* 1−34564
heat flow via non-localized interface modes 1−20545
macroscopic approach, transmission coeff. as function of freq., mode and angle 1−20494
nonharmonic system, thermal boundary resistance 1−20549
sapphire, phonon catastrophes and the Kapitza resistance, computer calcs. 1−20547
sapphire-^{4}He (vacuum) interface, diffuse phonon refl. and anomalous Kapitza resist. 1−7447
sapphire-superfluid ^{4}He interface, ballistic phonon pulses 1−2797
surface-mode phonons, appls. in solid state physics, review *(Japanese)* 1−47353
Ag-^{4}He interface, Kapitza conductance, enhanced power anomaly 1−20493
CMN-^{3}He solid, heat transfer 4 to 30 mK 1−20508
Cu, Kapitza conductance, 0.3 to 1.3K 1−20546
Cu-^{4}He, superfluid, steady state and second sound comparison 1−42593
^{3}He-^{4}He dilute mixture, thermal boundary resist. at Ag powder interface 1−47326
^{4}He, liquid, Kapitza conductance characts. 1−16128
^{4}He, liquid-Au(W) interface, Kapitza resistance, sound transmission *(Russian)* 1−30542
LiF in contact with He, Kapitza resistance studies using phonon pulse reflection 1−16166
NaF in contact with He, Kapitza resistance studies using phonon pulse reflection 1−16166
NaF-^{4}He liquid interface, three-phonon processes and anomalous energy transport 1−20495
NaF-liquid ^{4}He interface, phonon transmission meas. using supercond. tunnel junctions 1−47360
Nb cavity, limitations of RF field by thermal breakdown 1−47794
NbTiTa high field superconductor, cooled by pool boiling below 4K, stability anal. 1−47786
Pb-sapphire interface, surface superconductivity and Kapitza resistance 1−20917
Pt film, microscopic point contact in He II, differential resistance oscill. *(Russian)* 1−42592
Si-^{3}He interface, phonon reflection coeff., effect of cryopumping at Si surface 1−20499
KDP *see potassium compounds*
Kelvin-Helmholtz instability *see flow instability*
Kennelly-Heaviside layer *see E-region; ionosphere*
keratin *see proteins*
Kerr electro-optical effect
see also optical Kerr effect
benzyl alcohol solutions, electro-optical Kerr effect, sign change near critical solubility temp. 1−35013
dense fluids, anisometric mol., Kerr const. calc. 1−35015
dichlorodifluoromethane, Kerr effect and mol. polarisabilities *(French)* 1−19211
dielectric physics, book 1−49888
liquids, Kerr electro-optical effect, temp. depend. 1−3367
MBBA, isotropic phase, temperature dependence of transient self-focusing 1−19391
naphthalene, birefringence and Kerr const., quadrupole moment 1−46165
organosilicon compounds, polarisability, Kerr const. and dipole moments 1−51308
time-dependent, sudden change of homogeneous elec. field effect 1−35014
KCl monocrystals, third-order electric susceptibilities 1−11037
NaCl monocrystals, third-order electric susceptibilities 1−11037
Kerr magneto-optical effect
Ce-Fe, amorphous, mag. props. and Kerr rot. 1−25970
Fe-Ni-Co film, production of stable, planar, micron-size magnetic domains 1−52818
$Fe_{80-x}Ni_xP_{20-y}B_y$ amorphous ferromagnetic alloys, short-wavelength elastic stress effect on coercive force *(German)* 1−31009
α-Fe_2O_3, hematite, Kerr effect, surface anisotropy, mag. struct. *(Russian)* 1−43102
Gd-Co/Permalloy, amorphous multilayer films, mag. props., meas. 1−12362
Gd-Co/Tb-Fe, amorphous multilayer films, mag. props., meas. 1−12362
GdCo film, RF sputtered, spatial uniformity, O distrib. influence 1−12364
Kerr magneto-optical effect continued
$(Gd_{0.26}Fe_{0.74})_{1-y}Sn_y$ amorphous films, mag., magneto-optical and switching props. 1−12346
InSb, Faraday-type magneto-microwave Kerr effect, Hall mobility *(French)* 1−52922
Li ferrites, magneto-microwave Kerr effect study of effective line width 1−26177
Ni_3Fe, domain struct. after tensile deform. 1−7876
Pr-Fe 1−25970
Tb-Fe amorphous thin films, mag. props., magneto-optic memory appls. 1−12347
kicksorters *see counting circuits*
kidney
artificial, wearable, urea-removal electrodialyzers 1−40024
artificial wearable, miniaturisation of plasma separator *(Japanese)* 1−4388
blood flow during $+G_z$ stress and anti-G suit inflation, miniature swine 1−27011
diagnosis of renal diseases *(Japanese)* 1−49154
haemodialysers, theory vs. practice with residual blood loss 1−22167
US scatter coefficient, dependence on collagen conc. in mammalian tissues 1−39960
Cd in human kidney cortex, in vivo meas. by X-ray fluoresc. anal. 1−43960
^{A}Pu, A=239, 240, fallout concs. in human tissues from New York City 1−4370
Kikuchi lines *see electron diffraction crystallography*
killed steel *see alloy steel*
kinematic viscosity *see viscosity*
kinematics
see also acceleration; ballistics
Abell 2319, rich galaxy cluster, kinematic peculiarities rel. to X-ray struct. 1−44650
anatomical joints, kinematic modelling technique 1−49054
articulating joints, apparatus for meas. of kinematic characts. 1−22152
collision between 2 columnar objects, energy apportionment after the collision 1−58
collision between 2 columnar objects, impact force 1−56
collision between 2 columnar objects, kinematics after the collision 1−57
galaxies of Local Group, space motions rel. to Galaxy overall mass distrib. determ. 1−17896
Galaxy kinematics, stellar radial vels. meas. in four 4°×4° fields *(French)* 1−49615
globular clusters, space motions rel. to Galaxy overall mass distrib. determ. 1−17896
human body kinematics, error magnification in centre and angle of rot., statistical approach 1−13344
interstellar gas in nuclei of active galaxies and quasars, kinematics 1−44645
interstellar H I in region $320° \leq l \leq 341°$, $+7° \leq b \leq +26°$, kinematics 1−49768
meteors, results of photographic obs. at Kiev, 1957 to 1966, main eqns. *(Russian)* 1−49579
NGC 3603, giant galactic H II region, optical studies of struct. and kinematics 1−44605
rotational kinematics teaching using a tape recorder 1−27731
Uranus ring system, kinematic model from obs. of stellar occultation, (1980 March 20) 1−40417
wind turbine generated torque as function of wind speed and angular velocity 1−9821
H II regions in NGC 5128 (Centaurus A), spectroscopic obs. and radial vels. 1−36376
kinematography *see cinematography*
kinerecording *see video recording*
kinescope *see television picture tubes*
kinetic theory
see also Boltzmann equation; collision processes; intermolecular mechanics; kinetic theory of gases
aerosols, atmospheric, stationary coagulation, power solns. of kinetic eqn. *(Russian)* 1−9208
amorphous materials, kinetic theory of crystn. 1−16025
beta-processes in high-temp. superdense matter with strong mag. field, kinetic equilib. 1−44431
Boltzmann equation, Maxwell interactions and singular angle-dependent cross sections 1−9953
Boltzmann equation, nonlinear, distribution function of Krook-Wu model 1−9952
boundary conditions, non-equilib., Boltzmann eqn., kinetic scatt. kernels, statistical theory 1−201
Brownian particles, nonspherical, kinetic description, appl. to flow birefringence 1−50051
chemically reacting fluids, Enskog-like kinetic theory, compatibility with thermodynamics 1−2130
continuum vapour region boundary conditions at liq.-vapour interface 1−5253
diffusion system, reaction mechanisms, rotating spiral wave solutions 1−50077
disperse systems, macroscopic equations of motion 1−51849
energy balance of charged particles beams, kinetic power theorem 1−15059
Fermi superfluid, microscopic modes, linearised kinetic equations 1−11939
fluids, neutral, spatial depend. of time correlation functions of molecular variables *(Spanish)* 1−52030
hard rods with varying diameters, 1-D kinetic theory 1−9917
kinetic atom, heat, history of physics 1−49926
liquid-metal mixtures, two component, kinetics of breakup 1−7339
liquid-vapour diffuse interface dynamics 1−16152
liquids, classical, kinetic theory of current fluctuation 1−25136
nonequilibrium Percus-Yevick theory, review 1−42277
pair friction coeff., static correl. effect 1−38218
pairwise interparticle potentials, elimination problem 1−23102
plasma, averaging method 1−19871
plasma, kinetic theory of convective ripple transport in Tokamaks 1−51915
plasma, one-component, moderately dense, kinetic theory of self-diffusion 1−24941
plasma collisional drift tearing instability 1−46879
polyatomic liquids, mol. kinetic theory 1−52034

kinetic theory continued
polynomial moment equations, soluble, for class of kinetic eqns. 1−40735
relativistic effects, continuous media, review 1−18186
relativistic kinetic theory synchronous and asynchronous formulations 1−40651
solids, large energy fluctuations and rate processes, kinetic many-body concept 1−5220
stellar dynamics, collisionless relaxation theory 1−17880
stellar dynamics, kinetic effects in gravitating systems 1−13819
Stokes' law, microscopic origin 1−38217
turbulence, kinetic approach *(Russian)* 1−51764
As, amorphous, kinetic theory of crystallisation 1−16025
Na I in solar atmosphere, kinetic equilib. theory rel. to spectral lines form. 1−27440
Rb liquid, density fluctuations, numerical results 1−25154

kinetic theory of gases
see also Brownian motion; collision processes; equations of state; intermolecular mechanics; Joule-Thomson effect
automatic gas polarisation measurements *(French)* 1−46845
Boltzmann equation, spatially discrete model 1−5252
Burnett functions, polynomials orthogonal with respect to Gaussian weight functions 1−14076
charged particle swarms in neutral gases, kinetic theory, review 1−15565
chemically reacting fluids, Enskog-like kinetic theory, compatibility with thermodynamics 1−2130
cooling by light, total velocity distrib. as Boltzmann eqn. soln. 1−19856
diatomic gas, Boltzmann eqn., asymptotic soln. 1−42121
diffuse gas discharges in turbulent flows, kinetic aspects 1−42236
diffusion eqn. boundary conditions from kinetic eqns. 1−51894
dilute gas, hydrodynamic interaction between two particles, kinetic theory derivation 1−51892
dilute gas, range of Knudsen numbers, ultrasonic sound wave propagation 1−2033
dilute heat-conducting gas, vel. distrib. determ. 1−2125
drag on sphere, kinetic theory, generalised normal soln. method 1−24844
electrostatic interaction between two ions in ideal dipolar gas 1−46835
Enskog kinetic theory, compatibility with thermodynamics 1−2129
equilibrium gas, hydrodynamic fields fluctuations distrib., Fokker-Planck eqn. *(Russian)* 1−2132
frame indifference and iterative procedures 1−24908
Freon-152a, -142b, transport props., 280-510K 1−29826
gas mixture, nonlinear Boltzmann eqn. solutions 1−19857
gas mixture, statistical modelling of states, with energy exchange between degrees of freedom 1−46837
heterogeneous media, collision freqs., Kihara pot. calcs. 1−24206
ideal gases, kinetic theory derivation of adiabatic law 1−9807
interpenetrating bi-Maxwellian gases, collision processes, strongly magnetised plasma flow 1−46863
ion swarm in weakly ionised gas, vel. distrib. function in const. mean-free-time encounter region 1−42120
light-induced stationary gas flows 1−24923
linearised collision operator, inversion 1−51895
Lorentz gas, runaway effect 1−40731
Lorentz model, 1-D, velocity autocorrelations 1−15568
Maxwellian gas, nonlinear Boltzmann eqn. solutions, struct. and classification 1−24914
molecular drift induced by resonant infrared radiation 1−24913
molecular low density gas flow in external field, kinetic phenomena *(Russian)* 1−29823
moment generating function in kinetic soln. of plane shock structures 1−2127
monoatomic gas mixtures, thermal cond., higher-order approx. 1−29825
monocomponent gases, direct simulation using Boltzmann eqn. 1−18176
multicomponent gas mixture, direct simulation using Boltzmann eqn. 1−23128
polyatomic gas mixtures, kinetic modeling 1−51893
power-driven and adiabatic expansions into vacuum 1−2207
prediction of the properties of liquids and gases 1−52034
rarefied gas cylindrical Couette flow, with heat transfer and porous surface 1−19756
rarefied gas flow, hydrodynamic regime, drag on sphere or cylinder 1−37971
real gases, phenomenological representation 1−29822
rough sphere gas, direct simulation using Boltzmann eqn. 1−18177
thermophoresis in gases, review 1−2134
Ba vapour laser kinetics investigation using interferometric method 1−51457
Cu vapour laser, upper laser level kinetic investigation 1−51456
Kr gas structure by neutron diffr., dynamic correl., three body interaction 1−19851
ND_3 collision integrals, internal state polarisations, DWBA approach 1−14976
NH_3, collision integrals, internal state polarisations, DWBA approach 1−14976
O_2, Senftleben effect, generalisation of kinetic theory of gases *(Dutch)* 1−46838

kinetic theory of liquids *see kinetic theory; liquid theory*

kinetics of chemical reactions *see reaction kinetics*

kink bands
Al-Cu dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Al-Mg dil. alloys, internal friction, low freq. amplitude peaks, assoc. with dislocation interactions *(Chinese)* 1−38376
Cu and alloy, FCC crystal, stage I to II transition in work hardening 1−12758
Cu, deformation inhomogeneities in single crystal, struct. and orientation gradients 1−12836
Fe, macro yield stress, temp. and strain rate depend. in high purity single crystal 1−12830

kinoforms *see computer-generated holography*

Kirkendall effect *see diffusion in solids*

kitchen appliances *see domestic appliances*

KKR calculations
alloy, randomly substituted, Fermi surface 1−12019
graphite, three-dimensional, energy band struct. 1−47453
metallic alloys, random, containing heavy elements, electronic struct., relativistic theory 1−25611
random alloys, conc. momentum distrib. of electrons 1−25609

KKR calculations continued
semiconductors, deep levels due to substitutional impurity cluster, MTO theory 1−25656
Ag, electronic struct. of mag. impurities, first principles calc. 1−34653
Ag-Cd, electron energy band struct., KKR-Ziman method 1−7515
Ag_xPd_{1-x}, electronic struct., KKR-CPA calcs. 1−25623
C_5N graphite intercalation cpd., residual N effect on electronic props. 1−47629
Cu, electronic struct. of mag. impurities, first principles calc. 1−34653
Eu, helical spin ordering, role of electron Fermi surface 1−7506
Fe-Al disordered alloys, disappearance of ferromagnetism, spin glass transition 1−38943
FeCo, high-temp. phase transition, kinetic props. 1−30382
Hg, expanded, pseudogap in density of states and anomalous dispersion 1−25618
K-Na(Rb), dil., Bloch election scatt. by impurities in relaxed lattices 1−42768
KC_8 intercalation cpd., electronic band struct. calc. 1−47433
Li-Mg(Al), soft X-ray emission meas., comparisons with KKR-CPA calcs. 1−31239
NiTi, high-temp. phase transition, kinetic props. 1−30382
Pd, Knight shift and band struct. calcs. 1−26061
Pd, relativistic KKR band struct. calcs. 1−16224
$Pd_{73}Ag_{27}$ random alloy single cryst., electronic struct., angle-resolved photoemission and KKR-CPA calc. 1−43242
TiO(C), energetic-vacancy stabilisation mechanisms 1−2914
$U_xTh_{1-x}As(Sb)$, electronic struct., relativistic KKR-ATA calc. 1−47424

klystrons
see also reflex klystrons
electron rings, relativistic, high-charge train super-klystron compression 1−10555
transverse optical klystron and free electron laser, evolution eqn. exact soln. 1−51439

Knight shift
see also nuclear magnetic resonance
graphite, intercalation compounds, donor and acceptor type, ^{13}C NMR study 1−31049
graphite lamellar compounds, high-field ^{13}C NMR and in-plane localized density of states model 1−38992
metals, muonic Knight shift in linear response model 1−52882
semiconductor, doped, NMR in impurity bands, metal-nonmetal transition region 1−47959
Ag_cPt_{1-c}, NMR and susceptibility meas. 1−26058
Be-Nb-Zr, supercond., ^9Be NMR study 1−34829
Bi-$BiBr_3$ mixture, molten, ^{209}Bi NMR obs. in metal-nonmetal transition range 1−26053
Cd-Hg(Mg) alloys, isovalent, NMR line widening mechanism *(Russian)* 1−31045
CeB_6, single crystal spin echo NMR meas., Knight shift, mag. moments 1−52866
Co, NMR study, crit. region and ferromag. and paramag. phase 1−26067
Cs-Au alloy, liq., ^{133}Cs NMR obs. of localised states form. in metal-nonmetal transition range 1−26052
Cs-I solution, ^{133}Cs and ^{127}I NMR obs. of metal-nonmetal transition and localised states form. 1−26055
Fe, NMR study, crit. region and ferromag. phase 1−26067
H_xReO_3, electronic states of H, energy bands and proton Knight shift 1−21069
LaD_x, electronic and structural transitions, ^{139}La and ^1H NMR studies 1−16493
LaH_x, electronic and structural transitions, ^{139}La and ^1H NMR studies 1−16493
Li, liquid, Knight shift and spin-lattice relaxation time 1−26057
Li-Cd(In)(Sn)(Pb), liq., ^7Li Knight shift and elec. resist. meas. 1−31047
Li-NH_3 solution, conc., ^7Li NMH obs. in metal-nonmetal transition range 1−26054
Li-Na(Mg)(Pb), liq., nuclear spin-lattice relax. rate meas. 1−31054
Li-Pb(Sn), liq., ^7Li Knight shift, elec. cond. and spin-lattice relax. time 1−7962
Na, liquid, Knight shift and spin-lattice relaxation time 1−26057
Na, self-diffusion mechanism, NMR study 1−21074
$NdCu_4$, mag. susceptibility and Knight shift meas. 1−31046
$NdCu_5$, mag. susceptibility and Knight shift meas. 1−31046
Ni, NMR study, crit. region and ferromag. and paramag. phase 1−26067
Pd, Knight shift and band struct. calcs. 1−26061
$Pr_{1-x}La_xIn_3$, singlet ground state system, spin echo of ^{141}Pr nuclear relax. 1−52865
Se, liq., expanded, ^{77}Se NMR obs. of metal-nonmetal transition 1−26056
$(Ti_{1-x}V_x)_2O_3$ powders, ^{51}V NMR, mag. phase diagram 1−26059
Tl-Se liq. mixtures, mag. susceptibility and NMR meas. near semicond.-metal transition 1−30908
V-O-H solid solns., quadrupole effects and Knight's shifts *(Russian)* 1−47967
V_3Si, NMR props., neutron irrad. effects 1−31048
ZrV_2H_x, NMR, quadrupole interactions, absorbed H effects 1−39003

Knudsen flow
accommodation coefficients, pressure corrections in measurements 1−2106
aerosols, convective deposition rel. to Knudsen number 1−2070
creeping flow past two equal touching spheres 1−6877
dilute gas, range of Knudsen numbers, ultrasonic sound wave propagation 1−2033
drops with temperature-controlled surface, evaporation at arbitrary Knudsen number, theory 1−19762
flat channel, magnetic field effect on Knudsen gas flow 1−11424
gas, weakly ionised, near catalytic wall, hydrodynamic boundary conditions for small Knudsen numbers 1−24894
hydrodynamic regime, drag on sphere or cylinder 1−37971
insulator crystals, thermal conductivity, phonon mean free path, possible Knudsen min. 1−25514
molecular Knudsen gas, transport phenomena 1−24845
Monte-Carlo calculation of a Knudsen gas *(German)* 1−37972
plane Couette flow, soln. using model eqn. of Boltzmann eqn. *(Chinese)* 1−1999
Poiseuille flow in plane channel 1−29728
polyatomic gas mixtures, kinetic modeling 1−51893
porous effective diffusivity betwen Knudsen and continuum limits 1−33984
stagnation heat transfer, multi-atomic molecule vibr. relaxation effects, Knudsen no.10^{-4} 1−29682
thermodynamics of nonlinear constitutive relations 1−29827

Knudsen flow continued
weak evaporation or condensation, molecule internal degrees of freedom excitation effects 1−25417
He, solid, thermal conductivity, phonon mean free path, possible Knudsen min. 1−25514
LaP, vaporisation thermodynamics, determ. by Knudsen effusion 1−30375
$PbIn_2S_4$, vaporisation dissoc., computer automated Knudsen and torsion effusion method 1−38523
YP, vaporisation thermodynamics, determ. by Knudsen effusion 1−30375
Knudsen number *see Knudsen flow*
Kohn effect *see lattice dynamics*
Kondo effect
Anderson model, periodic, Kondo state, theory 1−30912
crystalline elec. field excitations and linewidths, neutron studies 1−25878
disordered magnetic binary alloys, anomalous Kondo effect 1−34858
Korringa relaxation time, effect of Kondo impurities, theory 1−26068
many-body impurity theory for metals and alloys, Wolff model 1−2905
metallic glasses, Kondo-like state in tunnelling two-level systems 1−52554
metallic glasses, mag. and nonmag., thermoelectric power meas. 1−30727
metals, appl. of point-contact spectroscopy to Kondo problem 1−34774
paramagnetic intermediate valence and Kondo compounds, spin fluctuation effects, low temp. props. 1−12258
proximity effect, Kondo alloy-supercond. thin film sandwich, theory 1−12240
quantum field theory, s-d exchange Kondo Hamiltonian, standard expansion and renormalised perturbation expansion 1−47848
rare earth-La-Sn alloys, anomalous phys. props. 1−25827
renormalisation group calc. in one dimens., analogy with Hubbard model 1−42945
s-d exchange model with arbitrary impurity spin, exact soln. 1−38907
scales and scaling in the Kondo model 1−38908
thermodynamics of s-d exchange model 1−38906
transition metal alloy, dil., with Fe impurities, localised spin fluctuations 1−16393
Al_2Ce and Al_3Ce, Kondo effect under press. 1−30898
Au-Yb, dil., Kondo effect, g-value shift, ESR study 1−12261
Au-Yb thin films, ESR study, cryst. field effects and Kondon dilemma 1−21046
Ce intermetallics, cubic, mag. susceptibility, elec. resist., cryst. field excitations, neutron spectroscopy 1−47865
γCe, press. enhancement of Kondo-like anomaly in thermoelec. behaviour 1−30726
$CeAl_2$, NMR, hyperfine fields, fluctuations, spatial correlation 1−43024
CeB_6, electrical cond. and magnetoresistance 1−20703
$CeBi(Ag)(Al_3)(Pd_3)(Sn_3)(Al_2)$, thermal and elastic props. 1−20433
$Ce(Pd_xAg_{1-x})_3$, mixed valence, cryst. elec. fields and Kondo effect 1−20672
$CeSn_3$, low temp. anomalies 1−20705
$CeSn_{3-x}In_x$, Kondo effect in presence of cryst. elec. fields, resistivity and thermal expansion 1−25722
Cr-Fe (Co) antiferromag. alloys, press. effect on resist. min. 1−25720
Cu-Cr(Fe) Kondo systems, mag. Gruneisen parameter, thermal expansion and heat capacity meas. 1−42946
Cu-Fe alloy, dil., resist. and Hall effect, 4.2 to 77.3K spin glass behaviour *(Russian)* 1−30946
$(La,U)Al_2$ dilute alloy, localized mag. moments, low temp. 1−47849
La-Al(Au)(Ga)(Ge), amorphous, negative temp. coeff. of elec. resist. 1−7579
LaCe, Konds effect under press. 1−30898
$La_{1-x}Pr_xSn_3$, transport props. at low temps., Kondo effect 1−42741
$La_{80-x}Sm_xAu_{20}$ amorphous alloys, supercond. and bulk mag. props. 1−30864
$(La_{1-x}Sm_x)Sn_3$, low temp. anomalies 1−20705
Mo-Fe Kondo system, mag. Gruneisen parameter, thermal expansion and heat capacity meas. 1−42946
Np, Kondo effect, resist. theory 1−34698
Pr_3Tl, electrical resistivity, induced moment ferromag. near threshold 1−25721
Pu, Kondo effect, resist. theory 1−34698
U, Kondo effect, resist. theory 1−34698
Korringa-Kohn-Rostoker calculations *see KKR calculations*
Koster effect *see dislocation damping*
k.p calculations
$Hg_{1-x}Cd_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
$Pb_{1-x}Ge_xTe$, refr. index and opt. energy gap, anomalies of temp. coeffs. at ferroelec. transition 1−26163
$Pb_{1-x}Sn_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
Kramers-Kronig relations
alkali metal halide colour centre quantised dielectric function 1−3359
dielectric function of matter, admissible negative sign, review 1−38737
graphite-K intercalation cpd., electron energy loss studies rel. to pristine graphite 1−48208
hexamethylphosphoric triamide, liq., optical, dielec. and energy loss functions between 2 and 25 eV 1−43088
integral dispersion relations for real part of polarisability, refractive index, magneto-optical charcts. 1−3323
oxide glasses, refr. index dispersion 1−3353
Al, Kramers-Kronig anal. of optical data, self-consistency and sum-rule tests 1−8034
$BaO-B_2O_3$, $BaO-La_2O_3-B_2O_3$ glasses, refl. coeff. and IR optical consts. 1−43092
$BaTiO_3$, ferroelectric, dipolar modes, temp. depend., IR refl. meas. 1−12501
Cu, X-ray anomalous scattering by total reflection in L-edge region 1−35115
Dy film, optical spectra, 5p threshold study 1−31165
EuB_6, optical constants, spectral depend. of light reflection 1−3358
Fe, X-ray anomalous scattering by total reflection in L-edge region 1−35115
Fe_3O_4, magnetite, optical props. in range 0.03 to 12 eV 1−12498
GaAs, integral dielec. functions, resolution into component parts 1−31115
GaAs, refractive index depend. on free carriers 1−3347
GaP, integral dielec. functions, resolution into component parts 1−31114
Gd film, optical spectra, 5p threshold study 1−31165
Ge, dielectric function expansion into elementary parts, intrinsic absorpt. spectra 1−16578
InAs, integral dielec. functions, resolution into component parts 1−31115
InP, integral dielec. functions, resolution into component parts 1−31114
Kramers-Kronig relations continued
KH_2PO_4, IR refl. spectra and phase transition mechanism *(Korean)* 1−12496
$K_2O-CaO-BaO-B_2O_3$ glasses, refl. coeff. and IR optical consts. 1−43092
LaB_6, optical constants, spectral depend. of light reflection 1−3358
$LiNbO_3$, dielectric const. temp. depend., IR reflectance spectra 1−21106
$LiTaO_3$, dielec. props., temp. depend., Raman spectroscopy study 1−16569
$Pb_{0.93}Sn_{0.07}Se$ and $Pb_{0.8}Sn_{0.2}Te$, reflectance and thermoreflectance spectra obs. in intrinsic absorpt. region 1−16583
Si, dielectric function expansion into elementary parts, intrinsic absorpt. spectra 1−16578
Si:P, polarisation catastrophe, elec. cond. study 1−25769
TiCx, optical absorptance and reflectance, 0.1 to 30 eV 1−26232
$TlInSe_2$, vibrational props., IR reflectivity 1−35042
TlSe(S), vibrational props., IR reflectivity 1−35042
US(Se)(Te)(Sb), electronic struct., optical functions 1−30629
Yb film, thermally evaporated, optical props. and microcharacteristics 1−35111
$ZnO-B_2O_3$, $ZnO-La_2O_3-B_2O_3$ glasses, refl. coeff. and IR optical consts. 1−43092
Kramers systems *see determinants*
Kromayer lamps *see mercury vapour lamps*
Kronig-Penney model
infinite one-dimensional cryst. in elec. field, electron states, Stark ladders, wave functions 1−16263
krypton
see also nuclei with .....
^{81m}Kr gas generator for lung ventilation study 1−44000
adsorbed on graphite, commensurate-incommensurate transition caused by instability to dislocation form. 1−42634
anharmonic crystal, statistical theory of vacancy formation, thermodynamic props. 1−2432
arc discharges, mathematical model, electrical and physical characteristics 1−15664
atom, anomalous Auger electron spectra, electron beam excitation 1−1193
atom, electron impact ionisation cross sections, mass spectra 1−10844
atom, electron impact ionisation efficiency curves near ionisation threshold 1−15012
atom, electron scatt., total cross sections meas. 1−6385
atom, photoionisation, angle-, energy- and spin-resolved photoemission 1−28935
atom, positron and electron low energy collision, total scatt. cross section 1−15015
atom, positron scatt., low energy meas. 1−6386
atom, proton affinity determ. from proton transfer reaction kinetics 1−39602
atom, soft X-ray emission spectra, dipole relax. processes of super-Coster-Kronig type 1−6193
atom, X-ray reson. Raman scatt., electron ejection 1−1161
atoms, Beutler-Fano autoionising reson., relativistic multichannel quantum defect theory 1−1188
bubble form. and growth in sputtered Au 1−12004
dense gas, struct., Monte Carlo calcs., virial expansions, rel. to exptl. data 1−2131
discharge afterglow, continuum radiation decay, excimer form., rate consts. 1−38168
equation of state, extrapolated, for rare gases at high temps. and densities 1−42119
fission product, storage and disposal in amorphous alloys 1−33307
gas, ultrasoft X-ray emission spectra, many-electron effects 1−28916
gas matrix, BeF radical ESR and isolation spectra 1−24173
gas structure by neutron diffr., dynamic correl., three body interaction 1−19851
liquid, isochoric thermal cond. as function of triple points 1−52367
liquid, shear viscosity meas. at low shear rates near triple point 1−20439
liquid, superheated, spontaneous nucleation freq. 1−52268
liquid, US velocity and surface tension, Flory's statistical theory 1−38467
liquid viscosity and diffusion, significant structures theory *(Spanish)* 1−52326
monolayer and bilayer solid films, coexistence, statistical mechanics 1−25570
monolayer on exfoliated graphite, melting, synchrotron X-ray study 1−38648
monolayer on graphite, BN, two-dimens. condensation, adsorbate-adsorbent dimens. incompatibility effects 1−47387
monolayer on graphite, partially mobile and partially localised, adsorption isotherms 1−42638
monolayer on Pd(100), photoemission 1−8200
monolayers, on Pd (100), lateral interactions, band struct. models and photoemission expts. 1−3037
monolayers on graphite (0001), lattice dynamical study, anharmonic effects 1−47355
muonium prod. in solid and liq. Kr, hyperfine splitting 1−37369
plasma, electron rate coefficients, electron-electron collisions effect 1−24933
plasma production by pulsed electron beam, excitation processes 1−19910
solid, insulator hydride with H atom impurities, props. 1−38614
solid, reson. two-photon photoemission excited with synchrotron radiation and N_2 laser 1−3566
solid, valence excitons, two-photon photoemission expt. 1−31164
solid film, range and energy loss of 0.1 to 3 keV electrons 1−20289
Ar-Kr, equimolar mixture, mixing props., press. and temp. effects 1−38538
Ar-Kr-F_2 laser mixtures, kinetic processes 1−46309
CsKr, collision induced absorption in dipole electronic transitions 1−29160
H_2^++Ar(Ne)(Kr), collisional electron loss, electron energy spectra 1−46105
He-Kr laser with transverse hollow cathode discharge, Kr II quasi-CW lines 1−24394
Hg+Kr^*, quenching rate const., Penning ionisation and excitation transfer mechanism 1−51267
InP:Kr, ion implanted, elec. charact., implant temp. effect 1−7196
K+O_2 collision, hyperthermal mol. beam scatt., product angular, energy and branching ratio anal. 1−46089
Kr I, isotope shifts meas. in visible lines of arc spectrum 1−1172
Kr I, transition probabilities for 5s-5p and 5s-6p lines 1−6207

krypton continued
Kr XXXV, electron impact excitation, relativistic distorted wave approx. calcs. 1−1383
Kr-H_2, Van der Waals anisotropic pot. at intermediate distances 1−46050
Kr-Na, pot. calc. using Baylis model for electronic interaction 1−37288
Kr+Ar, 2p levels, depolarisation cross section temp. depend. *(French)* 1−33539
Kr+Ar, small angle scatt., ang. transmission function, Monte Carlo calc. 1−29080
Kr+CO, electron cond., drift velocity, cross sections, Boltzmann eqn. calcs. 1−38046
Kr+CO_2, collinear collisions, strong coupling correspondence principle 1−51278
Kr+Cs, collision broadening and shift of hyperfine struct., Lennard-Jones interactomic pot. const. calc. 1−24224
Kr+CsI(CsBr)(RbI)(KI), collision induced dissoc., mass and orientation effects, 3-D classical trajectory calcs. 1−29087
Kr+graphite, X-ray spectra, transition energies and electron stripping probabilities 1−8160
Kr+H^-, collisional electron loss, electron energy spectra 1−46105
Kr+H^-, fast H^0 atom prod. by stopping collision 1−1358
Kr+H^+, K-shell ionisation *(Portuguese)* 1−24234
Kr+H^+, proton impact double-ionisation cross sections determ. 1−41468
Kr+$H^+(H_2^+)(H_3^+)(D^+)$, charge exchange and electron loss cross-sections for various energies 1−29095
Kr+He, He Rydberg S and manifold states deexcitation 1−1349
Kr+He, Rydberg state deexcitation 1−1348
Kr+He^+, collisional electron loss, electron energy spectra 1−46105
Kr+NO collisions, interaction pot. and collision cross section 1−19160
Kr+Na, collisional broadening of $3P_{1/2}$-$3P_{3/2}$ transition meas. by trilevel-echo technique 1−14983
Kr+$Ne^*(3s^3P_{2,0})$, differential elastic scatt., optical pot. and orbital interpretation 1−46061
Kr+S^{n+}, high projectile energy collisions, charge state, inner shell effect 1−46069
Kr+Tl, collisional 535 nm line broadening and shift 1−19174
Kr+Xe, VUV emission, energy transfer kinetics 1−41477
Kr^++F^-, in Ar, ion recombination, plasma shielding effects, appl. to excimer lasers, Monte Carlo calcs. 1−38057
Kr^++F^-+Ar, ion recomb., plasma shielding effects 1−29839
Kr^++$H_2(HD)(D_2)$, charge transfer, atom abstraction, rate consts., isotope effects, mass spectra 1−39630
Kr^++Kr, symmetric, electronic excitation 1−6366
Kr^{20+}+foil targets, L-shell ionisation, K X-ray yield, capture cross sections 1−29091
Kr^{n+}+Kr, continuous electron spectra prod., mol. autoionisation, MO determ. 1−41469
Kr^{n+}+Kr, continuous electron spectra, direct coupling with continuum 1−41470
Kr_2 quasimolecule, continuous electron spectra prod., mol. autoionisation, MO determ. 1−41469
Kr_2^+, absorpt. cross sections, pot. curves and transition moments, POL CI method 1−10639
Kr_2^+ formation from Kr^++2Kr→Kr_2^++Kr reaction in decaying plasma 1−53410
Kr_2^+ transient absorpt. studies, 2500 to 4000 Å region 1−45983
$Kr^{32+}(Kr^{33+})$, radiative decay, beam foil time of flight spectra 1−1413
Kr($^3P_{2,0}$)+Br_2→KrBr(B)+Br, rotational alignment in inelastic and reactive scatt., crossed-beam study 1−6356
Kr($^3P_{2,0}$)+Br_2→Kr($^1S_0$)+Br_2, rotational alignment in inelastic and reactive scatt., crossed-beam study 1−6356
Kr($^3P_2$), atomic metastable states, detection by gas phase EPR 1−24070
^{83}Kr, isomer shift calibration, internal connversion electron spectra and Mossbauer spectra 1−16510
^{85}Kr collection from spent fuel radioactive waste, radiological consequences 1−5917
^{85}Kr, estimation of global activity concs. and resulting doses to the public, γ-spectrometry 1−39855
^{85}Kr, gaseous, environmental radiation monitoring during venting of TMI2 containment 1−41260
^{85}Kr, gaseous, monitoring during TMI-2 purging using Penn State noble-gas monitor 1−45744
^{85}Kr gaseous, release from TMI-2, evaluation of radiation monitor effectiveness 1−41259
^{85}Kr, gaseous, release from TMI-2, EPA radiation monitoring and surveillance activities 1−45742
^{85}Kr, gaseous, release from TMI-2, community radiation monitoring program 1−45743
^{85}Kr, storage, adsorbed on activated charcoal, pressurised cylinders *(French)* 1−10447
^{85}Kr ultimate disposal in spent nuclear fuel reprocessing 1−850
^{81m}Kr, cigarette smoke inhalation monitoring technique 1−8981
^{81m}Kr, regional lung function, quantitative approach to study in children 1−49102
Kr_2^*, homonuclear excimers, excited and ground state interactions, spin-orbit coupling 1−6140
Mg-Kr, low-loss medium resonant third-harmonic generation 1−15220
Ne-Kr mixture, mol. dynamics of binary fluids near crit. mixing point 1−15780
SnTe:Kr film, ion implantation effect on struct. and elec. props., recrystn. process 1−7194

krypton compounds
ArKrF* excimer, blue luminesc. emission mechanism 1−33499
KrF closed cycle gas transport laser, 200 W output power 1−19349
KrF electron-beam pumped laser, oscillator performance and energy extraction 1−29262
KrF electron-pumped lasers, amplification props. 1−41668
KrF excimer flashlamp, efficiency 1−15243
KrF excimer laser, discharge condition optimisation, gas and circuit analysis codes 1−41674
KrF excimer laser deposition of Mg and Zn films 1−39242
KrF, fluoresc., vibr., laser level depopulation, stimulated emission 1−37271
KrF high repetition rate minilaser, operating characts. 1−41666
KrF high-repetition rate mini laser, operating parameters 1−46307
KrF laser, electron beam excitation model 1−37483
KrF laser, gain to non-saturable loss ratio 1−41672
KrF laser, UV preionised homogeneous discharge, spatially resolved gain meas. 1−46299
KrF lasers, electron-beam-excited, laser fusion appls. 1−29270

krypton compounds continued
KrF oscillator-amplifier, mode-locked, gain and saturation intensity meas. 1−24398
KrF pulse-periodic electric discharge excimer laser 1−1591
Kr_2F, electron-beam pumped, excimer laser emission at 430 nm 1−37462
KrF*, quenching by SF_6, KrCl* and XeCl*, CF_2Cl_2 and XeBr* and by CH_2Br 1−6541
KrF*, upper laser levels, quenching by electron beam pulses 1−24397
Kr_2F* laser, quenching reactions, rate consts., temp. depend., fluoresc. 1−37484
KrF*(B) state, accessibility to laser photons, meas. 1−10988
Kr_2F*(Cl*) supersonic flow low temperature electronic transition excimer lasers 1−46305
KrH^+, pot. energy functions and dipole moment calc. spontaneous emission 1−6338
KrHF quasimolecules, rot. spectra, nuclear spin-spin coupling, nuclear quadrupole coupling and mol. struct. 1−33478
KrN_2F* excimer, blue luminesc. emission mechanism 1−33499
KrO, spin-orbit coupling, ab initio CI calcs. 1−1125
KrSe, collision-induced lasers operating at wavelengths near Se($^1S_0$-$^1D_2$) transition 1−37486
KrXeCl*(Br*)(I*), emission spectra 1−37219
Kr...H_2, van der Waals mol., vibr. predissoc., rot. effects 1−24200

Kuhn-Thomas sum rule *see molecular energy levels*

Kurie plots *see beta-decay theory*

Kyropoulous method *see crystal growth from melt*

labelled atoms *see radioactive tracers*

labelled compounds *see radioactive tracers*

labelled molecules *see radioactive tracers*

laboratories
see also acoustical laboratories
clean rooms, particle contamination 1−53734
creep testing laboratory, engineering systems 1−8495
cryogenics, at Los Alamos Scientific Laboratory, US 1−36663
hospital and medical school laboratory waste materials and disposal methods 1−23199
HV laboratory atmosphere, mobility of ions formed during corona 1−46937
laboratory for struct. anal., performance, effect of dispatching rules, digital simulation 1−48759
National Physical Laboratory, UK, current projects 1−49911
Netherlands Energy Research Centre, historical survey *(Dutch)* 1−35606
science laboratory courses, survey of students, graduates and practising scientists 1−36478
Spacelab, mission objectives and planning 1−54338
testing laboratory performance, conference, Gaithersburg, USA (Sept. 1979) 1−13933

laboratory apparatus and techniques
see also specific instruments and techniques, e.g. balances, plasma probes, vacuum techniques
see also instrumentation; instruments; measurement; student laboratory apparatus; test equipment; test facilities; testing
air lift system for transfer and meas. of radioactive liquids 1−18206
analytical measurement techniques, transformation of matter methods *(German)* 1−50116
automated stopped-flow/unsegmented solution-storage analyzer 1−26776
automatic temp. regulator assembled from standard components 1−50125
chemical analyses, assurance of unity, approval of analytical laboratories 1−26801
drop generators for calibration of drop spectrometers appl. to cloud physics 1−44330
electric gun for high pressure shock wave production 1−40768
electron microscopy, sample preparation, beveled sections 1−45082
electronic brain stimulator, implantable, for small animals 1−32334
electronically controlled stimuli system, learning techniques in laboratory animals appl. *(Spanish)* 1−4400
energy dispersive X-ray fluorescence analysis, appls. 1−45088
evaluation quality maintenance, laboratory procedures 1−32973
explosive test bench for large charges 1−35533
Faraday cage system for centring rot. sector system and radiation intensity meas. in liq. electron diffr. 1−14214
ferromagnetic core magnetic flux measurements using simple laboratory test equipment 1−18257
gas and liquid chromatography, microcomputer based system 1−31920
gas chromotography automation using microcomputers 1−31963
glass mixing device for reactions under pressures in 10 kbar range 1−50115
high performance liquid chromatography system control interface 1−31921
HV free flow electrophoresis, use for cell separation 1−17532
instrumentation, computerisation 1−44890
interval timer, high-resolution, and buffered storage system for neurophysiological expts. 1−13368
locomotor activity monitoring in air or an aquarium, US monitor 1−44053
mechanical device for fine angular adjustments 1−50114
mechanical stage, precision positioning *(German)* 1−44892
micromanipulation using piezoelectric devices *(French)* 1−44894
multimeter with speech output and added functions, laboratory aid for the blind 1−40779
neutron activation analysis systems, an overview 1−26777
optico-physical parameters of high-speed processes, new meas. apparatus and methods 1−23286
optics laboratories facilities at Landis & Gyr 1−14162
peripheral vision monitor 1−44052
radiocirculographic attachments set for radioisotope laboratories 1−39997
servo system for cardiac mechs. expts. 1−13374
spectrograph picosecond characteristics meas. using streak camera/video readout system 1−28065
speed and versatility of laboratory, production and bench instruments 1−40774
surveying instrument testing methods and equipment 1−4659
ternary solvent programmer for high performance liquid chromatography 1−31922
throttle element of apparatus for studying Joule-Thomson effect, thermal field calc. 1−44893

labyrinth speakers *see loudspeakers*
Lacertids *see BL Lacertae-type objects*
ladder filters *see filters*
lakes
see also rivers
acid in surface water in Norway and Scotland lakes, strong and weak acid pollution 1−4224
artificial, heat balance computation, flow rate and temp. distrib. estimation in tributaries 1−54145
Baikal, geothermal heat flow meas. 1−44155
Biel, Switzerland, sedimentation of detrital particulates affected by inflow 1−17635
Bitter Lakes on Suez canal zone, boundary layer structure 1−32479
Brienz, Switzerland, sedimentation of detrital particulates affected by inflow 1−17635
Chad, palaeolake in N.Africa, Holocene climate 1−49379
Champlain, Vermont, USA, subbottom sediments 1−49310
Charvak Reservoir, Tashkent, USSR, geomag. vars. due to filling 1−22364
Clark Hill Reservoir Area, Southeastern USA, microearthquake spectra and source mechanism 1−32352
coastal upwellings, numerical study by finite element method 1−4528
Constance, accumulation of phthalate ester plasticizers in sediments 1−26860
Constance, deep water mixing measurements *(German)* 1−44224
Coorong lagoon, Murray River mouth, thermal stratification in wind-mixed system 1−27186
current in finite depth water, due to wind force and press. gradients 1−32474
environmental controls in USA and Canada, particularly, Great Lakes 1−17325
eutrophication, steady state model 1−43835
Florida lakes, shallow, P conc. changes due to mixing by motorboats 1−4551
geomagnetic variations caused by reservoir filling 1−22364
Glacial Lake Algonquin, USA, sediment study of Nipissing glacial transgression 1−40145
Glacial Lake Coppermine, existing in late glacial times, NW.Territories, Canada 1−40146
Great Lakes, wintertime wind driven circulation 1−32476
Great Lakes meteorology, infrared radiation transfer and radiative heating 1−44283
Jocassee Reservoir Area, Southeastern USA, microearthquake spectra and source mechanism 1−32352
Kinneret (Sea of Galilee), mag. anomaly survey 1−32478
Kuttara, Japan, local climatological investigation *(Japanese)* 1−9188
Lac de Joux, Switzerland, sedimentary palaeomag. secular var. curves back to 13400 yr BP 1−35933
Ladoga lake, internal waves, Langmuir circulation and turbulence *(Russian)* 1−40148
SE.Libya, Pleistocene lacustrine episode 1−54150
Loch Ness, mixing layer 1−40149
Loe Pool, Cornwall, sediment annual laminations 1−54151
Lyndon B. Johnson, eutrophication steady state model 1−43835
Maggiore, Italy, outflow real-time forecasting algorithm 1−32522
Michigan, trace metal input from atmosphere deposition onto drainage basin 1−22376
Michigan, USA, fatty acids in surface microlayer and subsurface water 1−36002
mixed-layer dynamics of lakes subject to wind stress events 1−32475
Ontario, eutrophication steady state model 1−43835
Ontario water quality using coastal zone colour scanner, aircraft and in situ obs. 1−22373
oscillations of annular basin of variable depth 1−17623
outflow real-time forecasting algorithm 1−32522
oxadiazon herbicide, in Japanese drainage systems and tap water 1−35724
Palestine Lake, Indiana, heavy metal contaminated lake, Cd and Zn aquatic chemistry 1−13193
pollution, three-dimensional numerical model of contaminant dispersion in near-shore zone of deep basin *(Russian)* 1−17324
pond seepage flow, illustration of Darcy's flow boundary integral solns. technique 1−36004
reservoir sediment accumulation, calc. using streamflow sediment discharge data 1−32477
Roxburgh Hydro, New Zealand, air temp. changes 1−13560
Sammamish, response to wastewater diversion, increasing urban runoff and P loading 1−4225
sediment interaction with water column, design of reaction chamber 1−36085
sedimentation of detrital particulates affected by inflow currents 1−17635
seismicity due to reservoir filling, stress anal. theory 1−4455
sharp density interface, entrainment velocity due to wind-induced drift current *(Japanese)* 1−49293
Shumarinai, Japan, wind features of Moshiri Basin *(Japanese)* 1−9210
surf zone conditions, synthetic aperture radar method and obs. 1−35989
Tahoe, watershed monitoring, information database development 1−32481
thermal emission from ice, remote sensing by airborne microwave radiometer 1−32482
Victoria, Late Quaternary overflow and effects on River Nile 1−17628
West Hawk Lake, Manitoba, impact struct., geomag. survey and resist. anal. 1−32348
Ohnuma, Japan, fulvic acid Cu complex content 1−40147
Lamb shift
first row ions isoelectronic series, E1, M1 and M2 transition probability 1−37157
H, Lamb shift in n=2 state, sub-natural-linewidth spectrosc. obs. 1−41350
H, lamb shift in nonrelativistic quantum electrodynamics, teaching 1−27721
^{3}He, muonic, Lamb shift calcs., radiative and recoil corrections 1−1421
$^7Li^{++}$, Lamb shift and fine struct. meas. 1−6211
SF_6, sub-Doppler optothermal spectroscopy 1−23319
lambda point *see liquid helium-4; superfluidity*
laminar flow
see also laminar to turbulent transitions
acoustic disturbance effect on controlled laminar flow 1−15465
airfoil leading edge, laminar separation, transition and turbulent reattachment 1−15471
laminar flow continued
annular pipe flow subject to axial motion of the inner boundary, stability 1−11471
annular viscometer principle and expts. 1−29818
arterial stenoses, pressure and flow pattern anal. 1−43886
axisymmetric flow, velocity profile identification using acoustic spectral broadening measurements *(French)* 1−24576
Bingham fluid, creeping flow through oscillating slit 1−51820
Blasius series solution for heat transfer with nonisothermal wall temperature 1−24804
blunt bodies, supersonic Navier-Stokes eqns. soln., generalised coords. 1−2019
boundary layer, asymptotic theory of nonstationary separation 1−24854
boundary layer, free convection, laminar around horizontal circular cylinder *(Japanese)* 1−15469
boundary layer, heated, exploratory temperature-tagging meas. of turbulent spots 1−1913
boundary layer, heated, thermophoresis of particles, laser-Doppler velocimeter study 1−37872
boundary layer, interactions for regular patterns of turbulent spots 1−42043
boundary layer, separating, spontaneous generation of singularity 1−19672
boundary layer, steady-state flow, Gortler series coeff. funct. *(German)* 1−37874
boundary layer, visual study of the growth and entrainment of turbulent spots 1−42044
boundary layer along cylinder, axisymmetric 1−1914
boundary layer equations, free convection past vertical flat plate, arbitrary blowing variations 1−1911
boundary layer flow on rotating axisymmetric electrode in Ostwaldian fluid 1−42009
boundary layer on plate, buoyancy effects on heat, mass transfer, local nonsimilarity method anal. 1−1972
boundary layer separation, delay of turbulent transition by surface heating in water 1−42048
boundary layer separation, integral method anal. 1−1910
boundary layer stability on blunted plate in supersonic flow 1−42035
boundary layer transition on flat plate, nonlinear evolution and breakdown 1−42037
boundary layer turbulent transition, attachment line contamination and cross flow instability 1−42041
boundary layer with variable viscosity, hydrodynamic stability 1−24764
boundary layers, behaviour of mixed convection near point of zero skin friction 1−29645
boundary layers, evolution of wavepackets, nonlinear growth and turbulence 1−37891
boundary layers, parametric eqns. 1−29648
boundary layers, spline collocation soln. of integral eqns. 1−42011
boundary layers, three-dimens., self-similar, longitudinal and transverse press. grad. 1−15470
cavity, visual study related to acoustic impedance of small orifices 1−19667
channel, open, with series of submerged rectangular orifices and vertical baffles, laminar flow *(Japanese)* 1−15548
channel flow, electrical image deposition of charges 1−46721
channel flow, Graetz type, transfer problems, integral transform technique 1−2079
channels, plane walled, converging, with prescribed wall heat flux, heat transfer to laminar flow *(Japanese)* 1−34014
chemically reactive flow, finite element method 1−42103
circular tubes, laminar heat transfer to power law fluids, viscous dissipation effects *(German)* 1−24812
closed cylinder with rotating disk, forced laminar convection, viscosity effect 1−29698
combined heat and mass transfer in mixed convection over a horizontal flat plate 1−37930
compact heat exchangers, nonuniform passages 1−24785
conjugate heat transfer for vertical pipe 1−37917
conjugated heat transfer with laminar flow, over-all resistance theory 1−15480
convection, mixed, between two coaxial horizontal cylinders, heat transfer *(French)* 1−1966
convection, stationary, with dissipation in variable property fluid, variational approach 1−37906
convective-conductive heat transfer, finite element soln. 1−24781
curved channel, laminar flow of viscous incompressible fluid 1−37869
curved tubes, fully developed laminar pulsating flow, numerical soln. 1−42091
cylindrical tube, laminar flow, electrisation of dielectric liquids 1−24879
cylindrical tubes, laminar vertical upward flow friction, buoyancy effect 1−24883
divergent nozzle, flow and heat characts. of accelerated transonic air flow 1−24861
duct, curved, square, laminar flow, buoyancy-induced recirculation 1−38014
duct, generalised Couette flow of non-Newtonian fluids, heat transfer along thermal entry zone 1−29674
duct with spanwise periodic rect. protuberances, laminar forced convection 1−42052
ducts, annular cross section, variable property heat transfer, laminar and turbulent 1−42054
dusty viscous flow through the annulus between two coaxial circular cylinders 1−11444
elastico-viscous fluid flows in ducts 1−51828
elliptic ducts, developing laminar flow characts. using Mathieu functions 1−29778
enclosures, tilted rectangular, small aspect ratio, free convection, finite difference calc. 1−1982
Falkner-Skan equation of laminar boundary layer flows, solution using boundary value technique 1−42010
film boiling on horizontal plate 1−33880
film condensation of binary gas-vapour mixtures, effect of wall temperature variation 1−33886
flat plate, laminar flow, binary mixture film condensation 1−19700
flat plate with adiabatic starting length, forced convection, average heat transfer coeff. 1−24803
flat plate with const. heat capacity, convective heat transfer to laminar flow 1−46736
flattened Pitot tubes, viscosity effects at low flow vels., boundary layers vel. distrib. 1−19840

laminar flow continued
flueric laminar jet angular rate sensor design 1−36626
free convection in incompress. laminar steady state flow 1−6859
gas absorption in laminar falling films, first order homogeneous reaction and gas phase resistance 1−39674
gas mass transfer in laminar plug flow gas streams in wetted water columns 1−15464
gas-liquid slug flow in vertical tubes, bubble frequency 1−33999
heat and mass transfer theory, appl. to drying processes *(German)* 1−24811
heat exchanger channels with corrugated finning, gas flow *(Russian)* 1−1977
heat generation, internal, in fully-developed, laminar, rectangular channel flow 1−33958
heated surface, natural convection, periodic pressure pulsations effect 1−19698
Hele-Shaw viscous flow analogy validity 1−29768
horizontal circular cylinders, boundary layer regime for laminar free convection 1−24789
hydrocyclone, vortex finder larger than apex opening, laminar boundary layers 1−29643
inclined body of revolution, supersonic laminar flow, vortices 1−19743
inclined continuous moving sheets, buoyancy effects in laminar boundary layers, heat transfer 1−24806
inclined ellipsoids of revolution, laminar boundary layers 1−11367
incompressible viscous fluid, unsteady laminar flow through porous media in hexagonal channel 1−11366
ionised nonequilibrium laminar boundary layer behind shock, finite difference soln. *(Japanese)* 1−33981
isothermal cylinder, heat transfer from two-phase laminar boundary layer, drop trajectory effects 1−37899
jets, circular, under controlled excitation, vortex pairing, coherent structure dynamics 1−33995
jets, circular, under controlled excitation, vortex pairing 1−33994
jets, laminar, circular cylindrical, curvature and boundary layer effect, higher order terms 1−19768
laminar-jet diffusion flames, Shvab-Zeldovich formulation 1−29798
laminar-turbulent transitions, boundary layer waves at large amplitudes, 2D Tollmien waves 1−37894
leading edge effect in laminar boundary layer excitation by sound 1−42046
Leveque solution for flow in an elliptical duct 1−29780
liquid, laminar flow caused by rot, disk, finite difference scheme anal. 1−1992
liquid film, around horizontal cylinder, smooth laminar case *(French)* 1−42007
liquid film flow on vertical wall, wave formation 1−42006
LMFBR bundles, multicell slug flow, heat transfer anal. 1−23724
LMFBR pump coastdown, turbulent and laminar flow in transition to natural convection 1−23799
local wall vel. gradient and concentration, simultaneous meas. method, laminar and turbulent flow *(French)* 1−19841
long cylindrical annuli, laminar nonNewtonian flow heat transfer 1−29734
longitudinal vortices in a transitioning boundary layer 1−42032
MHD rotation of electrically conducting liquid in cylindrical vessel 1−6900
MHD secondary channel flows at high Hartmann number 1−51877
natural convection, over vertical frustum of cone, surface temp. var. effects 1−19691
non-Newtonian laminar heat transfer to in-tube flow 1−37916
non-Newtonian liquid films, laminar flow inside vertical pipe 1−51830
nonequilibrium hypersonic flow over the lateral surface of blunt bodies 1−15511
nonsimilar incompressible boundary layers, mass transfer 1−37873
nozzles, laminar boundary layer development with turbulent outer flow 1−29748
optically thin boundary layer near flat plate, radiative and convective heat transfer, blowing effect 1−15487
oscillatory flow, 2-dimens. laminar boundary layer on flat plate, wall friction and local heat transfer 1−33955
particle motion in channels, laminar sublayer of turbulent flow, mass forces effects 1−11466
partly-moving surface, sucking or blowing, asymptotic solns. laminar boundary layers, compressible gas 1−19669
peristaltic flow in tube with harmonically deforming wall, numerical modelling 1−15546
pipe, axi-symm. with local constriction, pulsatile flow, Navier-Stokes eqns. numerical soln. 1−2077
pipe flow of non-Newtonian liquid, unsteady mass transfer 1−29774
pipe flows of non-Newtonian fluids, laminar and turbulent, heat transfer coeff. 1−29670
pipe inlet region, compressible laminr flow, boundary layer development, flow parameters for varying Mach nos. 1−11463
piston-cylinder enclosure, sinusoidal piston motion, free convection expts. 1−1984
planar supersonic separated flows, convective transfer correlations, laminar and turbulent 1−24802
plane wall with periodic suction, elastico-viscous liquid, heat transfer by laminar flow 1−15478
polyethylene oxide, rel. between mol. struct. and drag reduction, laminar and turbulent flows 1−15517
polyethylene oxide solns., polymer induced fluctuations in high-strain rate laminar flows 1−24852
polymer solns., viscoelastic, drag reduction experienced by rotating disc under laminar flow conditions 1−24850
pore diameter, determ. by permeability meas. 1−40757
porous materials, thermal regenerators, isothermal pressure drop 1−38005
power-law fluid, convection heat transfer from isothermal flat plate, correlating eqn. 1−1954
profile and wing with air intake, linear vortex theory 1−19729
pseudoplastic nonFourier liquid film, laminar boundary layer theory *(Russian)* 1−19757
radiation-convection problems, thermally developing flow, including radiation scatt., spline collocation soln. 1−1970
reactor blanket assembly model, heat transfer, temp. distrib. 1−23736
rectangular enclosures with concentrated energy sources, laminar natural convection 1−24790
rod bundles, subchannel anal., conduction mixing lengths 1−23738
rod bundles with spacer grids, press. drop, vel. distrib. 1−23737
rotating, velocity gradient meas. by homodyne light scatt. 1−11481
laminar flow continued
rotating laminar flow, Navier-Stokes eqn. soln. finite element anal. smoothing techniques, book contrib. 1−18028
saturated vapour, laminar film condensation on inclined pipes, film thickness, analytic soln. 1−1912
slot, vertical, natural convection, wall conduction, radiation effects, finite difference anal. 1−6863
small trough, laminar film condensation, condensate motion, surface tension effects 1−19704
stabilization of three-dimensional boundary layers by suction and cooling 1−42038
stellar atmospheres, temp. field of laminar hydromag. boundary layer in fluctuating flow past limiting surface 1−54355
strongly curved rectangular ducts, steady laminar flow, developing flow, heat transfer 1−24798
submerged laminar plane jets, angled injection into turbulent boundary layer, vortices 1−37986
supercritical region with variable props., laminar free convection 1−29799
suspensions, closed nonlocal model *(Russian)* 1−51862
swirling flow in a straight circular pipe 1−42059
tee-junction, square cross sectioned, 3-dimens. laminar flow 1−19813
temperature tagging measurements of turbulent spots in a heated laminar boundary layer 1−42045
thin radiant body, laminar and turbulent flow, conjugate heat exchange *(Russian)* 1−1978
three-dimensional laminar boundary layer, asymptotic analysis 1−19670
three-dimensional waves in a boundary layer on a flat plate 1−42039
transonic swept wing with wall cooling, boundary layer stability, laminar instabilities 1−46770
tube, circular, low Peclet number thermal entry region heat transfer, integral transform techniques 1−2082
two dimensional turbulent jet, laminar and turbulent mixing layer charcts. 1−46793
two-dimensional stagnation flow and heat transfer, thermodynamic calcs. 1−29669
two-dimensional steady compressible flow, solution of laminar boundary layer eqn. 1−6842
unsteady laminar flow in a channel with porous bed 1−29777
unsteady laminar laser heated boundary layers at a three-dimensional stagnation point 1−24763
unsteady stagnation point heat transfer in non-Newtonian fluids 1−15515
upward gas-liquid flow, local characteristics in bubble and slug flow regimes 1−29761
varying gap channel, MHD laminar flow 1−19814
vertical 90° corner, laminar natural convection, matched asymptotic expansions method 1−29696
vertical plate, laminar free convection, correlation over Prandtl number range 1−37900
viscoelastic fluids, combined laminar forced and free convection heat transfer 1−29666
viscoplastic fluid, nonlinear, steady-state laminar flow in annular gap *(Russian)* 1−51874
viscoplastic laminar steady state flow in channels of different configurations *(Russian)* 1−19759
viscous boundary layers with inviscid core, high Reynolds number flows with closes streamlines 1−29701
viscous fluid, stabilised laminar flow, hydraulic resistance of a rotating radial channel, anal. 1−11472
viscous incompressible fluid, laminar flow, unsteady convective heat exchange in longitudinal bundle of rods 1−46744
viscous reacting fluids in long tubes, laminar flow and heat transfer 1−34013
viscous recirculatory flows with separated eddies, finite element flow pattern prediction *(Japanese)* 1−6867
water cooled through 4°C, transient 2-D laminar natural convection 1−1958
water wave generation by laminar air flow 1−46765
wave movement in non-compressible fluids in thin elastic pipes *(German)* 1−38016
wire-wrapped rod bundles, hydraulic characts., physical models 1−23734
H_2O, heat-stabilised laminar boundary layers 1−51735

laminar to turbulent transitions
airfoil leading edge, laminar separation, transition and turbulent reattachment 1−15471
annular gaps, wide and narrow, transition modes in adiabatiic spiral vortex flow 1−37940
axisymmetric bodies, grid generated turbulence transitions 1−42022
axisymmetric bodies, surface roughness effects on laminar-turbulent transition location 1−29650
axisymmetric jet, unsteady laminar flow from point source of momentum 1−51744
bifurcation of stable periodic flows in an Ekman layer and in a convection boundary layer 1−42049
boundary layer, growth of turbulent spot, similarity transformation 1−29647
boundary layer, interactions for regular patterns of turbulent spots 1−42043
boundary layer separation, delay of turbulent transition by surface heating in water 1−42048
boundary layer turbulent transition, attachment line contamination and cross flow instability 1−42041
boundary layer turbulent transition for Blasius flow and plane Poiseuille flow 1−42042
boundary layer waves at large amplitudes, 2D Tollmien waves 1−37894
channel, developing flow, vel. distrib. effects on stability, critical Re 1−46805
chaotic motion in Coulomb force driven instability, large aspect ratio expts. 1−11370
circular Couette flow transitions 1−42025
circular flows, sudden transition to turbulence 1−42026
conference, Stuttgart, Germany, Sept. 1979 1−36458
Couette flow, Landau and stochastic attractor pictures 1−51746
duct flow, 2-dimens., natural transition in inlet region 1−11470
ferroliquids, magnetically stabilised, suppression of turbulence 1−29790
flow field and energy balance according to the spatial linear stability theory of the Blasius boundary layer 1−37892
growing boundary layers, 3-D stability 1−42036
horizontal tube, flow stability, combined free and forced convection 1−24796
hydrodynamic stability and laminar to turbulent transitions 1−37882

laminar to turbulent transitions continued
hydrodynamic stability and laminar-turbulent transition, local criteria 1−37884
initial structure of turbulent boundary layer, influence of transition processes *(French)* 1−1944
inviscid shear flow, non-linear evolution of critical layers 1−42034
laminar boundary layer, visual study of the growth and entrainment of turbulent spots 1−42044
laminar boundary layer stability on blunted plate in supersonic flow 1−42035
laminar boundary layer transition on flat plate, nonlinear evolution and breakdown 1−42037
laminar boundary layers, evolution of wavepackets, nonlinear growth and turbulence 1−37891
leading edge effect in laminar boundary layer excitation by sound 1−42046
linear stability theory for wave-packet disturbances in parallel and nearly parallel flows 1−42020
longitudinal vortices in a transitioning boundary layer 1−42032
mechanism of successive bifurcation and turbulence 1−42023
nonlinear wave interaction in boundary layer in turbulent transition 1−42033
nonlinear wave stability in boundary layers 1−37895
order-disorder transitions in a turbulent medium 1−51777
oscillating boundary layer, laminar-turbulent transition mechanism 1−37893
oscillatory pipe flow at transitional Reynolds numbers, laminarisation 1−11459
pipe flow, development and structure of turbulent slug 1−42018
pipe flow transitions, generation of puffs and slugs 1−42017
piston-cylinder enclosure, sinusoidal piston motion, free convection expts. 1−1984
planar channel, fluid periodic laminar motion stability 1−19810
planar shear flows, N-S equations for explosive transitions to disordered flow struct. 1−37896
plane Poiseuille flow, nonlinear spatial disturbance amplification 1−42021
plane Poiseuille flow, secondary instability 1−42019
porous layer, fluid-saturated, finite-amplitude cellular convection 1−6888
Rayleigh-Benard convection, four-mode coupling model *(French)* 1−42050
Rayleigh-Benard convective state evolution to turbulence, thermoconvective oscillators *(French)* 1−51769
rotating concentric cylinders, turbulent friction, rel. to Reynolds number, radius ratio 1−29705
sharp edged orifice, jet shear layer transition to turbulence, vortices 1−37889
shear flows, 3-D, transition prediction using e^n method 1−42040
spherical annulus, transition with Taylor vortices 1−42029
stability and laminar-turbulent transition research 1−37883
stabilization of three-dimensional boundary layers by suction and cooling 1−42038
swirl pipe flows, wall boundary layer instabilities, vortex pairs *(German)* 1−51765
Taylor vortex flow transitions 1−42027
taylor vortices in spherical gaps, soln. of N-S eqns. using finite difference techniques 1−42028
Taylor-Couette flow transitions 1−42024
temperature tagging measurements of turbulent spots in a heated laminar boundary layer 1−42045
three-dimensional waves in a boundary layer on a flat plate 1−42039
Tollmien-Schlichting wave generation by plane, sound wave 1−42047
visualization of turbulent spots in the boundary layer along a flat plate in a water flow 1−37897
H_2, catalytic combustion in the diffusion controlled regime, corona discharge augmentation 1−29654

laminates
angle ply laminates, through cracks, assumed stress finite element anal. 1−46698
antisymmetric cross- and angle-ply, thermal stresses, thermoelastic anal. 1−37802
automotive components, design methodology using fibre reinforced composite materials 1−39585
bilaminated composites with bonds, low freq. heat conduction, continuum modeling 1−24652
bimaterial interface, arrest of transverse crack propagating at right angles to interface 1−35346
composite materials, expt. and analytical study of rail shear-test method 1−35308
crack growth kinetics in laminar viscoelastic plates *(Ukrainian)* 1−15445
cracks, penny-shaped, embedded, normal and radial impact 1−15446
cross-ply laminates, edge effects anal., traction-free-edge hybrid-stress element 1−37787
cylindrical shells, two-layered, stability problem for incomplete layer contact *(Ukrainian)* 1−37820
delamination fracture toughness, mode I, determ. method 1−48473
diffusion of heat and moisture, Soret and Dufour effects 1−2670
eccentrically stiffened, vibr. modes 1−19626
elastic-viscoplastic medium under general loading, average theory 1−19584
elastodynamics of periodically laminated media, mixture theory with director 1−33891
epoxy, mech. props. after implantation as fracture fixation plates 1−26478
fibre cloth reinforced phenolic composites, high-temp. thermal and mech. props. 1−20480
fibre reinforced composites, hybrid, appl. to loadbearing orthoses and prosthesis 1−49162
fibre reinforced composites, laminate, computer appl. to design anal. 1−3818
fibre reinforced laminated composite discs, rotating strength 1−26537
fibre reinforced laminates, physical relationships determ. 1−43401
fibre reinforced plastic laminates, US data dispersion as meas. of hygrothermal effects 1−35455
fibre-reinforced materials, unidirectional, failure 1−35309
fibrous composites, macroscopic fracture 1−21584
GFRP laminate, AE study of damage during tensile loading 1−4028
glass cloth/epoxy laminates, elec. props. 1−34969
glass fibre mat reinforced polyester, environmental fatigue stress failure 1−3876
glass fibre reinforced laminated plastics, fatigue life dispersion, reliability anal. 1−48505

laminates continued
glass fibre reinforced plastic laminates, flexural failure anal. 1−12800
glass fibre reinforced plastics laminates, multi-axial, failure initiation mechanisms 1−48454
glass fibre reinforced polyester laminates, delamination, acoustic emission 1−48640
glass thin reflector laminates for solar concentrators 1−13093
glass-fabric laminate, fatigue strength, effect of test conditions 1−12861
glass-plastic laminated sheets, resist. to breakage 1−31599
glass-textolite laminates, mech. props. anisotropy 1−48436
graphite containing $FeCl_3$ and $MoCl_5(WCl_6)$, layer compounds, synthesis, gamma-resonance spectra and struct. 1−7147
graphite fibre reinforced epoxy, failure surface anal. 1−48475
graphite fibre reinforced epoxy composite laminates, fracture toughness through intermittent interlaminar bonding 1−21579
graphite fibre reinforced epoxy composites, subjected to static and fatigue loading, marine durability 1−39456
graphite fibre reinforced epoxy laminates, biaxial testing, expt.-theoretical comparison 1−12943
graphite fibre reinforced laminate, US eval. of impact damage 1−35466
graphite fibre reinforced polyimide laminates, in-plane shear behaviour, finite element stress analysis 1−8371
graphite reinforced epoxy sandwich struct., multispecimen fully reversed fatigue system 1−8408
graphite/epoxy composite, exposed to nonionizing space parameters, prop. changes 1−48615
graphite/epoxy laminates, elec. cond. and EM shielding characts. 1−20841
heat transfer, conjugated, from layered circular cylinder in low Reynolds number flow 1−1965
laminated film, spectra separation of surface and 2nd layers by Fourier transform IR ATR spectrometry *(Japanese)* 1−8063
layered structures, cracking suppression of yielding by case hardening 1−48508
mechanical props. after heat treatment 1−39353
metal-matrix composites, fatigue 1−31592
organo-textolite laminates, mech. props. anisotropy 1−48436
PC fabrication, polyparabanic acid photosensitising 1−51581
Pentaplex specimens, effect of $HF+H_2SO_4$ etching on fracture 1−21572
plasticizer for polyimide composites 1−39301
plates, antisymmetric cross- and angle-ply laminated, buckling response 1−33919
plates, clamped crossply laminated elliptic, initial flexural failure anal. 1−29620
plates, composite cantilever, frequency determination and non-dimensionalization 1−19608
plates, laminated bimodulus composite-material, finite element anal. 1−37796
plates, multilayer, transverse compression, variant of nonclassical theory 1−19562
polyaramid fibre reinforced epoxy laminates, biaxial testing, expt.-theoretical comparison 1−12943
polymer film laminates, deform. and stresses eval., interphase layer separation 1−8372
polypropylene laminated film, spectra separation of surface and 2nd layers by Fourier transform IR ATR spectrometry *(Japanese)* 1−8063
polysulphone, mech. props. after implantation as fracture fixation plates 1−26478
shell, laminated spherical, deformation under action of weak shock wave 1−24738
shells, shallow, multilayer, transverse compression, variant of nonclassical theory 1−19562
shells of revolution, stressed state, nonlinear axisymmetric deform. and transversal shift *(Ukrainian)* 1−29534
slabs, simply supported laminated orthotropic, thermoelastic anal., temp. induced stresses 1−19568
steel GRP laminate, static strength *(German)* 1−3851
thermoelastic layered composites, dynamic behaviour, continuum theory 1−15396
thin shells with holes, deform. and stress conc. 1−11314
three-layer plate with crack in centre layer, stress intensity factor 1−46703
unidirectional, complete mech. prop. charact. of single specimen 1−8374
wound laminated organic plastic, elastic charact. prediction rel. to props. of structural components 1−31521
Al alloy/C-epoxy laminates, environmental fatigue crack propagation 1−8415
Al laminated composites, creep 1−8389
B fibre reinforced Al-Cu, mech. props. *(Slovak)* 1−48405
C fibre reinforced plastic laminates, flexural failure anal. 1−12800
C-C composites, thermal and mech. props. 1−7227
C-fibre reinforced epoxy resin, laminates, failure initiation mechanisms 1−48454
C-fibre reinforced plastics, thermal expansion characts., time and temp. depend. effects 1−7358
Cr/Cu/Cr layered composite, near-boundary relax. of thermal stresses *(Russian)* 1−35298
Cr-Cu-Cr model layer composite, deform. relations, compressive stress *(Russian)* 1−48418
Cu/Ni thin laminates, vacuum deposited, microstruct., TEM study 1−12662
Fe/Cu, microlaminate condensates, struct. and props. determ. 1−16721
Ni/Cu, microlaminate condensates, struct. and props. determ. 1−16721
Ti alloy/C-epoxy laminates, environmental fatigue crack propagation 1−8415

laminations
Fe-Si (3 wt.%), non-oriented sheets, excess dynamic loss, grain size, precipitated Al_2O_3 particles, and lamination thickness effects 1−16461

lamp accessories
see also lamps
luminaire distribution characteristics, automatic meas. 1−28053

lamps
see also discharge lamps; filament lamps; light sources
dental lamp for oral cavity illumination 1−17468
fluorescent, comparison of various types in colour vision testing 1−8944
solar simulator lamp characts. 1−8688
special light sources bulb glass, electrical, thermal and chemical props. *(Russian)* 1−20073

Landau levels
anomalous acoustic velocity at high press. in superstrong mag. field in condensed matter 1—20320
diamagnetic exciton theory, many band approx. 1—21178
electron gas, self-consistent screening theory in presence of strong mag. field 1—16245
free electron gas, Landau diamag., teaching 1—27717
magnetic system, symmetry and phase transitions 1—12299
magnetophonon effect and light-hole effective mass 1—7642
metal, quantum-electromagnetic excitations, semiclassical approach 1—42806
narrow-gap semiconductor, plasma frequency under quantising mag. fields 1—25749
quantum transport in semiconductors 1—7640
semiconductors, hot electron population inversion, Hall currents 1—25740
two-dimensional electron system, many-body effects on transverse cond. in strong mag. fields 1—12169
two-dimensional electrons in a strong magnetic field *(Russian)* 1—52631
zero-gap semiconductors, reson. acceptor states prod. by short-range defect pot., high mag. field behaviour 1—47561
Bi, giant quantum sound attenuation below 1K, Fermi and Landau levels 1—47435
Bi, giant quantum ultrasonic attenuation, anomalous freq. depend. below 1K 1—2571
Bi, heating and energy relaxation time of electrons and holes *(Russian)* 1—34725
Bi, quantum-electromagnetic excitations, semiclassical approach 1—42806
n-GaAs, cyclotron-resonance-induced cond., carrier mobility and relax. time 1—3263
p-Ge, light hole band nonparabolicity, extrinsic photocond. meas. 1—47701
Ge:B, mag. field depend. of far IR photothermal cond. spectra 1—3008
$Hg_{1-x}Mn_xSe$, energy struct. in strong mag. field 1—12128
InAs-GaSb superlattice, IR magnetoabsorption and luminescence study 1—52920
InAs-oxide-Pb junction, tunnelling cond. oscills. in quantising mag. field 1—25806
InSe, Shubnikov-de Haas oscill., cyclotron resonance 1—47684
Si (100) MOSFET, inverted surface, valley splitting, magneto-quantum oscills. 1—12199
n-Si, impurity-phonon resonances, low temp. photo- and magneto-transport 1—30788
Si, intersubband-cyclotron combined resonance in a surface space-charge layer 1—52845
n-Si inversion layers, valley splitting and valley degeneracy factors 1—52479
Si MOSFET inversion layers, high mag. field expts., valley degeneracy 1—7756
Si MOSFET inversion layers, high-index surfaces, far-IR investigations 1—12208
Si-SiO_2 interface, collective ground state in inversion layers in extreme quantum limit, cyclotron reson. obs. 1—12195
Si-SiO_2 inversion layers, elec. breakthroughs in vicinal planes, valley splittings 1—7695
Si-SiO_2 MOS inversion layers, Hall cond. under strong mag. fields, Landau level width 1—12197
Si-SiO_2 MOS system, electron transport in inversion layers at high mag. fields, substrate bias effect 1—12196
Si-SiO_2 MOSFET, enhanced valley splitting in surface quantum states, temp. depend. 1—12173
Si-SiO_2 MOSFET, Shubnikov-de Haas oscillations in (100) inversion layers, lineshape analysis, valley splitting 1—12200
Si-SiO_2 MOSFET, submm. laser cyclotron reson. of inversion layers at low electron densities 1—12194
Te surface, optical props. of quasi two-dimens. electron systems 1—12482

Lande g-factor *see g-factor*

Lande splitting factor *see g-factor*

landing fields *see airports*

Langmuir films
anthracene derivative Langmuir-Blodgett films, struct. and optical props., mol. arrangement 1—6270
9-n-butyl-10-anthryl propionic acid, multilayer films, electron mean free path, XPS 1—52674
cadmium stearate, multilayer films, electron mean free path, XPS 1—52674
manganese stearate, Langmuir-Blodgett monolayers, mag. struct., neutron diffr. study 1—42984
MIS devices, gas effect on interface state spectrum 1—38864
monomolecular adsorption isotherms 1—16169
multilayer assembly films, thickness, temp. depend. 1—25592
organic monomolecular film, thermal-mech. props. detected by vibrating reed 1—52457
PMMA monolayer, two-dimens. chain conformation, scaling description 1—7431
polyvinylacetate monolayer, two-dimens. chain conformation, scaling description 1—7431
InP/Langmuir film MIS devices and associated structs., electrical behaviour 1—47756

Langmuir probes
see also plasma diagnostics
low density plasma, ion beam props. meas. using electron saturated Langmuir probe 1—34117
low-temperature plasma probe characteristic recording automatic system 1—2235
MagPi II device, deflected-beam-excited ion cyclotron beam modes 1—34102
microwave coaxial ion source and Lisitano coil plasma uniformity comparison 1—6974
pulsed discharges, Langmuir probe meas. of double layers 1—19990
sputtering techniques, Langmuir probe appls. 1—39238
Ar positive column, Langmuir probe meas. of double layers 1—19990

lanthanides *see rare earth metals*

lanthanons *see rare earth metals*

lanthanum
see also nuclei with .....
coadsorption on W surface, work functions and field emission patterns *(Japanese)* 1—52420
concentration in geological samples, correction of results using rel. between analytical signal and two arcing half-periods 1—54272

lanthanum continued
electronic struct. and supercond. under press., linearised APW calc. 1—7514
f-electron bonding, electronic struct. and phase transitions 1—47431
Riga Gulf, distrib. of Sc, Hf, Th, Ln, Ce, Eu, Mn, Fe, Co in bottom sediments and suspended matter *(Russian)* 1—13449
Ar-La solid mixture, metal-nonmetal transition 1—38723
$BaTiO_3$:La, defect struct. and O_3 diffusion coeff. 1—25494
La I, La II, La III, spectrum atlas, 3000-7000 Å 1—6191
Ln^{3+} crystal field in Cs, octahedral crystal field coefficients determ. 1—2925
ZnO:La, brightness waves of electroluminescence 1—52997

lanthanum alloys
see also lanthanum compounds
pseudo-lanthanides, prep. 1—26408
cc $LaNi_5H_x$ porous metallic-matrix compacts, prep. and props. 1—21382
Ce-La-Ni, hydride development for hydrogen storage 1—20556
(Ce-La) $[Co_{1-x}(Cu,Fe)_x]_5$, phase relations and mag. props. 1—8272
(Ce-La-Nd-Pr-Fe)$_2Co_{17}$, equilibrium relations among mag. phases 1—26427
$Ce_{0.9-x}La_xTh_{0.1}$, mixed valence cpd., energy parameters and cryst. field effects 1—20670
$(La,Pr)B_6$, dil., cryst. field ground-state splitting effect on resist. 1—25707
$(La,U)Al_2$ dilute alloy, localized mag. moments, low temp. 1—47849
La-Al (20 at.%), amorphous, quenched from liq. state, supercond. charcts. *(Russian)* 1—42878
La-Al(Au)(Ga)(Ge), amorphous, negative temp. coeff. of elec. resist. 1—7579
La-H system, calorimetric-equil. method obs. at 917K, thermodynamic parameters 1—35565
La-Mg alloys, rich in Mg, for H_2 storage *(French)* 1—43825
La-Pr superconductor, tunnelling, cryst. elec. field manifestations 1—25842
La-Y-Mn, supercond., X-ray diffr., mag. susceptibility, sp. ht. and metallography meas. 1—25826
La-Zn (22 at.%), amorphous and cryst., supercond. props. meas. 1—30893
$LaAl_2$, pure and doped Laves phases, growth and characterisation 1—3605
$LaAl_2$:Nd, crystalline elec. field, magnetisation meas. 1—47593
$La_{0.80}Al_{0.20}$ amorphous alloy, internal friction and Young's modulus 1—20314
LaCe, Kondo effect under press. 1—30898
$(La_{0.5}Ce_{0.5})Ni_{5-x}Co_x$, absorption of H_2, hysteresis effects 1—2632
$La_{70}Cu_{30}$, amorphous supercond. thermal cond. meas. 1—47798
$(La_{0.9}Eu_{0.1})Ni_{4.6}Mn_{0.4}$, intrinsic degradation by thermally induced absorpt.-desorption cycles 1—2808
$La_3Ga_2Ni_4$, cryst. struct. 1—30140
$LaGdAl_2$, conduction electron asymmetric scatt. 1—34685
$La_{1-x}Gd_xAl_2$, spin glass, freezing temp. freq. depend. 1—34898
La_5Ir_3, cryst. struct. 1—34289
$La_{1-x}Mg_xNi_2$, hydride form., lattice parameter meas. and desorption expts. 1—7134
$La_xNd_{1-x}Sn_3$, crystal fields determ. from paramag. anisotropy and neutron scatt. 1—20683
$LaNi_4$, H_2 absorption and desorption charcts. 1—4122
$LaNi_5$, absorption of H_2, calorimetry within hysteresis loops 1—2631
$LaNi_5$ and $LaNi_{4.9}Cu_{0.1}$ $(Ti_{0.1})(Al_{0.1})$, hydride kinetics during formation-decomposition cycling 1—3744
$LaNi_5$ and $LaNi_5H_{0.36}$, heat capacities, entropies and enthalpies of form. 1—2654
$LaNi_5$, ferromag. reson. after hydrogenation-dehydrogenation cycles, superparamag. cluster form. 1—43017
$LaNi_5$, heat capacities, enthalpy of formation and entropies meas. 1—7348
$LaNi_5$, hydriding alloy powder, thermal conductivity and comparisons of reactor systems 1—20699
$LaNi_5$, hydriding and dehydriding, reaction kinetics 1—4070
$LaNi_5$, intrinsic degradation by thermally induced absorpt.-desorption cycles 1—2808
$LaNi_5$, $LaNi_{5-x}Al_x(Mn_x)$, and deuterides, neutron and X-ray diffr. profile anal. and cryst. struct. 1—20119
$LaNi_5$, mag. props. variation with H_2 absorpt. and desorption 1—7808
$LaNi_5$, sorption capacity for H_2, influence of technological characteristics 1—30549
$LaNi_5$, surface oxidation and electronic struct. 1—38708
$LaNi_5$-H, differential heat flow calorimetry 1—2655
$LaNi_5$-H, surface poisoning by O_2, CO and H_2O 1—2806
$LaNi_5$(-H), magnetic props. 1—20957
$LaNi_{5-x}Al_x$ (Pt$_x$), heat capacity, hydrogenation, influence of lattice and electronic factors 1—20418
β-$LaNi_{5-x}Al_xH_x$, H diffusion behaviour, Al substitution effect, PMR relax. time meas. 1—3282
$LaNi_{5-x}Cu_x$ Haucke cpd., low temp. heat capacity and H_2 absorpt. 1—30417
$LaNi_{5-x}Cu_x$ hydrides, proton spin relax. rate meas. 1—3284
α-$LaNi_5H_{0.36}$, heat capacities, enthalpy of formation and entropies meas. 1—7348
$LaNi_5H_{6.5}$, H self-diffusion coeff., PMR relax time study 1—3281
$LaNi_5H_x$ fuel cell, appl. in vehicular propulsion 1—21874
$LaNi_5H_x$ heat exchangers, charging rates and operating charcts. 1—18236
$LaNi_5H_x$, substituted, H coords., number, vol. and dissoc. press. 1—25205
$LaNi_5H_x$-type hydrides, use in Ni-H_2 batteries 1—21875
$LaNi_{4.6}M_{0.4}H_x$ (M=Si, Ge, B, Ga, In), H_2 dissoc. press., effect of element M 1—31855
$LaNi_{5-x}Mn_x$ and hydrides, thermodynamic and struct. props. 1—20126
$LaNi_{5-x}Mn_x$ and hydrides, thermodynamic and struct. props. 1—25204
$LaNi_5Ti_{0.1}$, surface oxidation and electronic struct. 1—38708
$LaNi_5Zr_{0.1}$, surface oxidation and electronic struct. 1—38708
$La_{1-x}Pr_xSn_3$, transport props. at low temps., Kondo effect 1—42741
La_2Pt_3, mag. props. meas., 4.2 to 300K 1—30923
(LaR)Sn_3, anomalous phys. props. 1—25827
$La_{80-x}Sm_xAu_{20}$, amorphous, Sm surface mixed-valence state, UPS study 1—30799
$La_{80-x}Sm_xAu_{20}$ amorphous alloys, supercond. and bulk mag. props. 1—30864
$(La_{1-x}Sm_x)Sn_3$, low temp. anomalies 1—20705
$LaSn_3$, lattice dynamics, inelastic neutron scatt. study 1—52244
$LaSn_3$, phonon dispersion, inelastic neutron scatt. study, comparison with mixed valence $CeSn_3$ 1—38481
$LaSn_3$:Nd dilute alloy, mag. susceptibility, cryst. field effects 1—25910

lanthanum alloys continued
$La_xTb_{1-x}Ag$, crystal fields determ. from paramag. anisotropy and neutron scatt. 1−20683
$La_xTb_{1-x}Sn_3$, crystal fields determ. from paramag. anisotropy and neutron scatt. 1−20683
$La_{1-x}Th_xNi_5$, heat capacity, hydrogenation, influence of lattice and electronic factors 1−20418
$La_xTm_{1-x}Al_2$, crystal fields determ. from paramag. anisotropy and neutron scatt. 1−20683
$La_{0.78}Zn_{0.22}$, amorphous and cryst. supercond. specific heat, heat relax., very low temp. 1−30879
Mg-La-Ce alloys for hydrogen storage 1−21938
Ni-Ca-La(-Al), hydriding and dehydriding, reaction kinetics 1−4070
$Pr_{1-x}La_xIn_3$, singlet ground state system, spin echo of ^{141}Pr nuclear relax. 1−52865
Tb-La, mag. phase diagram, search for Lifshitz points 1−12292
$Tb_xLa_{1-x}Be_{13}$, mag. props. meas., 1.6-300K 1−25939

lanthanum compounds
see also lanthanum alloys
borate glasses, Faraday rotation and other props. 1−3373
lanthanum hexacyanoferrate (III) tetrahydrate, refined cryst. struct. 1−15880
monopnictides, electronic struct. 1−20605
orthophosphate compounds for radioactive waste storage 1−41214
PLZT ceramic, domain switching, light scatt. and strain variations 1−8023
PLZT ceramics, image storage appl., effects of Ar and Ne ion implantation obs. 1−15241
pnictides, Van Vleck orbit-lattice interactions 1−25679
salts, mol. absorpt. spectrosc. *(Japanese)* 1−48766
B_2O_3-Li_2O-La_2O_3 quasi-ternary system, phase diagram DTA *(German)* 1−21426
BaO-La_2O_3-B_2O_3 glasses, refl. coeff. and IR optical consts. 1−43092
$BiLaWO_6$ and solid solutions, synthesis and lattice parameters 1−20159
$(Bi_2Te_3)_{1-x}$-$(La_2Te_3)_x$ solid solns., electrophys., temp. and conc. depend. 1−38775
$Ce_xLa_{1-x}B_6$, magnetic susceptibility of solid solutions 1−25906
$Ce_xLa_{1-x}F_3$, Raman scatt., magnetoelastic interaction of optical phonons 1−26216
$(Ce_{0.05}La_{0.95})_2Mg_3(NO_3)_{12}.24H_2O$, deuterised, mag. thermometers 1−27975
$Ce_x(La_{0.76}Y_{0.24})_{1-x}As(Sb)(Bi)$, elec. resistivity investigations 1−20706
(La,Ca)C_2O_3 system, structural studies at high temp. *(French)* 1−47065
(La,M)B_6, (M=Sr, Ba, Ce, Pr, Sm, Dy), thermionic emission props. 1−26355
(La,M)CoO_3, (M=Ba,Sr), semiconductor electrodes, anodic O_2 evolution 1−16361
La complex, La (hexamethylphosphoramide)$_6(ClO_4)_3$:Eu^{3+}, crystal field parameters, fluoresc. spectra 1−25677
La-Mo emitters in hollow cathodes 1−23366
$LaAlO_3$, synthesis, struct. and elec. props. *(Polish)* 1−53147
$LaAl_{11}O_{18}$, synthesis by solid-state reaction, kinetics 1−3677
LaB_6 (001) face, surface states, theory 1−20847
LaB_6 cathode, electron emission brightness 1−16669
LaB_6 cathodes, ⟨100⟩, ⟨110⟩ and ⟨111⟩ orientation, emission characts. 1−26354
LaB_6 cathodes, single crystl., max. brightness *(Japanese)* 1−16651
LaB_6, delayed onset of 4d photoemission rel. to giant 4d photo-absorption of La 1−53054
LaB_6, optical constants, spectral depend. of light reflection 1−3358
LaB_6 single crystal electron gun for variably shaped electron beam optics 1−29203
LaB_6, thermionic emission props. 1−26355
LaB_6 whiskers, controlled growth by vapour-liq.-solid mechanism 1−34603
$LaBO_3$, B=Ti, V, Cr, Mn, Fe, Co, electronic struct., XPS meas., calc. 1−38714
$LaCl_3$:Eu^{3+}, trend of Eu^{3+} ligand bonding, ionicity influence 1−25195
$LaCl_3$:Ho^{3+}, crystal field energies of electronic ground state, absorption spectra 1−31172
$LaCl_{3-x}I_x$, mixed halide phases, X-ray powder diffr. patterns 1−26439
$LaCoC_2$, cryst. struct. 1−30199
$LaCoO_3$, adsorption (chemisorption) of O_2, 113-773K, ESR obs. 1−20573
$LaCoO_3$, adsorption of CO, 113-773K, IR obs. 1−20572
$LaCoO_3$, chemisorption of O_2, XPS, UPS and EELS study 1−12630
$LaCrO_3$ paramag. cryst., short range order, ESR study 1−7944
$LaCrO_3$, synthesis conditions influence on elec. props. 1−2955
$LaCrO_3$-TiO_2 electrodes, photoelectrochem. response 1−32034
LaD_x, D superlattice form., MNR study 1−3273
LaF_3, solid electrolyte props. 1−7378
LaF_3, tysonite, cryst.-chem. anal. of structural changes 1−2390
LaF_3:Dy^{3+}, 3 μm laser action 1−6560
LaF_3:Gd^{3+}, EPR 1−47942
LaF_3:Gd^{3+}, two-photon absorption as a new test of the Judd-Ofelt theory, fluoresc. detection 1−43170
LaF_3:Pr^{3+}, nuclear and electronic Zeeman effects meas. by optical hole-burning spectroscopy 1−48046
LaF_3:Pr^{3+}, transfer inside pairs of Pr^{3+}, up-conversion fluorescence study 1−48152
LaF_3:R^{3+}, Hartree-Fock calc. of cryst. modified wave functions 1−34652
$LaFeO_3$, magnetoelectric technique of determ. of Neel temp. 1−36709
$La_{1-x}Gd_xB_6$, spin glass, freezing temp. freq. depend. 1−34898
LaH_3, electronic struct., APW method 1−38715
LaH_2:Er^{3+} susceptibility and ESR, cryst. field params. 1−43007
LaH_3, electronic struct., APW method 1−38715
LaH_x (1.90≤x≤2.89), optical absorptivity and photoemission 1−21157
LaH_x, electronic and structural transitions, ^{139}La and ^1H NMR studies 1−16493
$(LaLuSm)_3(FeGa)_5O_{12}$, submicron bubble garnets, development and characts. 1−7905
$LaMgB_4O_{10}$, synthesis and cryst. struct. 1−25213
$LaNi_5H_{6.39}$ and $LaNi_5H_{0.36}$, heat capacities, entropies and enthalpies of form. 1−2654
β-$LaNi_5H_{6.39}$, heat capacities, enthalpy of formation and entropies meas. 1−7348
LaO_3-Al_2O_3 system, form. conditions and struct. *(Polish)* 1−53147
La_2O_3, thermal props., 400 to 1000K 1−2720
La_2O_3-CaF_2(-CaO-SiO_2) liquid slags, activity of La_2O_3 *(Chinese)* 1−38555

lanthanum compounds continued
La_2O_3-H_2O-CO_2 system, hydrothermal phase equilibria, phase diagrams 1−3703
La_2O_3-ThO_2-3La_2O_3.WO_3, thermodynamic stability and phase equilibria 1−3711
(LaO)AgS layer compound, synthesis and ionic cond. *(French)* 1−38587
(LaO)AgS, superionic conductor, prep., cryst. struct. and elec. conductivity 1−30468
LaOF, electronic struct., photoelectron and X-ray emission spectra 1−3570
LaOF, electronis struct., Xα DV calcs., XPS and XES 1−28873
LaOF-CaF_2(SrF_2)(BaF_2) solid solns., phase diagrams and cryst. growth by Bridgman technique 1−35241
La_2O_2S:Tm^{3+}, two photon excited luminesc. 1−12565
LaP, vaporisation thermodynamics, determ. by Knudsen effusion 1−30375
$LaPO_4$, sintering reaction with Na_2CO_3, intermediate products 1−26404
$LaPO_4$:Gd^{3+}, EPR study, appl. to radioactive waste disposal 1−43006
$LaRh_6B_4$, itinerant electron ferromag., X-ray, magnetisation and Mossbauer studies 1−30985
$LaRhO_3$-TiO_2 electrodes, photoelectrochem. response 1−32034
$LaRu_2Si_2$, new ternary silicide, cryst. struct. determ. by X-ray powder diffr. 1−20160
$LaRu_3Si_{2+x}$, new ternary superconductors 1−20902
LaS_2, struct., reversible transition at approx. 750°C 1−25293
γ-La_2S_3, refined cryst. struct., Th_3P_4-$ZrSiO_4$ struct. ratio 1−30183
$La_{3-x}S_4$, supercond. props., mag. susceptibility, sp. ht., and X-ray diffr. meas. 1−7768
La_3S_4, acoustic phonon mode softening near struct. transition, elastic consts. meas. 1−2584
La_3S_4, superconducting props., press. effect *(Russian)* 1−25819
La_3S_4-La_2S_3 system, supercond. and normal state props., lattice instability effects 1−38882
$La_3S_4(Se_4)$, Jahn-Teller band transition, mag. props. 1−20679
$LaSe_2$ and $LaSe_{2-x}$, struct. and twinning 1−25293
$LaSi_3N_5$, crystallographic study 1−25211
$(LaSmLu)_3(GaFe)_5O_{12}$, $(LaSmTm)_3(GaFe)_5O_{12}$, epitaxial films, bubble states and other mag. props. 1−7907
$La_{1-x}Sr_xFe_{1-y}Co_yO_3$ series, electrode for O_2 evolution, struct. and elec. cond. 1−31867
$(La_{1-x}Sr_x)MnO_3$ (0.1≤x≤0.5), water adsorption effect, elec. resist. *(Japanese)* 1−42639
$LaTiO_3$, magnetic and transport props. 1−25870
$La_2Ti_2O_7$, photocond. and photovoltaic props. 1−20798
$La_4Ti_3O_{12}$, 12-layered cpd., prep., elec. and dielec. props. 1−34972
$La^{III}Ti^{III}O_3$, X-ray powder diffr. data 1−30175
$(LaTmCa)_3(FeGe)_5O_{12}$, garnet films, magnetic loss, domain wall motion 1−16465
$LaVO_4$, Raman spectra, force const. calc. *(German)* 1−8081
$LaVaO_3$-TiO_2 electrodes, photoelectrochem. response 1−32034
$La_{2/3}\square_{1/3}TiO_3$, high freq. capacitor dielectrics, effect of other titanate additions 1−20413
Li_2O-La_2O_3-R_2O_3-P_2O_5 glasses (R=Nd, Sm, Eu, Er), Γ-irrad. paramag. centres, ESR spectra 1−43010
$Na_3La_{1-x}Nd_x(PO_4)_2$, $Na_3La_{1-x}Nd_x(VO_4)_2$, optical props. rel. to microlaser develop. 1−16595
Nd^{3+}:La_2S_3.3Ga_2S_3 (3Al_2S_3) glass, radiative transition probabilities and stimulated cross-sections 1−26237
Ni-Cr (20 wt.%), high temp. oxidation behaviour with dispersions of various reactive metal oxides 1−53363
$Ni_{0.2}Co_{0.8}LaO_3$ anodic electrocatalyst for H_2 production by H_2O electrolysis 1−43676
PLZT ceramic, ion implantation improvement of photoferroelectric imaging 1−38805
PLZT, compaction during hot pressing 1−21394
$Pb_{0.92}La_{0.08}Nb_2O_6$:$Fe^{3+}$, Cu^{2+} ceramic ferroelec., photovoltaic effect 1−25753
$(Pb_{0.91}(La_{1-x}Nd_x)_{0.08})(Ti_{0.92}Mn_{0.02}In_{0.06})O_3$ piezoelectric ceramics with zero temperature coefficients in radial mode resonance frequencies 1−3334
$PrLaP_5O_{14}$ laser, simultaneous operation at 637, 717 nm wavelengths 1−33693
$Sm_{1-x}La_xB_6$, solid solution, valence transition 1−12599
$Sm_{1-x}La_xB_6$, XAS study of oxidation state temp. depend. 1−12600
$Sm_xLa_{1-x}B_6$, magnetic susceptibility of solid solutions 1−25906
$Sr_{0.5}La_{1.5}Fe_{0.5}O_4$, Fe IV stabilisation, high spin electronic configuration 1−34665
$(Sr_{1-x}La_x)TiO_3$, insulator-semiconductor-metal transitions, 4.2K to room temp. *(Japanese)* 1−38817
$SrTiO_3$:$LaCrO_3$ photoanodes, light induced photocurrents 1−30777
$(YLaEu)_3(FeGa)_5O_{12}$ epitaxial films, growth induced anisotropy, FMR 1−7920
ZnO-La_2O_3-B_2O_3 glasses, refl. coeff. and IR optical consts. 1−43092

Laplace transforms
eclipsing binary stars light curves, Laplace transform for Fourier anal. 1−13802
elliptical equations second order as monotinic function representation, appl. to Laplace and heat flow eqns. *(German)* 1−5090
field problems with periodic boundaries, integral point-matching method appl. 1−10884
finite viscoelastic rods, wave front expansions, Laplace transform technique 1−24736
heat conduction with phase change in superheated liquid in semi-infinite mould 1−24654
heredity functions, calc. using inverse Laplace transforms 1−46682
isothermal adsorption, nonlinear partial differential eqn. system, analytical soln. *(German)* 1−34587
nonlinear system anal. 1−51
nuclear fuel slab, one dimensional temp. distribution determination using Maxwell-Cattaneo-Vernotte heat conduction theory, mathematical technique *(Italian)* 1−1799
S-matrix for radial potential, Laplace transformed Schrodinger eqn. 1−5516
shock excitation in cylindrical shell-ideal compressible fluid system, transients 1−19754
spin systems, quantum Hamiltonian, generalized Laplace formula appl. 1−18149
thermoelastic wave propagation, Laplace transform technique 1−1875
thick plate in form of sector of annulus, viscoelastic anal. 1−51703

Laplace transforms continued
Tr(exp(A−λB)), Laplace transform representation with positive weight and some matrix inequalities 1−157
unsteady dispersion flow in porous media 1−29769
Large Magellanic Cloud
0540−69.3, new O rich supernova remnant in LMC, narrow-band optical imaging and spectrum 1−49770
A 0538−66, optical flares seen in recurrent LMC X-ray transient 1−13886
A 0538-66, LMC recurrent X-ray transient, spectroscopic obs. of optical counterpart 1−54556
BW 89, SC star, luminosity, VRHIJK and visible spectra obs. 1−44635
Cepheids in LMC, ultra-short periods, UBV photometry obs. 1−44643
distance modulus, comparison of various results 1−27617
30 Doradus H II region, location of star form. region 1−9655
Fe II emission line star, spectral obs. 1−36407
globular clusters, red, in LMC, evidence for two populations 1−36360
globular clusters ellipticity 1−49796
inclination from Cepheid period-luminosity relation, comparison with other methods 1−27616
interstellar absorption lines, obs. in UV spectra of FD 70 (HD 38282) and SK-71-45 (HD 269676) 1−27611
LMC X4, X-ray binary, light curve of outbursts HEAO 1 obs. 1−17906
LMC X-1, spectra of optical candidate 1−17914
M-type supergiant and giant stars in LMC, coordinates, finding charts and VRI photometry 1−49540
massive stars, search for circumstellar absorpt. and intrinsic colours determ. 1−22800
most massive stars in Galaxy and LMC quasi-homogeneous evolution, time-averaged mass loss rates and mass limits 1−32695
N159 H II region, detect. of HCO^+ emission at 89 GHz 1−54595
N2030 assoc., mass of stellar precursor of assoc. supernova remnant N63A 1−40537
N63A, supernova remnant, precursor star mass from presence in stellar association (N2030) 1−40537
NGC 2209, cluster, abundances, photometry obs. 1−54564
red giants in open clusters, luminosity and temp. determ. from 118 photometry 1−9643
ring nebulae assoc. with Wolf-Rayet stars in LMC, identifications and dias. 1−27598
SK-65-22, star intermediate between Of and WN7, UV spectrum and absolute magnitude 1−27529
stellar population, distrib. of red and blue stars from ultralow dispersion spectra 1−17843
supergiant red variables in LMC, absolute bolometric magnitudes and period-luminosity relation 1−13779
supergiant stars, luminosity class I subdivision study 1−49661
Wolf-Rayet stars in LMC, spectral classification 1−49536
young globular clusters in LMC, ages, struct. and stellar mass functions 1−36359
C stars, mass loss, evolution, mass, colour var., VRI obs. 1−54611
H_2O maser detection in H II region N159, SHF obs. 1−49818
OH maser towards H II region N159 in LMC, UHF obs. 1−54628
large scale integration
fibre optics module serial light pipe linking modules 1−51618
focal plane integration, visible and IR assemblies 1−5384
hot electrons in layered semiconductors, appl. in VLSI circuits and optoelectronic devices 1−7625
inhomogeneity complexes, formation and influence on production yield *(Polish)* 1−2489
ion milling, new production technique 1−31706
line width meas., BMG 160 pattern width meas. instrum. based on model-E projection microscope 1−23304
MOS, stability of low press. CVD poly Si gates on thin oxides 1−34798
nuclear and space radiation effects, IEEE conference, Ithaca, New York, USA, July 1980 1−34368
speech synthesiser system based on partial autocorrelation voice compression technique 1−6724
VLSI, hot-wall CVD W process 1−48271
VLSI, microdefects in Si crystals, swirl prevention *(Japanese)* 1−31371
VLSI planar plasma etching of polycryst. Si 1−31705
$MoSi_{(2)}$ metallisation for VLSI, RF diode co-deposition of refractory metal silicides 1−31349
Si, doping profiles simulation *(French)* 1−20469
U and Th trace anal. in LSI materials 1−26796
large-scale systems
nuclear plants operator guidance systems, model order reduction aggration technique appl. 1−50907
superconducting MHD magnet cost factors and optimum current level 1−48880
laser accessories
acousto- and electro-optical modulator principles and applications to lasers 1−46549
adaptive optics for laser beam control using segmented and deformable mirrors 1−46491
alignment device for linear-cavity Q-switching system 1−33699
axicon, for focusing TEA-CO_2 laser, long diffuse plasma prod. 1−7014
axicon-type high energy laser components, geometrical optics 1−46221
beam absorption energy balance calorimetric meas. receivers 1−44923
beam displacement meas. in media with variable optical thickness 1−46414
beam expanders used in N_2 laser pumped dye lasers, comparative study 1−51474
beam splitters for dye laser pumping 1−11008
circulator, closed cycle, for high energy pulsed lasers, fluid and heat flow anal. 1−46364
concentration evaluation taking account of diffr. effects 1−19376
control system for dye laser freq. stabilisation *(Dutch)* 1−1586
deflection in garnet films, stripe domain control 1−11077
discharge lamps, for dye laser pumping, characts. 1−6565
double-prism beam expander in pulsed dye laser cavity, design 1−15193
echelette grating, electrically deformable, appl. to tunable laser resonators 1−24484
electro-optical shutter, for narrow-band laser output, phase effects 1−46410
electron beam facility for power conditioning studies of large inert gas halide lasers 1−29292
electrooptic interf.-polarisation filters, tuning of dye laser output freq. 1−46389
excimer laser control and feeding device *(Bulgarian)* 1−33705
laser accessories continued
excitation system for electric discharge excimer lasers 1−51499
exciter, high repetition rate, 70 kW rating, use of saturable charging inductor 1−15176
filter-glass calorimeter for laser pulse radiation energy meas. in ps region *(German)* 1−40789
Fizeau wedge mirror for dye laser tuning 1−15187
free electron laser pump produced by mag. diffusion 1−15173
gas selective absorbers for single-mode operation of CO_2 TEA lasers 1−19389
gratings for tunable lasers, multidielectric coatings for improved efficiency 1−6563
high-energy laser optical train performance, thermally induced phase aberration model 1−37532
holographic wavelength selectors recorded in dichromated gelatin films 1−19297
hypocycloidal pinch device array as UV laser excitation source 1−6564
index-matching liquids, electronic, nuclear and total nonlinear indices 1−29352
IR laser power monitor 1−37501
IR laser wavelength modulation spectrometer for window absorption meas. 1−28077
isolator, lossless passive, for optically pumped far IR laser 1−24434
large-aperture Stark modulated retroreflector at 10.8 μm 1−41824
lens system for laser scanners 1−15246
linear flashlamps, preionisation mode, dye laser pumping appl. 1−15175
liquid prism thin film polariser, high-performance, for use with high power lasers 1−37590
magneto-optic light deflector, stripe domains in garnet film, three mirror cavity 1−11078
metal mirror surface thermomech. stress degradation under pulsed laser irrad. 1−33734
metallic mirror deformations and wavefront aberrations caused by CW high power laser beams 1−1608
mirror, metallic, high power laser beam interactions anal. 1−6590
mirror optical surface defects influence on performance characts. *(Russian)* 1−46483
mirrors and coatings, used for vacuum UV and UV lasers 1−15174
multichannel space-time analyzer for laser radiation, energy calibration 1−37523
optical coating preparation for fusion lasers 1−19406
optical coatings, high band gap oxides, for 0.25 and 1.06 μm fusion lasers 1−19395
optical coatings for laser fusion applications 1−19405
optical material laser induced damage, symposium, Boulder, CO, USA (Oct. 1979) 1−27677
oxide reactively sputtered optical coatings for 1064 nm lasers 1−37572
passive switches using symmetrical pyrilocyanine dyes for near IR Nd lasers 1−51500
photoelectronic device with signal normalisation for laser spectrometer *(Russian)* 1−45022
picosecond laser pulses, continuous monitoring using a rapid-scanning autocorrel. scheme 1−51535
polished surface and thin-film coating damage by 1.06 μ laser pulses 1−37529
polymer films, metallized, dynamically disappearing mirrors, appls. 1−37586
pulse circuits for laser diodes, using thyristor high speed switches 1−11009
pulse shaping device based on Fourier synthesis, using optical anisotropies produced by hole burning 1−46407
pumping lamp quartz bulb heating effect on laser energy parameters 1−41715
reflaxions, nonlinear, diamond-turned, testing 1−37576
reflecting diffraction interferometer for CO_2 laser line selection 1−33708
reflector and film 266 nm laser pulse damage threshold obs. 1−37531
refrigerating unit for CO_2 electron-beam-controlled laser with cooled active mixture 1−6578
relativistic electron beam generator for excitation of short wavelength lasers 1−24426
rotating glass plate for laser quality factor changes 1−37515
sapphire, compressive failure under 300 W/cm^2 CO_2 laser heating 1−29310
sapphire, profiled, Stepanov prod. method and appls. 1−31330
Schottky barrier diode for far IR laser fast freq. modulation 1−11030
scophony light valve with electronic focus shift for laser scanner use 1−46548
semiconductor CW laser package construction and fibre-optic launching 1−41744
semiconductor laser, longitudinal mode selection 1−51510
semiconductor laser pulsation suppression using optical feedback from a fibre 1−15191
sheet electron beam, electrostatic gun electrodes synthesising 1−33614
Stark cell devices for CO_2 lasers 1−41714
steering system for laser beams 1−37522
supersonic free-vortex aerodynamic window expt. study 1−46365
target alignment and viewing instrum. for Shiva laser fusion research system 1−33737
UV lasers, mirrors and coatings, appls. in 200-300 Å range 1−33698
V-groove laser noise and distortion, metering equipment for linearity meas. *(German)* 1−19344
vacuum UV lasers, mirrors and coatings, appls. in 200-300 Å range 1−33698
wavelength meter, high precision, for tunable diode laser, design and possible sources of error 1−36637
wavelength sensed mode control of semiconductor laser 1−1575
window material brittle failure criteria 1−29358
BeF_2 glass, synchrotron radiation reflectance and photoelectron spectrum obs. 1−31166
CO_2 laser simultaneous striking circuit, coupled plasma tubes 1−19346
CaF_2 diamond-machined window surfaces, 2.7 μ and 3.8 μ laser breakdown obs. 1−29313
CaF_2 laser windows, forged and isostatically hot pressed, scatt. levels and stress birefringence obs. 1−29354
CaF_2 single crystal diamond-machined window surfaces, HF-DF laser-induced breakdown 1−1605
CdTe electro-optic crystals for broadband modulation of CO_2 lasers 1−41757
Cu mirror surface defects, laser damage resistance 1−29311
Cu:Al ion implanted mirror oxidation for laser pulse reflectivity and damage resistance 1−29312

laser accessories continued
GaAs picosecond switch, active mode-locking of coumarin dye lasers 1−15199
GaAs-Al_xGa_{1-x} heterostruct. lasers mirrors, ion-plasma treatment 1−51518
GaP picosecond switch, active mode-locking of coumarin dye lasers 1−15199
Ho:YLF laser rod holder design using liquid cooling 1−1587
KCl window damage by 10.6 μ short-pulse CO_2 laser, adsorbed water effect 1−29314
KY_3F_{10} crystal fabrication and props. for high-power laser applications 1−29357
LiF laser windows, press forging and optical props. 1−29353
$LiTaO_3$, electrooptic switch for Q-factor modulation of Nd^{3+}:YAG laser 1−37520
$LiYF_4$ crystal fabrication and props. for high-power laser applications 1−29357
MgF_2 polycrystalline diamond-machined window surfaces, HF-DF laser-induced breakdown 1−1605
Mo CVD thin films for high-power laser mirrors 1−37588
NaCl laser windows, forging, mech. and optical props. and sp. ht. obs. 1−29355
NaCl transmissive components and electroplated Cu on Cu alloy or Al substrate mirrors for inertial-confinement fusion lasers 1−11017
NaCl window damage by 10.6 μ short-pulse CO_2 laser, adsorbed water effect 1−29314
SiO_2/TiO_2 multilayer high-reflection coating, laser damage obs. 1−37528
SrF_2 diamond-machined window surfaces, 2.7 μ and 3.8 μ laser breakdown obs. 1−29313
SrF_2 single crystal diamond-machined window surfaces, HF-DF laser-induced breakdown 1−1605
TiO_2 reactively sputtered optical coatings for 1064 nm lasers 1−37572
$Tl_3ScAs_2Te_3$ IR chalcogenide glass, laser switching system damage threshold factors 1−37527
Xe, flash lamp, short discharge time, heat losses 1−15674
Xe flashlamp for use in large aperture amplifiers, time resolved spectroscopy 1−19399
YPO_4 monocrystal 1.06 μ laser damage obs. 1−29309
ZnSe antireflection coated laser window, photoacoustic spectroscopy 1−37595
ZnSe window temp. distrib., optical distortion and strain rel. to CO_2 laser irrad. power 1−29356
ZnSe-ThF_4 antireflection coated laser window, photoacoustic spectroscopy 1−37596

laser annealing *see laser beam annealing*

laser beam annealing
design of laser annealing devices and applications *(Japanese)* 1−48199
fibreglass, single pulse laser irradiation effects 1−15923
garnet films, bubble automotion channels by laser annealing 1−52812
glass thin film optical waveguide, light scatt. reduction by CO_2 laser annealing 1−11087
semiconductor, laser annealed, defect identification and eval. techniques *(Japanese)* 1−20188
semiconductor materials, laser processing 1−25307
semiconductors, epitaxial regrowth mechanisms, review 1−30258
semiconductors, ion implanted, laser annealing, review 1−52157
Al, laser-modified surface, electrochem. and corrosion behaviour 1−21650
GaAs, ion implanted, recrystn. induced by laser annealing, Raman spectra study 1−52072
GaAs:Te, implanted, He backscatt., laser annealing effects, carrier conc. 1−38391
Ge:B(P), ion implanted, lattice location of impurity ions after laser annealing 1−11778
Mn_xAl_{1-x}, selective magnetisation, laser annealing 1−30974
Pd film on Si substrate, thermal stability, Rutherford backscattering spectra 1−16215
$Pr_{0.27}Co_{0.73}$, amorphous, crystn., magnetisation, coercivity, laser annealing effects 1−38948
Pt film on Si substrate, thermal stability, Rutherford backscattering spectra 1−16215
Si (111) surface, laser annealed, buckling reconstruction, photoemission, low energy electron diffr. 1−48200
Si amorphous layers, laser annealed, ordinary Raman spectroscopy 1−43132
Si CVD film, polycryst., on SiO_2, lateral epitaxial growth by scanning CW Ar laser annealing 1−52451
Si, damaged covered with metal film, laser annealing, test for epitaxial growth from melt 1−35125
Si, disordered, laser beam annealing theory 1−26315
Si film, ion implanted, CW laser annealed, electrical props. 1−30851
Si, ion implanted, laser annealing, epitaxial regrowth 1−52450
Si, ion implanted, ps. pulsed laser annealing, dynamic behaviour 1−52158
Si, ion implanted, scanning-electron and pulsed-laser annealed, struct. and elec. props. 1−42401
Si, ion-implanted, laser-induced solid phase epitaxial crystn. obs. by optical refl. 1−52446
Si layers, photoacoustic effect in laser annealing 1−20318
Si on sapphire, epitaxial layer, recrystn. after CW laser irrad., implanted film rel. to CVD 1−38678
Si, photoluminescence after laser annealing, dislocation effects 1−48128
n-Si, pulsed CO_2 laser annealing, free carrier absorpt., theory 1−39191
Si semiconductor laser annealing *(Hungarian)* 1−31243
Si, slip dislocation formation during CW laser annealing 1−47085
Si:As, ion implanted, CO_2 laser induced annealing and diffusion 1−52159
Si:B, ion implanted and surface deposited B distrib., laser annealing effects, SIMS meas. 1−30267
Si:B, ion-implanted, B distrib. after laser annealing, SIMS depth profiling 1−15920
Si:B, laser annealed, IR reflectivity and transmissivity 1−12487
Si:B(P), ion implanted, lattice location of impurity ions after laser annealing 1−11778
Si:B(P)(As), ion implanted, laser annealing effects on elec. props. 1−2485
Si:In segregation and trapping after laser-beam annealing, growth vel. depend. 1−38536
Si:P, ion-implanted, disordered layers, laser and thermal annealing, elec. props. 1−11780
Si:Te(Ag), ion implanted, solute trapping by moving interface 1−30470
Si:Yb, laser annealing after ion implantation 1−25308
Si-on-sapphire, time-resolved cond. and refl. during laser annealing 1−52563

laser beam applications
see also holography; integrated optics; laser beam annealing; laser beam machining; laser beam welding; laser isotope separation; matrix isolation spectroscopy; measurement by laser beam; modulation spectroscopy; optical communication; optical radar; patient treatment; plasma production and heating by laser beam; Raman spectra; Raman spectroscopy; remote sensing by laser beam; spectroscopy; surgery; two-photon spectroscopy
actinide ions in solution, detection of oxidation state and chemical behaviour, nuclear waste transport 1−31942
amorphous materials for optical recording, storage and erasure 1−46476
analytical at. spectroscopy, tunable laser appl. 1−18309
angular velocity sensor nonsensitive zone anal. *(Russian)* 1−27937
atmospheric measurement, air pollution 1−32559
atom counting, resonance ionisation spectros. using lasers 1−1412
atomic and molecular gases, laser radiation induced fast deep coding 1−46841
biomedical technologies, laser appls. *(French)* 1−26975
biomedical utility of 1.34 μm Nd:YAG laser radiation 1−53853
book, laser technology and appls. 1−9782
coherent spectroscopy, apparatus for bulk or surface polariton studies 1−40871
communication, student project 1−13975
computer-interferometric holograms for laser beam scanners 1−41640
conference, Edinburgh, Scotland (Sept. 1979) 1−27669
dermatological photobiology, future prospects for lasers 1−35873
dual-frequency laser interferometer rationalised scheme *(Chinese)* 1−337
electro-optical focusing device for flight simulator laser visual system 1−41819
endolaryngeal CO_2 laser surgery *(German)* 1−8953
fibre optic ring interferometer, optical rotation sensor based on Sagnac effect *(German)* 1−19459
flame visualisation by laser tomography 1−39641
flash pyrolysis and gasification of coal through laser heating 1−53529
flow cytometry , dual-laser, high-resolution *(German)* 1−22173
fluorescence bronchoscopy for early lung cancer localisation 1−35872
fluorescence spectroscopy of biomolecules 1−35749
framing interferometry, high speed, with pulsed He-Ne laser 1−36729
gas insulated edge-plane rail-gap, laser triggered for synchronised low-jitter multichannel breakdown 1−25111
gyrocompass, rotating-mirror system, theory based on Sagnac effect *(German)* 1−37534
high power lasers, industrial and fusion appls. 1−37535
high-power laser development and appls. *(Japanese)* 1−51502
high-time-resolution laser spectrometer 1−357
holographic memory recording and readout using injection laser radiation 1−51422
holographic scanners with aberration corrections, generalised design considerations 1−46258
holography industrial appl. *(French)* 1−19300
horizons in optics, conf., Pont-a-Mousson, France (Apr. 1980) 1−22942
image recorder, high-resolution, with integral wet film processor 1−45054
image storage using laser memories 1−6497
imaging for publishing, comparison with photomaterials, review 1−37573
inert gas-halogen UV lasers, appls. in chemical industry *(German)* 1−41716
intercavity laser spectroscopy for meas. absorpt. spectra and conc. of mol. formed in shock front 1−352
interference ring form. by multiple internal reflections 1−13980
interferometer, Fabry-Perot, apparatus function determ. using Ne-He laser 1−333
interferometer optics calc. *(Rumanian)* 1−36726
IR laser photochemistry 1−4102
IR lasers, props. and appls. 1−37536
IR reciprocal tracking laser communicator 1−41879
IR spectrometer using computer controlled CW colour centre laser, 2.2-3.3 μm range 1−18311
laser and electrical discharges, simultaneous use in atomic absorpt. anal. 1−53515
LINAC, laser-driven diffraction-grating, theory 1−50998
Lippmann holograms, theory, recording and image processing *(Japanese)* 1−37439
lunar laser ranging, general 1−32637
malignant tumours of head and facial regions, laser therapy current progress *(German)* 1−49091
mechanical fatigue testing 1−35495
medical and biological uses, expt. results for CO_2 laser scalpel *(Czech)* 1−32221
medical endoscopy, prospects for laser appl., review 1−8948
medical engineering in ophthalmology, optoelectronics and lasers *(Japanese)* 1−39983
medical uses, suitability of He-Ne lasers *(Czech)* 1−32225
medicine and biology, conf., Florence, Italy, (Sept. 1979) 1−32806
memory device, with anisotropic holes and polarisation-sensitive readout 1−6495
metallic surface hardening by laser beams 1−21648
methane, ν_4 IR absorpt. with ultra-high resolution using tunable diode lasers 1−45956
micro-spectrograph for trace element monitoring in mild steel, nucl. power station appls. *(German)* 1−21815
microphotochemistry for solid-state electronics appls. 1−21747
multilayer reflecting coating deposition 1−11196
multioscillator laser gyros, review 1−1614
multiple stage device, high vel. plane launching 1−38461
multiple wavelength cinematographic and interferometric diagnostics using N_2 multichannel laser 1−15160
neurosurgery, new technologies using lasers and US 1−8959
nuclear fusion, electricity generation prospects 1−903
nuclear materials safeguards, laser surveillance system for spent fuel 1−18752
Omega laser fusion system, multiple laser path length equalisation using white light AC interferometry 1−28058
optical fibre backscatter system employing semicond. laser diodes and avalanche photodiodes, noise anal. 1−46576
optical recording of video and digital information, using diode laser 1−41761
optical storage, phononles photochemical holes fabrication, by selective photochemistry 1−39654
optomechanical laser photorecorder, half-tone print line-by-line recording 1−37539
photodermatology, appl. of dye lasers 1−35875

laser beam applications continued
photodermatology, usefulness of lasers, review 1−35874
photodichroic silicate glass surface laser recording material, recording effects 1−6626
photoelectric collimator angular and linear meas. *(Russian)* 1−46534
photomedicine, pots. for lasers, an overview 1−35870
photonic compression, lasers for high press. eqn. of state meas. 1−29242
photoradiation therapy of malignant tumours, role of the laser 1−35871
polarisation-rotated optical feedback in self-coupled optical pickup 1−6598
printing industry, imaging material, advances in design 1−37574
printing industry, UV laser design 1−37508
pulse laser holograms, production and safety aspects *(Japanese)* 1−37440
pulsed holography review, book contrib. 1−10947
real-time optical correlation with solid-state sources 1−51395
recorder for continuous-tone transparent electrophotography 1−45053
recording system, high performance image processing 1−46246
recording system, rotating mirror drum optomechanical scanner scheme 1−37538
retinal laser photocoagulation, benefits and risks 1−35867
review of important laser appls. *(Italian)* 1−41713
ring laser gyroscope, nondithered, four-freq., quantum limit 1−29317
ring laser gyroscopes, magneto-optical element appls. 1−11027
scanner, efficient, flexible, constructed from vol. holograms 1−41641
scanner laserbeam, constructed from vol. holograms 1−6522
scanning and recording for advanced image and data handling, seminar, Washington, DC, USA (Apr. 1980) 1−44704
scanning system design and optical configuration factors 1−46421
scanning system for reproduction of X-ray transparencies 1−35876
scophony light valve with electronic focus shift for laser scanner use 1−46548
semiconductor, crystal growth and impurity incorporation by transient laser and electron beam heating 1−53087
semiconductor diode lasers, tunable IR, review 1−1569
semiconductor laser for information read-out 1−19358
semiconductor melting by laser radiation, heterojunction formation 1−31338
shock waves, laser driven, impedance-match expts. 1−38458
shock waves, laser generated at extreme high press. 1−36674
skin, human, spectroscopic props. and tumour photodestruction 1−35808
solar power stations, laser and computer control *(German)* 1−21845
solid-state pulse lasers, basic props., parameters and appls. *(Czech)* 1−46362
spectroscopy progress in atoms mol. and nuclear physics 1−45034
steel, hardening with continuous-acting gas laser 1−43606
steel, TiC hardened surface by laser melt injection 1−21588
strengthening steel, with CO_2 laser, technological characts. *(Russian)* 1−43593
stroboscope for high performance *(Italian)* 1−41815
surface hardening with pulsed laser beam 1−3962
surface strengthening, recording change in surface roughness *(Russian)* 1−43549
surgery, laser photocoagulating dielectric waveguide scalpel 1−35853
surgical applications of laser scalpel *(Czech)* 1−32222
surveying and construction industry laser use and hazard assessment 1−44031
systems approach to laser utilisation under industrial conditions, increased efficiency 1−6567
thermonuclear ignition by laser beam, laser conversion to fast electrons *(Russian)* 1−41230
three-level system, laser cooling by spontaneous anti-Stokes scatt. 1−41437
TJS laser facet with directly attached microspherical lens for optical fibre coupling 1−24433
tunable diode laser spectrometer optical calibrator 1−36745
urology, endoscopic appl. of the Nd:YAG laser 1−8960
Versatile Electron Beam Accelerator, laser-triggered switch modification 1−23879
water, isotope ratio determ. using CW chem. DF laser 1−35584
C films, laser evaporated, Ar ion bombardment effects 1−53094
CN, absorption spectra and small conc. meas. using intercavity laser spectroscopy, mol. rot. 1−352
CO_2 CW laser material surface treatment 1−8460
CO_2 fusion-research laser, Antares, 40 kJ, Los Alamos 1−33707
CO_2 high power laser system, TROJAN 1−29299
CO_2 high-energy short-pulse laser system, fusion appls. 1−19361
CO_2 laser devices and appls., conf., Washington, DC, USA (April 1980) 1−40596
CO_2 lasers for inertial-confinement fusion research, transmissive component and mirror material selection 1−11017
GaAlAs DH laser as heterodyne receiver, coherent radiation detection 1−1615
GaAs, surface cleaning in vacuo by high power laser pulses 1−21603
GaAs thin film optical waveguide, fabrication of chirped gratings 1−15256
He-Ne laser screening of different skin sites 1−43940
He-Ne lasers, high-vol. appls. 1−24445
^{3}He gas, nuclear polarization by laser optical pumping 1−1199
InP atomically clean surface prep. by pulsed laser irrad. 1−8456
Mg film deposition by UV KrF and XeCl excimer lasers 1−39242
N_2-Ar_2-SF_5 gas, heated by CW IR laser, interferometric meas. and calc. of temps 1−38040
Nd:YAG lasers with continual pumping, appls. in microelectronics, optoelectronics and medicine *(Czech)* 1−46374
Si, atomically clean surface prep. by pulsed laser irrad. 1−8456
Si, impurity decay, laser IR flaw detection 1−52128
Si, resistivity variation detection using liquid rectifying contacts, laser scanning technique 1−12138
Si solar cells fabrication, polycrystalline, high efficiency, continuous plasma deposition and laser recrystallisation 1−13122
Si surface preparation by Q-switched laser in ultrahigh vacuum 1−8455
Si wafer characterisation by visible light scatt. and interference *(Japanese)* 1−48627
Zn film deposition by UV KrF and XeCl excimer lasers 1−39242
ZnS:Mn, polymorphic props. anal. by laser spectroscopy 1−47033

laser beam effects
see also laser beam annealing; plasma-beam interactions; plasma production and heating by laser beam
ablation of materials subjected to laser radiation and high-speed gas flows 1−48198

laser beam effects continued
adlayer-surface system, laser-stimulated processes, selective and nonselective excitations, dynamical model 1−21297
aerosol transparent particles, laser breakdown 1−26125
air, KrF laser-induced breakdown, threshold intensity meas. 1−42124
air, laser-induced breakdown, pulse-width and focal vol. depend. 1−53018
alkali halide cryst., laser bombarded, light scatt. by damaged regions 1−53021
alkali halide crystal transparent dielect. optical breakdown and light flash emission by CO_2 laser pulses 1−26290
alkali halide ionic dielectric, laser radiation breakdown, electron avalanche ionization 1−8001
alkali metal halide laser-induced intrinsic damage, avalanche and multiphoton ionisation models 1−39192
atomic beam motion in field of reson. standing EM wave 1−1411
Bakelite insulation, target exposed to laser radiation, induced elec. pot. investigation laser 1−53019
biological effects, similarities between nonionising radiations 1−8909
biological heating, radiometric monitoring of exposure-site temp. 1−49175
biological tissues irrad. by a CW CO_2 laser, thermal effects 1−8907
carbonmonoxyhaemoglobin, sub ps photodissociation and time resolved spectroscopy of recombination processes 1−35753
carrier lifetime, controllers meas., influence of lightening area for minority carrier injection *(Japanese)* 1−47708
chicory, induction by laser light of in vitro flowering 1−8910
coherence of disturbances of different freqs. 1−46210
conducting targets, laser induced transient excitation 1−39187
crystal static polarisation induced by laser illum., bistability and hysteresis 1−33740
cyclohexane liquid boiling induced by bulk absorpt. of CO_2 laser radiation 1−42524
damage in optical materials, symposium, Boulder, CO, USA (Oct. 1979) 1−27677
dielectric, transparent, thermal instability caused by quasi-CW laser pulse 1−43225
dielectric crystal, doped, stimulated phonon emission by coupling to electronic states 1−15974
DNA and RNA components, selective interaction of ultrashort UV laser pulses 1−35746
Duraluminium target exposed to laser radiation, induced elec. pot. investigation laser 1−53019
dye-biomolecule complexes, laser selective photobiology 1−35828
electrons in EM plane wave field, optically induced band structure 1−6439
evaporated films, laser line interface and volume absorption by water 1−31219
evaporation, radiation-induced, response to thermal and hydrodynamic perturbations 1−42523
eye spectral acuity anal. 1−43901
film impurity breakdown model, laser-induced damage 1−39194
fluoride thin films, pulsed laser damage threshold at 0.26 to 1.06 μ 1−37530
fluorophosphate laser glass, low damage threshold causes 1−41760
garnet film, laser annealed, mag. props., ferromag. reson. and bubble statics meas. 1−12367
gas cooling by light, total velocity distrib. as Boltzmann eqn. soln. 1−19856
glass, CO_2 laser irradiated, surface failure 1−39190
graded-index surfaces to limit reflection, laser induced damage 1−41801
hazard evaluation and safety standards 1−43899
hydrocarbon thermocapillarity surface, reflected Gaussian beam self-focusing 1−33776
hydrocarbons, heavy, thermocapillary liq. films as transient photographic receivers 1−10029
incident-wave expansion for laser coupling to spherical targets 1−51534
inert gases, KrF laser-induced breakdown, threshold intensity meas. 1−42124
insulator, wide band gap, laser-induced breakdown, freq. and focal volume dependence obs. 1−39195
interaction with two-photon media, fluctuation study 1−8167
ion-clusters from thin foils of metals and semicond. produced by interaction of UV laser light 1−43222
linear chain, laser interaction with end atoms 1−35126
lipid vesicles, fluoresc., pattern photobleaching by polarised laser light 1−32186
liquid, nonresonant interaction of high-power optical radiation, review 1−8040
liquid crystals, nonlinear optics, review 1−33750
liver, rabbit, CO_2 laser irrad., thermal damage 1−22062
low level, long term effects 1−43900
medical optics and photonics, conf., Strasbourg, France (Nov. 1979) 1−5022
metal, laser heating kinetics in oxidizing medium, interf. effect 1−35449
metal evaporation process under laser radiation action, thermophysical props. effect 1−21296
metal free surface, acoustic pulse efficient prod. by Q-switched lasers 1−30331
metal mirror surface thermomech. stress degradation under pulsed laser irrad. 1−33734
metal oxides surface, laser radiation patterns, thermal distortion 1−3543
metal surface cracking due to laser irrad. 1−35130
metal surface hardening with 2 kW CO_2 laser 1−8465
metal targets, 2.8 μm HF laser irrad., laser supported detonation waves and thermal coupling 1−43223
metal-ceramic, type YuNDK35T5, laser radiation action on porous materials *(Russian)* 1−15924
metal-semiconductor fused ohmic contacts by 10.6 μm laser beam 1−30824
metallic mirror deformations and wavefront aberrations caused by CW high power laser beams 1−1608
metallic surface hardening by laser beams 1−21648
metallic thin films, thermal deformation due to laser irrad. *(Russian)* 1−16808
metals, laser heating, diffusion mechanisms of the absorptivity changes 1−21298
metals, laser heating in oxidizing medium, optimum wavelength, calc. 1−35129
metals, thermally generated elastic waves by laser irrad. 1−42471
methane, KrF laser-induced breakdown, threshold intensity meas. 1−42124

laser beam effects continued
methylene blue in the presence of polyanions, laser flash photolysis obs. 1−21751
microshell targets, laser-heated, spherical shock development meas. 1−42175
mirror, metallic, high power laser beam interactions anal. 1−6590
ocular damage from multiple-pulse laser exposures 1−43895
optical components, real-time damage monitoring with photoacoustics 1−33729
optical glass, crown, flint, electric breakdown due to shock wave 1−26123
organic materials subjected to CO_2 laser radiation, thermal decomp. product screening action changes 1−53428
oriented non-spherical particle, light scatt. obs. using optical levitation 1−6456
oxide film laser damage threshold correl. with pyroelectric absorption meas. 1−37524
oxide reactively sputtered optical coatings for 1064 nm lasers 1−37572
oxide thin films, pulsed laser damage threshold at 0.26 to 1.06 μ 1−37530
pellet, laser irradiated, ablation nonuniformity and collisional hot electron filamentation 1−10522
phonon propagation and reflection at hypersonic freq., Brillouin spectroscopy 1−20328
photochemical holes as stable references for frequency locking lasers 1−46413
plant responses to laser light 1−8904
plasma appearance due to laser action on Al target in air 1−53020
plasma electrostatic wave excitation by far IR laser beam and ion beam 1−24970
plasmas, electron and laser beam intensive irrad., irreversible effects 1−42422
PMMA, optical damage threshold cumulative effects and time depend. on exposure to coherent radiation 1−35127
polished surface and thin-film coating damage by 1.06 μ laser pulses 1−37529
polymers, transparent dielectrics with foreign inclusions, laser destruction *(Russian)* 1−30276
prostatic carcinoma, irrad. by Nd:YAG laser 1−8908
quartz and quartz glass, gamma radiation-coloured, classification and fracture by laser beam 1−30278
quartz glass, KU-2 and K-8, absorpt. coeff. and optical strength 1−26159
reflector and film 266 nm laser pulse damage threshold obs. 1−37531
retinal temperature rise due to long-term laser irrad., rhesus monkey obs. 1−22063
ruby, resonant phonon relaxation studied using optical generation and detection 1−30336
sapphire, compressive failure under 300 W/cm^2 CO_2 laser heating 1−29310
self-focusing in corona of laser-irrad. targets 1−46465
semiconductor, piezoelectric, magnetised, US wave excitation due to laser beam modulation, theory 1−30330
semiconductor laser annealing to control of grain boundary effects 1−2469
semiconductors, resonance excitation of carriers by intense light pulses *(Russian)* 1−42828
solid, irrad., pulsed melting, recoil press. 1−35128
solid electron-avalanche breakdown theory 1−39193
solids, band-gap opening and optical absorption 1−15212
spark plasma, light scatt. anisotropy 1−51959
spherical target suspension by TEM_{01}* mode laser beam 1−1613
standards for laser radiation 1−53821
steel, alloy, capillary waves generated by light pulses of Nd^{3+}:glass laser with US Q-switch 1−21295
steel, C, laser heat-treated, fatigue resist. 1−48490
steel, stainless, laser beam etching in vacuum, AES and quadrupole mass spectroscopy studies 1−35132
steel, stainless, laser irradiated, type 1Kh18N9T, microhardness, effect of elec. field and press. *(Russian)* 1−16868
steel, tool M2, electron beam and laser melting, comparative study 1−3976
stimulated Brillouin scatt. influence on laser-induced damage thresholds 1−37533
surface processes, laser-stimulated, multiphoton-multiphonon theory 1−3544
thermal and mechanical coupling of IR laser radiation to targets 1−39188
thermocapillary liquid surface, laser beam self-focusing 1−33777
thermocapillary liquids as transient photographic receivers 1−368
thermonuclear ignition by laser beam, laser conversion to fast electrons *(Russian)* 1−41230
Ti alloys erosion by laser beam interaction 1−16627
transition acoustic emission from moving thermo-optic source 1−1754
transition metal oxides, surface reduction by laser radiation 1−17103
transparent liquids containing absorbing particles, refr. index, laser radiation effect 1−1610
transparent solid dielectrics, accumulation effects and time depend. of threshold for laser breakdown 1−35131
transparent surfaces and films, laser damage exam. by total internal reflection microscopy 1−37526
trapped ions, light-pressure cooling in three-dimensions 1−194
trapped particles, laser cooling in fast particle limit 1−33429
tumour cells, Ehrlich Ascites, mitotic activity and DNA synthesis, He-Ne laser irrad. effect *(German)* 1−8906
two atoms coherently driven by strong reson. laser field, reson. fluoresc. spectrum 1−41342
US pulse generation at free metal surfaces 1−46641
UV, survey of acute effects on human and animal skin 1−35840
UV irradiation of pigmented and unpigmented mammalian skin, nerve fibre effects 1−35841
UV laser microbeam irrad., technique for selective cell destruction and precise neurite transection 1−27038
visual acuity-colour discrimination relationship after ruby laser treatment of CSR patients 1−48993
volume heat source shape influence on temp. field of a thin plate *(Russian)* 1−46665
water droplet explosion in CO_2 laser field, gasdynamic regime modelling 1−33733
YAG crystal optical strength, irradiation with Er^{3+}:YAG giant laser pulses $\lambda = 2.94$ μ 1−33732
Al alloy, thin sheet, strength reduction by laser irrad. 1−47111
Al foil, laser drilling with different pulse shapes 1−8168

laser beam effects continued
Al surface, interaction with pulsed XeF laser radiation 1−12606
Al target, pressure induced by pulsed CO_2 laser, mech. coupling *(French)* 1−39189
Al-Si_3N_4-Si, interface charge beneath laser-annealed insulators 1−3070
Al-SiO_2-Si, interface charge beneath laser-annealed insulators 1−3070
AlGaAs/GaAs DH laser diodes, coating film-mirror facet interface stability determ. 1−15249
Ar-Ne inverse Penning mixture, breakdown by Nd laser pulse 1−42125
As_2Se_3, thin film, spectral sensitivity *(Russian)* 1−48183
C film, prep. by laser evap., elec. and opt. characteris. *(Japanese)* 1−31364
CO_2 molecular states diagnostics from resonance absorpt. of CO_2 laser radiation 1−1238
CO_2 TEA laser pulse-liq., interaction diagnostics 1−43224
$^{13}CH_3F^{12}CH_3F$ mixture, light induced drift and splitting in continuous IR radiation field *(Russian)* 1−41438
CaF_2 diamond-machined window surfaces, 2.7 μ and 3.8 μ laser breakdown obs. 1−29313
CaF_2 single crystal diamond-machined window surfaces, HF-DF laser-induced breakdown 1−1605
CdS holographic grating recording, coherent optical beam dynamic conversion mechanisms 1−33639
Co-Cr-Al-Y coating, laser surface treatment 1−31763
Cu alloys, laser irrad. effect on props. *(German)* 1−38404
Cu, laser heating kinetics in oxidizing medium, interf. effect 1−35449
Cu mirror surface defects, laser damage resistance 1−29311
Cu:Al ion implanted mirror oxidation for laser pulse reflectivity and damage resistance 1−29312
Cu:Pb single cryst. film, pulsed laser annealing 1−8341
Cu-Al-Sn, laser surface melted, enhanced corrosion resistance, elemental nonuniformities 1−43610
Cu-Ni-Sn, laser surface melted, enhanced corrosion resistance, elemental nonuniformities 1−43610
Cu-Zr powders, laser amorphisation, alloy microstructure 1−3669
Fe, shock waves, laser-driven, and twinning 1−38457
Fe-Ni films, α to γ phase transform. under pulsed laser irrad. *(Russian)* 1−3735
Fe-Ni-P-B amorphous alloy, prod. by high power CO_2 laser 1−43298
GaAs, laser induced damage, optical heating 1−15925
GaAs MOS capacitor, anodised, effect of CW laser irradiation on interface props. 1−25805
Ge, (111) surface struct. after pulsed laser annealing 1−7433
Ge, dangling bonds during laser irrad. 1−12060
Ge, electron-hole drop drag by deform. pulse due to laser irrad. *(Russian)* 1−2973
Ge, electron-hole droplets dragged by laser-induced deform. pulse 1−47492
Ge film localised laser damage site identification by photoacoustic spectroscopy 1−37525
Ge, laser induced damage, optical heating 1−15925
Ge, profiled single-crystals exposed to pulsed CO_2 laser, surface damage 1−31242
H_2, KrF laser-induced breakdown, threshold intensity meas. 1−42124
^3He gas, nuclear polarization by laser optical pumping 1−1199
InBr, emission and scatt. spectra under resonant excitation conditions 1−8094
InSb, laser induced damage, optical heating 1−15925
p-InSb, n^+-layer form. by ion bombard. and laser irrad. 1−21312
InSb, refractive index change caused by laser beam irradiation 1−12470
K vapour, optically induced magnetisation using nonreson. laser radiation 1−11508
KBr, F-centre and self-trapped exciton form. under two-photon excitation 1−2436
KCl window damage by 10.6 μ short-pulse CO_2 laser, adsorbed water effect 1−29314
KDP, laser destruction dynamics, pressure wave effects *(Russian)* 1−30277
KI:NO_2^-, laser induced fluorescence and Raman studies 1−43171
α-$LiIO_3$, stimulated Raman scatt. under laser irrad., multimode lattice vibrs. *(Chinese)* 1−52927
$LiNbO_3$ crystal optical strength, irradiation with Er^{3+}:YAG giant laser pulses $\lambda = 2.94$ μ 1−33732
$LiNbO_3$:Fe, polarised Raman scatt. spectra, optical damage effect 1−26213
MgF_2 multilayer reflecting coating prep. using laser deposition 1−11196
MgF_2 polycrystalline diamond-machined window surfaces, HF-DF laser-induced breakdown 1−1605
N_2, liq., laser radiation enegy-depend. losses due to scatt. on gas bubbles 1−41768
N_2, liquid, laser cavitation, acoustic pulse emission 1−15519
Na beam, efficient transverse deflection by reson. radiation press. 1−46170
NaCl, IR radiation pulse interaction with colour centres 1−52134
NaCl, laser-induced breakdown, pulse-width and focal vol. depend. 1−53018
NaCl window damage by 10.6 μ short-pulse CO_2 laser, adsorbed water effect 1−29314
Nb-Fe, intermetallic composition formation due to laser induced shock wave *(Russian)* 1−53017
Nb-Fe, laser irrad., atom redistribution, compound formation *(Russian)* 1−3545
Ne, optogalvanic effects, laser-induced, prebreakdown phase, $^3P_2$ and $^3P_0$ metastable states 1−42231
Ni powder *(Russian)* 1−15924
Ni-Nb powders, laser amorphisation, alloy microstructure 1−3669
Pb film, supercond., transient responses to ps. laser pulses, quasiparticle relax. time meas. 1−38895
Pb, laser-induced desorption of H 1−35126
Rb vapour, optically induced magnetisation using nonreson. laser radiation 1−11508
RbBr(I), F-centre and self-trapped exciton form. under two-photon excitation 1−2436
Si, (111) surface struct. after pulsed laser annealing 1−7433
Si, amorphous hydrogenated, light-induced radiative recomb. centres, photolum. study 1−26251
Si, dangling bonds during laser irrad. 1−12060
n-Si, electron and laser beam intensive irrad., irreversible effects 1−42422
Si ion-implanted wafers, α-quartz formation by pulsed laser irrad. 1−7203
Si, laser damage zones, mosaic struct. charact. obs. 1−26316

laser beam effects continued
Si, laser induced damage, optical heating 1−15925
Si, laser-induced desorption of O 1−35126
Si, solar cell fabrication by ion implantation and laser annealing 1−4186
Si:As polycryst. film, sheet resist. reduction by laser irrad., implantation dose and laser wavelength effects 1−52670
Si:As(P) laser induced diffusion, doping profiles 1−42575
Si:P ion implanted, laser annealed, furnace annealing behaviour 1−2480
Si:Sn, structural state of implanted ^{119}Sn atoms 1−52163
Si-Pd medium power diodes, laser irrad. formed contacts 1−20870
SiH_4:AsH_3(PH_3), impurity removal by laser purification technique 1−4105
SiO_2, fused, laser-induced breakdown, pulse-width and focal vol. depend. 1−53018
SiO_2, fused, surface polishing by CO_2 laser for 1.06 μ damage resistance 1−29315
SiO_2/TiO_2 multilayer high-reflection coating, laser damage obs. 1−37528
Sn, superconducting domain, photoexcited, phonon emission 1−15987
SrF_2 diamond-machined window surfaces, 2.7 μ and 3.8 μ laser breakdown obs. 1−29313
SrF_2 single crystal diamond-machined window surfaces, HF-DF laser-induced breakdown 1−1605
Ti burning by laser beam, thermochemical process evolution *(Russian)* 1−31861
Ti coating modification by scanned electron and laser beams 1−20268
Ti-Pd, passivation by laser surface alloying 1−35451
TiN coating deposition from N atmosphere by laser irrad. 1−26414
TiO_2 reactively sputtered optical coatings for 1064 nm lasers 1−37572
n-TiO_2/liquid junction cells, electrode photooxidation, time-resolved coulostatic flash studies 1−35662
$Tl_2SeAs_2Te_3$ IR chalcogenide glass, laser switching system damage threshold factors 1−37527
W, laser illuminated tip temp. rise, thermally enhanced field emission 1−8201
XeF_2+Si surface interactions, IR laser radiation effects 1−48731
YPO_4 monocrystal 1.06 μ laser damage obs. 1−29309
ZnS multilayer reflecting coating prep. using laser deposition 1−11196
ZnS thin film growth, sticking coeff., laser light effects 1−38680
ZnSe window temp. distrib., optical distortion and strain rel. to CO_2 laser irrad. power 1−29356

laser beam machining
CO_2 laser with multifold resonator, material processing appl. *(Japanese)* 1−33736

laser beam welding
Al, formation of intercrystalline thermal cracks *(German)* 1−43475
CO_2 laser with multifold resonator, material processing appl. *(Japanese)* 1−33736

laser beams
see also holography; laser frequency stability; Schwarz-Hora effect
absorption wave propag. under action of 10.6 μ radiation 1−33731
adaptively corrected laser beam propag. through turbulent atm. 1−46416
amplifier beam spatial profile form. by hard aperture and spatial filter system 1−51538
amplifying medium wavefront reversal using vibr.-translational relax. 1−51558
artificial fog, laser beam transmission growth, evaporation and sedimentation effect modelling 1−19262
asymptotic laser pulse scattering, appl. of inverse scatt. transform. method 1−41784
atmospheric absorption saturation intensity redistrib. of laser light 1−46463
atmospheric refraction and turbulence effects on laser beam propag. path *(Czech)* 1−49386
auto-aligning laser boresight 1−33791
backscattering against high energy electrons 1−29240
beam shaping to suppress phase mismatch in high power SHG 1−29334
clouds sounding, influence of double scatt. on polarisation characts. of echo signals *(Russian)* 1−9249
coherence control by laser scanning 1−6447
coherence of laser beam field in turbulent atm. 1−6472
coherence theory relations and laser scatt. phenomena, similarities and distinctions 1−1499
coherent extreme UV picosecond pulse generation 1−19384
coherent interaction between short optical pulses and mol. amplifying medium allowing for mag. number degeneracy 1−1543
collimated radiation irradiance redistrib. with refractive optical systems, design and analysis 1−11056
concentration evaluation taking account of diffr. effects 1−19376
contrast ratio measurement of high-power nanosecond laser pulses using high-speed spark shutters 1−1611
dalembertian measurement of optical path along laser beam trajectory 1−14175
detectors for laser output meas., recent developments and problems 1−29291
dielectrics, laser light scatt., polarisation-depend. off-specular peak meas. 1−41586
displacement meas. in media with variable optical thickness 1−46414
dye laser, mode-locked, coherent pulse generation through relax. oscills. synchronisation 1−51530
dye laser amplifier system, lasing characts. 1−1562
fluence in 1064-nm laser beams, photographic determ. using Polaroid film 1−37521
focusing by flat flames, teaching 1−22983
fog propagation, absorpt. and scatt. coeffs. of droplets 1−40195
frequency measurements in submillimetre and IR ranges, phys. standard precision, meas. errors 1−24442
frequency multiplication laser pulse optimal duration 1−33751
garnet CW laser, with nonplanar ring cavity rotating beams obs. 1−33724
gas laser, anisotropy induced by saturating field 1−1609
gas lasers, gaussian beam width *(French)* 1−29305
Gaussian beam spot size meas. using an oscillating wire 1−29306
giant pulse development time from free generation 1−37519
grating rhomb beam sampler, correcting inherent aberrations 1−11081
high energy propagation, variable atm. effects 1−40196
high-energy laser optical train performance, thermally induced phase aberration model 1−37532
injection laser picosecond pulse generation scheme 1−51527
intensity distrib., thermal deform. meas. method using cooled mirror 1−1612

laser beams continued
longitudinal correlation coefficient meas. of laser signals in turbulent atmosphere 1−46227
mode-locking laser, two-photon absorpt. effect on picosecond pulse generation 1−19377
molecular transmittance errors, line and meteorological data effects 1−4619
multibeam laser alignment principles for thermonuclear purposes, Del'fin Nd:glass facility 1−6597
multichannel space-time analyzer for laser radiation, energy calibration 1−37523
multiple laser path length equalisation in Omega laser fusion systems using white light AC interferometry 1−28058
nonlinear resonance narrowing in high-intensity laser fields 1−33772
nonlinear transformation of laser light, optical shaping system aberration effect 1−29307
optical Ramsey interference fringes, ion beam-laser beam interaction by Doppler switching 1−51367
optimum focusing, spot size and beam waist depend. on modified Fresnel no. *(German)* 1−46418
parasitic oscillation, dynamic characts. anal. 1−11033
particulate medium propagation of converging, diverging beams 1−41582
periodic structure, propagation of mutual intensity 1−19375
phase compensation using gas jets 1−46417
picosecond laser pulses, continuous monitoring using a rapid-scanning autocorrel. scheme 1−51535
picosecond laser pulses, optical processing *(French)* 1−46415
picosecond pulse CW autocorrelation meas. 1−1607
power and energy meters, nonvacuum ponderomotive instruments using optical radiation pressure, torsion microbalance system 1−11035
pulse compression by intracavity degenerate four-wave mixing 1−46439
pulse laser radiation energy meas. with filter-glass calorimeter *(German)* 1−40789
pulse propagation in particulate medium 1−19263
pulse recompression of optical pulses broadened by passage through optical fibres 1−37621
pulse shaping device based on Fourier synthesis, using optical anisotropies produced by hole burning 1−46407
pulse spatio-temporal and spectral inhomogeneities effect in optoacoustic saturation determ. 1−33773
pulsed laser energy transmission through atm., air breakdown limitations 1−40197
pulsed laser radiation, meas. standards for mean power and energy units, primary transducers, calorimetric instruments 1−5296
pulsed laser radiation unit energy reproduction using reference calorimeters 1−5272
quivering of optical images of laser sources in a turbulent atmosphere 1−33621
radiation mean power and energy meas., phys. standards based on calorimetric detectors 1−5270
radiation mean-power unit, meas. transducer for Primary State Standard, absorption factor of receiving element 1−5297
radiation mean-power unit reproduction based on meas. of injection laser source using calorimetric detector 1−5271
rhodamine 6G dye laser, radiation polarisation, second absorpt. band 1−1561
rhodamine 6G lamp-pumped laser, radiation divergence reduction 1−41692
rough metal surfaces, laser light scatt., polarisation-depend. off-specular peak meas. 1−41586
ruby laser, prod. of adjustable series of flashes 1−11006
ruby laser frequency mixing in $LiNbO_3$, laser time characts. determ. 1−15222
ruby laser picosecond pulses, intensity detect. by two photon absorpt. 1−51536
ruby laser pulse extraction mode technique 1−15197
self-focusing in laser spark, high intensity narrow light pulse prod. 1−6624
self-interaction of optical beams under resonance absorption conditions 1−1657
semiconductor injection lasers Gbit/s rate bipolar pulse modulation 1−24440
semiconductor lasers, lateral transverse modes, amplitude evaluation by meas. of complex degree of coherence 1−19373
spatial coherence determ. by laser-induced grating method 1−19374
spatial coherence of laser radiation emitted by resonator filled with randomly inhomogeneous medium 1−1599
steering system for laser beams 1−37522
target alignment and viewing instrum. for Shiva laser fusion research system 1−33737
thermal blooming correction, target loop adaptive optics 1−46464
thermal blooming in axial pipe flow, beam shape and thermal pipe wall condition effects 1−1655
thermal blooming of high power laser beams in atm., simulation cell 1−37560
time and space compression function description of laser pulse propag. in nonlinear medium 1−15214
transformation of Gaussian beam by two-component pancratic system *(Czech)* 1−46490
transverse junction stripe laser excited by 70 ps elec. pulse, transverse modal behaviour 1−41706
turbulent atmospheres, exptl. determ. of fluctuation correlation scales of intensity and coherence 1−33620
turbulent cloud medium, CO_2 laser continuous beam self-action 1−40194
turbulent media propagation (strong turbulence case) 1−4621
two-level Maxwell-Bloch simulation, adaptive stretching and rezoning, review 1−15213
two-photon absorption, laser pulse statistics change 1−11036
ultrafast laser pulse temporal broadening through spectrograph, meas. using streak camera/video readout system 1−28065
uniform line source generation using binary filter 1−15242
UV picosecond pulses, amplification using excimer laser *(Japanese)* 1−51454
viscoelastic plate, thermal lens due to laser irrad. *(Russian)* 1−29350
wavefront reversal multiple use in laser systems for high-power pulse generation 1−33756
CO_2 fusion-research laser, Antares, 40 kJ, Los Alamos 1−33707
CO_2, laser pulse self-focusing in low-pressure SF_6 1−51570
CO_2 laser radiation, temporal characts. orthogonally polarised wave competition effects 1−6540

laser beams continued
CO_2 laser radiation convertor using freq. up-conversion in $HgGa_2S_4$ crystals 1−51557
CO_2 laser radiation polarisation, intracavity plate anisotropy influence 1−6593
CO_2 pulse-periodic closed-cycle laser, radiation charact. 1−33654
CO_2 TIR-1 laser system, nanosecond 100 GW pulse form. 1−33711
GaAlAs actively mode-locked diode laser, bandwidth-limited picosecond pulse generation 1−51526
GaAlAs modified strip buried heterostruct. diode laser, passively mode-locked, picosecond pulse generation 1−51525
He-Ne internal-mirror laser beam acousto-optical modulation, polarisation induced noise obs. 1−46412
He-Ne lasers, determ. of mutual coherence of field in glass fibre 1−29401
I laser, contrast ratio meas. using high-speed spark shutter 1−1611
InGaAsP DH pulsating-beam lasers, 1.3 μm, optical and elec. charact. 1−41708
N_2 laser pulse energy meas. by chemical actinometer system 1−14165
Nd:glass laser, GW subnanosecond 1.06 μm pulse generation by regenerative amplification 1−41730
Nd:glass laser, mode-locked, broadband continuum radiation obs. 1−15203
Nd:glass laser, prod. of adjustable series of flashes 1−11006
Nd:glass laser for fusion, hologram method for beam monitoring 1−37441
Nd:YAG active-passive mode-locked laser, pulse synchronisation to mode-locked Ar ion laser 1−51531
Nd:YAG CW laser beam, spatial props. meas. 1−11034
Nd:YAG laser pulse compression by stimulated Brillouin scatt. 1−29339
YAG stable resonator yielding very low divergence and high output energy beam 1−51517

laser cavity resonators
axicon-type high energy laser components, geometrical optics 1−46221
Brewster window and windowless resonant spectrophones for intracavity operation 1−18302
cavity-length stabilization technique for synchronously pumped mode-locked lasers 1−37514
chemical laser, CW, rotational nonequilib. effects for Fabry-Perot and confocal unstable resonators 1−37488
chemical lasers, multimode, CW, inhomogeneous broadening effects 1−41676
complex resonator with lenses, oscill. conditions 1−46392
confocal unstable, analytical soln. in Fourier space *(Chinese)* 1−19366
coumarin 102 dye laser, intracavity freq. doubling, 238 to 249 μm tuning range 1−15224
coumarin-515 single-mode ring dye laser, narrow-band 250-260 nm radiation from intracavity doubling 1−24436
diffraction losses in optical cavity 1−41752
diode laser in external resonator, modelocking models 1−19367
double-prism beam expander in pulsed dye laser cavity, design 1−15193
dye CW laser, interferometrically tuned and actively modelocked 1−41729
dye laser, high-stability, coaxial, flashlamp-pumped 1−6570
dye laser, mode-locked with five-mirror cavity, stability and astigmatic compensation anal. 1−41750
dye laser, synchronously mode-locked CW, intracavity SHG 1−15226
dye laser, two-wavelength operation using reflecting Fizeau interferometer 1−33701
dye laser tuning with reflecting Fizeau wedge 1−15187
dye lasers, CW, wide-band, used for intracavity laser spectroscopy, emission spectra transient processes 1−1563
dye lasers, flashlamp-pumped, mode-locked 1−19360
dye nanosecond laser with high-efficiency holographic grating for grazing incidence 1−51504
dye pulsed laser with grating and etalon in symm. arrangement 1−11011
dye pulsed laser with laser excitation, spectral width of high and low Q resonators *(Russian)* 1−41689
dye quasi-CW jet laser, feasibility of resonator with dispersive prisms 1−33714
dye ring laser, CW, freq.-locking and single-mode operation near at. lines of a Ne discharge 1−46397
dye single-mode laser with double-action Fizeau interferometer 1−51506
dye solution sweep lasers with coherent pulse excitation, highly selective disperison resonators *(Russian)* 1−41688
dye tunable laser, single longit. cavity mode, pumped by N_2 laser 1−15188
echelette grating, electrically deformable, appl. to tunable laser resonators 1−24484
ethanolic rhodamine 6G laser, unstable cavity, optimal parameter 1−1592
far IR laser, standing wave and travelling wave resonator comparison 1−11025
far IR laser resonator configs. 1−46400
far IR lasers, different timing and modulation techniques comparison 1−19372
far IR lasers, optically pumped, intracavity double reson. 1−10991
far IR lasers, optically pumped, lossless passive isolators 1−24434
far IR rooftop resonator, decoupling of optically pumped laser from pump resonator 1−46402
field calculations in laser resonator with wavefront-reversing mirrors 1−33723
finesse and effective number of transits interrelationship derivation for an optical resonator 1−1669
FIR laser, optically pumped, unstable resonator mode struct. 1−19364
fluoroform-d subMM-wave laser, optically pumped 1−6543
frequency modulation by refr. index var. in low-density plasma 1−46404
frequency stabilisation by reflecting reference cavity polarisation spectroscopy 1−24437
garnet CW laser, with nonplanar ring cavity rotating beams obs. 1−33724
gas lasers, gaussian beam width *(French)* 1−29305
gas ring laser with plane mirrors, effect of gain and loss spatial inhomogeneity on meeting wave nonreciprocity 1−6581
gas waveguide lasers, book contrib. 1−11029
gaussian modes of resonators containing saturable gain medium 1−19365
giant pulse development time from free generation 1−37519
high energy laser optics, review 1−46393
high energy laser resonator, imperfectly coated conical element analysis 1−37516
integral diffraction equation soln. for laser resonator charact. 1−6585
intracavity adaptive optics for laser resonator design 1−46396

laser cavity resonators continued
intracavity dye laser spectroscopy for O detect. at 630.03, 636.38 nm 1−53516
intracavity laser magnetic reson. spectroscopy 1−44975
intracavity laser spectroscopy, multichannel recording of absorpt. spectra 1−5412
intracavity laser spectroscopy, multimode generation and noise, quantum statistical anal. *(Russian)* 1−10980
intracavity laser spectroscopy, spatial inhomogeneity 1−33061
intracavity plasma mode-locking, linear model 1−46405
intracavity polarisation spectroscopy, Doppler-free, competition effects 1−14187
intracavity two-photon absorption laser, photon statistics 1−29249
light amplification by internal refl. from inverted medium 1−29274
magneto-optic light deflector, stripe domains in garnet film, three mirror cavity 1−11078
marginally stable resonator, analytic variational method for mode determ. 1−41751
methanol optically pumped waveguide far IR laser, operating charact. 1−15158
methanol-d, standing wave and travelling wave resonator comparison for far IR laser 1−11025
misaligned optical resonator with a lens-like medium 1−33722
mode-matching techniques for laser cavity alignment 1−1594
multimode lasers containing saturable absorbers, bistable operation and spatial hole burning 1−24444
nonplanar dispersive resonator with reflective diffr. grating *(Russian)* 1−1600
open unstable resonators, approx. diffraction formulae compared 1−1602
optimum mode locking conditions, laser parameter effect 1−29304
oxazine-1 synchronously mode-locked CW dye laser, near-IR subpicosecond pulse generation 1−24417
parametric and laser oscillators under external injection 1−33646
polarisation flip cavity design 1−15194
polyatomic gases, inverse mixture, flow in resonator, gasdynamic model 1−46284
pulse compression by intracavity degenerate four-wave mixing 1−46439
quality factor changes using a rot. glass plate 1−37515
quantum noise in intracavity laser spectroscopy 1−5409
radial birefringent element, laser resonator design appl. 1−11074
Raman laser, quantum theory 1−46308
rhodamine 6G lamp-pumped laser, radiation divergence reduction 1−41692
rhodamine 6G laser reciprocal passive mode locking with Ar^+ pump laser 1−41732
ring dye laser, narrowband, unidirectional pulsed 1−24435
ring optical resonator with spherical mirror, diff. effect on threshold conditions *(Russian)* 1−1601
ring optical resonator with spherical mirror, threshold condition, diffr. effect *(Russian)* 1−41753
ruby, Verneuil method grown, single mode laser active element appl. 1−1588
ruby laser, narrow-band laser output with electrooptical shutter, phase effects 1−46410
semiconductor injection laser with nonselective resonator, CW single-mode stimulated emission 1−33685
semiconductor laser, external-cavity controlled, spectral charact. 1−41698
semiconductor laser diodes coupled to short optical fibres, noise charact. 1−15265
semiconductor laser in external cavity, active mode locking theory 1−46349
semiconductor laser pulsation suppression using optical feedback from a fibre 1−15191
semiconductor lasers coupled to external cavity, intensity pulsation generation and quenching 1−29277
single-mode laser intracavity coupling modulation 1−46406
single-mode scanning geometry for tunable lasers, diffr. grating as dispersive element 1−51505
solid-state laser, planar optical resonator mode struct. calcs. 1−1596
solid-state lasers, kinematic mode locking theory 1−33727
spatial coherence of laser radiation emitted by resonator filled with randomly inhomogeneous medium 1−1599
supersonic free-vortex aerodynamic window expt. study 1−46365
thin-film lasers on nonwaveguide layers 1−15192
three-mirror reflector for frequency selection in high-gain lasers 1−33721
threshold noise and the laser transient 1−6535
transverse laser mode structure control by phase-shifting masks 1−51537
tunable laser mode shift by intracavity wavelength selector effect with short duration pulses 1−51521
two-dimensional transverse-distributed-feedback cavity injection laser, oscillation 1−46375
two-photon laser, photon statistics 1−33648
unstable laser resonators, book contrib. 1−11028
unstable mirror resonator with field rot., mirror system calcs. 1−1597
unstable resonator, ray-optical method 1−11026
unstable resonator injection laser 1−6584
unstable resonator with spherical primary mirror, spherical-aberration-free 1−46395
unstable resonators with tilted spherical mirrors, optical quality 1−46394
wavefront-reversing mirror resonator, fundamental oscill. modes, paraxial approx. 1−6586
waveguide lasers 1−29303
X-ray resonator capabilities 1−1595
Zeeman-type laser, self-selecting modes *(Czech)* 1−51450
AlGaAs Fabry-Perot cavity type laser amplifier, signal gain, saturation power and noise bandwidth 1−15171
AlGaAs-GaAs CW planar stripe-geometry heterojunction lasers, current-power charcts., nonlinear and discontinuous 1−51481
Ar^+ laser radiation, high-freq. modulation due to stable two-mode oscill. 1−29253
Ar^+ pump laser for rhodamine 6G laser, reciprocal passive mode locking 1−41732
CO lasers, high-power, efficient, electrically-excited, book contrib. 1−10993
CO_2 CW electron-beam-controlled laser, output power, active-medium charcts. influence 1−33655
CO_2 CW TE high power laser, electron-beam pre-ionised, operating with N_2, He and CO additives, numerical investigation 1−1544
CO_2 CW waveguide laser design 1−29303
CO_2 continuously excited laser, gas storage technique for repetitively pulsed operation 1−46369

laser cavity resonators continued
CO_2 double-electrode-pair-pulsed laser 1−15177
CO_2 high power laser system, TROJAN 1−29299
CO_2 laser, sealed, optogalvanic stabilisation 1−29298
CO_2 laser five-colour sequence by cavity length tuning 1−46388
CO_2 laser line selection using reflecting diffr. interferometer 1−33708
CO_2 laser radiation polarisation, intracavity plate anisotropy influence 1−6593
CO_2 laser with metallised polymer thin film mirror resonator 1−24474
CO_2 laser with multifold resonator, material processing appl. *(Japanese)* 1−33736
CO_2 laser with SF_6 intracavity nonlinear absorber, bistability, transient effects 1−33651
CO_2 multiline TEA laser with hot CO_2 intracavity absorber, theoretical and expt. study 1−19321
CO_2 pulse-periodic closed-cycle laser, radiation charact. 1−33654
CO_2 repetitively pulsed laser, mean power output in excess of 30 kW 1−46380
CO_2 TEA laser, tunable single longit. mode output using intracavity selective absorbers 1−51512
CO_2 TEA lasers, selective absorbers for single-mode operation 1−19389
CO_2 vibrational-transition laser emissions in low temp. supersonic flow excited by pulsed electron beam stabilised discharge 1−46286
CO_2 waveguide laser operating in Gaussian mode, max. power output 1−51516
DF CW combustion-driven chemical laser, centre line small-signal gain meas. 1−46322
D_2O telescopic resonator mode struct. 1−19364
GaAlAs diode laser, modified strip buried heterostruct., picosecond pulse generation by passive mode locking 1−1606
GaAlAs diode lasers, mode-locking 1−19342
GaAs MBE layer ultrashort laser, with perpendicular-to-film optical excitation and emission 1−29275
GaAs optically pumped laser with ultrashort cavity, picosecond pulses 1−51529
GaAs-(Al,Ga)As laser diodes, luminesc. during degradation 1−41704
GaAs-Al_xGa_{1-x} heterostruct. lasers mirrors, ion-plasma treatment 1−51518
HF CW chem. laser, saturation of gain and refr. index, Fabry-Perot resonator model 1−37490
HF compact laser using SF_6-H_2 mixture, long-lived electron beam pre-irradiation effect 1−24412
HF laser performance of CO_2 laser ignited SF_6-H_2 and S_2F_{10}-H_2 mixtures 1−24413
HF, pulsed chem. laser with electron beam initiation and mag. confinement 1−51470
He-Ne 1.15 μm laser single mode selection and stabilisation 1−41740
He-Ne laser, resonator and self-locking demonstration 1−9806
He-Ne laser, transverse mode spatial self-locking 1−51523
He-Ne laser resonator, off-reson. dispersion profile 1−33718
He-Ne mode-locked laser light pulse time dispersion in fibre waveguides 1−1714
I laser, cavity alignment, mode-matching techniques 1−1594
InGaAsP CW heterolasers, wide resonator and strip type designs 1−1578
InGaAsP diode lasers, mode-locking 1−19342
InGaAsP-InP burried-heterostructure DH laser charact., effect of cavity length 1−51479
LiF F_2^+-centre laser, 880 to 970 nm, for intracavity spectroscopy 1−41728
LiF, with F_2^+, F_2^-, centres, emission spectra and intracentre charact. 1−37500
N_2 pulsed laser, segmented metal discharge tubes 1−24432
$^{15}NH_3$ optically pumped waveguide far IR laser, operating charact. 1−15158
Nd laser emission wavelength stabilisation using interf.-polarisation filters 1−51495
Nd:garnet continuous laser, radiation spectra of longitudinal modes 1−41710
Nd:glass laser, actively Q-switched, external radiation injection, giant pulse spectra fine struct. 1−51488
Nd:glass laser, passive mode locking with slow Q switching 1−24439
Nd:YAG laser drilling of Al foil with different pulse shapes 1−8168
Ne, red laser transition investigated using mode-crossing and zero-field level crossing methods 1−10986
$PrLaP_5O_{14}$ laser, simultaneous operation at 637, 717 nm wavelengths 1−33693
Rb two-photon optically pumped laser 1−51458
Tl laser with external resonator emitting at 535, 377.5 nm, gain, excitation by TlI photodissociation 1−29271
XeO photochemical laser with plane-mirror resonator, output energy 1−33676
YAG laser, mode-locked unstable resonator 1−15189
YAG short-pulse laser transmitter design, cavity-dumped oscillator-amplifier system 1−41741
YAG stable resonator yielding very low divergence and high output energy beam 1−51517

laser frequency stability
dye laser, frequency stabilisation, control circuits *(Dutch)* 1−1586
far IR laser stabilization by injection locking 1−37517
far IR lasers, fast freq. modulation using Schottky barrier diode 1−11030
gas laser frequency and length standards 1−36634
gas laser system using ICs 1−46408
instantaneous frequency instability of laser radiation, meas. by frequency noise filtration 1−15202
methanol laser (λ=70.5 μ) freq.-phase locking to a $^{13}C^{16}O_2$ laser 1−33666
multimode lasers containing saturable absorbers, bistable operation and spatial hole burning 1−24444
optical wavelength and frequency meas. precision compared *(German)* 1−28048
photochemical holes as stable references for frequency locking lasers 1−46413
reflecting reference cavity polarisation spectroscopy for laser freq. stabilisation 1−24437
semiconductor laser, external-cavity controlled, spectral charact. 1−41698
AlGaAs DH laser, feedback stabilised, freq. stability meas. 1−46363
Ar frequency stabilised lasers with iodine measuring cell *(Czech)* 1−51449
Ar^+ laser at 582 THz 1−36615
CO_2 CW laser press. laser design, single axial mode, freq. stabilisation 1−37505

laser frequency stability continued
CO_2 frequency stabilised hybrid laser, single-mode operation 1−46387
CO_2, high freq. opto-galvanic laser stabilisation 1−37458
CO_2 laser, sealed, optogalvanic stabilisation 1−29298
CO_2 TEA laser, freq. stabilised compact high repetition rate 1−1583
He-Ne, two-mode laser, freq. response, transitions 1−51451
He-Ne 0.633-μm longit. Zeeman laser, freq. stabilisation 1−6569
He-Ne 1.15 μm laser single mode selection and stabilisation 1−41740
He-Ne annular laser, pulsation freq. stability, active medium parameter effect 1−15154
He-Ne frequency stabilised lasers with iodine measuring cell *(Czech)* 1−51449
He-Ne internal mirror laser, 6328 Å, freq. stabilisation *(Korean)* 1−46382
He-Ne internal-mirror lasers, freq. stabilisation using polarisation props. 1−19368
He-Ne laser, commercial wavelength stabilised, wavelength calibration *(Japanese)* 1−46295
He-Ne laser, I_2 stabilized, portable 1−36614
He-Ne lasers, I_2 stabilised, at 612 nm 1−36613
He-Ne lasers stabilized by saturated absorption in iodine at 612 nm 1−36612
He-Xe, two-mode laser, freq. response, transitions 1−51451
He-Xe two-wavelength IR laser, stabilization method 1−33702
PbSnTe laser, freq. stabilisation on methane absorption line, ν_4 band 1−24143
XeCl discharge excited laser, resistive stabilisation 1−24430

laser isotope separation
atomic U 1−935
atoms in nonuniform mag. field, interaction with intense reson. light wave 1−41502
book, laser technology and appls. 1−9782
(trans-2-chloroethenyl)dichloroborane, isotopically selective IR photodissoc. 1−29057
fast ion extraction 1−10855
inert gas-halogen UV lasers, appls. in chemical industry *(German)* 1−41716
IR laser photochemistry 1−4102
IR sources, coherent, tunable, near and middle IR range, props. and appls. 1−1638
laser-induced chemical reactions and isotope separation review, book contrib. 1−13029
mixtures, selective excitation by laser radiation, homogeneous condensation 1−46144
molecules, laser isotope separation, review 1−31885
trifluoroiodomethane, dissociation selectivity by multiphoton vibr. and electronic excitation 1−46044
trifluoromethyl halides, isotope separation in laser dissociation, scavenging of CF_3 by HI 1−46038
$^{13}CH_3F^{12}CH_2F$ mixture, light induced drift and splitting in continuous IR radiation field *(Russian)* 1−41438
MoF_6, isotope separation of Mo gas-dynamic expansion tests, rot. consts., IR absorpt. obs. 1−24139
NSF molecular laser, tunable, optically pumped, laser isotope separation 1−15178
SF_6, dissociation charact. in strong IR CO_2 laser field 1−33522
SF_6, two-freq. selective dissociation in strong CO_2 laser IR field 1−6329
UF_6, absorpt. selectivity of CF_4 laser radiation for isotopic variants 1−51209
UF_6, appl. of sub MM lasers to isotope separation *(Japanese)* 1−33645
UF_6 cryogenic soln., U isotope separation process by vibr. and hyperfine levels excitation 1−6037

laser magnetic resonance
intracavity laser magnetic reson. spectroscopy 1−44975
Br, $^2P_{1/2}$−$^2P_{3/2}$ transition obs. by colour centre laser spectroscopy 1−28906
ClO_2, high field LMR spectra, Zeeman tuning 1−45999
DO_2, EPR and laser mag. reson. spectra, ground state parameters determ., mol. geometry 1−37230
GaAs:Cr, As antisite defect, submillimetre EPR evidence 1−7941
^4He, far IR laser mag. reson. spectroscopy of S and P states 1−41335
SD free radical, IR laser mag. reson. detection 1−24148
SD radical, IR laser mag. reson. obs. 1−24149
SeD ($X,^2\Pi_{3/2}$), IR laser mag. reson. spectrum 1−6247
SeD radical, fine struct. transitions in LMR spectrum 1−6290
SeO, vibr.-rot. transitions, IR laser mag. reson. spectra, mag. hyperfine interaction 1−46000

laser mode locking
cavity-length stabilization technique for synchronously pumped mode-locked lasers 1−37514
coumarin dye laser, active mode-locking using GaAs, GaP picosecond switches 1−15199
CW solid-state laser with kinematic mode locking 1−51497
diode laser in external resonator, modelocking models 1−19367
dye CW laser, interferometrically tuned and actively modelocked 1−41729
dye laser, CW, mode-locked, internally pumped, theory 1−46280
dye laser, mode-locked, coherent pulse generation through relax. oscills. synchronisation 1−51530
dye laser, mode-locked with five-mirror cavity, stability and astigmatic compensation anal. 1−41750
dye laser, subpicosecond, passively mode locked, time domain reflectometry 1−15205
dye laser, synchronously driven streak camera *(Russian)* 1−23343
dye laser, synchronously mode-locked CW, intracavity SHG 1.−15226
dye laser, synchronously pumped mode-locked, pulse-width stabilisation 1−51532
dye lasers, flashlamp-pumped, mode-locked 1−19360
dye lasers, injection locking *(Chinese)* 1−51520
dye pulsed laser review, book contrib. 1−10999
dyes for mode locking, fluoresc. and laser action 1−51476
free electron laser, nonstationary generation, stationary and pulse injection regimes 1−46275
homogeneous gain laser mode-locking, closed form solns. 1−15198
intracavity plasma mode-locking, linear model 1−46405
optimum mode locking conditions, laser parameter effect 1−29304
oxazine dye laser, time-resolved coherent anti-Stokes Raman scattering 1−23318
oxazine-1 synchronously mode-locked CW dye laser, near-IR subpicosecond pulse generation 1−24417

laser mode locking continued
picosecond phenomena, conf., Cape Cod, MA, USA (June 1980) 1−49883
pulse compression by intracavity degenerate four-wave mixing 1−46439
pulse generation, picosecond, two-photon absorpt. effect, mode-locking laser 1−19377
rhodamine 6G laser, CW, synchronous-pump, output characts. 1−37492
rhodamine 6G laser reciprocal passive mode locking with Ar^+ pump laser 1−41732
ruby laser picosecond pulses, intensity detect. by two photon absorpt. 1−51536
ruby laser pulse extraction mode technique 1−15197
ruby synchronized actively mode-locked short pulse laser 1−41739
semiconductor diode lasers, mode-locking 1−19342
semiconductor laser in external cavity, active mode locking theory 1−46349
solid laser, Q-controlling mode-locked high power, simultaneous active AM plus passive FM 1−51533
solid-state laser systems, ultrashort pulse generation with active mode locking, review 1−33728
solid-state lasers, kinematic mode locking theory 1−33727
subpicosecond pulse techniques based on passively mode-locked CW dye laser 1−19369
theoretical models for mode-locked laser systems 1−19370
ultrashort bandwidth-limited pulse generation technology review, book contrib. 1−11032
Ar mode-locked ion laser, pulse synchronisation with mode-locked Nd:YAG laser 1−51531
Ar^+ laser with rhodamine 6G saturable absorber, passive and double mode-locking 1−24441
Ar^+ pump laser for rhodamine 6G laser, reciprocal passive mode locking 1−41732
CO_2 lasers, ultra-short pulse generation 1−19371
CO_2 pulsed mode-locked laser, spectral content investigation using Fabry-Perot interferometer 1−6591
CO_2 pulsed mode-locked laser 1−33710
CO_2 TE lasers, injection mode locked, pulse train evolution 1−19319
CO_2 TEA laser, tunable single longit. mode output using intracavity selective absorbers 1−51512
GaAlAs actively mode-locked diode laser, bandwidth-limited picosecond pulse generation 1−51526
GaAlAs diode lasers, mode-locking 1−19342
GaAlAs modified strip buried heterostruct. diode laser, passively mode-locked, picosecond pulse generation 1−51525
GaAs-GaAlAs integrated struct. for mode locking a diode laser 1−41754
He-Ne laser, longit. mode-locking by nonlinear absorpt. in Ne 1−33726
He-Ne laser, resonator and self-locking demonstration 1−9806
He-Ne laser, transverse mode spatial self-locking 1−51523
InGaAsP diode lasers, mode-locking 1−19342
KrF oscillator-amplifier, mode-locked, gain and saturation intensity meas. 1−24398
Nd:glass laser, mode-locked, broadband continuum radiation obs. 1−15203
Nd:glass laser, passive mode locking with slow Q switching 1−24439
Nd:glass oscillator, passive phase mode-locking, thermally compensated phosphate glasses 1−15201
Nd:glass passively mode-locked lasers, fluctuation model improvement *(Chinese)* 1−51519
Nd:phosphate glass, thermally compensated, repetitive laser mode-locking at 5 Hz and above 1−51524
Nd:phosphate glass laser, picosecond pulse prod. by mode locking with heptamethine pyrylium dye 5 1−46356
Nd:YAG active-passive mode-locked laser, pulse synchronisation to mode-locked Ar ion laser 1−51531
Nd:YAG lasers with continual pumping, active synchronisation of modes *(Czech)* 1−46374
Nd:YAG passively mode-locked lasers, fluctuation model improvement *(Chinese)* 1−51519
Nd:YAG-Ar ion mode-locked laser system synchronisation 1−46411
Ne, red laser transition investigated using mode-crossing and zero-field level crossing methods 1−10986
YAG laser, mode-locked unstable resonator 1−15189

laser modes
see also laser mode locking
alkali halide, colour centre lasers, 0.8-3.33 μm range 1−29287
book, laser technology and appls. 1−9782
buried heterostructure laser, single-mode, sensitivity to reflected power at 274 Mbit/s 1−37495
buried or mesa stripe geometry injection laser, lateral mode effect on I-V characts., theory 1−6554
cavity alignment, mode-matching techniques 1−1594
chemical lasers, multimode, CW, inhomogeneous broadening effects 1−41676
collett-Wolf sources and multimode lasers 1−6628
coumarin-515 single-mode ring dye laser, narrow-band 250-260 nm radiation from intracavity doubling 1−24436
diode laser, single-mode, phase noise meas. 1−46341
doughnot mode propag. through single lens, focal region intensity distrib. 1−24443
dye amplifiers, amplified spontaneous emission spatial modes and spectral narrowing 1−6549
dye laser, hard mode instability in six-state model 1−15169
dye laser, picosecond pulse generation 1−1577
dye molecule, malachite green, transmission of multimode laser pulses 1−10997
dye pulsed laser with laser excitation, spectral width of high and low Q resonators *(Russian)* 1−41689
dye ring laser behaviour, backscattering effect 1−15195
dye single-mode laser with double-action Fizeau interferometer 1−51506
dye tunable laser, single longit. cavity mode, pumped by N_2 laser 1−15188
FIR laser, optically pumped, unstable resonator mode struct. 1−19364
forced mode synchronization in gas ring lasers 1−1593
free electron laser, single pass, multimode small signal anal. 1−29245
free electron laser, warm-beam, predicted effect of mode cooperation and white-light lasing 1−29246
GaAs-GaAlAs non-self-pulsing and weakly self-pulsing injection lasers, nonliner current modulation distortions 1−6589
gas lasers, interaction of modes emitted due to adjacent transitions 1−51443

laser modes continued
gaussian modes of resonators containing saturable gain medium 1−19365
glass laser, Q-switching oscillator, TEM_{00} mode, for pulse characts. improvements *(Korean)* 1−1604
high energy laser resonator, imperfectly coated conical element analysis 1−37516
injection laser, emission polarization 1−51485
injection laser, narrow-channel double-carrier-confined, CW operation in single longitudinal mode 1−41743
injection laser with unstable resonator, one longit. mode 1−6584
intracavity laser spectroscopy, multimode generation and noise, quantum statistical anal. *(Russian)* 1−10980
intracavity laser spectroscopy, spatial inhomogeneity 1−33061
marginally stable resonator, analytic variational method for mode determ. 1−41751
multimode lasers containing saturable absorbers, bistable operation and spatial hole burning 1−24444
multioscillator laser gyros, review 1−1614
multiple-stripe injection laser development, buried heterostruct. stripe array, leaky modes, high-power 1−41749
optical resonator, misaligned, with lens-like medium 1−33722
optically biased laser gyro 1−6582
parasitic oscillation, dynamic characts. anal. 1−11033
planar stripe-geometry heterojunction laser modes, Epstein dielec. model 1−33687
radial birefringent element, laser resonator design appl. 1−11074
resonator characteristics, integral diffr. eqn. soln. 1−6585
ring dye laser, narrowband, unidirectional pulsed 1−24435
ring gas laser with nonlinear absorpt., generation regimes 1−51514
ruby, Verneuil method grown, single mode laser active element appl. 1−1588
semiconductor injection laser with nonselective resonator, CW single-mode stimulated emission 1−33685
semiconductor laser, external-cavity controlled, spectral characts. 1−41698
semiconductor laser, longitudinal mode selection 1−51510
semiconductor laser, wavelength sensed mode control 1−1575
semiconductor lasers, lateral transverse modes, amplitude evaluation by meas. of complex degree of coherence 1−19373
single-mode laser intracavity coupling modulation 1−46406
single-mode laser under modulated external field, chaotic behaviour 1−6536
single-mode scanning geometry for tunable lasers, diffr. grating as dispersive element 1−51505
solid-state laser, planar optical resonator mode struct. calcs. 1−1596
spatial coherence of laser radiation emitted by resonator filled with randomly inhomogeneous medium 1−1599
stripe geometry injection lasers, lateral mode field solns. 1−29276
three-mirror reflector for frequency selection in high-gain lasers 1−33721
transverse junction stripe laser excited by 70 ps elec. pulse, transverse modal behaviour 1−41706
transverse laser mode structure control by phase-shifting masks 1−51537
tunable diode laser spectrometer optical calibrator 1−36745
tunable laser mode shift by intracavity wavelength selector effect with short duration pulses 1−51521
two-dimensional transverse-distributed-feedback cavity injection laser, oscillation 1−46375
two-mode laser, first passage time distributions under influence of quantum fluctuations 1−6537
unstable laser resonators, book contrib. 1−11028
wavefront-reversing mirror resonator, fundamental oscill. modes, paraxial approx. 1−6586
Zeeman-type laser, self-selecting modes *(Czech)* 1−51450
AlGaAs DH laser, direct modulation anal. with inhomogeneous-gain-broadening consideration 1−33692
AlGaAs DH laser, injection locking characts. 1−11031
AlGaAs DH laser, single longitudinal mode, linewidth meas. using Fabry-Perot interferometer 1−46352
AlGaAs semicond. laser, single-mode operation of 500 Mbit/s modulated by injection locking 1−1603
Ar^+ laser radiation, high-freq. modulation due to stable two-mode oscill. 1−29253
Ar^+ laser radiation, high-freq. modulation due to stable two-mode oscill., theory 1−29254
CO-N_2-He laser kinetics from COLASE code 1−19317
CO_2 CW laser press. laser design, single axial mode, freq. stabilisation 1−37505
CO_2 frequency stabilised hybrid laser, single-mode operation 1−46387
CO_2 laser, performance, production of LiH plasma *(Korean)* 1−46384
CO_2 pulsed mode-locked laser, spectral content investigation using Fabry-Perot interferometer 1−6591
CO_2 repetitively pulsed laser, mean power output in excess of 30 kW 1−46380
CO_2 TE waveguide laser operation 1−29297
CO_2 TEA lasers, selective absorbers for single-mode operation 1−19389
CO_2 waveguide laser operating in Gaussian mode, max. power output 1−51516
CO_2/Ar CW 18.4 μm gasdynamic laser, nozzle geometry and stagnation condition analytical modelling 1−41657
Cr^{3+}:$BeAl_2O_4$ tunable laser, 701 to 818 nm range 1−29283
DF CW combustion-driven chemical laser, centre line small-signal gain meas. 1−46322
D_2O telescopic resonator mode struct. 1−19364
GaAlAs DH lasers, transverse-mode-stabilised, transient spectra, dynamic characts. 1−41701
GaAlAs diode laser, modified strip buried heterostruct., picosecond pulse generation by passive mode locking 1−1606
GaAlAs, GHz analogue modulation and differential delay, temp. and current behaviour 1−11001
GaAlAs-GaAs DH laser, self-aligned, single longitudinal mode, by metal-organic CVD 1−1576
GaAs, homojunction laser, uniaxial press. influence on long delay critical temp. 1−6556
GaInAsP/InP heterostructure laser for guided wave optical signal processing 1−37634
$Ga_xIn_{1-x}As_yP_{1-y}$-InP DH strip waveguides with $Ga_{x'}In_{1-x'}As_{y'}P_{1-y'}$ side bounding layers, single-mode guiding conditions 1−6568
He-Ne, axial mode selection, longit. mag. field effects 1−15155
He-Ne, two-mode laser, freq. response, transitions 1−51451
He-Ne 1.15 μm laser single mode selection and stabilisation 1−41740
He-Ne annular laser, pulsation freq. stability, active medium parameter effect 1−15154

laser modes continued
He-Ne laser, resonator and self-locking demonstration 1−9806
He-Ne laser, transverse mode spatial self-locking 1−51523
He-Ne mode-locked laser light pulse time dispersion in fibre waveguides 1−1714
He-Xe, two-mode laser, freq. response, transitions 1−51451
I laser, cavity alignment, mode-matching techniques 1−1594
I repetitively pulsed photodissociation laser, high average power operation at 1.3 μm 1−46323
InGaAsP BH laser emitting at 1.3 μm, fundamental-transverse mode operation 1−46346
InGaAsP buried-waveguide heterostruct. injection lasers, fabrication, elec. props., optical characts. 1−41707
InGaAsP DH laser, internal SHG 1−29280
InGaAsP laser, 1 Gbit/s modulated, intensity fluctuation noise improvement by light injection 1−19337
InGaAsP/InP buried crescent diode lasers, 1.3 μm, transverse mode stabilization 1−33730
InGaAsP/InP DH laser diode, with single transverse mode, accelerated ageing test 1−46339
InGaAsP-InP narrow stripe buried heterostructure lasers, fabrication, characterisation 1−1585
InGaAsP-InP separated multiclad layer stripe geometry lasers emitting at 1.5 micron 1−33704
Kr^+ helical cophasal surface laser mode props. 1−29308
Nd:garnet continuous laser, radiation spectra of longitudinal modes 1−41710
Nd:glass laser, actively Q-switched, external radiation injection, giant pulse spectra fine struct. 1−51488
Nd:phosphate glass laser, electrooptic actively mode-locked, feedback stabilised 1−1584
Nd:YAG laser, high repetition rate, efficient burst mode operation 1−19351
Nd:YAG lasers, pump-size effects 1−1571
Nd^{2+}:YAG solid state ring laser, with time-varying cavity, single-mode emission 1−24438
Nd^{3+}:phosphate glass picosecond single pulse laser operating in freq. mode 1−1579
Ne, red laser transition investigated using mode-crossing and zero-field level crossing methods 1−10986
$Pb_{1-x}Sn_xTe$ DFB DH laser, TE and TM coupling coeffs. 1−46348
$Pb_{1-x}Sn_xTe$ DFB laser diodes, LEP grown, broad continuous single-mode tuning range 1−15182
YAG stable resonator yielding very low divergence and high output energy beam 1−51517

laser radar *see optical radar*

laser theory
see also laser transitions; population inversion; stimulated emission
Benard two-component convection, laser with saturable absorber, limit cycle behaviour 1−33647
channelled-substrate-planar injection laser, above-threshold anal. 1−41700
chemical laser, CW, rotational nonequilib. effects 1−37488
chemical laser initiated by self-emission 1−46327
coherent interaction between short optical pulses and mol. amplifying medium allowing for mag. number degeneracy 1−1543
coherent radiation generation by relativistic electron beam in undulator 1−1470
collective free electron laser operated in stimulated Raman scatt. regime 1−15139
collett-Wolf sources and multimode lasers 1−6628
continuous high-power gas lasers *(French)* 1−10977
detonation wave propagating in variable density medium, population inversion 1−33979
DH infection lasers, threshold current temp. depend. 1−6555
DH lasers with laterally-tapered active regions, above-threshold anal. 1−37493
diode laser, intrinsic elec. equiv. cct., spontaneous emission and self-pulsation effects 1−41697
diode laser in external resonator, modelocking models 1−19367
dye amplifier, laser pumped, ultrashort pulse amplification model 1−51478
dye laser, hard mode instability in six-state model 1−15169
dye laser output characteristic, nonuniform excitation effect, directional pumping *(Russian)* 1−1564
dye lasers, spectral distribution of beam density, statistical method for calc. time invariance 1−1559
dye molecule, malachite green, transmission of multimode laser pulses 1−10997
dye pulsed laser review, book contrib. 1−10999
dye solid-state laser, model establishing steady-state conditions and relaxational autooscillations *(Russian)* 1−46331
Einstein's black body radn. law, laser discovery, book contrib. 1−17984
Einstein's contribution, book 1−17948
electronic transition lasers, electron collisions, theory 1−37466
EM waves, superheterodyne amplification in electron beams 1−24349
excimer laser excitation technology and spectroscopy, book contrib. 1−10994
excimer lasers and inertial confinement fusion *(French)* 1−10520
excimer lasers with supersonic gas flow *(French)* 1−10978
exciplex laser active media, review 1−1553
far IR lasers, pumped with tunable narrow band CO_2-TEA lasers 1−6572
Fokker-Planck operator, tridiagonal vector recurrence relations, solns. and appls. 1−9877
free electron generators of coherent radiation, conf., Telluride, CO, USA (Aug. 1979) 1−9768
free electron laser, coherence props. 1−15136
free electron laser, coupled Maxwell and Boltzmann eqns., coherent transient effects 1−10957
free electron laser, efficiency enhancement, general nonlinear theory 1−10962
free electron laser, efficiency optimisation rel. to EM radiation intensity 1−15138
free electron laser, electron distribution function evolution, numerical calc. 1−10966
free electron laser, enhanced energy extraction by resonant energy adiabatic decrease 1−10959
free electron laser, exact one-particle theory 1−41655
free electron laser, finite length, absolute instability theory 1−46277
free electron laser, gain-spread relation in multiphoton picture 1−41653
free electron laser, LV visible output, beam heating constraints 1−10972

laser theory continued
free electron laser, Maxwell's equations driven by single-particle currents 1−10964
free electron laser, nonlinear wave interaction, white noise 1−1539
free electron laser, nonstationary generation, stationary and pulse injection regimes 1−46275
free electron laser, power series solns. 1−1541
free electron laser, single pass, multimode small signal anal. 1−29245
free electron laser, single-particle multimode classical theory 1−51438
free electron laser, time dependent properties, heuristic derivation 1−41654
free electron laser, trapped particle orbits, sideband instabilities 1−10960
free electron laser, two-element, electron rebunching and radiation gain 1−10967
free electron laser, variable parameter wiggler performance improvement 1−10958
free electron laser, variable wiggler, theory and proposed expts. 1−10961
free electron laser, warm-beam, predicted effect of mode cooperation and white-light lasing 1−29246
free electron laser amplifier, variable period, computer simulation 1−10974
free electron laser as potential X-ray source with narrow electron energy spread 1−10971
free electron laser electron beam parameters under strong saturation conditions *(Russian)* 1−10956
free electron laser in storage ring, Monte Carlo anal. 1−19313
free electron laser interaction in variable pitch wiggler, storage ring beam efficiency 1−15141
free electron laser operating in far IR, single, collective particle and strong pump scatt. regimes 1−15143
free electron laser optimised operation single particle and collective regimes, Vlasov-Maxwell theory 1−15140
free electron laser particle simulation, ripple strength rel. to performance 1−10968
free electron laser radiation enhancement by applying DC elec. field 1−51442
free electron laser system, gain mechanism 1−46276
free electron laser variable wiggler amplifier design, one-dimens. computer simulation 1−10969
free electron laser variable wiggler optimization 1−15142
free electron laser with transverse gradient, equations of motion 1−10975
free electron lasers, fundamentals, expts., technology and appls., review 1−46278
free electron lasers, large gain operation 1−19316
free electron lasers, space charge effect; single electron anal. 1−19315
free electron lasers two-dimensional theory 1−15137
free electron lasers with tapered wigglers, single-particle approach 1−10970
free-electron laser, stimulated longitudinal electrostatic bremsstrahlung 1−19314
free-electron laser based on periodic longitudinal electrostatic bremsstrahlung 1−10973
free-electron laser theory in combined helical pump and axial guide fields 1−51440
gain estimate of active medium from superradiance decay kinetics 1−6538
gamma lasers, pumping thresholds, spontaneous decay, overheating *(Russian)* 1−10955
gamma-ray laser action feasibility, thermal expansion influence 1−6533
gas lasers, linear and ring, with high excitation level, pumping modulation 1−33720
Group II elements, lasing in vap., discharge-optical method 1−24408
homogeneous gain laser mode-locking, closed form solns. 1−15198
homojunction laser, threshold current temp. depend., active region thickness effect 1−33688
inert gas halide lasers, discharge excitation, modelling 1−37482
inert gas halides, transmission line driven lasers, discharge kinetics, collision processes, Boltzmann eqn. soln. 1−37471
integrated optical circuit proposals, laser amplifier based, OPATT props. 1−41886
interaction between atoms and laser field, effects on damping, master eqn. 1−24385
intracavity laser spectroscopy, multimode generation and noise, quantum statistical anal. *(Russian)* 1−10980
laser, flashlamp pumped dye-switched, performance, step function Q-switch model 1−41709
line-shape parameter anal. in slightly saturated laser amplifier, pulse propagation method 1−41759
methanol far IR laser gas, CW laser pumped, gain saturation 1−15156
mixed molecular crysts., stimulated emission at low temps. review 1−3436
mode-locked laser systems, theoretical models 1−19370
modulation resonance 1−33649
molecular laser system simulation, stiff differential eqn. soln. 1−51444
multilevel quantum system, population inversion in external resonance field *(Russian)* 1−24379
non-Doppler ring lasers, stability criteria 1−24387
non-stationary processes in lasers 1−51441
nonequilibrium thermodynamic theory 1−23133
optical bistability, many-mode quantum statistical theory 1−33744
parametric and laser oscillators under external injection 1−33646
photon statistics for laser with intracavity two-photon absorpt. 1−29249
planar stripe-geometry heterojunction laser modes, Epstein dielec. model 1−33687
POPOP rarefied vapour, kinetics in lasing processes, population balance eqns. 1−41693
principles, rel. to anal. chem. appls. 1−10976
pseudorandom spatially modulated optical signal propag. through amplifying medium 1−33771
radiating DFB structures, coupled wave method 1−1726
Raman fibre laser, generation dynamics *(Russian)* 1−11007
ring gas laser with nonlinear absorpt., generation regimes 1−51514
ring laser, saturated single-mode, output power and freq. pulling as function of partial homogeneous broadening 1−46391
ring laser with slow-response feedback between opposite waves, calc. scheme development 1−1598
ring laser with variable-sign frequency bias, theory 1−6583
ring lasers, frequency characts. with combination freq. pedestal 1−15196
ring lasers, quantum statistical theory 1−46398
saturated light amplifier, statistical models 1−19318
semiconductor injection lasers, autodyne and modulation characts. 1−37497

aser theory continued
semiconductor laser pumped by electron beam, carrier migration influence on threshold characts. 1−33695
single-mode laser under modulated external field, chaotic behaviour 1−6536
soft X-ray laser production *(French)* 1−10979
steady state distribution dispersion calc. with regard to atomic correlations 1−24386
stimulated emission, coherence and cooperative phenomena 1−37453
stochastic and quantum incoherence in optical processes 1−6528
stripe geometry DH laser diode, lateral grinding theoretical anal. *(Korean)* 1−29279
SU(3) symmetry breaking in a laser 1−23452
thin-film lasers on nonwaveguide layers 1−15192
three-level laser systems, saturation effects, steady-state models 1−15144
threshold noise and the laser transient 1−6535
transient behaviour of lasers 1−10981
transverse optical klystron and free electron laser, evolution eqn. exact soln. 1−51439
two-mode laser, first passage time distributions under influence of quantum fluctuations 1−6537
two-photon laser, photon statistics 1−33648
Ar ion CW lasers, radial ion drift influence on population density 1−51452
Ar^+ laser radiation, high-freq. modulation due to stable two-mode oscill., theory 1−29254
CO lasers, high-power, efficient, electrically-excited, book contrib. 1−10993
CO-N_2-He laser kinetics from COLASE code 1−19317
CO_2 CW TE high power laser, electron-beam pre-ionised, operating with N_2, He and CO additives, numerical investigation 1−1544
CO_2 electrodynamic laser, fast axial flow, kinetic modelling 1−37457
CO_2, gain, intensity and power output, kinetic theory calc. *(Chinese)* 1−1542
CO_2 gasdynamic laser, high-power 16 μm emission simulation 1−37456
CO_2 high-energy short-pulse laser system, fusion appls. 1−19361
CO_2 laser, TEA, kinetic modelling 1−15147
CO_2 laser injection locking, INJLOK code 1−24384
CO_2 transversely excited atmosphere laser oscill., spectral distrib. press. depend. 1−15146
CO_2-He-N_2, optical gain optimisation in supersonic stream on mixing vibr. excited N_2 1−46289
CO_2-N_2 gasdynamic laser, gain optimisation study, lineshape effects 1−33652
CO_2-N_2-He, gas dynamic lasers, gain, intensity and power output, kinetic theory calc. *(Chinese)* 1−1542
D-O_3-CO_2 mixture for gasdynamic chemical laser, calc. model 1−33674
DF-CO_2 chemical laser behavior, energy characts., numerical analysis 1−33675
Er^{3+}:YAG crystal, population inversion mechanism between the $^4I_{11/2}$ and $^4I_{13/2}$ levels 1−1573
HCl chemical laser, CW elec. initiated, laser performance, computer model and expt. meas. 1−41678
HCl pulsed laser, method for enhancing output energy 1−1556
HF CW chem. laser, saturation of gain and refr. index, three vibr. level model 1−37490
HF CW chem. laser modelling, rot. nonequilib. effect on laser performance 1−41679
HF chemical laser, single pass pulsed H_2+F_2 amplifier, kinetic model 1−51471
HF pulsed chemical laser, vibr.-rot.-translational relax. kinetics model 1−41677
He laser plasma, atom metastable state population *(Russian)* 1−1140
He-Ne gas lasers, high-amplification, transient processes 1−29256
I laser, basic features *(French)* 1−11013
I laser, optically pumped CH_3I, CF_3I, 6-level kinetic model, numerical anal. *(Korean)* 1−46326
InGaAsP-InP DH laser emitting at 1.1 to 1.65 μm, wave confinement, beamwidth and threshold current 1−46342
$In_{1-x}Ga_xAs_yP_{1-y}$ laser, efficiency and threshold current, intervalence band absorpt. 1−11004
KrF laser, electron beam excitation model 1−37483
Nd:glass passively mode-locked lasers, fluctuation model improvement *(Chinese)* 1−51519
Nd:YAG, CW laser, output power and optical parameters evaluated 1−37499
Nd:YAG passively mode-locked lasers, fluctuation model improvement *(Chinese)* 1−51519
O_2-I CW chemical laser, kinetics 1−51467
O_2-I potential laser, electrically pumped, theoretical anal. 1−41675
O_2-I transfer laser, kinetic model 1−46329
O_3, O_3-CO, light amplification theory in recomb. reactions during exothermic mixture adiabatic explosion *(Russian)* 1−41682
XeCl, laser performance in Ne-Xe-HCl mixtures, charge exchange process 1−37469

aser transitions
see also laser theory
acetylene-d_2 laser development, high energy, line-tuned and ^{13}C isotopic operation 1−46316
book, laser crystals, physics and properties 1−44723
bromomethane-d_3, CW opt. pumped far-IR emissions and assignments 1−24401
carbon tetrafluoride laser, emission frequencies 1−19325
difluoromethane-d_2, optically pumped, efficient CW FIR laser, 120.5 to 1714.1 μm region 1−51463
dye pulsed laser review, book contrib. 1−10999
dye ring laser, CW, freq.-locking and single-mode operation near at. lines of a Ne discharge 1−46397
excimer laser excitation technology and spectroscopy, book contrib. 1−10994
exciplex laser active media, review 1−1553
fluoroform-d subMM-wave laser, optically pumped 1−6543
formic acid, CW opt. pumped far-IR emissions and assignments 1−24401
formylfluoride, pumped with CO_2 laser, intense far IR laser action 1−41664
four-level lasers, appl. of trivalent lanthanides 1−29301
gas lasers, interaction of modes emitted due to adjacent transitions 1−51443
gasdynamic lasers, spectral region extension and efficiency increase 1−41669

laser transitions continued
line-shape parameter anal. in slightly saturated laser amplifier, pulse propagation method 1−41759
luminesc. and stimulated emission 1−48155
methanol, optically pumped, CW far IR laser action by Stark timing 1−29258
methanol far IR laser gas, CW laser pumped, gain saturation 1−15156
methanol optically pumped waveguide far IR laser, operating characts. 1−15158
methanol sub mm laser, 118.8, 70.5 and 96.5 μm lines, Stark effect meas. 1−46302
methanol-d, optically pumped, CW far IR laser action by Stark timing 1−29258
methylamine, optically pumped, CW FIR laser lines 1−1546
optically pumped laser lines, CW λ>9 μm, ordered list 1−49886
propyne, optically pumped 16 μm laser action, tunable output 1−46317
p-quaterphenyl vapour pumped by XeCl laser, 361.5 nm laser action 1−6552
trioxan, near-MM wave emission 1−24406
Ag II hollow cathode laser, multiwatt operation 1−29259
Ar, $2p_{10}$-$1s_5$ transition characts. investigation using high-time-resolution laser spectrometer 1−357
Ar-Xe, fission fragment pumped lasing at 2.65, 2.62 μm 1−41663
Au vapour laser using free transitions of Au atoms 1−33670
Ba vapour IR laser line press. depend. 1−29260
CO CW sealed-off laser at high temp. 208-348K operation 1−29261
CO lasers, high-power, efficient, electrically-excited, book contrib. 1−10993
CO^{2+}:$KZnF_3$, optically pumped, CW IR laser action 1−51487
CO_2 16 μm TE laser, gas effects 1−46291
CO_2 gasdynamic laser, high-power 16 μm emission simulation 1−37456
CO_2 isotope lasers 1−51448
CO_2 isotopic species, laser transition absolute frequencies 1−19320
CO_2 laser, sealed, optogalvanic stabilisation 1−29298
CO_2 laser line selection using reflecting diffr. interferometer 1−33708
CO_2 TE laser upper level relaxation rate and gain, effect of xylene and tripropylamine additives 1−6539
CO_2 vibrational-transition laser emissions in low temp. supersonic flow excited by pulsed electron beam stabilised discharge 1−46286
CO_2 waveguide laser, stimulated emission cross section meas. 1−33656
$^{12}C^{18}O_2$ isotope laser sequence bands, absolute freq. meas. of 53 CW laser lines 1−51446
$^{13}C^{16}O_2$ laser, sequence bands 1−10985
Cd, hollow-cathode pulsed metal-vapour ionic lasers, visible emission parameters 1−6545
Cu II hollow cathode laser, multiwatt operation 1−29259
Cu vapour laser, pulse repetition freq. limiting mechanism 1−33665
D_2CO, CW opt. pumped far-IR emissions and assignments 1−24401
DF CW overtone lasing demonstration using combustion driven chem. laser 1−46330
Dy^{3+}, Yb^{3+}:YAG, 3 μm laser action 1−6560
Dy^{3+}:BaY_2F_8, 3 μm laser action 1−6560
Dy^{3+}:LaF_3, 3 μm laser action 1−6560
Er^{3+}: glass (phosphate, germanate, tellurite), radiative and nonradiative transition probabilities 1−26236
Er^{3+}:$LiYF_4$, $^4I_{11/2}\rightarrow{}^4I_{13/2}$ 2.8 μm laser transition, Stark level identification 1−29288
Er^{3+}:YAG crystal, population inversion mechanism between the $^4I_{11/2}$ and $^4I_{13/2}$ levels 1−1573
$FClO_3$ optically pumped laser action, 16.3-17.7 μm region 1−6542
GaInAsP-InP 1.3 μm CW laser grown by LPE, threshold current density 1−46344
GaInAsP-InP narrow-stripe injection laser emitting at 1.3 μm, CW and pulsed operation 1−46345
Ge, photodissociation of GeI_4, stimulated emission obs. on 326.9 nm line 1−15164
HBr chemical laser, high power and single line operations 1−41727
HF-DF optical reson. transfer laser, DF CW laser oscill. obs. 3.8 to 4.0 μm 1−1548
HF-HCN optical reson. transfer laser, HCN CW laser oscill. obs. 3.85-3.9 μm 1−1548
HN_3, Stark tuned, CW FIR laser action, ν_2 band Stark FIR lasing spectroscopy 1−10990
He-Cd panchromatic hollow cathode laser emitting at 12 wavelengths 1−51507
$He-Cd^+$ laser with RF transverse pumping, laser transitions 1−29267
He-Cu hollow cathode laser with multiple electrodes 1−29293
He-Ne, two-mode laser, freq. response, transitions 1−51451
He-Ne laser anal. of CO_2 1−4135
He-Xe, two-mode laser, freq. response, transitions 1−51451
He-Xe 3.5 μm unilateral ring laser, intensity fluctuation around oscill. threshold 1−46403
^{3}He-Ar, large volume multiple path nuclear lasing at 1790 nm 1−15153
Hg, hollow-cathode pulsed metal-vapour ionic lasers, visible emission parameters 1−6545
HgBr laser oscill., 502 nm, in electron-beam-controlled discharge-excited Xe-$HgBr_2$ 1−46298
Ho_2Er:$LiYF_4$, laser emission at 0.75, 0.85, 1.22, 1.4, 1.73 and 3.9 μm, using Nd:BEL tunable pump source 1−46359
IF 140 kW laser, small signal gain and operating parameters, 472.7 nm transition 1−41671
IF, blue-green lasing in discharge pumped gas mixtures, gain meas. 1−37475
IF discharge-pumped laser, multi-line emission (480-496 nm) 1−37463
IF laser, optically pumped, $B^3\Pi(O^+)\rightarrow X^1\Sigma^+$, 7200-6500 Å range 1−24400
IF, lasing and emission spectra meas. at 491, 484 nm 1−24399
IF*, lasing in He-CF_3I-NF_3 mixtures at 491, 484 nm 1−37474
InGaAsP BH laser emitting at 1.3 μm, CW electrooptical props. 1−46346
InGaAsP-InP DH laser emitting at 1.1 to 1.65 μm, wave confinement, beamwidth and threshold current 1−46342
$In_{1-x}Ga_xP_{1-y}As_y$, visible-spectrum (~6700 Å) LPE laser, continuous room-temp. photopumped operation 1−46368
K neutral, XUV lasers by quartet to doublet energy transfer 1−46301
Kr_2F, electron-beam pumped, excimer laser emission at 430 nm 1−37462
Li neutral, XUV lasers by quartet to doublet energy transfer 1−46301
Li_2, optically pumped, precise meas. and assignment of CW laser emission lines 1−15157
LiF F_2-centre laser, emission characts. in visible 1−15172
N_2 laser, IR ($B^3\Pi_g$-$A^3\Sigma_u^+$) transition, excitation process 1−24404

laser transitions continued
N_2 long-pulse UV laser at 357.7, 380.5 and 405.9 nm in N_2-Ar-Ne-He mixture 1−37485
N_2 long-pulse UV lasers at 357.7, 380.5, 405.9 nm in N_2-Ar-Ne-He mixture 1−41665
N_2, O-O UV laser band, Λ-doubling obs. 1−46023
N_2 pulsed discharge, laser spectroscopic anal. at low temp., 1.43 μm laser band 1−10987
NH_3 12 μm laser pumped by sequence CO_2 laser 1−29266
NH_3, interaction of far IR and mid IR laser transitions 1−46315
NH_3 laser, interaction of far-IR and mid-IR laser transitions 1−33663
NH_3 laser system, optically pumped, calc.-expt. gain/absorpt. spectra evaluation 1−29263
NH_3, NH_2D, ND_3, optically pumped, CW FIR laser lines 1−1546
$^{15}NH_3$ optically pumped waveguide far IR laser, operating characts. 1−15158
Na_2, $A^1\Sigma_u^+$ band polarisation labelling spectroscopy 1−45980
Na_2, optically pumped, precise meas. and assignment of CW laser emission lines 1−15157
Nd laser, miniaturization and materials props., book contrib. 1−6580
Nd^{3+}, $^4F_{3/2}$→$^4I_{15/2}$ energy transfer, energy matching and low quenching criteria 1−24424
Nd:glass, laser, absorpt. and luminesc. spectra, Stark struct., radiative and stimulated transitions 1−51486
Nd:YAG, laser emission cross section meas. at 1064 nm 1−46360
Ne, red laser transition investigated using mode-crossing and zero-field level crossing methods 1−10986
Ne-H_2 laser, high press., 585.3 nm Ne transition obs. 1−46296
PH_3, phosphine, far IR CW laser transitions, optically pumped more than 100 MHz from reson. 1−46300
Pb hollow cathode discharge laser action, excitation mechanism 1−51455
Pb II, CW laser oscill. of 1.32 μm, 537.2 nm, 666.0 nm and 939.6 nm transitions in hollow cathode discharge tube 1−29265
Pb neutral vapour laser, compact long-life high pulse repetition freq. at 722.9 nm 1−41720
$PrLaP_5O_{14}$ laser, simultaneous operation at 637, 717 nm wavelengths 1−33693
Rb two-photon optically pumped laser 1−51458
SO_2, CO_2 laser pumped, subMM lasing on rotational transitions 1−46319
Sb, photodissociation of SbI_3, stimulated emission obs. on 326.7 nm line 1−15164
Sc_2SiO_5:Nd^{3+}, luminesc. and stimulated emission 1−48155
Sn, photodissociation of SnI_2, stimulated emission obs. on 380.1 nm line 1−15164
Tl, hollow-cathode pulsed metal-vapour ionic lasers, visible emission parameters 1−6545
Tl laser with external resonator emitting at 535, 377.5 nm, gain, excitation by TlI photodissociation 1−29271
Tl UV laser pulses produced by TlBr photodissoc. 1−6547
Xe laser, freq. crossing effect, oscill. synchronisation of 2 independ. transitions 1−33661
XeCl, Blumlein discharge-excited laser, output rel. to press., voltage etc. 1−37464
XeF, electron beam excited laser mixtures, optical gain meas. at 351, 488 nm 1−1549
Zn, hollow-cathode pulsed metal-vapour ionic lasers, visible emission parameters 1−6545

laser tuning
acetylene-d_2 laser development, high energy, line-tuned and ^{13}C isotopic operation 1−46316
alkali halide, colour centre lasers, 0.8-3.33 μm range 1−29287
carbon tetrafluoride laser optically pumped by CO_2 laser, action and superfluorescence 1−24405
carbon tetrafluoride laser tuning curves, $\nu_2+\nu_4$ combination vibr. absorpt. spectrum 1−46310
coumarin 102 dye laser, intracavity freq. doubling, 238 to 249 μm tuning range 1−15224
coumarin-515 single-mode ring dye laser, narrow-band 250-260 nm radiation from intracavity doubling 1−24436
dye CW laser, interferometrically tuned and actively modelocked 1−41729
dye dynamic DFB lasers, lasing efficiency and tuning range. 1−51475
dye IR laser, tunable to 1.24 μm with picosecond excitation, superior photostability 1−41691
dye laser, flashlamp-pumped, electrooptic tuning of output freq. 1−46389
dye laser, picosecond pulse generation 1−1577
dye laser, thin-film narrowband tunable 1−46336
dye laser, two-wavelength operation using reflecting Fizeau interferometer 1−33701
dye laser frequency tripling at 106 nm in pure Xe gas 1−41781
dye laser tuning with reflecting Fizeau wedge 1−15187
dye pulsed laser, N_2 laser pumped, 2 GHz linewidth, spectroscopic appl. 1−19357
dye ring laser, CW, freq.-locking and single-mode operation near at. lines of a Ne discharge 1−46397
dye single-mode laser with double-action Fizeau interferometer 1−51506
dye solution sweep lasers with coherent pulse excitation, dynamic wavelength tuning *(Russian)* 1−41688
dye tunable laser, single longit. cavity mode, pumped by N_2 laser 1−15188
dye-solution laser with pump-induced distributed feedback 1−1557
F_2^+ and $(F_2^-)_A$ centre tuneable laser operation in OH^- and SH^- doped alkali halides 1−29285
far IR lasers, different timing and modulation techniques comparison 1−19372
far IR lasers, pumped with tunable narrow band CO_2-TEA lasers 1−6572
fluoromethane optically pumped submm. laser, Stark effect 1−33664
holographic wavelength selectors recorded in dichromated gelatin films 1−19297
ionic crystal tunable colour centre lasers, review 1−33694
oxazine-1 synchronously mode-locked CW dye laser, near-IR subpicosecond pulse generation 1−24417
propyne, optically pumped 16 μm laser action, tunable output 1−46317
self-injection principle for efficient tuning and amplification *(Chinese)* 1−46361
semiconductor diode lasers, tunable IR, review 1−1569
semiconductor laser, external-cavity controlled, spectral characts. 1−41698
single-mode scanning geometry for tunable lasers, diffr. grating as dispersive element 1−51505
two-photon resonant four-wave mixing processes in atomic Ba 1−19382

laser tuning continued
CO^{2+}:$KZnF_3$, optically pumped, CW IR laser action 1−51487
CO_2, modulation by mol. gases, tuning Stark const. estimation method *(Rumanian)* 1−51522
CO_2 TE laser, tunable heliumless operation 1−46293
CO_2 TEA laser, tunable single longit. mode output using intracavity selective absorbers 1−51512
CO_2 waveguide lasers, gain, saturation and tunability *(Rumanian)* 1−15151
Cr^{3+}:$BeAl_2O_4$ tunable laser, 701 to 818 nm range 1−29283
Cr^{3+}:$BeAl_2O_4$; alexandrite, tubable Q-switched laser emission 700 to 800 nm 1−51498
H_2 gas, IR tunable Raman laser 1−19326
HF gas, IR tunable Raman laser 1−19326
HN_3, Stark tuned, CW FIR laser action, ν_2 band Stark FIR lasing spectroscopy 1−10990
KBr F_2^+ laser, 1.72-2 μm range 1−29285
Kr_2F, electron-beam pumped, excimer laser emission at 430 nm 1−37462
LiF crystal, 0.86-1 μm tunable CW room-temp. laser utilizing F_2^+-centres 1−6562
$LiNbO_3$, tunable picosecond light pulse generation, 2700 to 32000 cm^{-1} 1−1627
N_2, liq., IR tunable Raman laser 1−19326
NSF molecular laser, tunable, optically pumped, laser isotope separation 1−15178
Nd:phosphate glass laser, electrooptic actively mode-locked, 1.054 to 1.068 μm wide tunability 1−1584
Nd^{2+}:YAG laser, wide-range continuously tunable source of UV, visible and IR radiation 1−33696
$Pb_{1-x}Sn_xTe$ DFB laser diodes, LEP grown, broad continuous single-mode tuning range 1−15182
XeCl(F) excimer lasers, freq. conversion of beams by means of stimulated Raman scatt. in liq. N_2 1−33763

laser velocimeters
ablatively accelerated targets, vel. profile, laser beam nonuniformity effect 1−38125
anemometer, air flow velocity meas. among fan blades *(Slovak)* 1−46828
anemometer system for velocity meas. in laminar and turbulent flow in pipes 1−24903
anemometry by photon correlation with simply periodic gated sampling 1−42112
anemometry principle, optical system and Doppler signal processors *(Czech)* 1−46420
atmospheric laser Doppler velocimetry, overview 1−4649
bidirectional Doppler, fundus camera based, for retinal blood flow meas. 1−39978
bloodflow measurement, freq. shifting by prism traverse *(Japanese)* 1−35857
Bragg cell frequency-shifting, deviation-free, appl. to laser anemometry 1−46419
correlation functions for 11 pin section, approx. models for on-line anal. 1−46833
discrete particle laser Doppler anemometry data processing 1−29815
Doppler and induced fluorescence anemometry comparison 1−42113
Doppler anemometer, optimum code in single-particle vel. estimation 1−2117
Doppler anemometer for meas. of retinal blood vel. 1−8965
Doppler anemometer for turbulent flow meas., stochastic velocity data analysis *(Slovak)* 1−46827
Doppler anemometry 1−51882
Doppler anemometry measurements carried out for JCE project on engines, anal. of expt. errors 1−2116
Doppler blood flow meter for use with optical plethysmograph 1−2114
Doppler laser anemometry *(Italian)* 1−46824
Doppler type, for laser accelerated targets 1−36636
Doppler velocimeter for marine biological appls., microcomputer-based 1−2113
Doppler velocimeter particle sizing by Mie scatt. 1−40759
Doppler velocimetry, signal-to-noise improvement 1−33735
doppler velocimetry 1−19847
enclosures, inclined, air-filled, flow visualisation, laser-doppler anemometer expts. 1−6862
flow meas. optical systems and signal analysis methods 1−42111
fluid velocity meas. using laser beam manifold and particle photography system 1−24902
fringe-type, visibility of large spheres, simple model 1−10917
gas source-sink flow in rapidly rotating cylinder, velocity profile meas. using laser-Doppler velocimeter 1−15497
heterodyne CW CO_2 laser Doppler anemometry, offset local oscillator 1−49405
multiple-beam laser velocimeter, particle vel. distrib. meas. in fast fluidised bed 1−6595
operational principles *(German)* 1−29805
optical heterodyning and Doppler effect applied to laser vibrometers and anemometers 1−15204
pipe flow turbulent boundary layer, exam. of coherent structures using laser-Doppler anemometry 1−2120
resonant Doppler velocimeter for hypersonic flow field meas. in He 1−38022
retinal blood flow meas. with laser Doppler velocimetry, clinical instrument development 1−43934
scanning laser Doppler anemometer system, for atm. turbulence remote meas. 1−49428
single particle aerodynamic relaxation time analyser for sizing particulate pollutants and theraputic aerosols 1−43841
small-tube laser anemometer system design and signal processing 1−42114
time-of-flight laser anemometer for remote meas. of wind velocity 1−44350
turbulent boundary layer research, experimental techniques 1−2119
turbulent flow over a plane normal wall 1−33947
two-colour two-spot backscatter laser velocimeter, atm. wind aerosol vel. meas. appl. 1−6594
two-phase flow, laser Doppler anemometry, system theoretical approach 1−29814

lasers
see also chemical lasers; distributed Bragg reflector lasers; distributed feedback lasers; dye lasers; excimer lasers; free electron lasers; gas lasers; laser beams; laser frequency stability; laser tuning; liquid lasers;

lasers continued
nuclear pumped lasers; Raman lasers; ring lasers; solid lasers; X-ray lasers
book, laser technology and appls. 1−9782
conference, Chicago, IL, USA (Oct. 1980) 1−40593
conference, Edinburgh, Scotland (Sept. 1979) 1−27669
electro-optics/laser international conference, Brighton, England (March 1980) 1−40601
four-level lasers, appl. of trivalent lanthanides 1−29301
high-power laser development and appls. *(Japanese)* 1−51502
industrial, technical efficiency higher than physical efficiency 1−33700
light and its uses for amateur scientists, book 1−44721
optics conference, Los Alamos, NM, USA (May 1979) 1−27660
review from fundamental knowledge to appls. *(French)* 1−24353
VUV radiation physics, conf., Charlottesville, VA, USA (June 1980) 1−27648

latent heat
see also heat of fusion; heat of sublimation; heat of vaporisation
polycyclic aromatics, condensed, phase behaviour 1−11844
Potts model, three-state, in 3-D, 1/Q expansion and first order phase transition 1−36579

latent heat of adsorption *see heat of adsorption*
latent heat of combustion *see heat of combustion*
latent heat of crystallisation *see heat of crystallisation*
latent heat of dissociation *see heat of dissociation*
latent heat of formation *see heat of formation*
latent heat of fusion *see heat of fusion*
latent heat of mixing *see heat of mixing*
latent heat of reaction *see heat of reaction*
latent heat of solution *see heat of solution*
latent heat of sublimation *see heat of sublimation*
latent heat of transformation *see heat of transformation*
latent heat of vaporisation *see heat of vaporisation*
latent image *see photographic process*

lattice constants
see also crystal atomic structure
A15 compounds, effective radii and volumes for elements 1−42339
A-15 compounds, supercond. crit. temp. and lattice parameters, effect of H, pair pot. model 1−7767
actinide metals, band struct. and cohesive props. 1−47443
actinides, bonding and struct. props. using inclined W systematics 1−47040
alkali metal halides, off-centre instability induced by exchange forces 1−2928
alkali metal iodate pseudo-binary systems, solid solution investigation *(Chinese)* 1−2611
alkali metals, lattice static and dynamic props., pseudopot. study 1−7282
alloys, A15 β-W structure, dimensional anal. 1−52107
5′-azido-5′-deoxy-3′-O-acetylthymidine, X-ray powder diffr. data 1−30214
crystalline elec. field split system, press. effects and lattice parameter correlations 1−20939
diamond, ground state properties, LCAO SCF ab initio HF method 1−34609
equations of state, pseudopotential calcs. *(Chinese)* 1−2587
Frenkel defects, characteristic parameter thermodynamics 1−42376
graded-composition semicond. solid solutions, radially symm. virtual lattice 1−34269
graphite, intercalation compounds, lattice dynamics 1−34441
III-V mixed semiconductors, energy band struct. and lattice const. chart 1−24420
Invar alloy, point defect formation energy *(Russian)* 1−20199
likelihood ratio method, comparison with least squares procedure 1−29988
magnetic bubble circuit, ion implanted, annealing 1−7915
magnetic ions, cryst. field effects, numerical method of determ. 1−25674
metallic phases, unit cell dimension calc. from atomic diameters 1−34290
minerals, hexagonal and tetragonal, graphical method for cell dimensions determ. 1−29992
1-[(4-nitrophenyl)azo]-2-naphthol, C.I. pigment red 1, cryst. data for third polymorph (γ) 1−2419
polystyrene spheres, ordering of aqueous suspensions 1−13045
polyvinylidene fluoride, phase IV cryst. struct. 1−38293
polyvinylidene fluoride, piezoelectric prop. of oriented crystal phases *(French)* 1−52090
potassium propanoates, cryst. data 1−30215
powder diffractometry, lattice-parameter meas. accuracy 1−29987
precision lattice constant determ., error depend. on sample adjustment and collimator tilt 1−29978
α-quartz with radiation induced SiO_4^{5-}/Cu^+ centres, paramag. centres and lattice consts. correl. w.r.t. temp. charcts. *(Russian)* 1−12399
rare earth cpds., R_2S_3, R_3S_4, charge ordering, lattice const. meas. 1−11736
rare earth monoxides formed during $R+R_2O_3$ reactions under high pressures 1−26740
rare earth-Al_2 alloys, crystal field, neutron diffr. studies 1−25673
rare earth-Fe_2 alloy, Laves phase, neutron scatt. studies 1−25203
rare earth-La-Sn alloys, anomalous phys. props. 1−25827
rare-earth nitrates with pyrazolone derivatives, X-ray data 1−8816
rubidium propanoates, cryst. data 1−30215
semiconductor materials, multicomponent, struct., microdiffr. anal. method 1−15762
simultaneous eqn. soln. for obtaining lattice consts. of low-symm. cryst. systems *(Chinese)* 1−52092
sodium dodecylsulphate, mol. motions in solid-solid transition at 283K 1−30213
sphere-packing model, for prediction of order in σ phases 1−46948
stannides, superconducting/mag., cryst. chem., growth and reentrant behaviour 1−31327
steel, high Ni quenched, singularities of martensite decomposition *(Russian)* 1−31416
steel, high-speed cutting, phase transformations during tempering of R18, R6M5, 10R6M5, and R8M3K6S *(Russian)* 1−3727
strictional superstructures in two-dimensional phase transitions *(Russian)* 1−42614
systematic errors, in parameter determ., least-squares method V's maximum likelihood method 1−7038
ternary semiconductors, I-III-VI_2 and II-IV-V_2 chalcopyrite compounds, thermal expansion coeffs., empirical relations 1−25470

lattice constants continued
3d transition metal alloys, cohesive props., rel. to mag. props. 1−52102
transition metal alloys, T^{10}-B^1 and T^{10}-B^2, relations between structural and thermodynamic props. *(German)* 1−20129
tri(η-cyclopentadienylcobalt)-di-μ_3-thio-tricobalt, phase transform., lattice consts., superstructure reflections, X-ray scatt. 1−47228
two-dimensional solids, lattice and continuum theories 1−52422
Ag:He, epitaxial films, polymorphic transform, X-ray diffr. study *(Russian)* 1−2483
$AgBaCr_2(VO_4)_3$, prep. and X-ray powder diffr. studies 1−7142
AgCl, Frenkel defects, characteristic parameter thermodynamics 1−42376
$AgGaS_2$, crystal growth, props. 1−16677
$AgGaS_2$-$AgInS_2$, solid solutions, growth of single crystals, phase diagram 1−35163
$AgGaSe_2$, anomalous thermal expansion, lattice parameters meas. 1−38561
$AgInSe_2$, thermal expansion anomaly, lattice parameter meas., 28 to 478°C 1−38560
Ag_2SeO_4:Ni^{2+}(Cu^{2+}) single crysts., gel growth, X-ray diffr. and IR spectra 1−12644
Al, Al-Cu(Si), evaporated films, lattice parameters and homogeneous elastic stresses, $\sin^2\Psi$ meas. method 1−30604
Al, lattice mechanical and electronic props., unified calc. 1−42488
Al monocrystalline particles, on MgO substrate, lattice parameter depend. on particle size 1−20599
Al-Cu (1-12 at.%), splat-cooled, X-ray diffr. line anal. 1−7131
Al-Si alloys, rapidly quenched from mat. characterisation 1−21438
Al-Ti-Si alloy, non-equilibrated, $Ti(Al, Si)_3$ compound formation 1−16769
$AlCr_2C$ struct. type interstitial phases, dimensional anal. 1−2351
$Al_xGa_{1-x}Sb$, lattice consts., composition depend., X-ray diffr. study 1−7149
Al_2O_3-SiO_2, fused mullite, variable comp., obtained by induction melting in cold crucible 1−12727
$AlPO_4$-SiO_2 solid solns., axial thermal expansion 1−2662
Al_2Se_3-In_2Se_3, In-rich region, X-ray diffr. study 1−7143
AmO_2 lattice expansion, 38 to 300K 1−47262
Ar, solid, self-interstitial atom struct. determ. 1−25259
As_2O_5, high temp., cryst. data 1−52116
Au:He, epitaxial layers, polymorphic transform., X-ray diffr. study *(Russian)* 1−2483
Ba, 4f-level position, lattice constant variation, supercond. props. 1−25625
BaF_2-BaC_2 solid soln., carbide electrolyte suitability 1−12678
BaF_2-LaOF(GdOF)(YOF) solid solns., phase diagrams and cryst. growth by Bridgman technique 1−35241
$Ba(IO_3)_2.H_2O$, cryst. data 1−30178
$BaZnGeO_4$ crysts., growth and props. 1−12650
$BiLaWO_6$ and solid solutions, synthesis and lattice parameters 1−20159
$BiRWO_6$ and solid solutions, synthesis and lattice parameters 1−20159
$Bi_{1/3}TaO_3$, synthesis and X-ray diffr. study 1−3684
$BiYWO_6$ and solid solutions, synthesis and lattice parameters 1−20159
Br_2, tetragonal and A1-type cryst. modifications prod. by vapour quenching, semicond. and metallic behaviour 1−43263
CaC-Na_2C_2(Li_2C_2)(CeC_2), solid solubilities, X-ray diffr. study 1−7337
CaF_2, cohesive props., equation of state, lattice parameters, LMTO calc. 1−20109
CaF_2-LaOF(GdOF)(YOF) solid solns., phase diagrams and cryst. growth by Bridgman technique 1−35241
CaI_2/AI, A=Cs-Na, thermochem. and struct. study *(German)* 1−48723
$Ca_{10}(PO_4)_6CO_3$, space group and lattice constants 1−30177
Ca_4PtO_6, cryst. growth and morphology 1−12642
$CaSO_3.0.5H_2O$, new phases, X-ray diffr. identification *(Japanese)* 1−20172
Cd, thermal expansion, X-ray determ. 1−38564
$Cd_{1-x}Pb_xF_2$($0\leq x\leq 1$) mixed crystals, prep. and structure 1−3616
(Ce-La) $[Co_{1-x}(Cu,Fe)_x]_5$, phase relations and mag. props. 1−8272
$CeAl_2$, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
CeBi, internal distortion, Bond X-ray diffr. technique 1−29970
$CeGa_6$, phase existence, in Ce-Ga system, lattice constants 1−21424
$Ce(Ir_xOs_{1-x})_2$, cubic Laves phase, intermediate valence state detect., ESR and lattice parameter study 1−26032
$CePd_3$, anomalous temp. behaviour of mixed valence state, XPS study 1−12072
$Ce(Pd_xAg_{1-x})_3$, mixed valence, cryst. elec. fields and Kondo effect 1−20672
$Ce(Pt_xIr_{1-x})_2$, cubic Laves phase, intermediate valence state detect., ESR and lattice parameter study 1−26032
$CeSn_3$, low temp. anomalies 1−20705
$Co_{100-x}Ga_x$ (x=44-52), lattice parameters 1−25258
Cr, antiferromag., electronic struct. 1−30624
Cr-Er-S family, crystal chemistry *(French)* 1−30184
Cr_2B, lattice parameters *(Japanese)* 1−26437
Cr_3B_3, lattice parameters *(Japanese)* 1−26437
Cr_2N, lattice parameters *(Japanese)* 1−26437
$CsSbS_2$, cryst. struct. determ. 1−25226
Cu-Li-Fe-O system, prep. and props. of spinel solid solns. 1−12708
Cu-Nb_3Sn, in situ, superconducting props., influence of Ga additions *(Japanese)* 1−42894
Cu-Nb_3Sn composites, supercond. props. rel. to heat treatment 1−8354
Cu-Ti(Cr)(Mn)(Fe)(Co)(Ni), intercrystn. internal adsorpt., lattice constants *(Russian)* 1−47044
β-Cu-Zn, γ irradiated, order-disorder transform. and elec. resist. *(Russian)* 1−38405
$CuCrS_2$-MS_2 (M=Ti,Sn), pseudo-binary system, cubic phases *(French)* 1−47248
$CuGaS_2$, crystal growth, props. 1−16677
$CuGaSe_2$, anisotropic thermal expansion, X-ray powder diffr. study 1−47261
$CuInS_2$, crystal growth, props. 1−16677
$CuSO_4.5H_2O$, Weissenberg photographs, triclinic-cell parameters from one cryst. setting 1−2288
$Cu_{2-x}Se$ ($2.01\geq 2-x\geq 1.75$), phase diagrams and props. 1−35242
$DyFe_2Si_2$, solid solution, mag. susceptibility, lattice const. *(Russian)* 1−20967
Dy_2O_3 thin films, crystallographic parameters and phase transforms. 1−38685
$ErAl_xGa_{2-x}$, lattice consts. and phases, X-ray diffr. and microprobe anal. 1−20128
$ErMn_2N_x$, ^{166}Er Mossbauer spectra and X-ray diffr. study 1−3304
$Eu_{1-x}Nd_xO_{1-x}N_x$, magnetic and elec. props 1−25913

lattice constants continued
$Eu_{1-x}Pt_xPt_2$, high press. Mossbauer study of valence stability 1−7988
Eu_3S_4, charge ordering, lattice const. meas. 1−11736
Fe-C(-Sb), metastable ϵ phase obtained by splat quenching *(Chinese)* 1−53209
Fe-Co-O system, thermogravimetry and X-ray diffr. study at 900°C *(French)* 1−39322
Fe-Co-W alloys, semihard mag. props. *(Japanese)* 1−26637
Fe-Ni-C (18, 0.98 wt.%), martensite lattice changes during tempering 1−8347
Fe-Ni-C (18, ~1 wt.%) martensite, atomic displacements due to C, X-ray meas. 1−7137
Fe-Pd alloys, struct. and ordering, X-ray diffr. study 1−52286
$Fe_{83}B_{17}$ amorphous alloy, crystallisation high press. effect 1−20065
$Fe_{0.25}Zn_{0.75}Cr_2(S_{1-x}Se_x)_4$ thiospinel system, Mossbauer investigation *(German)* 1−21092
GaAs:Si; LPE, VPE and gradient-freeze growth, doping effect on lattice parameters 1−2402
GaAs:Te(Sn)(Cr), fast neutron irrad. effects on props. 1−25331
$GaAs_{1-x}P_x$, modulated struct., tetragonal lattice distortions and elec. props. 1−42362
$GaAs_{1-x}P_x$ VPE layers, dislocation density and lattice const. mismatch, cathodolum. 1−7487
$Ga_xIn_{1-x}As_{1-y}P_y$/InP heterostructures, thickness depend. of lattice parameter and band gap 1−52115
$Ga_{1-x}In_xP$ ($0 \leq x \leq 0.10$), epitaxial layers, precise chem. comp. by electron probe anal. *(French)* 1−35587
GaN, lattice parameter variation with growth conditions 1−20161
$GaSe_{1-x}S_x$, mixed crystal, polytype depend. of intralayer bond length 1−47038
Gd-Ga system, Ga rich, phase diagram determ. 1−53156
$Gd_3Ga_5O_{12}$, lattice parameter changes of facets, X-ray double cryst. meas. 1−20152
$Gd_3Ga_5O_{12}$ substrate for mag. bubble domain device, meas. and standard value of lattice constant *(Japanese)* 1−2399
GeTe based substitutional solid solns., comp. depend. of phase transition temp. and lattice parameters 1−42529
GeTe, homogeneity region 1−20411
p-H_2 solid, neutron diffr. study up to 5 kbar 1−38613
$Hf_2CoH_{3.8}$, structure and H diffusion, PMR and X-ray diffr. studies 1−3280
$Hf_2RhH_{2.2}$, structure and H diffusion, PMR and X-ray diffr. studies 1−3280
$HoCo_2Si_2$, solid solution, mag. susceptibility, lattice const. *(Russian)* 1−20967
$HoFe_2Si_2$, solid solution, mag. susceptibility, lattice const. *(Russian)* 1−20967
InBi, pressure-induced electron transition, struct. parameters meas. by neutron diffr. 1−38362
InGaAsP, composition, refr. index and lattice mismatch 1−11990
In_2O_3 films, thermally evaporated, struct., elec., and optical props. 1−47405
InP-InGaAsP heterojunction laser, emission polarization, internal strain effect 1−51483
K-Cs, substitutional alloy, pseudopotential study of lattice parameter and heat of formation 1−30139
$K_{1-x}Bi_xF_{2x+1}$ ($0.5 \leq x \leq 0.7$), solid solns., synthesis and ionic conductivity props. *(French)* 1−20448
$KC_8(C_{24})$ graphite intercalates, X-ray lattice const. and compressibility meas. 1−2413
KCl, lattice mechanics in point-dipole approx., perturbation theory 1−25383
KCl:$Ca^{2+}(Ba^{2+})(Pb^{2+})(Sr^{2+})$, impurity ion effect on lattice parameter 1−52122
KCl:$Ca^{2+}(Sr^{2+})(Eu^{2+})$, gamma irrad. effects on lattice parameter and colour centre conc. 1−52176
$KCo(Au(CN)_2)_3$, piezoelectric, crystal struct., lattice const, determ. 1−25209
KH_2PO_4, neutron diffractometry study of tricritical point 1−52902
$K_2Ti_8O_{17}$, prep. by hydrolysis, X-ray study 1−3645
La-Y-Mn, supercond., X-ray diffr., mag. susceptibility, sp. ht. and metallography meas. 1−25826
$La_{1-x}Mg_xNi_2$, hydride form., lattice parameter meas. and desorption expts. 1−7134
$(La_{1-x}Sm_x)Sn_3$, low temp. anomalies 1−20705
$La^{III}Ti^{III}O_3$, X-ray powder diffr. data 1−30175
Li-Ni ferrites, lattice consts., X-ray diffr. study 1−30181
Li_{35} BCC cluster, Boyd-Whitehead CNDO parametrisation 1−45853
$LiBaCr_2(VO_4)_3$, prep. and X-ray powder diffr. studies 1−7142
α-$LiIO_3$, cryst. struct. and phase transitions *(Chinese)* 1−25206
$2LiIO_3.HIO_3$, cryst. struct. and phase transitions *(Chinese)* 1−25206
$LiInSe_2$, single cryst. growth and characterisation 1−12647
$Li_{2-2x}N_{0.5-x}Cl_{0.5+x}$, superionic conductor, NMR and X-ray studies 1−38999
Li(Nb, Ta) O_3 films on $LiTaO_3$ substrates, LPE grown, refractive indices and surface morphology 1−3349
$Li_2Ti_3O_7$, X-ray powder diffr. data 1−31439
$Li_4Ti_5O_{12}$, X-ray powder diffr. data 1−31439
(Mg, Fe) SiO_3, perovskite, synthetic high press. phase, TEM and X-ray diffraction studies 1−22328
$(Mg,M)_3(PO_4)_2$ (M=Mn-Zn,Cd), solid solns., cation distrib. between 5 and 6-coordinated sites 1−2409
MgIn $L1_0$-type ordered alloy, anisotropic lattice compression 1−34425
Mg_2NiH_x, cryst. struct. and polymorphic transition, X-ray diffr. study 1−47043
Mn duplex alloy steel, formation and stability of secondary austenite *(Russian)* 1−31497
Mn-Mg ferrites, lattice consts., X-ray diffr. study 1−30181
MnO-CoO antiferromag. solid soln., thermomag. study 1−52785
MnZn ferrites, O_2 gradients and resultant strains 1−4008
Mo-W refractory alloy, low-temp. prop. and characterisation 1−21397
N_2 crystal, lattice dynamics with ab initio intermol. pot. 1−38476
$(NH_4,K)_2H_2P_2O_7$, X-ray powder diffr. data 1−30176
$(NH_4,K)_3HP_2O_7.H_2O$, X-ray powder diffr. data 1−30176
NH_4NO_3:NiO(CuO), phase transitions 1−7124
N_2O, solid, thermal expansion and thermodynamic props. X-ray studies *(Russian)* 1−2659
$NaBaCr_2(VO_4)_3$, prep. and X-ray powder diffr. studies 1−7142
NaCl, lattice mechanics in point-dipole approx., perturbation theory 1−25383

lattice constants continued
$Na_{1-x}Li_x(Nb_{0.6}Ta_{0.4})O_3$ ($0.02 \leq x \leq 0.20$), solid soln., cryst.-chem., dielec. and pyroelec. study *(French)* 1−26132
NaS_2 (1T), thermal expansion meas., entropy changes at CDW phase transitions 1−34494
Nb-Ge(-Si), high T_c phases 1−52679
Nb-Si films, co-evaporated, A-15 type, struct., long-range order parameter and supercond. props. 1−34596
Nb-Si(-Ge), high T_c phases 1−52679
Nb-Ta, uptake of H_2, lattice parameters of hydride phases 1−20553
Nb-Zr-C in contact with molten Li, effect on props. and struct. 1−53246
NbN(C) single cryst. growth, RF floating zone process, elec. and struct. props. 1−31342
$NbSe_3$, electron diffraction, superlattice spots appearance rel. to conductivity decrease, Peierls transitions 1−38360
$NbSe_2$(2H), thermal expansion meas., entropy changes at CDW phase transitions 1−34494
Nb_3Si, A15, nonepitaxial and epitaxial growth by sputtering 1−31346
Nb_3Si epitaxial growth by electron beam evap. 1−53091
$NdAl_xGa_{2-x}$, $0 \leq x \leq 2$, lattice consts. and phases, X-ray diffr. and microprobe anal. 1−20128
$NdGa_6$ phase existence, in Nd-Ga system, lattice constants 1−21424
$Nd^{III}Ti^{III}O_3$, X-ray powder diffr. data 1−30175
Ni, lattice constant, dependence on Ar^+ bombardment dose *(Russian)* 1−52190
Ni-Au, relation between structural and thermodynamic props. *(German)* 1−20129
Ni-P electrodeposited films, amorphous, crystallised phosphide phases, electron diffr. and TEM study 1−52068
$NiAl_xFe_{2-x}O_4$, $0 \leq x \leq 1$, props. *(Russian)* 1−52803
PaAs(N), f-electron contrib. to bonding 1−47059
Pb-Ge system, metastable solid solution form. and decomp. 1−21418
$Pb_{1-x}Cd_xTe$, composition versus lattice constant and band gap *(French)* 1−2870
β-PbF_2, anion disorder and ionic motion, X-ray diffr. study 1−34332
$PbMo_6S_8$, superconducting coatings, props. and struct. 1−30871
$Pb_3(PO_4)_2$-$Pb_3(AsO_4)_2$, ferroelastic phases, X-ray and optical studies 1−48330
$Pb_{1-x}Sn_xTe_{1-y}Se_y$ solid solutions, IR spectra, band gap *(Russian)* 1−21214
PbTe crystal, X-ray and TEM investigations 1−52305
PdH_x, supercond. crit. temp. and lattice parameters, effect of H, pair pot. model 1−7767
PdH_x-Fe matrices, lattice parameter and ^{57}Fe isomer shift meas. 1−7983
PdZn $L1_0$-type ordered alloy, anisotropic lattice compression 1−34425
Pr crystalline elec. field split system, press. effects and lattice parameter correlations 1−20939
$PrAl_2$, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
PrSb crystalline elec. field split system, press. effects and lattice parameter correlations 1−20939
Pr_2Se_3-PbSe cross-section of ternary system Pr-Pb-Se 1−8283
$Rb_{1-x}Bi_xF_{2x+1}$ ($0.5 \leq x \leq 0.6$), solid solns., synthesis and ionic conductivity props. *(French)* 1−20448
$RbCaF_3$, tetragonal domains in cubic phase 1−7150
$Rb_2ZnPb(NO_2)_6$, idiomorphous single cryst. growth in gels *(German)* 1−35159
Rh complex, (-)-$[Rh(en)_3]Br_3.H_2O$, lattice constants *(French)* 1−34307
Si powder diffractometry, precision and accuracy in measuring lattice const., meas. errors *(Chinese)* 1−2394
Si, stress apparatus for single cryst. X-ray diffr. 1−28006
Si_2N_2O, structural modifications under thermal constraints *(French)* 1−20153
SmB_6, XAS study of oxidation state temp. depend. 1−12600
$Sm_2Ge_2O_7$, pressure-temp. phase diagram, polymorphism, new phase H *(French)* 1−2385
$Sm_{1-x}La_xB_6$, XAS study of oxidation state temp. depend. 1−12600
$Sm_{1-x}M_xB_6$, M=Yb, Sr, La, Y, Th, solid solutions, valence transition 1−12599
Sm_3S_4, charge ordering, lattice const. meas. 1−11736
Sm_3S_4, phase relationships and valence changes, lattice const. meas. 1−34313
$SnGa_4Se_7$, lattice const. and phase diagrams, X-ray study *(French)* 1−16760
$SnMo_6S_8$, superconducting coatings, props. and struct. 1−30871
$Sr(Co_{1-x}Mn_x)O_3$ perovskite, isotropic temp. factors, spin state change rel. to lattice parameter 1−38354
SrF_2-LaOF(GdOF)(YOF) solid solns., phase diagrams and cryst. growth by Bridgman technique 1−35241
$Sr_2R(Al,Fe)O_5$, lattice constants 1−30160
TaS_2, CDW transitions, X-ray diffr. study 1−20104
TaS_3, electron diffraction, superlattice spots appearance rel. to conductivity decrease, Peierls transitions 1−38360
$TbFe_2$, magnetic excitations, inelastic neutron scatt. studies 1−25888
Th-Cd system, phase diagram and cryst. struct. determ. 1−53158
$Th(Ru,Os)_2$, lattice consts. and supercond. props. 1−38878
Ti-V-Si (30, 0.1 at.%), precip. and struct. of Si-rich phases, influence on mech. props. 1−8309
TiC-VC composites, creep parameters, effect of changes in struct. 1−21530
TiC-ZrC composites, creep parameters, effect of changes in struct. 1−21530
TiN_x thin film, elec. and structural props. *(Polish)* 1−11991
TiO_2(B), prep. by hydrolysis, X-ray study 1−3645
$Ti_{1+x}S_2$ (2H), x=0.11-0.33, prep. and lattice parameters 1−38346
TiBr(Cl), self consistent ground state and optical props. 1−47454
$TlInX_2$-$TlRX_2$ (X=Se,Te), R=(Nd,Pr) systems, electrophys. and X-ray investigs., comp. depend. 1−52482
$Tl_2ZnPb(NO_2)_6$, idiomorphous single cryst. growth in gels *(German)* 1−35159
U pnictides (chalcogenides), electronic struct. and bonding 1−47466
U-Nb (5.9 wt.%), precise lattice parameter determ. of diffuse minor phase 1−30141
UN, electronic struct. and bonding 1−47466
UO_2, cohesive props., equation of state, lattice parameters, LMTO calc. 1−20109
UO_2-CeO_2 system, crystallographic study at high temp. *(French)* 1−26428
UPd_3, transport props., lattice consts., susceptibility and sp. ht. 1−25698
V_2D, X-ray crystallographic study 1−30173
$Y_3Fe_{5-x}Sc_xO_{12}$, mag. phase transitions and mag. structs., X-ray diffr. study 1−52780

lattice constants continued
YFe_2Si_2, solid solution, mag. susceptibility, lattice const. *(Russian)* 1−20967
Y_6Mn_{23}, thermal expansion, 290-610K, mag. props. 1−16068
$YbAl_2$, cryst. lattice parameters, press. depend., neutron and X-ray diffr. study 1−7138
YbPd, mixed valence props., expansion coeff. and mag. susceptibility 1−34492
Zn, electron irradiated, defects study by X-ray scatt., lattice parameter and elec. resist. meas. *(German)* 1−7210
Zn, thermal expansion, X-ray determ. 1−38564
$Zn_xCd_yHg_{1-x-y}Te$, epitaxial crystn. from melt 1−12673
ZnO films, RF sputtered onto Si and SiO_2/Si, struct. and interface oxidation state 1−2842
ZnSe, pressure induced phase transition 1−47229
ZnSe, pressure-induced struct. transition, self-consistent pseudopot. study 1−25428
$ZrMn_x$ (x=1.5 to 4.5), lattice constants after annealing at 1050°C 1−2813
ZrO_2 metastable, in Al_2O_3-ZrO_2-SiO_2-Na_2O system, lattice constants 1−20029

lattice defects *see crystal defects*

lattice diffusion *see diffusion in solids*

lattice dynamics
see also crystal surface and interface vibrations; displacive transformations; Gruneisen coefficient; lattice dynamics of covalent crystals; lattice dynamics of ferroelectric crystals; lattice dynamics of ionic crystals; lattice dynamics of metallic crystals; lattice dynamics of molecular crystals; lattice localised modes; lattice phonons; soft modes; vibrational states in disordered systems
acoustic paramagnetic resonance, role of rotational lattice vibrs. 1−47933
alkali metal intercalated tin compounds, temp. depend. ^{119}Sn Mossbauer studies, lattice dynamics 1−31067
charged carrier-elastic-wave system, long-time behaviour 1−34453
close-packed crysts., high press. mech. instability, thermodynamic transition, lattice and mol. dynamics 1−47205
coherent energy transfer in solids, exciton-lattice interactions, book contrib. 1−11821
conference, Madras, India (Dec. 1979) 1−27665
cubic semiconductor, extended bond orbital theory of piezoelectric and transverse charges 1−12458
deformed anharmonic atomic chain, vibr. modes 1−11818
Einstein and Debye models of lattice vibr., correlation for Mossbauer fraction 1−52253
ferro and antiferroelectrics, specific heat, low temp., lattice dynamics 1−7351
force constant derivation, dispersion curves 1−52243
graphite, intercalation compounds, lattice dynamics 1−34441
graphite, lattice harmonics 1−52241
graphite-R6 intercalation cpds., sp. ht., 1.5 to 6K 1−38552
Gruneisen parameter near, pressure-induced phase transform., lattice dynamics theory 1−42502
incommensurate solids, static strains and lattice dynamics, classical theory 1−7268
Lennard-Jones solid, cell-model prediction of melting 1−2593
2,6-lutidine-water mixture, coexistence curve near lower crit. point 1−20358
magnetic crystal, struct. phase transitions, theory 1−12300
metals, one-dimensional, interchain coupling in linear conductors 1−42749
moment expansion method to calc. vibr. freqs. of mols. and solids 1−1201
monatomic FCC crystal, anharmonic contrib. to sp. ht. 1−30412
neutron diffraction, deformed single cryst., secondary refl. effects, meas. 1−7048
one-dimensional physics, theory 1−42756
organic charge-transfer cpds., quasi-one-dimensional, mol. vibr. studies 1−42481
orthovanadates, Raman spectra, force const. calc. *(German)* 1−8081
phlogopite mica, lattice sum calcs. and Mossbauer study of electric field gradient 1−47991
quasi-one-dimensional conductor, phonons and phase transitions 1−16281
Raman scattering, resonant and non-resonant, interference in impurity centres *(Russian)* 1−26215
rare earth orthovanadates, Raman spectra, force const. calc. *(German)* 1−8081
rare gas solids, mean-square atomic displacements 1−20346
semiconductor physics, conference, Kyoto, Japan (Sept. 1980) 1−44693
semiconductors, lattice dynamics, phonon modes, pseudopotential calcs. 1−47182
semiconductors, phonon scattering at acceptors with Γ_8 ground states 1−15998
semiconductors, surface and bulk props., pseudopot. theory, review 1−47429
semiconductors, tetrahedrally bonded, Debye temperature from elastic consts., HBT method weighting coeffs. 1−34449
semiconductors local field effects, review 1−48000
structural phase transition, quantum lattice dynamical model, rel. to Bose-gas system 1−23108
structural phase transitions, defects and dynamics, light scatt. techniques, appl., review 1−2618
substitutional impurities, off-centre-type, in crysts., lattice dynamics, theory 1−15995
transition metal telluromolybdates, IR and Raman spectra anal. 1−8058
TTF-TCNQ, permittivities rel. to phase transformations, calc. 1−34470
tungstates:U, ordered perovskite struct., vibr. struct. in luminesc. spectra 1−12571
vibration representations, subgroups of pseudo reflection groups *(French)* 1−42478
vibrational props. of disordered and cryst. solids, optical props., book 1−36464
Wigner crystal, dislocation formalism, long range interactions 1−20205
Wigner crystal, dislocation states and phase transition 1−20206
α-AgI, superionic conductor, far IR, microwave, and inelastic neutron scatt. meas. 1−2688
$Ag_{0.33}TiS_2$, intercalate order-disorder transition, Raman scatt. study 1−3400
AsF_5-graphite intercalates, band struct., optical props., structural energy 1−47463
$BaMF_4$ (M=Fe, Mn), condensed modes, group theoretical anal. 1−12461
CO_3^{2-}, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031

lattice dynamics continued
$Ca_2Al_3(OH)(SiO_3)_4$, zoisite, low-energy OH valence vibr., H-D isotope effect on IR spectrum 1−21180
CdI_2-structure crystals, elastic constants, short range force constants 1−47145
CdS(Se), anisotropy of charact. temps., mean squared displacements and thermal expansion coeffs. 1−11834
CdTe and ZnTe-CdTe solid solns., RHS displacements of Te atoms, effective Debye temps. 1−21101
ClO_4^-, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031
CuCl, mech. for low temp. anharmonicity 1−30334
GaAs, deep-level transients, electric field effect 1−7550
GaAs-AlAs superlattices, Raman scatt., phonon folding and anisotropy 1−52940
GaP, deep-level transients, electric field effect 1−7550
H chemisorbed on W (001) surface, vibrational modes 1−20564
$Hg_2(H_2PO_4)_2$, $Hg_3(PO_4)_2$, Raman and IR spectra 1−21194
Hg_2SeO_4, Raman and IR spectra 1−21194
HgTe, RHS displacements of Te atoms, effective Debye temps. 1−21101
KHF_2, IR spectra, interion interactions 1−39075
$KHSO_4$, $KDSO_4$, Raman and IR spectra study 1−21193
$K_2Pt(CN)_4Br_{0.3}.3H_2O$, acoustic soft mode 1−16010
$LaSn_3$, lattice dynamics, inelastic neutron scatt. study 1−52244
$LaVO_4$, Raman spectra, force const. calc. *(German)* 1−8081
$Li_{0.2}WO_3$, low temp. heat capacity, Einstein mode and charact. temp. 1−38550
ND_4ClO_4, Raman band ν_4, temp. depend. 1−3409
NH_4ClO_4, Raman band ν_4, temp. depend. 1−3409
NO_3^-, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031
N_2O_4, cryst. Raman and IR spectra 1−43106
$NaHF_2$, IR spectra, interion interactions 1−39075
Na_2S, lattice dynamics, inelastic neutron scatt. study 1−11823
$Na_{0.33}WO_3$, low temp. heat capacity, Einstein mode and charact. temp. 1−38550
PO_4^{3-}, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031
β-PbF_2, anion disorder and ionic motion, X-ray diffr. study 1−34332
SO_4^{2-}, Raman intensities, vibr. eigenvectors, electro-optical parameters, force constants, in polycrystalline samples 1−35031
$Sm_{0.75}Y_{0.25}S$, phonon freqs. and linewidths 1−34438
$SnHPO_4$ single cryst., polarised Raman spectra 1−48090
$TiSe_2$(1T), lattice dynamics, phonon dispersion relations 1−25385
transition metal complexes, $[M(CH_3CN)_6]^{2+}$, M=Mn, Fe, Co, Ni, Cu, Zn, Urey-Bradley force constants, normal vibrations and Raman active fundamental frequencies 1−35019
UO_2, anharmonic specific heat 1−34485
UO_2, lattice distortion and quadrupolar ordering 1−25220
UO_2, lattice mode competition and quadrupolar ordering 1−47591
Y-Ir eutectic, strain-induced lattice softening, supercond. transition temp. increase 1−30868
ZnTe and ZnTe-CdTe solid solns., RHS displacements of Te atoms, effective Debye temps. 1−21101

lattice dynamics of covalent crystals
graphite, frequency distribution function calcs. by unfolding method 1−52238
optical dispersion, connection with lattice and bonding props. 1−39058
phonon spectra, ab initio study 1−20334
sphalerite, wurtzite and chalcopyrite structs., magnitude and freq. dispersion calc. of quadratic nonlinear susceptibility 1−1625
Ge, undoped, low temp. lattice thermal cond., boundary scattering 1−47309
Se, frequency distribution function calcs. by unfolding method 1−52238
Si:H, amorphous, struct. and lattice dynamic, random network model 1−52069
Te, frequency distribution function calcs. by unfolding method 1−52238

lattice dynamics of ferroelectric crystals
see also displacive transformations; soft modes
displacive type, one- and two-dimens., soft mode polarisation operator *(Russian)* 1−16008
displacive-type, lattice viscosity in paraelec. phase, temp. depend. 1−42501
magnetic ferroelectric, soft mode relaxation near structure transitions *(Russian)* 1−47206
order-disorder type, dynamic struct. factor due to crit. scatt. on pseudospins *(Russian)* 1−16532
orthophosphates, dynamics of proton-ion system, cluster approx. 1−52901
perovskite type compounds, lattice dynamics and phase transitions 1−21141
phase transitions, order-disorder and displacive, model description 1−43078
phase transitions, structural, first order, ϕ^6 field theory in (1+1) dimensions 1−8016
rare earth molybdates, ferroelec.-ferroelastic, phase transform., soft modes, acoustic phonons, Raman and Brillouin scatt. study 1−8049
second-order transitions, incommensurate superstruct. form. due to fluctuation effects 1−52290
thiourea, ferroelec., soft mode in disordered-incommensurate-commensurate transform 1−21139
trisarcosine calcium chloride, ferroelec.-ferroelastic phase transition, Raman and Brillouin scatt. study 1−8050
$Ba_2K_xNa_{1-x}Nb_5O_{12}$, Raman scatt. study of ferroelastic, paraelastic phases, Curie temp. 1−3405
$Ba_2K_xNa_{1-x}Nb_5O_{15}$, paraelastic and ferroelastic phases, Raman study 1−21185
$BaMF_4$ (M=Co, Ni, Mg, Zn), condensed modes, group theoretical anal. 1−12461
$Ba_2NaNb_5O_{15}$ crystals, Raman scatt. under uniaxial and hydrostatic stresses 1−21182
$Ba_xSr_{1-x}Nb_2O_6$, mol. scatt. of light, elastic and photoelastic consts. 1−35067
$BaTiO_3$, dipolar modes, temp. depend., IR refl. meas. 1−12501
$BaTiO_3$, hypersonic dispersion meas. by double-axis Brillouin scatt., dielec. function determ. 1−48104
KD_2PO_4, ferroelec. Raman scatt., proton sublattice vibrs. 1−21212
KD_2PO_4, polarisation fluctuation relaxation time 1−48098
$K(H_{1-x}D_x)_2PO_4$, conc. depend. of coupled modes in impure pseudospin-phonon system 1−20324

lattice dynamics of ferroelectric crystals continued
$KH_{2(1-x)}D_{2x}PO_4$ mixed crysts., light scatt. spectra, temp. depend. meas. 1−39117
KH_2PO_4, ferroelec. Raman scatt., proton sublattice vibrs. 1−21212
KH_2PO_4, polarisation fluctuation relaxation time 1−48098
KH_2PO_4, Raman spectra anomalies due to order-disorder phase transitions 1−52956
$KH_3(SeO_3)_2$, ferroelastic transition, antiferroelec. ordering, microscopic theory 1−7235
KIO_3, lattice dynamics, NQR study *(Russian)* 1−43032
KNO_3, lattice dynamical studies 1−20330
$KNbO_3$, lattice dynamical studies 1−20330
K_2SeO_4, commensurate and incommensurate, lattice dynamics 1−8017
$LiNbO_3$, lattice dynamical studies 1−20330
$LiTaO_3$, dielec. props., temp. depend., Raman spectroscopy study 1−16569
$NaNO_2$, microscopic model based on reorientations and translations 1−42496
RbH_2PO_4, ferroelec. Raman scatt., proton sublattice vibrs. 1−21212
$RbH_3(SeO_3)_2$, Raman spectra above and below phase transition 1−39078
$SrTiO_3$, ferroelec., IR refl. spectra at high temp., dispersion, soft modes 1−21204
$Zn_3B_7O_{13}Cl$, trigonal, boracite, lattice dynamics, Raman spectrum study 1−21183

lattice dynamics of ionic crystals
alkali halide crystals, Anderson-Gruneisen parameter, isothermal, calc. 1−11833
alkali halides, cryst., anharmonic coeffs., thermal expansion coeff. and specific heat 1−20344
alkali halides, dielec. const., press. depend., shell model appl. 1−26108
alkali halides, lattice dynamics calcs., phonon dispersion, specific heat, Raman and IR spectra 1−47188
alkali halides, shell model parameters, vol. depend. 1−47201
alkali halides of NaCl-types, phonon distrib. function and Debye temp. 1−52247
Anderson-Gruneisen parameter, temp. depend. 1−34450
Davydov splitting of vibrational levels in crystals, intermol. pot. contribs. 1−15966
gallates, M_2O-Ga_2O_3, M=Na, K, Rb, Ag, Tl, superionic cond., lattice vibr. modes, IR and Raman spectra 1−3404
ionic cubic cryst., force const. in adiabatic approx. *(Russian)* 1−34432
ionic halides, adiabatic Anderson-Gruneisen function 1−16006
mass transfer and transport, quantum theoretical calc. of activation parameters 1−20447
NQR frequencies, press. depend., phase transitions indication 1−39004
optical dispersion, connection with lattice and bonding props. 1−39058
perturbation model in point-dipole approx. 1−25383
sphalerite, wurtzite and chalcopyrite structs., magnitude and freq. dispersion calc. of quadratic nonlinear susceptibility 1−1625
Ag halides, anharmonicity effect on optical props. 1−25394
AgCl cryst., lattice mech. props., dielec. props., theory 1−47192
AgI, superionic cond., collective excitations and single-particle motion, mol. dynamics calc. 1−2689
BaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
$CaCO_3$, Raman study of temp. depend. of lattice modes 1−47187
CaF_2, mode gammas and thermal expansion, calc. 1−16007
CaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
$CaF_2:Eu^{2+}$, mode depend. of resonance absorpt. of ballistic phonons *(Russian)* 1−52248
CsBr, O_2^- centres, vibronic luminesc. spectra under press. 1−43182
CsCl, ionic lattice dynamical behaviour study 1−25386
CsCl Wigner-Dyson lattice, mode softening at crit. value of charge ratio 1−25398
CsNCS, vibr., lattice modes, dispersion relation calcs. 1−34433
$CuCl_{1-x}Br_x$, phonon mode behaviour 1−12486
$CuCl_{1-x}I_x$, phonon mode behaviour 1−12486
$FeBr_2$, lattice dynamics, inelastic neutron scatt. study 1−20331
K, charge density wave satellite intensity, exchange and correlation potentials 1−20647
KBr(Cl), O_2^- centres, vibronic luminesc. spectra under press. 1−43182
KCl, Anderson-Gruneisen parameter, temp. depend. 1−34450
KCl, lattice mechanics in point-dipole approx., perturbation theory 1−25383
KCl:OH^-, phonon-assisted tunnelling and isotope effect, nonadiabatic treatment 1−38484
KCl-KBr mixed system, Debye temp., temp. depend. 1−47200
KNCS, vibr., lattice modes, dispersion relation calcs. 1−34433
LiF, lattice dynamics, 7-parameter bond-bending force model 1−34436
Li_3N, diffuse X-ray scattering, 293 to 880K 1−42482
$NH_4Br:Tl^+$, impurity centre parameters, order-disorder transition effects, spectra meas. 1−25430
NaBr, lattice dynamics, 7-parameter bond-bending force model 1−34437
NaCl, F-centres, aggregation, Raman scatt. study 1−3394
NaCl, lattice dynamics, 7-parameter bond-bending force model 1−34436
NaCl, lattice mechanics in point-dipole approx., perturbation theory 1−25383
NaCl Wigner-Dyson lattice, mode softening at crit. value of charge ratio 1−25398
NaF, lattice thermal cond., correction due to three phonon normal processes in presence of dislocations 1−2710
NaF thin films, thermal emission spectra meas., high temp. phonon anharmonicity 1−20432
NaI, lattice dynamics, 7-parameter bond-bending force model 1−34437
RbBr, lattice dynamics, 7-parameter bond-bending force model 1−34437
RbCl, lattice dynamics, 7-parameter bond-bending force model 1−34437
RbI, lattice dynamics, 7-parameter bond-bending force model 1−34437
SrF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
Tl halides, anharmonicity effect on optical props. 1−25394
TlBr, ionic lattice dynamical behaviour study 1−25386
TlCl, lattice dynamics, extended three-body force shell model 1−34435

lattice dynamics of metallic crystals
alkali metals, anharmonic phonon freq. shifts and damping 1−7280
alkali metals, lattice static and dynamic props., pseudopot. study 1−7282
alkali metals, thermodynamics and vacancy characts., anharmonic effects 1−7281
alloy cubic to hexagonal lattice transform., thermodynamic theory *(Russian)* 1−20383

lattice dynamics of metallic crystals continued
alloys, A_3B, cryst., elastic consts. rel. to interatomic force consts. 1−25357
energy-wave number characts., phonon spectra 1−11824
exchange, correlation and many-electron effects on lattice dynamics 1−11825
FCC metal, mean-square atomic displacements 1−20346
Helmholtz free energy, quartic anharmonic contrib. 1−42500
Invar, lattice dynamics, phonon dispersion relations, inelastic neutron scatt. 1−47185
melting temperature, thermodynamical calc. 1−25462
metal surface lattice relaxation, adiabatic variational calcs. 1−7269
noble metals, divacancy interaction energies and relaxations, static lattice model 1−42373
noble metals, modified Fielek schemes and phonon dispersion, theory 1−30338
phonons in transition metals, book 1−40608
transition metal, lattice dynamics of H 1−20340
transition metals, BCC, modified Fielek model, phonon dispersion rel. derivation 1−7273
transition metals, BCC, modified Fielek model and phonon dispersion 1−38480
Ag, anisotropic anharmonic Debye-Waller factor, X-ray scatt. meas. 1−25396
Ag, lattice dynamical model, phonon dispersion rels. 1−7274
Al, lattice mechanical and electronic props., unified calc. 1−42488
Be, phonon dispersion relations, dielec. function effect 1−25384
Cd, many-body interactions in lattice dynamics, phonon dispersion curves 1−42484
Cd, phonon spectrum of 80K, inelastic neutron scatt. 1−42487
Cr, phonon dispersion relations, effective interactions, d-electron effects 1−42483
Cs, harmonic phonons and phonon-limited resist. from first-principle pseudopots. 1−7272
Cu, lattice dynamical model, phonon dispersion rels. 1−7274
Cu, relaxation due to vacancies 1−30337
K, Helmholtz free energy, quartic anharmonic contrib. 1−42500
K, thermal resistivity from Bardeen's electron-phonon matrix 1−16270
$Mn_{83}Ni_{11}C_6$, martensitic transform, elastic consts., lattice dynamical props. 1−30378
$Mn_{85}Ni_9C_6$, martensitic transform, elastic consts., lattice dynamical props. 1−30378
$Mn_{85}Ni_9C_6$, martensitic transform., lattice vibr. data anal. 1−30379
Mo, Debye-Waller factors, temp. depend., Cheveau model calcs. 1−42498
Na, Helmholtz free energy, quartic anharmonic contrib. 1−42500
Na, thermal resistivity from Bardeen's electron-phonon matrix 1−16270
Nb, Debye-Waller factors, temp. depend., Cheveau model calcs. 1−42498
NbD, low energy excitations, lattice dynamical model 1−47190
$NbD_x(H_x)$, low freq. excitations and lattice dynamics 1−47189
$Nb_{1-c}Mo_c$ alloy, phonon linewidths 1−42486
Pd, phonon dispersion curves, phenomenological screened shell model 1−7271
$PdH_x(D_x)$, phonon dispersion curves, Young's modulus 1−47191
Pt, non-central Fielek model for lattice vibrs. 1−7270
Rb, harmonic phonons and phonon-limited resist. from first-principle pseudopots. 1−7272
Rb, thermal resistivity from Bardeen's electron-phonon matrix 1−16270
Sm_4Bi_3, mixed valent, phase transition at 2.7K revealed by sp. ht. meas. 1−25432
Ta, BCC, modified Fielek model, phonon dispersion rel. derivation 1−7273
TaD_x, low freq. excitations and lattice dynamics 1−47189
Zn, many-body interactions in lattice dynamics, phonon dispersion curves 1−42484

lattice dynamics of molecular crystals
adamantane, solid cubic phase, IR active fund. modes, temp. depend. 1−3376
anthracene, triclinic phase, electron diffr., struct., dynamics, IR and Raman active vibr., thermodynamic props. 1−47072
benzil, ferroelastic transition, Brillouin scatt. study 1−35065
biphenyl, soft modes associated with incommensurate phase transitions, Raman scatt. study 1−52943
chloranilic acid, librational modes from NQR 1−33476
n-chloronitrobenzene disordered crystals, low-freq. Raman scatt. 1−8066
n-dibromobenzene ordered crystals, low-freq. Raman scatt. 1−8066
dimethylammonium cadmium tetrachloride, layer struct., elastic soft mode meas., order parameter fluctuations 1−11835
dimethylammonium manganese tetrachloride, layer struct., elastic soft mode meas., order parameter fluctuations 1−11835
m-dinitrobenzene, elastic consts., Brillouin scatt. meas. 1−48099
exciton absorption line-shape low-energy tail, defect and phonon effects 1−47499
far IR spectroscopy under press., progress and problems 1−39105
free Frenkel exciton-excess electron interaction, complex charge carrier formation 1−47496
ice, Ih phase, thermal cond., Gruneisen parameter 1−11926
lithium formate, Raman light scatt. characts. 1−26211
methane, far IR and Raman spectra under high press., first-order phase transition 1−39106
methylmercury(II) halides-d_0(-d_3), mol. crysts. force consts. 1−2572
d_8-naphthalene crystal, phonon dispersion at 6K 1−2575
naphthalene-d_8, phonon energies, press. depend. meas. 1−47186
NQR frequencies, press. depend., phase transitions indication 1−39004
phonon spectrum, dynamical struct. factor, intermol. pot. changes effect 1−2576
photoinduced lattice instability model 1−38475
polyethylene, single crysts., defect modes for (200) GGTGG tight fold reentry 1−30343
potassium fumarate, dihydrated, IR spectra and bonds *(French)* 1−2392
radiation defect annealing model, diffusion kinetics *(Russian)* 1−20476
Raman spectra, first-order, pseudoharmonic and renormalised cubic anharmonic approx. 1−21196
tanane, ferroelastic and ferroelectic transition, neutron and Brillouin scatt. studies 1−21145
TTF-CuBDT, spin-Peierls transition press. depend. 1−7601
CO_2, solid, phonon processes, repulsive forces, Gruneisen parameters, Raman obs. 1−39074
CS_2, lattice modes, neutron scatt. selection rules 1−47178
α-F_2, solid, lattice vibr. calc., Raman and far IR spectra, intermol. forces 1−20326

lattice dynamics of molecular crystals continued
p-H_2, ortho-phonon excitations, vibr. spectrum rearrangement *(Russian)* 1−30516
H_2, solid, molecular, induced near IR absorpt. spectrum, density effect, 4.2K 1−39103
H_3ClO_4, solid phase, rot. pot. and equilib. orientation of H_3O^+ ion 1−52094
KCN, mol. cryst., Mossbauer gamma-ray diffr., Debye-Waller factor, phase transition 1−39016
KHF_2, lattice vibr. modes 1−11822
N_2, α- and γ-phase, anharmonic lattice vibrs. calc. using perturbation theory 1−38483
N_2 crystal, lattice dynamics with ab initio intermol. pot. 1−38476
ND_3, vibr. intermol. modes meas. by coherent inelastic neutron scatt., elastic const. 1−34430
ND_4Br, mol. crysts., effective charge and force consts. 1−47199
ND_4Cl, mol. crysts., effective charge and force consts. 1−47199
NH_4Br, mol. crysts., effective charge and force consts. 1−47199
NH_4Cl, mol. crysts., effective charge and force consts. 1−47199
ReO_5^{3-}, vibr. spectra from $Ba_5(ReO_5)_3Br$ IR and Raman spectra 1−8079

lattice energy
see also binding energy
alkali halide crysts., solution energy of alkaline earth metal ions, lattice energy, calc. 1−30401
alkali halides, solid soln., heat of formation 1−31898
ice, rotationally ordered and disordered lattice energies, induced dipole vectors and elec. fields 1−25193
interstitial alloys, phase relations rel. to binary and ternary oxides, effect of order-disorder transitions 1−38320
ionic crystals, electron-gas theory, many-body effects 1−47524
ionic crystals, orthorhombic, generalised Born-Mayer parametrisation of lattice energy 1−38322
ionic crysts., Madelung constants and electrostatic potential calc. 1−2393
ionic cubic cryst., force const. in adiabatic approx. *(Russian)* 1−34432
ionic lattices, order-disorder effects *(French)* 1−38323
ionic salts with complex ions, lattice energy calc. program 1−34277
maleic hydrazide, layer struct. anal., H bond, van der Waals and lattice energies 1−20111
molecular packing anal., global minimisation techniques 1−20107
orthorhombic ionic crystals, generalised Born-Mayer parametrisation of lattice energy 1−38322
partially ionic solids, cluster calculation, self-consistent Madelung potential 1−7503
periodic atomic film, total electrostatic energy 1−47419
polyvalent crystal, atomic pseudopotential, cryst., energy 1−7128
structural instability temp., nonlinear depend. on impurity conc. 1−2596
TCNQ salt, HMTTF-TCNQF_4, phys. props. rel. to those of HMTTF-TCNQ 1−25734
total energy within Kohn-Sham formalism, self-consistency condition 1−12056
Al:H, lattice relax. energy due to impurity 1−30253
AsF_5-graphite intercalates, band struct., optical props., structural energy 1−47463
He, high-density, ground state energy calc. for FCC and BCC structs. 1−11954
InCl, α and β modifications, cryst. struct., stereochemically active $(5s)^2$ lone pairs 1−25214
InSb, crystal energies of ZnS, NaCl, CsCl and β-Sn structs., pressure-induced transforms., calc. 1−20108
Li_2O, lattice energy 1−7126
P, black, band struct., cryst. energies, and press. induced struct. transforms 1−47449
$RbNbO_3$, cryst. struct., lattice energy, X-ray diffr. study *(German)* 1−34318
ReO_3, cluster calculation, self-consistent Madelung potential 1−7503
TiO_2, stoichiometric rutile, Madelung potentials 1−7127

lattice gas *see lattice theory and statistics*

lattice localised modes
see also phonon-defect interactions; phonon-impurity interactions
crystal, diatomic impurities, localised modes, nonradiative transitions 1−47195
crystals, excited impurities, nonradiative decay, localised modes, depend. on impurity conc. 1−47196
diatomic defect lattice, 1-dimens., vibr. calcs. 1−47194
durene:naphthalene, impurity mol. reorientation, excitational local phonon 1−7092
ferrocene, ·cryst. phases, vibr. and lattice modes laser Raman obs. 1−31135
fluroescence in presence of traps, coherent transfer 1−8124
Frenkel-Kontorova or sine-Gordon chain, local-mode approx. 1−5249
III-V compounds, deep levels, nonradiative recomb. and self-trapping, lattice phonon effects, review 1−47537
orthophosphates, dynamics of proton-ion system, cluster approx. 1−52901
semiconductor, hopping cond., defect phonon modes influence, formalism 1−20719
semiconductor, hopping cond., defect phonon modes influence, numerical results 1−20737
semiconductors, strong lattice relax. at localised defects, review 1−47193
transition metal, lattice dynamics of H 1−20340
vibrating dislocations, thermal props. 1−38489
(n,n) resonance scatt. in crysals 1−23616
BaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
CaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
CdTe:P, localised vibrational modes due to P defects in substitutional or interstitital sites 1−47197
Cs_2GeF_6:ReF_6^{-2}, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
CsI:NCO^-, Fermi doublets, temp. dependence 1−3446
Cs_2ReF_6:ReF_6^{-2}, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
Cs_2SiF_6:MnF_6^{2-}, ion emission spectra from lattice dynamics model, phonon struct. 1−8108
FeF_2:Mn^{2+}, Raman scatt. by local magnon modes 1−3412
FeOCl intercalation compounds, hyperfine interactions, van der Waals lattice modes 1−38751
$Ga_{1-x}Al_xAs(Sb)$, Raman scatt. spectra, lattice dynamics 1−48085
$GaAs_{1-x}P_x$:N, phonon sidebands in emission spectra 1−48144

lattice localised modes continued
GaP_zAs_{1-z} mixed crystals, vibr. props., localised states calc. and Raman scatt. meas. 1−34446
Ge, amorphous, pure and hydrogenated, for IR absorption 1−12502
KBr(Cl):NCO^-, Fermi doublets, temp. dependence 1−3446
KCl:KH(KD), Raman scatt. and perturbed phonons 1−39090
KCl:OH^-, photochemistry of OH^- defects and F-centres under UV and visible irrad. 1−21239
KCl:OH^-, UV photodissociation of OH^--centres, H defect form. 1−26247
LiF, containing dislocations, thermal cond., thermal diffusivity and sp. ht. meas. 1−7401
MnAs, Mossbauer spectra of ^{57}Fe 1−47988
$NaNO_2$, microscopic model based on reorientations and translations 1−42496
Si, amorphous, pure and hydrogenated, for IR absorption 1−12502
Si, heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
Si:B, heavily doped, localised vibrations, Raman scatt. study 1−25392
Si:SiO_2, IR absorpt. spectra, LO band due to SiO_2 platelets 1−39124
SrF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
TiCuH, polycryst. and glassy, neutron scatt. study of H vibrs. 1−7276
$V_3(Ge_{0.75}Al_{0.25})$, phonon spectrum, localised vibrs. 1−25393

lattice mechanics *see lattice dynamics*

lattice phonons
see also electron-phonon interactions; lattice dynamics of covalent crystals; lattice dynamics of ferroelectric crystals; lattice dynamics of ionic crystals; lattice dynamics of metallic crystals; lattice dynamics of molecular crystals; lattice localised modes; phonon-defect interactions; phonon dispersion relations; phonon drag; phonon-exciton interactions; phonon-impurity interactions; phonon-magnon interactions; phonon-phonon interactions; phonon-plasmon interactions; polaritons; soft modes; spin-phonon interactions; tunnelling spectra; tunnelling spectroscopy
acoustic phonons generated by burst of heat energy at crystal surface, ballistic propagation 1−30495
acoustoelectric phonon domains, acoustic impulse generation by piezoelec. shock 1−16320
actinides and 4f materials, conference, Zurich, Switzerland (Apr. 1980) 1−44701
adamantane, solid cubic phase, IR active fund. modes, temp. depend. 1−3376
alkali metals, anharmonic phonon freq. shifts and damping 1−7280
alloy, disorder, creation of freq. gaps in phonon spectra 1−11832
ammonium oxalate, crystalline modifications, Raman and IR spectra *(Russian)* 1−43129
anthracene crystal, resonance Raman light scatt. for nonequilibrium phonon detection *(Russian)* 1−3402
benzil, ferroelastic transition, Brillouin scatt. study 1−35065
benzil-bibenzyl mixed crysts., excitation and emission spectra 1−39119
boundary scattering, internal, heat cond. 1−2716
bremsstrahlung and recombination phonons studied by Al-PbBi heterojunction spectrometer 1−15975
coherence phenomena, different approaches in physics 1−40660
collective pair excitation spectroscopy, book contrib. 1−43130
Coulomb plasma, statistical mechanics 1−32899
covalent crystal, phonon spectra, ab initio study 1−20334
cryst., phonon resonant absorpt. probed by acoustic-optic interaction 1−15991
crystals, non-compact group O(2,1) and the Jahn-Teller effect 1−38754
d-band metals, phonons and superconducting transition temp., book contrib. 1−42887
defects and dynamics, light scatt. techniques, appl., review 1−2618
dielectric crystal, doped, stimulated phonon emission by coupling to electronic states 1−15974
dielectric crystals, thermal cond., two-fluid theory 1−47311
dilute alloys, thermoelectric effect theory, Debye phonons, impurity scatt. 1−20709
m-dinitrobenzene, elastic consts., Brillouin scatt. meas. 1−48099
elastically anisotropic cryst., phonon focusing and phonon conduction 1−15981
electron-hole drops, static friction mechanism 1−42698
ferroelectrics, displacive-type, lattice viscosity in paraelec. phase, temp. depend. 1−42501
force constant derivation, dispersion curves 1−52243
Friedel sum rule, generalised 1−52463
galvanomagnetic effects and scatt. mech. in crystals with non-parabolic bands 1−7573
gas-solid system with many physisorbed bound states, desorption by phonon cascades 1−38651
HF phonon transmission for crystal probing and low-temp. imaging 1−38479
insulators, phonon echo anal. Mathieu's equation 1−11826
interaction of magnetic impurities with phonons, book contrib. 1−42958
intermediate valence compounds, theory, review 1−30685
IR absorption by multiphonon processes, book contrib. 1−39102
Jahn-Teller system, reduction factors and emission spectra 1−47586
lithium formate, Raman light scatt. characts. 1−26211
luminescing activated crystals, phonon spectroscopy, review 1−12553
macroscopic polarisation induced by optic phonon 1−3319
magnetic insulators, Jahn-Teller ions, polaron effects and exchange interaction *(Russian)* 1−7536
magnetophonon effect and light-hole effective mass 1−7642
metal, energy-wave number characts., phonon spectra 1−11824
metal, phonon density of states and electron-phonon interaction 1−11828
metal hydride, cooperative model, time correlation functions and tricritical point 1−20355
metallic microcontacts, containing mag. impurities, elec. cond. *(Russian)* 1−20857
metals, amorphous, low-temperature excitations, lattice props., due to two-level systems 1−30342
metals, cubic crystals, US propag. parameters study 1−38472
molecular crystals, exciton absorption line-shape, low-energy tail, defect and phonon effects 1−47499
molecular crystals, phonon spectrum, dynamical struct. factor, intermol. pot. changes effect 1−2576
molecular field of deformational nature, phonon contrib. 1−16009
molecular single crystals, first-order Raman spectra, pseudoharmonic and renormalised cubic anharmonic approx. 1−21196

lattice phonons continued
molecular solid, far IR spectroscopy under press., progress and problems 1−39105
monolayer, finite incommensurate, static struct. factor 1−38640
morphic effects, book contrib. 1−38482
MSb_2O_6, (M=Pb, Ca, Sr, Ba, Cd), vibrs., force field calcs., IR and Raman obs. *(French)* 1−31152
naphthalene, electron mobility in *a* direction, deuteration effects 1−12121
naphthalene neat crystals, vibr. relax. by ps CARS 1−12485
nitrates, electron-phonon interaction of NO_2^- impurity 1−25391
nonequilibrium superconducting film, phonon kinetics in external EM field *(Russian)* 1−42906
nonlinear Hamiltonian systems, phonon fluctuations and soliton diffusion 1−7541
one-dimensional many-fermion system, backscattering, dielectric function 1−52512
one-dimensional nonlinear system, linear response theory 1−9937
organic solids, shock induced chem. reactions, phonon relax. effects 1−17058
pentacene in naphthalene and p-terphenyl, vibronic relax. time meas., intramol. relax. 1−47179
phonon-assisted tunnelling jumps, one-phonon processes at low temps. 1−47276
photoinduced lattice instability model 1−38475
photon energy dependence of radiation effects in MOS structures 1−42420
piezoelectric semiconductor, n-type, Raman instability 1−35040
polarisation relaxational mode-acoustic phonon coupled system, light scatt. spectra 1−39111
polyacetylene, soliton excitations 1−1424
propagation and reflection at hypersonic freq., Brillouin spectroscopy 1−20328
quartz, α- and β-, interacting modes at M-point, dynamic struct. determ. by inelastic neutron scatt. 1−20325
α-quartz, crystalline, fast neutron irrad., diffuse X-ray scatt. and phonon echoes 1−42431
α-quartz, phonon dispersion branches 1−34434
quartz, smoky, US attenuation by reson. two-level systems 1−2569
quasi-local phonon modes around dislocations 1−20342
quasi-one-dimensional conductor, phonons and phase transitions 1−16281
quasi-two-dimensional systems, phonon freq. distrib. function 1−38477
quench echoes in molecular dynamics, phonon spectroscopy 1−38478
rare earth molybdates, ferroelec.-ferroelastic, phase transform., soft modes, acoustic phonons, Raman and Brillouin scatt. study 1−8049
refractory monocarbides, substoichiometric, LCAO-CPA studies of C vacancies 1−2856
resonance scattering of hard synchrotron radiation and neutrons by nuclei in crystals 1−23616
resonant secondary emission spectroscopy 1−26263
ruby, nonresonant phonon interactions, phonon detection *(Russian)* 1−11827
ruby, resonant phonon relaxation studied using optical generation and detection 1−30336
sapphire, phonon catastrophes and the Kapitza resistance, computer calcs. 1−20547
sapphire, phonon reflection, specular and diffuse, at cryst. interface 1−20548
scattering in condensed matter, conf., Providence, RI, USA (Aug. 1979) 1−13928
semiconductor, heat conduction mechanisms 1−2725
semiconductor, p-type cubic, acceptor ground state, US spectroscopy 1−16256
semiconductor, theory of reson. forbidden Raman scatt. 1−31137
semiconductors, carrier multiplication in thin space-charge layer struct., internal photoelectric effect 1−20866
semiconductors, lattice dynamics, phonon modes, pseudopotential calcs. 1−47182
semiconductors, multiphonon struct. of optical transitions to impurity resonance states 1−47550
small polaron mobility at low temp. 1−47650
squaric acid, two-dimensional phase transition, light scatt. studies 1−8082
structural phase transition, two-phonon crit. scatt., theory 1−20349
superconducting films, phonon deficit effect induced by microwave irrad. 1−20919
superconductors, non-equilibrium, charge imbalance 1−25828
superconductors, scattering effects on elec. resistivity 1−3092
superionic crystals phonon spectrum, mobile ion fluid model *(Russian)* 1−30445
tetramethylammonium tetrachlorozincate, Raman scatt. spectra 1−16568
thermal conductivity, lattice, press. depend 1−30499
thermal diffuse scattering, correction from inelastic neutron time-of-flight diffr. 1−2292
thermal phonon pulse detection using superconducting tunnel junctions 1−15976
transition metal dihalides, (Mn,Fe,Co,Ni), layered crysts., vibr. struct. of cryst. field spectra, IR absorpt. study 1−34668
transition metals, book 1−40608
transition metals, phonons, superconducting transition temp., book contrib. 1−42492
transport in resonant regions, capture and delay 1−15984
TTF salts, organic conductors, role of intramolecular vibrs. in Peierls transition 1−25631
TTF-TCNQ, intramolecular phase phonon absorpt. as probe for phase transitions 1−52955
tunnel relaxation in phonon field *(Russian)* 1−12180
Wigner crystal, dislocation formalism, long range interactions 1−20205
X-ray absorption, phonon shake-up satellites, operator approach 1−26301
Ag films, surface enhanced and disorder-induced Raman scatt. 1−43127
AgI, Raman scatt. and partial disorder temp. depend. 1−8069
AgI-type organic conductors, order-disorder phenomena, IR-active phonon mode obs. 1−52925
Al film, superconducting transition, effect of hot phonon irradiation 1−16406
$Al_xGa_{1-x}As$:Sn(Te), donor related centre, symmetry, ballistic phonon attenuation 1−16257
Al_2O_3 substrate for CdS thick disordered film, two mode ultrasonic excitation 1−25376
Al_2O_3, thermal conductivity, phonon boundary scatt., surface roughness depend., 0.05 to 1.5K 1−15982
$Al_2O_3:Cr^{2+}(V^{3+})$, phonon spectroscopy of ion pairs 1−15969
$Al_2O_3:Ni^{3+}$, acoustic relax., Jahn-Teller model 1−42476

lattice phonons continued
$Al_2O_3:V^{3+}$, anomalous ion sites obs. by phonon freq. crossing spectroscopy 1−15971
$Al_2O_3:V^{3+}$, hyperfine splitting of levels of V^{3+} by phonon spectroscopy 1−15970
$Al_2O_3:V^{3+}$, hyperfine spectrum at 166 GHz, phonon freq. crossing spectroscopy 1−30494
Ar, solid, phonon energies and dynamic form factor calc. 1−34440
$(As_2S_3)_{1-x}$ $(AsBr_3)_x$ glass, depolarisation Raman spectra 1−3401
BaF_2, neutron dynamic scatt. from dynamic disorder 1−34508
BaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
$BaMnF_4$, Brillouin and Raman study of phonons, commensurate-incommensurate transform. 1−43109
$Ba(NO_3)_2$ cryst., phonon resonant absorpt. probed by acoustic-optic interaction 1−15991
$Ba(NO_3)_2$, thermal cond. and Umklapp relaxation 1−16113
Bi, transverse Nernst-Ettingshausen coeff. temp. depend. *(Russian)* 1−52546
$Bi_{12}GeO_{20}$, Raman spectrum, optical phonon freqs., linear wave-vector depend. near Brillouin zone centre 1−39091
CD, positron zero-point motion, phonon spectra 1−43207
$C_{36}K$, intercalation cpd., lattice phonons, inelastic neutron scatt. obs. 1−42490
CMN-^{3}He solid, heat transfer 4 to 30 mK 1−20508
CO_2, solid, phonon processes, repulsive forces, Gruneisen parameters, Raman obs. 1−39074
CS_2 cryst., forbidden Raman (ν_2,π_u) transition 1−39071
$CaCO_3$, calcite hyper-Raman scatt. from IR active modes 1−39087
$CaCO_3$, Raman study of temp. depend. of lattice modes 1−47187
CaF_2, mode gammas and thermal expansion, calc. 1−16007
CaF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
$CaF_2:Eu^{2+}$, ballistic propag. of phonons obs. by piezospectroscopic fluoresc. method 1−3487
$CaF_2:Eu^{2+}$, mode depend. of resonance absorpt. of ballistic phonons *(Russian)* 1−52248
$CaF_2:Eu^{2+}$, tunable optical phonon detector and generator 1−15979
$CaF_2:Sm^{2+}$, phonon spectroscopy, fluoresc. obs. 1−12553
$CaS:Pb^{2+}$, non-phonon transition in impurity centre, hyperfine interaction *(Russian)* 1−43124
$CdGa_2S_4$, polarised IR refl. spectra, factor group anal. of lattice vibr. 1−35033
CdS, current noise spectra, acoustoelectric displacement and current fluctuations 1−52612
CdS, emission edge, temp. shift 1−3482
CdS, energy loss mech. for hot electrons, oscillatory photocond. and magnetophonon effect 1−3010
CdS, noncentrosymmetric cryst., hyper-Raman scatt. of light by optical phonons 1−12511
$CdS:Ti^{2+}$, multiphonon struct. of optical transitions to impurity resonance states 1−47550
CdSe, time resolved luminescence spectra 1−8129
CdTe, energy loss mech. for hot electrons, oscillatory photocond. and magnetophonon effect 1−3010
CdTe, far IR dielec. spectrum, multiphonon struct., crit. point anal. 1−31156
$Ce_cLa_{1-c}F_3$, Raman scatt., magnetoelastic interaction of optical phonons 1−26216
Ce_2O_3, thermal props., 400 to 1000K 1−2720
Cs, harmonic phonons and phonon-limited resist. from first-principle pseudopots. 1−7272
$Cs_2GeF_6:ReF_6^{-2}$, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
$CsNiF_3$, one-dimens. ferromag., phonon, magnon, and electronic Raman scatt. 1−12491
$Cs_2ReF_6:ReF_6^{-2}$, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
$Cs_2SiF_6:MnF_6^{2-}$, ion emission spectra from lattice dynamics model, phonon struct. 1−8108
Cu-Be, local Be vibr. anharmonism *(Russian)* 1−52242
CuCl film, excitonic molecule two-photon excitation, Raman scatt. 1−30645
$CuCl_{1-x}Br_x$, phonon mode behaviour 1−12486
$CuCl_{1-x}I_x$, phonon mode behaviour 1−12486
$CuGaSe_2$, donor-acceptor transition, cathodoluminescence spectra 1−43188
FeS_2, far IR refl. spectra, optical and dielec. consts., effective charges 1−52957
Ga, amorphous and recrystallised films, sound vel., shear stiffness breakdown 1−7278
$Ga_{1-x}Al_xAs(Sb)$, Raman scatt. spectra, lattice dynamics 1−48085
GaAs (110), clean and oxidised, surface band bending, Raman spectra 1−38829
GaAs, Auger recombination at B centre 1−35133
GaAs, electron capture at B centre, multiphonon process, calc. 1−16298
GaAs epitaxial layer, phonon optics, carrier relaxation and recombination 1−16390
GaAs, free carrier dispersive dielectric function 1−47517
GaAs, hot photoluminescence spectrum and polarisation 1−48147
GaAs, large wavevector acoustic phonon propagation 1−47184
GaAs, phonon magnification for infinites 1−15980
GaAs, phonon pulse propag., spatial and temporal characts. 1−15989
GaAs, plasmon magnification and Gaussian curvature of slowness surface, detector shape effects 1−25389
GaAs, time resolved phonon spectroscopy with picosecond time resolution 1−45036
GaAs-AlAs superlattices, Raman scatt., phonon folding and anisotropy 1−52940
$GaAs_{1-x}P_x$:N trap states, zero-phonon excitonic struct., luminesc. and reson. excitation study 1−47538
GaP, resonance Raman scatt. at the indirect gap 1−52937
GaP:N,S, nonradiative recomb., emitted phonon detection by calorimetric absorpt. spectroscopy 1−47181
$GaP_{1-x}As_x$, mixed zincblende cryst., critical point phonon composition depend. 1−2577
GaS, optical props. and phonon modes, high press. phase transform 1−48060
GaS, phonon modes and stability up to 200 kbars, Raman spectra and absorpt. meas. 1−12503
GaS, Raman spectrum up to 235 kbar at 300K 1−35059

lattice phonons continued
ε-GaSe, preresonance multiphonon Raman light scatt. 1−21208
ε-GaSe, Raman spectra, hydrostatic press. influence 1−3417
GaTe, Raman scatt. press. effects 1−8073
$Gd_3Ga_5O_{12}$:Er, garnet, molecular light scatt., photoelasticity 1−21221
Ge, amorphous, pure and hydrogenated, for IR absorption 1−12502
Ge, ballistic phonon imaging, heat-pulse method 1−34439
Ge, direct gap semicond., direct gap, temp. depend., pseudopot. calc. 1−47470
Ge, electron and phonon spectra, press. depend. 1−34607
Ge, electron transport in germanium at high pressures 1−30766
Ge, electron-hole droplet and ballistic phonon imaging 1−16237
Ge, electron-hole droplet cloud, effect of phonon flux singularities 1−47491
Ge, excited hole state of donor bound excitons and parity selection rule 1−3457
Ge, phonon wind, ballistic phonons in heat pulse, interaction with e-h liquid 1−16239
Ge:P, phonon cond. correction term 1−52240
n-Ge:Sb(As), thermal phonon scatt., mag. field and uniaxial stress effects 1−15985
$Ge_{1-x}Si_x$ alloy, IR spectra, local and quasi-local vibr. modes 1−16572
$Ge_{1-x}Si_x$ alloys, crystalline and amorphous, vibr. props. 1−52245
H chemisorbed on W (001) surface, vibrational modes 1−20564
H, solid, o-H_2 pairs, microwave spectral lines 1−3539
H, solid, o-H_2 pairs microwave line broadening 1−3540
p-H_2, ortho-phonon excitations, vibr. spectrum rearrangement *(Russian)* 1−30516
H_2, solid, IR spectra, zero phonon transitions 1−48058
^{4}He, thin solid slabs, interface effects and propag. of second sound pulse 1−16141
Hf, thermophysical properties rel. to conduction electron mean free path 1−2941
HfC-HfB_2, thermal cond. and diffusivity at high temp. phonons grain-boundary scatt. effect 1−16272
$HfSe_3$, optical phonons, Raman scatt. study 1−12492
$Hg_{1-x}Cd_xTe$, hot electron drift velocity 1−38784
InAs, phonon dispersion curves, X-ray thermal diffuse scatt. 1−42491
InAs surface resonant Raman scatt. in MOS junctions 1−48066
$In_{0.53}Ga_{0.47}As$, photoexcited, hot carrier relaxation 1−3449
$In_{1-x}Ga_xP$, mixed zincblende cryst., critical point phonon composition depend. 1−2577
$In_{1-x}Mg_x$, electron-phonon interaction, phase transition *(Russian)* 1−42495
InP, large wavevector acoustic phonon propagation 1−47184
InP, optical transmission, luminesc. and Raman spectra under hydrostatic press. 1−35007
InP, phonon pulse propag., spatial and temporal characts. 1−15989
InP, time resolved phonon spectroscopy with picosecond time resolution 1−45036
InSb, acoustoelectrically amplified phonons, study by anomalous transmission of X-rays 1−15978
InSb, cyclotron-phonon resonance, line width investigation 1−3265
n-InSb, magnetophonon resonance, new peak, temp.-range 77 to 180K 1−2991
InSb, phonon emission, optical to acoustical decay 1−15973
p-InSb, phonon induced intersubband resonance in inversion layer 1−47750
n-InSb, phonon-assisted cyclotron reson. linewidth 1−47953
InSe, optical phonons and crystalline symmetry, Raman and IR spectra 1−43121
KBr:Ag 1−34651
$(KCN)_x(KBr)_{1-x}$ mixed crystals, existence of orientational glass state 1−2573
KCl:Ag^0, electronic level calcs. 1−34651
KCl:Pb, Suzuki-like phase nucleation, correlated thermal conductivity and ionic thermocurrent meas. 1−20487
KD_2PO_4, Brillouin and Rayleigh scatt. spectra near ferroelec. transition 1−26221
$K_4Fe(CN)_6.3D_2O$, Raman spectra, OD stretching vibrs. 1−8068
$KFe(MoO_4)_2$, ferroelastic, phase transition, optical phonons and soft modes, Raman scatt. study 1−8048
$KH_{2(1-x)}D_{2x}PO_4$ mixed crysts., light scatt. spectra, temp. depend. meas. 1−39117
KHF_2, lattice vibr. modes 1−11822
KH_2PO_4, Raman spectra anomalies due to order-disorder phase transitions 1−52956
$KH_3(SeO_3)_2$, low freq. Raman spectrum rel. to phase transition 1−26187
KH_2PO_4, paraelectric, E-mode Raman spectra, hydrogen bonds 1−39080
KI, free exciton, luminescence spectra, nature of emission 1−38724
KI:NO_2^-, laser induced fluorescence and Raman studies 1−43171
$KNbO_3$, long-wavelength phonons, ferroelectric phonons, Raman scatt. meas. 1−42503
La pnictides, Van Vleck orbit-lattice interactions 1−25679
La_2O_3, thermal props., 400 to 1000K 1−2720
LiH_2PO_3, angular dispersion study of polar phonons *(French)* 1−35027
α-$LiIO_3$, stimulated Raman scatt. under laser irrad., multimode lattice vibrs. *(Chinese)* 1−52927
Li_3N, diffuse X-ray scattering, 293 to 880K 1−42482
Li_3N, low-temp. thermal cond. 1−2712
$LiNbO_3$, dielectric const. temp. depend., IR reflectance spectra 1−21106
$LiNbO_3$, Raman scatt. relation to electro-optical effects 1−12508
$LiTmF_4$, phonon and electron Raman scatt. 1−26214
$LiYbF_4$, phonon and electron Raman scatt. 1−26214
MgO:Cr^{2+}(V^{3+}), heat-pulse phonon scatt. by Jahn-Teller impurities, stress effects 1−15996
MgO:Cr^{3+}, ODMR, vibronic sidebands 1−21085
MgO:Cr^{3+}, struct. of $^4A_{2g}\rightarrow{}^4T_{2g}$ zero-phonon spectrum 1−3427
MgO:Mn^{3+}, superconducting tunnel junction phonon spectroscopy 1−15968
MgS:Sb^{3+} phosphors, luminescence and excitation spectra meas. 1−39138
Mg_2Sn(Si)(Ge), low-temp. lattice thermal cond., phonon scatt. from crystal boundaries 1−2717
$Mg_{70}Zr_{30}$ metallic glass, atomic dynamics, short-wavelength transverse collective modes 1−34237
MnO-CoO antiferromag. solid soln., thermomag. study 1−52785
MnS_2, far IR refl. spectra, optical and dielec. consts., effective charges 1−52957
$MnSe_2$, far IR refl. spectra, optical and dielec. consts., effective charges 1−52957
$MnTe_2$, far IR refl. spectra, optical and dielec. consts., effective charges 1−52957
Mo, microcontact tunnelling spectroscopy, electron-phonon interactions *(Russian)* 1−47805
$MoSe_2$ (2H), Raman scatt. and IR reflectance 1−8057
N_2, α- and γ-phase, anharmonic lattice vibrs. calc. using perturbation theory 1−38483
N_2 crystal, lattice dynamics with ab initio intermol. pot. 1−38476
NH_4Br, heat capacity for 0 to 500K 1−2652
$NH_4Br_{0.55}Cl_{0.45}$, heat capacity for 0 to 500K 1−2652
NH_4Cl, heat capacity for 0 to 500K 1−2652
$[Na_4Al_3(SiO_4)_3X]_2$, (X=Cl, Br), Raman spectrum and phonon modes 1−52944
NaCN, elastic anomaly, at 284K 1−25355
NaCl single cryst., elastic props. up to 9 GPa and 293K 1−34397
NaF thin films, thermal emission spectra meas., high temp. phonon anharmonicity 1−20432
$NaH_3(SeO_3)_2$, hypothetical degenerate struct., low-freq. Raman spectra 1−11737
NaI, self-localised exciton luminesc., point defect recomb., phonon contrib. 1−3486
Nb-Nb_2O_5 interfaces, residual RF losses and tunnel currents and caused by interface states 1−52714
$Nb_{1-c}Mo_c$ alloy, phonon linewidths 1−42486
Nb_2O_5, thermal props., 400 to 1000K 1−2720
γ-Nd_2S_3, Raman spectra, lattice vibrs. 1−12510
Ni powder, thermal diffuse correction, in neutron time-of-flight diffr. 1−2292
Ni thin film on SrF_2 or SrF_2:Eu^{2+}, phonon emission, diffusive scatt. 1−15983
NiO microcrystals, IR absorpt. spectra, bulk and surface modes 1−8071
PbF_2, neutron dynamic scatt. from dynamic disorder 1−34508
$Pb_5Ge_3O_{11}$, fundamental vibrs. symmetry anal. 1−30335
$Pb_{1-x}Ge_xTe$, structural instability, Ge ion local displacement effects 1−39051
$PbMo_6S_8$(Se_8), supercond., sp. ht. capacity meas. 1−12236
$Pb(NO_3)_2$, thermal cond. and Umklapp relaxation 1−16113
PbO, low temp. luminesc., phonon energies 1−35087
PbSe epitaxial films, optical props. meas. 1−31214
Pt film, microscopic point contact in He II, differential resistance oscill. *(Russian)* 1−42592
Pt, non-central Fielek model for lattice vibrs. 1−7270
Rb, harmonic phonons and phonon-limited resist. from first-principle pseudopots. 1−7272
Rb high temperature crystals: limitations on the phonon description 1−16060
Rb_2ZnCl_4, Brillouin shift near normal-incommensurate phase transition, scatt. angle depend. 1−52961
ReO_5^{3-}, vibr. spectra from $Ba_5(ReO_5)_3Br$ IR and Raman spectra 1−8079
$SbCl_5$-graphite, IR and Raman spectra, HF graphitic intralayer phonons study 1−39101
SbSi:As ferroelectric, Raman resonance scatt. temp. depend. *(Russian)* 1−3420
Sb_2Te_3, free carrier dispersive dielectric function 1−47517
Se, amorphous and cryst., phonon density of states and sp. ht. 1−30345
Se, monoclinic and triclinic, second order Raman scatt. 1−48063
Si, amorphous, pure and hydrogenated, for IR absorption 1−12502
Si, heat pulse propag., obs. of fine splitting in transverse mode group velocities 1−2718
Si, phonon assisted electron-hole Auger recombination 1−47671
Si, phonon boundary scatt. contrib. to lattice thermal cond. 1−47310
Si, phonon spectrum, quantum mech. force calcs. 1−52246
Si, phonons, Raman scatt. cross-sections 1−26201
Si:B, heavily doped, Raman spectra study of localized vibrs. 1−48061
Si:Cr^+, spin-lattice relaxation, Debye temp. 1−26026
n-Si:P, phonon scatt. during ballistic transmission of heat pulses 1−15986
Si:SiO_2, IR absorpt. spectra, LO band due to SiO_2 platelets 1−39124
SiC, 4H, 6H, and 15R polytypes, site effect on impurity levels, photolum. meas. 1−16255
Si(111)/SiO_2 interface, superconductivity mechanism 1−52685
$Sm_{0.75}Y_{0.25}S$, phonon freqs. and linewidths 1−34438
β-Sn, superconducting, phonon lifetime meas., heat pulse propag. technique 1−42901
Sn, superconducting domain, photoexcited, phonon emission 1−15987
$SrCl_2$, quasi-elastic neutron scatt. in fast ion cond. state, mol. dynamics simulation 1−11900
SrF_2, resonant modes due to anion interstitials and anion vacancies 1−20341
SrF_2:Eu^{2+}, tunable optical phonon detector and generator 1−15979
$Sr(NO_3)_2$ cryst., phonon resonant absorpt. probed by acoustic-optic interaction 1−15991
$Sr(NO_3)_2$, thermal cond. and Umklapp relaxation 1−16113
n-$SrTiO_3$, polar semicond., supercond. theory 1−16395
Ta, microcontact tunnelling spectroscopy, electron-phonon interactions *(Russian)* 1−47805
TaC-TaB_2, thermal cond. and diffusivity at high temp. phonons grain-boundary scatt. effect 1−16272
$TaS_{2-x}Se_x$, 1T polytype, mixed crystal system, CDW, Raman scatt. meas. 1−48084
Ti, thermophysical properties rel. to conduction electron mean free path 1−2941
$Ti_{1-x}V_xSe_2$, electron diffr. and IR study 1−12504
$TlInSe_2$, vibrational props., IR reflectivity 1−35042
$TlPbI_3$, Raman scatt. spectra, lattice dynamics study 1−26212
TlSe-type crysts., long-wavelength optical phonons, vibr. spectrum, correlation anal. 1−20333
TlSe(S), vibrational props., IR reflectivity 1−35042
$TlSe_xS_{1-x}$ crysts., Raman scatt., optical phonon freqs. 1−31149
Tm_3Se, acoustic phonon anomaly in Raman spectra 1−39097
$TmSe_{1-x}Te_x$, acoustic phonon anomaly in Raman spectra 1−39097
α-U, charge density wave obs. at low temp. 1−47623
UN(Te)(S)(Pd_3), spin and phonon excitations, neutron scatt. studies 1−47874
$VCl_2(Br_2)(I_2)$, with layered struct., Raman and IR studies 1−35039
$V_3(Ge_{0.75}Al_{0.25})$, phonon spectrum, localised vibrs. 1−25393
V_3Si substrate for CdS thick disordered film, two mode ultrasonic excitation 1−25376
W (001) single valence band X-ray photoemission study, direct transitions, phonon effects 1−20617

lattice phonons continued
W, microcontact tunnelling spectroscopy, electron-phonon interactions *(Russian)* 1−47805
Xe island film blocks, RMS atomic displacement *(Russian)* 1−42479
YAG, ultrasonic velocity, elastic consts. under press. 1−34428
YAG:Er, garnet, molecular light scatt., photoelasticity 1−21221
α-YD_x, location of D, neutron diffr. study 1−38333
Zn thin-film superconducting phonon detector, energy-selective 1−15977
$ZnIn_2S_4$, Raman spectra, hydrostatic press. influence 1−3417
ZnS, Brillouin scatt. by injected acoustic domains 1−16576
ZnS, emission edge, temp. shift 1−3482
$ZnS_{1-x}Se_x$ mixed crystals, zone-edge phonons, IR and Raman study 1−25387
ZnSe, electroabsorption study, field depend. 1−48036
ZnTe, two-phonon resonance Raman scatt. 1−21211
Zr, thermophysical properties rel. to conduction electron mean free path 1−2941
ZrC-ZrB_2, thermal cond. and diffusivity at high temp. phonons grain-boundary scatt. effect 1−16272
ZrS_3, one-dimens. charact., IR refl. and transmission study 1−39092
$ZrS_3(Se_3)(Te_3)$, optical phonons, Raman scatt. study 1−12492

lattice structure, crystals *see crystal atomic structure*

lattice theory and statistics
see also Ising lattices; percolation; renormalisation; X-Y model
2 D Ising model with impurity bonding, phase transformations *(Russian)* 1−40723
AC conductivity, non-Markoffian process, continuous-time random walk model 1−18154
advanced institute, common trends in particle and condensed matter physics, Les Houches, France (Feb. 1980) 1−27645
Anderson localisation, finite size scaling approach 1−40719
anharmonic crystal, statistical distrib. function, theory 1−27901
antiferromagnetic lattices, ground state energies 1−25851
Ashkin-Teller model, singularities near bifurcation point 1−193
Bethe ansatz, periodic boundary conditions and relations between various models 1−36581
Bloch electrons in magnetic field, reduction to one dimension 1−27895
bond-percolation in square lattice, crit. exponents, renormalisation-group calc. 1−5251
boson-Hubbard chain, soluble boson model solidification 1−32900
Bravais lattice, lattice sum evaluation in arbitrary dimensions 1−5241
Brillouin zone cubic integrals, finite sum approx. 1−20602
cell model with collapse instability 1−9939
clusters, percolating and non-percolating, valences of sites 1−18167
clusters, percolation processes, Monte Carlo simulation, transitions 1−18161
compact clusters, crossover from percolation, two parameter space renormalisation 1−5244
composite lattice of two phases with coincidence site lattice relationship, vector correspondence matrix *(Chinese)* 1−47093
composite lattice of two phases with coincidence site lattice relationship, space and plane lattices *(Chinese)* 1−47094
connectivity index for lattices of nonintegral dimensionality 1−32930
conservation laws in the quantum version of N-positional Potts model 1−184
correlated random-walk simulations in simple and binary lattices 1−183
correlation-length exponent in two-dimensional percolation and Potts model, Monte Carlo renormalisation calcs. 1−32934
coupled chains system, soliton contrib. to correl. functions 1−23127
critical exponents of two-dimensional Potts and bond percolation models 1−36571
critically branched chains and percolation clusters 1−32927
crossover exponent for anisotropic bond percolation 1−192
deformable lattice, transport theory of one-dimens. diffusion 1−36588
diatomic Toda lattice, nonlinear waves 1−44859
dilute Potts model, duality and site-bond percolation 1−32923
dimer system, orientational transitions 1−50063
eight vertex Ashkin-Teller and Gaussian models, critical line universality 1−40726
eight-vertex model and Gaussian model, renormalisation connection 1−23116
excluded volume problem, direct renormalisation group calcs. 1−32938
FCC lattice, Ewald function expansion in cubic harmonic series, Coulomb pot. *(Russian)* 1−40727
film formation on weakly attractive substrate, lattice gas model 1−18172
finite chain, one-dimens., scatt. states 1−36572
finite lattice Hamiltonian, phase struct. of Z(q) models, q-state Potts model 1−40724
fluid mixtures, supercritical phase behaviour, lattice-gas model 1−30370
four state Potts model, critical exponents 1−5238
free energy of lattice models, finite cluster expansion 1−23123
frustrated systems, dynamical models, appl. to spin glasses 1−5250
Gaussian lattice field, massless, perturbations preserving continuous symmetry of Hamiltonian 1−32921
Gaussian model, d-dimensional, differential real-space renormalisation 1−36577
generalized-disorder collective-boson mode-softening universality principle 1−163
generating functions for enumerating self-avoiding rings on the square lattice 1−18168
graphite intercalation cpds., $C_8Rb(K)$, order-disorder transitions, lattice-gas theory 1−7123
graphite-Li intercalation cpd., stage 2, in-plane ordering, XPS study 1−48239
group theory for frustrated lattices, spin glasses, glassy transitions 1−9936
HCP lattice, lattice static Green function 1−5248
Heisenberg and XY magnets, diluted, spin diffusion constant 1−34889
Heisenberg models, O(2) and O(3) in (1+1) dimensions, finite lattice methods in quantum Hamiltonain field theory 1−27892
high density expansion for the isothermal compressibility of hard sphere system 1−5247
honeycomb lattice, finite size scaling study of percolation, with various length to width ratios 1−27900
infinite harmonic cryst. dynamics and ergodicity 1−9941
infinite point charge lattices, Coulomb potentials and fields 1−44847
integrable systems, Hamiltonian group actions, Toda lattice appl. 1−32936
ionic crystals intrinsic conductors, interfacial space charge and capacitance 1−39035

lattice theory and statistics continued
ionic cubic cryst., force const. in adiabatic approx. *(Russian)* 1−34432
kink-gas phenomenology at low temps. 1−23107
Korteweg-de Vries second-order equation for lattice 1−38451
Landua-Ginzburg eqn. for solid surfaces, oder parameters 1−18173
Langevin approach to the dynamics of crystal surfaces 1−9940
lattice chiral field, local conservation laws 1−36804
lattice decorations and pseudo-continuum percolation 1−5236
lattice gas of non-interacting particles, chemical diffusion 1−36582
lattice Green's functions for cubic lattices 1−5246
lattice-gas system, grand canonical ensemble, phase change, Markov chains, Monte Carlo method 1−44846
liquid-vapour two-component system, percolation analogue 1−7307
local-mode approximations in the Frenkel-Kontorova or sine-Gordon chain 1−5249
localisation-delocalisation transition in a solid-on-solid model with a pinning potential 1−44850
Lorentz gas model, correlated walks in cubic lattices, diffusion coeff. calc. 1−23118
marginally, universality, and expansion techniques for critical lines in two dimensions 1−23141
metal-electrolyte interface, lattice gas model 1−34797
metal-H systems, phase change behaviour, statistical theory 1−20354
multicomponent melt, surface props. calc. using lattice model 1−20511
multicomponent solution of similar size mols., lattice model of surface layer 1−20512
n-vector model, n=5 or 6, correction to scaling exponents and critical properties 1−27890
N-vector models, critical temperature for unique equilibrium 1−23117
noise-induced phase transition and the percolation problem for fluctuating media with diffusion *(Russian)* 1−27882
non-Markovian Osterwalder-Schrader fields, lattice approx. 1−5235
nonlinear oscillators, chain with impurity, soliton scatt., simulation 1−32937
nonpercolating clusters, site mean valence for square and simple cubic lattices 1−5240
normalization sum for the Bethe's hypothesis wave functions of the Heisenberg-Ising chain 1−44860
number theory and critical exponents 1−5266
one-dimensional Fermion lattice model, thermodynamic props., Monte Carlo çalc. 1−32904
one-dimensional nonlinear system, linear response theory 1−9937
one-dimensional system with long-range interactions, soliton effects on thermodynamic props. 1−49952
Ornstein-Zernike integral eqns., generalised recursive solns. 1−185
percolation, perimeter polynomials for triangular, quadratic, honeycomb, cubic and diamond lattices 1−27893
percolation, rel. to animals, cluster statistics on lattices *(French)* 1−27884
percolation models, cluster size distrib., lower bounds 1−23119
percolation on square lattice, Monte Carlo simulation 1−27894
percolation phenomena in d-dimensional lattices (d=2 to 7), scaling studies, cluster numbers 1−9942
percolation problem, critical exponent sign 1−9938
percolation theory on pairs of matching lattices 1−50062
phase transition, two-dimensional topological characterization 1−23139
phase transitions of 'extended' Ising models on a square lattice 1−34901
plane rotator model, low temperature asymptotic expansion 1−40717
polymer chain model, self-consistent potential 1−50060
polymer chains, semi-flexible, absence of completely ordered phase in quasi-lattice model 1−18165
polymer chains in solvent, distribution functions in interior 1−7068
polymer excluded volume exponent in three dimens. by direct renormalisation 1−51326
polymer solution, isolated chain, single-scaling field approach 1−46979
polymers, linear and branched, real space renormalisation group approach 1−5239
polyphenyls, thermotropic liq., cryst. system, phase equilib. 1−38516
Potts mode, site diluted, exact critical condition 1−44853
Potts model, dilute, q-component, annealed, on decorated square lattice 1−44854
Potts model, extended, mag. eigenvalue 1−9944
Potts model, finite size scaling and critical point exponents 1−23121
Potts model, infinite state, 1-D, first- and second-order phase transformations 1−5261
Potts model, q-state, 2-D, static and dynamic critical phenomena, review 1−40720
Potts model, three-state, in 3-D, 1/Q expansion and first order phase transition 1−36579
Potts model, three-state, with pure three-site interactions, universality 1−5260
Potts model, triangular, with two- and three-site interactions, critical point 1−44852
Potts model, two-dimens., multicrit. point, scaling theory 1−9943
Potts model near four dimensions, first- and second-order transitions 1−32933
q-state hierarchical Potts model, stable fixed point, critical exponents 1−5242
quantum mechanics on lattices 1−5125
quantum system, real-space renormalisation group method 1−5228
quenched site correlated percolation, real space renormalisation group study, critical behaviour 1−44856
quenched system under Gaussian random fields conjugate to anisotropic spin fields, renormalised field theory 1−40746
random animals, crossover from percolation, two parameter space renormalisation 1−5244
random walk survival probabilities, asymptotic form, 3D lattices with traps 1−18170
random walks, averages in presence of restrictions, generating function technique 1−27888
random walks for sets of random walkers, first passage times 1−9929
random walks on finite lattices with partially absorbing trap 1−44861
random walks on random lattices 1−9947
random walks with sign reversals and the intrinsic angular momentum behaviour on lattices 1−50061
regular lattices, lattices, random walks with variable step length 1−44845
Ruelle-Araki transfer operator in statistical mechanics, book 1−44720
scaling at a bifurcation point 1−27902
Schlogl model critical behaviour 1−39617
self avoiding walk in two dimensions, phenomenological renormalisation 1−27886

lattice theory and statistics continued
self triality solvable in statistical mechanics and O(8) Gross-Neveu model 1−44857
self-avoiding walks constrained to strips, cylinders and tubes, asymptotic distribs. 1−36576
semi-infinite systems, special trasition critical exponent calcs. 1−36599
series expansion studies of percolation at a surface 1−188
sine-Gordon and ϕ^4 chains, classical statistical mechanics and static props. 1−23125
sine-Gordon chain, fluctuations at thermal equilib. 1−32929
sine-Gordon chain, freq. depend. mobility, Fokker-Planck eqn. soln. 1−44849
sine-Gordon chain, spatial fluctuations 1−36583
sine-Gordon model, momentum space renormalisation 1−14073
sine-Gordon system, breathers at finite temps. 1−23124
site blocking effect in tracer diffusion in a lattice 1−50067
site percolation problem with distant-neighbour interactions, renormalisation group transforms. 1−18171
solution containing r-mer, lattice model of surface layer 1−47328
solution containing r-mers, lattice model of surface layer, entropic contrib. 1−52031
solvable q-state models in lattice statistics and quantum field theory 1−50068
sphere packings, multicomponent random, porosity and contact points, calc. 1−14067
spin models, Van der Waals, differential renormalisation 1−38945
square bond percolation near p_c, boundary condition influence 1−32939
square lattice, self-avoiding walks, renormalisation 1−23137
square random resistor lattice, percolative cond., renormalisation-group approach 1−50076
statistics of the percolation threshold 1−36575
stepped surfaces, chemisorption, lattice gas models 1−47384
supersolid, excitation spectrum, quantum-lattice-gas model 1−34543
surface critical exponents for self-avoiding walks on the tetrahedral lattice 1−36573
surface exponents and scaling laws from renormalisation group eqns. 1−27899
surface roughening for two-dimensional percolation above p_c 1−23126
thermodynamics, third law, and degeneracy of ground state for lattice systems 1−40721
three dimensional sphere packing on four dimens. hypersphere 1−5245
Toda lattice, nonlinear waves, book contrib. 1−36507
triangular lattice, critical surface for three-colour site percolation 1−5243
triangular lattice, Z_n-symmetric periodic Gaussian model, phase struct., dual props. 1−9945
two dimensional planar model, critical line correlation functions, logarithmic factors, scaling 1−40722
two-component-kink system, statistical mech. 1−18174
two-dimensional Coulomb gas, Monte Carlo simulation 1−32931
two-dimensional dynamic systems with limit cycles, external fluctuations effect 1−27877
two-dimensional frustrated lattices, apparent universality violation 1−12306
two-dimensional lattice sums and the dispersion relation of Frenkel excitons 1−7530
two-dimensional models, crit. props. 1−32935
two-dimensional Z(q) models, phase diagrams 1−40725
U(N) gauge theory on small lattices, large N limit, nonAbelian toy models 1−33091
universality of four-coordinated correlated percolation and random percolation 1−27898
universality test for Monte Carlo renormalisation approach to percolation on a continuum 1−32922
vibrating linear lattice, electrical network analogue, undergraduate expt. 1−40636
vortices in the two-dimensional $s=^1/_2$ *XY* model 1−32926
XY model, classical, two-dimens., helicity modulus and sp. ht., Monte Carlo simulation 1−32932
Yang-Lee edge singularity, equation of state and dynamical props. 1−32940
Z(5) model on square lattice, phase diagram 1−5237
Ag halides, photolysis, appl. of cluster formation in 2-D random walks 1−35559
^{4}He, liquid and solid, soft quantum lattice gas, supersolid existence 1−44848

lattice vibrations *see lattice dynamics*

Laves phases *see alloys*

lawrencium
H_2 to Lw_2 molecules, models for calc. of dissoc. energies 1−41518

lawrencium compounds
No entries

LCAO calculations
acetylene bonding in Ni complexes with carbonyl and isocyanide ligands, HF-slate-LCAO calc. 1−37097
band struct. calcs. parameterisation 1−12014
bicyclo[6,2,0]decapentaene, mag. circular dichroism, LCAO MO SCF CI calcs. 1−46003
choline ester model systems, electrostatic pots. and deformation densities, ab initio calcs. 1−14815
cubic semiconductor, extended bond orbital theory of piezoelectric and transverse charges 1−12458
diamond, band struct. calc. using LCAO SCF method, valence bond props. 1−47434
diamond, ground state properties, LCAO SCF ab initio HF method 1−34609
diatomic molecule, electron impact, static interaction potential 1−6380
diatomic molecule, electron scattering by closed or open shells 1−10838
dithiocarbazic acid, S-methyl ester, ab initio, LCAO and MO calcs. 1−6149
electronic eigenstates and optical lineshapes of impurities and vacancies 1−47552
ethane, and hindered rotamers, electron binding and relax. energies 1−37255
ethylene, and hindered rotamers, electron binding and relax. energies 1−37255
ethylene, twisted, mirror-image mols., parity nonconserving energy difference, LCAO calcs. 1−1099
finite crystals, Stark ladder occurrence, LCAO approach 1−47594
first-row hydrides, ground and core hole states, LCAO MO SCF calcs. 1−19028
fluorides, tetrahedral and planar trigonal, LCAO MO theory, perturbation extension, spin coupling const. 1−1145
free radicals, molecular orbital electronegativity, semiempirical CNDO LCAO MO calcs. 1−51121
graphite, band struct. calc. using LCAO SCF method, valence bond props. 1−47434
D-(−)-luciferin in ethanol, optical absorpt. calc. 1−10743
metal chelates, metal bridge effect, SCF and LCAO calcs. 1−1111
metallocenes of elements of 3d transition series, SCF MO LCAO CNDO calcs. 1−6165
metals, amorphous and liq., electronic structure, embedded mol. cluster approach 1−30619
methylene, core ionised states, CI and LCAO MO SCF calcs. 1−19035
molecule, energy calc., HAM/4 method based upon Slater's shielding concept, electron affinities 1−10655
molecules, HF values of atomic integrals useful in LCAO-MO calcs. 1−13940
molecules, large, correlation energy, one-centre expansion, LCAO and HF calcs. 1−1055
organosilicon molecules, force consts. of Si-O bonds rel. to electron struct., MO LCAO calc. 1−41520
polycytosine, σ-exciton type mechanism for superconductivity 1−47778
polyethylene, band struct. calc. using LCAO SCF method, valence bond props. 1−47434
polyethylene, deformation, ab initio MO calcs. 1−7549
polyethylene, long-range contributions in polymer contribution 1−19226
polymers, ground state calc., ab initio techniques 1−19225
polymers, long-range contributions, in computation 1−19226
retinylidene iminium salt in soln., theory of optical absorpt. 1−14909
S, orthorhombic, electronic ground state density of states, charge densities, autocorrelation function 1−37106
semiconductors, deep levels due to substitutional impurity cluster, MTO theory 1−25656
semiconductors, optical spectra, many-body effects 1−48106
d-state solids, universal LCAO calcs 1−12015
A-nor-2-thiacholestane, mirror-image mols., parity nonconserving energy difference, LCAO calcs. 1−1099
Au, core-valence transitions, relativistic tight-binding calc. 1−7513
Au(I) compounds, $(AuX_2)^-$ (X=CN, Cl, F), electronic struct. and Mossbauer hyperfine interactions 1−19124
BN, band struct. calc. using LCAO SCF method, valence bond props. 1−47434
C, energy struct. calcs. for atoms in infinitely deep potential well *(Russian)* 1−37109
CaF_2, electronic band struct., SCF LCAO calcs. 1−20628
$CeH_2(H_3)$, electronic struct. APW calcs., LCAO calcs. 1−20627
Cl_2, electron density calcs. using SCF Xalpha MO method 1−19029
$Co_2(CO)_8$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
Cu, chemisorption of acetylene, Hartree-Fock-Slater-LCAO studies, cluster models 1−52430
Cu clusters, struct. and electronic props., binding energy, ab initio LCAO-MO-SCF study 1−41304
Fe, chemisorption of acetylene, Hartree-Fock-Slater-LCAO studies, cluster models 1−52430
$Fe_2(CO)_9$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
GaAs:O, ion implantation, deep level prod., LCAO-MO calcs. 1−7552
H, chemisorption on metal surface, LCAO cluster theory, review *(Japanese)* 1−2810
H_2CLiF in singlet and lower triplet states, pot. hypersurface, SCF MO LCAO, INDO and STO calc. 1−33389
$HCO^+ + CO(N_2)$, clustering energies and stable struct., ab initio LCAO SCF MO and SCEP calc. 1−33395
$HN_2^+ + CO(N_2)$, clustering energies and stable struct., ab initio LCAO SCF MO and SCEP calc. 1−33395
H_2O adsorption on metal surfaces, LCAO calcs. 1−34576
I_2, eQq hyperfine parameters meas. for X, 1_g, O_g^+ and B states 1−6227
KCl:$(LiH)^+(AgH^+)$ centres, EPR 1−3258
$KNiF_3$, Jahn-Teller coupling consts. of Ni^{2+} 1−25672
$KZnF_3$:V^{2+}, anal. of transfered spin derities in $3d^3|VF_6|^{4-}$ complex, LCAO MO calcs. 1−25667
MgF_2, self-consistent energy band struct. calc. using LCAO method 1−16228
$Mn_2(CO)_{10}$, electronic struct., LCAO-HF-Slater calc., bonding effects, ionisation pot. 1−41306
MoF_6, electronic struct., ionisaion pot., SCF DVM-Xalpha method based on HF functions 1−10632
N, energy struct. calcs. for atoms in infinitely deep potential well *(Russian)* 1−37109
NH_3, momentum space props., LCAO-Xα and HF wavefunctions calcs. 1−37113
$(NH_3)_3$, 3-body nonadditive interaction energy calcs. 1−46049
NaK_2TiF_6, Jahn-Teller coupling consts. of Ti^{3+} 1−25672
Ni, adsorption of acetylene, dissoc., fragments, Hartree-Fock-Slater-LCAO calc. cluster models, UPS spectra 1−52431
Ni, band structure, XPES calcs., LCAO method 1−21325
Ni, chemisorption of acetylene, cluster model, HF-Slater-LCAO calc. 1−39682
Ni complexes with carbonyl and isocyanide ligands, bonding of acetylene, HF-slate-LCAO calc. 1−37097
Ni, stacking faults, electronic struct. 1−2915
Ni-H, electronic struct. of interstitial H by cluster-in-condensed-matter technique 1−20653
NiF_6^{4} complex, modified Mulliken-Wolfsberg-Helmholtz method calcs. 1−24033
O, energy struct. calcs. for atoms in infinitely deep potential well *(Russian)* 1−37109
Pd clusters, nonadditive effects and chemisorpt., pseudopot. calcs. 1−7452
Pt, core-valence transitions, relativistic tight-binding calc. 1−7513
refractory monocarbides, substoichiometric, LCAO-CPA studies of C vacancies 1−2856
Si (111)-Pt(Ni)(Pd) interface UV photoemission study of electronic props. 1−53047
Si, band struct. self-consistent calcs., Compton profiles, X-ray struct. factors 1−38711
Si-O, amorphous, electronic struct. of O impurity atom., LCAO calc. 1−12064
Si-SiO_2 MOS system, n-channel, interface effect on electronic struct., scatt. of Bloch waves 1−12171

LCAO calculations continued
Si_2, electron density calcs. using SCF Xalpha MO method 1−19029
Te, trigonal, self-consistent electronic spectrum, charge and momentum density and compton profile 1−12026
$TiS_2(TiSe_2)$, 1T layer compounds, self-consistent valence charge density, Xalpha, OPW and LCAO calc. 1−12013
UF_6, electronic struct., ionisaion pot., SCF DVM-Xalpha method based on HF functions 1−10632
WF_6, electronic struct., ionisaion pot., SCF DVM-Xalpha method based on HF functions 1−10632
$ZnS:Fe^{2+}$, E-state energy splitting reduction, Jahn-Teller coupling 1−25671
ZrC(N)(O), electronic struct., cluster calc. using different mol. orbital methods 1−30628
ZrO_2, electronic struct., cluster calc. using different mol. orbital methods 1−30628
$ZrS_2(ZrSe_2)$, 1T layer compounds, self-consistent valence charge density, Xalpha, OPW and LCAO calc. 1−12013

lead
see also nuclei with .....
adsorption, multiple-site, on amorphous $Fe_2O_3.H_2O$ 1−39677
adsorption on Ag substrate during deposition 1−30571
alkali halide crysts., doping with Pb ions by thermal treatment, annealing, optical absorpt. meas. 1−7186
Allende meteorite, U and Pb isotopes in inclusions and phosphates 1−40429
anodisation of Pb in H_2SO_4 solutions containing Sb species 1−35543
Archaen gneiss from W.Greenland, Pb isotope study of crust contamination 1−40094
atom, electron impact L-subshell ionisation cross-sections, 60-600 keV 1−1388
atom, excited state, two-step autoionisation, 5d spectra 1−45881
atom, L- and M-shell photoelec. cross-sections 1−37163
atom, ratios of double to single photoionisation cross sections, Auger decay 1−24089
atom, Rayleigh scatt., elastic photon scatt. contrib. 1−14850
atoms, electron affinities, PES 1−46149
atoms, Rayleigh γ-scatt. cross section, anomalous energy depend. 1−45921
basaltic rocks of oceanic islands, Pb isotopes and mantle evolution 1−54021
batteries, positive plates, formation from pure Pb, mechanism examination by cyclic voltammetry 1−53577
concentration in Kitakyushu district, Japan (1976-7) aquatic environment 1−17636
creep, low temp., quantum effects 1−15947
creep, low-temp., strain valve depend. 1−43407
dendrites, growth from gels 1−12007
desorption of H, laser-induced 1−35126
determination in Ni electrolytic soln. using flame-atomic absorpt. photometry *(Chinese)* 1−48767
determination using laser-excited at. fluoresc. 1−53519
diffusion in Cd, tracer-sectioning method meas. 1−47300
diffusion of Au, press. effects 1−30485
doped, HF internal friction and dislocation-impurity interaction *(Russian)* 1−30271
doped, hysteresis of low-temp. dislocation internal friction *(Russian)* 1−30322
electrical resistivity, supercond., press. and temp. depend., use as resistive press. monitor 1−47607
electrodes in sulphate electrolytes, electrode preparation effects on discriminant curve cyclic voltammograms 1−48816
electrodes in sulphate electrolytes, kinetics 1−48817
electron-phonon interactions under high press. rel. to supercond. props., meas. 1−42895
electroplated collimator for gamma-ray imaging 1−35909
electroreflectance spectrum, interband contrib. 1−52917
extraction behaviour of Cu and Pb from binary soln. containing NO_3^- and Versatic acid 10 *(Japanese)* 1−26734
film, flux-flow damping coeff. meas. 1−30892
film, microscopic point contact in He II, differential resistance oscill. *(Russian)* 1−42592
foil, grain-boundary diffusion of ^{119m}Sn, nuclear absorption study 1−20473
geochemistry of crustal rocks, Cd, Bi, Tl, Pb, Zn Rb contents 1−40095
geophysical Pb isotope data, diagrammatic representation methods 1−4626
hollow cathode discharge laser action, excitation mechanism 1−51455
Hugoniot curves, pseudopot. calc. *(Chinese)* 1−47207
island films, melting and crystn. 1−25594
L_{III} subshell fluorescence yield meas. 1−37150
laser, neutral Pb vapour, compact long-life high pulse repetition freq. at 722.9 nm 1−41720
laser irradiated, effect of thermophysical props. on evaporation conditions 1−21296
liquid, collective excitations, thermal neutron scattering 1−30037
liquid, dynamic scatt. function, 623K, thermal neutron scatt. investig. 1−46989
liquid, electrical resistance meas., high press. studies 1−42739
liquid, freq. moments and dynamical correlation function 1−20046
liquid, radial distrib. function determ. using mol. dynamics method 1−7072
liquid, static struct. factors at small momentum transfer, neutron diffraction meas. 1−30033
liquid, transport coeff. calc. from effective interatomic pot. 1−30692
liquid, viscosity meas. by oscillating vessel method, determ. of end and slipping effects *(Japanese)* 1−30439
manometer, resistivity for press. determ., 1 to 300K 1−28005
metal contact surface, healing of micropores at uniform compression *(Russian)* 1−47338
molten, capillary infiltration of porous Ni strips 1−39283
monolayer and bulk deposition on Ag (111), ultrahigh vacuum and electrochem. cell 1−20594
multiplication zones, in LiF-BeFe fusion reactor blankets, effect on ^{232}Th, ^{235}U fission rates 1−10525
photon backscattering number albedo 1−28819
positrons and electrons, relative transmission 1−47130
powders, chemically preconditioned, sintering props., elec. resist. 1−21388
production in O-shells and C-shells of massive stars 1−4908

lead continued
self-diffusion coeff. calc. at any temp. and press. from single meas. 1−11898
size quantised metallic and semicond. films, tunnelling 1−30810
specific heat, anharmonic contribution 1−30412
spheres, thermal props. at low temps. 1−30877
stopping power of matter for alpha particles at extreme relativistic energies 1−18989
strain amplitude of US travelling wave at He temps. 1−19524
superconducting film, transient responses to ps. laser pulses, quasiparticle relax. time meas. 1−38895
superconducting film vacuum deposition, fine grain, at 110K 1−31354
superconducting granular film, Kosterlitz-Thouless transition temp., charging energy effect 1−16409
superconducting thin film, excess elec. cond. due to order parameters fluctuations 1−52706
superconducting transition temp. and electron-phonon coupling const. *(Chinese)* 1−52676
superconducting transition temperature meas., under high press., use of diamond anvil high press. cell 1−38876
surface, aqueous corrosion film, Raman and IR spectra study 1−21187
surface, oxidised, interaction with formic and propionic acids, XPS, UPS and LEED 1−17097
surface resist., neutron irrad. effect 1−52641
thermal phonon pulse detection using superconducting tunnel junctions 1−15976
US propagation parameters in cubic crystals, using elastic moduli 1−38472
vapour cloud, above open atomiser, expansion process obs. 1−11492
X-ray and gamma-ray photoeffect cross sections 1−48195
Ag-Pb-Zn mineralisation age for Keno Hill quartzite 1−35953
AgBr:Pb, optically detected mag. resonance 1−47979
$Al-Al_2O_3$-Pb, normal-supercond. metal junction, electron tunnelling, interference effects, high press. effects. 1−3115
Al-oxide-Pb tunnel junctions, voltage annealing 1−16383
α-Al_2O_3:Pb, impurity location, channelling technique 1−2544
Ba^{2+} soln., sterate monolayers, Langmuir-Blodgett layer struct. monolayer on $Pb^{2+}(Ba^{2+})$ salts., Langmuir-Blodgett layer struct. *(French)* 1−30551
$CaS:Pb^{2+}$, non-phonon transition in impurity centre, hyperfine interaction *(Russian)* 1−43124
CdI_2:Pb, optical props., absorpt. and emission bands *(Russian)* 1−43148
Cu:Pb single cryst. film, pulsed laser annealing 1−8341
Cu/Sn(Pb) (15 wt.%) powder mixture, resist. meas. during inductive liq. phase sintering *(German)* 1−3657
CuCr/Pb, proximity sandwiches, transition temp. Cooper limit 1−7788
InAs-oxide-Pb junction, tunnelling cond. oscills. in quantising mag. field 1−25806
KCl:Pb, polarised A-luminesc. obs., 85K, kinetic investig. *(Russian)* 1−16603
KCl:Pb, solid solution, decomposition, optical investigation 1−20385
KCl:Pb, Suzuki-like occlusion growth, photoluminesc. and absorpt. spectra anal. 1−2498
KCl:Pb, Suzuki-like phase occlusions, thermal cond. and ionic thermocurrents meas. 1−2715
KCl:Pb, Suzuki-like phase nucleation, correlated thermal conductivity and ionic thermocurrent meas. 1−20487
$KCl:Pb^{2+}$, impurity aggregates, low temp. absorpt., emission and excitation spectra 1−16589
$KCl:Pb^{2+}$, impurity ion effect on lattice parameter 1−52122
$KCl:Pb^{2+}$, phonon resonances, thermal conductivity and ionic thermocurrent studies 1−20335
$KCl:Pb^{2+}$, X-ray irrad., complex interstitial halogen H_3-type defect, ESR study 1−47946
$KCl:Pb^{3+}$, EPR, cation vacancy effects on hyperfine interactions 1−3238
$KCl:Pb^{3+}$, g-factor sign shift 1−30683
$KI:Pb^{2+}$, absorption spectra, charge transfer bands obs. 1−12533
$NaCl:NaF,Pb^{2+}$ single cryst., point defects, ionic thermocurrents 1−3325
NaCl:Pb, effect of traces of Pb on crystal fracture *(Russian)* 1−7247
$NaCl:Pb^{3+}$, EPR, cation vacancy effects on hyperfine interactions 1−3238
NaI:Pb, absorpt. and emission spectra and luminesc. decay meas. 1−21246
Nb/Pb Josephson tunnel junctions, fabrication, props. 1−3101
$Nb-Nb_2O_5$-Pb Josephson tunnel junctions props. for device appl. 1−52713
$Nb-Nb_2O_5$-Pb Josephson tunnel junctions, control of Josephson current density 1−52715
$Nb-Nb_2O_5$-Pb Josephson tunnel junction, freq. depend. of quality factor 1−50157
$Nb-NbO_x$-Pb tunnel junction study, proximity effect *(Russian)* 1−47804
Nb-Pb tunnel junctions, current amplitude calcs. 1−42917
Pb, high-temp erature pulse photolysis 1−8589
Pb II, CW laser oscill. of 1.32 μm, 537.2 nm, 666.0 nm and 939.6 nm transitions in hollow cathode discharge tube 1−29265
Pb^-, PES 1−46149
Pb^{2+} soln., stearic acid monolayers, Langmuir-Blodgett layer struct. *(French)* 1−30551
Pb^{2+} soln., sterate monolayers, Langmuir-Blodgett layer struct. *(French)* 1−30551
Pb:Au, superconducting, US energy gap meas. 1−42904
Pb/acid battery positive plate form., zone processes 1−21870
Pb-(In), temp. depend. of critical resolved shear stress *(Russian)* 1−48428
Pb-Ag proximity effect sandwiches, pair-field susceptibility meas. 1−7787
Pb-Bi thin film struct., low temp. reactions 1−34523
Pb-In layer, small-area Josephson junction prep., using scratched edge 1−42908
Pb-Pb superheavy quasimolecules, relativistic many-electron SCF correlation diagram 1−33588
$Pb-Pb_xO_y$-Pb, Josephson junction, large, vortex motion modulated by self field 1−7776
$Pb-Pb(BF_4)_2$ accumulator, recycling problems 1−35639
Pb-sapphire interface, surface superconductivity and Kapitza resistance 1−20917
Pb-Si:Sb Schottky junction, localised states in reserved region, tunnelling study 1−42860
$Pb+H^+$, X-ray intensity ratios, energy depend. 1−1323
Pb(II), sequestriation on polyacrylamidoxime resin for determ. in natural waters 1−53490
^{206}Pb, muonic, levels, prompt γ-rays and isomer shifts from $^{207}Pb(\mu^-,n\gamma)$ 1−23591
$^{208}Pb+^{208}Pb$, 1 GeV, MO X-ray ang. distribs., Doppler shift and anisotropy 1−6354

lead continued
^{210}Pb, abundances in GEOSECS water profiles from N.Pacific Ocean 1−4531
^{210}Pb activity in Weddell Sea, correl. with water circulation and mixing 1−4532
^{210}Pb, concs. in deep-sea sediments and sediment pore waters from N.Equatorial Pacific 1−44163
^{210}Pb, concs. in sulphide precipitates at 21°N on E.Pacific Rise 1−17577
^{210}Pb content of food samples in India 1−13328
^{210}Pb geochronology in marine and lacustrine sediments 1−35973
^{210}Pb KX-rays, contrib. by ^{210}Bi β-ray induced breamsstrahlung *(Japanese)* 1−10687
RbI:Pb^{2+}, polarised luminesc. meas. at liq. He temp. 1−3467
Sb_2Te_3:Pb, galvanomagnetic and thermoelectric transport coeffs. *(German)* 1−42795
Se in Pb, partial heat of soln. determ. by microcalorimetric meas., mol. associates, PbSe* *(French)* 1−48716
Si:Pb, ion implanted, near surface regrowth effects 1−38390
U-Pb isotopic age of metamorphosed tonalite in E.Alps 1−13421
$YAl_3(BO_3)_4$:Pb^{3+}, ESR study 1−7935

lead alloys
see also lead compounds
bronze-WSe_2-Pb-Ni, sintered material containing solid lubricants alloying effect on friction charact. 1−31678
Josephson tunnel junction, anomalous DC characts. with high-power microwaves 1−20924
Ag-Cu-Pb melt, surface props. calc. using lattice model 1−20511
Al-Pb, preparation in quasi-weightless conditions *(Russian)* 1−16712
Al-PbBi heterojunction spectrometer for studying bremsstrahlung and recombination phonons 1−15975
Al-PbBi tunnel junctions, normal and supercond., thermoelec. effect 1−20926
Ba-Pb, thermionic emission props. rel. to phase state 1−31298
Bi-Pb-Cd system, sign inversion of Pb effective charge *(Slovak)* 1−12720
Bi-Pb-Cd system, sign inversion of Pb effective charge, exptl. proof *(Slovak)* 1−48327
Ca-Pb, thermionic emission props. rel. to phase state 1−31298
Cd-Pb, composition-temp.-press. phase diagram determ. 1−35237
Cd-Pb, liq., vapour press. activities, excess enthalpy and entropy of Cd, comp. depend. 1−47257
Cd-Pb, sporadic deviations from regular growth of eutectic compositions *(Russian)* 1−31447
Cu-MoS_2-Ni-Pb sintered material containing solid lubricants alloying effect on friction charact. 1−31678
Cu-Pb, liq., segregated, neutron diffr. obs. of struct. above miscibility gap 1−25144
Cu-Pb alloy melt, vibration effects on struct. during solidification 1−53168
Cu-Pb liq. alloys, thermodynamic props. 1−12721
Cu-Sn-WSe_2-(graphite)-Pb powder metallurgical composite, mech. props. 1−39464
Ge-Pb system, diffusion coeffs., appl. in Ge cryst. growth on GaAs 1−11864
In-Pb, effect of temp. and conc. on elec. field gradient, PAC study 1−52536
In-Pb (0.2, 2 wt.%), twin layer widening dynamics with applied stress 1−20239
In-Pb (10 wt.%), elastic twinning, superelasticity phenomenon 1−35322
In-Pb alloys, phase transformations and shape memory effect *(Japanese)* 1−31458
In-Pb-Au alloy, RF plasma oxidised tunnel barriers in Josephson junctions 1−3105
Li-Pb, liq., ^{7}Li Knight shift, elec. cond. and spin-lattice relax. time 1−7962
Li-Pb, liq., ^{7}Li Knight shift and elec. resist. meas. 1−31047
Li-Pb, liq., DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
Li-Pb, liq., electronic transport, self-consistent pseudopot. theory 1−30709
Li-Pb, liq., entropy of mixing, hard sphere model 1−30397
Li-Pb, liq., low energy photoemission spectra meas. 1−31312
Li-Pb, liq., nuclear spin-lattice relax. rate meas. 1−31054
Li-Pb, thermodynamic investigation by H_2 titration method 1−2656
Li_4Pb, liq., dynamical conc. fluctuations, quasielastic neutron scatt., self-diffusion and interdiffusion coeffs. 1−25146
Li_4Pb semiconducting liq. alloy, struct. and evidence for ionic bonding 1−25149
Mg-Pb, liquid alloy, temp. depend. of mixing enthalpy *(German)* 1−31428
Mg_2Pb, intermetallics, valence band struct., plasmon energies 1−25624
Na-Pb, liq. alloy, entropy of mixing 1−30394
Nb-oxide-Pb alloy tunnel junctions, fabrication by reactive ion bean oxidation 1−47812
Nb-Pb submicron Josephson tunnel junctions, reactive ion beam oxidation 1−38897
Pb/acid batteries, porous PbO_2 electrodes behaviour, solid/porous electrode interphase effects 1−53576
Pb-(In), temp. depend. of critical resolved shear stress *(Russian)* 1−48428
Pb-Ag alloys, interstitial solid solution strengthening 1−21472
Pb-Au-In plasma oxidised alloy Josephson junctions, ageing phenomena 1−3104
Pb-Bi(In)(Sn)(Ni), effect of superconducting transitions on plasticity *(Russian)* 1−42879
Pb-Cr-Au alloy for Josephson junction appl., supercond. props. 1−47810
Pb-Cu dil., liquid alloy, O_2 activity 1−26425
Pb-Ge system, critical currents and pinning forces 1−52735
Pb-Ge system, metastable solid solution form. and decomp. 1−21418
Pb-In, electron-phonon interactions under high press. rel. to supercond. props., meas. 1−42895
Pb-In (50 wt.%), solder alloy, stress relax., appl. of deform. modelling 1−12786
Pb-In alloys, RF sputter oxidation, ellipsometric study 1−7777
Pb-In mixed state superconductor, plastic deform. investigations 1−16866
Pb-In superconducting film vacuum deposition, fine grain, at 110K 1−31354
Pb-In superconducting microbridge, elec. props. and Josephson effect response to microwave radiation 1−47807
Pb-Li, liq., partial struct. factors, thermodynamical approach 1−30045
Pb-Mn, dil., supercond., localised excited states, electron tunnelling obs. 1−20925
Pb-S dilute solns., Gibbs free energy 1−16061
Pb-Sb, liq., elec. resist. and thermoelec. power 1−30706

lead alloys continued
Pb-Sb (0-29.5 wt.%) liquid alloys, surface tension determ. by sessile drop technique *(Czech)* 1−11958
Pb-Sb-Sn alloys, thermodynamic props. by meas. by EMF method 1−48326
Pb-Sb-Te-Cu coating for Pb cables, thickness reduction, mech. props. 1−31563
Pb-Sn eutectic, melt-spinning 1−12732
Pb-Sn eutectic, splat-quenched, superplasticity 1−3844
Pb-Sn-Fe-Cu (1, 0.06, 0.01 wt.%), nonuniform plastic flow, in simple tension, influence of material parameters 1−3822
Pb-Sn(Au) alloys, primary dendrite spacing 1−26444
PbIn alloy supercond. tunnel junction electrode, ion beam inducer changes in oxide composition 1−52710
$(Pb_{1-y}Sb_y)_{1-x}Au_x$, metallic galsses, amorphous phase separation and supercond props. 1−42313
Pd_xAg_{1-x}, thermochemical anal. from XPS core level binding energy shifts 1−48236
$Pd_{78}Cu_6Si_{16}$, alloy, viscosities and glass formation *(Japanese)* 1−30438
$Pd_{84}Si_{16}$ alloy, viscosities and glass formation *(Japanese)* 1−30438
Sn-Pb, sporadic deviations from regular growth of eutectic compositions *(Russian)* 1−31447
Sn-Pb (28 at.%), surface comp. and struct., ion sputtering and oxidation effects, AES study 1−31245
Sn-Pb (37 wt.%), solder alloy, stress relax., appl. of deform. modelling 1−12786
Sn-Pb (38.1 wt.%), superplastic eutectic, transient behaviour, influence of anelasticity after stress and strain rate changes 1−8364
Sn-Pb alloy, semi-solid, rheological behaviour under deform. 1−43439
Sn-Pb eutectic alloy, superplasticity, lattice-diffusion controlled 1−53243
Sn-Pb eutectic alloy, thermally activated deform. *(German)* 1−8400
Sn-Pb molten alloys, dissoln. of solid Cu under static conditions 1−34481
Sn-Pb superplastic alloys, anelasticity 1−15951
Sn-Pb system as contact finish, evaluation 1−43642
Sn-Pb-Ag (37, 0.5 wt.%), solder alloy, stress relax., appl. of deform. modelling 1−12786
Sn-Pb-In (37.5, 25 wt.%), solder alloy, stress relax., appl. of deform. modelling 1−12786
Sr-Sn-Al-Pb alloy, corrosion in H_2SO_4 1−21627
Tl-Pb, liq., mag. nucl. spin relax. 1−31053
UPb_3, crystal field splitting, neutron scatt. studies 1−20685
UPb_3, mag. props., neutron diffr. study 1−47855
Zn-Al-Pb-Mg, long-term ageing props., effects of Pb and Mg *(Chinese)* 1−53210
Zn-Pb, preparation in quasi-weightless conditions *(Russian)* 1−16712
Zn-Pb blast furnace, developments 1−9757

lead bonding
Sn-Pb system as contact finish, evaluation 1−43642

lead compounds
see also lead alloys
chalcogenides, free-carrier magneto-absorpt. by photon-ionised impurity magnetoplasmon processes 1−12479
chalcogenides, lattice dynamics, phonon modes, pseudopotential calcs. 1−47182
cryst., phonon resonant absorpt. probed by acoustic-optic interaction 1−15991
formate, two-dimens. ^{13}C NMR powder spectra, chem. shielding tensor orientation 1−38991
naphthenate, surface adsorption on metals, oxides, and sulphides, XPS study 1−31305
neutron activation analysis, determ. of impurities *(Russian)* 1−48769
organic and inorganic compounds in air over Antwerp, Belgium 1−35729
PLZT ceramic, domain switching, light scatt. and strain variations 1−8023
PLZT ceramics, image storage appl., effects of Ar and Ne ion implantation obs. 1−15241
radioisotope-heated thermoelectric generator, using segmented thermoelectrics, 10% efficient, development 1−48884
$(Ag_{x/2}Pb_{1-x}Sb_{x/2})Te$, absorpt. edge, Hall effect 1−16580
B_2O_3-PbO-Fe_2O_3 glasses, influence of equilibration time on phys. props. 1−26091
$BaPb_{1-x}Bi_xO_3$ superconducting oxide, new supercond. region, electron transport props. *(Japanese)* 1−38875
$(Ba_{1-x}Pb_x)TiO_3$, mixed perovskite crystal, successive phase transitions 1−8012
$Cd_{1-x}Pb_xF_2(0\leq x\leq 1)$ mixed crystals, prep. and structure 1−3616
$CsPbCl_3$, electronic struct. comparison with other perovskite struct. compounds, optical spectra 1−16230
$CuPbAsS_3$, anomalies in electrophysical props. 1−20822
$CuPbSbS_3(AsS_3)$, cryst. struct. and twinning 1−25223
GeTE-MnTe-PbTe, physicochemical props., in GeTe-based solid solution region 1−16022
GeTe-PbTe substitutional solid solns., comp. depend. of phase transition temp. and lattice parameters 1−42529
InSb-PbTe pair superlattice, elec. optical and struct. props. 1−38846
$K_3Pb_3WNb_9O_{30}$ high-density ceramic, X-ray struct. investig. and dielec. props. 1−30169
$NaNbO_3$-$PbTiO_3$ system, ferropiezoceramic solid soln. form. and charact. 1−39286
Nd-Pb-Se system, phase diagram of Nd_2Se_3-PbSe cross section, complex phases existence and bond scheme 1−53162
$Nd_2Na_2Pb_6(PO_4)_6Cl_2$ laser materials, mag. props. 1−30928
NiZn ferrite-PZT ceramic heterogeneous system, magnetoelec. effect 1−52823
PLZT 6/65/35 ceramics, domain wall motion, optical method 1−26148
PLZT ceramic, ion implantation improvement of photoferroelectric imaging 1−38805
PLZT, compaction during hot pressing 1−21394
PLZT polycrystalline solid solns., birefringence mechanism in longitudinal electrooptical effect conds. *(Russian)* 1−48032
PLZT, pyroelec. current meas. from polling currents under possible injection of free charge 1−26131
(Pb, Ba, Sr) (Zr, Ti)O_3, ferroelectric ceramics, lapped surface layer effect on dielectric props. 1−39022
(Pb,Nd)(Ti,Mn,In)O_3 ceramics, tuning fork resonator freq. temp. coeff. 1−37751
Pb (Zr, Ti)O_3, prep. from mixed oxides, reactivity of ZrO_2 during calcining 1−3787
Pb complex, bis(p-aminobenzoato)Pb(II), crystal and mol. struct. studied by X-ray diffr. 1−42356

lead compounds continued
Pb complex, nitrato-(p-aminobenzoato)lead (II), crystal and mol. struct. studied by X-ray diffr. 1—42357
Pb cryst. glass, chem. polishing, purification of F-containing gas given off 1—12899
Pb salts, solubility in H_2O and aq. electrolyte soln. 1—9780
Pb-acid battery positive plates, influence of PbO_2 active mass on corrosion rate of spines 1—53575
Pb-Pb_xO_y-Pb, Josephson junction, large, vortex motion modulated by self field 1—7776
Pb-$Pb(BF_4)_2$ accumulator, recycling problems 1—35639
Pb-Sn-Te system, liquidus surface, low-temp. part 1—42516
Pb-Zn raw materials melting, phase transitions in refractories 1—12737
$Pb_{1-x}Ag_xMo_6S_8$, struct., elec. and supercond. props. 1—42884
$PbB_{0.5}N_{0.5}O_3$, B=Sc, Fe, Lu, Yb, In, Tm, Curie point, antiferroelectric phases 1—21144
$Pb_{5-x}Ba_xGe_3O_{11}$, ferroelectric, high press. studies 1—34995
$Pb_{2-x}Ba_xLi_{0.5}Nb_{1.5}O_6$ ceramic system, thermal expansion 1—11887
$(Pb_{1-x}Ba_x)Nb_2O_6$ solid solns., struct. features rel. to conc. in two-phase region *(Russian)* 1—12724
$PbB_{10.2}Mo_6S_8$, superconducting coatings, props. and struct. 1—30871
$Pb_{1-x}Bi_xMo_6S_8$, struct., elec. and supercond. props. 1—42884
$PbBi_4Ti_4O_{15}$, mixed oxide ferroelec. with layer type struct., X-ray powder diffr. obs. *(Chinese)* 1—47051
$PbBi_4Ti_4O_{15}$, with layer type struct., degree of preferred orientation after hot pressing, X-ray determ. method *(Chinese)* 1—48364
$PbBr_2$, cryst., red luminesc., decay kinetics 1—8119
$PbBr_2$ growth of crystal with different habits in SiO_2 gel by new technique 1—53075
$PbBr_2$, photodecomp., Br_2 release, kinetics 1—4112
$PbBr_2$-$CdCl_2(CdBr_2)$, molten mixture, intermol. free length and interactions 1—15783
$PbCO_3$, cerussite, grown in SiO_2 gel and on hydrothermal conditions, morphology 1—35158
$Pb_{1-x}Cd_xTe$, composition versus lattice constant and band gap *(French)* 1—2870
$PbCl_2$, electronic struct. comparison with other perovskite struct. compounds, optical spectra 1—16230
$PbCl_2$-based phase, decomposition of KCl:Pb solid solution 1—20385
$PbCl_2$-KCl molten mixture, thermodynamic props. 1—25439
$Pb(CoM)_{1/2}O_3$ (M=Mo, W), high press. synthesis, phase diagram 1—35197
$PbCu_xMo_6S_8$, Chevrel phase materials, synthesis and props. 1—16051
PbF_2 and cryolite multidielectric interference filters for the near UV *(French)* 1—11073
β-PbF_2, anion disorder and ionic motion, X-ray diffr. study 1—34332
PbF_2, neutron dynamic scatt. from dynamic disorder 1—34508
PbF_2, phase transition rel. to temp. depend. of conductivity 1—52291
PbF_2, thermal expansion and Gruneisen parameter, 2 to 90K 1—2661
PbF_2-AlF_3 (30-60 mol.%) glass, preparation, characts. and appl. 1—6625
PbF_2-KF solid electrolytes, synthesis conditions influence on conductivity 1—42565
PbF_2-ZrF_4 (40-60 mol.%) glass, preparation, characts. and appl. 1—6625
n PbF_2.$PbBr_2(I_2)$ cryst. struct. composed of fluorite-like blocks and single halogen layers 1—38340
$PbFe_xMo_6S_8$, supercond., sp. ht. capacity meas. 1—12236
$Pb_4Fe_3O_8Cl$, three layer magnet, Mossbauer study 1—7981
$PbGa_{0.2}Mo_6S_8$, superconducting coatings, props. and struct. 1—30871
$Pb_5Ge_3O_{11}$, ferroelectric powders, dielectric behaviour 1—47996
$Pb_5Ge_3O_{11}$ film on Si substrate, preparation and props. 1—16204
$Pb_5Ge_3O_{11}$, fundamental vibrs. symmetry anal. 1—30335
$Pb_5Ge_3O_{11}$:Gd^{3+}, effect of hydrostatic press. on EPR spectrum 1—52841
$Pb_5(Ge_{1-x}Si_x)_3O_{11}$, pulsed polarisation switching 1—31106
$Pb_{1-x}Ge_xTe$, refr. index and opt. energy gap, anomalies of temp. coeffs. at ferroelec. transition 1—26163
$Pb_{1-x}Ge_xTe$, structural instability, Ge ion local displacement effects 1—39051
PbHe, energy curves and transition moments 1—37264
$PbHfO_3$, temp.-elec. field phase diagram of antiferroelec. and ferroelec. phases 1—21143
$Pb(Hf_{1-y}Zr_y)_{1-x}Ti_xO_3$, stress-forced ferroelec.-antiferroelec. transition, electromech. energy conversion 1—21137
$Pb(HgM)_{1/2}O_3$ (M=Mo, W), high press. synthesis, phase diagram 1—35197
PbI_2, band gap determination, elec. cond. temp. depend. 1—7519
PbI_2 cryst., red luminesc., decay kinetics 1—8119
PbI_2, dielectric and optical constants, spectroellipsometric study 1—26230
PbI_2, interlayer and intralayer bonds, layer displacement modes 1—38326
PbI_2, magneto-optic effects in exciton absorpt. spectra obs. in megagauss fields 1—48039
PbI_2 polytypes, restrictions in arrangement of molecular sheets 1—15827
PbI_2 polytypic crystals, electrical transport charact. 1—25731
PbI_2, resonant two-level photoemission of 1s exciton level 1—39212
PbI_2, spectra and optical consts. in visible range 1—3431
PbI_2, spectroscopic small loss meas. near 10 μm 1—18310
PbI_2 suspension light sensitive layers, ageing and regression 1—8591
PbI_2:$K^+(Bi^{3+})$, vacancy transport, impurity-vacancy dipole props., ionic cond., dielec. loss and ionic thermocurrent meas. 1—2681
PbI_2(2H), reflection and photoluminescence spectra, exciton polaritons 1—48156
$Pb_{1-x}In_xMo_6S_8$, struct., elec. and supercond. props. 1—42884
$PbIn_2S_4$, vaporisation dissoc., computer automated Knudsen and torsion effusion method 1—38523
$Pb_{1-x}In_xTe$, solid soln. inhomogeneity due to impurity energy levels 1—20404
$Pb_5K_2(PO_4)_6$, apatites without hexad anion, cryst. struct. 1—34322
$Pb_{0.92}La_{0.08}Nb_2O_6$:$Fe^{3+}$, Cu^{2+} ceramic ferroelec., photovoltaic effect 1—25753
$(Pb_{0.91}(La_{1-x}Nd_x)_{0.08})(Ti_{0.92}Mn_{0.02}In_{0.06})O_3$ piezoelectric ceramics with zero temperature coefficients in radial mode resonance frequencies 1—3334
$PbMg_{1/3}Nb_{2/3}O_3$, ferroelec. single crysts., optical second harmonic generation at phase transition 1—8015
$PbMg_{1/3}Nb_{2/3}O_3$, ferroelec., photoelectret state investig. 1—43063
$Pb(Mg_{1/3}Nb_{2/3})O_3$ single crystal flux growth, ferroelec. transition 1—3589
0.9-$Pb(Mg_{1/3}Nb_{2/3})O_3$:0.1$PbTiO_3$ monolithic multilayer electromech. transducers, for optical appl. 1—23202
$Pb(Mg_{1/3}Nb_{2/3})O_3$-$PbTiO_3$ (10 mol.%), inverse hysteresis of field induced elastic deform. 1—12457
$Pb(Mg_{1/3}Nb_{2/3})O_3$-$Pb(Mg_{1/2}W_{1/2})O_3$ perovskite solid solns., comp. ordering 1—38355

lead compounds continued
$Pb(Mg_{1/3}Pb_{2/3})O_3$ ceramics, ferroelec., electrostrictive coeffs. meas. 1—21130
$Pb_{1-x}Mn_xTe$, bottleneck effect in ESR linewidth 1—52832
$Pb_{1-x}Mn_xTe$, long range coupling between Mn^{2+} ions, ESR spectra, mag. susceptibility 1—20971
Pb_3MoMO_6 (M=Fe,Mn), high press. synthesis, phase diagram 1—35197
$PbMoO_4$ crystals, coloration, absorpt. bands, photocond., photo- and thermolum. 1—21243
$PbMoO_4$ crystals, p-conductivity and lattice disorder 1—20731
$PbMoO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1—12549
$PbMo_6S_8$, charge transfer and Mo atom 4d orbitals splitting, ligand field theory *(Chinese)* 1—52530
$PbMo_6S_8$, Chervel phase, supercond. crit. field, anomalous temp. depend. near T_c 1—30895
$PbMo_6S_8$, Chevrel phase materials, synthesis and props. 1—16051
$PbMo_6S_8$, electronic props. of Chevrel phases, positron angular correlation study 1—31226
$PbMo_6S_8$, supercond., sp. ht. capacity meas. 1—12236
$PbMo_6S_8$, superconducting coatings, props. and struct. 1—30871
$Pb_xMo_{6.8}S_8$, supercond., critical parameters *(Russian)* 1—38901
$PbMo_6Se_8$, supercond., sp. ht. capacity meas. 1—12236
PbN_6, electron excitation and transfer 1—34753
PbN_6, point defects and ionic conductivity 1—38582
$Pb(NO_3)_2$, pressure derivatives of second-order elastic consts. 1—15944
$Pb(NO_3)_2$, struct. change with temp., DC resist. and dielec. const. meas. 1—7323
$Pb(NO_3)_2$, thermal cond. and Umklapp relaxation 1—16113
$Pb(NO_3)_2$:NO_2^-, nitrates, electron-phonon interaction of NO_2^- impurity 1—25391
Pb_2NbCoO_6, perovskite, high-temp. X-ray phase investig. 1—30171
$Pb_{0.99}Nb_{0.02}[(Zr_{0.73}Sn_{0.27})_{0.93}Ti_{0.07}]_{0.98}O_3$, polaracoloric effect of 2°C 1—16531
PbO aq. corrosion films in 0.1 M chloride solns., IR and Raman spectra 1—8146
PbO containing borate and germanate glasses, glass-forming regions and optical props. 1—42320
PbO, electron-hole liq., condensation energy, luminesc. study 1—20640
PbO, props. for electrophotography 1—18321
PbO, single crystal growth *(Japanese)* 1—3599
PbO tetragonal type single crysts., low temp. luminesc. 1—35087
PbO-Al_2O_3-B_2O_3(P_2O_5)(SiO_2) glasses, elastooptical props., effect of nature of chem. bonds 1—16549
PbO-B_2O_3-Fe_2O_3 solution for garnet LPE growth, ionic equilibria, elec. cond. meas. 1—7064
PbO-B_2O_3-SiO_2 glass-ceramics, grain size influence on baking and elec. props. *(Polish)* 1—48317
PbO-B_2O_3(GeO_2)(SiO_2) glasses, optical absorpt. in near UV region *(Japanese)* 1—21234
PbO-Gd_2O_3 binary systems, phase diagram 1—3709
PbO-glasses melting, raw materials influence *(Polish)* 1—53152
PbO-PbF_2-Nb_2O_5-NbO_2F system, phase anal. using electron and X-ray diffr. 1—20157
PbO-SiO_2 glass, Fe^{3+} ion clusters form., ESR linewidth anomalies 1—52837
PbO-SiO_2 glass, surface layer comp. and second electron emission coeff. study 1—53023
PbO-SiO_2 glass growth on Si by thermal oxidation 1—8451
PbO-SiO_2 glasses, electronic struct. and resonant covalence 1—30616
PbO-SiO_2:Bi_2O_3 glasses, surface cond., effect of impurity 1—30803
PbO_2 electrode-acid batteries, macrohomogeneous model 1—39761
PbO_2 electrodeposition on Pt, photocurrent spectroscopy, reduction 1—34814
PbO_2, high press. phase transform., energy dispersive X-ray diffr. 1—30384
PbO_2, high press. phase transforms., in situ X-ray diffr. study 1—42536
PbO_2 on Ti composite anodes, corrosion rates during electrolysis 1—39478
PbO_2, orthorhombic-cubic transform., transform. rate and phase boundary, X-ray obs. 1—38528
β-PbO_2, powder neutron diffr. study 1—15842
PbO_2 supported porous discs in H_2SO_4, discharge behaviour 1—17192
PbO_2 zone growth during Pb/acid battery positive plate form. 1—21870
PbO_2:Sb, effects of doping on props. 1—16207
2PbO.SiO_2 glass, X-ray diffr. study *(Japanese)* 1—20075
2PbO.SiO_2, X-ray cryst. struct. determ. 1—42341
0.6PbO.0.4SiO_2, glass, thermal capacity, calc. of relaxation part using structural relaxation model equation 1—16058
$Pb_3(PO_4)_2$ crystals, ferroelastic phase-transition, Raman and Mandel'shtam Brillouin scatt. spectra 1—12512
$Pb_3(PO_4)_2$, ferroelastic, temp. depend. of spontaneous birefringence 1—3363
$Pb_3(PO_4)_2$, ferroelastic phase, electron microscopy study of domain struct. 1—20238
$Pb_3(PO_4)_2$, ferroelastic. domains, statics and dynamics 1—7244
$Pb_3(PO_4)_2$, improper ferroelastic, phase transitions, Raman scatt. by low freq. oscills. 1—8051
$Pb_3(PO_4)_2$-$Pb_3(AsO_4)_2$, ferroelastic phases, X-ray and optical studies 1—48330
$Pb_3(P_{0.9}V_{0.1}O_4)_2$ crystal, ferroelastic phase-transition, Raman and Mandel'shtam Brillouin scatt. spectra 1—12512
$Pb_3Rh_7O_{15}$, thick-film resistors, with small temp. coeff. of resist. 1—38771
PbS film, photoconductivity temperature dependence obs. *(Rumanian)* 1—42812
PbS, galena, kinetic study of nonoxidative dissoln. in aq. acid soln. 1—11868
PbS, galena, XPS of surface compounds formed during flotation 1—42616
PbS, internal stresses and obstacles to dislocation motion, thermal activation analysis 1—20300
PbS, laser-induced fluorescence 1—6306
PbS layers, semiconducting models of Ag halide photography 1—10040
PbS, liq., elec., thermal, mag. and physio-chem. props. 1—20722
PbS mosaic array, pulse-bias modulation 1—36737
PbS-Sb(NiSb), Bridgman method growth, eutectics morphology *(Russian)* 1—47027
PbS-Si heterojunction, photovoltage responses, IR imaging appl. 1—30785
PbS-Si heterojunction, capacitance-voltage and I-V characts., energy band diagram 1—30816
$PbS_{1-x}Se_x$, Fermi level, carrier conc. depend. calc. 1—38712
$PbSb_2O_6$, vibrs., force field calcs., IR and Raman obs. *(French)* 1—31152
$Pb(Sc_{0.5}M_{0.5})O_3$ (M=Nb,Ta), ordering process kinetics 1—7326

lead compounds continued
$PbSc_{1/2}Nb_{1/2}O_3$, ferroelec. single crysts., optical second harmonic generation at phase transition 1−8015
$Pb(Sc_{1/2}Nb_{1/2})O_3$, order-disorder reactions rel. to ferroelec. props. 1−21146
$Pb(Sc_{0.5}Ta_{0.5})O_3$, B-site cation disorder role in diffuse phase transition, props. 1−3340
$PbSc_{0.5}Ta_{0.5}O_3$, contribution of structural disorder to diffuse phase transitions 1−7144
$Pb(Sc_{0.5}Ta_{0.5})O_3$ single crystal flux growth, ferroelec. transition 1−3589
$Pb(Sc_{1/2}Ta_{1/2})O_3$, order-disorder reactions rel. to ferroelec. props. 1−21146
$Pb(Sc_{1/2}Ta_{1/2})O_3$, relaxor and normal ferroelec., dielec. props., press. depend. 1−8009
PbSe, dee levels in band gap created by intrinsic point defects 1−47551
PbSe epitaxial films, optical props. meas. 1−31214
PbSe epitaxial layers, deep levels, Hall effect and photocond. obs. 1−12063
PbSe, liq., elec., thermal, mag. and physio-chem. props. 1−20722
PbSe-CdSe system, DTA and metallographic obs. of phase diagram 1−42511
PbSe-$GeSe_2$ system, phase diagram, Pb_2GeSe_4 X-ray analysis and DTA 1−31438
$PbSe_{1-x}$ melt, viscosity and local order 1−25486
$PbSe_{1-x}S_x$:Tl, impurity band position and width, elec. and optical props. 1−20659
$Pb_2Si_{0.76}Ge_{0.24}O_4$, solid soln., OD structure *(German)* 1−15849
Pb_2SiO_4 *(German)* 1−15849
$PbSnF_4$, influence of press. on elec. props. *(French)* 1−2965
$Pb_{1-x}Sn_xS$:Na, Mossbauer study of Sn atom recharging *(Russian)* 1−43050
PbSnSe, phonon-plasmon coupled modes, band-to-band recombination 1−42710
$Pb_{0.93}Sn_{0.07}Se$ and $Pb_{0.8}Sn_{0.2}Te$, reflectance and thermoreflectance spectra obs. in intrinsic absorpt. region 1−16583
$Pb_{0.93}Sn_{0.07}Se$ epitaxial film, band struct. 1−42689
$Pb_{1-x}Sn_xSe$, Fermi level, carrier conc. depend. calc. 1−38712
$Pb_{1-x}Sn_xSe$ solid solution, optical and elec. props. *(Russian)* 1−3419
$Pb_{1-x}Sn_xSe$, structural phase transitions 4.2-300K 1−20382
$Pb_xSn_{1-x}Se$, phase diagram, liquidus surface 1−38510
$Pb_{1-x}Sn_xSe_{1-y}Te_y$ solid solns., laser heterostructs., fabrication and props. 1−33689
PbSnTe infrared detector, spectral response *(Japanese)* 1−40849
PbSnTe, LPE growth, book contrib. 1−48285
PbSnTe laser, freq. stabilisation on methane absorption line, ν_4 band 1−24143
PbSnTe:In, nonequilibrium carriers, changes in defects and slow relax. 1−34723
$Pb_{0.76}Sn_{0.24}Te$:Cd, low temp. photosensitivity 1−20814
$Pb_{0.78}Sn_{0.22}Te$:Ga, photoconductivity with relaxation times, temp. depend. 1−3022
$Pb_{0.8}Sn_{0.2}Te$, mag. field induced Wigner condensation 1−30652
$Pb_{0.82}Sn_{0.18}Te$, anisotropic current carrier scatt. *(Russian)* 1−7621
$Pb_{1-x}Sn_xTe$, absorpt. const. eqns. rel. to k.p band struct. parameters 1−21186
$Pb_{1-x}Sn_xTe$ crystal growth by vapour-liquid-cryst. mechanism 1−8217
$Pb_{1-x}Sn_xTe$ crystal growth rate, vapour-liquid-cryst mechanism 1−8218
$Pb_{1-x}Sn_xTe$ crystals, chemical lap polishing 1−21607
$Pb_{1-x}Sn_xTe$ cut crystals, disordered layer depth rel. to surface treatment 1−42391
$Pb_{1-x}Sn_xTe$ DFB DH laser, TE and TM coupling coeffs. 1−46348
$Pb_{1-x}Sn_xTe$ DFB laser diodes, LEP grown, broad continuous single-mode tuning range 1−15182
$Pb_{1-x}Sn_xTe$, Fermi level, carrier conc. depend. calc. 1−38712
$Pb_{1-x}Sn_xTe$ film, comp. investig. using Auger spectra, optimal evap. conditions 1−42645
$Pb_{1-x}Sn_xTe$ ion implanted films, implantation induced damage 1−7191
$Pb_{1-x}Sn_xTe$ layers, LPE growth, struct., and elec. props. 1−47404
$Pb_{1-x}Sn_xTe$ layers on micasurface, Hall effect and cond., influence of air 1−30857
$Pb_{1-x}Sn_xTe$, local states of Te vacancies, Hall effect *(Russian)* 1−2922
$Pb_{1-x}Sn_xTe$, mag. field induced Wigner condensation 1−47680
$Pb_{1-x}Sn_xTe$, narrow band-gap semicond., mag. susceptibility meas. *(Russian)* 1−42944
$Pb_{1-x}Sn_xTe$, p-T-x diagram rel. to cryst. growth by vapour-liq.-cryst. mechanism 1−11842
$Pb_{1-x}Sn_xTe$ p-n junction diode elec. characts., tunnel contrib. 1−20859
$Pb_{1-x}Sn_xTe$, photovoltaic detectors, minority carrier lifetimes, resist.-area product 1−38807
$Pb_{1-x}Sn_xTe$, second valence band and resonant states, effect on transport 1−20773
$Pb_{1-x}Sn_xTe$, single crysts., dislocation structs. features 1−30230
$Pb_{1-x}Sn_xTe$ solid soln., self-diffusion and diffusion coeffs. and mechanisms 1−30449
$Pb_{1-x}Sn_xTe$:In (0≤0.2), LPE layers, electron conc. control by In doping 1−25309
$Pb_{1-x}Sn_xTe$/PbTe, Sn diffusion investigations 1−42585
$(Pb_{1-x}Sn_x)_{1-y}Te_y$, cryst. growth from melt, initial charge comp. effect on comp. and electrophys. props. 1−42513
$Pb_{1-x}Sn_xTe_{1-y}Se_y$ solid solutions, IR spectra, band gap *(Russian)* 1−21214
$PbT_{1-x}Zr_xO_3$, piezoelectric ceramics, resonant freq. temp. depend. 1−39039
PbTe (111) surface, angle-resolved UV photoemission meas. 1−48222
PbTe, Bridgman grown single cryst., struct. perfection, thermal growth conditions influence 1−20089
PbTe crystal, X-ray and TEM investigations 1−52305
PbTe crystals, chemical lap polishing 1−21607
n-PbTe, degenerate, modulation, of fundamental absorption by free carrier heating 1−48092
n-PbTe film, anomalous increase in thermoelectric power, Hall effect 1−20888
PbTe film, size effect, Hall mobility, thermopower 1−20887
PbTe, LPE growth, book contrib. 1−48285
PbTe, liq., elec., thermal, mag. and physio-chem. props. 1−20722
PbTe, mag. field induced Wigner condensation 1−30652
PbTe, narrow band gap semiconductor, highly excited electronic states, picosecond IR spectra 1−52494
PbTe, polycryst., dipole-dipole coupling, ^{125}Te NMR obs. 1−16490
PbTe, sintering effect on elec. props. 1−16746
PbTe, thermoelectricity, phase diagrams and imperfection struct. 1−52589
lead compounds continued
PbTe, US wave velocity and elastic consts. 1−34396
PbTe vacuum evaporated films, thermoelec. power 1−52587
PbTe:Ag, thermoelec. props., temp. depend. meas. 1−7646
PbTe:Ag_2Te, p-type pressed material, thermoelectric properties 1−42801
PbTe:I, Soret effect, I redistrib. during gradient annealing 1−2702
n-PbTe:In(Cu) films, magnetoresist. and Hall effect meas. 1−7643
PbTe-CdTe heterojunction, growth, photoresponse meas. 1−12183
PbTe-In_2Te_3 system, phase comp., homogeneity region, electrophys. props. 1−42512
PbTe-NiSb, Bridgman method growth, eutectics morphology *(Russian)* 1−47027
$PbTe-Pb_{0.8}Sn_{0.2}Te$ heterojunctions, LPE, tunnelling current 1−12184
$PbTe-Pb_{1-x}Sn_xTe$ superlattice, hot wall preparation technique 1−38842
PbTe:In, slow relaxation of elec. resistance 1−20746
$Pb(Ti,Zr)O_3$, thermodynamic description near triple point 1−21140
$PbTiO_2$, amorphous, rapidly quenched, crystallisation, DTA and Raman spectra study *(Japanese)* 1−42305
$PbTiO_3$, amorphous, dielec. const., temp. depend., crystn. behaviour 1−26137
$PbTiO_3$, amorphous, grain-size development during crystn. 1−42310
$PbTiO_3$, amorphous, X-ray diffr. study of struct. *(Japanese)* 1−42306
$PbTiO_3$ ceramics, chemically pure, props. and synthesis 1−31107
$PbTiO_3$, depolarised polycryst. ferroelectrics, piezoelec. effect 1−31095
$PbTiO_3$, dielectric props., point-defect induced anomalies 1−7990
$PbTiO_3$ ferroelec. thin film, fabrication by RF sputtering, optical and dielec. props. *(Japanese)* 1−35176
$PbTiO_3$, high dielectric constant material, diffusion barrier 1−16684
$PbTiO_3$-$PbZrO_3$-$PbNb_{2/3}Mn_{1/3}O_3$-$PbW_{1/2}Mg_{1/2}O_3$, piezoelectric properties for transducer appls. 1−43074
$Pb(Ti_{1-x}Zr_x)O_3$ solid solns., struct. features rel. to conc. in two-phase region *(Russian)* 1−12724
$PbTi_{1-x}Zr_xO_3$:Cr_2O_3, piezoceramic, effect of sintering conditions on temp. depend. of resonance freq. *(Czech)* 1−31097
$Pb_3(VO_4)_2$, antiferroelec. ferroelastic, domain struct. and phase transitions 1−26150
$Pb_3(VO_4)_2$ crystals, ferroelec., dielec. and pyroelec. meas. 1−8024
$Pb_3(VO_4)_2$, ferroelastic, domain boundary props. during phase transforms., electron diffr. and microscopy obs. 1−8302
$Pb_8V_2O_{13}(P_2O_{13})$, ferroelastic crystals, domain struct., permittivity 1−20302
$PbWO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
$PbWO_4$:Mn^{2+}, paramagnetic resonance, long wavelength approx. breakdown corrections 1−3247
PbXe, energy curves and transition moments 1−37264
Pb(Zr, Ti)O_3 based solid solns., piezoceramic material props. after annealing 1−21128
Pb(Zr, Ti)O_3 ceramics, 38 MHz scatt. SAW complex wave vector distrib. 1−38638
$Pb(Zr,Ti)O_3$, ceramics doped with multiple impurities, internal bias field effects 1−43071
$Pb(Zr,Ti)O_3$, expansion during reaction sintering 1−48305
Pb(Zr, Ti)O_3, isostatic pressing, elec. props. 1−3683
$Pb(Zr,Ti)O_3$, phase transitions, dielec., pyroelec., and piezoelec. props. and DTA 1−16536
$Pb(Zr,Ti)O_3$, props. under high electric field 1−16538
$Pb(Zr,Ti)O_3$:$Fe_2O_3(Cr_2O_3)(MnO_2)$, solid solns., diffuse refl. spectra 1−31168
Pb(Zr, Ti)O_3-based antiferroelec.-ferroelec. multilayer composites, electromech. behaviour 1−26128
Pb(Zr,Ti)O_3-polymer extruded composite, electromech. transducer appl. 1−21408
$PbZrO_3$, antiferroelec., analogy with antiferromagnetism 1−8007
$PbZrO_3$, space charge polarisation and phase transitions 1−16535
$PbZrO_3$-$PbTiO_3$-Pb_2FeNbO_6, ferroelec., use in pyroelec. IR detection and imaging, review 1−5375
$PbZr_xTi_{1-x}O_3$ ferroelectric ceramics, energy conversion under shock loading 1−39052
$PbZr_xTi_{1-x}O_3$, solid solns., complex phase composition, dielec. props. 1−34978
$Po_{1-x}Sn_xTe$:In, magnetic susceptibility in temp. range 4.2 to 1000K 1−3139
Pr_2Se_3-PbSe cross-section of ternary system Pr-Pb-Se 1−8283
RbF-PbF_2-BiF_3 system, phase diagram as target salt in accelerator breeder 1−28592
SiO_2-PbO (20 to 70 mol.%), electron emission props. rel. to composition and struct. 1−43229
SiO_2-PbO-P_2O_5 core, SiO_2-clad optical fibre fabrication by modified VAD 1−15297
SiO_2-PbO-ZnO-FeO refractories, phase transitions during melting of Pb-Zn raw material 1−12737
SnTe-PbTe system, film heteroepitaxy, optical synthesis conditions, degree of perfection 1−43265
$p-(SnTe)_{0.1}(PbSe)_{0.9}$ epitaxial layers, elec. props., band struct. *(Russian)* 1−38782
TiO_2-Pb-O system in air 1−26434
V_2O_5-PbO glasses, elec. props. and struct. 1−30743

leak detection
LMFBR, MONJU, small sodium-to-gas leak detectors 1−10499
LMFBR, water (steam) leak checking system using eddy current method 1−28646
LMFBR, water leak detection, cover-gas H_2 meter 1−14661
nuclear power plants, drywell sump leakage detection system 1−50900
superconducting cyclotron magnet cryostat, leak detection using liq. He 1−23897
vacuum and pressurised gas leak rates, conversion problem and calc. 1−40802
vinyl chloride monomer, air pollution, leak detection, computerised control gas chromatography 1−31965
H_2-He leak, calibrated, for qualitative estimation of H_2 and He in 10^{-6} to 10^{-8} l Torr s^{-1} 1−44941
He, appl. to chem. plants *(German)* 1−50145
He mass spectrometer leak detector, appl. in chem. plants *(German)* 1−50146

leakage, electrical *see electrical faults*

leakage, magnetic *see magnetic leakage*

leakage currents
AF current transformer capacitive error elimination 1−28032

least squares approximations
astronomy, expansion of general least squares method 1−40351
astronomy, nonstandard least-squares problems 1−40352
atmosphere aerosol size distribs., Chebyshev approach 1−49321
atmospheric absorption spectra, nonlinear analysis 1−13567
carbon tetrafluoride, vibr., rot., isotope effects least-squares anal., laser stimulated IR 1−24141
carbonyl chlorofluoride, gas phase mol. struct. 1−24249
convection, optimal control least-square penalty finite element calc. methods 1−1802
d-complex compounds, electronic absorpt. spectra, deconvolution, least squares fit method 1−21197
decay data, discrete exponentials, continuous distributions, deconvolution approach 1−19115
diatomic molecules, rot. vibr. calcs., use of cubic splines 1−24116
dimethylamide acid, mol. struct., electron diffraction study 1−33573
dispersion type resonance curves, detectability over large background, least squares method 1−28839
ellipsometer nulling precision 1−40835
ethane-d_3, least squares anal., rot.-vibr. IR obs. 1−24134
FK 4 catalogue, equinox correction from asteroid position obs., use of least squares soln. 1−22694
fluid flow problems, least squares residual fitting finite element appl. 1−23018
free radicals in soln., EPR spectra, fast Fourier transform appl. 1−21055
free-standing grids wound from 10-μm-dia. W wire, submillimetre wave performance 1−50242
incompressible viscous fluid, finite element anal., book contrib. 1−18027
lens design error function and local minima 1−41805
lens design program, block-structured least-square problem soln. 1−46515
lignin model, phenol group, UV spectra absorpt. contours 1−1252
linear least-squares data fitting, Householder reflection program package 1−30491
Lorentz-type resonance curves, detectability over large background, least squares method 1−28839
Lowdin orthogonalisation, least squares distance, calcs. 1−28841
M-fitting comparison, appl. to geophysics 1−13589
methanesulphonic acid, mol. struct., electron diffraction study 1−33573
multidielectric optical fibres, modal anal. using least square method 1−19467
near linear dependence, undeterminable linear combinations, parameterisation 1−24014
neutron flux spectra unfolding codes using least square approx. 1−50985
permissible confidence intervals for accuracy check of meters by significant variance standard method 1−23154
photoelastic fringe pattern, linear and nonlinear least-squares anal. 1−15456
prestrain and work hardening parameters of sheet metal 1−21474
SCF equations for radial orbitals determ., least squares soln. method 1−19009
Schottky barrier solution using dark forward I-V characts., computer technique 1−3059
semiconductors, tetrahedrally bonded, Debye temperature from elastic consts., HBT method weighting coeffs. 1−34449
solar eclipses phase determination, anal. of Bessel interpolation method and differential corrections method *(Italian)* 1−9349
stars, position determ., obs. on different nights, reduction by least squares adjustment *(Russian)* 1−54391
tetraethynyltin, mol. struct., gas phase electron diffr. 1−1401
triethynyltin iodide, mol. struct., gas phase electron diffr. 1−1401
BeI-like spectra, $2s^m2p^k$ (m=2, 1, 0) config. energy level compilation 1−37089
Er IV, $4f^N5d$ and $4f^N6s$ states, config. interpretation by generalised parametric method 1−37088
F I-like spectra, $2s^m2p^k$ (m=2, 1, 0) config. energy level compilation 1−37089
NO_2^-, vibr., photodetachment, cross sections, struct. consts., least squares approx. 1−37281
O I-like spectra, $2s^m2p^k$ (m=2, 1, 0) config. energy level compilation 1−37089
Tm IV, $4f^N5d$ and $4f^N6s$ states, config. interpretation by generalised parametric method 1−37088

leather *see materials*

Lee model
few-nucleon systems, π and p induced reactions, Lee model anal. 1−28204
Green functions in inequivalent representations 1−45128
Low equation, no-crossing approx. multiplicity of solns. 1−10086
K^0-K^0decay amplitude anal. in complex energy eigenstates model 1−50410

LEED *see low energy electron diffraction*

legislation
hospital equipment, electrical injuries, types and legal aspects *(Italian)* 1−35848
noise abatement, significance for engineers 1−24590
nuclear fuel design and management, impact of United States Government policy 1−789
radiation protection regulations in various countries *(Japanese)* 1−5075

length measurement
see also micrometry
accuracy in length measurement, intercomparison methods 1−23182
air-brearing units for linear and angular transducer quality control *(German)* 1−27948
bimetallic contact rivets, length determ. of blank at variation of height *(Bulgarian)* 1−44881
diffraction grating system *(Polish)* 1−232
DNA, automated recognition of line structures appl. to electron micrographs 1−50287
gas laser frequency and length standards 1−36634
IOG-1 microscope eyepiece measuring head 1−18292
laser beam appls., microprocessor control 1−23301
laser interferometer measuring methods, analysis 1−14099
optoelectronic transducers, sources of error *(German)* 1−27946
reflectometer for fibre length meas., design and theory *(German)* 1−19458
small product dimension meas. difficulties and countermeasures 1−27926
steel bar or tape scale transducers *(German)* 1−27947
sub-micrometre length meas., appl. of SEM, TEM and optical microscopy 1−18195
tensile piece deformation, video principle *(Hungarian)* 1−14098
variable frequency laser for measuring length *(Italian)* 1−40750
He-Xe IR laser interferometry for length meas. 1−36725

length standards *see measurement standards*

Lennard-Jones and Devonshire theory *see liquid theory*

Lennard-Jones potential
$A_n \rightarrow A_{n-1} + A$, cluster dynamics, classical trajectory study 1−46186
adsorbed fluid phases, thermodynamic props., virial coeffs., Lennard-Jones fluid, Monte Carlo simulation, quantum corrections 1−47366
alkali halide crystals, Anderson-Gruneisen parameter, isothermal, calc. 1−11833
amorphous Lennard-Jones system, time-depend. nonlinear shear stress effects, mol. dynamics 1−11648
anharmonic crystal, statistical theory of vacancy formation, thermodynamic props. 1−2432
Bose fluid, Lennard-Jones model, Jastrow wave functions, correlations, Monte Carlo variational calc. 1−2739
carbon tetrachloride, low temp. liquids, Brillouin scatt., refractive index meas. 1−6266
carbon tetrafluoride, low temp. liquids, Brillouin scatt., refractive index meas. 1−6266
chlorotrifluoromethane, low temp. liquids, Brillouin scatt., refractive index meas. 1−6266
clusters, struct., phase and thermodynamic behaviour studied by Monte Carlo method 1−1428
commensurate-incommensurate transform., coupling between phase solitons and strain 1−42508
computer simulation of m-6-8 fluid under shear, viscosity and pressure variation 1−7060
corresponding states of fluids, effective hard sphere of diameters 1−38222
crack propagation, lattice trapping, computer simulation 1−52225
crystal-liquid instability and pressure-induced glass transition 1−38491
diatomic liquids, mol. dynamics, memory function anal. of autocorrel. functions 1−11653
dichlorofluoromethane, low temp. liquids, Brillouin scatt., refractive index meas. 1−6266
film formation on weakly attractive substrate, lattice gas model 1−18172
fluid, fifth virial coeff. in two dimens., integral equation results 1−11652
fluid, spinodal decomposition kinetics, dissipative wave eqn. numerical soln. 1−30387
fluid, thermodynamic props., quantum mech. effects 1−52036
fluids, binary mixture, liq.-vap. interface theory, surface tension and density profile calc. 1−34551
fluids, free surface, monotonic and oscillatory density profiles 1−2301
fluids, r-dependent integral eqn. parameter appl. 1−11646
Freon-152a, -142b, transport props., 280-510K 1−29826
gas, rigid rod-like molecules, statistical thermodynamics near surface 1−25563
Heusler alloys, order-disorder phase transitions, model 1−52258
ice, phase transition, computer simulation using Lennard-Jones pot. 1−52285
ion-ion mean force potential depend. on ion-molecule interaction potential *(Russian)* 1−19157
isoenthalpic-isobaric ensemble, equilib. props. and mol. dynamics 1−2299
liquid, thermal relaxation under shock compression 1−38427
liquid density profile, Lennard-Jones 9:3 adsorptive system, perturbation theory 1−15776
liquid mixtures, mutual and self diffusion calcs., mol. dynamics simulation 1−11657
liquids, molecular dynamics, computer simulation, short-range interactions 1−34210
liquids, ternary Lennard-Jones mixtures, preferential solvation, mol. dynamics 1−15777
melting, evidence against crystal instability 1−20362
metal clusters, amorphous, on various substrates, struct., computer simulation 1−30606
methane, aq. soln., hydrophobic correl., solute-solvent attractive forces effect 1−7066
methane crystals, intermol. pot. and cryst. field, two-centre expansion 1−12074
molecular, Lennard-Jones liq., classical transport coeff., zero freq. component 1−34211
molecular liquid struct. and thermodynamic props., perturbation theory 1−11662
molecules, Lennard-Jones, heuristic model, molecular dynamics calc. 1−33533
Monte Carlo method, selection of particle to be perturbed 1−50032
nonlinear excitations assoc. with vacancies 1−30662
quench echoes in molecular dynamics, phonon spectroscopy 1−38478
soft core molecules, van der Waals model reexamined for Lennard-Jones particles 1−24204
solid, cell-model prediction of melting 1−2593
solvation forces between solid particles immersed in a simple liq. 1−53485
thermodynamic data, analytic representation 1−38219
trichlorofluoromethane, low temp. liquids, Brillouin scatt., refractive index meas. 1−6266
two-dimensional, phase transitions and orientational order 1−7063
$A+A_n \rightleftarrows A_{n+1}$*, cluster dynamics, classical trajectory method 1−6418
Ar, liquid, light scatt. intensities boundary problems, computer simulation 1−48095
$Ar_4 \rightarrow Ar_3 + Ar$, cluster dynamics, classical trajectory study 1−46186
H_2, high pressure melting curves, isotopic effect 1−20504
H_2O vapour, effective potential 1−29821
He, high pressure melting curves, isotopic effect 1−20504
K+Ar, 4P-7S and 4P-5D lines, collisional broadening and shift 1−51166
NO+Xe(Kr)(Ar) collisions, interaction pot. and collision cross section 1−19160
Ne+Ne(He), $2p^53p$-$2p^54d$ spectral lines, low press. shift 1−37156
Rb, quench echoes, molecular dynamics simulation, anharmonic behaviour 1−30043
^{222}Rn, liquid, thermophysical props., Lennard-Jones parameters 1−47275
Tl+Kr(Xe), collisional 535 nm line broadening and shift 1−19174

lenses
see also aberrations; aspherical lenses; contact lenses; electron lenses; electrostatic lenses; focusing; magnetic lenses; photographic lenses
aberration changes due to focusing and their elimination 1−51593
acoustic sapphire-lens system for acoustic microscopes, antireflection coating, double layer, for sapphire/water interface 1−33860
afocal doublet lens, use in Ritchey-Chretien telescope for field correction at several focal ratios 1−4769

lenses continued
anastigmat-apochromat, design procedure 1−24472
automatic design with pseudo-second-derivative matrix 1−33784
axicon, for focusing TEA-CO_2 laser, long diffuse plasma prod. 1−7014
birefringent, HF enhancement by subtraction of focused, defocused images 1−46237
bursting bundle raytrace, definitions and design appls. 1−46219
catadioptric magnifiers, basic principles and geometry 1−37580
chromatic aberration matching of polychromatic OTF 1−46482
circular Fresnel lens solar energy tracking concentrators, design and performance 1−4162
cladded radially inhomogeneous sphere lens design for imaging, Fourier transform and optical disc reading 1−41806
classical mirror lenses with spherical surfaces, third order aberrations *(German)* 1−1503
colour image restoration after chromatic aberration degradation 1−19274
colour TV camera lens performance test instrument 1−41814
coma and astigmatism versus field angle and f/number 1−33628
computer optical design programs at Imperial College 1−46502
computer small optical analysis program for Commodore PET 1−46509
conference, Chicago, IL, USA (Oct. 1980) 1−40593
conflection lens, focused narrow oblique beam third order aberrations 1−19403
copying objective lens, variable-magnification, design 1−37581
correlation patterns of interferograms and Ronchigrams, rel. to optical figuring of lenses 1−46480
design, Conf., Oakland, CA, USA (May-June 1980) 1−44707
design program block-structured least-squares problem soln. 1−46515
design using optical aberration coeffs. 1−46516
design using small dedicated computers 1−46504
design utilizing Seidel's coeffs. 1−46517
design with dedicated minicomputers 1−46505
design with desk-top computers 1−46503
design with Glatzel's adaptive method 1−46511
distributed computing for optical design 1−46499
Dollond triplet as object-glass in Dollond-Wolloston telescopes, description 1−22681
doublet, one-glass achromatic 1−15248
fabrication process of optical elements, tooling types and accuracy 1−51645
fibre connector, three element lens 1−19424
flat disc lens construction using radially nonhomogeneous medium with axial symmetry 1−24471
flat field meniscus corrector catadioptric lenses of the Maksutov type 1−45058
foetal eye lens and cornea growth control algorithm 1−8853
Fourier transforming by lenses, generalised treatment 1−19277
Fresnel lenses for US inspection 1−39562
geodesic and nonuniform refractive lenses, generalized formulas 1−51640
geometrical optics and lens design teaching 1−44744
gradient index binocular objective design 1−51589
gradient-index lens, caustic surface analysis 1−11060
gradient-index optics, review 1−46528
hemispherical microlens characts. for semicond. laser to single-mode fibre coupling 1−15275
high-performance illumination systems in projection-photolithographic instruments 1−46489
high-performance lens system for Mask Projection Aligning Repeater 1−46488
high-performance optical systems for quasi-diffr.-limited reprod. of micro-patterns on wide fields 1−46487
high-performance optics, quasi-diffr.-limited, performance assessment and assembly technologies 1−46486
high-resolution imaging appls. 1−11061
holocamera, lens assisted, for particle holography at extended distances and μm resolutions 1−15124
hologram lenses, computer-originated 1−15114
holographic interferometer for checking lens deformations 1−1520
holographic lateral shear interferometers, small f number lens and phase object testing, differential interf. contrast method 1−51411
holographic optical element design using conventional optical design programme 1−6515
holographic stereograms, cylindrical, optical techniques for increasing image width 1−15117
holographic stereograms, cylindrical, production, using a holographic lens 1−19298
holography, rainbow, high-resolution, one-step 1−6524
image quality representation by two criteria *(German)* 1−19275
interesting and unusual lenses 1−51592
large-aperture IR objective lens with enlarged field of view angle, design 1−37583
laser doughnot mode propag. through single lens, focal region intensity distrib. 1−24443
laser light nonlinear transform., optical shaping system aberration effect 1−29307
laser scanners, lens system design 1−15246
laser speckle formation under extra-axial aberrations 1−10924
least squares lens design error function and local minima 1−41805
Luneburg lens, graphical construction of rays 1−46533
medical building-block system, continuous magnification variator 1−49089
microcomputer TRS-80 for optical design 1−46508
microcomputers and optical design, speed of operation 1−46507
microelectronic lenses, design and fabrication 1−46527
microlithography, new lens design 1−45059
microscope objectives, chromatically corrected designs 1−45001
microscope objectives, imaging quality and performance, interferometric testing 1−45002
microscopes, reflection, image glare, central masking effect 1−14178
microwave, hyperbolic metallic lens for plasma diagnostics 1−51990
miniature lens design for semicond. laser to single-mode fibre coupling 1−15274
minicomputer applications to large optical design programs 1−46506
MTF measurement test and wavefront aberration holographic meas. 1−1673
multi-interface variable-index media, radial depend. singlet, illuminance and caustic surfaces 1−10909
nondiffraction-limited lenses, aberration balancing criterion, MTF optimisation 1−46513
objective lenses, relationship between shape factors and parameters of early stage of design *(Hungarian)* 1−1664
lenses continued
objective lenses design for coherent information processing, optical schematics 1−37585
oculars with long exit pupil distance, correctibility in initial design phase 1−15247
ophthalmic, obliquely crossed spherocylindrical, method to obtain sphere, cylinder and axis 1−32307
ophthalmic, working distance comparison of plus lenses and reading telescopes 1−44043
ophthalmic lenses, spherical, prismatic effects 1−44042
opthalmoscope, indirect 1−35860
optical Fourier transformation method for small object size distrib. meas. 1−15087
optical lens hoods, transmission calcs. using Monte Carlo method 1−37593
optimisation of lens system, CODE V developments 1−46501
optimisation program for lens systems 1−46510
orthogonal circular polynomials as lens-aberration coeffs. 1−46512
OTF meas., holographic technique 1−15098
pancratic objective, assessment of image plane displacement 1−29371
pancratic system, two-component, for Gaussian beam transform. *(Czech)* 1−46490
partially-coherent imaging calcs. 1−46251
perturbed optical system, graphic approach to analysis 1−46518
phase object mapping by incoherent method based on moire effect 1−28051
planar microlens, distrib. index from monomer exchange diffusion on plastic substrate 1−41887
Planar objective optical schematic, update and improvements 1−37584
plastic-glass lenses, thermal focus shift control 1−51590
polymer optics, optical-design techniques 1−51574
quasioptical lens lines synthesis 1−1672
radiowave propag. and scatt. in plasma, metal-air lens and waveguide construction *(Russian)* 1−24979
ray models of concave mirrors and convex lenses 1−27754
ray trace conventions, alternate surface intersection points 1−46220
reflaxions, nonlinear, diamond-turned, testing 1−37576
sample problem, comparative study of lens design programs and users 1−51588
self-focusing media with variable index of refraction, book contrib. 1−29351
shearing interferometry for objective wave aberration evaluation 1−18290
simple method for designing lenses 1−46522
single-mode optical fibre coupling to single-mode thin-film waveguides using photoresist lenses 1−6656
spherical surface fabrication by face milling method 1−37639
spherical surfaced lens with ideal image form. within Seidel range *(German)* 1−6631
starch granules as elementary lenses 1−51587
submicron photolithography, high resolution lens system 1−45060
synthesis of optical systems, SYNOPSYS lens design program status 1−46500
thermal, laser meas. of thermal diffusivity, by double-beam method 1−36654
thermal imaging scanners, ray tracing programs for analysing moving lenses and mirrors 1−41873
thin lens, spherical abberation minimisation, teaching 1−9798
thin planar surface lenses, primary aberrations, two-dimens. diffr. theory 1−1724
TJS laser facet with directly attached microspherical lens for optical fibre coupling 1−24433
triplets, plastic and glass, thermally controlled, third-order theory 1−46529
TV recording lenses, variable focus, optical design *(German)* 1−29366
virtual Fourier transform of divergent lens, appl. in three dimens. display 1−41597
Walsh functions in lens optimisation, diffr.-based OTF evaluation for on-axis imagery 1−51381
waveguide Bragg grating lenses, plane and cylindrical wave coupled-mode theory 1−37632
waveguide Bragg grating lenses, two cylindrical guided waves coupling 1−37633
white light imagery, colour based quality parameters 1−40834
white light MTF calc. improvement in JOERA 1−46253
Zernike polynomial lens sensitivity program ZEST appl. to lens design optimisation 1−46514
Ge triplet performance improvement for use in thermal IR 8-13 μm waveband 1−6632

lepton decay
see also muon decay
$\tau \rightarrow \pi K \nu$, current algebra square root threshold singularity, chiral symmetry breaking 1−50416
heavy lepton, spin 3/2, effects of alignment in production and decay *(Russian)* 1−23497
neutrino radiative lifetimes for masses 10-100 eV/c^2, astrophysical constraints 1−36176
$SU(2)_H$, lowest mass horizontal gauge boson limits from μ, τ and K decays 1−28265
superheavy leptons, manifestations and decay props. *(Russian)* 1−45279
τ, leptonic decay and semihadronic decay, DASP detector results at 4.0-5.2 GeV 1−28335
$\tau \rightarrow K \pi \pi \nu_\tau$ weak decay structure functions from current algebra, form factors 1−33182
$\tau \rightarrow \mu \nu \bar{\nu}$ branching ratio, from e^+e^-, new lepton search 1−50412
$\tau \rightarrow \nu_\tau + \pi^- + \omega$ decay, second class current manifestation *(Russian)* 1−36863
$\tau \rightarrow \nu_\tau \pi \omega(\phi)$, partial decay widths, triangle quark diagrams *(Russian)* 1−40994
$\tau \rightarrow \nu_\tau \rho \eta(\eta')$, partial decay widths, triangle quark diagrams *(Russian)* 1−40994
$\tau \rightarrow \nu \rho \pi$, A_1 resonance model, hard pion current algebra *(Russian)* 1−50429
$\tau \rightarrow \pi \omega \nu_\tau$, equal-time commutators between first and second class currents 1−36893
$\tau \rightarrow \rho \nu(\pi \nu)$, SPEAR Mark II results 1−10208
$\tau^- \rightarrow K^{*-}(892)\nu_\tau$, Cabibbo-suppressed decay, branching fraction 1−41020

lepton-deuteron interactions
see also lepton-deuteron scattering
reactor antineutrino spectra, neutrino oscillations and deuteron disintegration 1−14303

lepton-deuteron interactions continued
ed→eX, short range correlations, scaling phenomena *(Russian)* 1−36870
μ^-d→nnν_μ, extraction of nn scattering length 1−571
$\nu(\bar{\nu})$d→pn$\nu(\bar{\nu})$, 10-100 MeV, neutral current interaction cross sections 1−33174
νd, charged current events, current and target quark jets gluon emission 1−18467
νd, low energy, single pion prod. by weak neutral currents 1−45261
$\bar{\nu}_e$d→nne$^+$(np$\bar{\nu}_e$), charged and neutral current branches, neutrino instability 1−5616
$\bar{\nu}_e$d→nne$^+$(np$\bar{\nu}$e), neutral-to-charged current breakup ratio, isospin breaking, scatt. lengths 1−45260
ν_μd→μ^-X, >10 GeV, ν_n and ν_p charged current cross sections 1−18464

lepton-deuteron scattering
see also lepton-deuteron interactions
ed, inelastic scatt., pol. e, parity violating asymmetries, quark-parton anal. 1−10106
ed, tensor polarisation calcs. 1−28324
ed→ed, parity violation 1−28322
ed→ed, structure functions, d magnetic moment in relativistic quark model 1−33187
ed elastic scatt., n form factors scaling relations *(Russian)* 1−5623
ed scatt., P-odd effects in vector like theories 1−698

lepton-hadron interactions
see also lepton-hadron scattering; lepton-nucleon interactions
deep inelastic, parton density beyond leading order, QCD calcs. 1−14324
deep inelastic interactions, parton model of nucleus in high-momentum frame 1−10226
deep inelastic lepton scatt., structure functions, large n moments, twist two and higher operator contribs. 1−28317
deep inelastic scattering, acollinearity distrib. 1−23505
deep inelastic scattering 1−5631
gluon jet production, Monte Carlo study 1−23504
nonlinear spinor field as lepton-hadron model with quark confinement, functional quantum theory 1−5576
quantum chromodynamic Born term corrections, dilepton prod. and leptoprod. 1−513
quark-parton state lifetime and impulse approx. in QCD 1−40969
eh→eX, QCD, perturbative, beyond leading order, appls. 1−14358
eh→ehX, QCD, perturbative, beyond leading order, appls. 1−14358
e^+h→e^-X, singlet struct. function, QCD beyond leading order, space-and time-like cut vertices 1−28332
lh→lX, hadron final states, parton and QCD models 1−45309
νh→μ^-X, QCD, perturbative, beyond leading order, appls. 1−14358

lepton-hadron scattering
see also lepton-hadron interactions; lepton-nucleon scattering
parton picture developed from impulse approx. 1−28325
polarised hadron-lepton scatt., lepton, quark electric dipole moments *(Russian)* 1−28318

lepton interactions *see lepton-deuteron interactions; lepton-lepton interactions; photon-lepton interactions*

lepton-lepton interactions
see also electron-electron interactions; electron-positron interactions; lepton-lepton scattering; neutrino-electron interactions; neutrino-neutrino interactions
Drell-Yan amplitude for production of massive μ-pairs, analytic structure 1−23489
$\mu\nu(\bar{\nu})$, neutral and charged current processes, cross section 1−45258

lepton-lepton scattering
see also electron-electron scattering; electron-positron scattering; lepton-lepton interactions; neutrino-electron scattering; neutrino-neutrino scattering
conference on nuclear spectroscopy and atomic nuclear struct., Riga, USSR (March 1979) 1−4
He scatt., nondiagonal neutral lepton current processes, polarisation effects 1−530
μe→μe and neutral currents, parity violation 1−40978

lepton mass
charged leptons, semi-classical Reissner-Nordstrom model 1−474
electron, mass splitting of charged leptons, correspondence principle condition on Reissner-Nordstrom soln. 1−10118
electron mass, relationship between physical constants 1−10110
electron mass, SU(2)×U(1) gauge model 1−10122
finite mass neutrino mixing from β-decay spectra, ν_e mass determ. 1−18412
flavours of leptons and quarks, self-consistency condition for mean leptonic mass in QED 1−466
grand unified theories, effective Yukawa terms 1−45191
heavy leptons, Diophantine quantisation and collinearity 1−36855
left-handed neutrino mass scale and spontaneously broken lepton number, in Weinberg-Salam model 1−50363
left-right symmetric gauge model, Dirac neutrino mass 1−14304
lepton mixing and ν masses from β-decay and $(\pi, K)_{l2}$ decay 1−14371
minimal U'(1) horizontal symmetry, neutrino masses and the next energy scale 1−28259
muon mass from internal state function 1−28308
neutrino mass, SU(2)×U(1) theories, current interactions 1−14310
neutrino mass in the SO(10) grand unified gauge model 1−50355
neutrino masses and mixing in unified gauge models with spontaneous parity violation 1−45182
neutrino masses from SU(5) unified model with superheavy fermions 1−50360
neutrino oscillations and proton inverse beta decay 1−40979
neutrinos, masses rel. to solar neutrino problem, clusters of galaxies and cosmology 1−13685
neutrinos, non-vanishing mass rel. to anomalous interactions in early Universe and primordial nucleosynthesis 1−54672
neutrinos, theory of heavy right-handed neutrinos rel. to early Universe 1−54360
positron, mass splitting of charged leptons, correspondence principle condition on Reissner-Nordstrom soln. 1−10118
quark mixing matrix for weak charged currents, algebra of subquark charges 1−45209
quark-lepton transitions in unification, neutrino masses 1−18419
SO(10) family unification, neutrino mass, V+A charged weak current 1−18416
SO(10) symmetry breakdown, fermion mass differences 1−14312
spectrum, inhomogeneous difference equation 1−14379
SU_5 grand unified theory, proton lifetime, neutrino mass 1−23461

lepton mass continued
SU(2)×U(1) electroweak models, neutrino masses, mixings and oscillations 1−33145
sU(3) lepton model and the dynamical generation of lepton mass differences *(Chinese)* 1−45158
superheavy leptons, manifestations and decay props. *(Russian)* 1−45279
Weinberg-Salam model, lepton self-mass, Higgs scalar and heavy-quark masses 1−33137
e, lowest order electro-weak contribs. 1−28251
$\mu^\pm$, mass splitting of charged leptons, correspondence principle condition on Reissner-Nordstrom soln. 1−10118
μ_τ, origin, lower mass limit and contrib. to cosmic neutrino flux 1−40293
μN→$\mu\mu$X, 209 GeV, neutral heavy muon mass lower limit 1−36869
ν mass in SO (10), partial unification, Higgs bosons 1−33141
ν masses, theory and expt. 1−33136
$\bar{\nu}_e$ mass from ^{3}H β-energy spectrum 1−45470
π→eν branching ratio, massive neutrinos, Goldberger-Treiman relation 1−18470
$\tau^\pm$, mass splitting of charged leptons, correspondence principle condition on Reissner-Nordstrom soln. 1−10118

lepton-nucleon interactions
see also electron-nucleon interactions; lepton-nucleon scattering; muon-nucleon interactions; neutrino-nucleon interactions
deep inelastic cross-section, structure function calc. 1−28326
deep inelastic scatt., conf. Erice, Italy, (Mar. 1980) 1−44713
deep inelastic scattering 1−5631
l(l̄)N, deep inelastic scatt., P-odd asymmetry radiative corrections for pol. l(l̄) *(Russian)* 1−5627
lN, deep inelastic, nuclear targets, Fermi motion effects on structure functions 1−50441
lN deep inelastic scatt., N structure function, colour prod. in Pati-Salam model 1−45300
lN→lX, QCD massive quark model and geometrohadrodynamics 1−45245
lN→lX, structure functions, QCD tests 1−45311

lepton-nucleon scattering
see also electron-nucleon scattering; lepton-nucleon interactions; muon-nucleon scattering; neutrino-nucleon scattering
elastic scattering formalism 1−23519
$l^\pm$p scatt., large nonperturbative effects for small x_E, QED radiative corrections 1−33186

lepton-nucléus reactions
see also electron-nucleus reactions; lepton-nucleon interactions; muon-nucleus reactions; neutrino-nucleus reactions
deep inelastic scattering, structure functions in differential cross-sections 1−28469
high energy particle interactions with nuclei, review *(Russian)* 1−36948

lepton-nucleus scattering
see also electron-nucleus scattering; lepton-nucleon scattering; muon-nucleus scattering; neutrino-nucleus scattering
No entries

lepton production
see also electron pair production; muon production; neutrino production
Drell-Yan pairs, parton cross sections, unique asymptotic feedom predictions 1−28297
Drell-Yan process, qq̄ contribution, identical particle effects 1−10255
gluon spin test in large momentum lepton-pair production 1−14329
hadron+hadron, lepton pair production, QCD corrections to Drell-Yan mechanism 1−10145
hadronic lepton pair prod., quark form factors and leading double logarithms in QCD 1−45221
heavy lepton, spin 3/2, effects of alignment in production and decay *(Russian)* 1−23497
heavy lepton pair prod. in pionisation region, QCD predictions *(Russian)* 1−5605
pair prod., quark-parton model for high energy interactions 1−28283
pair production in hadronic collisions; 1−10245
parton model of nucleus in high-momentum frame 1−10226
quantum chromodynamic Born term corrections, dilepton prod. and leptoprod. 1−513
spin 3/2 leptons, prod. and decay props., V±A currents 1−601
subnuclear physics, problems and fundamental concepts 1−28287
two-component model for lepton pair production in hadron collisions, parton interactions 1−50454
e^+e^-→lhX, lepton spectra, from possible heavy spinless hadron decay, SU(2)×U(1) model 1−10231
e^+e^-→$\mu\mu(\tau\tau)$, 9.4-31.6 GeV, prod. cross sections, QED calc., new heavy lepton search 1−50412
γN→l^+l^-X, circularly polarised photons, parity-violating asymmetry 1−33188
hh→LX, large transverse momenta, Ψ, Γ production, review 1−28360
hN→l^+l^-X, cross-section, structure function calc. 1−28326
pN, 70GeV/c, heavy neutral lepton and τ neutrino, prod. cross section restraints *(Russian)* 1−5651
pp→l^+l^-X, quantum chromodynamic Born term corrections, dilepton transverse momentum distrib. 1−514
pp→lepton pair+X, γ^*q→qqq̄ subprocess causing correction to longitudinal structure function 1−10154
qq̄ contribution to Drell-Yan process, identical particle effects 1−10255

lepton scattering *see lepton-deuteron scattering; lepton-hadron scattering; lepton-lepton scattering; photon-lepton scattering*

lepton spin and parity
neutrinos, theory of heavy right-handed neutrinos rel. to early Universe 1−54360

leptonic decays
see also baryon leptonic decay; meson leptonic decay; muon decay
lepton and baryon number non-conservation, operator analysis, ν interactions, baryon decay 1−456
W→e$\bar{\nu}$, EM corrections in Weinberg-Salam model 1−14395
W^0 leptonic decay width, standard SU(2)×U(1) model calc. 1−50479
Z→$\nu\bar{\nu}$ decay in Weinberg-Salam model, lepton universality deviations 1−33148

leptons
see also electrons; heavy leptons; lepton spin and parity; muons; neutrinos; positrons
charged leptons, semi-classical Reissner-Nordstrom model 1−474
composite quarks and leptons and the Higgs boson mass 1−5490
dynamical subquark model, equation of motion for leptons and quarks 1−33155

leptons continued
dynamical subquark model, magnetic moments of composite quarks and leptons 1−33157
dynamical subquark model of pregauge and pregeometric interactions 1−14339
dynamical symmetry breaking and composite quarks and leptons 1−50347
electroweak unification of leptons with SU(4) gauge symmetry 1−5554
extended particle model of leptons and quarks, unified field theory 1−10124
families of leptons and quarks, quantised dynamical systems 1−10137
grand unification groups and charges of quarks and leptons 1−23467
GUTs, gauge boson resolution, preons, proton decay, lepton substructure 1−50364
International School of Subnuclear Physics, Erice, Italy (July-Aug. 1977) 1−27646
lepton numbers of the Universe, grand unification ideas 1−32786
mass spectrum, inhomogeneous difference equation 1−14379
mixing schemes, Weinberg-Salam model, ν oscillations T and CP invariance 1−28199
O(n) confined preons, quarks and leptons as composite states 1−14331
particle physics, historical approach quarks, leptons and coloured glue 1−5571
polarised hadron-lepton scatt., lepton, quark electric dipole moments *(Russian)* 1−28318
primordial fermion mass matrix, quarks and leptons, masses and mixing angles 1−14332
quark-lepton families, unified model based on SU(8) symmetry *(Russian)* 1−45187
rishon constituents, lepton and quark internal quantum numbers, bootstrap approach 1−50393
$SU(3)_C \times SU(3)_H$ gauge theory based rishon model, dynamical theory, quarks and leptons 1−28280
sU(3) lepton model and the dynamical generation of lepton mass differences *(Chinese)* 1−45158
SU(5) decouplet quark and lepton model, particle generations *(Russian)* 1−40960
SU(5) grand unification theory 1−45174
SU(6)×SO(3) quark and lepton, symm., unification by exceptional groups, origin 1−28240
subnuclear physics, problems and fundamental concepts 1−28287
subquark model of quarks and leptons 1−33156
substructure limits due to anomalous mag. moment 1−14390
supersymmetric exceptional gauge unification, quark-lepton generations, symmetry breaking 1−23468
unification of quarks and leptons in stochastic oscillator model 1−33138
unified electro-weak model in SU(3) *(Chinese)* 1−18423
unified model of leptons and quarks, SU(3)×U(1) *(Chinese)* 1−45188

level control
pressurised superfluid He II control, calorimetry and loss analysis 1−44936
vibration plane table, contraction isolated, level feedback control methods *(German)* 1−250

level crossing (energy) *see energy level crossing*

level measurement
float level gauges with compensation fluid, dynamic characts. under temp. fluctuations 1−229
high-precision liquid level measurement, theoretical determ. of meniscus height 1−228
lake outflow real-time forecasting algorithm 1−32522
liquid helium level indicator 1−50149
liquid level meas. in vessel using portable gamma-ray meter 1−23386
precision levelling, development and problems *(German)* 1−13990
pulsed power circuit for liquid He floating level gauge 1−50098
snow level meas. and avalanche warning electronics 1−32562
time variable liquid surface, measuring apparatus *(German)* 1−27921
US method, advantages 1−230
Ge, diode low-temp. transducer and liquid cryogen level indicator 1−9980
Si diode low-temp. transducer and liquid cryogen level indicator 1−9980

level meters
see also power measurement
continuous gauge with linear response for cylindrical vessels 1−221
LMFBR instrumentation development status 1−18732

levels, energy *see energy states*

levitation, magnetic *see magnetic levitation*

librarianship *see information science*

library science *see information science*

LIDAR *see optical radar*

Lie groups
see also elementary particle symmetry
algebra extended to higher order equivalent group space gauging 1−5459
algebraic reductions of the real symmetric 4×4 secular problem 1−50343
BBGKY hierarchy, associated Lie algebra *(French)* 1−38216
Bloch master equation of n-level spin system, general solns. *(Russian)* 1−49988
canonical intertwining operators between holomorphically induced, equivalent representations of a nilpotent Lie group and Maslov index *(French)* 1−14263
cocycles of Lie groups; integral formula 1−10098
cohomology, first spaces, applications *(French)* 1−33126
compact simple Lie groups, invariant volumes 1−5534
connected solvable Lie groups, semi-characters *(French)* 1−10099
contraction of Lie algebra representations and Glauber coherent states 1−5134
contractions of group representations 1−50344
cranked oscillator coherent states, properties and applications, review 1−5711
deformations and quantization 1−23055
E_6 local symm. for Yang-Mills unified theory 1−45194
Einstein-Yang-Mills equations, four-dimens. solns. 1−32890
EM field space-time symmetries, partial differential eqns. *(French)* 1−32876
equivalent electrons, basis states, irreducible representation for SO(2l+1)×SU(2) using Sp(4l+2) 1−50342
exceptional Lie algebras, simple roots and irreducible representations, natural labels 1−28231
exceptional Lie groups, Kronecker products of irreducible representations 1−28233
exceptional Lie groups, Weyl groups and weight multiplicities 1−28232

Lie groups continued
extended Kaluza-Klein theories, charge-mass relation, supergravity appl. 1−23088
Fermi gas, 1-D, with spin-dependent forward scatt., scaling properties 1−5225
fermion system, odd, variational foundation of improper Hartree-Bogoliubov formalism 1−5226
field theories geometric, with given set of constant solns., Lagrangian in 10-D space 1−427
flexibility, centres and nuclei of Lie-admissible algebras 1−28230
gauge fields, cylindrically symmetric configurations, exact solns. *(Russian)* 1−36791
general relativity, hypersurfaces, isotropic, admitting inner groups of motions 1−23059
geometric aspects of gauge theory 1−5456
geometrical theory of ghost and Higgs fields and SU(2/1) 1−5457
graded Lie algebra cohomology and supergravity 1−44824
graded Riemannian metrics, fibre bundles, local super-gauge theories 1−33118
gravitation, fibre-bundle approach, Poincare group theory 1−44827
homogeneous spaces generated by an algebra, and their morphisms 1−461
incidence geometries of Lie groups in quantum theory 1−5124
infinite dimensional Lie algebras, first cohomology groups 1−28239
infinite indirect products of continuous unitary representations of SL(2,C) 1−18008
integrable systems, Hamiltonian group actions, Toda lattice appl. 1−32936
Kepler problem, Lie symmetries 1−44763
Lax equations solvable, by spectral transform, Lie algebraic approach, Schrodinger, Korteweg-de Vries eqns. appls. 1−18070
ligand field theory, Lie algebra appl. 1−7566
linear groups in particles and gravity 1−5519
Mandelstam plane physical regions as Lie group space 1−5530
nilpotent simply connected Lie group, speed and symptotic behaviour of Brownian motion *(French)* 1−33125
Noether current equivariance, rel. to classical Klein-Gordon eqn. 1−33090
non-Abelian, prolongation structure without prolongation 1−18036
nuclear collective motions, Lie algebra projectors and kinematics 1−28403
nuclear collective properties, interacting boson model, SU(6) Hamiltonian, shape phase transitions 1−10334
nuclear model, relationship between shell model and Bohr collective Hamiltonian 1−5714
para-Bose oscillator operators, representations and properties, eigenstates 1−162
path integrals for arbitrary canonical transformation 1−100
Pauli's principle under strong interactions, test, SU(2) spin symmetry 1−488
q-differential operators, eigenfunctions and eigenvalues 1−27808
quadratic Jordan formulation of quantum mechanics and construction of Lie(super) algebras from Jordan(super) algebras 1−5129
quantum mechanical systems, uncertainty relations and semi-groups in Banach algebras 1−98
quantum states, manifolds, Riemannian structure 1−413
Racah Wigner algebra, phase choices and point group orientation 1−5533
realizations of infinite dimensional Lie algebras 1−5528
regular Lie algebras, prolongation of formal vector fields *(French)* 1−10100
representations by method of orbits *(French)* 1−14035
representations of reductive and parabolic groups 1−5123
semi-simple algebras, Freudenthal's formula 1−5135
semi-simple Lie algebras, trace formula 1−10097
semisimple Lie algebras, subjoining relation, subalgebra embedded in algebra 1−452
simultaneous hypervirial relationships, alternative conditions 1−23042
$SL_3(R)$, geometric quantisation and representations *(French)* 1−33123
soliton equations, geometrical interp. and Lie groups 1−28165
solvable Lie groups and Maslov index *(French)* 1−28229
Sp(4l+2) Lie group, basis states for equivalent electrons 1−33128
space-time manifolds, kinematic groups *(Chinese)* 1−49996
$SU_1(2) \times U(1)$ embedded in larger simple group coupling constant relations 1−14313
SU(2)×U(2l+1) Lie group, basis states for equivalent electrons 1−33127
SU(n), character generator, combinatorial method 1−450
superalgebra, group with Grassmann structure UOSP(1.2) 1−33130
superalgebra b(0,1) and explicit integration of the supersymmetric Liouville equation 1−14269
superalgebras, nonpolynomial invariants 1−5525
superalgebras, U(m/n) and SU(m/n), diagram and superfield techniques 1−45151
supergravity, 5-D, bosonic rheonomic symmetry and generaton of spin-1 field 1−151
supergravity, field transformation and constraint algebras 1−23085
symplectic Lie and Poisson algebra. 2nd and 3rd spaces of differentiable cohomology *(French)* 1−28227
tensor basis for infinitesimal generators of classical simple Lie groups *(Chinese)* 1−18399
ternary algebras as building blocks of Lie Algebras and Lie superalgebras 1−5520
trace formula for semi-simple Lie algebras 1−10097
two-dimensional integrable field theories connected with simple Lie algebras 1−14270
unitary group subjoinings 1−18397
unitary quantisation of SU(2m+1), Lie algebra, isospin type internal symmetry 1−18400
unitary representations constructed using K-orbits and quantisation *(French)* 1−33124
unitary representations of complex semi-simple groups *(French)* 1−5518
wave equation with noninvariant velocity of light, group properties 1−27791
Weyl operators for quantized systems with non-commutative classical phase space *(German)* 1−28226
Wigner angular momentum operators, Lie algebra, eigenfunctions and eigenvalues 1−5531
Yang-Mills fields, loop phase factors and local solutions on analytic Riemannian manifold 1−45103
zero order Lie algebra, canonical ideals, Lie bracket, sum and intersections 1−23451

life testing
injection laser lifetime statistics, effect of screening tests 1−19334

life testing continued
GaAs-Al$_x$Ga$_{1-x}$As diode laser in pulsed mode, lifetime estimation 1−41705
Ni-H_2 flight experiment battery, life cycle test 1−53601

ligand field theory *see bonds (chemical); crystal field interactions; molecular energy levels*

light
see also airglow; optics; sunlight; zodiacal light
composite automatic distribution photometer 1−14169
gravitational lens effect for double quasar Q0957+561, light paths time delay from components brightness reversal 1−9717
photobiologically effective radiation, quantities and their meas. 1−8911
white light splitting and Grimaldi's contribution to the physics of detectors 1−44747

light absorption
see also atmospheric optics; densitometry; light transmission; optical constants; optical films; optical filters; optical saturable absorption; pleochroism; spectra
absorbing optical film systems computer synthesis, transmittance, refl. and absorpt. 1−37403
alkali halides, IR absorption coefficient 1−31116
atmosphere, aerosol extinction props. in remote continental and marine regions 1−44248
atmosphere, effect of cloud props. on solar radiation refl., transmission and absorpt. 1−13572
atmosphere, near UV differential optical 1−44251
atmosphere, profiles of turbidity coefficient in visual and UV spectral regions at altitudes above 30 km *(Russian)* 1−13568
atmosphere aerosol, optical absorpt. const. of suspended particulate matter as air pollution index 1−53738
atmosphere extinction, vertical optical depth rel. to calibration of spectrum of α Lyrae (Vega) 1−13771
atmosphere spectral transmission at Special Astrophysical Observatory, USSR, meas. (1974 to 1976) 1−9246
atmospheric absorption saturation intensity redistrib. of laser light 1−46463
atmospheric measurement, laser investigations 1−32559
atoms, RF optical double resonance, time varying light absorption without population inversion 1−33415
bielectron light absorption *(Russian)* 1−16541
biomedical utility of 1.34 μm Nd:YAG laser radiation 1−53853
birefringent crysts., optical activity and absorption for various azimuths of incident light polarisation 1−31122
broadband semitransparent dielec. reflectors with dispersion and absorpt., design 1−37575
carbonaceous smoke, visible extinction, absorption and mass conc. 1−35726
cermet coatings produced by joint vapour deposition of metal and dielecs. 1−13157
chalcogenide glasses, AC conductivity and optical absorpt. 1−16286
coefficient meas. using optically pumped far IR waveguide laser 1−358
covalent semiconductor, HF dielec. props., within nearly-free-electron approx., one plasmon band model 1−38735
detection by wavefront inversion 1−51368
dichroic materials, absorpt. edge meas., effects of imperfect light polarisation and sample alignment 1−26156
dichromated gelatin holograms in appls. 1−6514
dielectric, transparent, thermal instability caused by quasi-CW laser pulse 1−43225
diffuse radiation collector efficiency upper bound 1−10912
disperse system, electrooptical phenomena, light attenuation by arbitrarily oriented spheroid 1−33619
disperse system, electrooptical phenomena optical mechanisms, light modulation in Π_1 field 1−29213
dye solutions, nonlinear absorpt. and thermal defocusing of laser radiation *(Russian)* 1−51573
electron gas, degenerate, optical absorpt. and emission via forbidden transitions 1−43086
energy conservation test for scatt. approx. 1−10926
evaporated films, laser line interface and volume absorption by water 1−31219
excitons, light absorption, role of spatial dispersion *(Russian)* 1−12041
extremely low optical absorptions, new method for meas. 1−320
ferromagnetic semiconductor, influence of direct transitions between spin branches on free-carrier absorption 1−31111
fibre optics, coupling efficiency impact on system performance 1−11095
fibre transmission losses obs., in high-radiation fields 1−11120
fibres characts. meas. methods survey, optical communication appl. *(Czech)* 1−19464
film reflector and absorber layer characterisation with high temp. spectrophotometer 1−36742
filter-glass calorimeter for laser pulse radiation energy meas. in ps region *(German)* 1−40789
flat plate solar collectors, transmission, reflection, absorpt. of visible radiation by multilayer covers 1−13169
fog, laser beam propag., absorpt. and scatt. coeffs. of droplets 1−40195
glass, refractive index dispersion allowing for continuous character of absorpt. spectrum 1−43090
glass, surface microcrack formation, tensile stress caused by Na^+/Li^+ ion exchange *(Czech)* 1−30539
heliostat glasses, absorptive losses due to Fe^{2+} impurities 1−13092
III-V semiconductor variable-gap struct., absorpt. edge profile 1−39174
inhomogeneous diffusing media, Kubelka-Munk eqn. soln. methods comparison 1−46224
interfacial electron transfer induced by light absorpt. 1−34765
intergalactic absorption redshift, from model of galaxy form. in explosion-dominated intergalactic medium 1−54619
interstellar dust cloud, UV, visible and IR optical depths calc. 1−40550
interstellar extinction, spatial distrib. and galactic structure 1−9634
local interstellar medium, absorpt. meas. comparison with solar backscatter meas. 1−27579
interstellar reddening law in visible, determ. from stellar photometry 1−17889
IR laser wavelength modulation spectrometer for window absorption meas. 1−28077
IR transparent material absorpt. coeff. meas. using interf. effects in thermooptic expansion 1−33048
Jahn-Teller systems, strongly coupled, optical absorpt. spectrum, temp. depend. 1−31110
lanthanum borate glasses, Faraday rotation and other props. 1−3373

light absorption continued
laser glass, optical props. 1−1661
laser pulse statistics change due to two-photon absorpt. 1−11036
lattice dynamics, morphic effects, book contrib. 1−38482
magnetic semicond., extrinsic, influence of s-d or s-f hybridisation on light absorption 1−26249
magnetic semiconductor, free-carrier absorption of radiation due to spin-disorder scatt. 1−3350
measurement using dual-variable detection method with photomultiplier 1−23310
metal, photothermal transmission probing of subsurface struct. and thickness meas. 1−18219
metal cylinder, EM energy absorpt., 0.4 to 12 μm range 1−41574
metal vapour in heat pipe, number density meas., interferometric technique 1−44995
metals, laser heating, diffusion mechanisms of the absorptivity changes 1−21298
metals, optical const. determ., surface EM wave attenuation meas. *(Russian)* 1−26155
Mie efficiency factors for extinction, absorpt. and radiation pressure 1−6471
molecular crystals, exciton light absorpt. *(Russian)* 1−2888
molecules adsorbed on aerosols, light absorption *(Russian)* 1−4125
multilayer dielectric reflector design using equivalent layer concept 1−11062
multilayer interference absorber, allowance for inactive layer losses 1−40845
multilayer thin films, relationship between optical absorptance and electric field 1−46211
multiphoton, energetic electron generation, photoionisation 1−19065
non-spherical particles, IR absorpt. spectra, Rayleigh ellipsoid approx. 1−6476
non-spherical T_n-particles, scatt. exact calcs., comparisons with equiv. spheres 1−6480
nonselective light attenuation in at. absorpt. and at. fluoresc. anal., review 1−4136
optical coatings, high band gap oxides, for 0.25 and 1.06 μm fusion lasers 1−19395
optical properties of solids, light emission, absorption and photoelec. effects *(Japanese)* 1−8121
oxide film laser damage threshold correl. with pyroelectric absorption meas. 1−37524
particle edges and asperities rel. to enhanced absorpt., IR emittance meas. 1−10927
photoacoustic effect of solids, influence of surface thermal resist. and surface optical absorption 1−2568
photoreceptors, effect of waveguiding prop. on light absorpt. 1−22010
planetary nebulae, effect of far UV absorpt. by dust on central stars Zanstra temps. determs. 1−44555
quartz glass, KU-2 and K-8, absorpt. coeff. and optical strength 1−26159
radiating DFB structures, coupled wave method 1−1726
rhodamine 4C in solns., rot. relax. in ground and excited states 1−3464
scattering by spheroids, approximate and exact prediction method comparison 1−1440
scattering in absorbent media, energy propagation and coherence tensor eqns. 1−1490
semiconductor, disordered, δ-correlated random field, interband optical absorpt. 1−12471
semiconductor, disordered, impurity band optical absorpt., density of states, electron-phonon interaction 1−26241
semiconductor, disordered, interband optical absorpt. 1−31118
semiconductor, layer-inhomogeneous, light transmission in free-carrier absorpt. band, current influence 1−3371
semiconductor thin films, exciton light absorpt., amplitude thickness depend. 1−43203
semiconductor-thin films, exciton light absorption 1−3357
semiconductors, disordered, interzone optical absorption, multiphonon effects 1−21161
semiconductors, polaron transport and light absorpt. 1−25650
small regular non-spherical particles, dipolar reson. absorpt. in Rayleigh region 1−6475
solar atmosphere, effect of opacity on C III UV spectral lines 1−27453
solar atmosphere, opacity functions rel. to Mg II reson. line wings form. 1−17800
solids, band-gap opening and optical absorption under laser irrad. 1−15212
solids, IR absorption by multiphonon processes, book contrib. 1−39102
solids, opt. props. *(Japanese)* 1−6449
stack of parallel media, reflectance, transmittance and absorptance, recursive formulae 1−37400
stars, massive, search for circumstellar absorpt. and intrinsic colours determ. 1−22800
stellar atmospheres, contrib. of line veiling to total opacity and effects on stellar spectra 1−17818
stratosphere, lower, aerosol extinction coeff. meas. by balloon-borne photometer 1−9253
superlattice, interband absorpt. coeff., 2-D Mott excitations effect *(Russian)* 1−39057
superlattice with minizones, selection rules and absorption lineshapes for electron transitions 1−43085
Taurus interstellar dark cloud, anomalous UV extinction curve obs. 1−49772
Taurus interstellar dark clouds, reddening law from stellar UBVRI photometry *(Russian)* 1−32697
tetrafluoromethane, absorpt. cross section at H Lyman α (121.57 nm) rel. to atmospheric residence time 1−44295
thin film analysis using double-beam interferometers 1−33045
thin film layers, metallic and dielec. light resonance mechanisms and optical consts. meas. 1−43199
thin films, optical absorption coeff. meas. using multireflection plate 1−330
turbid river water, reflectance rel. to backscatter and absorption 1−44213
vapour cloud, above open atomiser, expansion process obs. 1−11492
water vapour continuum absorpt. of CO_2 laser radiation 1−40193
wavelength size discs, scatt. and absorpt. cross-sections 1−6478
Ag-containing glass, coloration and optical anisotropy 1−3351
Al, Kramers-Kronig anal. of optical data, self-consistency and sum-rule tests 1−8034
Al targets, laser light absorption in long-pulse high-irradiance experiments 1−34050

light absorption continued
Al-Cu(Ni) eutectic alloys, selective absorbers for solar photothermal conversion 1−32045
Al_2O_3, corundum ceramics, light transmittance, effect of technological parameters 1−53307
Au targets, laser light absorption in long-pulse high-irradiance experiments 1−34050
n-BiTeBr single crysts., IR spectra, Hall coeff. 1−20772
$Bi_{12}TiO_{20}$ single cryst., optical absorpt. and reflectivity 1−52967
C film, diamond-like, optical props. 1−3524
CO_2, 10.6 μ absorpt. coeff. at high temps. 1−6256
CaF_2 diamond-machined IR window, optical and surface physical characteristics 1−29359
CdP_2, two-quantum spectra of impurity centres *(Russian)* 1−21250
CdS, vacuum deposited films, elec. and optical props. meas. 1−12215
Co_3O_4 coating, solar selective, for high temp. solar collector 1−13177
Cr_2O_3-Cr black chrome, electrodeposited selective solar absorber film, oxidation 1−12996
$CuInSe_2$, refractive index, absorpt. index, ellipsometric meas. 1−8031
$CuInTe_2$, refractive index, absorpt. index, ellipsometric meas. 1−8031
Cu_2S/CdS solar cells, short-circuit currents, Cu_2S optical absorption coeff. influence control 1−32013
Fe_3O_4, Verwey transition, electron correl. theory 1−12033
GaAs diamond-machined IR window, optical and surface physical characteristics 1−29359
$GaAs_{1-x}P_x$ vacuum deposited film, X=0.3-0.9, successive evaporation method, characterisation 1−53095
GaAsSbP variable-gap struct., absorpt. edge profile 1−39174
GaS, phonon modes and stability up to 200 kbars, Raman spectra and absorpt. meas. 1−12503
Ge diamond-machined IR window, optical and surface physical characteristics 1−29359
Ge film localised laser damage site identification by photoacoustic spectroscopy 1−37525
Ge-Se chalcogenide glass films, optical const. meas. 1−35110
GeS, absorpt. edge meas., effects of imperfect light polarisation and sample alignment 1−26156
Hg dense vapour, DC and IR AC cond. beyond crit. point 1−19859
InAs-GaSb heterojunction superlattices, electronic props., fabrication and characts. 1−7720
InSb, nonlinear light absorpt. investigation 1−26158
InSb, refractive index change caused by laser beam irradiation 1−12470
K, IR and optical props., nearly-free-electron model 1−8033
K, optical absorption of clean and water-vapour exposed film 1−26291
K, optical absorption of clean and water-vapour exposed film 1−31210
KCl diamond-machined IR window, optical and surface physical characteristics 1−29359
LaH_x ($1.90 \leq x \leq 2.89$), optical absorptivity and photoemission 1−21157
LiF laser windows, press forging and optical props. 1−29353
$LiNbO_3$:Ti waveguide system, refl. substrate mode absorpt. in integrated optical spectrum analysers 1−41890
MgF_2 diamond-machined IR window, optical and surface physical characteristics 1−29359
Na, IR and optical props., nearly-free-electron model 1−8033
NaCl laser windows, forging, mech. and optical props. and sp. ht. obs. 1−29355
Ni black coatings for solar photothermal conversion, low cost electroless, prep., emittance and absorptance 1−32046
Pd particles randomly embedded in KCl, far IR radiation absorpt. 1−39096
Rb, IR and optical props., nearly-free-electron model 1−8033
SF_6, laser radiation interaction with molecules *(Russian)* 1−51210
$(Se_{32}Te_{32}As_4Ge_{32})_{100-x}Ni_x$, chalcogenide amorphous semicond., electrical cond. and optical absorpt. 1−20730
Si p-i-n diode optical absorption of hole electron plasma 1−12136
Si:H, amorphous, derivation of low-energy optical absorption spectra from photocond. 1−3018
Si:H, amorphous, photogeneration, optical absorpt. and transport 1−7665
Si:H sputtered films, amorphous, guided wave optical spectroscopy, absorpt. spectrun, 0.8 to 1.9 eV 1−53004
SiO optical coatings, small absorbent species characterisation 1−31220
SiO_2 optical absorption edge 1−12525
SiO_2, vitreous, spectral absorpt. coeff., 673 to 1673K 1−39060
SiO_2/TiO_2 multilayer high-reflection coating, laser damage obs. 1−37528
SrF_2 diamond-machined IR window, optical and surface physical characteristics 1−29359
ThF_4 optical coatings, small absorbent species characterisation 1−31220
V_2O_3 film, optical props. in fundamental absorpt. region 1−21286
ZnS optical coatings, small absorbent species characterisation 1−31220
ZnSe optical coatings, small absorbent species characterisation 1−31220

light absorption spectra *see spectra*

light amplifiers *see image intensifiers*

light attenuation *see light absorption; light scattering; light transmission; optical dispersion*

light coherence
see also laser beams; lasers
acousto-optical interaction techniques and applications 1−39064
astronomical point source location, coherent and incoherent IR imaging accuracies compared 1−27360
atoms, spontaneous emission fluctuations, pump spatial coherence effect 1−41343
Bessel apodizing filter in optical systems with partially coherent light 1−46536
book, progress in optics 1−27689
collett-Wolf sources and multimode lasers 1−6628
complete coherence in the space-frequency domain 1−46216
correlation theory of wavefields, generated by fluctuating three-dimens. scalar sources, radiation from isotropic model sources 1−46213
correlation theory of wavefields generated by fluctuating three-dimens. primary scalar sources, general theory 1−46212
directionality and spatial coherence 1−1486
eigenvalue problem for coherent pulse propag., soliton soln. 1−24446
electrically intensity-modulated light, coherence of sidebands 1−33617
Fischer and Wolf coherence function equality, different freq. disturbance anal. using rot. disc method 1−46210
free electron laser, coherence props. 1−15136
Fresnel diffraction region, acoustically modified spatial coherence 1−15073
generalised radiance assoc. with radiation from a quasihomogeneous planar source 1−46214

light coherence continued
high resolution nonlinear spectroscopy, coherent processes, book contrib. 1−51568
holocamera, lens assisted, for particle holography at extended distances and μm resolutions 1−15124
hypersound generation in optically transparent dielec. solid by coherent focused light pulses 1−1637
image formation and coherence problems 1−37432
image formation in partially coherent light 1−42
image processing, with coherent and incoherent light, digitally computed operators *(French)* 1−51380
inverse source problem in coherence theory 1−10911
laser beam field coherence in turbulent atm. 1−6472
laser beam spatial coherence determ. by laser-induced grating method 1−19374
laser beams, exptl. determ. of fluctuation correlation scales of intensity and coherence in turbulent atmospheres 1−33620
laser emission, spatial coherence meas. by interferometric and holographic methods 1−6592
laser scanning coherence control 1−6447
laser scattering phenomena and coherence theory relations, similarities and distinctions 1−1499
laser speckle patterns and intensity correl., second-order statistics, teaching 1−9810
laser stimulated emission, coherence and cooperative phenomena 1−37453
modulated optical radiation, meas. of time coherence 1−41576
molecule ensemble, resonant light scatt., field correl. effects 1−1277
nonlinear optical processes and light coherence, mutual depend., book contrib. 1−29330
object reconstruction from image intensity data 1−1509
optical fields, photoelectric correls. and fourth order coherence props. 1−41566
partial coherence of light modified by freq.-modulated US wave 1−19260
partially coherent beam waves in turbulent atm., intensity props. 1−1492
partially coherent image characterisation by OTF, coherence parameter influence *(German)* 1−41607
periodic structure, propagation of mutual intensity 1−19375
phase retrieval problem, optical imaging for one dimens., coherence theory 1−41600
phase-space methods for partially coherent wavefields 1−41567
photocounting statistics, spatial coherence of radiation inclusion 1−6529
picture deblurring by coherent-optical two-dimensional signal analysis 1−41617
probe pulse experiments, coherent interaction effects 1−46437
pulse generator, subnanosecond, of coherent radiation tunable in middle and far IR 1−1634
regular multimode optical glass fibre, determ. of mutual coherence of field 1−29401
retrieval of structural information from the far-zone intensity and coherence of scattered radiation 1−41610
scattering in absorbent media, energy propagation and coherence tensor eqns. 1−1490
second-order coherence phenomena in space-freq. domain 1−41559
semiconductor, exciton-impurity complexes, coherent resonant interaction with powerful laser pulses 1−11040
spatial and temporal coherence interrelationship in free fields 1−41564
spatial coherence function in Alford and Gold expt., fringe visibility 1−41575
spatial coherence meas. through turbulent atm. using computer-aided interferometer 1−46226
spatial coherence of laser radiation emitted by resonator filled with randomly inhomogeneous medium 1−1599
speckle photography, use of GOR type laser in interf. meas. 1−36732
speckle reduction, optical coherence doubly phase modulated by US wave 1−10906
white-light transmission holography development (1970-80) 1−41647
Xe-He, laser, saturating amplified-spontaneous emission source, intensity fluctuation and spatial coherence 1−1545

light communication *see optical communication*

light cones
see also current algebra
Feynman diagrams, deep inelastic asymptotic behavior with crossing lines 1−28170
parton model, asymptotic freedom, light cone dynamics, confinement 1−45244

light diffraction
see also holography; optical zone plates
Abbe's theory, Fourier anal. and knife-edge test 1−41606
Abbe's theory, school expt. confirmation and wave phenomena 1−5058
achromatic interferometer for diffr.-limitded imaging through a phase-distorting medium 1−37427
acousto-optic deflector of laser light with rotating wave vector *(Slovenian)* 1−29379
acousto-optical deflector, diffr. by planar multielement piezoelec. tranducer array 1−6643
acousto-optical modulator with polarising transparency, output light distrib. 1−46547
acousto-optics with SAW, devices and appls. 1−1791
acoustooptic interaction, time-varying at high light intensities 1−41908
all-spherical-mirror system, imaging and Fourier transform props. 1−33783
angular meas., Fraunhofer diffraction pattern fringe spacing method 1−14094
binary-data-page thick hologram reconstruction for arbitrarily oriented reference beam 1−41620
causality and analyticity in optics 1−41558
coherent monochromatic polarised light diffr. by screen with rectilinear and parallel edges *(French)* 1−10914
compact device for interferometric holography 1−19293
corrugated waveguide distributed feedback, effective index method, TM polarisation 1−15286
depth information pseudocolour encoding using Talbot effect 1−41601
dielectric lamellar diffraction grating 1−51606
diffraction interferometry using a modified IAB-451 schlieren instrum. 1−41818
diffraction-limited true images from severely aberrated instrums., speckle processing 1−6500
diffused light, interference pattern, intensity distrib. calc. using Fresnel-Kirchhoff formula *(Chinese)* 1−46209
double-slit diffraction expt. with single-photoelectron detect. 1−5055

light diffraction continued
electron micrographs of biological materials, optical diffr. and spatial filtering 1−53949
energy conservation test for scatt. approx. 1−10926
Fabry-Perot interferometer with nonparallel mirrors, apparatus function calc. 1−335
focal boundary layer in axisymmetric diffraction problems 1−29209
Fourier hologram recording with scatterer image in hologram plane 1−51423
Fraunhofer diffraction pattern, Hilbert transform dispersion relations 1−1491
Fresnel approximation validity in near field 1−37408
Fresnel diffraction region, acoustically modified spatial coherence 1−15073
gas ring laser with plane mirrors, effect of gain and loss spatial inhomogeneity on meeting wave nonreciprocity 1−6581
hologram gratings formed by self-induced transparency 1−1523
holographic gratings, multilayer, three-dimens. 1−46266
holographic optical elements and systems, incoherent polychromatic imaging *(German)* 1−1517
holographic phase grating, under/over modulation determ. 1−24369
holographic scanner, skew-angle, diffraction efficiency optimisation 1−24368
holography at 10.6 μm 1−15129
impulse-generating filter, superresolution over restricted field 1−29222
industrial particle size measurement using light scattering 1−27924
lamellar microstructures, applications of optical diffraction 1−31791
laser beam concentration evaluation taking account of diffr. effects 1−19376
laser communication, student project 1−13975
laser optics, high energy, review 1−46393
laser resonator characteristics, integral diffr. eqn. soln. 1−6585
methanol, subharmonic and cavitation activity detection by acousto-optical diffraction 1−37981
modular two-beam grating interferometer, interference struct. investigations 1−40844
multimode optical waveguide with modulated boundary, Bragg diffr. 1−24497
non-monochromatic signal propag. attached to high distortion wavefront, non dispersive homogeneous medium 1−41561
non-spherical particles of size comparable to wavelength, scattering, semi-empirical theory 1−6477
obscured apertures, diffr. far from image centre 1−46252
occultations of stars by Moon, diffr. as cause of fading occultations (1943 to 1977) 1−40313
open unstable resonators, approx. diffraction formulae compared 1−1602
optical cavity, diffr. losses 1−41752
optical demonstrations, using scanning photodiode array 1−13978
optical fibre break angle meas. technique 1−46577
optical online method for evaluating machined surface finishing 1−40756
phase gratings, thick, one-dimens., higher order modes 1−1684
photographic granularity value and mean grain dia. interrelation calcs. *(German)* 1−5421
photosensitive electrooptic media, diffr. and dynamic props. 1−46257
polarization of light diffracted by elastic lattice vibrations 1−46217
polychromatic speckle patterns, contrast variation at far field diffraction plane 1−6504
polydisperse systems, IR dispersion filters, microstruct. param. effect 1−41584
quartz crystal plates, bent, integrated reflectivity 1−21156
rain in turbulent atm., mean diffr. picture washing out in receiving lens focal plane 1−22493
ratiometer, open area 1−5352
ring optical resonator with spherical mirror, diff. effect on threshold conditions *(Russian)* 1−1601
ring optical resonator with spherical mirror, threshold condition, diffr. effect *(Russian)* 1−41753
self-imaging phenomenon of a sinusoidal complex object 1−51365
speckle pattern contrast, polychromatic, non-Gaussian statistics 1−6465
speckle pattern elongated structure in polychromatic laser light 1−41580
speckle pattern fibrous radial struct. in polychromatic light 1−6461
speckle photograph fringes, numerical processing 1−36731
submicron magnetic domain dimensions, low-temp. magneto-optical meas. 1−50177
surface pattern optical contour display by interf. of diffr. beams 1−40752
telescopes, three-mirror, diffr. limited performance, theory 1−1671
thermoplastic-photoconductor media, sensitivity enhancement by photoconductor stratification 1−46265
thin planar surface lenses, primary aberrations, two-dimens. diffr. theory 1−1724
travelling intensity wave excitation in optically active media 1−51425
unstable laser resonators, book contrib. 1−11028
US intensity influence on zero-order diffr. light intensity 1−6446
US interaction, Sommerfeld eqns. 1−19259
US-light-diffraction by 2 adjacent progressing beams, modulation of light in diffraction orders 1−37406
wave diffraction by travelling spatial phase modulation on stationary phase gratings 1−46218
CO_2, near crit. state, diffraction by US wave 1−15317
He, superfluid, subharmonic and cavitation activity detection by acousto-optical diffraction 1−37981
He-Ne laser resonator, off-reson. dispersion profile 1−33718
Y ferrite-garnet crystals, laser radiaton diffr. by laminated domain struct. 1−48045

light diffusion *see light scattering*

light dispersion *see optical dispersion*

light emitting devices
see also light emitting diodes; light sources; luminescent devices
MIM structure with photoresist holographic grating, polarised angle-tunable light source 1−46478

light emitting diodes
see also semiconductor junction lasers
array, with integrating photodiode array, for temporal signal spectral analysis 1−37418
book contrib. 1−26278
brightness and luminance, influence of size and defocus 1−53791
CRO actuation by fibre-guided light pulse 1−44897
display devices, book 1−22962
fibre optic appls., technology, characts. 1−33827
fibre optic interface, using sweet spot 1−1691

light emitting diodes continued
fibre optics LSI module serial light pipe linking modules appl. 1−51618
fibre transmission systems, LED and semiconductor laser sources appl. 1−11167
fibre-optic communication systems, transmitters and receivers 1−29405
fibre-optic dual channel transmission components, light emitters and photodetectors, WDM systems 1−11174
III-V semiconductor optoelectronic devices, degradation modes 1−46351
III-V semiconductors, temperature gradient soln. growth, review 1−21337
MIS photocapacitor/LED electrometric voltage modulator 1−28027
optical communication, meeting, Berlin, Germany (Oct. 1980) *(German)* 1−17931
optical communications, characts. and appl. *(German)* 1−24525
optical fibre transmission devices for 1.3 to 1.55 micron region 1−51638
scintillation spectrometers, blue LED reference element 1−51026
self-aligning LED edge emitters for optical fibres using photolithographic etched V-groove 1−51636
sensor, fibre-optic 1−24503
AlGaAs heterostructure LPE on profiled substrate 1−21371
$Al_xGa_{1-x}As$-GaAs for optical communications, improved MBE growth 1−48263
GaAlAs LED, Au-Sn-Al metallizations, interfacial void struct. 1−16195
$Ga_{1-x}Al_xAs$/GaAs DH LED, abrupt high temp. degradation 1−21256
GaAs electroluminescent structs., DH and variable gap, nonradiative current component increase due to defect form. 1−19343
GaAs, radiative recombination rate coeff., excitation level depend. *(Japanese)* 1−39132
GaAs-$Ga_{1-y}Al_yAs$-$Ga_{1-x}Al_xAs$, n^+-i-n heterostruct., optical emitter degradation 1−7716
GaAs-GaAlAs edge-emitting LED for medium capacity digital optical links, >1 mW launched power 1−11170
GaInAsP-InP LEDs for 140 Mb/s and 280 Mb/s fibre optic communication systems 1−11171
GaP and GaAs amorphous film/crystal sputtered junctions for electroluminescent diodes 1−16608
InAs-InSb solid solution heteroepitaxial layer structs., photoelec. and electrolum. characts. 1−25590
InP, SSD growth and charact., substrates for IR LED 1−53111
n-InP-n-$Ga_{1-x}In_xAs_{1-y}P_y$-p-$Ga_{1-x}In_xAs_{1-y}P_y$ emitting diodes, stability study 1−34779
Si avalanche-plasma light emitter, physical anal. 1−48167
ZnSe single crystalline layers, epitaxial growth by vapour flow focusing *(Japanese)* 1−3636
n-ZnTe, diffusion of Al, cond. and lum. characts. of junction, impurity levels *(Japanese)* 1−20470

light filters *see optical filters*

light intensifiers *see image intensifiers*

light interference
see also light interferometers; light interferometry; Moire fringes
air bubbles in water, scatt. near crit. angle, interf. effects 1−51363
coherence of disturbances of different freqs. 1−46210
coherent monochromatic polarised light diffr. by screen with rectilinear and parallel edges *(French)* 1−10914
color storage and image processing through Young's fringes modulated speckle 1−10929
colour storage and image processing through Young's fringes modulated speckle 1−46234
cross-talk effect control with pulse-width modulated pictures on orthogonal carriers 1−19273
diffused light, interference pattern, intensity distrib. calc. using Fresnel-Kirchhoff formula *(Chinese)* 1−46209
dimple between horizontal glass plate and air bubble in water, thinning phenomena, interference ring obs. 1−34554
electrically intensity-modulated light, coherence of sidebands 1−33617
elliptical polarisation anal. 1−6450
Fabry-Perot interferometer, interf. order, fractional part meas. *(French)* 1−5368
Fabry-Perot interferometer, tilted, concentric interference ring system 1−5372
filter, interference, electro-optical timing *(German)* 1−6641
fringe localization due to two homothetic distributions *(Spanish)* 1−6451
garnet bubble films, AC susceptibility an optical interference meas. 1−7908
glass fibres for optical communication, interference method for parameters determ. *(Czech)* 1−11098
Haidinger's Brush effect enhancement with color striations 1−8864
heterodyne holographic interferometry, book contrib. 1−27929
holograms, computer-generated, recent developments 1−15119
holographic interference pattern quantitative evaluation under image processing aspects 1−15105
holographic interferometry, fringe localisation, geometrical theory 1−15096
imaging technique using spatially and temporally modulated wave front 1−6490
multiple-beam Fizeau interf., general props. 1−6453
nonlinear medium, electromagnetic wave interf. 1−24451
optical demonstrations, using scanning photodiode array 1−13978
optical fibres, photosensitivity, interference filter growth 1−37612
optical fibres, unclad cross-sectional shape determ., radiance diagram harmonic anal. *(French)* 1−33817
phase shift creation in signals with required parameters in certain interf. schemes 1−10915
phase-modulated interferograms, randomly, synchronous detect. 1−41557
photoacoustic spectroscopy, multi-layered samples, interference effects, theory 1−47175
photon synchronisation effect in intensity interference 1−19307
pulsed light spectroscopy concepts 1−40864
Ramsey interference fringes, ion beam-laser beam interaction by Doppler switching 1−51367
Ramsey resonance absorption in methane with three separated laser fields 1−37555
ring form. by multiple internal reflections 1−13980
self-imaging phenomenon of a sinusoidal complex object 1−51365
semiconductor laser, longitudinal mode selection 1−51510
spatial coherence function in Alford and Gold expt., fringe visibility 1−41575
speckle photograph fringes, numerical processing 1−36731
specklegram halo interference fringes, heterodyne readout 1−331
two-photon absorption in crysts., dual-beam meas. interference phenomena 1−28075

light interference continued
water-air interface meniscus surface tension meas. by holographic interferometry 1−16153
Weigert effect application to optical processing in partially coherent light 1−28091
white light multi-exposure speckle photography 1−19269
Young's fringes automatic evaluation, speckle technique in-plane-deform. study 1−14173
Ar compressed, refr. index dispersion direct meas. with yellow Hg light *(French)* 1−6923
$CdGa_2S_4$ single crystals, birefr. in 0.4-2 μm region 1−43096
GaAs thin film optical waveguide, fabrication of chirped gratings 1−15256
Ge 10.6 μm piezo-optical polarisation modulator 1−46546
n-InSb, two-photon absorpt., dual-beam meas. interference phenomena 1−28075
Kr^+ helical cophasal surface laser mode props. 1−29308
Nd laser emission wavelength stabilisation using interf.-polarisation filters 1−51495
Si wafer characterisation by visible light scatt. and interference *(Japanese)* 1−48627

light interferometers
see also light interferometry
acousto-optic modulation at GHz frequencies using integrated optic technology 1−41885
astronomical near-IR spectral imaging Michelson interferometer 1−27398
automatic recording laser interferometer for line standards up to 2 m 1−40843
circular wedge large aperture field widened interferometer 1−36728
coma free spectrometer with interferometer attachment for difr. grating testing 1−45030
dalembertometer, instrum. utilising the Mach-Zehnder interferometer 1−14175
digital interferometric output analyser and display system 1−28060
double beam laser interferometer for meas. of mechanical strains due to domain switching in ferroelecs. 1−14177
double frequency polarization interferometers, frequency convertor comparisons 1−14171
double grating shearing interferometer as MTF meter 1−5369
double-action Fizeau interferometer for single-mode dye laser 1−51506
double-beam interferometers for thin film anal. 1−33045
dual-beam laser interferometer, feedback stabilised, for plasma meas. 1−42211
dual-frequency laser interferometer rationalised scheme *(Chinese)* 1−337
dye pulsed laser with grating and etalon in symm. arrangement 1−11011
electro-optic oscillator using integrated Mach-Zehnder interferometer for optical communication systems 1−11176
Fabry-Perot, apparatus function determ. using Ne-He laser 1−333
Fabry-Perot, temperature evaluation from spectral line breadth, computer appl. 1−332
Fabry-Perot etalons, linewidth measurements at wavelengths greater than 10 μm 1−18289
Fabry-Perot interferometer, image transfer 1−40838
Fabry-Perot interferometer, interf. order, fractional part meas. *(French)* 1−5368
Fabry-Perot interferometer, tilted, concentric interference ring system 1−5372
Fabry-Perot interferometer adjustment mechanism 1−10014
Fabry-Perot interferometer for parasitic oscill. suppression in CO_2 laser 1−33709
Fabry-Perot interferometer plate coating with broadband multilayer dielec. mirrors 1−6634
Fabry-Perot interferometer with nonparallel mirrors, apparatus function calc. 1−335
fibre optic Sagnac interferometer, low-noise rotation sensing 1−41860
fibre optic Sagnac interferometer gyroscope, polarisation control 1−51622
fibre-optic interferometer systems, laser noise, meas. 1−6663
fibre-optic Michelson interferometer using optical power divider, vibr. object displacement meas. appl. 1−5370
filters using Mach-Zehnder and multibranch interferometers 1−1722
Fizeau interferometer, scanning, automated, optical surface characterisation 1−33047
Fizeau wedge mirror for dye laser tuning 1−15187
folded-wave interferometer for laser-matter interaction studies 1−33041
Fourier transform interferometer, field-of-view compensation 1−4239
frequency multiplication using phase-locked loop for laser interferometer resolution improvement *(Chinese)* 1−336
frequency-plane filtering with achromatic optical transform 1−6525
gratings for diffr. interferometers 1−41822
Hewlett-Packard 5526A laser interferometer for calibration and testing *(Italian)* 1−44990
high-resolution spectrometer/interferometer design, rocket-borne 1−36730
holographic lateral shear interferometers with twin three-beam holograms 1−51411
homodyne interferometer band reversible counter 1−44994
homodyne microinterferometer band-counting digital phase meas. system 1−44993
image tube Fabry-Perot interferometer for late type galaxies vel. fields 1−49526
Inters lateral shearing interferometer, large optical component surface shape inspection 1−10013
IR spectral imaging with Michelson interferometer 1−24512
laser, for meas. of small physical motion 1−50196
laser, use for quartz resonator parameters meas. 1−32960
laser interference seismic detector *(Russian)* 1−49402
laser interferometer for ang. meas. in horizontal plane 1−23297
laser interferometer for meas. of tympanic membrane displacements to various acoustic stimuli 1−9066
laser interferometer optics calc. *(Rumanian)* 1−36726
laser interferometer principles *(Czech)* 1−28056
laser interferometer with mirrors reversing the wave front *(Russian)* 1−23294
laser interferometric arrangement for shear type diffusion cell 1−36727
laser system and appls. *(German)* 1−40842
laser variable wavelength interferometer, for absolute distance meas. 1−40840
lateral shear interferometer using twin three-beam-holograms *(Japanese)* 1−24371
light and its uses for amateur scientists, book 1−44721

light interferometers continued
Mach-Zehnder interferometer for use with fibre-optic accelerometer 1−5301
Michelson, performance, combined effects of asymmetric surface errors and parabolic disturbance 1−5367
Michelson interferometer arrangement for conditionally sampled vibr. meas. 1−40847
Michelson interferometer development 1−40846
Michelson interferometer with step-and-integrate mirror motion for use in Fourier transform photoacoustic spectrometer 1−23316
Michelson type, for interferometrically tuned and actively modelocked dye laser 1−41729
Michelson type for holographic interferometry of brittle materials 1−15103
modular two-beam grating interferometer, interference struct. investigations 1−40844
multilayer interference absorber, allowance for inactive layer losses 1−40845
nonlinear Fabry-Perot interferometer, bistability and hysteresis in phase-conjugated reflectivity 1−46431
nonlinear Fabry-Perot interferometers, dynamic response 1−46430
optical fibre interferometer, drift elimination using piezoelectrically stretched coiled fibre 1−6659
phase fluctuation optical heterodyne interferometer, Stark-effect-modulated, trace-gas anal. 1−8636
phase measurement interferometry, high precision 1−45000
phase modulated optical heterocyne interferometer, subsonc vibr. meas. 1−339
point-diffraction interferometer, contrast reversal 1−23293
polarisation, use of Iceland spar and glass prisms 1−36733
pulse circuit subtractor designs using pulse synchronisation method, a laser interferometer appls. *(Chinese)* 1−338
reference, for narrow bandwidth optical filter tuning 1−50197
reflecting diffraction interferometer for CO_2 laser line selection 1−33708
reflecting Fizeau interferometer, use in two-wavelength dye laser operation 1−33701
Sagnac optical fibre gyro rotation sensor, scatt. limitation 1−11110
Sagnac ring interferometer as fibre-optic gyroscope 1−11108
shearing IT-144, for gas flow visualisation 1−38033
spherical wave Fizeau interferometers, direct phase meas. 1−29415
superposition fringe shear interferometer for plane wave testing in white light 1−33042
telescope parabolic mirror interference test *(Russian)* 1−33786
transparent tube wall thickness, automated monitoring apparatus using interference method 1−24541
tunable diode laser spectrometer optical calibrator 1−36745
twin-wave interferometer, correlation processing of optical information 1−19280
Twyman-Green interferometer with imperfect collimator optics, beam shear effects 1−10008
unbalanced Michelson interferometer, phase noise meas. of single-mode diode laser 1−46341
VUV Mach-Zehnder inteferometer with CaF_2 optics, Xe oscillator strength meas. 1−50235
wavefront sensors and deformable mirrors for visible wavelengths 1−46493
wavelength meter, high precision, for tunable diode laser, design and possible sources of error 1−36637
wind tunnel schlieren system, laser interferometer design for flow visualisation 1−2108
zone-plate interferometer for testing aspheric surfaces 1−10011
CO_2/HeNe laser two wavelength interferometer, electron density meas. on Doublet III large fusion research Tokamak 1−15649
$LiNbO_3$:Ti interferometric waveguide electro-optical A/D convertor 1−24486

light interferometry
see also holographic interferometry; Moire fringes
absolute density meas. of water, buoyancy method, laser interferometer and hydrostatic balance appl. 1−23188
absolute distance meas. by two-colour synthetic Michelson interferometry 1−44998
achromatic interferometer for diffr.-limitded imaging through a phase-distorting medium 1−37427
annulus, horizontal, gas-containing, with irregular boundaries, natural convection expts. 1−1986
aspheric testing by conventional interferometry 1−29369
astronomy of faint objects, review 1−4779
binary stars, speckle interferometric meas. 1−9576
book, progress in optics 1−27689
boundary surface testing via differential interferometric measurements of interface waves 1−4031
circular gratings, interferometric construction 1−11082
circular plate, moments determ. by speckle-shearing interferometry 1−46716
computer processing of interferograms *(Russian)* 1−44991
concave optical surfaces, long radius, differential technique for accurate radius of curvature meas. 1−29414
conference, Chicago, IL, USA (Oct. 1980) 1−40593
conjugate-wave generation based interferometry 1−28055
correlation patterns of interferograms and Ronchigrams, rel. to optical figuring of lenses 1−46480
crack tip opening displacement, minicomputer-controlled laser-interferometer technique 1−23299
crystal growth rate meas., interference method 1−3598
crystal resonator microroughness determination, optical interference method *(Polish)* 1−44997
deformable objects, speckle interferogram prod. and interpretation 1−51421
diagnostics of HF discharge with superimposed elec. field 1−2266
diaphragms, Si, pressure measuring, bending behaviour interferometric measurement *(German)* 1−5371
diffraction interferometry using a modified IAB-451 schlieren instrum. 1−41818
diffraction-limited true images from severely aberrated instrums., speckle processing 1−6500
digital speckle-pattern shearing interferometry 1−33043
direct digital transformation of measured values 1−23298
droplet sizing interferometry 1−33049
electro-optical techniques applications in metrology 1−23295
electronic speckle pattern interferometry, advances and appls. 1−14176

light interferometry continued
Fabry-Perot interferogram, spectrum reconstruct. method for IR spectroscopy 1−45037
Fabry-Perot interferometry in VUV from 170 to 138 nm using improved MgF_2 etalon plates 1−334
fibre optic ring interferometer, optical rotation sensor based on Sagnac effect *(German)* 1−19459
fibre preform, refractive index profile meas. 1−1697
flatness measurement system, Fizeau interferometry 1−222
focusing accuracy effect, for density meas. of laser produced plasmas 1−15647
framing interferometry, high speed, with pulsed He-Ne laser 1−36729
galaxy, interferometry, use of image tube Fabry-Perot interferometer 1−49526
gas, Voigt profile parameters, interferometric determ., plasma diagnostics 1−2237
gravitational constant, absolute meas. by laser interferometry, computer processing of signals *(Russian)* 1−44992
half-wave phase plate testing, spectro-interferometric method 1−11195
heterodyne interferometry for moire interferogram profiling 1−33046
impulse breakdown, atmospheric, two-wavelength interferometry, simultaneous recording 1−42230
inert gas ion laser, discharge plasma investigation using the KFPI Fabry-Perot interferometer 1−33660
inhomogeneous phase objects, numerical treatment of interferograms *(Russian)* 1−25084
interferential wavelengths comparison with real-time signal processing 1−14174
IR scatterplate interferometry, 10.6 μm wavelength, fabrication and alignment 1−5365
IR transmitting material interferometric refr. index var. meas. at 10.6 μm 1−10010
IR transparent material absorpt. coeff. meas. using interf. effects in thermooptic expansion 1−33048
laser, for obs. of slow processes of deform. and relaxation 1−16991
laser active media, interferometry of optical inhomogeneities using Talbot effect 1−6561
laser emission, spatial coherence meas. by interferometric and holographic methods 1−6592
laser interferometer bevel angle measurement for spreading resistance profiling 1−32957
laser speckle method for anal. of steady-state vibration of plates 1−46717
laser speckle pattern interferometry for large rotating structure strain meas. 1−41994
lateral observation of transparent non-homogeneous axisymmetrical media 1−19265
length measurement, laser meas. methods 1−14099
length measurement using intersecting laser beams, microprocessor control 1−23301
liquid film between mica plates, thickness meas. using laser interferometer 1−50195
liquid thin film thickness var. meas. using interference method 1−32958
metal vapour in heat pipe, number density meas., interferometric technique 1−44995
metallic thin foils, thickness measurement, optical and nucl. methods, comparison 1−44885
Michelson stellar interferometry, design considerations, book contrib. 1−32624
microprocessor-based video interferogram analysis system 1−44999
microscope for quality control of spherical, cylindrical and toroidal surfaces 1−23306
microscope objectives, imaging quality and performance, interferometric testing 1−45002
modulated optical radiation, meas. of time coherence 1−41576
multidielectric interference filter optical props., approximate calc. *(French)* 1−11072
multiple cladding fibres, interferometric study 1−37613
multiple stage device, high vel. plane launching 1−38461
multiple-beam Fizeau interf., general props. 1−6453
multiwavelength interferometry using multichannel N_2 laser 1−15160
optical bistability in a radially varying mode for interferometer with nonlinear absorber 1−46424
optical fibre γ-radiation damage, subtraction interferometry study 1−1708
particle field diagnostics, appls. of intensity ratioing, interferometry and holography 1−28050
phase modulation interferometry for phase object complex amplitude restoration in microscopy 1−33050
photographic emulsion, polarisation sensitive, interferogram of light vibrs. 1−50200
picosecond laser pulses, continuous monitoring using a rapid-scanning autocorrel. scheme 1−51535
picosecond time-resolved interferometry of CO_2 laser produced plasmas 1−51991
plasma etching, or deposition, compensation method using optical interference control monitor 1−341
plasma etching, undercutting monitoring 1−8462
plasma refraction angle meas. 1−2231
Pluto-Charon system, resolution by speckle interferometry using CFH 3.60 m telescope *(French)* 1−32655
polypropylene fibres, optical props. 1−35000
rapid scan phase modulator for interferometric applications 1−40839
reflection interferometry system for absolute voltage standard 1−33005
refractive Fabry-Perot bistability, with linear absorpt., operation and cavity optimisation theory 1−46425
refractive index determ., of thin films 1−18283
Sagnac interferometry, high precision, beam width correction 1−44996
scattering element effects interferometry *(German)* 1−50198
scatterplate interferometry 1−28057
screw lead automatic meas. by laser interferometer and optical feeler 1−33044
shearing interferometry for objective wave aberration evaluation 1−18290
single-mode optical fibre, chromatic dispersion meas. using interferometric method 1−46565
sinusoidal vibration amplitude meas. using J_6 ratio method 1−23183
solar collectors, natural convection in slat, flat-plate and vee-corrugated collectors, interferometric exam. 1−32049
spatial coherence meas. through turbulent atm. using computer-aided interferometer 1−46226
spatial variables meas. using laser interferometric system 1−14172
speckle interferograms, spatial and temporal props. 1−41581
light interferometry continued
speckle interferometry with imaging holographic grating interferometer 1−28059
speckle metrology range for in-plane displacement analysis 1−14096
speckle photography, use of GOR type laser in interf. meas. 1−36732
specklegram halo interference fringes, heterodyne readout 1−331
spectral line intensity meas. by photon counting with Fabry Perot interferometer 1−10012
stellar interferometry, actively controlled long baseline, field-of-view constraints 1−4613
stellar speckle interferometer data, photon noise effect on image reconstruction, computer expts. 1−54394
stellar speckle interferometry, photon-limited, space-time analysis 1−32629
supergiant stars, speckle interferometric data processing rel. to ang. dias. determ. 1−44550
surface pattern optical contour display by interf. of diffr. beams 1−40752
surface profile measurement by common path heterodyne interferometry 1−46597
surface roughness, optical on-line measurement using coherent light 1−23300
surface step height meas., with variable tilts 1−18193
tetrachloromethane, stimulated-thermal-scattering spectrum with wavefront inversion 1−33765
thin film thickness meas. using interferometric method 1−44883
time integrating optical signal processing 1−15091
time-integration optical processing, contrast 1−51404
tympanic membrane displacement obs. in guinea pig by laser interferometry *(French)* 1−13252
US field visualization and computerized reconstruction 1−11270
vibrating piezoelectric ceramic disk, synthesis by optical coherent methods 1−1512
vibration analysis with Young's fringes modulated speckle 1−6836
vibration measurement method in presence of random path length fluctuations 1−40841
wave front derivation from interferograms by three computer programs 1−5366
white light AC interferometry for multiple laser path length equalisation in Omega laser fusion system 1−28058
Wollaston prism schlieren interferometry for axisymmetric flow fields, data analysis 1−51884
Young's fringes automatic evaluation, speckle technique in-plane-deform. study 1−14173
AlGaAs DH laser, single longitudinal mode, linewidth meas. using Fabry-Perot interferometer 1−46352
Ba vapour laser kinetics investigation using interferometric method 1−51457
$Bi_{12}SiO_{20}$ crystals, speckle-free imaging in four-wave mixing expts. 1−6614
CO_2 laser five-colour sequence by cavity length tuning 1−46388
CO_2 pulsed mode-locked laser, spectral content investigation using Fabry-Perot interferometer 1−6591
He-Xe IR laser interferometry for length meas. 1−36725
LiF single cryst., slip generation and cubical cavity distortion, press. induced 1−34423
N_2-Ar_2-SF_5 gas, heated by CW IR laser, interferometric meas. and calc. of temps 1−38040
Si film, polycryst., thickness meas., interference method 1−5277

light meters *see photometers*

light modulation *see optical modulation*

light polarisation
see also birefringence; optical rotation; photoelasticity; polarimetry
acousto-optical modulator with polarising transparency, output light distrib. 1−46547
alkali halides, F-centre luminesc., stress-induced polarisation for vibronic model of relaxed excited state 1−39150
ammonium oxalate crystals, external and internal conical refraction demonstration 1−5060
astronomical, detection of linear and circular polarisation, calibration and detection threshold 1−36186
atmosphere, aerosol polarisation above 30 km from turbidity coefficient in visual and UV spectral regions *(Russian)* 1−13568
atmospheric extinction, revised depolarization corrections 1−13563
B2 1418+54, compact extragalactic object, optical radiation polarisation rapid variability *(Russian)* 1−4993
Be stars, pole-on, search for linear polarisation variability 1−27533
birefringent crysts., optical activity and absorption for various azimuths of incident light polarisation 1−31122
birefringent multimode fibres, polarisation preservation 1−46558
Boomerang Nebula, highly polarised bipolar nebula, optical linear polarisation obs. 1−9636
cholesteric liquid cryst. layer between dielec. plates, optical characts., filled Fabry-Perot resonator anal. 1−8035
collisional redistribution and light depolarisation, dynamic correl. 1−6200
conical refraction, external and internal, demonstration using ammonium oxalate and lithium formate crystals 1−5060
cooperative spontaneous emission, polarised light fluctuation 1−37446
R Coronae Austrinae dark cloud, polarimetric obs. of grain and mag. field props. 1−54577
corrugated waveguide, light polarisation change 1−11088
corrugated waveguide distributed feedback, effective index method, TM polarisation 1−15286
Cygnus X-1, critique of polarimetric evidence of nature of binary star 1−27550
Cygnus X-1, phase-locked polarisation vars. and implications for binary star canonical model 1−27632
dichroic materials, absorpt. edge meas., effects of imperfect light polarisation and sample alignment 1−26156
dielectrics, laser light scatt., polarisation-depend. off-specular peak meas. 1−41586
diffracted light polarisation, diffr. by elastic lattice vibrs. 1−46217
diffuse reflection problem, polarised radiation transfer in medium of freely oriented small particles 1−13684
disperse system, electrooptical phenomena, light attenuation by arbitrarily oriented spheroid 1−33619
double frequency polarization interferometers, frequency convertor comparisons 1−14171
dye laser amplifiers, polarisation characts., gain anisotropy, unidirectional mol. distribs., anal. 1−41686

light polarisation continued
dye laser amplifiers, polarisation characts., isotropic mol. distribs., anal. 1−41687
electrically controlled polarisation division optical switch, multimode fibre appls. 1−6680
elliptical polarisation anal. 1−6450
evanescent wave structure for Gaussian beam total refl. at plane interface 1−19261
eye examination method for fundus oculi and anterior part of the eye 1−22101
fibre optic Sagnac interferometer gyroscope, polarisation control 1−51622
fibre with elliptical cross section, polarisation transmission characts. calc. 1−1718
fibre-optic magnetic-field sensor 1−37623
fibres, optical, polarisation 1−11101
fibres, single-mode, polarisation mode dispersion measurement 1−41844
fibres, single-mode, VAD, polarisation characts., comments and reply 1−24500
fibres characts. meas. methods survey, optical communication appl. *(Czech)* 1−19464
fibres structures, parameters and transmission props. 1−11112
film thickness determ. using film-substrate system polarisation props. 1−235
fluids, molecular theory of differential light scattering effects 1−48102
fluorescence polarisation, reproducible meas. using sensitive apparatus 1−33035
Fresnel's interface refl. coeffs. mapping, results for parallel, perpendicular polarisations 1−6448
Fresnel amplitude coeffs., direct relations 1−1484
Galilean satellites, multicolour polarimetry *(Russian)* 1−49565
gas laser, anisotropy induced by saturating field 1−1609
glass:Eu^{3+}, optical transition multipole order determ. by polarised luminesc. method 1−31185
Haidinger's Brush effect enhancement with color striations 1−8864
HD 44179 (Red Rectangle), polarisation obs. rel. to optical mol. emission from bipolar nebula 1−4953
HDE 226868 (Cygnus X-1), Monte Carlo model of light and polarisation vars. rel. to orbital inclination 1−49723
helical structures, appls. of circular intensity differential light scattering 1−29207
helical structures, light circular intensity differential scatt. 1−24355
AM Herculis, spectropolarimetry rel. to mag. field direct meas. 1−54553
hexagonal columns and plates, light scatt. calcs. using geometrical ray tracing 1−6483
hexagonal crystals, polarised luminesc. calc. of anisotropic centres 1−35088
high energy laser resonator, imperfectly coated conical element analysis 1−37516
holographic coupler for fibre optics communications 1−19295
holography, reference wave polarisation parameters, theory 1−29236
holography, reproduction of partial polarisation 1−33641
VW Hydri, dwarf nova, photometry and polarimetry during October 1978 supermaximum 1−27507
inhomogeneous media near critical point, multiple light scatt., depolarisation coeff. *(Russian)* 1−10925
injection laser, emission polarization 1−51485
interference coatings, conf., Oakland, CA, USA (June 1980) 1−36444
interference polariser, controlled image multipliers for optoelectronic memories, angular optical characts. 1−6636
interferometer, polarisation, use of Iceland spar and glass prisms 1−36733
internal antireflection control of polarisation effects 1−37405
interplanetary dust scattering, polarisation meas. for single micron size irregularly shaped grains 1−13656
interstellar polarisation, effect of redox reactions on dust grains optical props. 1−27575
intracavity polarisation spectroscopy, Doppler-free, competition effects 1−14187
Jones matrix formalism extension to refl. problems and mag. materials 1−29208
Z Lacertae, delta Cepheid, light polarisation obs. *(Russian)* 1−54523
BL Lacertae objects, optical polarimetry obs. 1−40571
laser Dopper velocimetry, signal-to-noise improvement 1−33735
laser frequency stabilisation by reflecting reference cavity polarisation spectroscopy 1−24437
laser resonator design, polarisation flip cavities 1−15194
laser sounding of clouds, influence of double scatt. on polarisation characts. of echo signals *(Russian)* 1−9249
lasers, Zeeman-type, self-selecting modes *(Czech)* 1−51450
lidar multiple scattering from clouds, polarisation anisotropy 1−36055
liquid prism thin film polariser, high-performance, for use with high power lasers 1−37590
lithium formate crystals, external and internal conical refraction demonstration 1−5060
RR Lyrae, variable linear polarisation obs. *(Russian)* 1−54523
Malus' law, demonstration using Polaroid polarisers 1−27755
MBBA with polymethine dye solution, absorpt. and fluorescence spectra *(Russian)* 1−3448
metal-on-quartz filters as standard reference material for spectrophotometry 1−6642
Mira late type star, light polarisation var. due to circumstellar grains optical charges 1−40489
molecular collisions, nonlinear reson. susceptibility increase induced by polarisation transfer 1−6602
molecules, complex IR pumped, polarisation characts. of quasireson. Raman scatt. 1−33473
molecules in oriented polymer films, latent electronic transitions from fluoresc. polarisation 1−33495
multifunction light-polarisation convertor with birefringent polymer film 1−29372
multimode lightguides, general Jones matrix calc. *(Russian)* 1−41831
non-spherical non-isotropic particles, extinction signatures, microwave analogue meas. 1−6458
nonlinear distortion compensation of beams with arbitrary polarisation state 1−51559
nonlinear nonreciprocal effects in an isotropic medium for arbitrarily polarized opposite waves 1−33745
nonlinear propagation of N intense waves, polarisation states, refractive indices and self-focusing 1−46467
off-specular theory for light scatt. from rough surfaces 1−19266
OJ 287, BL Lacertae object, polarisation and photometric behavior during (1971-76) 1−36388
light polarisation continued
opposition effect, visible radiation backscatter from surfaces 1−29214
opthalmoscope, indirect 1−35860
optical coating preparation for fusion lasers 1−19406
optical coatings for laser fusion applications 1−19405
optical fibre birefringence due to elliptical core deform. and stress anisotropy 1−19444
optical fibre preform anisotropy determ. 1−19462
optical fibre waveguide, low-losses in 0.87-1.02 μm spectral range 1−51629
optical fibres, long single-mode, polarisation mode coupling 1−11104
optical fibres, nondestructive elasto-optic polarisation meas. 1−37622
optical fibres with very small or very large birefr. for polarisation depend. appls. 1−41848
optically active molecules, linearly polarised incident light scatt. 1−15072
ω Orionis, pole-on Be star, linear polarisation variability obs. 1−27533
α Orionis (Betelgeuse), semiregular variable, supergiant, polarisation changes due to atm., visible obs. 1−44567
β Persei (Algol) study of optical polarisation 1−54543
PHL 5200, quasar, spectropolarimetry in visible and near IR 1−54654
photographic emulsion, polarisation sensitive, interferogram of light vibrs. 1−50200
photon statistics and self-induced gyrotropic birefringence 1−10949
polyisoprene networks, labelled, fluorescence polarisation meas. of orientation 1−38307
QSO's highly polarised class, props. and visible obs. 1−49842
quadrupole rotation of polarization plane 1−28928
quasars of Michigan Curtis Schmidt survey, polarisation obs. and comparison with (PHL 5200) 1−54654
quasars optical polarimetry obs. 1−40571
rhodamine 6G dye laser, radiation polarisation, second absorpt. band 1−1561
rough metal surfaces, laser light scatt., polarisation-depend. off-specular peak meas. 1−41586
Sadovsky effect in optically active isotropic medium situated in mag. field 1−6452
self-focusing optical elements, polarisation props. 1−6623
single mode fibres with asymmetrical refractive index pits on both sides of core 1−46560
single mode optical fibres, polarisation mode dispersion meas. 1−15266
single scattering matrix data, inference of scatterer size distrib. 1−6486
single-mode fibre cable design, circular-polarisation maintaining 1−15269
single-mode fibre-optic polariser 1−11107
single-mode fibres, direct meas. of polarisation mode dispersion 1−11136
single-mode fibres, polarisation behaviour of kilometre lengths, mode coupling 1−11135
single-mode laser intracavity coupling modulation 1−46406
SU(3) representation 1−15076
tunable narrow-band optical filters based on selective interference of polarized beams 1−6639
twilight, zenith skylight polarization, turbid layer indications 1−13566
vacuum Fery polarizing monochromator 1−46539
Verdet constant meas. *(Slovenian)* 1−1678
vertical solar cells, absorpt. of plane polarised light, electric power output 1−8705
W Virginis, variable linear polarisation obs. *(Russian)* 1−54523
wavefront reversal of depolarised radiation, degenerate four-photon interaction conditions 1−6615
wavelength-division multiplexing in optical communication systems, wavelength-selective beam splitters with min. polarising effects 1−41877
white dwarfs, circular polarisation meas. 1−27501
Ag submonolayer film, optical absorpt. spectra, size effect in small island particles 1−48188
$BaTiO_3$, refr. indices determ. using polarisation by refl. 1−3348
$Bi_{12}SiO_{20}$, spatial modulation of light image form. 1−1688
CO_2, critical region, multiple scatt. contribs. to depolarisation of scatt. light 1−15592
CO_2 laser radiation, temporal characts. orthogonally polarised wave competition effects 1−6540
CO_2 laser radiation polarisation, intracavity plate anisotropy influence 1−6593
$CdGa_2S_4$, polarised IR refl. spectra, factor group anal. of lattice vibr. 1−35033
CdP_2, nonlinear absorpt. spectra, light polarisation effect 1−19381
$CoSiF_6.6H_2O$, polarised absorption spectra, vibr. anal. 1−52934
Cr-on-quartz filters as standard reference material for spectrophotometry 1−6642
Cs, ionisation cross section, light polarisation, perturbation treatment 1−10702
Cu crystal faces, electroreflectance, polarisation and cryst. struct. effects 1−3370
Fe complex, Fe(II)bis[1-(2′-pyridylmethyleneamino)-2-aminoethane]iodide, linearly and circularly pol. Raman obs. 1−33464
$FeSiF_6.6H_2O$, polarised absorption spectra, vibr. anal. 1−52934
GaAlAs, hyperfine field and spontaneous oscill. of polarisation in optical orientation of electrons and nuclei 1−3300
P-GaAs, circular polarisation of luminesc. in mag. field, Mott transition effects 1−52923
GaAs, hot photoluminescence spectrum and polarisation 1−48147
Ge 10.6 μm piezo-optical polarisation modulator 1−46546
GeS, absorpt. edge meas., effects of imperfect light polarisation and sample alignment 1−26156
HF, laser polarisation effects, two-laser excitation 1−33525
He-Ne internal-mirror laser beam acousto-optical modulation, polarisation induced noise obs. 1−46412
InP-InGaAsP heterojunction laser, emission polarization, internal strain effect 1−51483
$KTaO_3$:Nb, impurity-induced ferroelec. phase transition, Raman scatt. study 1−35037
α-$LiIO_3$, scattered light bands due to DC elec. field action *(Chinese)* 1−3422
$MnSiF_6.6H_2O$, polarised absorption spectra, vibr. anal. 1−52934
Na, hyperfine structure, polarisation in mag. field, photon counting technique 1−10697
Na, Larmor precession in polarisation spectroscopy with spatially separated beams 1−6204
Na, polarisation spectroscopy, Zeeman effect 1−6203
NaF, polarisation spectroscopy meas. of homogeneous linewidth of inhomogeneously broadened N_1-centre band 1−26245
Nd laser emission wavelength stabilisation using interf.-polarisation filters 1−51495

light polarisation continued
$NiSiF_6.6H_2O$, polarised absorption spectra, vibr. anal. 1−52934
PLZT 6/65/35 ceramics, domain wall motion, optical method 1−26148
RbI:Pb^{2+}, polarised luminesc. meas. at liq. He temp. 1−3467
RbI:Tl^+, dimer centres, emission and absorption spectra 1−12568
Si:P, bound multiexciton complex radiation lines in mag. field, polarisation and splitting 1−52993
$Ta_2O_xN_y$ birefringent thin-film waveguide with taper, TM_0-TE_0 conversion 1−11180
Xe, critical region, multiple scatt. contribs. to depolarisation of scatt. light 1−15592

light propagation
see also atmospheric light propagation; guided light propagation
astrometric observations of planets, relativistic corrections due to light propag. *(Russian)* 1−32608
beam and point spread functions for ocean 1−22360
de Broglie relation generalisation for propag. in anisotropic media 1−41565
dielectric film with sinusoidally corrugated surfaces, propagation characts. calc. 1−1729
discrete wave system anal. by optical ray operators 1−1487
electromagnetic optics in moving media, generalised reciprocity theorem 1−41563
Fresnel approximation validity in near field 1−37408
geometrical-optics rays in smoothly inhomogeneous media with refr. index fluctuation, transverse displacement dispersion 1−19271
glass self-focusing plate, imaging props. *(Chinese)* 1−51569
Huygens-Fresnel description of light propag. in terms of generalised analytic functions 1−46215
hydrometer transformation in mists during explosion by laser pulse 1−46230
inhomogeneous media, beam and pulse propag. 1−10921
inhomogeneous optical medium, light propagation 1−19430
integrated optics, wave propag. problems in guiding structures, boundary formulation 1−6686
isotropic propagation and mode, from assumptions of special relativity 1−4758
Jones matrix formalism extension to refl. problems and mag. materials 1−29208
Kubelka-Munk light propag. theory extension to fluoresc. media, appl. to plant sensory pigments 1−1494
laser pulse propag. in nonlinear medium, time and space compression function description 1−15214
non-monochromatic signal propag. attached to high distortion wavefront, non dispersive homogeneous medium 1−41561
nonlinear nonreciprocal effects in an isotropic medium for arbitrarily polarized opposite waves 1−33745
nonlinear propagation of N intense waves, polarisation states, refractive indices and self-focusing 1−46467
optics in four dimensions, conf., Ensenada, Mexico (Aug. 1980) 1−40589
polystyrene latex colloidal solutions, propag. of nanosecond and picosecond light pulses 1−43714
pseudorandom spatially modulated optical signal propag. through amplifying medium 1−33771
pulse propagation in particulate medium 1−19263
quasigeometrical-optics approx. for light wave intensity fluctuations in randomly inhomogeneous medium 1−37414
random angular displacement correction of optical beams 1−33631
random screen model, field and intensity fluctuation longit. correl. 1−51375
self-focusing media with variable index of refraction, book contrib. 1−29351
Stokes parameter representation of light propag. eqns. in inhomogeneous anisotropic optically active media 1−10920
twisted dielectric media, Brillouin diagrams for optical wave propag., group theoretical treatment 1−51373
wave beam propagation, eqn. for field energy density 1−29216
α-$LiIO_3$, scattered light bands due to DC elec. field action *(Chinese)* 1−3422

light propagation in plasma
Brillouin backscatter, intensity, wavelength, bandwidth scaling 1−51926
Brillouin backscatter reduction in CO_2 laser-target interaction 1−46891
density profile steepening, meas. by visible harmonic emission 1−34051
electron and laser beam intensive irrad., irreversible effects 1−42422
electron drag by reson. freq. light, discrete at. excitation *(Russian)* 1−24951
filamentation suppression of optical beams in plasmas and saturable dielectrics 1−46459
ionisation wave in intense laer beam, propagation *(Russian)* 1−34085
laser beam bending effects on interferometric electron density meas. *(Japanese)* 1−42204
laser beam self-focusing in corona of laser-irrad. targets 1−46465
laser frequency modulation by refr. index var. in low-density plasma 1−46404
laser plasma, strongly ionised absorbing, laser emission nonstationary self-focusing 1−2195
laser produced plasma, linear mode conversion, SHG 1−15223
laser pulses, high power localisation in plasmas 1−24978
laser spark plasma, light scatt. anisotropy 1−51959
laser spark self-focusing, high intensity narrow light pulse prod. 1−6624
laser spot size effect on energy balance 1−42176
laser-beam detection with atmospheric-pressure glow discharges 1−24981
non-Gaussian laser mode, self-trapping and self-focusing in collisionless plasma 1−51955
optical energy balance, in laser-produced plasma 1−2212
production and dissipation of magnetic fields in plasma created by laser *(French)* 1−11515
resonant absorption by a magnetic plasma at a rippled critical surface 1−2167
SHG of EM wave in plasma *(Russian)* 1−34086
stimulated Brillouin scatt., anisotropic ion-wave damping effects 1−34052
Al plasma parameters, spectral determ. 1−29895
Al targets, laser light absorption in long-pulse high-irradiance experiments 1−34050
Au targets, laser light absorption in long-pulse high-irradiance experiments 1−34050
H_2 plasma, underdense, magnetically confined, stimulated Raman scatt. 1−46888

light reflection
see also mirrors; optical films
aberration coefficients, optical, automatic computation 1−19272
absorbing optical film systems computer synthesis, transmittance, refl. and absorpt. 1−37403
amplification of light by internal refl. from inverted medium 1−29274
atmosphere, effect of cloud props. on solar radiation refl., transmission and absorpt. 1−13572
atmosphere, effect of cumulus cloudiness on refl. solar radiation statistical characts. *(Russian)* 1−13570
binary star systems, close, gravity darkening exponent and bolometric albedo 1−9578
bistable light reflection by electro-optically driven interface 1−46422
cholesteric liquid crystals, thermal expansion and Bragg reflexes in lattice textures 1−38267
coated optics, low-level reflectance meas. 1−33063
dielectric media, nonlinear reflection 1−33743
diffuse reflection problem, polarised radiation transfer in medium of freely oriented small particles 1−13684
dynamic crack propag., optical method of caustics anal. 1−2561
Earth surface, topographic effect on spectral response from nadir-pointing sensors 1−40228
evanescent wave structure for Gaussian beam total refl. at plane interface 1−19261
eye, geometrical optics and statistical anal. of refractive error 1−8849
film reflector and absorber layer characterisation with high temp. spectrophotometer 1−36742
films, internal stresses measurement 1−29634
flat plate solar collectors, transmission, reflection, absorpt. of visible radiation by multilayer covers 1−13169
Fresnel's interface refl. coeffs. mapping, results for parallel, perpendicular polarisations 1−6448
Fresnel amplitude coeffs., direct relations 1−1484
frustrated total internal reflection, accuracy limitation in optical constants calcs. 1−29210
Gaussian beam, at oblique incidence, on stratified dielectric medium 1−1488
Gaussian beam reflection from nonlinear interface 1−6599
ghost images in photographic objectives, computer-simulation anal. 1−50252
glass, phase separable, gradient index antireflection layer prod. by chem. leaching 1−31211
glass-CS_2 nonlinear interface, reflectivity expt. study 1−46428
gonioreflectometer, computer-controlled, spectral refl. characts. meas. 1−18282
graded-index surfaces to limit reflection, laser induced damage 1−41801
holographic optical element design using conventional optical design programme 1−6515
imperfectly periodic layered media, EM wave refl., theory 1−10894
inhomogeneous inverted medium with limited amplifying region, light refl. 1−46268
interference ring form. by multiple internal reflections 1−13980
internal reflection spectroscopic system, rapid scan 1−45033
interplanetary dust optical reflectivity, meas. for single micron size irregularly shaped grains 1−13656
inverted medium, anomalous light refl. mechanism 1−41766
IR spectrometer, middle resolution, coma corrected *(French)* 1−10028
Jones matrix formalism extension to refl. problems and mag. materials 1−29208
laminar-inhomogeneous medium, isotropic absorbing, transition layer in FTIR method 1−44989
large particle with rough surface, refl. intensity from multiple scatt. theory 1−6484
large sphere visibility observed with laser velocimeter, simple model 1−10917
laser sounding of clouds, influence of double scatt. on polarisation characts. of echo signals *(Russian)* 1−9249
longitudinally inhomogeneous travelling wave excitation conditions at nonlinear interface, system wave state diagram 1−46427
magnetically ordered crysts., light refraction and reflection at boundary 1−6454
metal-on-quartz filters as standard reference material for spectrophotometry 1−6642
multi-interface variable-index media with imbedded source, illuminance and caustic surfaces 1−10910
multilayer coating in region of secondary reflection maxima, suppression of reflection 1−6635
multilayer dielectric mirrors, standing wave field and energy distrib. over wide spectral range 1−51595
multilayer thin films, relationship between optical absorptance and electric field 1−46211
multiple-beam Fizeau interf., general props. 1−6453
multireflection plate for the measurement of low absorption coefficients in thin films 1−330
non-spherical particles of size comparable to wavelength, scattering, semi-empirical theory 1−6477
nonabsorbing double layers, optical anal. by solid state immersion reflectometry 1−3525
opthalmoscope, indirect 1−35860
optical lens hoods, transmission calcs. using Monte Carlo method 1−37593
optical rangefinders, error sources in transmitting and receiving systems 1−11070
passive IR imaging system errors due to reflected ambient flux 1−24520
photoresist grating mask prep. method 1−51646
polarisation effects control by internal antireflection 1−37405
polarised radiation transfer in crystals in exciton region *(Russian)* 1−12519
polymer films, metallized, dynamically disappearing mirrors, appls. 1−37586
polystyrene atactic, transition layer in FTIR method 1−44989
prism, in-line dispersion, six-sided single-piece design, four total internal refls. 1−1676
radiating DFB structures, coupled wave method 1−1726
radiometric temperature meas., reflected background radiation effects 1−23243
reflectometer, microprocessor controlled *(Dutch)* 1−329
retro-reflection, associated terminology 1−29211
rough glass surface light scatt. anal., immersion technique contribution *(French)* 1−6463

light reflection continued
UU Sagittae, eclipsing binary nucleus of planetary nebula Abell 63, large amplitude refl. effect obs. 1−22835
scattering layer with reflecting boundaries, light refl. and transmission 1−1483
skin, reflectance of different sites, He-Ne laser screening 1−43940
specularly reflected optical waves, phase fluctuations 1−6469
spiral galaxies, dust/gas ratios in outer regions rel. to extended refl. nebulae 1−44629
stack of parallel media, reflectance, transmittance and absorptance, recursive formulae 1−37400
stratosphere, effects of volcanic material from Mount St. Helens on Earth limb reflectivity over Europe 1−9212
strehl number degradation by large-scale systematic surface deviations 1−6459
surface effects in optical scatt., extinction theorem, refraction, reflection, Fresnel transmissivity 1−19258
surface plasmons as probe for electrochem. interface 1−35550
surfaces, optical props., bulk-selvedge coupling theory 1−8032
thin film system synthesis and identification, mathematical methods 1−37401
transparent surfaces and films, laser damage exam. by total internal reflection microscopy 1−37526
turbid river water, reflectance rel. to backscatter and absorption 1−44213
turbulent atmosphere, effect of fluctuation amplification in case of reflection 1−36059
turbulent atmosphere reflection, averaging effect of receiving aperture 1−33622
wide-angle reflective optical designs, pursuit of symm. 1−46525
Al_2O_3 ultrathin films on Al foil by oxidation, thickness meas. using attenuated total refl. 1−12591
$BaO-B_2O_3$, $BaO-La_2O_3-B_2O_3$ glasses, refl. coeff. and IR optical consts. 1−43092
$BaTiO_3$, refr. indices determ. using polarisation by refl. 1−3348
Cr-on-quartz filters as standard reference material for spectrophotometry 1−6642
CuI, cubic, optical consts. and exciton-phonon interaction obs. 1−3355
Gd_2O_3 homogeneous thin film, optical constant determ. by refl.-transmission method 1−12593
Ge, amplified phase-conjugate reflection through degenerate four-wave mixing at 10.6 μm 1−41767
Ge-As(Sb)-S(Se) two layer antireflection coatings for YIG near IR detector elements *(Russian)* 1−41800
$K_2O-CaO-BaO-B_2O_3$ glasses, refl. coeff. and IR optical consts. 1−43092
$LiNbO_3$:Ti waveguide system, refl. substrate mode absorpt. in integrated optical spectrum analysers 1−41890
SiO_2 ultrathin films sputtered onto Au foil, thickness meas. using attenuated total refl. 1−12591
$ZnO-B_2O_3$, $ZnO-La_2O_3-B_2O_3$ glasses, refl. coeff. and IR optical consts. 1−43092

light reflection spectra *see reflectivity; spectra*

light refraction
see also birefringence
aberration coefficients, optical, automatic computation 1−19272
aerosol particles, imaginary refr. index rel. to appl. of optical absorpt. const. as pollution index 1−53738
air refractivity, simplified eqn. 1−34039
ammonium oxalate crystals, external and internal conical refraction demonstration 1−5060
atmosphere, calc. of terrestrial and astronomical refr. zenith distances *(Russian)* 1−54239
atmosphere, power spectrum of differential refr. and comparison with solar diameter fluctuation meas. 1−49593
atmospheric refraction and turbulence effects on laser beam propag. path *(Czech)* 1−49386
conical refraction, external and internal, demonstration using ammonium oxalate and lithium formate crystals 1−5060
interstellar grains, effects of redox reactions on refr. indices 1−27575
large sphere visibility observed with laser velocimeter, simple model 1−10917
lithium formate crystals, biaxial nonlinear, vector interactions and nonlinear conical refr. 1−6601
lithium formate crystals, external and internal conical refraction demonstration 1−5060
magnetically ordered crysts., light refraction and reflection at boundary 1−6454
multi-interface variable-index media with imbedded source, illuminance and caustic surfaces 1−10910
nonlinear refraction in non-laser source field 1−41771
ocular refraction measurement using visual evoked pots. *(German)* 1−4371
polytropic atmosphere, astronomical ref. close form expression 1−49382
refracting afocal systems in thermal imagers 1−33788
refractive fringe diagnostics of laser produced plasmas 1−42209
three refracting surfaces, primary aberration-free imaging 1−1502
CdS, polariton spectroscopy, magneto Brillouin scatt. and thin prism refraction 1−47504

light scattering
see also Brillouin spectra; opalescence; Raman spectra; Rayleigh scattering; stimulated scattering
absorbent media, energy propagation and coherence tensor eqns. 1−1490
F-Actin, light scatt. props., nearest and next to nearest neighhour interactions 1−10879
adaptive optics for laser beam control using segmented and deformable mirrors 1−46491
adsorbed layers, enhanced light scattering, surface plasmon dispersion relation effects 1−52963
aerosol size distributions and optical consts. determ., in situ light scatt. techniques 1−9257
aerosols, monodisperse, response of light scatt. and ionisation smoke detectors 1−17334
aerosols with layered humidity-dependent structure, light scatt. 1−21788
air bubbles in water, scatt. near crit. angle, interf. effects 1−51363
alkali halide cryst., laser bombarded, light scatt. by damaged regions 1−53021
alkali halide crystal transparent dielect. optical breakdown and light flash emission by CO_2 laser pulses 1−26290
all-spherical-mirror system, imaging and Fourier transform props. 1−33783
amorphous absorbing media light scatt. theory 1−15078

light scattering continued
atmosphere, direct and diffuse solar radiation on oriented sloping surfaces 1−49320
atmosphere, effect of scatt. conditions on remote sensing of Earth surface nonhomogeneity 1−44299
atmosphere, light scattering coefficients of layered clouds *(Russian)* 1−13569
atmosphere, struct. of two stream methods for calc. of solar fluxes and heating rates in clouds 1−4612
atmosphere, visual and UV scatt. profile from turbidity coeff. meas. above 30 km *(Russian)* 1−13568
atmosphere aerosol remote sensing, light scatt. techniques survey 1−13616
atmospheric particles, analysis using lidar *(Italian)* 1−44332
atoms, opposite parity states, nonreson. 3-photon transition cross-sections 1−28940
biological particles as irregularly shaped scatterers, light scatt. as fast non-destructive probe 1−8900
borosilicate glass, phase separated, light scatt. struct. origin 1−3423
causality and analyticity in optics 1−41558
cloud communication channel space-time response to an optical signal 1−10923
coal ash droplets in combustion flows, laser transmission for sauter mean dia. meas. 1−19839
coherence tensor propagation equations for light scatt. by random media 1−41585
collective pair excitation spectroscopy, book contrib. 1−43130
colloid system, effective diffusion coeff., dynamic light scatt. 1−48740
colloidal crystal, shear-induced melting, light scatt. study 1−35582
complex pseudorandom diffuser, width-modulated, for diffr. limited holography 1−41635
S Coronae Austrinae, protostar, Hα and Hβ line profiles rel. to electron scatt. in infalling envelope 1−17838
correlation properties of resonantly scattered light 1−15074
critical opalescence, light scatt. ang. depend. near crit. point, medium anisotropy effect 1−43135
cyclohexane-aniline binary fluid, crit. conc. fluctuations, shear induced effects 1−16018
depolarised light scattering spectra, moment anal. 1−8084
dichromated gelatin holograms in appls. 1−6514
dielectric physics, book 1−49888
dielectrics, laser light scatt., polarisation-depend. off-specular peak meas. 1−41586
diffuse target with multiple glints, scattered irradiance, atm. turbulence statistical effects 1−1493
diffused light, interference pattern, intensity distrib. calc. using Fresnel-Kirchhoff formula *(Chinese)* 1−46209
diffusing surface, roughness meas. with laser beam, core-wing-ratio method *(Chinese)* 1−46223
disperse system, electrooptical phenomena, light attenuation by arbitrarily oriented spheroid 1−33619
disperse system, electrooptical phenomena optical mechanisms, light modulation in Π_1 field 1−29213
disperse systems, turbidity spectrum method, stability assessment, particulate substance and medium dispersion effect 1−4126
doppler-free transitions induced by strong double-frequency optical excitation 1−15208
dye ring laser behaviour, backscattering effect 1−15195
electromagnetic optics in moving media, generalised reciprocity theorem 1−41563
energy conservation test for scatt. approx. 1−10926
entangled polymer solutions, mol. hydrodynamic transition phenomena, quasielastic light scatt. 1−38245
fabrics, dyed, brightness matrices of light scatt. layers 1−51372
ferromagnetic thin film, light scatt. by spin wave excitations 1−43136
fibre, out of plane scatt. pattern, twisting effect 1−10907
flagellated microorganism motion study using quasi-elastic light scatt. 1−4398
flame visualisation by laser tomography 1−39641
flames, turbulent velocity fluctuations and mean particle radii, scatt. laser, power spectra meas. 1−33948
fluid, quasielastic light scatt. by homodyne cross-correl. techniques, suppression of multiple scatt. effect 1−43133
fluid mixtures, critical, under shear flow, light scattering 1−52958
fog, laser beam propag., absorpt. and scatt. coeffs. of droplets 1−40195
forward optical glory 1−6470
Fourier transform inversion method for fibre-particle size distrib. from light scatt. data 1−23166
Fourier transform processor for very large array radiotelescope, encoding-depend. errors 1−54387
fume particle nucleation and growth, time-resolved light scatt. meas. 1−43715
gas of isotropic molecules, dynamical Onsager approach to field fluctuations and light scatt. 1−51906
glass, inhomogeneity meas., by Shelyobskii method, calibration expts. 1−26162
glass surface, mech. polished, analysis by scatt. light spatial distrib. *(French)* 1−19267
graded-index compound glass fibre total loss and scatt. loss meas. 1−41866
graded-index fibres with diameter variations; backscattering signatures 1−46562
HDE 226868 (Cygnus X-1), Thomson scatt. model for Monte Carlo study of orbital inclination 1−49723
helical structures, appls. of circular intensity differential light scattering 1−29207
helical structures, light circular intensity differential scatt. 1−24355
hexagonal columns and plates, light scatt. calcs. using geometrical ray tracing 1−6483
Huygens-Fresnel description of light propag. in terms of generalised analytic functions 1−46215
VW Hydri, dwarf nova, single particle scatt. in accretion disc rel. to polarisation obs. 1−27507
ice cloud sensing from satellites 1−9293
ice clouds, scatt. and extinction at 10.5-μm 1−40187
India ink, radiative props. meas. for absorbing liquid solar collectors 1−29217
industrial particle size measurement using light scattering 1−27924
inert gas fluids, depolarised light scatt. spectral anal. 1−16575
inhomogeneous diffusing media, Kubelka-Munk eqn. soln. methods comparison 1−46224

light scattering continued
inhomogeneous media near critical point, multiple light scatt., depolarisation coeff. *(Russian)* 1−10925
inhomogeneous particles, arbitrarily shaped, reson. scatt., global-local finite element exact soln. 1−10928
interplanetary dust optical reflectivity, meas. for single micron size irregularly shaped grains 1−13656
interstellar dust grains, far UV radiation scatt. rel. to galactic contrib. to UV diffuse background 1−9738
inverse optical problems, book contrib. 1−51361
inverse problem stability, book contrib. 1−51362
inverse problems, optical processing for information encoding 1−41603
inverse scatt. problem, numerical soln. 1−1489
inverse scattering problem, zero location 1−41569
inverse scattering problem in structural determinations, book contrib. 1−51376
inverse scattering problem in the Born number of degrees of freedom 1−1485
inverse scattering problem soln., fast zero location from two measurements 1−10913
inverse scattering problems in optics, book 1−49889
inverse source and scattering problems in optics 1−41568
irregularly shaped particle light scatt., conf., Albany, NY, USA (June 1979) 1−5028
irregularly shaped particles versus spheres, atm. aerosol remote sensing problems 1−6487
isobutyric acid-D_2O fluid mixture, crit. exponents, isotope exchange effects 1−2609
isobutyric acid-deuterium oxide liq. mixture, crit. exponent determ., neutron and light scatt. 1−20402
isobutyric acid-water, critically quenched mix., struct. factor from light scatt. meas. 1−48103
K-correlations and facet models in diffuse scatt., expt. evaluation 1−29215
Kubelka-Munk light propag. theory extension to fluoresc. media, appl. to plant sensory pigments 1−1494
large particle with rough surface, refl. intensity from multiple scatt. theory 1−6484
large sphere visibility observed with laser velocimeter, simple model 1−10917
laser Doppler velocimeter particle sizing by Mie scatt. 1−40759
laser light scattering, spray droplets, size and velocity measurements 1−33049
laser radiation propag., turbulent atmosphere with scatt. region, photoelectron distrib. at photodetector output, photon-counting mode 1−13574
laser scattering phenomena and coherence theory relations, similarities and distinctions 1−1499
laser sounding of clouds, influence of double scatt. on polarisation characts. of echo signals *(Russian)* 1−9249
laser spark plasma, light scatt. anisotropy 1−51959
laser spark self-focusing, high intensity narrow light pulse prod. 1−6624
latex soln., dil., agglomerated particles, correlation function, appl. in electromagnetic scattering 1−39113
lidar multiple scattering from clouds, polarisation anisotropy 1−36055
lidar multiple scattering in homogeneous fogs 1−9252
lidar return processing, stable analytical inversion soln. 1−40189
lidar visibility measurements, multiple scatt. process 1−9255
linear polymers, nearest and next to nearest neighbour interactions, light scatt. 1−10879
lipid membranes, capillary waves, photon correlation spectroscopy 1−32101
liquid crystals characts., expt. techniques *(Rumanian)* 1−34219
liquid systems, entropy and conc. fluctuation by photon correlation technique 1−43134
liquids, depolarised light scatt. spectrum fine struct. *(Russian)* 1−3426
liquids of nonspherical molecules in nonequilib. steady state, light scatt. 1−26224
LOWTRAN atmospheric propagation computer code total vol. mol. scatt. coeff. modification, comment 1−9243
LOWTRAN atmospheric propagation computer code total volume mol. scatt. coeff. modification 1−9242
2,6-lutidine-water, critically quenched mix., struct. factor from light scatt. meas. 1−48103
macromolecules, size and wt. determ. by light scatt. method 1−4127
metal diffuse reflector with sandblasted surface, scatt. characts. at 10.6 μm 1−19404
methane, fluid, collision-induced light scatt. LF decay consts. temp. depend. 1−39114
methane-O_2 flame, particle-size measurement using light scatt. 1−34002
Mie efficiency factors for extinction, absorpt. and radiation pressure 1−6471
Mie forward scattering, improved semiempirical approx., particle size distrib. inversion appl. 1−37411
mixing spectra with partial heterodyning of light 1−41587
molecule ensemble, resonant light scatt., field correl. effects 1−1277
molecules, absorption and light scatt. of stationary and non-stationary incident radiation *(German)* 1−14859
monochromatic source radiation, partial freq. redistrib. 1−33618
monodisperse system of spherical particles, wt. and size determ. by light scatt. methods 1−4127
monomode optical fibre defect location using 1.3 μm semiconductor laser source, Rayleigh backscatt. signal obs. 1−33834
multimode optical fibre, waveguide struct. fluctuation meas. by backscatt. technique 1−41851
muscle, single skeletal fibres, quasi-elastic light-scatt. studies 1−32184
MWC 349, electron scatt. in stellar wind rel. to emission line profiles 1−9504
nematic liquid crystal, light scattering measurements, interpretation 1−30055
nematic liquid crystals, viscoelastic constant determ. by quasi-elastic light scatt. 1−34229
nematics, mag. oriented lyotropic, superstructures, hydrodynamic effect 1−20055
nitrobenzene-hexane mixture, molecular scatt. of light of various multiplicity *(Russian)* 1−52964
non-spherical non-isotropic particles, extinction signatures, microwave analogue meas. 1−6458
non-spherical particle light scatt. 1−9256
non-spherical particles, light scatt. characts., perturbation theory 1−6479
non-spherical particles of size comparable to wavelength, scattering, semi-empirical theory 1−6477
light scattering continued
non-spherical T_n-particles, scatt. exact calcs., comparisons with equiv. spheres 1−6480
nonlinear refractive index and light scatt. due to mol. multipole electric field fluctuations 1−6600
nonspherical particles, radiation scattering 1−22489
ocean upper layers, vertical distrib. of light scatt. props. *(Russian)* 1−13468
opposition effect, visible radiation backscatter from surfaces 1−29214
optical coatings, high band gap oxides, for 0.25 and 1.06 μm fusion lasers 1−19395
optical computing conf., Washington, DC, USA (April 80) 1−49877
optical fibre high-speed core dia. meas. 1−19434
optical fibre preform refractive-index profile meas. in transition region, scatt. power distrib. meas. 1−33812
optical fibres, homogeneous, cylindrical, refr. index determ. 1−29397
optical fibres, light scatt. props. 1−33805
optical fibres, unclad cross-sectional shape determ., radiance diagram harmonic anal. *(French)* 1−33817
optical glass surface roughness evaluation by scatt. light meas. from Ag film coating *(German)* 1−36628
optical light guides, automatic test set up for spectral attenuation meas. *(German)* 1−19449
optical particle counters, forward and wide scatt. angle, laboratory comparison 1−33031
optical unclad fibre, intrinsic dia. determ. from laser forward scatt. pattern *(French)* 1−11091
optically active molecules, linearly polarised incident light scatt. 1−15072
optics in four dimensions, conf., Ensenada, Mexico (Aug. 1980) 1−40589
oriented non-spherical particle, light scatt. obs. using optical levitation 1−6456
ω Orionis, pole-on Be star, linear polarisation var. rel. to axially symmetric distrib. of envelope scatt. material 1−27533
particle shape role 1−6473
particles, spherical and non-spherical, surface waves in light scatt. 1−6481
particles producing strong extinction for IR screening smoke 1−6474
particulate analysis using angular light scattering 1−13583
particulate media, propag. of converging, diverging laser beams 1−41582
particulate system mag. induced extinction 1−8044
phase distortion compensation caused by extended inhomogeneities, system optimisation 1−33632
photographic chromaticity of camera lenses having multilayer antireflection coatings 1−36755
photon counting statistics of laser light scatt. by very dil. soln. 1−51371
photon-counting statistics of optical scintillation, inverse detect. and scatt. problems, book contrib. 1−51377
planetary atmosphere, polarised light scatt. in Rayleigh and isotropically scatt. atm. 1−13711
planetary atmospheres, fast exact code for scattered thermal radiation compared with two-stream approximation 1−4762
plasma, laser-produced, optical energy balance 1−2212
PLZT ceramic, domain switching, light scatt. and strain variations 1−8023
PMMA, block and sheet, for optical use, light scatt. unique features 1−37566
PMMA, glassy, struct., light scatt. obs. 1−47001
PMMA, unperturbed mol. dimens. meas. using gel permeation chromatography and light scatt. photometry 1−46183
polarisation relaxational mode-acoustic phonon coupled system, light scatt. spectra 1−39111
polarisation-dependent off-specular peak theory for light scatt. from rough surfaces 1−19266
polarised radiation, multiple scatt. transfer in medium of freely oriented small particles 1−13684
polarised radiation transfer in crystals in exciton region *(Russian)* 1−12519
poly(maleic acid-co-ethyl vinyl ether), dil. soln. props., light scatt., osmotic press. and viscosity meas. 1−46984
poly(maleic anhydride-co-ethyl vinyl ether), dil. soln. props., light scatt., osmotic press. and viscosity meas. 1−46984
polyacrylamide, in acetone-water soln., coil-globule transition, light scatt. obs. 1−42283
polyacrylamine gel deswelling at semipermeable membrane interface under reverse osmosis 1−13040
polyatomic molecule, near-resonance light scattering, collisional redistrib., unified theory 1−33529
polybenzimidazole dilute solns., props. 1−35063
polycaprolactam-polyurethane elastomeric short segment block copolymers, morphology and props. 1−34248
polycarbonate, for optical use, light scatt. unique features 1−37566
polydisperse systems, IR dispersion filters, microstruct. param. effect 1−41584
polymer, glassy, slightly crazed, agglomerated particles, correlation function, appl. in electromagnetic scattering 1−39113
polymer solutions, molecular parameters, expt. error anal. 1−46975
polymer solutions, phase transitions, light scatt. studies 1−38244
polymer solutions, semidilute, hydrodynamic transition, dynamic light scatt. and zero shear viscosities 1−46181
polymers, low mol. weight, mixed solvents, light scatt. behaviour with very high selective sorption 1−46177
polypropylene fibres, optical props. 1−35000
polystyrene, in cyclohexane soln., coil-globule transition, light scatt. obs. 1−42283
polystyrene, soln., semidilute, hydrodynamic transition, dynamic light scatt. and zero shear viscosities 1−46181
polystyrene in cyclohexane, dynamics, conc. fluctuations, quasielastic light scatt. study 1−38236
polystyrene latex monodispersed particles, radiative scatt. cross sections, particle distrib. function 1−41578
polystyrene sphere aggregates, phase matrix meas. for EM scatt. 1−6485
polystyrene suspended spheres, scatt. meas. using digital full-autocorrelator for photoelec. pulses 1−45019
polystyrene-PMMA, block copolymer, comp., mol. wt. distrib. determ. 1−33584
polytetramethylene oxide-polytetramethylene terepthalate, short segment block copolymers, morphology and props. 1−34248
polyvinylidene fluoride, crystal structure and morphology induced by mechanical and electrical stresses *(French)* 1−52091
propagation in bounded dissipating media 1−1500
quantum theory and special relativity 1−65

light scattering continued
radiative transfer, reinvestigation of redistribution functions R_{III} and R_{IV} 1−44426
random rough surface, non-circular gaussian speckle contrast in multiple wave scatt. exact theory 1−19268
rough glass surface light scatt. anal., immersion technique contribution *(French)* 1−6463
rough metal surfaces, laser light scatt., polarisation-depend. off-specular peak meas. 1−41586
rough surface microstruct. effect on light scatt. 1−6462
scattering layers, transmission, packing density effect 1−1497
semiconductor, nonpolar, two-dimens. plasma, charge carrier excitations, reson. inelastic light scatt. 1−12517
semiconductors with direct band gap, polariton theory of scattering of light beams 1−52501
serum albumin ions, bovine, friction, hydrodynamic interaction and fluctuation effects 1−10878
Sharpless 106, bipolar nebula, stellar radiation scatt. by dust in outflowing ionised gas 1−27586
silica dispersion in cyclohexane, dynamic light scatt. and sedimentation expt. 1−43709
single mode fibres, backscattering meas. of bending-induced birefringence 1−46561
single particle resonant scattering, microwave analogue techniques 1−6455
single particle sizing flow photometers 1−27925
single scattering matrix data, inference of scatterer size distrib. 1−6486
slightly turbid specimens, scattering coeffs. meas. with integrating photometer 1−44983
solar devices, effect of surface soiling on performance 1−13089
solar mirrors, wavelength dependent scatt. caused by dust accumulation 1−13088
speckle pattern, object statistics reconstruction from statistical parameters 1−15079
speckle photography meas. of scatt. particle size and conc. 1−15077
speckle produced by weak scatterers from random sinusoid model, intensity and phase statistics derivation 1−37412
spectral light-scattering function inversion 1−6468
spherical particles, radiative scatt. cross sections, particle distrib. function 1−41578
spheroids, scattering predictions, approximate and exact method comparison 1−1440
spray, axisymmetric, deconvolution technique for line-of-sight optical scatt. meas. 1−41577
structural phase transition, two-phonon crit. scatt., theory 1−20349
structural phase transitions, defects and dynamics, light scatt. techniques, appl., review 1−2618
supergiant stars, partial freq. redistrib. theory for chromospheric reson. line profiles form. 1−49644
surface effects in optical scatt., extinction theorem, refraction, reflection, Fresnel transmissivity 1−19258
suspensions of formazin and diatomaceous earth, use for turbidity standards, optical props. 1−19270
tenuous non-spherical particles, Shifrin's method applied to scatt. 1−6482
three dimensional inverse scattering problem solns., reconstruction from projections 1−41570
three-level system, laser cooling by spontaneous anti-Stokes scatt. 1−41437
three-level system, quasi-levels and dynamics 1−41351
triton X-100, water-isopropanol soln., light scatt. 1−31916
tRNA solutions, long range tRNA-tRNA electrostatic interactions 1−24296
turbid river water, reflectance rel. to backscatter and absorption 1−44213
turbulent jet, laser light scattering *(French)* 1−11435
two-level atom in presence of pulse-train driving field, light scatt., power spectrum 1−14838
two-parameter phase function for highly anisotropic angular scatt. distribs. 1−10918
UV/visible spectroscopy, use of spectrophotometer 1−36717
vertebate photoreceptor membrane preparation, rapid photo-induced changes in light scatter 1−35811
vertebrate photoreceptor membrane preps., rapid photo-induced changes in light scatter of retinal rods 1−35812
water droplet, backscattered radiance, elec. field effect 1−6457
water in oil concentrated microemulsions, dynamic light scatt. expts. 1−29212
water-oil microemulsion diffusion, light scatt. study 1−13044
wave beam propagation, eqn. for field energy density 1−29216
wavelength diversity, holography and inverse scatt. 1−41602
wavelength size discs, scatt. and absorpt. cross-sections 1−6478
Ag film, surface plasmon resonances, light scatt. meas. 1−48184
Ag mirror coatings, scatt. defects 1−11066
Ag surface, interfacial light scatt. and electrodynamics due to roughness 1−35108
AgBr photochromic glass, light scatt. by photosensitive and colour centres 1−48023
AgCl photochromic glass, light scatt. by photosensitive and colour centres 1−48023
AgCn adsorbed on Ag electrode, surface enhanced light scatt., background and CN stretch vibr. 1−35046
Al_2O_3 antireflection coating layer props. obtained by electron-beam evaporation in vac. 1−37568
Ar, gas, collision-induced light scatt., integrated intensity 1−24925
Ar, liq., collision-induced light scatt., integrated intensity 1−24925
Ar, liquid, light scatt. intensities boundary problems, computer simulation 1−48095
C black sols, spectrophotometric vol. distrib. determ. 1−6460
CO_2, critical region, multiple scatt. contribs. to depolarisation of scatt. light 1−15592
CaF_2 diamond-machined IR window, optical and surface physical characteristics 1−29359
CaF_2 laser windows, forged and isostatically hot pressed, scatt. levels and stress birefringence obs. 1−29354
GaAs diamond-machined IR window, optical and surface physical characteristics 1−29359
GaAs, heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
GaAs-$Al_xGa_{1-x}As$ heterojunction superlattices, inelastic light scatt. obs. of multilayer two-dimens. electron gas 1−12516
GaAs-AlGaAs heterojunction superlattices, inelastic light scatt. spectroscopy of confined carriers 1−16355
GaAs-AlGaAs superlattice, Coulomb interactions, intersubband spectroscopy 1−7719
GaAs-AlGaAs superlattices, light scatt. spectra of electron gas 1−52960
Ge diamond-machined IR window, optical and surface physical characteristics 1−29359
Ge, heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
He, rel. between charge density susceptibility, scatt. functions, and Van der Waals' functions 1−24203
InBr, emission and scatt. spectra under resonant excitation conditions 1−8094
InSe reflection holograms, light scatts., noise characts. of reduced images *(Russian)* 1−37444
KCl diamond-machined IR window, optical and surface physical characteristics 1−29359
KCl:Pb, solid solution, decomposition, optical investigation 1−20385
KD_2PO_4, light scatt. spectra, anisotropic polarisation relaxation time 1−39031
$KH_{2(1-x)}D_{2x}PO_4$ mixed crysts., light scatt. spectra, temp. depend. meas. 1−39117
KH_2PO_4 type ferroelectric, polarisation fluctuation spectra studied by light scattering *(Japanese)* 1−48101
LiF laser windows, press forging and optical props. 1−29353
$LiHoF_4$, spontaneous magnetisation, crit. behaviour, light scatt. meas. 1−20966
α-$LiIO_3$, scattered light bands due to DC elec. field action *(Chinese)* 1−3422
$LiNbO_3$ electro-optic crystals, optical damage effect reduction 1−12475
$LiNbO_3$, Hertz vector model of light scatt., SAW 1−33848
$LiNbO_3$, optically active light scatt. centres, optical and X-ray obs. 1−31120
$LiTaO_3$, electro-optic crystals, optical damage effect reduction 1−12475
MgF_2 diamond-machined IR window, optical and surface physical characteristics 1−29359
N_2, liq., laser radiation enegy-depend. losses due to scatt. on gas bubbles 1−41768
NH_4Cl, order-disorder transition, quasielastic light scatt. obs. 1−52962
$NaNO_3$, molten, Brillouin scatt. and Landau-Placzek ratio 1−37678
O_2, dissoc. mechanism, in RF sputtering discharge, RBS obs. 1−38184
Si, heavily doped, light scatt. by free electrons and electron-phonon coupled modes 1−48059
Si wafer characterisation by visible light scatt. and interference *(Japanese)* 1−48627
SrF_2 diamond-machined IR window, optical and surface physical characteristics 1−29359
Xe, critical region, multiple scatt. contribs. to depolarisation of scatt. light 1−15592
Xe, depolarisation factor of light scattered in crit. region 1−38048
ZrO_2:Y_2O_3, Raman and quasi-elastic light scatt. due to O_2 diffusion 1−35041

light sources
see also infrared sources; light emitting devices; photometric light sources; spectroscopic light sources
biomedical fibre-optic apparatus, comparative anal. of light-optics illumination systems 1−6627
cold-light source and binocular viewer with fibre-optics illumination for neurosurgery 1−8950
collett-Wolf sources and multimode lasers 1−6628
contact printing image quality, effect of gap between copy and original 1−365
copying, contact, with insufficient thrust, OTF *(Czech)* 1−14193
correlation theory of wavefields, generated by fluctuating three-dimens. scalar sources, radiation from isotropic model sources 1−46213
correlation theory of wavefields generated by fluctuating three-dimens. primary scalar sources, general theory 1−46212
directionality and spatial coherence 1−1486
EM surface wave amplification *(German)* 1−41763
Fabry-Perot interferometer, interf. order, fractional part meas. *(French)* 1−5368
fibre optic biomedical diagnostic instruments, OS-150 illuminator 1−8949
fibre-optic communication systems, transmitters and receivers 1−29405
generalised radiance assoc. with radiation from a quasihomogeneous planar source 1−46214
high intensity, safety standards and meas. techniques 1−35893
hypocycloidal pinch device array as UV laser excitation source 1−6564
intensity, correlation time of an optical field 1−41573
inverse source and scattering problems in optics 1−41568
inverse source problem in coherence theory 1−10911
Lippmann holograms, theory, recording and image processing *(Japanese)* 1−37439
metal halogen light sources for cinematography *(Russian)* 1−45064
multi-mirror illuminator, energy efficient 1−51585
ophthalmological instruments, appls. of fibre-optic elements for ocular illumination 1−22102
optical experiments, computer model for full simulation *(Russian)* 1−46477
optical fibres, high-bandwidth, graded-index, profile dispersion characts. 1−11090
phase-space methods for partially coherent wavefields 1−41567
point source, vectorial analysis of tetrahedral reflectors with curved walls *(Czech)* 1−15245
pulsed holography review, book contrib. 1−10947
push-beam camera with CCD, in-flight calibration on SPOT satellite *(French)* 1−369
radiance transfer function 1−41572
radiant emittance, four definitions from classical and wave theory 1−11055
retrieval of structural information from the far-zone intensity and coherence of scattered radiation 1−41610
solar simulator lamp characts. 1−8688
spatial coherence function in Alford and Gold expt., fringe visibility 1−41575
strong-current compressor discharge, plasma prod., light emission 1−42238
superconducting ondulator for synchrotron radiation light 1−51009
synchrotron radiation as a light source for radiation research 1−53952
undulator on storage ring, photon emission, visible to X-ray tunable range 1−29197
uniform line source generation using binary filter 1−15242

light sources continued
UV emission in light sources, colour-rendering assessment 1−51584
VUV radiation physics, conf., Charlottesville, VA, USA (June 1980) 1−27648
white light, for holographic imaging 1−6505
Zeeman component width of simple atomic lines *(French)* 1−45900
Al-AlO_x-Ag tunnel junction, holographic-grating-enhanced light emission 1−7757
DF chemical laser initiated with Teflon surface spark UV flash 1−19352
HF chemical laser initiated with Teflon surface spark UV flash 1−19352
Hg yellow light, refr. index dispersion direct meas. of compressed Ar *(French)* 1−6923
$LiIO_3$ parametric light source with a two-stage interaction 1−33764
^{87}Rb composite-type optical-pumping light source, ^{87}Rb lamp with ^{85}Rb filter cell 1−41804
^{87}Rb lamp profiles, temp. depend. anal. 1−41346
Xe lamp light source for cold-light biomedical fibre-optic endoscopes 1−4352
XeF* excimer form. in hollow-cathode glow discharge, inert gas-halogen carrier mixture 1−53418

light transmission
see also light absorption; optical filters
absorbing optical film systems computer synthesis, transmittance, refl. and absorpt. 1−37403
atmosphere, daylight, water content and transparency near large astronomical telescope 1−9247
atmosphere, effect of cloud props. on solar radiation refl., transmission and absorpt. 1−13572
atmosphere, effect of cumulus cloudiness on transmitted solar radiation statistical characts. *(Russian)* 1−13570
atmosphere, effect of transmission conditions on remote sensing of Earth surface nonhomogeneity 1−44299
atmosphere spectral transmission at Special Astrophysical Observatory, USSR, meas. (1974 to 1976) 1−9246
atmosphere standard visual range, prediction at high relative humidity for maritime, background and urban aerosols 1−49383
cholesteric liquid cryst. layer between dielec. plates, optical characts., filled Fabry-Perot resonator anal. 1−8035
Christiansen-Bragg filters, transmission characts., coupled mode theory and matrix methods 1−19411
cloudy sky illumination, math. model 1−36057
coal ash droplets in combustion flows, laser transmission for sauter mean dia. meas. 1−19839
coated optics, low-level reflectance meas. 1−33063
coating design with induced transmission, appl. to interf. filters 1−37404
cryostat, far IR-optical, variable temp., for light transmission and photocond. studies 1−40792
dye molecule, malachite green, transmission of multimode laser pulses 1−10997
film inhomogeneity, optical monitoring accuracy limitation 1−37637
film optical constants determ. by refl.-transmission method 1−12593
flat plate solar collectors, transmission, reflection, absorpt. of visible radiation by multilayer covers 1−13169
float glass, solar transmittance, effect of Fe contaminant 1−13091
fluoride crystal windows, adsorbed film influence on VUV spectral transmission change 1−37569
fluoride glass, $RF_3(YF_3)$-BaF_2-ZnF_2, isolation of new IR transmitters 1−19397
Fresnel amplitude coeffs., direct relations 1−1484
glass optical fibre, transmission charact. measuring apparatus 1−51628
glass plastics, diffusional light transmission, fatigue damage, stratification effects 1−26638
graded-index surfaces to limit reflection, laser induced damage 1−41801
heliostat mirrors, reflectance, transmission and aging studies 1−13095
holographic optical element design using conventional optical design programme 1−6515
IR atmospheric transmission measurements, long-path high-resolution, LOWTRAN 3B prediction comparison 1−40186
IR transmission in 20-40 μm region of Mount St. Helens 1−40198
laser pulse statistics change due to two-photon absorpt. 1−11036
laser spark self-focusing, high intensity narrow light pulse prod. 1−6624
metal-on-quartz filters as standard reference material for spectrophotometry 1−6642
microlithography, new lens design 1−45059
multilayer coating in region of secondary reflection maxima, suppression of reflection 1−6635
multilayer dielectric mirrors, standing wave field and energy distrib. over wide spectral range 1−51595
multilayer thin films, relationship between optical absorptance and electric field 1−46211
multiple-beam Fizeau interf., general props. 1−6453
narrow-band interference filters, construction method, prescribed parameters 1−1679
non-spherical particles of size comparable to wavelength, scattering, semi-empirical theory 1−6477
ocean, light transmission meas. rel. to intermediate mepheloid layers off Oregon and Washington 1−27181
optical fibres, broadband spectral attenuation meas. 700-1800 nm, interlaboratory comparison 1−33816
optical fibres, spliced multimode graded profile 9 km cable, transmission characts. *(German)* 1−19452
optical fibres coupler with minimum transmission loss development *(German)* 1−19428
optical lens hoods, transmission calcs. using Monte Carlo method 1−37593
photographic emulsions of high resolution illuminated by pulsed ruby laser, transmission curves 1−50254
plates, flat, method for monitoring of VUV transmission 1−29416
polyethylene, optical props., meas. and appls. 1−3519
polystyrene latex colloidal solutions, propag. of nanosecond and picosecond light pulses 1−43714
scattering layer with reflecting boundaries, light refl. and transmission 1−1483
scattering layers, transmission, packing density effect 1−1497
second-surface silvered glass mirrors, UV transmission through glass and silver metallisation 1−31990
semiconductor, layer-inhomogeneous, light transmission in free-carrier absorpt. band, current influence 1−3371
semiconductors, measurement of optical transmission using coherent laser light 1−18273

light transmission continued
spatial light modulator with internal feedback, multistability in optical transmittance 1−51608
spectrophotometer for transmissivity and reflectivity meas. in near IR to UV region 1−44981
stack of parallel media, reflectance, transmittance and absorptance, recursive formulae 1−37400
surface effects in optical scatt., extinction theorem, refraction, reflection, Fresnel transmissivity 1−19258
surfaces, optical props., bulk-selvedge coupling theory 1−8032
transparent films, thin, thickness and refr.-index dispersion determ. from transmittance 1−8148
Venus atmosphere, CO_2 transmission for spectral region near 10 micrometers 1−4804
white-light transmission holography development (1970-80) 1−41647
Al, Kramers-Kronig anal. of optical data, self-consistency and sum-rule tests 1−8034
Al_2O_3 antireflection coating layer props. obtained by electron-beam evaporation in vac. 1−37568
α-Al_2O_3, transparent ceramic, microstruct. 1−8444
Al_2O_3-Mo-Al_2O_3 sputter-deposited selective absorber coating 1−12595
As_2S_3-Ag system, boundary motion *(Russian)* 1−30825
As_2Se_3 film, photoinduced oxidation, optical props. variation 1−43204
Au-SiO_2-GaAs, light transmittance, intermediate layer effect 1−7742
Au-SiO_2-Si, light transmittance, intermediate layer effect 1−7742
B_2O_3-SiO_2 glass, weathering with and without antireflection films, effect on transmittance 1−53309
Bi film, opt. props. in near IR 1−3515
C film, prep. by laser evap., elec. and opt. characteris. *(Japanese)* 1−31364
Cr-on-quartz filters as standard reference material for spectrophotometry 1−6642
Cr_2O_3-CoO chemical-spray-deposited films, optical props., substrate temp. effects 1−53009
CsI crystalline fibre for IR transmission 1−11100
CuI, cubic, optical consts. and exciton-phonon interaction obs. 1−3355
$Ga_xIn_{1-x}As_yP_{1-y}$, shallow hydrogenic donors, IR photocond. and transmission meas., mag. field depend. 1−48054
Gd_2O_3 homogeneous thin film, optical constant determ. by refl.-transmission method 1−12593
Ge-As(Sb)-S(Se) two layer antireflection coatings for YIG near IR detector elements *(Russian)* 1−41800
In_2O_3 film prep., elec. conductivity and optical transmission 1−52453
In_2O_3 transparent conducting films fabrication using vacuum deposition *(Korean)* 1−31355
In_2O_3:Sn film prep. by activated reactive evaporation, elec. resistivity and transmittance 1−16389
In_2O_3-SnO_2 conductive, transparent coating for thermal insulation *(French)* 1−39497
In_2O_3-SnO_2 sprayed film, light transmission and resistivity optimisation 1−52456
InP, optical transmission, luminesc. and Raman spectra under hydrostatic press. 1−35007
$In_{2-x}Sn_xO_{3-y}$ film, effect of ambient atmos. in annealing 1−2850
$In_{2-x}Sn_xO_{3-y}$ transparent conducting coatings on Si solar cells and 'figure of merit' 1−48843
α-$LiTO_3$ single cryst., electrostatic field influence on light transmission *(Chinese)* 1−48019
N_2, liq., laser radiation enegy-depend. losses due to scatt. on gas bubbles 1−41768
NO, gamma bands, spectral transmission in Earth's atm., remote sensing 1−9248
Na_2O-CaO glass, weathering effect on transmittance 1−53309
Na_2O-SiO_2 glasses, heat treated in contact with metallic Na, coloration and crystn. 1−20479
PbO, single crystal growth optical transmission and dielec. constant meas. *(Japanese)* 1−3599
$PbTiO_3$ ferroelec. thin film, fabrication by RF sputtering, optical and dielec. props. *(Japanese)* 1−35176
Si, impurity decay, laser IR flaw detection 1−52128
SiO_2, amorphous, fundamental optical absorption edge 1−3428
SiO_2Na_2O-CaO-MgO-Al_2O_3-K_2O-BaO glass, decolorisation, Na_2So_4 effect 1−12895
SnO_2, transparent cond. films, deposition, cond. and optical transmission 1−34812
SnO_2:F sprayed film, light transmission and resistivity optimisation 1−52456
SnO_2:Sb, electrical and optical props. 1−42874
SnO_2:Sb films, deposited by hydrolysis, elec., optical, and struct. props. 1−43284
ThF_4-BaF_2-MF_2 (M=Mn, Zn) glasses, IR transmitters *(French)* 1−3354
V_8O_{15} films, optical props. in fundamental absorpt. region, metal-insulator phase transition mechanism 1−3522
ZnO films, RF sputtered onto Si and SiO_2/Si, struct. and interface oxidation state 1−2842
ZnSe components, increased light transmission using polymer antirefl. coatings 1−37567

light velocity
quantum theory and special relativity 1−65
Romer method, fact and illusions, teaching 1−27725
stroboscopic effect, light pulse freq. effect on illusory speed of ref. pts. 1−19481

light velocity measurement
comment on speed of light confirmation by Baird et al. 1−5289
spark formation in point-to-plane positive gap, luminous pulses velocity meas. 1−15734

light water *see water*

lighting
see also floodlighting
composite automatic distribution photometer 1−14169
darkroom time switch with light level meas. *(German)* 1−50247
direct reading equivalent sphere illumination meter for field use 1−18278
distribution test segment for positioning lamps in step and repeat camera 1−44976
oral cavity, illumination for dental work 1−17468
road traffic lights, optical characts., visual perception and recognition process *(German)* 1−22020
stomatalogical instruments with fibre light pipes 1−8951

lighting continued
visual, colour discrimination, illumination of the Farnsworth-Munsell 100-hue test 1−43935
visual response to lighting parameters for observers of varying ages 1−22016
lightning
ball and bead lightning, photographic obs. at night 1−4588
ball lightning, review 1−9216
ball lightning at Puy de Dome, France, lightning striking transmission lines 1−44273
flashes, charge distrib., point charge mod el, VHF pulse propag. meas. correl. with ground electric field determ. 1−22480
forest fires caused by lightning, mag. direction finding method 1−44302
magnetic field of Earth caused by lightning discharges between Earth and ionosphere/magnetosphere 1−17675
measurements of lightning flashes to C.N. Tower in Toronto 1−9205
central New Mexico, radar and acoustic study 1−44254
nighttime obs. made with low light television 1−44233
radiation spectrum in range LF to VHF, far-field Fraunhoffer approx. 1−17681
return stroke, calc. of conductivity and electron density 1−44229
return strokes in 1-200 km range, RF spectra 1−32510
return-stroke, large submicrosecond elec. current risetimes 1−36032
spectra of individual flashes, 370-690 nm, daytime obs. 1−4585
staccato lightning obs. during Oklahoma Univ. Storm Project 1−22381
striking distances, analytical model 1−17680
sulphide ore prospecting, by mag. anomalies due to lightning strikes *(Russian)* 1−22208
transmission line lighting surges review and protection measures 1−54229
VHF radiation for location of three-stroke flash at Kennedy Space Centre 1−13538
lightning conductors *see lightning protection*
lightning protection
see also surge protection
power transformers, distribution, spark gaps protective characts. measurements and requirements against lightning overvoltages 1−42237
transmission line lighting surges review and protection measures 1−54229
C electrode lightning protector blocks, arcing mechanisms 1−46935
C-Cu electrode, lightning protector blocks, arcing mechanisms 1−46935
lightning rods *see lightning protection*
limit, elastic *see elastic limit*
limit cycles
two-dimensional dynamic systems with limit cycles, external fluctuations effect 1−27877
limited space charge accumulation
see also Gunn effect; negative resistance effects; space-charge limited devices
No entries
linear accelerators
see also collective accelerators; electrostatic accelerators
2.5 GeV electron linac injector for KEK Photon Factory, accelerator struct., beam transport system 1−23872
10 μs high-current electron accelerator construction and characteristics 1−970
APEX−accelerator fuel producer and fission product exterminator 1−5977
Argonne supercond. heavy-ion linac forced-circulation cooling system 1−45747
beam emittance growth caused by transverse deflecting fields 1−23874
clinical linear accelerator, model ML-15MIII *(Japanese)* 1−17520
depth dose data for 4 MeV linear accelerators with Pb or U field flatteners 1−49126
electron, meas. of charged particle beam intensity using noise-immune system 1−44955
electron accel. struct., artificially anisotropic dielectric, optimisation 1−51001
electron efficiency studied as function of struct. parameters, current and shape of RF voltage pulse 1−28750
electron high power linear accelerator LIU-10 1−18931
electron linac, picosecond range single-bunch acceleration and detection 1−28748
energy balance of charged particles beams, kinetic power theorem 1−15059
ETA, safety in design and operation 1−37029
Experimental Test Accelerator HV subnanosecond trigger system, description and test data 1−23876
Flash X-ray linear induction accelerator, 20 MeV switching system using low-jitter spark gaps 1−23877
Flash X-ray linear induction accelerator, 20 MeV switching system design and operation 1−23878
free electron laser systems based on linac technology 1−46279
heavy ion accelerator, for nuclear track experiments 1−10599
Heidelberg booster accelerator in action *(German)* 1−6062
HELIOS, Harwell electron linear accelerator 1−6059
high frequency, for heavy ion research *(German)* 1−972
induction accelerator, high-current, long-pulse, design and performance of NBS prototype module 1−10553
induction accelerator dielectric tube selection, coating resistance admissible inhomogeneity 1−37025
inertial confinement fusion systems based on linear accelerators, feasibility 1−18879
ion accelerators, EM field parameter control, stabilisation system 1−10554
laser driven diffraction-grating LINAC, theory 1−50998
magnetic linear accelerator for hypervelocity acceleration in impact fusion 1−5991
nuclear fuel enricher regenerator 1−5977
Photon Factory, Japanese, construction status report *(Japanese)* 1−50996
Photon Factory 2.5 GeV injector electron linac, construction 1−23873
proton loss due to channel focusing parameter errors 1−23927
quadrupole lens with permanent-magnet implicit poles 1−37037
radiation protection problems in the vicinity of linear accelerator facilities 1−50963
railgun accelerators, powered by distributed energy stores, performance anal. 1−28755
resonance ion accelerators, optimisation of quasiperiodic structures 1−51000
RF resonant cavity design for supercond. multicell linear electron accel. 1−37030
linear accelerators continued
S-band linac, for picosecond pulse radiolysis, time jitter improvement 1−28749
Saclay 600 MeV, microprocessor based control *(Spanish)* 1−10616
standing wave accelerating structs., effect of fabrication errors 1−41263
Varian Clinac 6-100, X-ray beam characts. 1−26990
D^-, neutral injector based on negative deuterons 1−10552
U-target, Hg cooled, neutron prod. at GELINA 1−37039
linear algebra
see also determinants; eigenvalues and eigenfunctions; matrix algebra; tensors; vectors
shells, linear theory structure 1−6773
linear combination of atomic orbitals calculations *see LCAO calculations*
linear differential equations
elastic structures, dynamic response, second-order linear differentiar eqn. soln. *(Chinese)* 1−1824
plate, vibrating, asymptotic theory, stationary plane wave example 1−6828
turning point of second order, uniformly valid asymptotic solutions *(Chinese)* 1−44759
linear integrated circuits
No entries
linear programming
energy conservation versus substitution treated by a multiperiod LP-model 1−39717
energy modelling as an instrument for an international strategy for energy research, development and demonstration 1−35620
energy resources management modelling, polynational polyperiod energy systems analysis using generic linear programming models 1−35617
energy systems analysis, linear programming network model 1−35624
energy systems analysis using linear programming 1−39722
HTRs integrated system, complex optimisation 1−23871
MARKAL, a multiperiod linear-programming model for energy systems analysis (BNL version) 1−39719
nuclear power, integrated system within COMECON, optimisation 1−23870
time-stepped energy system optimisation model 1−39725
trusses, elastic, optimal design by approximate compatibility 1−37794
Turkish energy sector dynamic linear programming model for decision analysis 1−43746
linear rectification *see rectification*
linear systems
random excitation, departure from normality 1−40715
linear vibrations *see vibrations*
linearisation techniques
see also piecewise-linear techniques
four-arm bridge characteristic improvement, structural methods 1−28028
instrument transducer linearisation network selection 1−27961
nonlinear transducer output A/D conversion method 1−27959
nuclear reactor model, nonlinear, parameter identification using quasi-linearisation *(Portuguese)* 1−36996
linewidths (spectral) *see spectral line breadth*
linguistics
synthesis by rule of prosodic features, in word concatenation synthesis, synthesis by rule of prosodic features 1−1783
weather reports, semantic interpretation based on language-picture correspondence 1−4601
linguistics, language *see linguistics*
linkages (electric connectors) *see electric connectors*
linking *see joining processes*
Liouville equation
see also Vlasov equation
Brownian motion and quasi-Markov processes 1−5233
channelling, stochastic processes, Markovian approx. 1−52192
magnetic reson. spectra and related correlation functions from stochastic Liouville eqn., computation method 1−44973
molecules, EPR and ST-EPR spectra computation, anisotropic motion, perturbation approach 1−33482
nuclear dynamics, mean-field theory and statistical treatment of residual interactions 1−23578
quantum dynamical systems, stochastic processes 1−5164
stationary solutions, transport process in strong mag. field *(Chinese)* 1−25681
stochastic Liouville equation with randomly variable Hamiltonian of perturbations, Cauchy problem 1−27881
supersymmetric generalisation, cylindrically symmetric configurations of gauge fields *(Russian)* 1−36791
turbulent gases, calcs. 1−5230
lip microphones *see microphones*
lipid bilayers
alkane-saturated lipid bilayer above phase transition, model development 1−39891
alkane-saturated lipid bilayer above phase transition, results and comparison with expt. 1−39892
asialoglycoprotein receptor, voltage-dependent translocation across lipid membranes 1−21990
biomembranes, multicomponent system phase transition 1−43855
chemical capacitance, critique of concept 1−39900
curvature induced conductive and displacement currents through lipid bilayers 1−48968
dipalmitoyl phosphatidylcholine/water system, undulated phase, X-ray and electron microscopy study 1−7084
egg lecithin, generation of higher alternating-current harmonics 1−17353
egg yolk lecithin, in aromatic solvents, NMR, methylene proton nonequivalence 1−45993
elastic bilayer membrane, model 1−39890
electric noise of ion channels formed by amphotericin B in bilayer lipid membranes 1−17354
electrical breakdown by diffusion pot. 1−17355
electrical parameters of a membrane modified with mitochondrial Ca^{2+}-binding glycoprotein 1−35756
electron transfer, appl. to microelectronics 1−8826
electrostriction of double-layer membranes with simultaneous imposition of two alternating voltages 1−53465
fatty acid chain methylenes, cross correlation spectral densities, ^{13}C obs. 1−19221
gamma radiation induced lipid peroxidation and membrane permeability 1−32198

lipid bilayers continued
ion transport, effect of lipid phase transition 1−17356
lipid bilayer, press.-induced phase transitions, Raman spectroscopic order parameter changes, statistical mech. anal. 1−8897
liquid thin film thickness var. meas. using interference method 1−32958
mitochondrial lipids-water system, containing two types of lipid monolayers, X-ray and neutron diffr. study 1−32091
multilayer, interaction with water 1−17101
Newtonian black film, rupture, nucleation mechanism, theory 1−16156
NMR relaxation times, kink motion dynamics 1−28997
NMR studies of membrane struct. and dynamics, book contrib. 1−13217
phosphatidylcholine, molecular order, H^+ enhanced ^{13}C NMR 1−21979
phospholipid bilayer model, phase transitions, critical indices 1−35758
phospholipid bilayers, correl. length and compressibility in presence of thermodynamic density fluctuations 1−8825
phospholipid liquid crysts., hydrated, martensitic transform. driven by mol. conformation change 1−34464
phospholipid vesicles, small, internal press., surface tension and surface free energy 1−8828
photon correlation spectroscopy of lipid membranes 1−32101
prostaglandins, hydrophile-hydrophobe equilib., CNDO/SN calcs. 1−1113
thin lipid membranes, discrete resistance changes 1−21989
water interfaces, surface tension, Monte Carlo simulations 1−38620

liquefaction of gases
50 l/hr He liquefier for Superconducting Magnetic Energy Storage unit 1−48931
t-butyl mercaptan solubility in liquid methane and natural gas mixture 1−47246
n-decane solubility in liquid ethane, effect of N_2 1−47245
n-dodecane solubility in liquid ethane, effect of N_2 1−47245
Gruneisen coeffs., relationship 1−34447
liquefied natural gas spillage vapour spread and dispersion, finite element models 1−32063
methane-propane (5 mol.%) mixture isochoric P-V-T surface meas. 1−52255
natural and petroleum gas carrier spillage and leakage, explosion hazards 1−48787
natural gas, marine transportation at intermediate temp. 1−48786
natural gas liquids plant methanol dehydration and freeze protection, m.pt. meas. 1−44937
natural gas market and trade trends 1−48784
natural gas project planning, shipping and terminal considerations 1−48785
n-octane solubility in liquid ethane, effect of N_2 1−47245
petroleum gas components and mixtures in cryogenic storage, densities and permittivities 1−47141
CO_2 solubility at low temp. in light hydrocarbon mixtures, prediction method 1−47247
H_2 and D_2 liquefier, universal, design 1−5321
H_2, impurity removed by adsorption of N_2 and methane on activated C and silica gel, temp. effect −129° to −101°C 1−52439
H_2, liquid automotive fuel storage 1−48919
He refrigeration/liquefaction cycle thermodynamic optimisation 1−50139
He refrigerator installed orifice flowmeter calibration and use 1−46834
N_2 liquid as automotive heat engine working substance 1−48809
N_2-methane mixture, compressed and liquefied, (p,V,T) meas. 1−30352

liquid alloys
see also liquid metals
alkali metal-Au, density of states and cond. calc., metal-nonmetal transition 1−25689
binary, density of states theory inc. local atomic configs. 1−25605
binary, electromigration under configuration-dependent driving forces 1−7362
binary, entropy of mixing, hard sphere model 1−30397
binary, entropy of mixing 1−7338
binary, partial struct. factors, thermodynamical approach 1−30045
binary alloys, liq., struct. and elec. resist., pseudopot. calc. 1−25142
chemical short-range order obs. by diffr. methods, review 1−30032
disordered binary system, ten-fold degenerate d-electron correlation, metal-nonmetal transition 1−34848
enthalpies of formation, mixing, contact interaction approach 1−42541
FCC metallic crysts. in liquid alloys, equilib. shapes 1−16155
hard sphere mixture, negative nonadditive diameter 1−25132
hot reactive liquids, reflectivity meas. using FIR laser 1−5362
melts, static, degassing by insoluble purge gases 1−12993
minimum metallic cond. and elec. props. 1−25688
regular solution theory, size effects, statistical mech. derivation 1−30396
semiconducting liq. alloy, struct. and evidence for ionic bonding 1−25149
size effect, hard spheres simulation 1−20044
steel, low alloy, liquid phase form. during sintering 1−39272
structural disorder theory, band struct. 1−46987
structure of liquids and amorphous solids, book 1−44726
structures, and their thermodynamic props. 1−5011
volume of mixing, size effect, hard sphere simulation 1−25148
Ag-Cu-Pb melt, surface props. calc. using lattice model 1−20511
Ag-Ge eutectic liq. alloy, self-diffusion coeffs. meas. *(French)* 1−52324
Ag-Li, partial struct. factors, thermodynamical approach 1−30045
Ag-S dilute solns., Gibbs free energy 1−16061
Al-Cu, liq. alloy, surface composition, AES study 1−30527
Al-Cu compacts, liquid phase sintering 1−39271
Al-Si system, thermodynamic functions and phase diagram, optimisation using least squares method 1−53155
Al-Sn, liq. alloy, surface composition, AES study 1−30527
Al_2O_3-SiO_2-CaO oxides, wettability by liq. steel *(German)* 1−42608
Au-Cs melt, struct. and density, neutron diffr. obs. 1−25152
Au-Cs melt, struct. and density, neutron diffr. in small q region 1−25153
Au-Cs melt, struct. and density, γ-absorpt. method obs. of density 1−25351
Au-Ge, liquid alloy, supercooling and thermodynamic props. *(German)* 1−8282
Au-Si, metallic glass form., hybridisation, short range order, entropy determ. 1−30360
Au-Sn, excess heat capacity anomalies, enthalpy of mixing 1−30410
Au-Sn, liquid, heat capacity 1−7346
Au-Sn liq. alloys, enthalpy of mixing 1−47244
Bi-Ga-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
Bi-Ga-Zn, partial free energy, liquidus surface, enthalpies of form. 1−53456

liquid alloys continued
Bi-In alloys, molten, US vel. and absorpt. *(German)* 1−52232
Bi-In molten, X-ray diffr. investig. *(German)* 1−52050
Bi-Pb-Cd system, sign inversion of Pb effective charge *(Slovak)* 1−12720
Bi-Tl, liq. alloys, activity of O 1−42553
Bi-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
CaO-MgO-SiO_2 oxides, wettability by liq. steel *(German)* 1−42608
Cd-Ga, struct., X-ray high angle scatt. and ultrasonic vel. and absorpt. meas. 1−7073
Cd-Ga, struct., X-ray small-angle scatt., critical points 1−7074
Cd-In liquid alloys, viscosity 1−25484
Cd-Pb, vapour press. activities, excess enthalpy and entropy of Cd, comp. depend. 1−47257
Cd-Zn liquid-solid mixture, self-diffusion coeff. conc. depend. using radioactive isotope method *(Russian)* 1−7370
Ce-Cu liq. alloys, high temp. heat content and heat capacity, levitation calorimetry 1−11877
Co-Si, entropy of mixing, electronic contrib. 1−30398
CoSi, entropy of mixing 1−30389
Cs-Au ^{133}Cs NMR obs. of localised states form. in metal-nonmetal transition range 1−26052
CsAu liquid alloy, structural disorder theory, band struct. 1−46987
Cu-As liq. system, Henrian activity coeff. of As 1−48675
Cu-Ir-O, liq., O soln. thermodynamics, Ir solubility, meas. 1−20391
Cu-Ni melts, Mo solubility 1−39315
Cu-Pb, segregated, neutron diffr. obs. of struct. above miscibility gap 1−25144
Cu-Pb alloy melt, vibration effects on struct. during solidification 1−53168
Cu-Pb liq. alloys, thermodynamic props. 1−12721
Cu-S, dilute solns., Gibbs free energy 1−16061
Cu-S, liq., thermodynamic anal. 1−48328
Cu-Sn (22.5 at.%), liq., elec. resist. and thermopower, pseudopot. determ. 1−30711
$Cu_{100-x}Si_x$, liq., partial densities of states, soft X-ray spectroscopy study 1−30612
Fe, cast, melt, Mg melting loss *(German)* 1−52260
Fe-C alloys, partition of N in hypo-eutectic and near-eutectic alloys 1−53190
Fe-C melts, coupling phenomena in transfer of elements between a gas phase 1−48676
Fe-C:S(Mg), liq. struct. determ. using X-ray anal. *(Russian)* 1−2312
Fe-C(P)(P-C) eutectic liq. alloys, viscosities by capillary method 1−25483
Fe-Co Si liq. system, determ. of activity of components from gas solubility knowledge *(German)* 1−8269
Fe-Cr, activities meas. by transportation method *(Japanese)* 1−30393
Fe-Cr-Ni-Ta, liq., N solubility 1−2643
Fe-Cr-Ta, liq., N solubility 1−2643
Fe-Cu, activities meas. by transportation method *(Japanese)* 1−30393
Fe-Ni alloys, high temp. thermodynamic props. 1−20422
Fe-Ni-Ta, liq., N solubility 1−2643
Fe-S dilute solns., Gibbs free energy 1−16061
Fe-Si, entropy of mixing, electronic contrib. 1−30398
Fe-Sn, activities meas. by transportation method *(Japanese)* 1−30393
Fe-Ta, liq., N solubility 1−2643
Fe-V melt, composition effect on elec. resistance *(Russian)* 1−30712
FeSi, liq., entropy of mixing 1−30389
Ga-Ge-Sn liquid alloys, liquidus surface phase diagrams and enthalpy of formation 1−21761
Ga-Te liquid alloy, reflectivity meas. using FIR laser 1−5362
Ga-Zn, heat of form. and mixing determ. between 660K and 873K *(French)* 1−53455
Ge-Sb, elec. resist. and thermoelec. power 1−30706
Hg amalgams, dil., elec. and thermodynamic props. behaviour at high press. and temp., metal-nonmetal transition 1−25773
Hg-In amalgams, thermodynamic and electron transport props. in metal-nonmetal transition range 1−25770
In-rare earth, dil., residual resist. of rare earth solutes and mag. susceptibility meas. 1−30707
In-Te system, liq. phase equil., existence limits of two-phase region, crit. demixing temp. 1−42528
In-Zn liquid-solid mixture, self-diffusion coeff. conc. depend. using radioactive isotope method *(Russian)* 1−7370
K-Cs, small-angle X-ray diffr. obs. of struct. 1−25143
K-Rb, free energy and heat of mixing, ab initio calc. 1−42540
Li-Bi(Pb)(Sb), DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
Li-Cd(In)(Sn)(Pb), ^7Li Knight shift and elec. resist. meas. 1−31047
Li-Mg liquid alloys, density, compressibility, specific heat and neutron diffr. 1−25449
Li-Na, thermoelec. power meas., crit. effects near phase separation temp. 1−30728
Li-Na, thermoelec., power over entire conc. range 1−38764
Li-Na(Mg)(Pb), nuclear spin-lattice relax. rate meas. 1−31054
Li-Pb, electronic transport, self-consistent pseudopot. theory 1−30709
Li-Pb, entropy of mixing, hard sphere model 1−30397
Li-Pb, low energy photoemission spectra meas. 1−31312
Li-Pb(Sn), ^7Li Knight shift, elec. cond. and spin-lattice relax. time 1−7962
Li_4Pb, dynamical conc. fluctuations, quasielastic neutron scatt., self-diffusion and interdiffusion coeffs. 1−25146
$Li_{22}Si_5(Ge_5)$ solutions in liq. Li, elec. resist., solubility, and chemistry 1−30708
Mg-Cd system, thermodynamic functions and phase diagram 1−53154
Mg-Pb(Sn), liquid alloy, temp. depend. of mixing enthalpy *(German)* 1−31428
Mg-Zn, elec. resist. study 1−30705
Na-Bi(Sb), DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
Na-Cs(K), free energy and heat of mixing, ab initio calc. 1−42540
Na-Ga, two-phase region, press. variation 1−30376
Na-K, liq., electromigration under configuration-dependent driving forces 1−7362
Na-Pb, liq. alloy, entropy of mixing 1−30394
Na_xGa_{1-x} liquid mixtures, conc. fluctuation depend. on press. 1−20403
Ni-S dilute solns., Gibbs free energy 1−16061
Ni-Si, entropy of mixing, electronic contrib. 1−30398
Ni-V, neutron diffr. obs. of struct. factors and chem. ordering effects 1−25145
NiSi liq., entropy of mixing 1−30389

liquid alloys continued
Pb-Cu dil., liquid alloy, O_2 activity 1−26425
Pb-Li, partial struct. factors, thermodynamical approach 1−30045
Pb-S dilute solns., Gibbs free energy 1−16061
Pb-Sb, elec. resist. and thermoelec. power 1−30706
Pb-Sb (0-29.5 wt.%), surface tension determ. by sessile drop technique *(Czech)* 1−11958
Pd-Si melts, short-range order and thermodynamic props. 1−30046
$Pd_{78}Cu_6Si_{16}$, alloy, viscosities and glass formation *(Japanese)* 1−30438
$Pd_{100-x}Si_x$, liq., partial densities of states, soft X-ray spectroscopy study 1−30612
$Pd_{84}Si_{16}$ alloy, viscosities and glass formation *(Japanese)* 1−30438
Pu-Np alloys, binary phase diagrams, Kaufman approach calcs. 1−12718
Sb-Zn, liquid alloy, association and its energetic effect *(German)* 1−39316
Sc alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120
Si_3N_4-Al_2O_3 sintered articles, erosion by molten steel *(Japanese)* 1−43543
Sn-Pb alloy, semi-solid, rheological behaviour under deform. 1−43439
Sn-rare earth, dil., residual resist. of rare earth solutes and mag. susceptibility meas. 1−30707
Sn-S dilute solns., Gibbs free energy 1−16061
Te alloys, dil. liq., electronic behaviour, elec. cond. and mag. susceptibility meas. 1−20695
Th-Pu alloys, binary phase diagrams, Kaufman approach calcs. 1−12718
Th-U alloys, binary phase diagrams, Kaufman approach calcs. 1−12718
Ti alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120
Tl-Pb(Bi)(Au), liq., mag. nucl. spin relax. 1−31053
U alloys, containment in powder metallurgical W vessels 1−53399
U-Np alloy, binary phase diagrams, Kaufman approach calcs. 1−12718
U-Pu alloys, binary phase diagrams, Kaufman approach calcs. 1−12718
V alloys, heat of formation and heats of mixing and soln. of liq. alloy 1−4120

liquid crystal devices
see also liquid crystal displays
cholesteric polymer films, optical appls. 1−48186
cholesteric voltage controlled circular dichroism cells, field induced twist profiles 1−26171
conference, San Jose, CA, USA (Feb. 1979) 1−38273
electro-optic modulator based on electrohydrodynamic effects 1−11084
fibre-optic catheter for O_2 saturation and blood flow meas. in coronary sinus 1−32227
light valve coupled to TEM, for real-time optical image projection system 1−28130
liquid crystal device, variable grating mode, for optical processing 1−24478
modulator with interf. polariser, controlled image multipliers for optoelectronic memories 1−6636
nematic, tilt bias angle, crystal rot. technique 1−15791
nematic crystals as light modulators, properties *(Czech)* 1−15258
nematic liquid cryst. detectors for mapping of acoustic fields *(French)* 1−24610
nematic liquid crystal light modulator, high-speed, based on twist effect 1−37602
nematic liquid crystal optical colour filters, electrically controlled, expt. study 1−29376
nonlinear image processing by multiple liquid crystal light valves 1−24491
optical instrument manufacturing, possibilities of using liq.-cryst. elements 1−1677
optical isolator appl., high input impedance achievement 1−41816
optical polarisation division switch, electrically controlled, multimode fibre appls. 1−6680
optical signal processing devices and systems, seminar, Los Angeles, CA, USA (Feb. 1980) 1−22946
panel meter, digital and analogue moving coil meters 1−5299
photoactivated liquid crystal light valve, first-order model 1−24490
real-time optical correlation with solid-state sources 1−51395
spatial light modulator bistable optical matrix device using optical feedback 1−1687
spatial light modulator with internal feedback, bistable props. 1−51607
spatial light modulator with internal feedback, multistability in optical transmittance 1−51608
transient thermal behaviour of a liquid crystal target 1−41871
twist cell performance, surface orientation and compliance effects 1−38274
twisted nematic liquid crystal cells, RF plasma film deposition technique 1−39249
variable grating mode, for optical computing 1−51602
visible to IR image convertor for dynamic IR target simulation 1−24522
SiO, film, obliquely deposited, structure, use in liq. crystal devices *(Japanese)* 1−2837

liquid crystal displays
C-CD light valve, electrical to optical image conversion 1−11165
electro-optical behaviour of liquid crystal materials for display devices 1−38280
electro-optical devices, book 1−22962
image derotation system for real time temp. patterns obs. on rotating components 1−41872
multiplexed twisted nematic displays, philosophy and practice 1−38279
nematic, materials advances, cyanobiphenyl, cyanoterphenyl and multiplex eutectics appl. 1−52060
twisted nematic, optical characts. 1−38277

liquid crystal phase transformations
4′-n-alkyloxy-3′-nitro-biphenylcarboxylic acids, nematic and smectic A, C, D phases 1−20366
4-n-alkyloxybenzylidene-4′-n-butylaniline-4-n-alkyl and 4-n-alkyloxy-4′-cyanobiphenyls mixtures, smectic phases 1−42299
anisotropic layers, dislocation-mediated melting 1−34458
BBCA-p-anisal-p-toluidene nematic mixtures, US vel., specific vol., and related props. 1−15952
biaromatic liquid crystals, reentrant nematic phase *(German)* 1−52065
blue phase to cholesteric phase transition, helical pitch change 1−16029
p-butoxybenzylidene-p-octylaniline, smectic liq. crystals, melting behaviour, sound vel. and attenuation meas. 1−16032
CBOOA, strongly elec. deformed planar nematic, form. of smectic-A phase on cooling, surface energies calc. 1−52264
cholesteric binary mixtures, electro-optical props. 1−8041
cholesteric blue phase, quasicrystalline behaviour and phase transition 1−34222

liquid crystal phase transformations continued
cholesteric liquid crystal, blue phase to isotropic transition and elec. field response 1−25413
cholesteric liquid crystals, linear wave coupling in optics, struct., phase transform. *(Russian)* 1−30054
cholesteryl nonanoate, phase transition lines of blue phase, up to 1200 bars 1−2601
convection in nematic liquid crystal with phase transition 1−46740
COOB-hexyloxycyanobiphenyl, reentrant nematic liq. cryst. mixture, AC calorimetric study 1−11851
cyanobenzylidene octyloxyaniline, viscosity and surface tension meas., critical behaviour 1−2779
cyanoderivatives, periodicity, phase transitions 1−34223
cyanohexyloxybiphenyl-cyanooctyloxybiphenyl mixtures, density meas. near reentrant nematic phase 1−30291
p-n-decyclobenzoic acid-p-n-hexyloxyphenyl ester, smectic liq. cryst., glassy and cryst. phases, Raman and neutron study 1−52064
4,4′-dialkylazoxybenzenes, unsymmetrical, synthesis and phys. props. 1−2316
fluid smectic A antiphase obs. in pure nitro rod-like cpd. 1−38263
hydrocarbons effect of shock waves, liquid cryst. model, Hugoniot curves 1−47136
isobutyl 4-(4′-phenylbenzylidene-amino) cinnamate, cryst. and mol. struct. and smectic E transition 1−2411
isotropic-nematic transition, Maier-Soupe model, 4-particle cluster approximation 1−2602
Landau-de Gennes model of first order transitions, Gaussian approx. calcs. *(Chinese)* 1−47208
liquid crystal, ferroelec. smectic, dynamics of elec. field induced distortion, soft mode props. near T_c 1−52889
liquid two-phase regions in binary mixtures of mesogenic materials, thermodynamics 1−38521
MBBA, nematic, order parameters, resonance Raman method 1−7077
mesomorphic state structure, form. dynamics 1−38258
mixtures, nematic-isotropic transformation, phase separation, diffusive instabilities, director field coupling 1−16030
molecular structure effect on mesomorphism, design of materials having smectic-isotropic maxima 1−38283
nematic liq. cryst., spontaneous polarisation influence on mech. stability 1−2324
nematic liquid crystal, refractive indices and orientational order parameter 1−21158
nematic liquid crystals, EPR studies of molecular ordering, nitroxide radicals used as paramagnetic probes 1−52052
nematic liquid crystals, nitroxide radicals, rotational correlation time from EPR spectra 1−52051
nematic phase of disc-like molecules, X-ray investigation and mag. field effect 1−34226
nematic-isotropic order-disorder transition, dynamic theory 1−25401
nematic-smectic A phase transition, anisotropic sound attenuation and dispersion 1−20317
nematic-smectic A transition, anomalous US attenuation *(Chinese)* 1−42470
nematic-smectic A tricritical point, mag. field induced, theory 1−30368
nematogen miscibility, solid-liquid equilibria, lattice gas model 1−11850
4-nitrophenyl 4′-octyloxybenzoate, isotropic, nematic and smectic phases, dielectric study 1−15789
4-nitrophenyl 4-n-octyloxy-benzoate, crysts., thermal expansion anisotropy, smectic-nematic phase transition, X-ray study 1−42520
4-n-octyl-4′-cyanodiphenyl/4-n-decyl-4′-cyanodiphenyl mixture, smectic A-nematic phase transition 1−2606
4-n-octyloxybenzoyloxy-benzylidene-4′-cyanoaniline, re-entrant nematic phase 1−20367
octyloxycyanobiphenyl, nematic-smectic A transition, crit. heat capacity, temp. depend. 1−2605
order and fluctuations 1−11852
PAA-PHAB binary nematic mixture, nematic-isotropic transition temp. 1−38518
PAA-PPAB binary nematic mixture, nematic-isotropic transition temp. 1−38518
p-phenylene di-p-n-alkoxybenzoates, smectic to nematic transition temp. 1−20368
phospholipid liquid crysts., hydrated, martensitic transform. driven by mol. conformation change 1−34464
polyisocynates, bluk, transitions 1−16027
polymers, crystalline and mesomorphic phases 1−38292
polyphenyls, thermotropic liq., cryst. system, phase equilib. 1−38516
polystyrene soln., in nematic liq. cryst., pseudo clearing temp., ^1H NMR study 1−16031
potassium palmitate, lyotropic cryst., D NMR and phase transformation 1−21059
reentrant nematic and smectic A phases, dielec. const. and relax. study 1−47214
rotational molecular motion, random torsional oscill. model 1−7079
smectic A phase with long range modulation in layers 1−34224
smectic liquid crystals, polymorphic, US studies 1−47171
smectic liquid crysts., bond orientational order, mean-field model 1−34232
smectic two-dimensionally ordered S_A antiphase, escape from incommensurability 1−46994
two-dimensional electron cryst. in mag. field, topological phase transitions, stability region 1−34459

liquid crystals
see also cholesteric liquid crystals; liquid crystal phase transformations; nematic liquid crystals; smectic liquid crystals
acylaminoketone liquid crystal synthesis 1−38265
alignment by SiO double oblique evaporated films, tilt angles 1−38268
alignment on obliquely deposited oxide surfaces, SEM study 1−25155
anisylidene-P-amino phenyl acetate, polarisability, quantum theory 1−15790
anisylidene-P-amino phenyl butyrate, polarisability, quantum theory 1−15790
annual review of physical chemistry (book) 1−9789
benzene-hexa-n-alkanoates, mesomorphic phases, evidence of tilted columnar struct. 1−20051
bibliography, 1978 1−34
block copolymer, mesomorphic structure, determ. techniques *(French)* 1−38261
carbonaceous mesophase spheres, microtexture, TEM obs. 1−42291
defects and textures 1−2329

liquid crystals continued
diheptyloxyazoxybenzene, liquid-crystal and solid phase, anisotropy, compton profiles 1−31222
disc micelles in type II DM phases, short chains in long chain host bilayers, ^2H NMR 1−20049
disclinations, general theory 1−2328
discotic mesophase, electro-optical effects, dielec. and EHD instabilities 1−46990
dislocations and disclinations, book 1−26
elastic, wave propagation, theoretical invest. *(Japanese)* 1−42294
P-ethoxy benzylidene-P-n-butylaniline, polarisability, quantum theory 1−15790
ferroelectric, piezoelectricity, pyroelec., ferroelec., book contrib. 1−12460
geodesics and liq. crystals 1−52056
hexagonal discotic mesophase, defects and texture 1−20052
hexagonal mesophases, non-smectic, geometry, translation defects 1−25156
high pressure liq. crysts. and plastic crysts. 1−38272
hydrocarbons effect of shock waves, liquid cryst. model, Hugoniot curves 1−47136
lamellar phases, chain ordering, NMR meas. 1−15799
lauric acid in cationic and anionic bilayers of disc micelles, ^2H NMR, quadrupole splittings 1−20050
lyotropic liquid crystals, stiff chain effect, book contrib. 1−11674
mesomorphic state structure, form. dynamics 1−38258
mesophases, orientation by solid surfaces *(French)* 1−38260
mesophases in systems of disc-shaped molecules 1−38270
micelle structure, surfactant block model 1−39688
mixtures, chem. and techniques 1−38284
molecular orientation distrib. 1−7076
molecular orientation of monomolecular liquid crystal layers on various substrates, expt. 1−38275
molecular structure effect on mesomorphism, design of materials having smectic-isotropic maxima 1−38283
nematogen miscibility, solid-liquid equilibria, lattice gas model 1−11850
nonlinear optics, review 1−33750
optical, mech. and elec. props. rel. to mol. ordering, book contrib. 1−38271
optical spectra of liq. crysts., long-range activity effect in intermol. interaction 1−8067
orientation on SiO obliquely evaporated surface 1−25158
orientation on surface-treated substrate, polar and nonpolar contribs. meas. 1−42292
orientational order parameter for liq. crysts., internal motion effects 1−11672
paracrystals, natural, limiting size 1−34186
physical properties, helical unwinding, freq.-controlled storage effects and dynamic scatt. *(German)* 1−46993
pitch mesophase, nonlinear elec. resistivity 1−52574
PMR lineshape interpretation 1−20054
poly-p-phenyleneterephalamide, liquid crystalline soln. in H_2SO_4, theological props. 1−1903
polyisocyanate solution, phase transitions, viscosity behaviour 1−38242
potassium palmitate, lyotropic cryst., D NMR and phase transformation 1−21059
properties characts. techniques *(Rumanian)* 1−34219
review, applications of Raman spectroscopy 1−36470
rodlike polymers in isotropic and liq. crystalline phases, rheological props. 1−38243
sodium isovalerate, molten mesophases, ^{23}Na NMR lineshapes 1−7959
sodium n-butyrate, molten mesophases, ^{23}Na NMR lineshapes 1−7959
structure of matter, unity of concepts, book contrib. 1−36488
surface interactions, investigation by surface plasmons 1−39175
topological physics, laboratory illustrations 1−40619
uniaxial, optical absorpt. band shape, orientational ordering effect *(Russian)* 1−43139
US fields imaging *(Slovak)* 1−15338
Williams domains, modified, far field diffr. patterns 1−15795

liquid drop model (nuclear) *see nuclear liquid drop model*

liquid films
see also adsorbed layers; helium films; liquid helium; superfluidity; surface tension
p-butoxybenzylidene-p'-octylaniline, freely suspended liq. cryst. film, smectic A and B phases, shear mech. props. 1−34230
climbing water films in experiments on Rayleigh-Taylor instabilities 1−2780
condensation of binary gas-vapour mixtures, effect of wall temperature variation 1−33886
condensation of vapour, elec. field crit. strength *(Russian)* 1−42521
cooling, 3-D measurements of turbulence structure, full-coverage and recovery regions 1−20518
cooling, full-coverage, recovery region hydrodynamics 1−20519
currents in boundary film of liq. on solid *(German)* 1−37980
dimple between horizontal glass plate and air bubble in water, thinning phenomena, interference ring obs. 1−34554
falling films, laminar, gas absorption, first order homogeneous reaction and gas phase resistance 1−39674
flat plate, laminar flow, binary mixture film condensation 1−19700
flow, around horizontal cylinder, smooth laminar case *(French)* 1−42007
flow on vertical wall, wave formation 1−42006
horizontal cylinder, falling liquid film breakdown during heat transfer 1−25536
horizontal rotating cylinder with liquid film, external hygrocysts 1−37945
hydrocarbons, heavy, thermocapillary liq. films as transient photographic receivers 1−10029
isothermal cylinder, heat transfer from two-phase laminar boundary layer, drop trajectory effects 1−37899
liquid crystal films, smectic, cholesteric, and Rayleigh-Benard order 1−34231
lubricating film between flowing liquid and solid surface, boundary layer theory 1−29646
Newtonian black film, rupture, nucleation mechanism, theory 1−16156
non-Newtonian liquid films, laminar flow inside vertical pipe 1−51830
nonradial rotating pipes, viscous liquid films, approx. dynamic model 1−37946
penetration model for high-flux mass and heat transfer 1−24784
4'-n-pentyl 4-cyanobiphenyl, liquid crystal thin film, elastic deform. 1−34221
photoresist adherence on metal film, contact angle meas. 1−38629

liquid films continued
polymer solutions, dynamic equilibrium shape of film formed by jet encountering obstacle 1−51837
smectic B multilayered crystalline films, X-ray wave diffr., long-range order 1−34225
smectic C film, ferroelec., electrostatically stabilised disclination walls, macroscopic orientation patterns 1−20060
spreading on water-air interface, similarity soln. 1−20517
stability to short and long wavelength perturbations, appl. to cell membranes 1−30528
thickness, US meas. 1−50102
thickness measurement of film between mica plates using laser interferometer 1−50195
thickness variation measurement using interference method 1−32958
Al liquid film, scanning transmission HEED study 1−20047

liquid flow coaxial cables *see coaxial cables*

liquid He *see liquid helium*

liquid helium
see also helium films; liquid helium-3; liquid helium-4; liquid helium sound propagation; ripplons; vortices
50 l/hr He liquefier for Superconducting Magnetic Energy Storage unit 1−48931
boiling in tubes, burnout 1−37772
boiling mechanisms, study by high-speed filming 1−37771
charged liquid surface development, hysteresis *(Russian)* 1−30505
cryostat, gas flow monitor design 1−14122
engineering conference, Madison, WI, USA (Aug. 1979) 1−44718
flow in porous ceramic pipe, effect of suction on heat transfer 1−46658
forced cooling channels, flow instability, temp. and pressure oscillation obs. 1−46817
Kapitza resistance studies using phonon pulse reflection from LiF and NaF surfaces 1−16166
level indicator 1−50149
pulsed power circuit for liquid He floating level gauge 1−50098
refrigeration system multilayer thermal desorption calc. 1−2828
refrigeration/liquefaction cycle thermodynamic optimisation 1−50139
repurifier, high-pressure blowdown valve with replaceable seat 1−14121
self-trapped excitations in condensed matter physics 1−2852
soft quantum lattice gas, supersolid existence 1−44848
superconducting magnets, forced two-phase He cooling tubular system 1−50181
surface, crystn. of electrons and two-dimens. melting 1−7411
surface, cyclotron reson. linewidth of electrons localised above surface *(Russian)* 1−30518
surface, dislocation mediated melting in two-dimens. 1−7412
surface, dynamical props. of two-dimens. electron liq. 1−7416
surface, electron escape from image-potential-induced states 1−7414
surface, melting temp. of two-dimens. Wigner solid, quantum effects 1−7413
surface, thermal and mag. props. of two-dimens. electrons 1−7417
surface multielectron lunes, binding energy, mobility, effective mass *(Russian)* 1−2737
surface ripple and dimple lattice 1−7421
surface states, cyclotron reson. of electrons and two-dimens. character 1−7418
surface states, two-dimens. electron liq., correl. props. 1−7415
transient pool boiling with electronic temp. controller 1−46666
two-dimensional electron layers and strong field mixing effects 1−12174
two-dimensional system, coupled plasma-acoustic oscillations on surfaces 1−12175
two-dimensional system electron props., conf., Lake Yamanaka, Japan (Sept. 1979) 1−5024
two-phase circulatory refrigeration system for composite supercond. pulsed dipole magnet 1−6063
Wigner crystal on surface, melting temp. *(Japanese)* 1−34544

liquid helium-3
see also fermion systems; superfluid helium-3
anomalous thermal and NMR behavior of liquid ^3He in contact with an antiferromagnet 1−16131
coexistence curve at 1.2K 1−2744
droplets, highly polarized, in solid ^4He matrix 1−2766
effective mass calc. from melting curve data 1−20496
electron mobility in surface state 1−11930
electrons suspended above surfaces of cryogenic dielectrics, review 1−20509
exchange interactions 1−2751
fluctuation effects in transport coeffs. 1−2756
ground state and pair correl. function using Jastrow trial wave function 1−52383
ground state energy upper bounds, Green's function Monte Carlo method 1−52382
ground state props., three-body-correl. effect 1−52385
ion mobility 1−11945
large Fermi systems, surface and polarisation effects, FHNC eans. 1−9924
NMR and sp. ht. meas. 1−38610
Poiseuille flow, quasiparticle mean free path effect 1−20497
portable cryostat for astrophysical IR bolometers 1−49518
quantum properties of spin polarized ^3He 1−1301
small volume fluctuations, contrib. to thermodynamics props. 1−42599
solidification and melting in restricted-geometry porous glass substrate 1−2752
spatial correlations in model Fermi fluids 1−9922
spin polarised, ground state fluctuations 1−2749
spin polarised, NMR aspects in high field at liq.-solid transition 1−2768
spin polarised, phase transitions, thermal equilibrium and kinetic phenomena 1−2754
spin polarised, spatial correlations 1−2750
spin polarised, surface nuclear spin-lattice relaxation times 1−2753
spin polarised, using Castaing-Nozieres effect and Pomeranchuk cooling 1−2745
spin polarised and unpolarised, ground state 1−2747
spin polarised and unpolarised, ground-state props., method of correlated basis functions 1−2748
spin polarized, relaxation time, melting curve 1−2746
state-dependent correls., momentum distrib., FHNC calcs. 1−23580
zero sound and viscoelasticity 1−2740
^3He, solid-liquid boundary, magnetic transition model *(Russian)* 1−2774
Si-^3He interface, phonon reflection coeff., effect of cryopumping at Si surface 1−20499

liquid helium 3-4 mixtures
acoustic and thermal transport props. near superfluid transition 1−47316
boundary surface in ^{3}He-^{4}He mixtures *(German)* 1−11948
density excitation spectra of liq. ^{4}He at zero temp. and of ^{3}He atom moving in it 1−11938
dilute, cooling to 0.6 mK, no evidence for superfluid transition 1−47326
dilute mixture, phonon-quasiparticle coupling 1−16135
dilute mixture, surface electrons mobility *(Russian)* 1−2729
excess molar volumes, conc. depend. *(Russian)* 1−20500
Fermi liquid droplet form. in liquid-solid soln., heat capacity meas. 1−34541
film, phase diagram, third-sound vel. meas. 1−20501
magnetic, thermodynamic, hydrodynamic, high-frequency, kinetic properties, review 1−7409
microstratified solution, surface phenomena *(Russian)* 1−42603
phase diagram near tricritical point 1−2759
properties, review of superfluid solns. 1−52386
solid, small low density weak solid soln., thermal cond. *(Russian)* 1−2763
sound propag. near liq.-vapour crit. point 1−11949
specific heat near lambda point, crit. exponent, amplitude ratio, cross over effect 1−30506
spin polarised quantum soln. 1−2758
submonolayer films, thermodynamic props., theory 1−2762
superfluid, heated from below, undamped second-sound waves 1−30515
surface, dimple lattice 1−7420
thermodynamic props., mag. field effects 1−2760
thin films, superfluidity expts. 1−25525
two-dimensional film, superfluid transition study 1−25524
^{3}He-^{4}He mixture, transport phenomena near tricritical point 1−16134
^{3}He-^{4}He superfluid mixture, statistical mechanics calcs. 1−52387

liquid helium-4
see also boson systems; superfluid helium-4
λ-transition and rescaled occupation number representation 1−25515
adsorption of H atoms on surface 1−2733
binding energy of H, zero-field hyperfine reson. study 1−48734
boiling, transient heat transfer obs. 1−52380
boson interactions, ground-state particle number, thermodynamic functions and fluctuations 1−11928
compressibility, isothermal, calc. using analytical eqn. of state *(Russian)* 1−30504
critical thermal conductivity for $T \geq T_\lambda$ 1−42595
crystallisation wave spectrum *(Russian)* 1−52388
density excitation spectrum at OK with ^{3}He atom moving in it 1−11938
dielectric loss, loss tangent, up to 20 MV m^{-1} rms at 50 Hz 1−31084
dimple instability development 1−34529
electron mobility in surface state 1−11930
electrons suspended above surfaces of cryogenic dielectrics, review 1−20509
energy spectrum, microscopic theory 1−30507
heat transfer meas. with Nb-Ti supercond. coil, 1.8 to 4.2K 1−46664
interface with NaF, phonon transmission meas. using supercond. tunnel junctions 1−47360
Kapitza conductance, 0.3 to 1.3K for clean Cu samples 1−20546
Kapitza conductance characts. 1−16128
linear vortex singularity motion *(Russian)* 1−11935
liquefaction without superfluid film 1−36668
melting, quantum, lattice model 1−7405
momentum distrib. and ground-state energy at absolute zero temperature 1−42594
pressurized near T_λ, HF critical sound attenuation 1−16122
quantum liquid, temp. and press. dependence of viscosity 1−20489
sorption into SiO_2 glass, effect on anomalous heat capacity 1−30414
specific heat in confined geometry 1−16127
structure, three-particle distrib. function 1−2738
surface, cyclotron reson. lineshapes under hot electron conditions 1−7419
surface, dielec. levels of electrons and discharge process 1−7690
surface, dimple lattice 1−7420
surface, liq.-cryst. phase transition in system of localised electrons *(Russian)* 1−2730
surface electrons mobility *(Russian)* 1−2729
thermal conductivity in critical region 1−52374
turbulence onset, eftect of Prandtl number 1−16123
US propagation, anharmonic effects near λ-transition 1−16129
Ag-^{4}He interface, Kapitza conductance, enhanced power anomaly 1−20493
^{4}He, liquid-Au(W) interface, Kapitza resistance, sound transmission *(Russian)* 1−30542
^{4}He, nonasymptotic critical dynamics near superfluid transition 1−25519
NaF-^{4}He liquid interface, three-phonon processes and anomalous energy transport 1−20495

liquid helium sound propagation
see also second sound; zero sound
high pressure sound velocity and eqn. of state meas. 1−38612
low temperature attenuation of sound in restricted geometries 1−2731
superfluid, sounds and two-fluid description *(Dutch)* 1−47317
superfluid, ultrasonic attenuation, crit., order-parameter and fluctuation contribs. 1−52378
superfluid film, fifth and sixth sounds *(Japanese)* 1−38607
^{3}He, superfluid, B-phase, group vel. spectroscopy of collective modes 1−20498
^{3}He, superfluid, film, A-B transition, studied by variational method 1−7407
^{3}He, superfluid, sound waves, coupling to order-parameter collective modes 1−42601
^{3}He-^{4}He mixture films, phase diagram, third-sound vel. meas. 1−20501
^{3}He-^{4}He mixtures, acoustic and thermal transport props. near superfluid transition 1−47316
^{3}He-^{4}He mixtures, sound propag. near liq.-vapour crit. point 1−11949
^{3}He-^{4}He superfluid mixture, statistical mechanics calcs. 1−52387
^{4}He, acoustic and thermal transport props. near superfluid transition 1−47316
^{4}He film, superfluid, persistent flow and third sound waves 1−38608
^{4}He, pressurized near T_λ, HF critical sound attenuation 1−16122
^{4}He, superfluid, first, second and fourth sound vel. meas. *(Chinese)* 1−47315
^{4}He, superfluid, fourth sound, equivalence to Biot slow wave in consolidated porous media 1−47314
^{4}He, superfluid, Landau critical velocity, temp. depend 1−11932
^{4}He, superfluid, saturated film, solitary waves, Korteweg de Vries eqn. 1−34542

liquid helium sound propagation continued
^{4}He, superfluid film, short-wavelength third sound, anomalous propag. 1−52372
^{4}He, superfluid film, use in characterization of self-heating effect in a superconducting bolometer 1−50208
^{4}He, US propagation, anharmonic effects near λ-transition 1−16129

liquid lasers
see also dye lasers
benzene filled quartz capillary waveguides excited by dye tunable laser, stimulated Raman scatt. 1−33758
N_2, liq., IR tunable Raman laser 1−19326
$POCl_3$-$SnCl_4$, enhancement of fluoresc. intensities of Tb^{3+} and Eu^{3+} 1−1162

liquid metal embrittlement
mechanisms of embrittlement 1−35364
nuclear materials, liquid metal embrittlement, review 1−3968
prediction, of liq. metal embrittlement 1−39458
steel, Cr-Mo (2.25, 1 wt.%), fatigue crack prop. characts. in liq. Li 1−16880
Al-Zn-Mg (6,3 wt.%), liquid metal embrittlement, metallographic and fractographic studies 1−39408
Cu, by Bi with Sb additive 1−35365
Fe, Armco, fracture, liq. Pb effect 1−31613

liquid metals
see also electron energy states of liquid metals; liquid alloys; mercury (metal)
alkali metals, eqn. of state, 0K compression isotherm from P-V relations 1−30353
alkali metals, ionic atmosphere consideration in thermodynamic study 1−15787
alkali metals, molten, solubility, sound vel., and compressibility 1−15783
alkali metals, structure using electron-ion plasma approach 1−34217
alkali metals, thermopower at high temps. in solid and liq. phases 1−52549
analytic properties 1−11669
atomic dynamics and momentum transfer 1−46969
binary metal system in liquid, kinetics of breakup 1−7339
bulk moduli by homogeneous deform. and long wave methods 1−30290
chemical short-range order obs. by diffr. methods, review 1−30032
conductivity, Ward identity and effective medium approx. 1−7580
conference, Grenoble, France (July 80) 1−22943
cooperative ionic motion 1−25475
cylindrical vessel, electrovortical flow of liquid metals in long. mag. field 1−19829
diffusion coefficient, prediction 1−25476
diffusion expts., convection effects 1−25479
electrical conductivity of disordered metallic systems 1−7581
electron and ion sources, electrohydrodynamic, electric field near anode 1−977
electronic density of states, effective medium approach 1−25606
electronic structure, multiple scatt. approach 1−20611
electronic structure, review 1−25619
entropies, Percus-Yevick phonon theory 1−47256
entropy, phonons and atomic packing 1−25459
expanded metal, metal-insulator transition, thermodynamic singularities, Landau theory extension 1−25634
explosive-bonded plates, molten pockets at interface 1−35500
free energy, analytic model 1−42289
free energy, melting temp. thermodynamic calc. 1−25462
Hall effect, expt. results 1−34691
Hall effect, skew scatt. contrib., theory 1−30694
Hall effect and its appl., commemorative symposium, Baltimore, MD, USA (Nov. 1979) 1−32807
Hall effect in liquid metals 1−34690
LMMHD energy conversion systems with solar collectors and cyclone type coal combustors 1−53632
macrocooler behaviour 1−26447
mass transfer, in sintered composite materials 1−7403
melting temperature, rel. to nearest neighbour separation and surface free energy 1−47211
microparacrystals, struct. and packing density 1−7062
minimum metallic cond. and elec. props. 1−25688
noble metals, elec. resist. and electron-phonon interactions, pseudopot. method *(Russian)* 1−2950
pair potential and structure factor 1−30042
pooling boiling in mag. field, fusion reactor appl. 1−927
powder production, atomisation of liq. metals using twin roller technique 1−3648
rare earth metals, thermodynamic props., hard sphere model 1−46988
simple metals, thermodynamic props., hard sphere model 1−46988
sound velocity and compressibility, struct. factors 1−30328
static structure factor changes by varying pair pot., computer simulation 1−25131
steel, austenitic stainless, corrosion in liquid Na loops, anal. diffusion model 1−8485
structure of liquids and amorphous solids, book 1−44726
structures, and their thermodynamic props. 1−5011
superconducting transition temp. correlation with Hall effect *(Chinese)* 1−3083
surface catalysis, review 1−31910
surface energy and tension, calc. method 1−30526
surface properties, review 1−30525
thermal conductivity coefficients determ., penetrating γ-emission method 1−20694
thermodynamic aspects, review 1−30423
thermoelectric MHD, walls parallel to magnetic field 1−2089
transition metals, HCP, transport and thermophysical props., 300 to 3000K, carrier mean free path influence 1−2940
transition metals, transport props., effective medium approx. 1−30704
transport properties, calc. 1−30695
transport properties, non-simple liq. metals, theories 1−30693
two-phase flow in tubes, void fraction correlation 1−738
viscosity meas., by oscillating vessel method, determ. of end and slipping effects *(Japanese)* 1−30439
Al, liq., elec. resist. and thermoelec. power calc. 1−42488
Al liquid film, scanning transmission HEED study 1−20047
Al melts, static, degassing by insoluble purge gases 1−12993
Al, molecular dynamic model, statistical geometry 1−30041
Al, neutron scattering law $S(Q,\omega)$ 1−30036

liquid metals continued
Al, static and dynamic struct. factors, diffr. and inelastic neutron scatt. obs. *(Rumanian)* 1−52049
Al, static struct. factors at small momentum transfer, neutron diffraction meas. 1−30033
Al, transport coeff. calc. from effective interatomic pot. 1−30692
Al_2O_3/molten Fe, interfacial tension meas. *(Japanese)* 1−2778
Au, liquid, impurity diffusion 1−25477
Au melt, struct. and density, neutron diffr. obs. 1−25151
Au^+ cluster ions from liquid source, current-dependent energy spectra 1−8202
Bi, double hard sphere model 1−30040
Bi, electrical resistance meas., high press. studies 1−42739
Bi, molten, X-ray diffr. investig. *(German)* 1−52050
Bi, structure factors, X-ray diffraction study 1−30034
Bi, transport coeff. calc. from effective interatomic pot. 1−30692
Bi with Sb additive liq. metal embrittlement of Cu 1−35365
Cd, US speed, compressibility and struct. factor 1−46986
Cs, expanded liquid and dense vapour, electronic correl. and metal-nonmetal transition 1−25633
Cs, liquid, heat capacity meas. to 2000K, with density down to ρ_{crit} 1−25450
Cs melt, struct. and density, neutron diffr. obs. 1−25151
Cs, thermodynamic and elec. props., metal-nonmetal transition region 1−25774
Cs^+ ion source, emission characts., field evap. theory predictions 1−5435
Cu, liquid, impurity diffusion 1−25477
Cu, liquid, impurity diffusion 1−25478
Cu solid dissolution, into molten Sn, under static conditions 1−16078
Cu, transport coeff. calc. from effective interatomic pot. 1−30692
Cu, wetting of irrad. UO_2 fuel 1−52397
Fe, elec. resist. and temp. derivative 1−30703
Fe, O_2 transfer rate from slag *(Japanese)* 1−25438
Fe, structure, freq. distrib. function 1−15832
Ga, double hard sphere model 1−30040
Ga, EXAFS, temp. and anisotropy effects 1−31231
Ga, electron momentum distrib. determ. by Compton scatt. 1−48192
Ga, liq., struct. and elec. resist., 303-573K 1−30031
Ga, liquid, quadrupolar relaxation rate, temp. depend. 1−25133
Ga, liquid, struct. and thermodynamic props. from pair pot. 1−25150
Ga liquid struct., temp. depend. 1−38257
Ga, resistivity between 303K and 573K, struct. factor meas. 1−30039
Ga, struct. props. determ. by diffr. of various radiations at temp. between 163K and 1303K *(French)* 1−46985
Ga, structure factors, X-ray diffraction study 1−30034
Ga, structure factors and pair correlation functions 1−30047
Ga, transport coeff. calc. from effective interatomic pot. 1−30692
Ge noncrystalline, liquid-liquid phase transitions, metal-insulator transition 1−7316
Hg elec. cond. meas. at high temp. and pressure, ceramic component 1−50163
Hg, structure, time-of-flight neutron diffr. study using electron LINAC 1−20045
Hg, thermal conductivity and density meas. 1−42740
Hg, viscosity meas., by oscillating vessel method, determ. of end and slipping effects *(Japanese)* 1−30439
Hg, wetting of irrad. UO_2 fuel 1−52397
In, molten, X-ray diffr. investig. *(German)* 1−52050
In, solubility of O_2, determ. by Knudsen cell mass spectrometry and coulometric titration *(Japanese)* 1−25437
In, US speed, compressibility and struct. factor 1−46986
K, atomic struct., perturbation by addition of KCl 1−30038
K, electron-electron scatt. and transport props. 1−47600
K, Lorenz function, thermal cond., elec. resist., and thermoelec. power meas. 1−30710
K-KCl molten mixture, viscosity anal. rel. to struct. 1−25485
Li, interaction with Nb-Zr-C, effect on props. and struct. 1−53246
Li, liquid, Knight shift and spin-lattice relaxation time 1−26057
LiCl-KCl mixtures, partial struct. factors 1−2311
Mo, solid and liq., enthalpy meas. by levitation calorimetry, 2282 to 3383K 1−20423
Na, flow through cold impurity traps, transport processes, EM mixing effect 1−11401
Na, interaction with ceramics 1−16935
Na, liquid, equation of state and internal energy *(French)* 1−7285
Na, liquid, Knight shift and spin-lattice relaxation time 1−26057
Na, liquid, vortex flow structure meas. by magnetic flowmeter 1−2112
Na saturated vapour pressure meas. manometer 1−23716
Na-K, in cell densely packed with rods, temp. pulsations, statistical characteristics 1−15483
NaCl-KCl mixtures, partial struct. factors 1−2311
Ni, electron momentum distrib., positron annihilation meas. 1−31225
Ni, liq., decarburisation kinetics in CO_2-CO mixtures 1−4047
Pb, capillary infiltration of porous Ni strips 1−39283
Pb, collective excitations, thermal neutron scattering 1−30037
Pb, electrical resistance meas., high press. studies 1−42739
Pb, liquid, freq. moments and dynamical correlation function 1−20046
Pb, radial distrib. function determ. using mol. dynamics method 1−7072
Pb, static struct. factors at small momentum transfer, neutron diffraction meas. 1−30033
Pb, transport coeff. calc. from effective interatomic pot. 1−30692
Pb, viscosity meas. by oscillating vessel method, determ. of end and slipping effects *(Japanese)* 1−30439
Pt, elec. resist. and temp. derivative 1−30703
Rb, effective pair potentials from structure factors 1−30044
Rb, expanded, static struct. factor obs. by neutron diffr., metal-nonmetal transition region behaviour 1−25147
Rb, expanded liquid and dense vapour, electronic correl. and metal-nonmetal transition 1−25633
Rb liquid, density fluctuations, numerical results 1−25154
Rb, liquid, frequency spectrum of velocity auto-correlation function 1−52048
Rb, liquid, struct., mol. dynamics simulation along saturated vapour press. curve 1−25141
Rb, nuclear-nuclear correl., neutron diffraction meas. 1−30035
Rb, quench echoes, molecular dynamics simulation, anharmonic behaviour 1−30043
Rb, thermodynamic and elec. props., metal-nonmetal transition region 1−25774
S dilute solutions in liquid metals, thermodynamic props. 1−16061
Sb additive to Bi liq. metal embrittlement of Cu 1−35365
liquid metals continued
Sb, double hard sphere model 1−30040
Sb, resist. and thermoelec. power 1−20696
Si noncrystalline, liquid-liquid phase transitions, metal-insulator transition 1−7316
SiO_2/molten Fe, interfacial tension meas. *(Japanese)* 1−2778
Sn, double hard sphere model 1−30040
Sn, liquid, impurity diffusion 1−25478
Sn, liquid, struct. and thermodynamic props. from pair pot. 1−25150
Sn, melting curve to 3.7 GPa, redetermination 1−8271
Sn, static and dynamic struct. factors, diffr. and inelastic neutron scatt. obs. *(Rumanian)* 1−52049
Sn, transport coeff. calc. from effective interatomic pot. 1−30692
Sn, viscosity meas., by oscillating vessel method, determ. of end and slipping effects *(Japanese)* 1−30439
Sn, wetting of irrad. UO_2 fuel 1−52397
Te, liq., thermodynamics of O, electrochem. meas. 1−3698
Zn, liquid, struct. and thermodynamic props. from pair pot. 1−25150
Zn, liquid and solid, X-ray absorpt. fine struct. anal., asymm. effect 1−3535
Zn, reaction with C steel, effect of alloying additions *(Japanese)* 1−3971
Zn, reaction with C steel, effect of heat-treatment *(Japanese)* 1−3972
Zn, reaction with solid Fe, effect of Si conc. *(Japanese)* 1−43340

liquid oscillations
see also liquid waves
bubbles, free oscillations, initial value problem 1−2066
channel, rot. with oscillating press. gradient, unsteady hydromagnetic flow 1−2086
channel, triangular, small amplitude waves 1−15504
droplets, colliding, velocity field in toroidal coordinates, nuclear fusion model 1−15518
drops, free oscillations, initial value problem 1−2066
energy dissipation of oscillating liq. in U-tube, correction coeff. 1−19733
extraction of liquids, large-scale surface instability development 1−48777
flow and heat transfer between a torsionally oscillating and a stationary disk 1−29709
fluid-elastic vibrations in tube bundles in transverse flow *(German)* 1−42016
half space with straight cut-out cavity, variational method *(Russian)* 1−15503
hydromagnetic oscillatory flow past infinite vertical porous plate, force convection and mass transfer effects 1−54356
liquid drop, rotating, normal oscillations 1−2003
Marangoni convection effects on floating zone steady and oscillatory temp. distrib. 1−11392
MHD rotating stratified fluid, small oscillation of hemisphere based on horizontal plane bounding fluid 1−24890
micropolar fluid, rectilinear oscillations of spheroid 1−29732
non-Newtonian fluid, infinitesimal perturbations of extensional motions 1−37977
one-dimensional nonstationary motions of a liquid with plane, cylindrical and spherical symmetry 1−51785
ONERA dynamic US liquid flowmeter performance 1−29817
oscillatory flow around disks and through orifices 1−46756
particle-fluid mixture, flow induced by oscillating plate 1−46729
pendulum motion analogy of surface oscillations *(Japanese)* 1−33972
pipes, free fluid oscillations, drag problems, quasistationary model calcs. 1−24886
polar-liquid column under unipolar-ion injection, nonlinear oscills. 1−33970
salt water, oscillating, turbulent mixing with stabilising surface buoyancy flux 1−11374
secondary flow about circular cylinder oscillating rotationally around eccentric axis 1−37885
secondary flow around an oscillating elliptic cylinder 1−33973
secondary flow induced by a circular cylinder performing unharmonic oscillations 1−37875
shells, finite cylindrical, with and without surrounding fluid, free vibr. anal. 1−6827
slow spherical motion of gravitating fluid, linear adiabatic nonradial oscills. anal. 1−54353
sphere, solid, unharmonic oscillatory induced in viscous fluid 1−11410
spherical gas bubble oscillations in compressible fluid *(German)* 1−38003
Stokes' layer, thick, produced by torsionally oscillating circular cylinder, linear centrifugal instability 1−19730
stratified viscous shear layer, evolution of qausi-steady critical layer 1−42080
tank, cylindrical, geometric nonlinearity of shallow spherical bottom shell effect on longitudinal oscillations 1−29712
two-layered liquid, internal wave excitation by vertical oscills. 1−2010
viscous fluid, flow induced by unharmonic oscillatory of solid sphere 1−11410
vortex-induced oscillation of bluff cylinders 1−11414
water, forced convection boiling, thermoacoustic oscillations in annuli 1−29681

liquid permeability *see permeability*

liquid phase epitaxial growth
artificial epitaxy (diataxy) 1−7483
capillary force orientation effect, for crystals floating on liq. surface 1−7422
capillary forces symmetrical configs., floating Al plate equilib. positions 1−7423
conference, Matrafured, Hungary (Mar. 1979) 1−5012
furnace and temperature controller *(Japanese)* 1−3643
garnet, LPE using vertical dipping, solutal convection 1−53109
garnet growth mechanism in high temp. solns. revealed by induced striations 1−21336
garnet LPE layers, induced striations rel. to growth rate 1−7484
heterogeneous impurity incorporation, lateral microscopic growth model 1−38312
III-V binary semiconductors, growth from metallic solns., review 1−16675
III-V compounds, devices and epitaxy techniques 1−12958
injection laser, narrow-channel double-carrier-confined, CW operation in single longitudinal mode 1−41743
polyoxymethylene, epitaxial morphologies on (001) mica substrate 1−38682
review of crystal growth at the Central Research Institute for Physics 1−8209
review of crystal growth at the Research Institute for Technical Physics 1−8206

liquid phase epitaxial growth continued
semiconductor growth by LPE, review, book contrib. 1−48285
semiconductors, laser annealing review 1−30258
supercooled melt, epitaxial crystn., surface mol. dynamics study 1−30586
urea, crystn., inorganic salt influence on habit and morphological props. 1−20088
(Al,Ga)As DH injection lasers with Ga(As,Sb) active layer LPE growth, 0.87 μm, reliability 1−37507
(Al,Ga)As system, diode and laser structs., p-n junctions grown by LPE, interfacial layer form due to S compensation 1−38841
AlGaAs DH injection laser, single-growth embedded epitaxy, low threshold currents 1−37503
AlGaAs DH lasers, LPE growth, low CW threshold current structs. 1−41748
AlGaAs heterostructure LPE on profiled substrate 1−21371
$Al_xGa_{1-x}As$, epitaxial growth during forced cooling of soln. in melt, mass and heat transfer influence 1−43280
$Al_xGa_{1-x}As$ epitaxial layer, struct. defects rel. to Schottky diode reverse current excess component 1−20588
$Al_xGa_{1-x}As$, epitaxy of varizone layers in temp. gradient field, forbidden bandwidth 1−43281
$Al_xGa_{1-x}As$ LPE growth, layer thickness 1−21373
$Al_xGa_{1-x}As$, thick epitaxial layers, influence of growth conditions on perfection 1−30580
$Al_xGa_{1-x}As$, variable gap film, isothermal LPE mathematical diffusion model 1−42653
$Al_xGa_{1-x}As$:Be LPE layers, doping characts., elec. props. 1−15914
$Al_xGa_{1-x}As$-GaAs solar cells with high efficiency, open-circuit voltage and fill factor 1−13124
$Al_xGa_{1-x}P$ graded heterojunctions, LPE 1−34599
$Al_xGa_{1-x}Sb$:Te, doping of solid solutions in LPE 1−42652
$BaAl_{12}O_{19}$:Mn single cryst. thin film, luminescent, LPE growth 1−53001
Cu electrocrystn., on single cryst. of Cu(110) plane, sulphanilamide effect 1−48283
Cu electrodeposition, on Cu(100) plane and polycrystn. Cu substrate, sulphanilamide effect 1−43283
$CuInS_2$-GaP heterostructure prep. by LPE 1−52447
$Er_3Al_{5-x}Ga_xO_{12}$, garnet film, crystallisation from soln. in melt 1−34588
Eu Ga YIG film growth, wafer holder 1−39252
(GaAl)As/GaAs solar cells−dopant study of Zn and Be 1−8719
GaAlAs/GaAs solar cells, saturated-melt LPE growth, ohmic contacts using multimetallic layers 1−39776
$Ga_{1-x}Al_xAs$ epitaxial layers, elastobirefringence study of dislocations 1−3362
$Ga_{1-x}Al_xAs$:Ge, Te p-n struct., variable-gap selective photocells 1−42855
$Ga_{1-x}Al_xAs$-GaAs interface strain characterisation by electrolyte electroreflectance 1−16349
$Ga_{1-x}Al_xAs$-GaAs LPE interface structure and composition, STEM and cathodoluminescence obs. 1−16350
GaAlAsSb quaternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
GaAlSb ternary alloy, LPE growth, avalanche photodiode structure for IR detector appl. 1−48280
$Ga_{1-x}Al_xSb$ avalanche photodiodes, resonant impact ionisation 1−47737
$Ga_{1-x}Al_xSb$ photodiodes, impact ionisation resonant enhancement 1−34715
$Ga_{1-x}Al_xSb$, variband struct., liq. phase epitaxy 1−52455
$Ga_{1-x}Al_xSb$:Te, LPE on p-GaSb substrates 1−35193
GaAs, dopant conc. profile automatic determ., photoelec. props. meas. of Schottky contact 1−7481
GaAs film, electron diffusion length, dislocation and ionised impurity effects 1−30855
GaAs, LPE, anal. of dislocations creating monomolecular growth steps 1−34267
GaAs, LPE, X-ray topography of growth step sources 1−2456
GaAs, LPE layer growth, improvements in theory and interpretation of expts. 1−2369
GaAs LPE layers, residual impurities, photoluminesc. and IR photocond. meas. 1−2474
GaAs $n\text{-}n^+$ layer-substrate interface, LPE, high resist. layer removal by in situ etch-back 1−43554
GaAs, preparation book contrib. 1−39241
GaAs thin layer epitaxial deposition ~1 μm thick on various substrates, techniques *(Italian)* 1−53088
GaAs:Fe, high-resistivity LPE layers, photocapacitance 1−39253
GaAs:Fe(Cr) high resistivity layers, LPE growth by Fe- and Cr-doping 1−39256
GaAs:Si, LPE, VPE and gradient-freeze growth, doping effect on lattice parameters 1−2402
GaAs:Sn, LPE, ion implantation, cathodoluminesc. 1−39160
GaAs:Ti(Zr), LPE growth, influence of additions 1−39250
GaAs-(Ga,Al)As DH LPE, final wipe-off improvement 1−8245
GaAs-(GaAl)As epitaxial structures, dopant phase diagrams 1−32030
GaAs-$Al_xGa_{1-x}As$ layers, liq. and solid comp. at LPE growth, ambient gas atm. influence 1−30585
GaAs-$In_yGa_{1-y}P_zAs_{1-z}$-$In_xGa_{1-x}As$ grading heterojunction form., LPE equilib. and step-cooling methods 1−21372
GaAs(P), epitaxial growth during forced cooling of soln. in melt, mass and heat transfer influence 1−43280
$GaAs_{1-x}Sb_x$ photodiodes on GaAs (100) substrate, effect of mismatch on performance 1−16343
$Ga_{1-x}In_xAs$ solidus isotherms developed by the step-grading technique 1−16205
$Ga_{1-x}In_xAs$:Te, LPE layers, doping behaviour, transport props. meas,. 1−20884
GaInAsP layers lattice matched to InP substrates, phase diagram for LPE growth 1−48278
GaInAsP, reproducible LPE growth method 1−21368
GaInAsP/InP terraced substrate lasers, single transverse mode operationat 1.3 μm wavelength 1−19354
GaInAsP-InP 1.3 μm CW laser grown by LPE, threshold current density 1−46344
GaInAsP-InP buried heterostructure lasers fabricated by selective etching and meltback process, 1.6 μm wavelength 1−11021
$Ga_xIn_{1-x}As_{1-y}P_y$/InP heterostructures, thickness depend. of lattice parameter and band gap 1−52115
$Ga_xIn_{1-x}As_yP_{1-y}$, crystallisation path to phase diagram, rel. to LPE 1−48333
$Ga_xIn_{1-x}As_yP_{1-y}$:Zn, valence band spin-orbit splitting 1−47459
(GaIn)P LPE process, simple numerical simulation method 1−20587
$Ga_{1-x}In_xP$:N LPE layer, scanning cathodolum. using EPMA with band filters 1−43189
$Ga_xIn_{1-x}P$:Si(Zn) LPE layers lattice-matched to GaAs, growth and elec. props. 1−21370
GaP LPE layer, residual donors, elec. characterisation 1−7761
GaP:Fe, Sn impurity distrib. and behaviour of Fe during LPE 1−42404
GaP:N, radiative combination at NN_1 isoelectronic centre 1−3496
GaP:N,Zn(N,Zn-O), LPE films, photoluminesc., heat treatment 1−3489
GaP:Zn, heterogeneous equil. and mass transfer in Zn-Zn-Ga gas-liq.-liq. system 1−42539
GaP:Zn(O), LPE layers, photoluminescence spectra 1−39144
GaSb, low net donor conc., LPE growth for detector appls. in 1.3 to 1.6 μm region 1−48279
$Gd_3Ga_5O_{12}$ thin film preparation, by Czochralski method, for magnetic bubble storage *(Polish)* 1−8214
Ge, artificial epitaxy (diataxy) on amorphous quartz substrates 1−7482
Ge LPE growth on GaAs 1−11864
Ge-Mo wire structure, LPE 1−53113
Hg-Cd-Te system, liquidus isotherms, solidus lines and LPE growth 1−12676
HgCdTe mosaic arrays for hybrid focal plane appls. 1−5397
$Hg_{0.78}Cd_{0.22}Te$/CdTe planar IR photodiode, backside-illuminated 1−3080
In-Ga-P-As, LPE growth in vertical furnace of double heterostructures 1−35195
InAs-InSb solid solution heteroepitaxial layer structs., photoelec. and electrolum. characts. 1−25590
InGaAs LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InGaAs-InP avalanche photodiode with LPE and VPE layers, separated absorpt. and multiplication regions 1−45012
$In_xGa_{1-x}As_1$ LPE growth on GaAs, elec. current controlled 1−35191
InGaAsP epitaxial layers, lattice mismatch determ. 1−38675
InGaAsP heterostructure, synthesis by LPE with Be doping 1−39255
InGaAsP LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InGaAsP p-n junction photodetectors, LPE prep. and props. 1−13125
InGaAsP phase diagram and LPE growth conditions, for lattice matching on InP 1−43279
InGaAsP/InP DH laser wafers high quality LPE growth under PH_3 ambient 1−53110
InGaAsP-InP channelled substrate buried heterostructure laser emitting at 1.55 micron 1−15180
InGaAsP-InP LPE layers, etching characts. of defects 1−20213
InGaAsP-InP narrow stripe buried heterostructure lasers, fabrication, characterisation 1−1585
InGaAsP-InP wafers, surface morphology improvement, using dummy layer technique 1−53107
$In_{1-x}Ga_xAs_yP_{1-y}$ CW three-layer lasers, stripe geometry devices for 1.5 μm operation, LPE growth 1−11022
$In_xGa_{1-x}As_yP_{1-y}$ submicron layers, LPE growth and evaluation for microwave FETs 1−2845
$In_{1-x}Ga_xP_{1-y}As_y$ lattice matched LPE layers on GaAs, photoluminesc. 1−31178
$In_{1-x}Ga_xP_{1-z}As_z$ ($z \leq 0.01$), LPE on GaAs (100), lattice consts. and photoluminesc. 1−48282
$In_{1-x}Ga_xP_{1-z}As_z$ visible-spectrum (~6700 Å) LPE laser, continuous room-temp. photopumped operation 1−46368
$In_{1-z}Ga_zP_yAs_{1-y}$, LPE growth and photolum. meas. 1−26396
InP LPE layers, heavily doped, visible photoluminesc. emission 1−43152
InP LPE layers grown by step-cooling technique, thickness and comp. variation 1−47407
InP, SSD growth and charact., substrates for IR LED 1−53111
InP:Zn p-n junction, control of Zn doping for growth by LPE 1−25300
InP-GaInAs buried heterostruct. laser, low threshold current CW operation 1−46376
InP-$In_{1-x}Ga_xAs_yP_{1-y}$ embedded mesa stripe laser, two-step LPE fabrication and props. 1−15181
InSb:Bi, solid solution 1−16761
Li(Nb, Ta) O_3 films on $LiTaO_3$ substrates, LPE grown, refractive indices and surface morphology 1−3349
$LiNbO_3$ growth by capillary liq. epitaxial technique 1−3641
$LiTaO_3$ growth by capillary liq. epitaxial technique 1−3641
$Mn_{0.9}Zn_{0.5}Fe_{1.6}O_4$, liq. phase epitaxial growth under reduced O partial pressures 1−3642
$(Nd,Y)P_5O_{14}$ layers, LPE growth from Sn flux, solubility curves 1−35189
$Ni(Fe,Al)_2O_4$ films, LPE growth and mag. anisotropy 1−12675
$PbO\text{-}B_2O_3\text{-}Fe_2O_3$ solution for garnet LPE growth, ionic equilibria, elec. cond. meas. 1−7064
$Pb_{1-x}Sn_xSe_{1-y}Te_y$ solid solns., laser heterostructs., fabrication and props. 1−33689
$Pb_{1-x}Sn_xTe$ DFB laser diodes, LEP grown, broad continuous single-mode tuning range 1−15182
$Pb_{1-x}Sn_xTe$ layers, LPE growth, struct., and elec. props. 1−47404
$Pb_{1-x}Sn_xTe$:In ($0 \leq 0.2$), LPE layers, electron conc. control by In doping 1−25309
PbTe-$Pb_{0.8}Sn_{0.2}Te$ heterojunctions, LPE, tunnelling current 1−12184
Si, artificial epitaxy (diataxy) on amorphous quartz substrates 1−7482
Si CVD film, polycryst., on SiO_2, lateral epitaxial growth by scanning CW Ar laser annealing 1−52451
Si, damaged covered with metal film, laser annealing, test for epitaxial growth from melt 1−35125
Si epitaxial solar cells, fabrication conditions for high efficiency 1−4185
Si, nucleation-controlled overgrowth from Al-Si liq. film on SiO_2 1−39251
Si pn junction solar cell fabrication by liquid phase epitaxy 1−4184
Si single-crystal film growth on SiO_2 insulating layers, lateral epitaxy by seeded solidification 1−48286
Si:B autodoping during LPE 1−47101
$Sm_xEr_{3-x}Ga_yFe_{5-y}O_{12}$ thin films, high coercivity, thermomag. writing 1−25943
$(SmLuCa)_3(SiLuFe)_5O_{12}$ bubble film growth on $Ca_3Ga_3Ge_3O_{12}$ substrate, mag. props. 1−8240
$SrFe_8Al_4O_{19}$ films, LPE growth, mag. and magnetooptic props. 1−7912
$(Y,Sm)_3(Fe,Ga)_5O_{12}$ LPE films, roughness and rate anisotropy of growth steps 1−20593
YAG single cryst. phosphor screen for cathode ray tube, LPE grown 1−8241
YAG:Tb^{3+}, thin films, electronic Raman spectra 1−16553
YIG, LPE grown, magnetostatic forward volume wave to spin wave conversion by etched grating 1−12383

liquid phase epitaxial growth continued
$(YLaEu)_3(FeGa)_5O_{12}$ epitaxial films, growth induced anisotropy, FMR 1−7920
$(YLuSmCa)_3(FeGe)_5O_{12}$, mag. bubble garnet, LPE growth, simultaneous multiple dipping 1−8242
$(YSmCa)_3(FeGe)_5O_{12}$, LPE bubble garnet wafers, mag. props. postgrowth modification by etching 1−7904
$Zn_xCd_yHg_{1-x-y}Te$, epitaxial crystn. from melt 1−12673
$ZnS(Se)(S_{1-x}Se_x)$, LPE using Te a solvent 1−43282
ZnSe, LPE at low temps. 1−35192

liquid semiconductors
see also electron energy states of liquid semiconductors
alloys, struct. and evidence for ionic bonding 1−25149
aniline, semicond., relaxation processes *(Russian)* 1−43065
methyl ethyl ketone, semicond., relaxation processes *(Russian)* 1−43065
structure of liquids and amorphous solids, book 1−44726
Ge, double hard sphere model 1−30040
In-Te system, liq. phase equil., existence limits of two-phase region, crit. demixing temp. 1−42528
PbS(Se)(Te), liq., elec., thermal, mag. and physio-chem. props. 1−20722
Se, cond. in semicond.-metal transition region at high temp. and press. 1−25775
Se, expanded, ^{77}Se NMR obs. of metal-nonmetal transition 1−26056
Se expanded liq., mag. susceptibility 1−12253
Se, magnetic susceptibility, 800 to 1200K, temp. depend. 1−34853
Se, pure and I doped, surface tension and heat expansion, temp. depend. *(French)* 1−25533
Si, double hard sphere model 1−30040
Te-Se mixture, press. induced semicond.-metal transition obs. 1−25771

liquid-solid transformations *see solid-liquid transformations*

liquid structure
see also classical theories of fluid structure; long-range order; neutron diffraction examination of liquids; quantum theories of fluid structure; short-range order; X-ray diffraction examination of liquids
acetone-benzene, binary liq. mixtures, viscosity meas., interaction study 1−38226
alcohols, liq., dielectric loss, relax. and permittivity 1−7999
alkali metal halides, molten, charged, high density, microscopic props. 1−11668
alkali metals, ionic atmosphere consideration in thermodynamic study 1−15787
alkali metals, structure using electron-ion plasma approach 1−34217
n-alkane liquids, mol. orientational correl. and local order 1−52040
alloy, volume of mixing, size effect, hard sphere simulation 1−25148
alloys, binary, partial struct. factors, thermodynamical approach 1−30045
alloys, hard spheres simulation of size effect 1−20044
amines, dilute aq. solns., isentropic compressibility determ. 1−20294
annual review of physical chemistry (book) 1−9789
binary alloys, liq., struct. and elec. resist., pseudopot. calc. 1−25142
binary mixture, forced Rayleigh light scatt. with chemical reactions *(French)* 1−31162
book on struct. of liquids and amorphous solids 1−44726
t-butanol, aq., effect of alkali halides on solution struct., ultrasonic vel. meas. 1−20041
carbon tetrachloride-carbon tetrafluoride mixture, mol. dynamics of binary fluids near crit. mixing point 1−15780
chloroform-acetone, binary liq. mixtures, viscosity meas., interaction study 1−38226
configurational entropy, for Bernel random packing, appl. to crystal-melt interface 1−7061
corresponding states of fluids, effective hard sphere of diameters 1−38222
dense liquids, atomic dynamics and momentum transfer 1−46969
dilute aqueous solns., H bonding, theory 1−42284
2,3- and 2,4-dimethyl-3-hexanol, US and ^{13}C NMR studies, H-bonds, conformational changes 1−20322
2-2 electrolyte aqueous solutions model, ionic assoc. 1−8574
electrolyte structure at charged surfaces, primitive model 1−47731
external degrees of freedom, theoretic considl.,of number 1−42288
ferromagnetic liquid, magnetisation and transition temp., statistical calc. 1−12249
fluids, quasielastic light scatt. by homodyne cross-correl. techniques, suppression of multiple scatt. effect 1−43133
formamide, electrolyte interaction, effect on liquid struct., Raman obs. 1−48073
free liquid surface, struct. 1−34212
fused salts, hard sphere model appl., entropy, heat capacity determ., viscosity coeff. 1−46980
hard sphere mixture, negative nonadditive diameter 1−25132
hard spheres fluid, double layer struct. at charged surfaces 1−7709
ion-dipole mixtures, double layer struct. at charged surfaces 1−7709
IR spectra, absorpt. and dispersion intensity meas. 1−16555
isobutyric acid-water, critically quenched mix., struct. factor from light scatt. meas. 1−48103
Kerr electro-optical effect, temp. depend. 1−3367
lattice Gruneisen parameters, internal press. behaviour 1−15781
Lennard-Jones clusters, struct., phase and thermodynamic behaviour studied by Monte Carlo method 1−1428
Lennard-Jones fluids, r-dependent integral eqn. parameter appl. 1−11646
Lennard-Jones system, time-depend. nonlinear shear stress effects, mol. dynamics 1−11648
Lennard-Jones triple-point bulk and shear viscosities, Hamiltonian mechanics and nonequilib mol. dynamics 1−2669
linear polymer solution, extended description based on polymer-magnetic analogy *(Russian)* 1−52047
liquid alloy, structural disorder theory, band struct. 1−46987
2,6-lutidine-water, critically quenched mix., struct. factor from light scatt. meas. 1−48103
2,6-lutidine-water mixture, coexistence curve near lower crit. point 1−20358
macroion solns., struct. factor anal. 1−42279
metal, liquid, entropy, phonons and atomic packing 1−25459
metal, pair potential and structure factor 1−30042
metal, static structure factor changes by varying pair pot., computer simulation 1−25131
metals, bulk moduli by homogeneous deform. and long wave methods 1−30290
metals, liq. and solid, free energy, melting temp. thermodynamic calc. 1−25462
metals, microparacrystals, struct. and packing density 1−7062
metals, sound velocity and compressibility, struct. factors 1−30328

liquid structure continued
metals, structs., and their thermodynamic props. 1−5011
methane-N_2 liquid mixture, layered struct. study 1−38255
methanol-tetrahydrofuran mixture, dielec. consts., temp. depend., interpret. w.r.t. Eyring theory 1−26111
methyl alcohol-toluene, binary liq. mixtures, viscosity meas., interaction study 1−38226
methylcyclohexane glass supercooled liq., polariscopic and kinetic evidence, benzene probes 1−38250
micellar solution, hydrophobic mol. distrib. and solubilisation, NMR meas. 1−16047
microstructures, general gradient theory 1−42276
molecular Lennard-Jones liq., classical transport coeff., zero freq. component 1−34211
molecular liquid struct. and thermodynamic props., perturbation theory 1−11662
molecular liquids, structure, book contrib. 1−11667
molten salts, dynamical coupling, density fluctuations 1−42274
molten salts, IR emission spectra and struct. 1−7361
monatomic fluid, dynamic struct., light impurity effects 1−2305
monatomic liquid, correlation functions in coexistence region, molecular dynamics simulation 1−2303
Monte Carlo force bias method calcs., optimisation by config. space diffusion criterion 1−42273
non-rigid molecules, average orientation, conformational changes 1−29132
nonuniform molecular fluids, struct., integrodifferential eqns. for density-orientation profile 1−30019
n-octane-like fluids, condensation induced in mol. dynamics simulations 1−38522
1- and 2-octanol, US and ^{13}C NMR studies, H-bonds, conformational changes 1−20322
one dimens. liquid with external pot., Percus-Yevick theory, superionic cond. model 1−42281
organic liquids, unassoc., polar and nonpolar, mol. configs. 1−37355
Percus-Yevick theory of liquid struct. in periodic potential 1−52037
perfluorosulphonate ionomers, ionic structural transforms. 1−38249
picosecond relaxation processes in liquids 1−16579
polydimethyl soln., external degrees of freedom, theoretic considl. of number 1−42288
polymer, molten, two-component system, spontaneous changes in phase struct., kinetics 1−30030
polymer melts 1−30026
polymer solns., rapid transport in conc. soln. by formation of ordered structs. 1−2310
polymer solution, dil., chain statistics and struct. factor, Monte Carlo simulation 1−38233
polymer solution, dil., under vel. gradient, helix-coil transitions, model 1−52042
polymer solutions, semidilute, hydrodynamic transition, dynamic light scatt. and zero shear viscosities 1−46181
polymeric dilute solution, dynamic struct. factor, generalised mean field approx. 1−46977
polystyrene, soln., semidilute, hydrodynamic transition, dynamic light scatt. and zero shear viscosities 1−46181
polystyrene solution in cyclopentane, dil., chain statistics and struct. factor, low-angle X-ray scatt. study 1−38233
primitive diagram contribution to ion-ion mean force potential calcs. *(Russian)* 1−34456
salts, molten system mixing, thermodynamic props., order effects *(French)* 1−30390
semiconducting liq. alloy, struct. and evidence for ionic bonding 1−25149
semiconductors, molten, double hard sphere model 1−30040
semimetals, molten, double hard sphere model 1−30040
silicate melts, anionic struct. rel. to viscosity, Raman obs. and role in magma processes 1−16079
silicate melts, Fe bearing, struct. and redox equilibria, Mossbauer and Raman spectroscopy 1−39010
solution containing r-mer, lattice model of surface layer 1−47328
solution containing r-mers, lattice model of surface layer, entropic contrib. 1−52031
solutions, equilib. polymerisation, decorated lattice model 1−35529
solvent structure in particle interactions, low press. effects 1−11651
spin relaxation rates, rotation and molecular symm. effects *(Russian)* 1−34920
toluene, liq. free volume contribs., separation 1−46983
1,3,5-trimethylbenzene, orientational correl. param. 1−30023
water, dimer and trimer struct., vibr. spectra 1−29135
water, liq., H bonding, theory 1−42284
water, liq., struct. at high temp. and density, mol. dynamics calcs. 1−42285
water, molecular dynamics simulation of random network model 1−38224
water, supercooled behaviour, percolation model 1−7065
Ag-Li, partial struct. factors, thermodynamical approach 1−30045
Al liquid film, scanning transmission HEED study 1−20047
Al, molecular dynamic model, statistical geometry 1−30041
Al, neutron scattering law $S(Q,\omega)$ 1−30036
Al, static and dynamic struct. factors, diffr. and inelastic neutron scatt. obs. *(Rumanian)* 1−52049
Al, static struct. factors at small momentum transfer, neutron diffraction meas. 1−30033
Ar, computer simulated, equilib. props., periodic bound conditions effects 1−46978
Ar, liquid, supercooled, mol. mechanics study *(Russian)* 1−2308
Ar, repulsive forces, shock wave compression curves computed, using pair pot. 1−25139
Au melt, struct. and density, neutron diffr. obs. 1−25151
Au-Cs melt, struct. and density, neutron diffr. obs. 1−25152
Au-Cs melt, struct. and density, neutron diffr. in small q region 1−25153
Au-Cs melt, struct. and density, γ-absorpt. method obs. of density 1−25351
$BaCl_2$, molten, X-ray diffr. intensities and partial struct. factors 1−11666
Bi, double hard sphere model 1−30040
Bi, molten, X-ray diffr. investig. *(German)* 1−52050
Bi, structure factors, X-ray diffraction study 1−30034
Bi-In molten, X-ray diffr. investig. *(German)* 1−52050
CS_2 liquid, phonon dispersion 1−11830
CS_2, mol. struct. factor, bond lengths, neutron diffr. exam. 1−42286
CaF_2, molten, X-ray diffr. intensities and partial struct. factors 1−11666
Cd, US speed, compressibility and struct. factor 1−46986
Cd-Ga, struct., X-ray high angle scatt. and ultrasonic vel. and absorpt. meas. 1−7073

liquid structure continued
Cd-Ga, struct., X-ray small-angle scatt., critical points 1−7074
Cl^- ions in aq. solns., neutron diffr. study 1−7070
Cs melt, struct. and density, neutron diffr. obs. 1−25151
CsAu liquid alloy, structural disorder theory, band struct. 1−46987
D, spin polarised, ground-state props., method of correlated basis functions 1−2748
D_2O, liquid struct., inelasticity correction, quantum mechanical model 1−11665
D_2O, supercooled behaviour, percolation model 1−7065
Fe, crystalline, amorphous and liquid, struct., freq. distrib. function 1−15832
Fe-C:S(Mg), liq. struct. determ. using X-ray anal. *(Russian)* 1−2312
Ga, double hard sphere model 1−30040
Ga, liq., struct. and elec. resist., 303-573K 1−30031
Ga, liquid, struct. and thermodynamic props. from pair pot. 1−25150
Ga liquid struct., temp. depend. 1−38257
Ga, resistivity between 303K and 573K, struct. factor meas. 1−30039
Ga, struct. props. determ. by diffr. of various radiations at temp. between 163K and 1303K *(French)* 1−46985
Ga, structure factors, X-ray diffraction study 1−30034
Ga, structure factors and pair correlation functions 1−30047
Ga-Ge-Sn liquid alloys, liquidus surface phase diagrams and enthalpy of formation 1−21761
Ge, double hard sphere model 1−30040
Ge-Se, p-T-x phase diagram, associated solution model 1−16021
H_2 liquid, intermol. pot. and thermodynamic props. 1−30027
H_2, low energy thermal neutron scatt. and transport, collective oscill. effects, theory 1−7071
HCl, liq., partial struct. factors determ. by neutron diffr. and isotropic substitution 1−46981
HCl, liquid struct., assoc., H bonds, intermolecular pot. 1−42287
HF, polymer struct., cryst. struct., polarisation model 1−30024
H_2O, liquid, struct. modeling by Monte Carlo methods, intermol. interactions calc. by pot. functions 1−7069
H_2O, props. and phenomena 1−25140
H_2O-D_2O equimolar mixture, vap. press. isotope effect 1−11875
H_2O-D_2O equimolar mixture, ideal behaviour 1−11876
He-Xe mixture, mol. dynamics of binary fluids near crit. mixing point 1−15780
^{3}He, ground state and pair correl. function using Jastrow trial wave function 1−52383
^{3}He, liquid, spin polarised and unpolarised, ground-state props., method of correlated basis functions 1−2748
^{3}He, liquid, spin polarised, spatial correlations 1−2750
^{4}He, quantum liquid, temp. and press. dependence of viscosity 1−20489
^{4}He, structure, three-particle distrib. function 1−2738
^{4}He, superfluid, spatial correls., struct. factor, temp. depend. 1−42596
Hg, structure factors, X-ray diffraction study 1−30034
Hg, time-of-flight neutron diffr. study using electron LINAC 1−20045
$Hg_{3-x}AsF_6$, one-dimensional liq., fluctuations and freezing 1−7304
In, molten, X-ray diffr. investig. *(German)* 1−52050
In, US speed, compressibility and struct. factor 1−46986
In-P nonstoichiometric soln., mol. struct., crystn. of InP 1−52041
In-Sn alloy, TDPAD obs. of quadrupolar spin relax. rate and short-range order 1−31072
K, atomic struct., perturbation by addition of KCl 1−30038
K, free electron liquid, freezing, Wigner crystn., struct. factor 1−42519
K-KCl molten mixture, viscosity anal. rel. to struct. 1−25485
Kr, dense gas, struct., Monte Carlo calcs., virial expansions, rel. to exptl. data 1−2131
LiCl-KCl mixtures, partial struct. factors 1−2311
LiI aq. soln., Li^+ hydration shell struct. 1−46974
NH_3, dilute aq. solns., isentropic compressibility determ. 1−20294
NOF_3, liquid, Raman spectra, band contour anal., rot. behaviour 1−39085
Na, free electron liquid, freezing, Wigner crystn., struct. factor 1−42519
NaCl-KCl mixtures, partial struct. factors 1−2311
NaF-AlF_3 melts, containing Al_2O_3, ionic struct. model 1−42282
NaSCN-H_2O solution, spontaneous Raman relax. and struct. 1−48051
Ne-Kr mixture, mol. dynamics of binary fluids near crit. mixing point 1−15780
OCS solution in n-heptane liq., rot. relax., IR and Raman spectra, free vol. and viscosity effect 1−25138
Pb, collective excitations, thermal neutron scattering 1−30037
Pb, liq., dynamic scatt. function, 623K, thermal neutron scatt. investig. 1−46989
Pb, liquid, freq. moments and dynamical correlation function 1−20046
Pb, radial distrib. function determ. using mol. dynamics method 1−7072
Pb, static struct. factors at small momentum transfer, neutron diffraction meas. 1−30033
Pb-Li, partial struct. factors, thermodynamical approach 1−30045
PbO-B_2O_3-Fe_2O_3 solution for garnet LPE growth, ionic equilibria, elec. cond. meas. 1−7064
Pd-Si melts, short-range order and thermodynamic props. 1−30046
Rb, effective pair potentials from structure factors 1−30044
Rb liquid, density fluctuations, numerical results 1−25154
Rb, liquid, struct., mol. dynamics simulation along saturated vapour press. curve 1−25141
Rb, nuclear-nuclear correl., neutron diffraction meas. 1−30035
Rb, quench echoes, molecular dynamics simulation, anharmonic behaviour 1−30043
Sb, double hard sphere model 1−30040
Se, liq., struct. and electronic transforms, ^{77}Se NMR study 1−12413
$Se_{0.25}$-$Te_{0.75}$, pair ordering in disordered chain mols. 1−30028
Si, double hard sphere model 1−30040
Sn, double hard sphere model 1−30040
Sn, liquid, struct. and thermodynamic props. from pair pot. 1−25150
Sn, static and dynamic struct. factors, diffr. and inelastic neutron scatt. obs. *(Rumanian)* 1−52049
Sn-Sb alloy, TDPAD obs. of quadrupolar spin relax. rate and short-range order 1−31072
TlBr, molten, Monte Carlo calcs. 1−52046
TlCl, molten, Monte Carlo calcs. 1−52046
TlI, molten, Monte Carlo calcs. 1−52046
Zn, liquid, struct. and thermodynamic props. from pair pot. 1−25150
Zn, liquid and solid, X-ray absorpt. fine struct. anal., asymm. effect 1−3535
$ZnCl_2$, molten, X-ray diffr. obs. at 323°C 1−38252

liquid surface waves *see surface waves (fluid)*

liquid theory
see also classical theories of fluid structure; equations of state of liquids; quantum theories of fluid structure
2-dimensional fluid, Ornstein-Zernike eqn., soln. 1−11656
alkali halide, molten, liquid-vap. interface, struct. and surface tension 1−38628
alkali metal halides, molten, charged, high density, microscopic props. 1−11668
anisotropic fluids, 1-particle distrib. function 1−7059
aromatic sulphides, sulphoxides and sulphones in polystyrene matrix, relax. processes 1−7057
binary fluid mixtures, theory of closed-loop phase diagrams 1−16016
binary fluid system, thermal props., effective pot. method 1−15779
binary hard-sphere mixtures, with attractive square-well interaction, calcs. 1−11645
binary soft-core mixture, phase separation and thermodynamic props. 1−25440
carbonyl-phenols liqs., H-bond interactions, paramag. polarisation 1−15774
classical liquids, kinetic theory of current fluctuation 1−25136
computer simulated fluids, equilibrium props., periodic boundary conditions 1−46967
computer simulation of m-6-8 fluid under shear, viscosity and pressure variation 1−7060
concentrated electrolytes, thermodynamics, long-range forces effects 1−53435
condensed matter, theory, conf., Karpacz, Poland (Feb.-Mar., 1979) 1−9767
continuum vapour region boundary conditions at liq.-vapour interface 1−5253
dense fluids, anisometric mol., Kerr const. calc. 1−35015
dense liquids, atomic dynamics and momentum transfer 1−46969
diaryl asymmetric molecules in polystyrine matrix, relax. processes, Eyring activation param. 1−7058
diatomic liquids, mol. dynamics, memory function anal. of autocorrel. functions 1−11653
diatomic symmetric mol. fluid, RISM eqn. soln., behaviour at zero density and convergence props. 1−38221
dipolar hard spheres, adsorption in presence of electric field, linearised hypernetted chain approx. 1−11647
dipolar molecular liquids, dielec. saturation, single-mol. distrib., function 1−39029
distribution function eqns., anal., transform. and method of solving exact eqn. 1−46972
dynamic critical phenomena of classical liqs., mode coupling theory 1−7292
electric double layer, stat. theory, series expansion in powers of density 1−21731
electrical double layer, statistical mechanics, stress tensor and contact conditions 1−46965
electrolytes, charged hard spheres, HNC study 1−35538
electrolytes, nonuniform, Stillinger- Lovett condition 1−42272
equilibrium theory, existence of fluctuation type solns. 1−38215
finite nonuniform molecular fluid, functional derivative relations, in canonical ensemble 1−11660
Flory's statistical theory, US vel. and surface tension 1−38467
fluids, polar and nonpolar, ang. correl. parameters and dielec. const. evaluated in RISM approx. 1−43058
hard core fluid, Ornstein-Zernike eqn. closures, variational anal. method 1−2304
hard disc system, Ising-like behaviour in thin layer 1−47209
hard sphere fluids, triplet correl., integral eqn. soln. 1−46968
hard sphere ionic system, Monte Carlo simulation, periodic boundary conditions 1−11661
hard sphere mixture, negative nonadditive diameter 1−25132
hard sphere system, charged, perturbation theory, thermodynamic props. 1−2302
hard sphere systems, melting transition, self-consistent cell model 1−7290
hard spherical molecules, density distrib. inside pores of various shapes 1−15778
hard-sphere classical fluids, integral eqns. 1−11659
hydrocarbon-water interaction energies, model calcs. *(German)* 1−46059
intermolecular forces, Myers-London model 1−11649
ionic liquids, restricted primitive model, upper bound on free energy 1−11654
ionic solutions, statistical mech. theory based on interaction site model, dielec. props. and pair correl. functions 1−52033
isoenthalpic-isobaric ensemble, equilib. props. and mol. dynamics 1−2299
Lennard-Jones fluid, fifth virial coeff. in two dimens., integral equation results 1−11652
Lennard-Jones fluid, thermodynamic data, analytic representation 1−38219
Lennard-Jones fluids, binary mixture, liq.-vap. interface theory, surface tension and density profile calc. 1−34551
Lennard-Jones fluids, free surface, monotonic and oscillatory density profiles 1−2301
Lennard-Jones fluids, r-dependent integral eqn. parameter appl. 1−11646
Lennard-Jones fluids, thermodynamic props., quantum mech. effects 1−52036
Lennard-Jones triple-point bulk and shear viscosities, Hamiltonian mechanics and nonequilib mol. dynamics 1−2669
linear polymer solution, extended description based on polymer-magnetic analogy *(Russian)* 1−52047
liquid-vapour diffuse interface dynamics 1−16152
liquids, viscoelastic, depolarised Rayleigh-Brillouin scatt. of shear waves, mol. reorientation 1−21218
local densities at interfaces, Born-Green-Yvon approach 1−20515
locally nonuniform fluids, equilibrium microscopic description 1−11663
macromolecular solutions, Flory-Huggins formula, rel. to Ising model 1−34214
metal, binary system in liquid, kinetics of breakup 1−7339
metal, pair potential and structure factor 1−30042
metals, liq., entropies, Percus-Yevick phonon theory 1−47256
methane, liquid, shock compression and principle of corresponding states 1−38426
methanol-tetrahydrofuran mixture, dielec. consts., temp. depend., interpret. w.r.t. Eyring theory 1−26111
mixtures, excess functions calcs. Barker's lattice model appls. *(German)* 1−46973

liquid theory continued
molecular dynamics, computer simulation, short-range interactions 1−34210
molecular dynamics, power reflection spectroscopy near Brewster angle 1−23320
molecular fluids, angular pair correl. function, spherical harmonic expansions 1−30020
molecular Lennard-Jones liq., classical transport coeff., zero freq. component 1−34211
molecular liquid struct. and thermodynamic props., perturbation theory 1−11662
molecular liquids, shock-wave data explained by statistical mech. and intermol. forces 1−38425
molecular liquids, structure, book contrib. 1−11667
molecular motion, phenomenological macro-micro correlations, Markov limit 1−52035
molecular variables in neutral fluids, spatial depend. of time correlation functions *(Spanish)* 1−52030
molecules, asymmetric top, rot. correl. functions, extended diffusion model 1−15782
molten salt mixtures, radial distrib. functions, mean spherical approx. 1−11658
molten salts, dynamical coupling, density fluctuations 1−42274
non-aqueous solvents, coordination model 1−8601
nonequilibrium Percus-Yevick theory, review 1−42277
nonequilibrium statistical mechanics, Pierre Resibois' work 1−40639
nonuniform molecular fluids, struct., integrodifferential eqns. for density-orientation profile 1−30019
pair friction coeff., static correl. effect 1−38218
Percus-Yevick theory of liquid struct. in periodic potential 1−52037
polar fluid dielectric const. formula 1−52884
polyatomic liquids, mol. kinetic theory 1−52034
polyatomic liquids, solute size, tracer diffusion, hard sphere model 1−47268
polyatomic liquids, thermal cond. and virial coeff. 1−7399
polymer statistics, the n-vector model, and thermodynamic stability 1−52045
quadrupolar relaxation rate, temp. depend. 1−25133
quasi crystalline model, hard-sphere liq. modelling of radial distribution function 1−42280
Rayleigh scatt., time independent theory 1−26223
relaxation, Williams-Watts and Cole-Davidson functions comparison 1−7056
rigid macromolecule solutions, orientational effects 1−34215
rigid particles, arbitrary elect. struct., Debye-Huckel theory 1−12445
rigid sphere fluid, vel. correl. and collective modes 1−20040
rough disc fluid, two-dimens. gas, collision time distrib. with non-overlapping fixed scatterers 1−15775
soft-core Yukawa fluid, Ornstein-Zernike equations, numerical calcs. 1−42278
soft-repulsive hard core particle system, radial distrib. function 1−30018
solution containing r-mer, lattice model of surface layer 1−47328
solvation forces, chemical potential effects, Monte Carlo methods 1−47137
solvation forces between solid particles immersed in a simple liq. 1−53485
solvent structure in particle interactions, low press. effects 1−11651
square-well fluid, molecular dynamical calcs. of viscosity above critical density 1−25135
Stokes' law, microscopic origin 1−38217
structure of liquids and amorphous solids, book 1−44726
ternary Lennard-Jones mixtures, preferential solvation, mol. dynamics 1−15777
thermal relaxation under shock compression 1−38427
transverse collective modes, kinetic and pot. contribs., shear viscosity 1−42559
tRNA solutions, long range tRNA-tRNA electrostatic interactions 1−24296
two-dimensional Lennard Jones systems, stochastic transition 1−2306
wall-bounded classical fluid, shielded distribution approx. 1−46971
water, low temperature behaviour, percolation and gelation effects 1−38241
water, molecular dynamics simulation of random network model 1−38224
Ar classical dense fluid, time correl. functions 1−25134
Ar, liquid, light scatt. intensities boundary problems, computer simulation 1−48095
Ar, m-6-8 fluid under shear, computer simulation 1−7060
Ga, liquid, quadrupolar relaxation rate, temp. depend. 1−25133
H_2O, liquid, struct. modeling by Monte Carlo methods, intermol. interactions calc. by pot. functions 1−7069
KCl, molten, collision and encounter statistics, mol. dynamics calcs. 1−2309
N_2 liquid, depolarised Raman and Rayleigh spectra, correl. functions 1−26199
Pb_xSe_{1-x} melt, viscosity and local order 1−25486
Rb liquid, density fluctuations, numerical results 1−25154
Rb, liquid, frequency spectrum of velocity auto-correlation function 1−52048

liquid-vapour transformations
see also boiling; condensation; evaporation; liquefaction of gases
alkylbenzenes, thermodynamic props. modelling, chemical graph theory 1−4117
amphiphilic monomolecular layer, gas-liq. transition, Landau theory 1−20563
binary isothermal vapour-liq. equilibria, eqns. for representation 1−38492
boundary conditions, non-equilib., Boltzmann eqn., kinetic scatt. kernels, statistical theory 1−201
broad phase transitions of the first kind, behaviour of isotherm and isochores of sp. heat 1−52269
continuum vapour region boundary conditions at liq.-vapour interface 1−5253
critical binary mixtures, sound propagation 1−24552
cyclohexane-aniline system, adsorption at liq.-vapour interface 1−7427
diffuse liquid-vapour interface, dynamics 1−16152
fluid mixtures, supercritical phase behaviour, lattice-gas model 1−30370
Freon-113, coexistence curve, critical indices *(Russian)* 1−42526
heterogeneous system of condensed compounds and gases, singularities of p-T phase diagram 1−11838
inert liquids, viscosity and diffusion, significant structures theory *(Spanish)* 1−52326
interfacial oscill. amplitude 1−11957

liquid-vapour transformations continued
Ising model three-dimensional, droplet model modified 1−16017
Lennard-Jones fluids, binary mixture, liq.-vap. interface theory, surface tension and density profile calc. 1−34551
metal, expanded, metal-insulator transition, thermodynamic singularities, Landau theory extension 1−25634
methane adsorbed on graphite, mobility obs. of two dimens. fluids behaviour 1−52416
methane-ethane mixtures, Rayleigh scatt. and thermal diffusivity 1−12514
methane-propane mixture, phase equilibria, heat of mixing, vol. change on mixing, Gibbs free energies 1−9779
methane-water system, supercritical phase behaviour, lattice-gas model 1−30370
mixtures containing alcohols, vapour-liq. and liq.-liq. equilib., effective UNIQUAC eqn. 1−38490
phase equilibria, pure substance and mixtures, miscibility gap, eqn. of state 1−20352
pseudospinodal, universal, expt. obs. 1−11837
sound attenuation near critical point 1−25374
steam, dynamic viscosity, improved representative eqn. 1−46840
two-component system, percolation analogue 1−7307
water droplet explosion in CO_2 laser field, gasdynamic regime modelling 1−33733
Cs, expanded liquid and dense vapour, electronic correl. and metal-nonmetal transition 1−25633
Cs fluid, thermodynamic and elec. props., metal-nonmetal transition region 1−25774
Fe-O, equilibrium heating, to temp. of transition to gas-vapour phase 1−21710
H-hydrocarbon systems, static method for vapour-liquid equilibria up to 40000 kPa and 400°C 1−36672
H_2-tetralin mixture, vapour-liq. equilib., meas. apparatus, high press. and temp. 1−40790
^{3}He-^{4}He mixtures, sound propag. near liq.-vapour crit. point 1−11949
Hg, expanded, metal-nonmetal-dense plasma transition at high.temp. and press., thermopower obs. 1−25776
Hg, expanded fluid, sound vel. and thermodynamic props., metal-nonmetal transition 1−25373
Hg, reflectivity obs., density depend. and metal-nonmetal transition region behaviour 1−26198
Li-LiH(LiD)(LiT) systems, with liquid-vap. equilibrium, thermodynamic props. calc. 1−47254
NH_4Cl, nucleation in gas phase and influence of ions 1−43710
N_2O_4-NO liquid and gas system, phase equilibrium *(Russian)* 1−52271
Nb-O, equilibrium heating, to temp. of transition to gas-vapour phase 1−21710
O_2 paramagnetic susceptibility meas. in vicinity of critical point of gas-liquid phase transition, apparatus 1−29146
Rb, expanded liquid and dense vapour, electronic correl. and metal-nonmetal transition 1−25633
Rb, fluid, thermodynamic and elec. props., metal-nonmetal transition region 1−25774
Se, liq., struct. and electronic transforms, ^{77}Se NMR study 1−12413
Xe-Ne, critical exponents, vapour-liquid and gas-gas equilibria 1−7310
ZnS, edge luminescence under strong photoluminescence conditions 1−16606

liquid waves
see also capillary waves; ocean waves; surface waves (fluid)
baroclinic wave ensembles, nonlinear dynamics 1−46762
barriers, streamlined, wave current effect *(Russian)* 1−40139
channel, triangular, small amplitude waves 1−15504
deep water gravity wave of permanent form 1−37957
deep water gravity waves, nonlinear, stability of plane wave solutions of nonlinear Schrodinger equation 1−27794
deep water waves of permanent form, highest-wave solns., using series expansion method 1−11413
dispersive wave motions in fluid-filled elastic tubes Love's approx. 1−15502
duct, circular, immersed, vertical, wave-tank experiments 1−2006
flow on vertical wall, wave formation 1−42006
gravity wave propagation on layer with random depth 1−11411
gravity waves, transient, generated against vertical cliff by oscillatory pressure distrib. 1−33969
gravity waves and deep water, long wavelength bifurcation 1−33971
incompressible fluid in thin elastic tubes, wave movement *(German)* 1−38016
liquid crystals, elastic, wave propagation, theoretical invest. *(Japanese)* 1−42294
long internal waves in fluids of great depth 1−11416
nematics, distortion waves and phase slippage 1−52058
non-Newtonian fluid, infinitesimal perturbations of extensional motions 1−37977
nonlinear standing waves bounded by cylinders 1−42061
nonlinear water wave generation using the method of lines 1−51788
nonlinear wave above semi-infinite underwater troughs and ridges 1−51786
one-dimensional nonstationary motions of a liquid with plane, cylindrical and spherical symmetry 1−51785
polyatomic molecular fluid, wave propagation 1−2004
potential of a horizontal ring of wave sources in a fluid with a free surface 1−42060
Rossby wave generation by rotating flow over topography, quasi-linear theory 1−51784
scattering by long thin obstacles, forward amplitudes 1−51794
scattering of long waves in a rotating bifuracted channel 1−37954
servo type wave gauge detection accuracy improvement *(Japanese)* 1−6910
shallow water equations, random choice method 1−51787
shallow water long wave flow, finite element anal. 1−24830
solitary waves, obliquely incident, reflection in shallow water 1−37955
sound interacting with hydrodynamic turbulence in compressible liquid, nonlinear theory 1−51750
stratified shear flow, long nonlinear waves 1−29750
stratified two-phase flow, two-equation model of turbulence 1−29759
surface waves, nonlinear, in self-gravitating fluids 1−19731
Tollmein-Schlichting wave generated by sound wave, spectral numerical method 1−2007
two-layered liquid, internal wave excitation by vertical oscills. 1−2010
unstable flows, wavepacket development 1−24765

liquid waves continued
viscous fluids, heat conducting, wave propagation, non-stationary thermodynamics 1−44867
water waves, time evolution of 2-D packets over uneven bottom 1−46764
water waves in channels, example of nonlinear partial differential eqns. 1−40658
liquids
for generalities only; for specific aspects see appropriate headings
see also liquid structure; liquid theory; solutions
depolarised light scatt. spectrum fine struct. *(Russian)* 1−3426
literature
winter climate, art and historical records 1−44751
literature reviews *see reviews*
lithium
see also nuclei with .....
abundance in flare stars by a non-LTE method, visible spectra 1−54519
abundance in red giants giving solar neighbourhood stellar birthrate 1−13758
Allende meteorite, Li isotopes of refractory inclusions *(French)* 1−40431
anodic dissolution efficiency, effect of anions 1−53571
atom, ^2S and ^2P states, lowest var. upper bound 1−18994
atom, doubly excited states, config. overlap method 1−1128
atom, neutral, XUV lasers by quartet to doublet energy transfer 1−46301
atom, optical radiation from electron-stimulated desorption of excited particles 1−33420
atom, positron impact, positronium form. and elastic scatt. calcs. 1−46135
atomic vapour, dense, laser excitation and ionisation 1−29830
atoms, photoionisation, electron correl., HF calcs., photoelectron spectra study 1−51138
atoms, relaxation times in aq. LiI solutions, Brownian motions, electrostatic model, NMR obs. 1−19116
atoms, transition probabilities, excited states, autoionisation, config. interaction calcs. 1−28922
atoms in rare gas matrices, absorpt. and emission spectra, fluoresc. 1−6192
band struct. studies, by OPW method *(Russian)* 1−47442
band structure, effect of exchange interaction, self-consistent Green's method 1−20619
clusters, quadrupole mass anal. 1−10882
diffusion and lattice location in ZnTe 1−20464
dislocation behaviour, temp. depend. 90 to 300K 1−11760
dislocation shapes, TEM study 1−11761
electrode, secondary, in $LiClO_4$-propylene carbonate, Li cycling efficiency determ. 1−21869
electron liquid, dynamical structure factor and local-field correction 1−2895
equations of state, pseudopotential calcs. *(Chinese)* 1−2587
FCC lattice, ab initio HF calcs. using full-symmetry anal. of basis-set expansions 1−7500
graphite, highly oriented pyrolytic, intercalation and deintercalation with Li 1−48291
graphite-Li intercalation cpd., stage 2, in-plane ordering, XPS study 1−48239
high-Rydberg quantum states distrib., effects of collisions 1−37303
intercalated with graphite, electronic props. of various stages 1−2859
ion, beam-foil excitation spectra, radiation 1−6368
isoelectronic sequence, quadrupole polarisation and dynamical correl. effects 1−24273
isoelectronic series, mag. dipole and elec. quadrupole transition probabilities 1−28924
isoelectronic series, relativistic effects in three-electron atoms 1−14830
isolectronic sequence between MgX and Ti XX, transitions between levels of principal quantum nos. 3 and 4, spectra 1−33409
isotope separation, axial flow in plasma centrifuges *(Japanese)* 1−45726
lattice static and dynamic props., pseudopot. study 1−7282
Li^++He, radiative collision processes studied in projectile energy range 0.45 to 4.2 keV, polarisation meas. 1−33541
liquid, Knight shift and spin-lattice relaxation time 1−26057
local spin density correlation energy functional, influence on cohesive energy 1−20644
metallic impurities dissolved, spin-flip and resistivity scatt. of cond. electrons 1−38983
meteorite, Li isotopic composition of stones 1−22740
molecule, chemical bonding, classical nonlinear field theory 1−41292
molecule, photodissoc. mechanism, predissoc. calc. 1−10792
molecules, dye laser irradiated, rot. transitions, pot. parameters, fluorescence obs. 1−10777
molten, interaction with Nb-Zr-C, effect on props. and struct. 1−53246
polycrystalline, X-ray Compton profile 1−43213
primary cells, Li/SO_2Cl_2 system, discharge behaviour 1−8698
pyrographite-Li, synthesis, conductivity, struct. and chem. composition 1−47627
silicate rocks:Li(Rb) powder, graphite-capsule flame atomiser for emission anal. 1−43724
slab, neutron irrad., angular flux spectra 1−892
surface, H and D positive ion bombarded, H^- and D^- backscatt. yields 1−43232
surface (100), adiabatic variational calc. of lattice relax. 1−7269
three electron atoms, autoionisation radiative and nonradiative decay 1−41353
upper atmosphere, seasonal var., lidar obs. 1−36091
upper atmosphere composition, winter enhancement in polar from twilight obs. 1−17718
vapour, thermal cond. and viscosity calc. 1−46843
weak G-band stars, Li abundance correl. with C deficiency 1−22798
β-alumina:Li,Na, co-ionic cond. nuclear spin-lattice relax. study 1−52344
BaF_2:Li, audiofrequency dielec. studies, 5.5. to 400K 1−31086
BeO:Li, exodetectors, dosimetric characteristics 1−14700
$CaF_2:Gd^{3+}$, Li^+, zero-field splitting of $4f^7$ state 1−20676
$CaF_2:Gd^{3+}$, Li^+, zero-field splitting of $4f^7$ state, electrostatic model 1−20677
CaO:Li, $[F_L]^0$ centre, EPR and ENDOR study 1−38980
CdS:Li, resonant Raman study of bound excitons 1−8077
CoO:Li, semiconductor props., electrochem. meas. 1−47742
CsCl(Br)(I):Li^+, impurity ion off-centre displacements, defect energies 1−11772
Ge:Li, thermal conductivity down to 0.06K, internal strain effect 1−16120
Ge(Li) planar diode X-ray spectrometer and cryostat construction 1−995
lithium continued
GeS:Li, photocond., ion implantation effects 1−30780
H-Li plasma, press. and main parameters meas. 1−46939
$(H_n{:}Li)_x$, H chain doped with Li, electronic struct., HF calcs. 1−42668
He^{2+}+Li, $He^+(n=3)$ selective formation, visible and X-ray spectra 1−46096
KCl:Li^+, press. induced off- to on-centre transition 1−20657
$KTaO_3$:Li, birefringence meas. 1−35009
$KTaO_3$:Li, condensation of random-site elec. dipole, NMR and dielec. susceptibility 1−21067
Li atom in $(LiH)(Li_2)(LiF)$, localised atomic orbitals determ. 1−1076
Li, double excited level lifetimes, beam foil technique 1−37160
Li I, electron quadrupole transition probabilities, many-electron theory 1−24082
Li I, fine structure of d^2D-terms, beam-foil quantum-beat spectroscopy 1−51304
Li I, quartet spectrum transitions 1−45923
Li I isoelectronic series, AR XVI to V XXI, spectra of transitions within second shell 1−28914
Li II ions, superluminosity 1−10992
Li to Ar atoms, self-consistent field with pseudopot., average energy of config. calc. 1−37092
Li^-, beam-foil excited, optical emission obs. 1−37317
Li^+ hydration shell struct. 1−46974
Li^+, in dimethylsulphoxide, solvation shell, external charge effects, far IR vibr. obs. 1−24114
Li^+ optically pumped trapped ions, fluoresc. response curves 1−19051
Li^+, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
Li^{2+}, electron scatt., hybrid multichannel algebraic variational method appl. 1−1316
Li/SO_2 cells, alternate organic electrolytes for improved safety 1−17188
Li/SO_2 cells, safety studies, effect of design variables on abuse resist. of hermetic D cells 1−17190
Li/$SOCl_2$ cell, cyclic voltammetry and spectroscopy studies of $SOCl_2$ soln. 1−35540
Li/$SOCl_2$ primary cell, chem. reactions, oxidation, voltammetry and electrolysis 1−21867
Li/TiS_2 rechargeable cells, lithium tetramethylborate-dioxolane electrolyte 1−48814
Li-$(CF)_n$ organic electrolyte batteries, discharge characts. of graphite fluoride cathode 1−35638
Li-CuM_2S_4 cells (M=Co, Fe, Ni), charge and discharge characts. 1−32005
Li-drifted detectors, contactless determ. of i-region front, IR pulse method 1−23979
Li-H, props. and appl. for H_2 generation and storage 1−21936
Li-H_2O air battery system, development and scaling up for electric vehicle propulsion 1−53596
Li-Li_2, interaction pot. surfaces calc., scatt. transport coeff. determ. 1−14973
Li-LiH(LiD)(LiT) systems, with liquid-vap. equilibrium, thermodynamic props. calc. 1−47254
Li-like ions, excited ^2S states, core electron correls. calcs. 1−33406
Li-like ions, ionisation cross-sections, excitation-autoionisation contribs. 1−45912
Li-methylamine solution, CESR obs. of metal-nonmetal transition rel. to miscibility gap 1−26037
Li-methylamine solution, strange mag. behaviour in metal-nonmetal transition range, 1.8 to 200K obs. 1−25867
Li-NH_3 solution, CESR in metal-nonmetal transition range 1−26036
Li-NH_3 solution, conc., ^{7}Li NMH obs. in metal-nonmetal transition range 1−26054
Li-NH_3 solution, electronic transport mechanism 1−25727
Li-Zn bimetallic film; diffusion and solubility of Zn, CESR obs. 1−12402
Li^+-H_2O system, charge transfer calc. 1−24239
Li+FH, reaction, quantum mechanical collinear model 1−48669
Li+H^-, fast H^0 atom prod. by stopping collision 1−1358
Li+HF(HCl), reaction dynamics study by crossed mol. beams 1−8557
Li+He^{2+}, selective form. of He^+, excited states, superradiance at Lyman wavelengths 1−41476
Li+inert gas, Li(2p) excitation, photon scattered atom coincidence meas. 1−1343
Li+Na, collisional excitation, emission cross sections, polarisations 1−19177
Li+Ne, angular momentum effects 1−24228
Li+SF_6 reactions, chemiluminesc. spectra 1−31834
Li^++CO, low angle scatt., pot. energy surfaces, CI calcs. 1−1306
Li^++H_2, rot. excitation of H_2, cross sections, energy-loss obs. 1−46068
Li^++H_2, rot. transitions *(Russian)* 1−41368
Li^++Ni^{2+} interaction, aq. soln., NMR relaxation obs. and calcs. 1−28908
Li^{2+}+$He^{2+}(H^+)$, electron capture collisions, continuum distorted wave approx. 1−1345
Li^{3+}+H, electron capture 1−24244
Li^{3+}+H, electron capture cross-sections, at. wavefunctions calcs. 1−10836
Li^{3+}+Ne, inner shell capture and ionisation 1−46098
Li_2, Boyd-Whitehead CNDO parametrisation 1−45853
Li_2, electron impact excitation, rot. transitions, correspondence principle model, pot. surface 1−6347
Li_2, optically pumped, precise meas. and assignment of CW laser emission lines 1−15157
Li_2^+, dissoc. energy, bond lengths, GO calcs. 1−10633
Li_2+$Cl_2(Br_2)(I_2)$, mol. chemiluminesc. spectra obtained using beam-gas arrangement 1−8573
Li_2+rare gas atoms, rot. transitions, correspondence principle model, pot. surface 1−6347
Li_{35} BCC cluster, Boyd-Whitehead CNDO parametrisation 1−45853
Li_4 clusters, electronic and geometric struct., ab initio CI methods, catalytic activity 1−37377
LiH, press. and main parameters meas. 1−46939
$Li^+(H_2O)_2$, H bonds, metal ion effects calcs. 1−28871
$Li^+(H_2O)_n$, interaction pot., nonadditivity 1−14978
LiI, isoelectronic sequence, 2s-2p transitions, fine struct. and wavelengths 1−1398
^{6}Li/^{7}Li, light pionic atoms, isotope effects, K-series X-ray transitions 1−15041
^{7}Li/^{6}Li, in upper atmos., lidar obs. 1−36091
$^7Li^+$, Lamb shift and fine struct. meas. 1−6211
$^7Li^+$ nonneutral plasmas, ion Langmuir waves 1−34072

lithium continued
Li(2p)+$H_2(N_2)$, excitation cross sections, polarisation anal., mag. sublevel population of 2p state 1−6348
MgO:Li, oxidised at high temp., current-voltage characts. 1−2960
MgO:Li, single cryst., elec. cond. at elevated temps. 1−42778
MgO:Li^+, ion implanted, thermal colloid development, TEM obs. 1−2641
MgO:Li^+, thermochemically treated, dielec. polarisation and optical absorpt. study 1−3320
Se:Li,Cl, amorphous, gap states, carrier traps, time-of-flight study 1−52472
Si:Li, 1.045 eV vibronic band 1−3458
Si:Li, bond multiexciton luminesc. 1−8118
Si:Li, bound multiexciton complexes, exciton capture and Auger recomb. rates 1−48146
Si:Li, donor excitation spectrum, uniaxial stress effects, piezospectroscopy 1−48030
Si:Li, polycryst., electrolytic doping, effect on elec. props. 1−47099
Si:Li, Si:Li, O, electronic excitation spectra of donors, linewidth study 1−52976
SrF_2:Li, audiofrequency dielec. studies, 5.5. to 400K 1−31086

lithium alloys
electrical resistivity and thermoelectricity in dil. alloys 1−38759
Ag-Li, liq., partial struct. factors, thermodynamical approach 1−30045
Al-Al_3-Fe eutectic alloy, structural modification by Na and Li additions 1−53166
Al-Li, splat-quenched, alloy 2024, effect of Li on struct. and props. 1−8294
Al-Li (2.8 wt.%), dislocation struct. after ageing in US field *(Russian)* 1−7177
Al-Li(1.7 wt.%), low temp. ageing, elec. resist. meas. *(Japanese)* 1−26508
Li-Al, soft X-ray emission meas., comparisons with KKR-CPA calcs. 1−31239
Li-Al, thermodynamic investigation by H_2 titration method 1−2656
Li-Al(Mg), soft X-ray emission spectra 1−8164
Li-Bi, liq., DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
Li-Cd, liq., ^{7}Li Knight shift and elec. resist. meas. 1−31047
Li-In, liq., ^{7}Li Knight shift and elec. resist. meas. 1−31047
Li-In, liq. alloy, struct. and elec. resist. calc. 1−25142
Li-Mg, liq., nuclear spin-lattice relax. rate meas. 1−31054
Li-Mg, liq. alloy, struct. and elec. resist. calc. 1−25142
Li-Mg, soft X-ray emission meas., comparisons with KKR-CPA calcs. 1−31239
Li-Mg (40-60 at.%), deform. of single crysts., and polycrysts. 1−26576
Li-Mg liquid alloys, density, compressibility, specific heat and neutron diffr. 1−25449
Li-Na, liq., nuclear spin-lattice relax. rate meas. 1−31054
Li-Na, liq., thermoelec. power meas., crit. effects near phase separation temp. 1−30728
Li-Na, liq., thermoelec.. power over entire conc. range 1−38764
Li-Na, liq. alloy, struct. and elec. resist. calc. 1−25142
Li-Pb, liq., ^{7}Li Knight shift and elec. resist. meas. 1−31047
Li-Pb, liq., DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
Li-Pb, liq., electronic transport, self-consistent pseudopot. theory 1−30709
Li-Pb, liq., entropy of mixing, hard sphere model 1−30397
Li-Pb, liq., low energy photoemission spectra meas. 1−31312
Li-Pb, liq., nuclear spin-lattice relax. rate meas. 1−31054
Li-Pb, thermodynamic investigation by H_2 titration method 1−2656
Li-Pb(Sn), liq., ^{7}Li Knight shift, elec. cond. and spin-lattice relax. time 1−7962
li-Sb, liq., DC mag. susceptibility obs. in metal-nonmetal transition range 1−25875
Li-Sn, liq., ^{7}Li Knight shift and elec. resist. meas. 1−31047
Li-Tl, liq. alloy, struct. and elec. resist. calc. 1−25142
LiAl/TiS_2 cells, high-temp., evaluation 1−17189
$Li_{22}Ge_5$ solutions in liq. Li, elec. resist., solubility, and chemistry 1−30708
LiIn, thermodynamic and mass transport props. 1−21425
Li_4Pb, liq., dynamical conc. fluctuations, quasielastic neutron scatt., self-diffusion and interdiffusion coeffs. 1−25146
Li_4Pb semiconducting liq. alloy, struct. and evidence for ionic bonding 1−25149
$Li_{22}Si_5$ solutions in liq. Li, elec. resist., solubility, and chemistry 1−30708
Mg-Li constructional alloys, fracture toughness 1−53287
Pb-Li, liq., partial struct. factors, thermodynamical approach 1−30045
TiLi, energy band structure and wave functions *(Ukrainian)* 1−25622

lithium compounds
see also lithium alloys
β-spodumene ceramics, fabrication by unidirectional solidification of their melts *(Japanese)* 1−21403
acetates, relative permittivity, freq. and temp. effects 1−34970
acetylacetonate, dielec., ferroelec., and piezoelec. props. 1−48017
aluminate:Cr^{3+}, generation of primary, stimulated and multiple light-echo signals 1−1652
ferrites, magneto-microwave Kerr effect study of effective line width 1−26177
first row hydrides, susceptibilities and mag. shielding const., coupled HF calc. 1−33391
formate, Raman light scatt. characts. 1−26211
formate crystals, biaxial nonlinear, vector interactions and nonlinear conical refr. 1−6601
formate monohydrate, intracavity freq. doubling of coumarin 102 dye laser 1−15224
Li_3B_4O(Cu) new tissue equivalent phosphor *(Japanese)* 1−35888
lithium thallium tartrate, non-deuterated and deuterated, thermal cond. at ferroelec. transition 1−20485
molecule, localised atomic orbitals determ. for Li atoms 1−1076
oxalate, vibrational studies, IR and Raman spectra 1−12494
piezoelectric-semiconductor struct., SAW reflection from capture level charge grating 1−30540
rare earth cpd., $LiR_{1-x}(Eu,Tb,Ce)_x(PO_3)_4$ (R=La, Y, Gd), photolum. and cathodolum. 1−39137
sitalls, SiO_2-Al_2O_3-Li_2O-TiO_2, bend strength, effect of bubbles and cavities 1−31561
tetrakismethylaminelithium(0), thermodynamic props., DTA study 1−34487
tetramethylborate-dioxolane electrolyte for Li/TiS_2 rechargeable cells 1−48814

lithium compounds continued
AlF_3-LiF-NaF system, computer anal. of phase diagrams and thermodynamic props. 1−12725
β-Al_2O_3-Li_2O, prototype glass, electron spin relax. of irrad.-induced colour centre, disorder effects 1−16481
As_2O_5-Li_2O(Li_2CO_3) phase diagram 1−8285
B_2O_3-Li_2O-La_2O_3 quasi-ternary system, phase diagram DTA *(German)* 1−21426
B_2O_3-Li_2O-Li_2SO_4, solid electrolytes, synthesis and characterisation 1−7376
B_2O_3-Li_2O-LiF(Cl)(Br)(I), solid electrolytes, synthesis and characterisation 1−7376
B_2O_3-R_2O (R=Li,Na,K) glasses, S states 1−26227
C_6Li intercalate, electronic band struct. 1−47461
CaC-Na_2C_2(Li_2C_2)(CeC_2), solid solubilities, X-ray diffr. study 1−7337
CdS-$LiNbO_3$ layered structures, elec. effects of acoustoelec. interaction influence on SAW 1−12152
Cu-Li-Fe-O system, prep. and props. of spinel solid solns. 1−12708
Er^{3+}:$LiYF_4$, $^4I_{11/2}\rightarrow{}^4I_{13/2}$ 2.8 μm laser transition, Stark level identification 1−29288
Ho,Er:$LiYF_4$, dual wavelength (0.75 and 0.85μm) laser operation 1−29289
(K, Na)(Li, Al, Fe)$_2$[Al, Si_3O_{10}]$_4$(OH, F)$_2$, zinnwaldite, local mag. fields on Al nuclei, NMR method 1−26048
KCl:$(LiH)^+(AgH^+)$ centres, EPR 1−3258
KIO_3.2LiIO_3 salt, IR spectra, cryst. growth and morphology *(Chinese)* 1−3377
$K_{2.98}Li_{1.55}Nb_{5.11}O_{15}$, piezoelec. single cryst., SAW characts. 1−38637
LiF, extinction convection, within validity limits of mosaic cryst. block model 1−15750
$(Li,Na,K,Cs)(Eu,Tb)_{1-x}(Gd,\gamma)_x[(Mo,W)O_4]_2$, luminescence props. 1−39136
Li borates, crystallochem. characts. 1−30197
Li-graphite intercalation compounds, neutron scatt. 1−34330
Li-montmorillonite clay-α-napthylamine complex, prep. by thermal decomp. 1−39259
Li-Ni ferrites, lattice consts., X-ray diffr. study 1−30181
$LiAlO_2$ sintered electrolyte testing in molten carbonate fuel cells 1−4172
$LiAlO_2$, synthesis conditions and physicochem. props. 1−43301
$LiAlO_2$, vaporisation and thermochem. stability 1−52267
$LiAl_5O_8$, vaporisation and thermochem. stability 1−52267
Li_5AlO_4, vaporisation and thermochem. stability 1−52267
$LiAlSi_2O_6$, atomic charges estimation from X-ray diffr. intensity data 1−7140
$Li_8(Al_6Si_6O_{24})Cl_2$, cryst. struct., distance least squares modelling 1−42360
$LiBH_4$, pot. surfaces and geometry, ab initio calcs. 1−24030
$Li_2B_4O_7$, rare earth doped, dosimetric properties, luminescence studies 1−954
$Li_2B_4O_7$, TLD, conference, Toulouse, France (Apr. 1980) 1−11
$Li_2B_4O_7$ temp.-compensated SAW substrate material 1−34988
$Li_2B_4O_7$:Cu phosphor, preparation and characteristics, TLD appl. 1−959
$Li_2B_4O_7$:Mn phosphor, photothermoluminesc. and behaviour of high-temp. glow peaks 1−26284
$Li_4B_7O_{12}Cl$, X-ray irrad., ESR study 1−21047
$LiBaCr_2(VO_4)_3$, prep. and X-ray powder diffr. studies 1−7142
$LiBeH_4$, pot. surfaces and geometry, ab initio calcs. 1−24030
LiBr, absorption spectra, band struct. from synchrotron rad. photoelectron spectra 1−26360
LiBr aqueous soln., specific heat meas. at atmospheric pressure *(Japanese)* 1−2647
LiBr, diffusion and disorder, NMR and ionic cond. meas. *(German)* 1−30467
LiC_{12} lamellar cpd., sp. ht. and mag. susceptibility 1−42550
$LiCH_4^+$, pot. surfaces and geometry, ab initio calcs. 1−24030
LiCN, rot.-bending energy levels, linear, bent and internally rotating triatomic mols. 1−24110
Li_2CO_3:$^3H^+$, ion implantation studied using single stage ion accelerator 1−21752
LiCl, aq. soln., ion hydration, neutron diffr. and isotopic substitution meas. 1−20042
LiCl, inhibitors of corrosion on steel and Cu samples *(Japanese)* 1−3984
LiCl, neutron irrad., V_N-centre, optical absorpt. and dichroic spectra 1−26243
LiCl:Fe, γ-ray irradiation effect, defect struct., X-ray diffr. and Mossbauer meas. 1−43047
LiCl:Tl^+, light quenching of luminesc. *(Russian)* 1−43180
LiCl-KCl, molten, stress corrosion cracking of Ti-Al-Mo-V, current transients obs. 1−48571
LiCl-KCl mixtures, partial struct. factors 1−2311
LiCl-$ZnCl_2$ liquid mixtures, electrical cond. determ. between 320 and 450°C 1−20434
$LiCl_A^+$, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
$LiCl_n$, photoionisation, struct., binding energies, ionic models, Xalpha and Hartree-Fock calcs. 1−19143
$LiClO_4$/dioxolane electrolyte, inherent explosion hazard 1−17069
$LiClO_4$-propylene carbonate, Li and Al-Li electrodes, Li cycling efficiency determ. 1−21869
LiD fusion ignition using fission induced shock waves *(German)* 1−887
LiD-Li system, with liquid-vap. equilibrium, thermodynamic props. calc. 1−47254
$LiErP_4O_{12}$, growth and spectral props. 1−26380
LiF (001), inelastic scatt. of He, time-of-flight spectra anal. 1−53037
LiF (100), rotationally inelastic molecule-surface scattering 1−31263
LiF, annealing kinetics, dislocation dipole distribution 1−2453
LiF, containing dislocations, thermal cond., thermal diffusivity and sp. ht. meas. 1−7401
LiF, cryst., air-cleaved, UPS obs. 1−31310
LiF crystal, 0.86-1 μm tunable CW room-temp. laser utilizing F_2^+-centres 1−6562
LiF crystals, scratch method for dislocations start stress determ. 1−48609
LiF crystals, X_3^- centre absorpt. explanation of 11.0-eV band 1−12532
LiF, dipole moments, polarisability and electron affinity, MBPT calcs. 1−33387
LiF, dislocation containing crysts., low temp. thermal props. 1−20488
LiF, dose re-estimation using UV photo-transfer, effect of LET 1−951
LiF, double cross slip enhancement under hydrostatic press. 1−25286
LiF, electric charge motion under simple slip conditions 1−3047
LiF, electron scatt. cross-sections, hybrid calcs. 1−46126
LiF, electron-gas theory, many-body effects 1−47524

lithium compounds continued
LiF, erosion by solid particle impact, mechanisms 1−16906
LiF, F_2^- centres, stimulated emission and optical absorption spectra 1−26235
LiF F_2^+-centre laser, 880 to 970 nm, for intracavity spectroscopy 1−41728
LiF F_2-centre laser, emission characts. in visible 1−15172
LiF, F-centre energy levels, variational convergence, SCFMO calcs. 1−47559
LiF, F-centres, modulation ENDOR in single crysts. 1−52868
LiF, flash X-ray diffr. to 100 GPa for eqn. of state meas. 1−42466
LiF, flow-curves, complex thermoluminesc. anal., individual peak resolution 1−26289
LiF, high sensitivity tissue-equivalent thermoluminescent phosphor, simultaneous sensitisation and re-estimation 1−1044
LiF, hydrostatically compressed, edge dislocation mobility 1−25283
LiF hydrostatically compressed single crystals, work hardening *(Russian)* 1−31486
LiF, IR absorption coefficient 1−31116
LiF, impurity-vacancy complexes, frequency and activation energy relationship for relax. 1−11785
LiF in contact with He, Kapitza resistance studies using phonon pulse reflection 1−16166
LiF, internal stress evolution, mobile dislocations *(Russian)* 1−30304
LiF laser windows, press forging and optical props. 1−29353
LiF, lattice dynamics, 7-parameter bond-bending force model 1−34436
LiF, lattice dynamics calcs., phonon dispersion, specific heat, Raman and IR spectra 1−47188
LiF, localised atomic orbitals determ. for Li atoms 1−1076
LiF, luminesc. and stimulated emission of colour centres 1−12542
LiF, microhardness, influence of low-energy Ar ions and vacuum UV *(Russian)* 1−48488
LiF, molten salt, density profile, Fredholm equations, surface props. calcs. 1−34546
LiF powder 1−35113
LiF, powder and rods, continuous cylindrical dosimeters 1−963
LiF single cryst., slip generation and cubical cavity distortion, press. induced 1−34423
LiF single crysts., fatigue hardening in push-pull cyclic deform. 1−39409
LiF, single crysts., localised stress relax. by impression testing 1−12781
LiF, strain hardening curve, reflection of slip band source spectra 1−15900
LiF, synchronous-pumping, F_2^+-centre laser, picosecond emission, dynamics 1−51496
LiF TL phosphors, low energy beta radiation detection and measurement 1−41285
LiF, TLD, B diffused thermoluminescent surface layer, skin dose assessment 1−958
LiF, TLD, conference, Toulouse, France (Apr. 1980) 1−11
LiF TLD, energy dependence 1−950
LiF, TLD, energy depend. 1−28835
LiF, TLD, radiation-induced colour centres at high absorbed dose rates 1−944
LiF TLD, relative TL yield of 4 MeV α-particles to 4.1 keV X-rays 1−945
LiF TLD, response of peak 5 and peak 6 to ion irradiations 1−1043
LiF TLD, response to pions and high-energy neutrons, double read-out method 1−1042
LiF TLD performance 1−6051
LiF TLDs, appl. to personnel and environmental dosimetry 1−6050
LiF, thermal expansion at high press. 1−7359
LiF, thermoluminesc., particle size effects, annealing at 300 to 400°C 1−48174
LiF, thermoluminescence, order of kinetics 1−43193
LiF, thermoluminescence sensitivity and non-radiation induced signals, particle size effects 1−955
LiF, thermoluminescence glow-curves, computerised curve-fitting 1−3509
LiF thin films, optical parameters and packing density determined by immersion reflectometry 1−31218
LiF, V_K-centre and H-centre, inelastic light scatt. 1−3395
LiF, VUV transmittance, proton-induced degradation, 85 and 600 MeV protons 1−33779
LiF, vacancy accumulation kinetics during plastic deform. 1−2433
LiF, with F_2^+, F_2^-, centres, emission spectra and intracentre characts. 1−37500
LiF, X-ray luminesc. temp. depend. 1−48153
LiF:Mg, internal stress evolution, mobile dislocations *(Russian)* 1−30304
LiF:Mg, thermoluminescence, Z-centre model 1−3511
LiF:Mg, Ti, flame-sintered, comparative TL-TSEE measurements 1−8140
LiF:Mg, Ti, Na, flame-sintered, comparative TL-TSEE measurements 1−8140
LiF:Mg, Ti, TLD, TL response and range of heavy charged particles, LET dependence 1−947
LiF:Mg, Ti, TLD, Z-centre model 1−3508
LiF:Mg, Ti, thermoluminescent response under heavy ion bombardment 1−948
LiF:Mg, Ti, thermoluminescence properties, influence of OH^- 1−3510
LiF:Mg^{2+}, Z-centre growth, absorpt. spectra 1−25322
LiF:Na(K), ion implanted, aggregation stages, Rutherford backscatt. and SEM obs. 1−2493
LiF:OH, IR absorpt. spectra, hydrogen bond formation on γ-irrad. 1−20263
LiF:OH colour centre laser, output spectrum, rapid sweep 1−33697
LiF:OH^-(OD^-), thermal cond., 0.1 to 70K, reson. phonon-impurity scatt. 1−20484
LiF:PTFE discs, automated personal dosimetry system, appl. of photo-transferred thermoluminescence 1−952
LiF:Ti, flame-sintered, comparative TL-TSEE measurements 1−8140
LiF:Ti, thermoluminescent mechanism, F-centre trap 1−3506
LiF:TiO_2, crystal excitation transfer mechanism to activator centres 1−35089
LiF-BeF_2 mixture, fusion reactor blanket, effect of Pb, Bi multiplication zones on ^{232}Th, ^{235}U fission rates 1−10525
LiF-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
LiFH, repulsive surfaces, pot. energy functions derived by fitting ab initio data 1−19156
LiF−Li_2O-$Al(PO_3)_3$ glasses, transport no. for Li ions 1−20449
LiF(001), inelastic scatt. of H_2, rot. and reorientational transitions investigated by model based on sudden approx. 1−24211
lithium compounds continued
LiF(001), Rayleigh surface phonon dispersion relation, He atom scatt. meas. 1−47354
LiF(001) surface, scatt. of the long-lived states in elastic collision, reciprocal lattice vector poles calcs. 1−31257
$LiFe_5O_8$ flux grown single crystals, cryst. defects 1−7101
$Li_{0.5}Fe_{2.5}O_4$, Curie temp. rel. to stoichiometry 1−38932
$Li_{0.5}Fe_{2.5}O_4$, polycryst., echo signal obs. in wide freq. range 1−26077
$Li_{0.5}Fe_{2.5}O_4$, spinel, sintering and mag. props . 1−3681
$Li_{0.5}Fe_{2.5}O_4$-Bi_2O_3, high-dispersity powders prep., sintering and mag. props. 1−26412
$Li_xFe_{3-x}O_4$, volatilisation of Li during sintering 1−35207
$Li_{0.5}Ga_{2.5-x}Cr_xO_4$, correlation between crystalline struct., optical props., vibration spectra 1−30125
$LiGaO_2.8H_2O$, X-ray cryst. struct. determ. *(French)* 1−34294
Li_2GeO_3, temp. depend. of rel. and coeff. of US absorption *(Russian)* 1−52235
Li_4GeO_4-Li_2ZnGeO_4-Li_3PO_4, solid soln., fast Li ionic cond. 1−7377
Li_4GeO_4-Li_3VO_4, Li^+ ion conductors 1−30458
Li_4GeO_4-Zn_2GeO_4 pseudobinary system, phase diagram and Lisicon ceramic phase obs. *(Chinese)* 1−48331
LiH, $A^1\Sigma^+$ dipole moment, vibr. state effect 1−1203
LiH, correlated pot. energy curves, HF calcs. 1−51079
LiH, correlation energy, equilib. geometry, spectroscopic consts, Rayleigh-Schrodinger perturbation theory 1−41301
LiH, electron scatt. 1−41492
LiH, electronic energies, Bose particle representation 1−1051
LiH, Franck-Condon factors, ab initio calcs. 1−51109
LiH fuel, initiation of fusion chain reactions, inertial confinement *(German)* 1−888
LiH, hyperpolarisabilities, mixed freq. HF calc., second-order SCF perturbation theory appl. 1−1101
LiH, localised atomic orbitals determ. for Li atoms 1−1076
LiH, nucl. mag. relax., pulse NMR method, sublattice ion mobilities 1−26069
LiH, plasma production, performance of CO_2 laser *(Korean)* 1−46384
LiH powder, electron struct. from positron annihilation Doppler broadening 1−35113
LiH, repulsive hardness parameter anal. 1−30131
LiH, SCF theory, Hellmann-Feynman force 1−6135
LiH states of Σ and Π symmetry, ground and excited pot. energy surfaces calc. by VB method 1−37141
^{7}LiH, vibr., rot., vibronic states, dipole moments laser excitation 1−29141
LiH, X-$A^1\Sigma^+$ transition, nonadiabatic matrix element calcs. 1−28955
^{7}LiH, $X^1\Sigma^+$ state, vibr. level lifetimes, radiative transition probabilities and dipole moments 1−29043
LiH-Li system, with liquid-vap. equilibrium, thermodynamic props. calc. 1−47254
$LiH+BeH_2 \rightarrow LiBeH_3$, complex formation reactions, ab initio calculations of potential energy surfaces 1−8543
$(LiH)_2$ electrostatic energy, multipole expansion and point charge models 1−37285
LiH_2+HF(HCl)(DCl)(HBr)(SO_2)(methyl chloride)(ethylene)(ethylene dichloride), vibr. excitation, relax, rates determ. 1−24207
Li_6H_6, struct. and stability, energy gradient method calcs. 1−41299
LiH_2PO_3, angular dispersion study of polar phonons *(French)* 1−35027
$Li_xH_{1-x}RP_2O_7$ (R=Tm, Yb, Lu), prep., cryst. struct., IR spectra, and chem. anal. 1−34305
$LiH_3(SeO_3)_2$, near IR spectra, inter- and intra-proton tunnelling 1−26184
LiHe, closed and half-closed shell mols., dispersion energy, ab initio calcs. 1−28851
$LiHoF_4$, spontaneous magnetisation, crit. behaviour, light scatt. meas. 1−20966
LiI aq. soln., Li^+ hydration shell struct. 1−46974
LiI-H_2O-Al_2O_3 system, ionic cond. of intermediate comps. 1−20445
LiI-Li_2S-P_2S_5, vitreous electrolyte, prep. and ionic cond. props. 1−34517
$LiIO_3$ cryst., subnanosecond light pulses, parametric generation, 13300 cm^{-1} spectral width 1−24458
α-$LiIO_3$, cryst. struct. and phase transitions *(Chinese)* 1−25206
$LiIO_3$ crystal, cascade conversion for parametric generation of light with noncollinear interaction 1−1635
$LiIO_3$ crystals, SHG, optical system aberration effect 1−24454
$LiIO_3$ crysts., magneto-optical props. meas. 1−21177
$LiIO_3$, electron quadratic nonlinearity tensor, Raman light scatt. meas. *(Russian)* 1−21175
$LiIO_3$, high press. eqn. of state and phase transform. *(Chinese)* 1−2610
$LiIO_3$, influence of EM irrad. on optical props. *(Russian)* 1−21249
$LiIO_3$, intracavity SHG using synchronously mode-locked CW dye lasers 1−15226
$LiIO_3$ parametric light source with a two-stage interaction 1−33764
α-$LiIO_3$, scattered light bands due to DC elec. field action *(Chinese)* 1−3422
α-$LiIO_3$ single cryst., elec. cond. mechanism and low temp. cond., quasi-one-dimens. conductor *(Chinese)* 1−20444
α-$LiIO_3$, stimulated Raman scatt. under laser irrad., multimode lattice vibrs. *(Chinese)* 1−52927
$LiIO_3$-$Zn(IO_3)_2$ system, phase diagram, X-ray diffr. and DTA study *(Chinese)* 1−53160
$2LiIO_3.HIO_3$, cryst. struct. and phase transitions *(Chinese)* 1−25206
$LiInSe_2$, single cryst. growth and characterisation 1−12647
$LiKSO_4$, phase transitions probed by Raman scatt. 1−38532
$LiMF_4$, M=rare earth ions, f^n electron system, cryst. field param., angular overlap model 1−30686
$Li_{2.3}Mo_6S_{7.7}$, preparation and mass transport props. 1−34511
Li_3N, cryst., glassy props. at temps. 20 mK to 100K, acoustic and dielec. behaviour 1−2570
Li_3N, defect struct. and ionic cond. 1−47292
Li_3N, diffuse X-ray scattering, 293 to 880K 1−42482
Li_3N, lattice vibrs., coherent inelastic neutron scatt. study 1−25388
Li_3N, low-temp. thermal cond. 1−2712
LiNCS dimerisation in aprotic solvents, IR and Raman vibr. study *(French)* 1−31847
$Li_{2-2x}N_{0.5-x}Cl_{0.5+x}$, superionic conductor, NMR and X-ray studies 1−38999
$LiNH_4SO_4$, inhomogeneous strain near ferroelec. phase transition, sp. ht. meas. 1−26138
$LiNH_4SO_4$, proton spin-lattice relaxation, ferroelec. transitions 1−12419
$LiNO_3$-water solutions, conc., vapour press. meas. by dew-point method 1−53460
$Li_{0.464}Na_{0.036}Fe_{2.5}O_4$, volatilisation of Li during sintering 1−35207

lithium compounds continued
$Li(Nb, Ta) O_3$ films on $LiTaO_3$ substrates, LPE grown, refractive indices and surface morphology 1−3349
$LiNbO_2$ waveguide electro-optic Bragg deflectors, high deflection efficiency, low insertion loss 1−11080
$LiNbO_3$ 3-branched optical waveguide, 4-port optical switch appl. 1−19474
$LiNbO_3$ 45° crystals, growth and optical homogeneity for IR parametric oscillators 1−6617
$LiNbO_3$ acousto-optic collinear TE_m-TE_n mode convertor, optimisation of conversion of guided optical waves 1−24495
$LiNbO_3$, annealed and ion sputtered surfaces, EELS 1−39198
$LiNbO_3$, arbitrary cut, SAW propagation characteristics *(Japanese)* 1−20536
$LiNbO_3$ crystal optical strength, irradiation with Er^{3+}:YAG giant laser pulses λ=2.94 μ 1−33732
$LiNbO_3$ crystals, polarisation effect 1−21111
$LiNbO_3$, Czochralski growth method, stoichiometry and props. 1−8211
$LiNbO_3$, dielectric const. temp. depend., IR reflectance spectra 1−21106
$LiNbO_3$ directional coupler, complementary optical bistable switching and triode operation 1−46591
$LiNbO_3$, electro-optic and crystallographic props. 1−3368
$LiNbO_3$ electro-optic crystals, optical damage effect reduction 1−12475
$LiNbO_3$, electro-optic crystals, wavefronts conjugation via deggnerate four-wave mixing 1−19385
$LiNbO_3$ electrooptical Bragg deflectors, low-insertion loss and multiple-beam capability for optical waveguide light deflection 1−37594
$LiNbO_3$ fast crystal deflector, design considerations and appls. 1−29380
$LiNbO_3$, ferroelectric, temp. depend. of spontaneous polarisation *(Russian)* 1−47999
$LiNbO_3$ flux grown single crysts., real struct. obs. by etching, X-ray and optical methods 1−25186
$LiNbO_3$, freq. mixing of ruby lasers, laser time charects. determ. 1−15222
$LiNbO_3$ growth by capillary liq. epitaxial technique 1−3641
$LiNbO_3$, He ion implanted, refractive index profile, appl. to integrated optics 1−19475
$LiNbO_3$, Hertz vector model of light scatt., SAW 1−33848
$LiNbO_3$, high-efficiency high-power difference freq. generation at 2 to 4 μm 1−15218
$LiNbO_3$ integrated-optics strip modulators 1−1727
$LiNbO_3$, ion exchange in $TlNO_3$ melt optical waveguide fabrication 1−29386
$LiNbO_3$, lattice dynamical studies 1−20330
$LiNbO_3$ microchannel spatial light modulator 1−24488
$LiNbO_3$ operational integrated optical RF spectrum analyser 1−1720
$LiNbO_3$ optical directional coupler, coupling-length trimming by metal loading 1−46553
$LiNbO_3$ optical parametric oscillator, tunable IR radiation generation 1−46457
$LiNbO_3$, optically active light scatt. centres, optical and X-ray obs. 1−31120
$LiNbO_3$ parametric generator, IR picosecond pulses and appls. 1−15228
$LiNbO_3$, photoelastic waveguides 1−11086
$LiNbO_3$ pyrodetector for IR radiometers in unmanned interplanetary space stations 1−10016
$LiNbO_3$, Raman scatt. relation to electro-optical effects 1−12508
$LiNbO_3$, reactive ion-beam etching to fabricate holographic gratings and waveguide components 1−1733
$LiNbO_3$, refractive index, temp. depend., transition metal impurity effects 1−12469
$LiNbO_3$ SAW devices, propagating acoustic waves, SEM obs. 1−24615
$LiNbO_3$, SAW planar prism waveguide coupler 1−37732
$LiNbO_3$ single cryst., SHG in polydomain striae region *(Chinese)* 1−46443
$LiNbO_3$ single crystal thin film light guide waveguiding props. 1−15261
$LiNbO_3$ single crystal growth, acousto-optic device appl. 1−16681
$LiNbO_3$, small-polaron semicond., expt. Hall effect data 1−34726
$LiNbO_3$ sputtered thin film, permitt., loss angle, temp. depend. 1−43057
$LiNbO_3$ substrate, obs. of SAW patterns using SEM stroboscopic methods 1−20541
$LiNbO_3$, substrate for MOS struct., monolithic, electronic attenuation of SAW 1−37659
$LiNbO_3$ surface diffused waveguide parameter influence on acoustooptic interaction efficiency freq. depend. 1−51643
$LiNbO_3$, synthesis conditions and physicochem. props. 1−43301
$LiNbO_3$ three-dimensional optical waveguide, difference freq. generation 1−33766
$LiNbO_3$ three-dimensional optical waveguide, SHG 1−46455
$LiNbO_3$ travelling-wave optical waveguide intensity modulator up to 18 GHz 1−33798
$LiNbO_3$, tunable picosecond light pulse generation, 2700 to 32000 cm^{-1} 1−1627
$LiNbO_3$ waveguides, diffused, tunnel radiation coupling investigation 1−33800
$LiNbO_3$ waveguides, field-distrib. fluctuations, self-effect obs. 1−33801
$LiNbO_3$ with periodic laminar ferroelec. domains, SHG enhancement 1−15217
$LiNbO_3$, Y-cut mode convertor 1−1723
$LiNbO_3$:Ar, refractive index change due to ion implantation 1−26161
$LiNbO_3$:Cr, ferroelec., Cr^{3+}-Cr^{3+} excited state dipole moment interactions 1−21112
$LiNbO_3$:Fe, annealed in H_2, OH^- absorpt., spectral and ESR meas. 1−21241
$LiNbO_3$:Fe, composition inhomogeneities, defect types 1−38545
$LiNbO_3$:Fe, hologram decay with time varying cond. 1−1516
$LiNbO_3$:Fe, holographic recording process, influence of spatially inhomogeneous incoherent illumination *(Russian)* 1−37442
$LiNbO_3$:Fe, photorefractive effect, photoconductivity 1−21167
$LiNbO_3$:Fe, polarised Raman scatt. spectra, optical damage effect 1−26213
$LiNbO_3$:Nd^{3+} laser, simultaneous emission at 1.0933 and 0.54 μm 1−1574
$LiNbO_3$:Si, Fe, dopant conc. anal. by atomic absorption spectroscopy 1−20251
$LiNbO_3$:Ti, low loss waveguide fabrication and performance 1−37607
$LiNbO_3$:Ti diffused anisotropic waveguide, leaky-mode loss coeffs., approx. calcs. 1−29387
$LiNbO_3$:Ti in-diffused optical waveguide fabrication 1−1692
$LiNbO_3$:Ti in-diffused optical waveguide TE-TM mode splitter, expt. and theoretical results 1−11071
lithium compounds continued
$LiNbO_3$:Ti indiffused waveguide bends, measured losses 1−1689
$LiNbO_3$:Ti interferometric waveguide electro-optical A/D convertor 1−24486
$LiNbO_3$:Ti optical waveguide channel branches, splitting ratios, branch parameters 1−6647
$LiNbO_3$:Ti waveguide system, refl. substrate mode absorpt. in integrated optical spectrum analysers 1−41890
$LiNbO_3$:Ti wavelength TE to TM mode convertor with low drive voltage 1−11183
$LiNbO_3/LiTaO_3/SiO_2$ multilayer SAW device characteristics *(Japanese)* 1−24626
$LiNbO_3$-CdSe layer structs., SAW propag., alternating carrier drift effect 1−20540
$LiNbO_3$-CdSe layered structure, SAW phase modulation and AM 1−34561
$LiNbO_3$-CdSe layered struct., SAW absorpt. 1−38639
$LiNbO_3$-Ge, piezoelectric-semicond. layer system, SAW generation 1−25547
$LiNbO_3$-ionised gas contact, SAW acoustoelectric interaction with charge carriers 1−29829
$LiNbO_3$-$LiTaO_3$-$NaNbO_3$-$NaTaO_3$, crystallochemical and dielectric study *(French)* 1−31441
$LiNbO_3$-Si layered struct., acoustic-electron interaction *(Russian)* 1−2795
$LiNbO_3(TaO_3)$, piezoelectric powder, amplified and saturated readout echo 1−8004
$LiNdGeO_4$, cryst. struct. study 1−20165
$Li_{0.5}Nd_{0.5}Nb_2O_6$, fersmite struct., crystal growth kinetics 1−7103
Li_3NiH, tunnelling system detection by excess sp. ht. 1−34484
Li_4NpO_5, optical spectra and magnetism, 4.2-300K 1−35068
LiO, spin-orbit coupling and Λ-doubling 1−1077
LiO_2-Al_2O_3-SiO_2:F, glass-ceramic, strengthening mechanism 1−43432
Li_2O, lattice diffusion coeff. of O_2 1−25505
Li_2O, lattice energy 1−7126
Li_2O, neutron irrad., tritium release, const. heating rate 1−20270
Li_2O sintered, compatibility with heat resistant Fe-Ni-Cr alloys in static He 1−3969
Li_2O, synthesis conditions and physicochem. props. 1−43301
Li_2O, vaporisation, thermochem. study using mass spectrometric Knudsen effusion method 1−13032
Li_2O-$2SiO_2$, glass, low temp. thermally stimulated depolarisation peaks 1−21117
Li_2O-$(LiCl)_2$-B_2O_3 glasses, fast Li^+ ion conduction 1−30454
Li_2O-Al_2O_3-SiO_2 glass crystn. products, struct. state of G^{III} and V^{IV} ions, ESR obs. 1−52838
Li_2O-Al_2O_3-SiO_2-TiO_2-SnO_2 system glasses, γ-irrad., ESR obs. of Sn^{3+} additions effect on crystn. 1−52829
Li_2O-Al_2O_3-SiO_2-$(B_2O_3)(P_2O_5)$ glasses, elastooptical props., effect of nature of chem. bonds 1−16549
Li_2O-CaO-Al_2O_3-P_2O_5:Mo^{3+} glasses, fluoresc. line narrowing and decay rates, site depend. 1−39148
Li_2O-La_2O_3-R_2O_3-P_2O_5 glasses (R=Nd, Sm, Eu, Er), Γ-irrad. paramag. centres, ESR spectra 1−43010
Li_2O-MgO-B_2O_3 glasses, Mg atoms binding mode, optical absorpt. spectra of VO^{2+} *(Japanese)* 1−21233
Li_2O-P_2O_5 glass, photoelectron spectra 1−48241
Li_2O-P_2O_5-TiO_2 $(WO_3)(MnO_3)$ glass, electrochromic effect 1−16550
Li_2O-SiO_2, glasses, IR absorpt. spectra in 800∼700 cm^{-1} range, struct. *(Japanese)* 1−16574
Li_2O-SiO_2 binary alkali glass, strength 1−3852
Li_2O-SiO_2 glass, ion exchange isotherms rel. to bulk struct. expt. 1−31907
Li_2O-SiO_2 glasses and glass ceramics, leaching by HCl 1−20393
Li_2O-SiO_2-$(K_2O$-P_2O_5-ZnO) glass-ceramic fibres, development and props. 1−8356
Li_2O-SrO-SiO_2 liq. phase separated glasses, tie-line direction and phase comp. determ. from electron microscope data 1−43325
Li_2O-TiO_2, phase equilibria 1−31439
Li_2O-TiO_2 system, standard free energies of form. of $Li_2Ti_3O_7$ and $Li_4Ti_5O_{12}$ 1−53452
Li_2O-V_2O_5-P_2O_5 semicond. glasses, electronic charects. and struct., ESR study 1−34928
Li_2O-$WO_3(MoO_3)$, rapidly quenched, glass-form. and ionic cond. meas. 1−34505
$(Li_2O$-$Na_2O)_{1/2}$-$2SiO_2$, glass, low temp. thermally stimulated depolarisation peaks 1−21117
LiOH, thermal dissoc. in temp. range for T_2O release from irrad. Li_2O 1−43301
LiOH-Na, establishment of equilibrium, heat treatment influence *(French)* 1−25403
$Li_2O.SiO_2$ glass, X-ray diffr. study 1−20076
$Li_2O.2SiO_2$ glass, ion implanted, phase separation and crystn. 1−30081
$Li_2O.3B_2O_3$, X-ray diffr. cryst. struct. determ. *(Japanese)* 1−20171
$LiPO_3$-$AlCl_3$, mixed glasses, elec. cond., struct. approach *(French)* 1−20451
$LiPO_3$-$ZnCl_2$, mixed glass, elec. cond. struct. approach *(French)* 1−20451
$Li_2PO_3H.H_2O$, prep. and crystallographic study *(French)* 1−47054
$Li_{4-x}(PO_4)_x(SiO_4)_{1-x}$ solid solution, NMR study of Li^+ ion diffusion 1−38988
Li_5PuO_6, optical spectra and magnetism, 4.2-300K 1−35068
$LiR(PO_3)_4$ (R=rare earth), prep., cryst. struct., IR spectra, and chem. anal. 1−34305
$LiRbSO_4$(V), X-ray cryst. struct. of room-temp. phase 1−30156
LiSCN-containing battery electrolyte, thermal decomp., safety aspects 1−31846
Li_2SO_4, solid electrolyte, cryst. struct. of plastic form. at 908K 1−30179
$LiSbC_2^6$ (C^6=S,Se), hypovalent two cation, rel. between lattice thermal cond. and chemical bond 1−11925
$Li_{x/8}Si_{6-3x/4}Al_{5x/8}O_xN_{8-x}$, x<5, elect. charects. 1−38776
Li_4SiO_4, synthesis conditions and physicochem. props. 1−43301
LiT-Li, with liquid-vap. equilibrium, thermodynamic props. calc. 1−47254
α-$LiTO_3$ single cryst., electrostatic field influence on light transmission *(Chinese)* 1−48019
$LiTaO_3$ crysts., growth conditions for large diameter X-axis 1−12649
$LiTaO_3$, dielec. props., temp. depend., Raman spectroscopy study 1−16569
$LiTaO_3$, electro-optic crystals, optical damage effect reduction 1−12475
$LiTaO_3$, electro-optic crystals, wavefronts conjugation via degenerate four-wave mixing 1−19385
$LiTaO_3$, electrooptic switch for Q-factor modulation of Nd^{3+}:YAG laser 1−37520

lithium compounds continued
$LiTaO_3$, ferroelectric, temp. depend. of spontaneous polarisation *(Russian)* 1−47999
$LiTaO_3$, free carrier and space charge gratings, strong coupling, phase conjugation 1−19386
$LiTaO_3$ growth by capillary liq. epitaxial technique 1−3641
$LiTaO_3$, He ion implanted, refractive index profile, appl. to integrated optics 1−19475
$LiTaO_3$, image correlation anal. under degenerate four-wave mixing 1−29322
$LiTaO_3$ microchannel spatial light modulator 1−24488
$LiTaO_3$, nonlinear acoustic wave propag. *(French)* 1−7265
$LiTaO_3$, photoelastic waveguides 1−11086
$LiTaO_3$, polished, waveguiding surface damage layer 1−37603
$LiTaO_3$, pyroelec. effect, emission of high-energy electrons 1−3337
$LiTaO_3$ single crysts., growth habit study 1−2382
$LiTaO_3$, X-ray powder diffraction studies 1−38359
$LiTbF_4$, ferromagnetic, renormalisation calcs., susceptibility 1−42951
$LiTb_{0.3}Y_{0.7}F_4$, diluted uniaxial dipolar ferromagnet, crit. props. 1−7851
$LiTb_xY_{1-x}F_4$, Ising ferromag. random dilution at marginal dimensionality 1−20977
Li_2TiO_3, synthesis conditions and physicochem. props. 1−43301
$Li_2Ti_2O_7$, X-ray powder diffr. data 1−31439
$Li_4Ti_5O_{12}$, X-ray powder diffr. data 1−31439
Li_xTiS_2, pulsed NMR study of Li ion motion 1−16501
$LiTmF_4$, phonon and electron Raman scatt. 1−26214
$LiTmF_4$ Van-Vleck paramagnet. nuclear spin-lattice relaxation *(Russian)* 1−12421
$LiUO_3$, optical spectra and magnetism, 4.2-300K 1−35068
Li_3UO_4, optical spectra and magnetism, 4.2-300K 1−35068
Li_2UO_6, optical spectra and magnetism, 4.2-300K 1−35068
$Li_{0.27}V_2O_5$ bronze, sp. ht., entropy and Debye temp., 25-300K 1−38548
$Li_xV_{12}O_{30-y}$, decomp. of single crysts., semicond.-metal transition 1−53180
$Li_xV_2O_5$, incorporation of Li into V_2O_5, ESR study 1−34932
$LiWO_3$:U, luminesc. spectra, vibr. struct. and electronic transitions 1−31179
$Li_{0.2}WO_3$, low temp. heat capacity, Einstein mode and charact. temp. 1−38550
$LiYF_4$ crystal fabrication and props. for high-power laser applications 1−29357
$LiYF_4$, optical detection of exciton EPR 1−26079
$LiYF_4$, refr. index temp. variation meas. in visible spectral region 1−16542
$LiYF_4$:Ho, Er, laser emission at 0.75, 0.85, 1.22, 1.4, 1.73 and 3.9 μm, using Nd:BEL tunable pump source 1−46359
$LiYF_4$:M^{3+}, M = rare earth ions, f^n electron system, cryst. field param., angular overlap model 1−30686
$LiYF_4$:Pr^{3+}, nucl. spin-spin struct. in zero and low static mag. fields, optically detected NWR study 1−43041
$LiYO_2$:Dy^{3+} single cryst., spectrosc. props. 1−16601
$LiY_{0.5}Tb_{0.5}F_4$, elastic stiffness const. and acoustic symmetry 1−7231
$LiYbF_4$, phonon and electron Raman scatt. 1−26214
LiZn borates, crystallochem. charcts. 1−30197
$LiZn(IO_3)_3$, cryst. struct. and phys. props. *(Chinese)* 1−53160
LiZnTiMn ferrite, mag. props. rel. to prep. technology 1−8257
^6LiD, dynamic nuclear polarisation 1−26078
$Li[B(SO_3Cl)_4]$, X-ray cryst. struct. determ. 1−15870
$Mg_{x/2}Li_{1-x}IO_3$, cryst. struct. type variation with composition *(Chinese)* 1−2398
Na_2O-Li_2O-Al_2O_3-SiO_2 glass, striae effect on strength 1−25444
^{18}O self-diffusion in LiO_2 polycrystals, gas-phase anal., rel. to cryst. struct. 1−893
$Pb_{2-x}Ba_xLi_{0.5}Nb_{1.5}O_6$ ceramic system, thermal expansion 1−11887
$RbLiSO_4$, ferroelec. crysts., ^7Li NQR, elec. field gradient determ., phase transitions *(Japanese)* 1−7971
Si-$LiNbO_3$ layer struct., transverse acoustoelec. effect meas. 1−25766
SiO_2-K_2O-Li_2O-B_2O_3-Al_2O_3 glass, phase separated, equilib. viscosity meas. at several temps. 1−30440
SiO_2-Na_2O-Li_2O-B_2O_3-Al_2O_3 (12, 12, 10, 6 mol. %), refractive index and the structural relaxation of glass obtained by ion exchange 1−43091
SrO-Li_2O-P_2O_5:Mn, Ce system, luminesc. meas., composition depend. 1−48133
Y_3O_3:LiF, compaction kinetics 1−8259
Zn-Li silicates, cryst. structs. and phase transforms. 1−38337
Zn-Li silicates, cryst. struct. and phase transforms. 1−42352
ZnO-Li_2O, synthesis and props. 1−16747

lithospace *see Earth crust*

lithosphere *see Earth crust*

liver
blood flow, influence of posture 1−4309
DNA repair of UV damage in heterochromatin and euchromatin, rat obs. 1−8920
hepatobiliary and alimentary scintigram, double isotope study *(Japanese)* 1−9010
hepatobiliary scintigraphy with ^{99m}Tc-HIDA and ^{99m}Tc-S colloid, comparative study 1−4359
hepatocytes, reproducible subcellular alterations resulting from US 1−8901
homogenate paramagnetic species, rat, effects of pulsed elec. fields 1−32182
local image transformation, biological electron microscopy appl. 1−53947
magnetic susceptometry of human Fe store, 1−8940
membrane structural transitions, thermo-induced, animal organ expts. 1−35757
membranes, rat, phase transition temps., dietary fatty acid intake effect 1−39893
microwave irradiation rel. to in vitro release of enzymes from hepatic lysosomes 1−32187
positron tomographic imaging with ^{68}Ga iron hydroxide colloid 1−43986
thermal damage due to CO_2 laser irrad., rabbit expts. 1−22062
tyronine aminotransferase in mouse liver, cumulative effects of X-irrad. and inflammatory reaction 1−4328
US scatter coefficient, dependence on collagen conc. in mammalian tissues 1−39960
X-irradiation, rat, chronological development of late injury 1−22080
^APu, A = 239, 240, fallout concs. in human tissues from New York City 1−4370

livestock *see farming*

living systems
see also biocybernetics; brain models; extraterrestrial life; physiological models
Gibbs function flows from nucleotide pools 1−39863

LMC *see Large Magellanic Cloud*

load (electric)
see also load distribution; load regulation; power station load
H_2 storage on hydrides for electrical load-equilibration 1−43827

load control *see load regulation*

load distribution
grouped pile foundation, load-sharing ratio and group effect calc. in elasticity theory *(Japanese)* 1−46669

load regulation
3 MJ coil for superconductive energy storage 1−48928
secondary cells, Ni-Hz, performance data and charcts. for load levelling applications 1−53589

lobes (distribution) *see antenna radiation patterns*

local moments in dilute systems
Anderson model, exact soln. 1−20946
dilute system, crystalline elec. field excitations and linewidths, neutron studies 1−25878
ESR dynamics of spin subsystems in dil. mag. alloys at low temps. *(Russian)* 1−31012
Hall effect from skew scattering by mag. impurities 1−34687
Kondo impurity effects on Korringa relaxation time, theory 1−26068
metal, localised moments, induced antiferromag. polarisation, Wolff model 1−16427
metallic microcontacts, containing mag. impurities, elec. cond. *(Russian)* 1−20857
transition metal alloy, dil., with Fe impurities, localised spin fluctuations 1−16393
Au-Yb, dil., Kondo effect, g-value shift, ESR study 1−12261
$Ce_{1-x}Th_xAl_2$, mag. order and moment reduction, thermal expansion meas. 1−20979
Cr-Fe, mag. props. and mag. interactions 1−30981
(La,U)Al_2, dilute alloy, localized mag. moments, low temp. 1−47849
Pd-Ni, dil., paramag. and weakly ferromag., giant-moment clusters, magnetisation meas. 1−42947
$Zr(Fe_{1-x}Co_x)_2$, hyperfine interactions and local mag. ordering, Mossbauer and NMR study 1−47984

localised electron states
see also Anderson model; charge-ordered states; charge transfer states; Wigner crystal
actinide 5f compounds, excitation spectrum, carrier conc. and temp. depend., CPA calc. 1−47469
actinide metals, 5f electrons, presence and character 1−47529
actinide metals, band struct. and cohesive props. 1−47443
actinides, f-electron bonding, review 1−47528
actinides, magnetism and supercond., Hill plot predictions 1−47780
advanced institute, common trends in particle and condensed matter physics, Les Houches, France (Feb. 1980) 1−27645
amorphous semiconductors, theory 1−30681
Boltzmann electron gas, AC cond., disordered solid model 1−2930
[CC] WO_3 amorphous films, electronic struct. and electrochromic props., XPS study 1−3579
conductivity scaling and localization 1−30678
defect localisation, theory 1−7553
deformable lattice, electron, hole and exciton interactions with phonon and impurity fields, review 1−34635
dense fluids in one dimension, localisation of electrons 1−34644
N,N-dimethyl-p-nitroaniline, vapour and cryst. phase, shake up phenomena and CNDO/S equiv. core study 1−51123
disordered electron system, two-particle spectral function and AC cond. 1−20693
disordered electronic system, field theory and Anderson model 1−42722
disordered electronic system as a model of interacting matrices 1−30679
disordered materials, electronic states, field theory formalism 1−47569
disordered one-dimenaional systems, localised states, kinetic props. *(Russian)* 1−42721
disordered solids, dynamical props., digital computer simulation, book contrib. 1−38488
disordered solids, electron migration 1−16258
disordered system, one-dimensional in elec. field *(Russian)* 1−34663
disordered three-dimensional systems, localisation function calc. 1−52524
disordered two-dimensional system, density of states and cond., electron correlations 1−52462
electron gas, disordered, noninteracting, two-dimensional, conductivity, power law localisation 1−52506
electron gas, disordered, two-dimens., magnetoresistance and Hall effect 1−25685
electron-phonon system, light scatt. theory, stationary and time-resolved emission spectra 1−35061
electron-phonon system, multiphonon nonradiative transition during lattice relax. 1−35097
electron-phonon system, new photon echo phenomenon 1−33775
electronic structure of weak, random, one-, two- and three-dimensional potentials 1−47576
energy transfer from non-adiabatic to adiabatic hopping limits 1−25655
frozen media, electron trapping and transfer 1−52526
glassy semiconductors, theory 1−25665
graphite intercalation compounds with Li, K, Rb, Cs, UPS, XPS and AES studies 1−48238
Hubbard mode, structurally disordered, density of states calcs. 1−47420
infinite one-dimensional cryst. in elec. field, electron states, Stark ladders, wave functions 1−16263
intercalation compounds with AsF_5, $FeCl_3$, B, electron energy loss spectroscopy 1−48207
kinetic equation in strong EM wave field 1−30677
lattice instantons basis for treatment of localised states 1−12058
liquids, picosecond relax. processes 1−16579
metal, disordered, quantum diffusion and divergent fluctuations 1−47599
metal, simple, screened polarisation waves and total energy, formulation 1−52516
metal-insulator transition approach from insulating side, dielec. anomaly 1−47479
metallic glass, electronic lifetime, perturbation calc. 1−25713
metallic hydrides, clustering by H_3^+ ion form. 1−20652

localised electron states continued
metals, spectra of electron states located near dislocations *(Russian)* 1−34661
mixed valence compounds, magnetic re-entrance phase diagram, Anderson lattice model 1−7842
one dimensional conductivity, scaling theory 1−52551
polar semiconductors, correlation effects in two-electron self-localised complexes 1−42719
polyethylene, low-density, oxidised, TSC, localised states, hopping centres 1−21118
rare earths, f-electron bonding, review 1−47528
semiconductor, disordered, physical interpretation of dispersive transport 1−42787
semiconductor, large lattice relax. processes 1−34662
semiconductors, amorphous, field-effect conductance, density of localised states, anal. 1−42723
semiconductors, conf., Wurzburg, West Germany (Oct. 1979) 1−44702
semiconductors, deep levels, optical cross sections, calc. 1−47542
semiconductors, defect states dominated by localised pots., calc. 1−52520
semiconductors, multiphonon-emission carrier capture cross section at deep centres 1−2985
solids, band representation, symm. of eqn. 1−47422
TCNQ salt, HMTTF-TCNQF_4, phys. props. rel. to those of HMTTF-TCNQ 1−25734
thin wires, localisation, residual resistance 1−47527
tight-binding model lattices, with quasiperiodic lattice pots., electron localisation 1−34645
topologically disordered systems, excitation spectra calc. 1−42724
transition metals and alloys, localisation of electron states, XPS calc. *(Russian)* 1−3565
two-centre electrostatic interactions between two electrons in cryst. field 1−47525
two-dimensional disordered system, localisation function method 1−16260
two-dimensional electron layers and strong field mixing effects 1−12174
two-dimensional system electron props., conf., Lake Yamanaka, Japan (Sept. 1979) 1−5024
wires, thin, elec. props. meas., randomness and localisation effects 1−47577
Ag halide physics, recent developments 1−35071
Al, X-ray excited KLV Auger spectra, screening effects 1−8191
AlAs/GaAs superlattice electronic state localisation and complex bulk band structures 1−16351
β-Al_2O_3-Li_2O (K_2O)(Na_2O), prototype glass, electron spin relax. of irrad.-induced colour centre, disorder effects 1−16481
Ar, self-localised hole, energy spectrum 1−2903
Ar-La solid mixture, metal-nonmetal transition 1−38723
Ba, 4f-level position, lattice constant variation, supercond. props. 1−25625
Ba, core-level spectra, XPS, enhanced multielectron effects 1−8188
Bi_2Te_3, photoelectron spectra, core-level peak intensity, extended fine struct. 1−8192
$Bi_2(Te_{1-x}S_x)_3$ thin cleaved crysts., cond. and carrier conc. obs. in localisation region 1−7618
$Bi_2(Te_{1-x}S_x)_3$ thin cleaved crysts., variable range hopping in localisation region 1−7619
C, amorphous film, phonon-assisted hopping cond. meas. *(French)* 1−47656
Ca, core-level spectra, XPS, enhanced multielectron effects 1−8188
n-CdS, electron dynamics, spin-flip Raman scatt. obs., model amorphous antiferromag., Faraday rot. 1−48083
CdTe film, polycrystalline, trapping levels, TSC and photocond. meas. 1−20885
CdTe/HgTe superlattice electronic state localisation and complex bulk band structures 1−16351
Ce electronic struct., f-d hybridisation, cluster calc. 1−47444
Ce, f-electron bonding, electronic struct. and phase transitions 1−47431
Ce, isostructural γ-α transition, self-consistent linearised APW energy band calc. 1−42682
Ce, photoelectron spectra core-level line shapes rel. to screening orbital localisation 1−16661
$CePd_3(Se)(Al_2)(Cu_2Si_2)$, XPS from Ce core level 1−48231
CrO_4^{2-} anions, O_{1s} hole states, broken orbital symmetry, SCF and CJ calc., localised and delocalised description 1−38740
Cs-Au alloy, liq., ^{133}Cs NMR obs. of localised states form. in metal-nonmetal transition range 1−26052
Cs-I solution, ^{133}Cs and ^{127}I NMR obs. of metal-nonmetal transition and localised states form. 1−26055
Cu film, two-dimens. localisation, resist. meas., 1 to 20K 1−47763
Cu, XPS core-level ang. distrib. meas., appl. of two-beam Kikuchi-band theory 1−8187
$Ga_{1-x}Al_xSb$, UPS and XPS photoemission spectra *(French)* 1−48225
GaAs, conductance oscillations in two-dimens. transport in impurity band 1−7631
GaAs, deep levels, optical cross sections, calc. 1−47542
$GaAs_{1-x}P_x$, final-state interactions in core excitations, photoelectron spectra 1−48219
GaSe, photoelectron spectra, core-level peak intensity, extended fine struct. 1−8192
$Ge_{1-x}Au_x$, amorphous, metal-insulator transition, electron tunnelling meas. 1−42692
$Ge_{1-x}Au_x$, disordered, metal-insulator transition 1−34754
H_2, liq. and solid, surfaces, dielec. levels of electrons 1−7690
He, liq., cyclotron reson. linewidth of electrons localised above surface *(Russian)* 1−30518
He, liq., surface states, cyclotron reson. of electrons and two-dimens. character 1−7418
^{4}He, liq., surface, cyclotron reson. lineshapes under hot electron conditions 1−7419
^{4}He, liq., surface, dielec. levels of electrons and discharge process 1−7690
^{4}He, liq., surface, liq.-cryst. phase transition in system of localised electrons *(Russian)* 1−2730
Hg, expanded, pseudogap in density of states and anomalous dispersion 1−25618
InAs/GaSb superlattice electronic state localisation and complex bulk band structures 1−16351
p-InSb:Ge, US attenuation at low temps. 1−15962
InSe, photoelectron spectra, core-level peak intensity, extended fine struct. 1−8192
In_xSe_{1-x} amorphous film, density of localized states 1−25663
IrO_2, conduction-electron screening, XPS valence-band and core-level spectra 1−21327
La, f-electron bonding, electronic struct. and phase transitions 1−47431
localised electron states continued
$LaBO_3$, B=Ti, V, Cr, Mn, Fe, Co, electronic struct., XPS meas., calc. 1−38714
Li-NH_3 solution, CESR in metal-nonmetal transition range 1−26036
Mg, X-ray excited KLV Auger spectra, screening effects 1−8191
MgO, surface and bulk electronic struct., energy-depend. EELS study 1−26323
$Mn_5Pd_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
$Mn_5Rh_2Bi_4$, Curie temp., press. effect, itinerant and localised electron magnetisms 1−30943
Na, X-ray excited KLV Auger spectra, screening effects 1−8191
Na_2O-SiO_2 glass, excitation of intrinsic luminesc. 1−43178
Nb-N non-metallic disordered alloys, hopping processes for cond. *(French)* 1−52560
Ne, self-localised hole, energy spectrum 1−2903
Ne, solid, surface, dielec. levels of electrons 1−7690
NiO clusters, Ni^{2+} spin dependent effective core. pot. 1−34643
Pb-Mn, dil., supercond., localised excited states, electron tunnelling obs. 1−20925
Pb-Si:Sb Schottky junction, localised states in reserved region, tunnelling study 1−42860
Se, liq., expanded, ^{77}Se NMR obs. of metal-nonmetal transition, localised paramag. centres form. 1−26056
Se, trigonal, energy spectrum, press. depend. 1−2866
Si (111)-Au(Ag)(Ni), interface, localised state density, Schottky diode interface states 1−52654
Si, amorphous CVD film, elec. and optical props. and localised state density *(Japanese)* 1−20608
Si amorphous film, spin-lattice relax. of localised states 1−34924
Si inversion layer, obs. of interaction and localisation effects in two dimensional electron gas 1−20844
Si MOS inversion layer, at low densities, Anderson localisation 1−30830
a-Si, RF-sputtered, solar cells, doping effects of group-III and -V elements on conductivity 1−4191
Si, X-ray excited KLV Auger spectra, screening effects 1−8191
Si:B(P), amorphous CVD films, ESR study, doping effects on localised states 1−47931
Si:H, amorphous, determination of the density of gap states: field effect and surface adsorption 1−30613
Si:H, amorphous, gap states, TSC and optically stimulated current meas. 1−52577
α-Si:H, quantum well model 1−7510
Si:P, disordered metal, elec. cond. cusp 1−42832
Si:P, localised electron non-ohmic conductivity, Raman and IR spectra 1−2975
Si:P, sharp metal-insulator transition, zero temp. metallic cond. meas. 1−30793
a-Si-based alloys, localised state distrib. meas. using field effect technique 1−30682
Si-SiO_2 MOS inversion layers, Hall cond. under strong mag. fields, Landau level width 1−12197
SiO_2, intrinsic disordered solid, mobility edge valence and conduction bands, microscopic calcs. 1−47570
$SnS(S_2)$, photoelectron spectra, core-level peak intensity, extended fine struct. 1−8192
Sr, core-level spectra, XPS, enhanced multielectron effects 1−8188
Th, optical props. in range 0.5-25 eV 1−3518
Th, photoelectron spectra core-level line shapes rel. to screening orbital localisation 1−16661
Th, superconductor, 3d, 4f and 5f mag. impurity effects 1−47781
$ThPt_x$, x=1,2,3, valence bands and core levels, XPS study 1−43247
Ti, photoelectron spectra core-level line shapes rel. to screening orbital localisation 1−16661
TmSe, electronic struct., f-d hybridisation, cluster calc. 1−47444
U halides and oxyhalides, electronic struct., XPS study 1−48228
UAl_2, electronic struct., photoemission study 1−48230
UAs, core levels and valence band, XPS and UPS study 1−48229
$UAs(S)(O_2)$, electronic levels, occupied and empty, XPS and bremsstrahlung isochromat spectroscopy study 1−48227
U_xAu_3, x=1,2, valence bands and core levels, XPS study 1−43247
UCo_2, electronic struct., photoemission study 1−48230
UPd_3, low temp. phase transitions, thermal expansion, mag. susceptibility, magnetisation meas. 1−47882
UPd_3, metallic, 5f electron localisation 1−20651
UPt_x, x=1,2,3,5, valence bands and core levels, XPS study 1−43247
$UPt(Pt_2)$, binding energies, work function changes, and saturation moments 1−53052
$U_xY_{1-x}Sb$, singlet-ground-state ferromag., valence of U and 5f moment localisation 1−47911
V_2O_5:WO_3 amorphous, EPR study, random glass struct., electron localisation 1−47937
YVO_4, excited electronic states, EELS and XPS study 1−26322
Yb monochalcogenides, energies of 4f-5d excitations, one-electron band approx. and ligand field approach 1−16261
Yb_2O_3, ^{76}Yb SXAPS 1−26313
ZnO electrophotographic layer, change of local electron states during adsorption of sensitizer molecules *(Russian)* 1−23357
ZnS:Cu, t_2←e localised transition 1−47526
ZnS-ZnS (111-0001) interface electronic struct. 1−3040
ZnSe:Co, high energy luminescence bands 1−8128
ZnSe-ZnSe (111-0001) interface electronic struct. 1−3040

localised modes in crystals *see lattice localised modes*

localised states, electron *see localised electron states*

loggers *see data loggers; recorders*

logging (recording) *see recording*

logic, formal *see formal logic*

logic circuit elements *see logic devices*

logic circuits
see also emitter-coupled logic; flip-flops; formal logic; logic devices
multiwire proportional chamber encoder 1−1036
nonlatching Josephson interferometer made with small-area junctions 1−47817
programmable multichannel nanosecond logic ccts. 1−45795
six inputs programmable trigger logical circuit *(Chinese)* 1−41283

logic design
optical general purpose digital computer design, logic unit, interconnection array and latching unit 1−51598

logic design continued
parallel truth-table look-up digital holographic processing 1−51418
phase determining intermediates, truth tables, flow topology, equilibrium points, group theory 1−17989

logic devices
see also logic gates
Josephson junction, low-probability punchthrough 1−52708
liquid crystal device, variable grating mode, for optical computing 1−51602
nonlinear Fabry-Perot optical logic device operating characteristics 1−24448
optical logical operator proposals, optical filtering and quadratic detect. 1−41612

logic gates
optical general purpose digital computer design, logic unit, interconnection array and latching unit 1−51598

logic testing
8080A microprocessor failure following γ, X-ray and electron irrad. 1−2508
8080A microprocessors, radiation testing 1−2504
8085 microprocessor, electron beam technique 1−28137

long-range order
see also order-disorder transformations
alloy, plane lattice model, long period, temp. depend. *(Russian)* 1−2463
alloys, binary, surface atomic order and ferromagnetism 1−52404
exciton phases, long-range order destruction, pinning and fluctuation interband mechanism 1−2883
FCC lattice, octahedral and tetrahedral interstices, kinetics of isotopic interstitial atom ordering *(Russian)* 1−34259
ferromagnet with paramagnetic nuclei, generalised Heisenberg model 1−30902
ferromagnetic alloys, spin wave stiffness, const. depend. on ordering 1−16432
graphite stage-2 intercalation compounds, order-disorder transform. 1−42537
graphoepitaxy of oriented crystalline overlayers on amorphous substrates 1−20584
Hastelloy alloy S, order-strengthening 1−16815
Lennard-Jones potential, two-dimensional, phase transitions and orientational order 1−7063
liquid crystal, smectic-A phase, X-ray scattering, lower marginal dimensionality 1−7082
liquid crystal optical spectra, long-range activity effect in intermol. interaction 1−8067
low-dimensional system, scatt. and long-range order, substrate effects 1−7498
MBBA, nematic, order parameters, resonance Raman method 1−7077
opal containing silica spheres of two different sizes, close-packed structures 1−38361
order-disorder phenomena, obs. by vibr. spectroscopy *(French)* 1−39069
ordering binary alloys with vacancies, Monte Carlo computations on long- and short-range order 1−2427
oxide, thermal stability of long range order, review 1−31444
rare earth fluorides RF_2-RF_3, anion-excess fluorite-related superstruct. phases 1−25236
rare earth-Rh_4B_4, superconductivity, long-range mag. order and cryst. field effects 1−25844
smectic B multilayered crystalline films, X-ray wave diffr., long-range order 1−34225
smectic liquid crysts., bond orientational order, mean-field model 1−34232
spheres of two different sizes, close-packed structures, packing densities 1−38310
spinless fermion model, charge order, order-disorder transform. 1−7293
surface structure formation modelling, by means of floating magnets 1−2791
two-dimensional solids, lattice and continuum theories 1−52422
Ag_3Mg, LRO structure defect image analysis 1−15909
Ag_xNbS_2, order study by electron diffr. 1−30008
$AuAgZn_2$ alloy, kinetics of Heusler-type ordering 1−25466
$AuAgZn_2$ alloy, X-ray study of Heusler-type ordering 1−25200
AuCu-Zn, irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
Au_3Cu, order-disorder transitions, lattice parameters 1−47235
AuCu(II), irrational long-period alloys, phase ordering, electron diffr. and microscopy *(French)* 1−2297
CaF_2-YF_3, anion-excess fluorite-related superstruct. phases 1−25236
CsCl-type alloys, effects of SRO and LRO on electronic struct. 1−2865
Cu-Al (30.8 to 40.9 wt.%). γ-phase, long-period superstruct. 1−30015
β-Cu-Zn, γ irradiated, order-disorder transform. and elec. resist. *(Russian)* 1−38405
Cu_3Au alloy, dislocation damping and pinning, room temp. to 423K, long-range order degree role 1−42393
Cu_3Au, displacement cascade damage produced by fast particle irrad. 1−42428
Fe-Pd alloys, struct. and ordering, X-ray diffr. study 1−52286
Fe_xCo_{1-x}, surface atomic order and ferromagnetism 1−52404
$Gd_3Pd_{4-x}Pt_x$, transition to spin glass state, mag. props. 1−34886
^{4}He, liquid and solid, soft quantum lattice gas, supersolid existence 1−44848
Nb-Si films, co-evaporated, A-15 type, struct., long-range order parameter and supercond. props. 1−34596
Ni_3Mn, temp. depend. of crit. shear stress *(Russian)* 1−43424
$TmAl_2$, magnetic behaviour from neutron scatt. expts. 1−25891
VO_2, metal-dielec. phase transition 1−30794
$Y_6(Fe_{1-x}Mn_x)_{23}$ (x=0.8, 0.9), mag. struct. 1−25889

loop antennas
HF mag. field standard using loop antenna 1−36708

Lorentz transformation
causality and the group structure of space-time 1−62
contraction, independent testability of Michelson-Morley and Kennedy-Thorndike expts. 1−9833
de Broglie relations, special relativity and wave-particle, duality 1−5097
ellipsoidal object, superluminal Lorentz transformation, imaginary quantities problem 1−9831
generalisations 1−18010
gravitation and tachyon corridor 1−32837
helicity representation of Lorentz group, imaginary mass system associated with EM fields 1−5099

Lorentz transformation continued
infinite indirect products of continuous unitary representations of SL(2,C) 1−18008
Kennedy-Thorndike and Michelson-Morley expts., independent testability 1−9833
local Lorentz invariance effect on Einstein's general relativity 1−50014
Michelson-Morley and Kennedy-Thorndike expts., independent testability 1−9833
photon mass in extended theory of special relativity 1−27774
quantum mechanics, relativistic harmonic oscillator model, Poisson bracket and wave function approaches 1−45127
relativistic scattering theory, pseudo-rapidity distrib. 1−36831
spherical object, superluminal Lorentz transformation, imaginary quantities problem 1−9831
spin-1 matrices, explicit representation, teaching 1−40633
superluminal Lorentz transformation, imaginary quantities problem 1−9831
pp, high energy, Lorentz transformation for quark processes, comments 1−45367

Lorenz number
brass, Lorenz number, temp. depend., rel. to thermal cond. anomaly 1−34677
metallic glasses, Lorenz number meas. 1−30702
spin glasses, low temp., calc. 1−34681
K, liq., Lorenz function, thermal cond., elec. resist., and thermoelec. power meas. 1−30710
$La_{1-x}Pr_xSn_3$, transport props. at low temps., Kondo effect 1−42741
Ni, thermal conductivity and Lorentz number, press. effects 1−52542

Loschmidt number *see constants*

loss angle
see also dielectric losses
CO_2, solid, dielec. props. for appl. to microwave refl. from Mars 1−22677

loss angle, dielectric *see dielectric losses*

loss-angle measurement
dielectric rod loss-angle meas. at resonator oscillation types $H_{0\,12}^{0}$ and $H_{0\,21}^{0}$, ultrahigh freq., pyroceramics and synthetic sapphire 1−298

loss measurement
coaxial connector pairs, Soviet, loss repeatability meas. 1−23275
electrolytes, EM energy losses under action of HF field, inductance cell method 1−50152
ferrites, resonant metallised, magnetic loss meas., reson. cavity method 1−7888
ferromagnetic materials, specific loss meas. at inductance approaching saturation 1−44965
fibre loss and dispersion evaluation, expt. techniques 1−11114
graded-index compound glass fibre total loss and scatt. loss meas. 1−41866
IR transparent material spectroscopic small loss meas. near 10 μm 1−18310
mains transformer core loss meas. by measuring harmonic distortion *(Spanish)* 1−33006
multimode graded index fibre, broadband spectral attenuation meas., interlaboratory comparison 1−11144
optical fibre loss and splice loss meas. by backscatter method 1−29403
optical fibre secondary coating process, excess loss meas., semi-quantitative method 1−11163
optical fibre transmission splice loss meas., long and short output fibre lengths, identical/nonidentical fibres 1−11154
optical fibres, backscatter-loss signatures, spectral attenuation meas. over wide range, correl. with fibre defects 1−11145
optical fibres, launch-dependent attenuation meas. on 10-km concatenation expt. 1−11143
optical fibres and non-coated fibres *(Czech)* 1−19394
portable dB meter for fibre optics 1−41867
single-mode, broadband spectral attenuation meas., interlaboratory comparison 1−11144
CuNi:Cu:NbTi mixed matrix Rutherford cable, high-field bipolar loss meas. apparatus 1−50159
$LiNbO_3$:Ti indiffused waveguide bends, measured losses 1−1689
Nb_3Al-Nb layered multifilamentary wire AC losses 1−50160
Nb_3Sn superconducting tapes at industrial freqs. using transformer, theory *(Slovak)* 1−18245
NbTi:Cu-matrix multifilamentary composite conductors carrying transport current, transient field losses 1−52695
NbTi:Cu(CuNi), multifilamentary supercond. magnets, AC losses under fast ramp rate 1−50176

losses
see also dielectric losses; eddy current losses; heat losses; loss angle; magnetic leakage
composite superconductor, high levels of mag. field excitation 1−47788
fibre reinforced composites, thermal conductivity, 2 to 300K 1−42589
fibres, noncircular-cross section, uniform, large-aperture, geometrical optics 1−1710
glass fibre waveguide, low loss, prepared by axial deposition method 1−6674
multifilament composite subjected to transient axial fields, expt. and theoretical study of losses 1−52694
optical cavity, diffr. losses 1−41752
optical fibre connection loss, reproducible meas. method using steady-state power distrib. 1−41838
optical fibre geometrical parameter joint losses, tolerance effects 1−33815
optical fibres, broadband spectral attenuation meas. 700-1800 nm, interlaboratory comparison 1−33816
optical fibres, loss reduction, absorpt. and scatt. components 1−29392
optical fibres, single-mode, silicone coated, transmission loss at low temps. 1−33803
optical fibres, splice losses induced by fibre parameter mismatch, evaluation 1−29398
optical fibres, structures, parameters and transmission props. 1−11112
optical single-mode fibre cables, effective cutoff wavelength of LP_{11} mode 1−41850
optical step-tapered channel waveguides, radiation losses 1−11178
optical strip waveguide, transmission loss due to TE-TM mode coupling and dielec. loss 1−6651
optical waveguides, low-loss, limited phase-space attenuation meas. 1−41829
optical ZZ 1−6649
ring waveguide, low-loss, resonance effects 1−29409
single-mode optical fibre, VAD, 0.2 dB/km^{-1} transmission loss at 1.55 μm, dehydration technique 1−33835

losses continued
waveguide, dielectric, thin film, scattering losses calc. 1−6653
$Al_2O_3:Ni^{3+}$, acoustic relaxation loss 1−15963
CsI crystalline fibre for IR transmission 1−11100
Ge-P-S chalcogenide glass fibres 1−16751
GeO_2-P_2O_5-SiO_2 core multimode fibres, coated and bare, spectral depend. of UV induced loss 1−29400
Na_2O-B_2O_3-SiO_2 low loss optical fibres, numerical apertures 0.3 to 0.6 1−51612
Nb-Ti (50%) superconductors, surface layer and trapped flux influence on minimum AC losses 1−52703
SiO_2 optical fibres, loss factors 1−33819
SiO_2 silica optical fibre, high GeO_2 conc., transmission loss charcts. 1−41864

loudness
see also acoustic intensity measurement
auditory fatigue effects on loudness of masked and unmasked noise *(French)* 1−13251
quietness, noise burst intensity measure *(German)* 1−11265

loudspeakers
acoustic field of loudspeaker systems excited with sinusoidal signal, anal. of configuration 1−15298
ACRON 300 loudspeaker unit, test report *(German)* 1−46649
audio recording, book 1−11282
concave radiator in infinite baffle, anal. of acoustic field 1−29420
cone motion meas. at low freqs. using light accelerometer, steady-state performance 1−15344
cone vibration and sound pressure response, voice coil and surround effects *(Japanese)* 1−19534
conical membranes, trapping of acoustical energy, implications for loudspeaker cones 1−11239
convex and concave domes in infinite baffle, acoustic radiation 1−37644
directional pattern optimisation for stereophonic sound reproduction 1−15342
distributed loudspeaker system with sound reinforcement for early Danish churches 1−1775
Doppler distortion, audibility tests for music reproduction 1−29499
dynamic equalisation using analogue electronic control cct. 1−15341
electro-acoustic pipe resonator CW filter 1−19537
electrostatic loudspeakers, new developments 1−15343
finite plane baffles, doublet model for shape and size design 1−29422
free-field measurements for a loudspeaker system in a normal room, methods of reducing reflected waves *(Japanese)* 1−6733
high-fidelity system, amplifiers and loudspeakers 1−15352
moving-coil loudspeaker topology as indicator of linear excursion capability 1−41937
saturated parametric array of electrodynamic horn loudspeakers in air, expt. investigation 1−11222
Ti diaphragm boronising process and loudspeaker performance *(Japanese)* 1−24643

Love waves
southern Africa, Lg wave amplitudes and attenuation 1−27082
continental boundary with normally incident Love waves 1−32354
dispersion relations, effects of buried slip interfaces 1−15301
excitation and reception by corrugation grating transducer 1−37757
fluid-filled elastic tubes, dispersive wave motions, Love's approx. 1−15502
isotropic layered half-space, finite amplitude Love waves 1−29595
Pacific crust and upper mantle, seismic surface wave propagation 1−4446
propagation across vertical discontinuity 1−29616
San Andreas fault, strong motion calc. for hypothetical quake 1−27067
sediment-filled valley, seismic response to SH waves 1−32359
seismic phase vel. dispersion estimation, controlling algorithms *(Russian)* 1−13610
seismic wave dispersion computational algorithms, relative computer speeds 1−32367
seismic wave dispersion in laterally nonhomogeneous layer lying over homogeneous half space 1−22255
train dispersion rel. to lithospheric structure in N.Atlantic 1−44146

low energy electron diffraction
adsorption, ultrahigh vacuum system for LEED, AES, and ion scatt. spectrometry studies 1−52438
adsorption bond lengths, calc. from LEED data 1−34567
AES, microcomputer applic., energy analyser with 3-grid LEED-AES system *(Japanese)* 1−53512
CdTe(Se), surface, clean and with adsorbed O_2, EELS, AES and LEED study 1−7687
crystallography, inner pot., energy shift procedure 1−46962
diamond in contact with transition metal, adhesion and friction 1−31671
diffractometer resolving power, surface defect anal. 1−7053
electron transmission, reflection and absorpt. in solids 1−2296
ferromagnetic metal, plasmons, inelastic scatt. of polarised low-energy electrons 1−2901
formic acid, interaction with oxidised Pb and Cu surfaces, XPS, UPS and LEED 1−17097
gas inlet system and specimen isolation for commercial LEED-AES device *(German)* 1−40897
Gauss-Seidel-Aitken perturbation expansions for interlayer multiple scatt. in LEED 1−46960
intensity calc. for finite instrumental transfer width due to primary beam ang. divergence 1−15764
modulation voltage generator for lock-in meas. of electron energy distribs. *(German)* 1−40895
propionic acid, interaction with oxidised Cu and Pb surfaces, XPS, UPS and LEED 1−17097
spin-polarised LEED, theory and expt., appl. to W (001)(1×1) 1−46961
steel, austenitic stainless Cr-Ni, N segregation on (100) surface, LEED and AES obs. 1−20525
stepped surfaces, chemisorption, lattice gas models 1−47384
surface self-diffusion and struct. determ. by LEED refl. intensity profiles 1−25542
surface structure determ., calculation of LEED diffracted intensities, CAVLEED program 1−7050
surface vibrations, low energy electron spectroscopy studies *(French)* 1−2796
transfer matrix method 1−38209
Ag (100), adsorption of Cl_2, AgCl, overlayer to bulk halide transition 1−20571
Au (100) reconstructed surface, adsorption of Br_2, LEED, thermal desorption, and work function meas. 1−7468
Au (100) surface reconstruction, LEED anal. and struct. models 1−47344

low energy electron diffraction continued
Au (100) surface reconstruction, struct. determ. by LEED intensity anal. 1−47345
Au (110), spin polarised electron diffr. *(German)* 1−35154
Au (110), surface reconstruction using spin-polarised LEED 1−38630
Au, growth on Mo (110) surface, Stranski-Krastanov mode, AES study 1−2825
Au monolayers, on Si substrate, struct. determ. by LEED and AES 1−52454
CdTe-metal contacts, growth study 1−16362
Co (0001) surface, oxidation, temp. depend., LEED-ASE study 1−34581
Cu (001), image pot. saturation obs. in LEED meas. 1−3033
Cu (110), specular beam LEED anal. limitations due to scatt. angle meas. 1−11965
Cu (111), adsorbed CO, relative coverage determ. using isotopic mixing, LEED 1−16181
Cu (111), interpretation of UPS using time reversed LEED formalism 1−16662
Cu (111) surface, low-energy positron diffr. rel. to LEED 1−42269
Cu (210), faceting by activated N_2, LEED, RHEED, and AES study 1−7469
Cu, adsorption of CO, EELS study 1−35137
Cu-Pd, (001) surface, AES and LEED obs. *(Japanese)* 1−25538
Fe, adsorption of H_2 on (110), (111), stepped (111) surfaces, LEED and thermal desorpt. study 1−11975
Fe(110), S adsorption, surface reconstruction, LEED anal. 1−52403
GaAs (110), elastic LEED intensity profiles, energy-dependent exchange pots. 1−7052
GaAs (110) surface, clean and oxidized, band bending, Raman, LEED and Auger study 1−52624
GaAs (110) surface atomic geometry, LEED obs. 1−20521
GaAs {100} MBE layers, surface crystallography, electronic props., and chem. reactivity, stoichiometry effects 1−7439
GaAs(P), adsorption of CO, CO_2, interaction mechanisms, surface atomic structs., meas. 1−25578
GaAs(110)-p(1×1)-Al surface, at. geometry obs. 1−42612
Ge (001) surface, 2×1 reconstruction, LEED spectra, dimer models 1−38631
Ge, (111) surface struct. after pulsed laser annealing 1−7433
Ge surface self-diffusion and struct. determ. by LEED refl. intensity profiles 1−25542
Ge:GaAs(110) heterostructure formation, LEED, AES and work function obs. 1−16345
Ge(111) surface structure, c-2×8 unit cell 1−47340
InP (110), dynamical anal. of LEED intensities 1−34557
InP (110), surface struct., LEED study 1−7441
InP (110) surface atomic geometry, LEED obs. 1−20521
InP, adsorption of CO, CO_2, interaction mechanisms, surface atomic structs., meas. 1−25578
InP-metal contacts, growth study 1−16362
InP(100 surface), electron stimulated oxidation, Auger spectra 1−8169
InSb (110) surface atomic geometry, LEED obs. 1−20521
InSb, In and Sb, oxidation of surface, obs. by LEED, AES, XPS and UPS 1−53321
Ir (100) surface reconstruction, LEED anal. and struct. models 1−47344
Ir (100) surface reconstruction, struct. determ. by LEED intensity anal. 1−47345
Ir (110), coadsorption of H_2 and CO 1−7466
Ir(110)(1×2) reconstructed surface, adsorption of water, LEED, XPS, contact pot., and thermal desorption meas. 1−38663
KBr (Cl), LEED, temp. depend., Debye temp. determ. 1−25397
KCl(Br), inelastic interaction of slow electrons with surfaces 1−25127
Mg adsorption on W (112) surface, film struct. and growth *(Russian)* 1−7475
MgO epitaxial films, low energy electron reflection and electron affinity 1−16198
Mo (001), adsorbed S, overlayer struct., LEED anal., effect of CO adsorption 1−38660
Mo (100), clean and oxidised surface, adsorption and decomp. of trimethylamine 1−52429
NaCl, inelastic interaction of slow electrons with surfaces 1−25127
Na_xWO_3 (100), surface struct. and comp., LEED and AES study 1−30533
Ni (100), chemisorption geometry of acetylene, LEED intensity anal. 1−47379
Ni (100), decomp. of methanol(-d_4), IR spectra, thermal desorption, and LEED meas. 1−17108
Ni (100), interaction with O_2, XPS, LEED, and SIMS study 1−30573
Ni (110), adsorption of O_2 and surface reaction with H_2, LEED, AES, and mass spectroscopic study 1−30545
Ni (110), S segregation to surface during heating, dislocation density influence, LEED and AES obs. 1−20524
Ni (110) surface and bulk magnetisation, PLEED study of temp. depend. 1−38952
Ni (111), adsorption of CO, sticking probability, dipole moment and absolute coverage determ. 1−38656
Ni (210), faceting by O_2 and activated N_2, LEED, RHEED, and AES study 1−7469
Ni, surface electronic struct. changes at Curie temp. 1−52774
Ni ultrathin layers, vacuum deposition on Ag(111), LEED-AES study 1−42657
Ni(100) and (110) surfaces, LEED studies of H_2 and ethylene adsorption 1−20575
Pb monolayer and bulk deposition on Ag (111), ultrahigh vacuum and electrochem. cell 1−20594
Pd (100) surface, adsorpt. of H_2, thermal desorpt., work function and LEED study 1−16183
Pd (100) surface, chemisorbed O, vibr. hybridisation, LEED Debye-Waller anal. 1−16165
Pd, adsorption of CO, LEED, UPS, EELS, and work function meas. 1−7457
Pd overlayers on N band Ta, structure, relation to H uptake 1−11980
Pd/W (110) system, LEED, AES, work function and TDS meas., ISS and SIMS meas. 1−31927
Pt (100), adsorption of H_2, reconstructed phase surface struct., LEED study 1−2819
Pt (100) surface, silicide precipitate form., He diffr. and LEED study 1−16050
Pt (100) surface reconstruction, LEED anal. and struct. models 1−47344
Pt (100) surface reconstruction, struct. determ. by LEED intensity anal. 1−47345

low energy electron diffraction continued
Pt (110), adsorption of NO, EELS, LEED, AES, and thermal desorption study 1−38661
Pt (111), coadsorption of I and Cl, LEED and AES study 1−25573
Pt (111) surface, LEED, spin polarisation, expt. and theory 1−15763
Pt, adsorption of gases and deposits on single cryst. faces *(French)* 1−52419
Pt, adsorption-desorption characteristics of CO, O_2, H_2, flash desorption spectroscopy study 1−38654
Pt, chemisorption of H in acidic soln., LEED-AES electrochem. anal. 1−39685
Pt(111), longitudinal spin polarisation and symm. in LEED 1−7051
Rh (100) and (110), clean surfaces and adsorbed S, LEED crystallography, quasidynamic method 1−2790
Rh (110), chemisorption of CO and NO, UPS, XPS, LEED, and desorption meas. 1−2822
Rh (111) surface, oxidation, LEED, AES and thermal desorpt. study 1−21621
Ru (001), adsorption of NO, work function, thermal desorption, and LEED study 1−11982
Sc film on (112) W surface, structs. using LEED 1−30011
Si, (001), LEED and workfunction changes during H chemisorption 1−38632
Si (100) surface reconstruction 1−30529
Si (111), adsorption and initial film growth of Bi, first adlayer struct. effect on sticking coeff. 1−47386
Si (111) surface, laser annealed, buckling reconstruction, photoemission, low energy electron diffr. 1−48200
Si, (111) surface struct. after pulsed laser annealing 1−7433
Si surface, (111), Te-stabilised, struct. anal., LEED study 1−2787
Si/Ni (Au) interface formation, interdiffusion, metallisation 1−52364
Si/Pt superstructures on Si (111) and (100), LEED, AES study 1−16194
Si-SiO_2 interface, one dimensional periodic struct. *(Russian)* 1−2786
Si(111) 2×1 cleaned surfaces, dangling-bond states, surface photovoltage and photocond. and LEED meas. 1−7668
W (001) unreconstructed surface struct., LEED study 1−16160
W (001)(1×1) surface, spin-polarised LEED study 1−46961
W (100), polarised LEED study 1−47339
W (100) adsorption of H, LEED and angle-resolved electron stimulated desorption, temp. depend. 1−25572
W (110), adsorption of O_2, EELS, AES, LEED, and work function meas. 1−12614
W (110) and (111), adsorption of Cl, surface ionisation mechanism, thermal desorption, work function, and LEED meas. 1−2826
W (110) stepped surface, chemisorption of O, LEED intensities, Monte Carlo calc. 1−47385
W adsorption of Ag, AES, LEED and contact pot. difference 1−42625
WO_3 (100), surface props., LEED and AES study 1−30534
W(100) surface, adsorption of Br_2, LEED, AES study 1−20569
Xe adsorbed on Ni, surface reflection of slow electrons, electron-exciton complex autoionisation zones *(Russian)* 1−34208
ZnO (10$\bar{1}$0) surface atomic geometry, LEED obs. 1−20521
ZnO, desorption of Zn, binding states, surface cond., LEED, and AES meas. 1−7470
ZnTe (110) surface, vacuum cleaved, electronic struct. before and after O_2 exposure, electron spectroscopy 1−52625
ZnTe (110) surface atomic geometry, LEED obs. 1−20521
ZnTe(110) surface structure determ. from dynamical anal. of LEED intensities 1−11962

low gravity experiments *see zero gravity experiments*

low induction loss *see loss angle*

low-pass filters
biomedical microprocessor-based complex waveform generator 1−32293
instantaneous frequency instability of laser radiation, meas. by frequency noise filtration 1−15202

low-temperature physics *see cryogenics*

low-temperature production
see also Joule-Thomson effect; magnetic cooling; refrigeration
adiabatic demagnetisation, tempt. stabilised, for space appl. 1−36664
displex closed cycle He refrigerator adaption for ultrahigh vacuum operation 1−36669
magnetic refrigerator, rotational cooling, 4 to 20K 1−27992
metals, comparative study of cool-down characteristics to cryogenic temps. 1−44932
methane solid cryogen contact heat transfer expts. 1−47221
nuclear adiabatic demagnetisation and Pomeranchuk cooling *(Chinese)* 1−5328
nuclear demagnetisation refrigerator, double-stage design 1−14120
Oxford Hybrid Magnet, for research appl., operational experience, safety aspects 1−36706
Pomeranchuk cooling and nuclear adiabatic demagnetisation *(Chinese)* 1−5328
regenerative refrigerator, comparison of theoretical performance in adiabatic and isothermal regimes 1−44924
Ar solid cryogen contact heat transfer expts. 1−47221
^{3}He refrigerator for Mossbauer experiment ^{4}He cryostat 1−10055
^{4}He temperatures, liquefaction without superfluid film 1−36668
N_2 solid cryogen contact heat transfer expts. 1−47221

low-temperature techniques
see also cryostats; refrigeration
4-terminal resistance bridge for low-temp. meas. of resistivity to 0.1 ppm 1−23265
automatic radiation detector cooling system using a cryogenic liq. 1−40797
biological materials, low-temp. neutron activation anal. 1−32209
coal, synthetic natural gas production, purification and cryogenic separation 1−48788
cryo-ultramicrotome sections of 35 nm thickness monitored by myofibrillar fine structure 1−27034
cryogenic-vacuum attachment for obtaining molecular complexes and performing spectrophotometric analysis 1−44943
cryosorption of N_2 on solid Co_2 1−52415
diamond anvil techniques for structural and electrical/magnetic measurements at low temperature 1−28007
dielectric constant gas thermometry from 4.2 to 27.1K 1−40787
dielectric measurements using automatic spectrometer in range 77 to 380K and 500 to 1000 Hz *(French)* 1−301
dielectric prop. meas. using thin-sample holder, appl. to polyethylene terephthalate *(French)* 1−40820
electrical metrology, effect of superconducting IC technology 1−36600

low-temperature techniques continued
fracture toughness testing, DCB clip-in displacement gauge modification 1−36666
fracture toughness tests in liquid hydrogen, LVD displacement gauge 1−36665
grating spectrometer, coded, with IR photodetector 1−40881
Hall effect magnetometers for high mag. fields and temp. between 1.5K and 300K 1−33011
heat exchanger, direct electrical analog model 1−44931
heat exchanger, three channel, for cryogenic plant, heat transfer equations 1−44930
high pressure cell for far-IR absorpt. study of solid N_2 up to 10 kbar in 10-300K temp.range 1−40878
high pressure diamond-window apparatus for cryogenic expts., design 1−28002
high pressure optical chamber for use at He temps. 1−44977
high-pressure blowdown valve with replaceable seat, for the repurifier 1−14121
instrumentation at temperatures below 1K 1−36667
insulation thermal cond. meas., single guarded cold plate apparatus improvement 1−5324
magnetostriction meas. using double-axis X-ray diffractometer 1−405
microwave resonant cavities used for deformation meas. 1−21692
nuclear adiabatic demagnetisation and Pomeranchuk cooling *(Chinese)* 1−5328
nuclear orientation at very low temperatures *(Dutch)* 1−44754
nuclear polarisation and nucleus demagnetisation *(Dutch)* 1−44755
nuclear spin resonance *(Dutch)* 1−44753
nuclear spin systems, hyperfine interaction *(Dutch)* 1−47596
oral mucous membrane temp. meas. in cryotherapy of precancerous disease 1−32305
p-n junction diodes, cryogenics temp. sensors, voltage-temp. characts. 1−40773
photoacoustic spectroscopy, variable temp., instrumentation 1−50231
photoacoustic spectroscopy, variable temp., temp. characts. and appls. 1−50232
pipeline, cryogenic slip joint to mitigate axial loading 1−40794
polarisation microscope, for mag. structure obs. in uniaxial materials 1−40823
Pomeranchuk cooling and nuclear adiabatic demagnetisation *(Chinese)* 1−5328
position monitoring system, inductive, for use in cryogenic environments 1−40793
progress towards absolute zero *(German)* 1−9988
Pt resistance thermometers for low-temperature appls., vibration proof 1−23246
radiative loss reduction coating performance, 77 to 4.2K 1−51693
reference points based on superconducting transition temp. of pure metals 1−23248
resistive SQUIDs for thermal meas. 1−50132
sample holder, 70K to 1500K *(French)* 1−27943
small specimens, heat capacity meas. by calorimeter, 10 to 20K 1−5315
spin polarised particles, apparatus for study of thermal props. 1−269
state measurement standards with reproducible temp. scales from 1.5 to 273K 1−23245
strain gauge pressure transducers, suitability for low temp. appl. 1−40772
superconducting shields for mag. field background elimination 1−50136
thermal conductivity measurement, microcalorimeter with pulsed heating 1−50133
thermoelectric power measurement in highly resistive samples, 4 to 300K 1−7647
thermometer graduation apparatus for use in strong mag. fields, correction curves 1−23247
transfer line, for liq. N_2, design and construction 1−44929
vacuum cell for studying IR spectra of adsorbed molecules at liquid He temps. 1−44944
X-ray goniometer, with closed-cycle cooling to about 18K 1−406
$(Ce_{0.05}La_{0.95})_2Mg_3(NO_3)_{12}.24H_2O$, deuterised, mag. thermometers 1−27975
Cu-clad Nb wire thermometry below 1K using proximity effect 1−44922
H, stabilized, low temp. apparatus for prod. 1−268
H_2-D_2, liquid target, design, closed gas circulation system 1−28764
^{3}He, single crystal, prep. method at ultralow temps. 1−31337
^{3}He solid, highly polarized, prod. in Pomeranchuk cell 1−2767
Nb, thin film microbridge under vortex flux flow, IR radiation detection 1−18300
Pt thermometer, thermocouple effects from instrumentation wires 1−44918

LPE *see liquid phase epitaxial growth*

LS coupling *see Russell-Saunders coupling*

LSA *see limited space charge accumulation*

LSI *see large scale integration*

lubrication
see also friction
anisotropic porous slider, hydromag. lubrication, effect of slip vel. 1−11808
average flow model, eval. for surface roughness effects in lubrication 1−43540
boundary layer theory for lubricating film between flowing liquid and solid surface 1−29646
bronzes, wear resist., effect of diffusional redistrib. of alloying elements 1−16899
deep drawing, lubrication mechanisms 1−26627
elastic-isoviscous point contacts, breakdown of fluid film lubrication 1−39471
elastohydrodynamic lubrication, effect of temperature on traction 1−16902
elastohydrodynamic lubrication, effects of asperities 1−43542
ferrolubricant, nonNewtonian, in deformable journal bearing gap, under mag. field 1−24853
film thickness measurement by dielectric breakdown 1−23175
fluid pressure, Navier-Stokes eqns., convective accel. effect, appl. to high speed bearing 1−19724
fluorinated polyether, boundary lubrication, thermal and oxidative stability 1−31669
glass, protective and lubricious coatings, mech. props. 1−53327
glass surface coating, effect of SnO_2 film on wear resistance of long-chain aliphatic lubricants 1−53326
hydrodynamic lubrication, of sliding axial bearings with plane parallel surfaces, load bearing capacity and heat develop. *(German)* 1−33946

lubrication continued
hydrodynamic lubrication, roughness interaction, micropolarity 1−43541
hydrodynamic lubrication of rough surfaces, stochastic models with variable viscosity 1−25367
hydrodynamics lubrication, effect of parallel and transverse stationary random surface roughness, Reynolds eqn. 1−39463
hydrostatic extrusion, solid-lubricant entrainment 1−30318
oils with tribopolymer forming additives, engaging action mechanism 1−31674
perfluoropolyether triazine, boundary lubrication, thermal and oxidative stability 1−31669
phosphate esters, frictional characteristics 1−26633
Reynolds differential equation derivation using virtual work principle *(German)* 1−42005
rolling-sliding EHD contact, rel. between press. and temp. 1−30317
rubber flow, contrib. of wall slip 1−33986
sliding friction pairs, incrasing durability with TsIATIM-201+10% Cu lubricant 1−12880
solid lubricant coatings, depend. of durability on depth of vac. 1−31676
space structure and mechanism tribology, conf., Risley, UK (Oct. 1980) 1−44715
steel, boundary lubrication by various oils at low vapour pressure 1−48532
steel, grade-45, structural state during friction, lubricant action 1−21595
steel, stainless, actuating cable, lubrication and wear 1−48531
steel, wear, dry and lubricated sliding conditions, effect of surface topography 1−12884
structural anal. of lubricants, rel. to friction props. 1−12888
surface, rough isotropic, simulation of lubrication using Monte Carlo method 1−29629
surface textures, effect on hydrodynamic lubrication, numerical anal. 1−48524
thermal Reynolds equation, appl. to elastohydrodynamic inlet zone lubrication 1−46751
vacuum pump fluid and grease selection criteria 1−5334
viscometer, capillary, measurements at high pressure and high shear rate 1−38028
viscosity-pressure correlation 1−42443
Ag dry film thermal processors with air lubricant 1−45051
Al bronze sliding on KE961 steel, role of Al segregation in wear under boundary lubrication 1−43535
Cu, sliding friction, lubricating action of polyethylene film 1−12879
Cu-plated graphite powder lubricants, Cu-deposition with solid reducing agent 1−12677
Fe surfaces, boundary lubricant film form., role of non-metallic inclusions 1−16905
Mo dithiolate lubricant-soluble additive, exploratory invest. under rolling contact conditions 1−35403
MoS_2 coating, lubricant, sputtered, wear lifetime improvement 1−30320
MoS_2 coatings on Mo, wear resist., effect of Mo surface treatment 1−31677
MoS_2 film, sputtered, tribological props. rel. to film morphology 1−30319
Luder's bands
α-brass, serrated yielding investigation using acoustic emission technique 1−21541
steel, eutectoid, cold-rolled, mech. behaviour, effect of rapid annealing 1−21485
Cu-Ni (0-10%), solid soln. and strain hardening 1−35267
Fe, Armco, yield stress and tensile instabilities at room termp. 1−12815
Ludwig-Soret effect *see diffusion in solids*
luminance *see brightness*
luminescence
see also cathodoluminescence; chemiluminescence; electroluminescence; fluorescence; fluorescent screens; ionoluminescence; luminescence of gases; luminescence of liquids and solutions; luminescence of solids; luminescent devices; phosphorescence; phosphors; photoluminescence; sonoluminescence; stimulated emission; superradiance; thermoluminescence; triboluminescence
bacterial luminescence, chem. mechanism 1−17362
bioluminescence in marine animals, bacterial origin 1−4404
purple bacteria, as recombination luminesc. 1−17364
luminescence chambers *see scintillation chambers*
luminescence of gases
benzophenone vapour, delayed luminesc. by multiphoton absorpt. of CO_2 laser emission 1−42129
inert gas atoms, radioluminesc. mechanism, review *(Portuguese)* 1−24924
ArH* luminesc. excitation kinetics, from X-ray irrad. Ar-H mixtures 1−6922
luminescence of inorganic solids
alkali halide crystal transparent dielect. optical breakdown and light flash emission by CO_2 laser pulses 1−26290
alkali halide solid soln., luminesc. and struct. of SeO_3^{2-} and O_2^- impurity centres 1−12543
alkali halides, F-centre luminesc., stress-induced polarisation for vibronic model of relaxed excited state 1−39150
alkali halides, hyperfine parameters from F-centre pair nonresonant luminescent effects and spin memory 1−3475
alkali halides, point defects, two-photon spectroscopy 1−3440
alkali halides, thermoluminescence and radiation induced lattice defects 1−3501
alkali iodides, resonant Raman scatt. and luminescence 1−39081
alkali metal halides, electroluminescence mechanism of α emission 1−21278
alkali metal halides, triplet self-trapped exciton, electron spin-lattice relaxation 1−3298
alkali-Tl_2O-Y_2O_3-P_2O_5 glasses, conc. depend. luminescence of Tl^+ 1−3492
alkaline earth fluorides, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
alkaline earth oxides, anion vacancy centres, review 1−38366
anthracene, annealing influence on fluorescence, dislocation generation *(Russian)* 1−31196
anthracene crystals, doped, two carrier mobilities, transient electroluminesc. obs. 1−20728
chalcogenide glasses, gap states, review 1−16221
chalcogenide glasses, nonradiative carrier decay, topological model 1−31182
chalcogenide glasses and crystals, photolum. dynamics 1−3462
corundum, doped, spectra and radioluminesc. kinetics, impurities effect 1−3463
luminescence of inorganic solids continued
corundum, thermolum. props., dopant and growth method influence, γ-ray detect. appl. 1−26288
$CsMnBr_3.2H_2O$ exciton migration, luminesc. quench study 1−47482
diamond, GR defect, high-resolution luminesc.-excitation spectra 1−39140
diamond, ion-implanted, cathodoluminesc. study 1−48172
diamond, ion-implanted, defect formation, cathodoluminesc. study 1−48173
diamond IR luminescence centre characts., electron-phonon interaction 1−43166
europium diglycolate, nonradiative relax., role of electronic symmetry of Stark components, emission, time-resolved study 1−35081
exciton self-trapping, spectroscpic study 1−42697
fluoroapatite, synthetic, X-irrad., thermoluminesc. obs. 1−26286
fluorophlogopite, neutron irrad., optical props., EPR meas. 1−20274
fluorophosphate glass, lasing and optical props. 1−1572
frictional anisotropy due to surface and sub-surface damage 1−31673
gems, Mexican, thermoluminescence response 1−3513
germanate glass:Bi^{3+}, $^3P_1$ and $^3P_0$ excited states, time-resolved laser-induced fluoresc. band narrowing study 1−3483
germanate glass:Bu^{3+}, Eu^{3+}, interaction mech. in Bi^{3+}-Eu^{3+} energy transfer at low temps. 1−52982
glass:Eu^{3+}, optical transition multipole order determ. by polarised luminesc. method 1−31185
glass, rare earth doped, laser induced fluorescence line narrowing 1−3460
glass, silicate, spectral and kinetic separation of Yb^{3+} optical centres 1−43176
glasses:CrIII, radiationless relax. symm. luminescence lifetimes 1−1164
halogenate crystals, mechanoluminescence 1−52995
hexagonal crystals, polarised luminesc. calc. of anisotropic centres 1−35088
inert gas solids, valence excitons, one- and two-photon spectroscopy 1−31164
inert gases, condensed, localised excitation dynamics from energy, time resolved spectroscopy 1−31163
ionic crystals, luminesc., self-trapping excitons, holes, and electrons, review 1−12547
luminesc. and stimulated emission 1−48155
mechanoluminescence, and acoustic emission meas. 1−46642
metal surface, ion bombarded, photon and secondary ion emissions 1−31270
molecular crystal, exciton annihilation, fluorescence intensity 1−2882
nitrates, electron-phonon interaction of NO_2^- impurity 1−25391
noncoherent Frenkel exciton luminescence spectra at high pumping levels 1−12582
optical glasses, which were melted in Pt, luminescence *(Polish)* 1−39154
oxides, adsorpt. of O_2, adsorboluminescence and adsorboemission 1−38670
phosphate and silicate glass, Nd^{3+} luminescence bands, Stark broadening *(Russian)* 1−8132
phosphor, photoexcited, computer simulation of effects accompanying elec. field applic. 1−16609
phosphor brightness behaviour under <100 V cathode ray excitation 1−12587
phosphors, activated, luminesc. conversion of IR and microwave radiation to visible light 1−12562
phosphors, luminesc. investigation 1−8122
phosphors, roentgenoluminesc. spectrum, exciting-radiation photon energy effect 1−8120
phosphors, X-ray luminesc., features and possible appls. 1−12544
photoacoustic effect, spacial energy migration, surface quenching 1−8039
α-quartz, point defects and radiation damage processes 1−15934
quartz, S1-UV, stimulated fluoresc. by ArF laser radiation 1−16592
rare earth cpd., $LiR_{1-x}(Eu,Tb,Ce)_x(PO_3)_4$ (R=La, Y, Gd), photolum. and cathodolum. 1−39137
rare earth cpds., $RScO_3$ (R=La, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Y), prep., elec. resistance and dielec. const. 1−39289
rare earth metals: ZnO electroluminors, photo and electroluminesc. at liq. N_2 temp. 1−39135
rare-earth phosphors, roentgenoluminesc. spectrum, exciting-radiation photon energy effect 1−8120
review 1−13961
ruby, fluorescence, R_1 line, macroscopic inhomogeneous broadening, obs. 1−12537
ruby, nonradiative resonance energy transfer, absence of Anderson transition 1−31187
ruby, nonresonant phonon interactions, phonon detection *(Russian)* 1−11827
ruby, optically generated pseudo-Stark effect obs. 1−12079
ruby, resonant nonradiative energy transfer, fast Stark shifting technique 1−31186
ruby, resonant phonon relaxation studied using optical generation and detection 1−30336
ruby crystals, laser grown, luminesc. fluctuations and colour striations *(German)* 1−31204
sapphire, fluorescence, 4.4 to 300K, F-centre electronic struct. 1−26269
sapphire, UV grade, stimulated fluoresc. by ArF laser radiation 1−16592
sapphire substrate, for frozen gas films, electron range and energy loss meas. 1−20289
scheelite type crystals, thermally and optically stimulated processes 1−3502
semiconductor, amorphous, H incorporation, effects on electronic and struct. props., review 1−52067
semiconductor, photoexcited carriers, distrib. functions, instabilities, theory 1−20825
semiconductor wafer, contactless meas. of elec. props. *(Japanese)* 1−47673
semiconductors, excitons, photons, biexcitons, coherent nutation 1−2885
tellurite:Ho^{3+}, glass, 750 nm laser emission anal. 1−16584
TLD, conference, Toulouse, France (Apr. 1980) 1−11
TLD-700, additivity studies of X-ray and π^- irrads. on TL response 1−6040
toxicity measurement appl. by thermolum. 1−8141
transition metal coordination compounds, IR luminesc. spectra 1−31200
tungstates:U, ordered perovskite struct., vibr. struct. in luminesc. spectra 1−12571
zeolite:Sn crystal afterglow, activation by Sn^0 atoms 1−39145
Ag film, on W (110), emission spectrum under slow electron excitation 1−35102
Ag halide physics, recent developments 1−35071
AgBr, luminescence of excitonic molecules, meas. 1−43174

luminescence of inorganic solids continued
AgBr photographic emulsions, luminescence spectra of impurity center form. in nucleus-shell emulsions *(Russian)* 1−28108
AgCl, recombination luminescence, two-photon spectra 1−8127
$AgCl_xBr_{1-x}$, time-resolved luminesc. lines from excitonic molecules 1−48140
$AgGaS_2$, photolum. and cathodolum., edge and broad emission bands interpret. *(French)* 1−52981
Al foil in H_3BO_3-$N_2B_4O_7$ soln., excitation processes at the electrolyte-electrode interface 1−35098
Al-Al_2O_3-Ag struct., light emission by tunnel junctions 1−38866
Al-Al_2O_3-Au thin film structs., IR emission under DC bias *(French)* 1−48169
Al-oxide-Ag system, hot electron mean free path, light emission by surface plasmon excitation 1−25809
Al-SiO-Au thin film structs., IR emission under DC bias *(French)* 1−48169
$Al_xGa_{1-x}As$ epitaxial layers, deep electron traps 1−30761
$Al_xGa_{1-x}As$, indirect-gap semicond., photolum., excitons and electron-hole plasma 1−3477
$Al_xGa_{1-x}As$, variable-gap semicond., photoluminesc. 1−35092
$Al_xGa_{1-x}As$:Ge, LPE grown, photoluminesc. 1−43156
$Al_xGa_{1-x}As$:Sn, deep radiative transitions, photoluminesc. study 1−43173
AlN:Mn^{4+}, plasma discharge, photo-excitation and surface excitation, luminesc. kinetics 1−31191
Al_2O_3, aggregate defect centre, polarised luminesc. and optical absorption 1−3469
Al_2O_3, impurity doped, thin film, electrolum. 1−8136
α-Al_2O_3, quenched, violet luminesc. under UV excitation 1−26267
Al_2O_3, thermoluminescence, very deep traps at temps. greater than 500°C 1−3507
a-As_2S_3, chalcogenide glass, luminescence polarisation time depend. 1−16605
As_2S_3, luminescence fatigue, decay curves 1−48165
B, ion bombarded, at., mol., and continuum radiation 1−39162
BN, cubic, cathodoluminesc. emission 1−12588
B_2O_3, ion bombarded, at., mol., and continuum radiation 1−39162
$BaAl_{12}O_{19}$:Mn single cryst. thin film, luminescent, LPE growth 1−53001
BaF_2, sputtered excited particle kinetic energies, secondary photon emission 1−16613
BaF_2, stimulated fluoresc. by ArF laser radiation 1−16592
BaFCl-EuFCl, Eu^{2+} fluorescence and its application in medical X-ray intensifying screens, book contrib. 1−9014
$BaPt(CN)_4$, TLD material, properties 1−957
BaS:Cu, photoluminesc., influence of Er 1−39133
$BaTiO_3$, ceramic, cond. depend. cathodoluminescence 1−35103
$BaTiO_3$, ferroelectric, electrolum. emission during polarisation reversal 1−26276
$BaTiO_3$ single cryst., luminesc. during mech. switching 1−8144
$BaUO_4$, intense luminesc. and cryst. struct. 1−21258
BeO ceramic, thermoluminescence spectra, band struct. 1−3514
Be_2SiO_4, thermoluminescence and exoemission from surface layers *(Russian)* 1−21283
Bi^{3+} in solids, luminesc. levels 1−8107
CC CdF_2, electronic cond. and optical props., review *(Polish)* 1−52565
$Ca_3Al_2O_{24}(WO_4)_2$, IR, optical and Raman spectra, luminesc. meas. 1−52945
$CaB(OH)SiO_4$, datolite, luminesc. of rare earth impurity ions 1−21262
$CaB_2(SiO_4)_2$, danburite, luminesc. of rare earth impurity ions 1−21262
$Ca_2(B_5SiO_9(OH)_5)$, howlite, luminesc. of rare earth impurity ions 1−21262
CaF_2, sputtered excited particle kinetic energies, secondary photon emission 1−16613
CaF_2:Dy, TLD system, Mn dopant effect 1−3512
CaF_2:Dy, thermoluminescent response under heavy ion bombardment 1−948
CaF_2:Er, solid-state chem., influence on spectroscopy, defect equilib. model 1−25265
CaF_2:Eu^{2+}, ballistic propag. of phonons obs. by piezospectroscopic fluoresc. method 1−3487
CaF_2:Eu^{2+}, mode depend. of resonance absorpt. of ballistic phonons *(Russian)* 1−52248
CaF_2:Eu^{2+}, scintillator, luminesc. kinetic characts. 1−12546
CaF_2:Eu^{2+}, tunable optical phonon detector and generator 1−15979
CaF_2:Ho^{3+}, X-ray induced thermoluminesc., photluminesc. meas. 1−48175
CaF_2:Na, luminesc. and stimulated emission of M_A-centres 1−12541
CaF_2:Pr, high temp. thermoluminesc. peak, diffusion controlled, obs. 1−26287
CaF_2:Sm^{2+}, phonon spectroscopy, fluoresc. obs. 1−12553
CaF_2:Sm^{2+} crystals, $4f^k \rightarrow {}^1 5d$ to $4f^k$ luminesc. vibronic wing, vibr. spectrum and symm., Jahn-Teller pseudo effect 1−43168
$CaMoO_4$, $CaWO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
CaO:Ga, photolum. and cathodolum. decay obs. *(Russian)* 1−16612
CaO:Mg, F_A-centre and F-centre luminesc. meas. 1−16596
CaO-P_2O_5:Nd^{3+}(Ho^{3+})(Er^{3+})(Tm^{3+}) glasses, protonated and deuterated, luminesc. quenching 1−43179
$Ca_{10}(PO_4)_6F_2$:Mn, X-ray induced defect centres, thermoluminesc. study 1−8142
CaS phosphors, generalised decay relation 1−31181
$CaSO_4$, thermoluminescence mechanisms, V-centres 1−3503
$CaSO_4$:Dy, preparation, TL dosimeter 1−960
$CaSO_4$:Dy, thermoluminescence depend. on stopping power 1−26285
$CaSO_4$:Dy phosphors, X-ray induced fluoresc. and phosphoresc. 1−39134
$CaSO_4$:Tm, thermoluminescent mechanism, ESR study 1−3505
$CaSO_4$:Dy, thermoluminescence, very deep traps at temps. greater than 500°C 1−3507
$(Ca,Sr)_{1-x}S$:Cu, Nd, electroluminophor, luminesc. meas. 1−52998
$Ca_3(VO_4)_2$-$Sr_3(VO_4)_2$ ($Ba_3VO_4)_2$, thermal and luminesc. props. 1−35083
$CaWO_4$, recombination luminescence kinetics 1−12581
Cd halides, photoluminesc., X-ray luminesc., and cathodolum. 1−12539
$CdCl_2$:Mn^{2+}, cryst. field energy levels, luminesc. spectra study 1−31190
$CdCr_2Se_4$, ferromag. semicond., fundamental gap, photoluminesc. determ. 1−43169
CdF_2:R^{3+} (R = rare earth), electrolum. 1−26279
CdI_2, pure and activated, radioluminescence kinetics study *(Russian)* 1−3490
CdI_2, TLD material, properties 1−957
CdI_2:Bi(Ga)(In)(Pb)(Sn), optical props., absorpt. and emission bands *(Russian)* 1−43148
luminescence of inorganic solids continued
$CdIn_2S_4$, photoluminescence bands, recombination centres 1−39143
$CdIn_2S_4$:Cr photoluminescence spectra 1−21270
$Cd_{1-x}Mn_xTe$, photoluminescence and Mn^{2+} d-levels 1−48130
$CdMoO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
CdS crystals, luminesc. spectra when frozen into solid He, N_2 laser excitation, optical cryostat design 1−18237
CdS, emission edge, temp. shift 1−3482
CdS, exciton-plasmon interaction in nonequilibrium electron-hole plasma *(Russian)* 1−52496
CdS films, spray pyrolysed, intense room-temp. photoluminesc. obs. 1−48129
CdS, luminescence and photoelectric props. changes on annealing, defect formation *(Russian)* 1−21274
CdS, photoconductivity, luminescence, low-temp. plastic deform. 1−38815
CdS, radiative recombination in the presence of screening of Coulomb interaction 1−12554
CdS, resonance secondary exciton emission 1−12558
CdS, spray-pyrolised film, luminesc. decay, electron-hole recomb. 1−43202
CdS surfaces, electron beam stimulated changes in composition and electrical props. 1−25327
CdS:Te, photoluminesc. quantum efficiency, calorimetric meas. 1−48158
CdS:Te electrode in NaS electrolyte, laser induced photoelectrochem., time resolved luminesc. 1−31865
CdS-metal interface, exciton refl. and photolum. spectra meas. 1−25645
CdS(Se), luminescence at high excitation densities 1−12555
$CdS_{1-x}Se_x$, emission by electron-hole droplets and electron-hole plasma 1−12556
CdS_xSe_{1-x}, luminesce. spectral-kinetic props. and subnanosecond pulse generation 1−8104
CdS_xSe_{1-x} single crystals, near band-edge photoluminesc. meas. 1−43159
CdS(Se)(Te), electron-hole liq., condensation energy. luminesc. study 1−20640
CdSe oriented single-crystal films, luminesc. of degenerate electron-hole plasma 1−31193
CdSe, time resolved luminescence spectra 1−8129
CdSe, time resolved luminescence, exciton collisions 1−48157
$CdSiP_2$, cathodoluminesc. spectra, heat treatment effects 1−21279
CdTe, irrad. induced defects, photoluminesc. study 1−8112
CdTe, optical detection of cyclotron reson. via band-gap luminesc. 1−31030
CdTe, undoped and P-doped, photoluminesc. and recomb. centres, heat treatment under component vapour press. 1−26258
CdTe:In, solution-grown, 1.4 eV luminesc. mechanism 1−43186
CdTe:P, electrical props. and photolum. spectra *(Japanese)* 1−47674
$CeCl_3$, TLD material, properties 1−957
$Ce_xNd_{1-x}P_5O_{14}$ crysts., excitation, luminesc., energy transfer from Ce^{3+} to Nd^{3+} 1−26259
CrO_4^{2-} complexes, host lattices, quantum efficiency luminescence 1−16594
CsBr, exciton decay into defects, polarised luminescence *(Russian)* 1−20637
CsBr, O_2^- centres, vibronic luminesc. spectra under press. 1−43182
$CsCaCl_3$, activated, excitation and photoluminesc. spectra 1−12540
$CsCdBr_3$ crystals, spectroscopic props. of Ce^{3+}-Tm^{3+} centre 1−52992
Cs_2CdCl_4:Ni^{2+} polarised electronic absorpt., emission and excitation spectra 1−26240
Cs_2GeF_6:ReF_6^{-2}, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
CsI, doped, scintillator, luminesc. kinetic characts. 1−12546
CsI:Tl scintillation crysts., photoluminesc. anisotropy 1−3488
Cs_2KNdF_6, conc. quenching of Nd^{3+} fluorescence 1−3470
$CsMnCl_3.2H_2O$ exciton migration, luminesc. quench study 1−47482
$CsMnF_3$, biexciton decay and multimagnon sidebands in fluroesc. spectra 1−30646
$CsPbBr_3(Cl_3)$, exciton absorpt., refl., and luminesc. spectra 1−12540
Cs_2ReF_6:ReF_6^{-2}, sharp-line absorpt., luminesc., Raman spectra, symmetry phonon struct., lattice modes 1−3442
Cs_2SiF_6:MnF_6^{2-}, ion emission spectra from lattice dynamics model, phonon struct. 1−8108
$CsSrCl_3$, activated, excitation and photoluminesc. spectra 1−12540
$Cs_2UO_2Br_4$, energy-transfer processes, emission and excitation spectra 1−52989
$Cs_2UO_2Cl_4$ cryst., energy transfer and biexciton decay 1−8106
$CsUO_2(NO_3)_3$, γ-irradiated, long wave luminesc. centre 1−12573
$Cs_2ZrCl_6(Br_6)$:Re^{4+}, IR interconfigurational and mag. circular dichroism spectra 1−31170
CuBr(Cl), luminescence at high excitation densities 1−12555
CuCl, excitonic molecule distrib. under giant two-photon excitation 1−38726
CuCl, hyper-Raman scatt. via biexcitons 1−52939
$CuGaSe_2$, crystn. from $CdCl_2(I_2)$ solns., phase diagrams, cathodoluminesc. meas. 1−48247
$CuGaSe_2$, donor-acceptor transition, cathodoluminescence spectra 1−43188
$CuGaSe_2$, edge luminescence spectra, impurity levels 1−8138
CuI, $Z_{1,2}$ exciton-polaritons, magneto-optical studies 1−26178
Cu_2O, exciton gas, evidence for Bose-Einstein statistics 1−25641
$DyPO_4$, Ising antiferromagnet, intrinsic fluoresc. in mag. field 1−43172
Er^{3+}: glass (phosphate, germanate, tellurite), radiative and nonradiative transition probabilities 1−26236
Er^{3+}:$LiYF_4$, $^4I_{11/2} \rightarrow {}^4I_{13/2}$ 2.8 μm laser transition, Stark level identification 1−29288
Eu^{3+}:Y_2O_2S, luminesc., solid solution formation, thermal props. 1−39157
$EuMgF_4$, photoluminescence and energy transfer 1−26253
EuP_5O_{14}, optical spectra, Eu^{3+} energy levels 1−8089
GaAlAs, hyperfine field and spontaneous oscill. of polarisation in optical orientation of electrons and nuclei 1−3300
$Ga_{1-x}Al_xAs$/GaAs DH LED, abrupt high temp. degradation 1−21256
$Ga_{1-x}Al_xAs$-GaAs LPE interface structure and composition, STEM and cathodoluminescence obs. 1−16350
GaAs anodic oxide films, 1.5 to 6 eV cathodoluminescence obs. 1−16611
P-GaAs, circular polarisation of luminesc. in mag. field, Mott transition effects 1−52923
GaAs, deep luminescence centres, recomb. props. and vibr. spectra, plastic deform. effect 1−21271
GaAs, degenerate, emission near absorpt. edge 1−21259
n-GaAs, degenerate, quantum efficiency and radiative lifetime 1−43158
GaAs, degradation and luminesc., effect of intrinsic defects 1−21252

luminescence of inorganic solids continued
GaAs, heavily doped, photoluminesc., hydrostatic press. depend. 1−48134
GaAs, highly excited, exciton electron-hole plasma system, optical studies 1−52592
GaAs, hot electron anal. from electron distrib. function 1−47663
GaAs, hot photoluminescence spectrum and polarisation 1−48147
GaAs LPE layers, residual impurities, photoluminesc. and IR photocond. meas. 1−2474
GaAs, luminescence of high density electron-hole plasma 1−8117
GaAs, nonradiative states, photoacoustic spectroscopy 1−21261
GaAs, optical cross sections associated with deep levels 1−21257
GaAs, optical detection of cyclotron reson. via band-gap luminesc. 1−31030
GaAs p^+-n_0-n^+ structure, VPE fabrication, injected carrier distrib., photoluminesc. spectra obs. 1−34786
GaAs, photoexcited carriers, distrib. functions, instabilities, theory 1−20825
GaAs, photoluminescence spectra, complexes due to donor-acceptor type transitions 1−8113
GaAs, radiative recombination rate coeff., excitation level depend. *(Japanese)* 1−39132
GaAs surfaces, structure, electron states and electrophysical properties, review 1−25789
GaAs thin films, polycrystalline, high-resolution optical methods for characterisation 1−25812
GaAs:Al, synthesis, photoconductivity and luminescence spectra 1−35162
GaAs:Ar(Si) epitaxial layers and monocrysts., ion implanted, electrophys. and luminesc. props. 1−7663
GaAs:Cr, cathodoluminescence spectrum, zero-phonon multiplet 1−31205
GaAs:Cr, photoluminescence, 0.839 eV and 0.574 eV lines 1−35085
GaAs:Ge, ion implanted, elec. props. and photoluminesc. 1−47646
GaAs:Mn, thermal conversion, photoluminescence spectra 1−8114
GaAs:S(Se) VPE layers, doping behaviour, elec. and luminesc. meas. 1−47408
GaAs:Se ion implanted, impurity profiles, diffusion, luminescence spectra 1−2479
n-GaAs:Si, recombination centres, spontaneous emission 1−52991
GaAs:Sn, LPE, ion implantation, cathodoluminesc. 1−39160
GaAs:Te(Sn)(Cr), fast neutron irrad. effects on props. 1−25331
n-GaAs:V, optical absorption and photolum. obs. 1−12580
GaAs:Zn, heavily doped, photoluminesc., temp. and hole conc. depend. 1−3479
GaAs:Zn, heavily doped, photoluminesc., hydrostatic press. depend. 1−3480
p-GaAs:Zn, heavily doped, optically pumped electron spin relax. through virtual photon 1−35090
GaAs-(Al,Ga)As laser diodes, luminesc. during degradation 1−41704
GaAs-$Al_xGa_{1-x}As$, optically pumped quantum wells, photoluminesc. 1−3478
GaAs-$Al_xGa_{1-x}As$ multiquantum well superlattice interface disorder, photoluminescence and absorption obs. 1−16353
GaAs-$Al_xGa_{1-x}As$ multi-quantum well struct., radiative recombination from quantum states 1−52990
GaAs-$Ga_{1-y}Al_yAs$-$Ga_{1-x}Al_xAs$, n^+-i-n heterostruct., optical emitter degradation 1−7716
GaAs-GaP heterostructures, residual stresses determ. by photoluminesc. 1−21255
GaAsP, electron-hole plasma luminescence above direct-indirect crossover 1−47696
GaAs(P) with transition metal II and III series impurity ions, internal radiative transitions, photoluminesc. study 1−48138
$GaAs_{1-x}P_x$, electron-hole liquid luminesc. 1−12574
$GaAs_{1-x}P_x$, ion implanted, annealing by swept line electron beam, luminescence study 1−3453
$GaAs_{1-x}P_x$ VPE layers, dislocation density and lattice const. mismatch, cathodolum. 1−7487
$GaAs_{1-x}P_x$:N, phonon sidebands in emission spectra 1−48144
$GaAs_{1-x}P_x$:N, photoluminesc. spectra at various excitation levels and N doping 1−26266
$GaAs_{1-x}P_x$:N trap states, zero-phonon excitonic struct., luminesc. and reson. excitation study 1−47538
$Ga_xIn_{1-x}As_yP_{1-y}$:Zn, valence band spin-orbit splitting 1−47459
$Ga_{0.5}In_{0.5}P$, optical cooling of nuclei spin system, luminescence 1−21076
GaN n-i structure, luminescence props. 1−21277
GaN:C, pure and doped, yellow luminesc. mechanism 1−48148
GaN:Zn, radiative recombination kinetics 1−39155
GaP and GaAs amorphous film/crystal sputtered junctions for electroluminescent diodes 1−16608
GaP, optical cross sections associated with deep levels 1−21257
GaP:Fe, deep traps, photoluminesc. study 1−12569
GaP:N, decay kinetics of excitons and electron-hole plasma 1−3484
GaP:N, excitonic molecule bound to N trap, uniaxial stress effect 1−25643
GaP:N, N-bound excitons, stress depend., zero-phonon luminesc. and absorpt. spectra 1−26268
GaP:N, photoluminesc. decay time meas., exciton bound states 1−39146
GaP:N, radiative combination at NN_1 isoelectronic centre 1−3496
GaP:N,Zn(N,Zn-O), LPE films, photoluminesc., heat treatment 1−3489
n-GaP:S(Te), radiative recombination, photoconductivity 1−21272
GaP:Zn(O), LPE layers, photoluminescence spectra 1−39144
GaP-Cr, photoluminesc., mag. field and uniaxial stress depend. 1−48139
GaS(Se), layered crysts., electronic spectrum, press. effects, optical absorpt. and photoluminesc. meas. 1−52915
GaSe, cathodoluminescence spectra, kinetics 1−3499
GaSe, excitonic emission, direct and indirect, photoluminesc. 1−48161
Gd complex, Gd (hexamethylphosphoramide)$_6(ClO_4)_3$:Eu^{3+}, crystal field parameters, fluoresc. spectra 1−25677
$GdAlO_3$:Cr^{3+}, chopper technique for meas. delayed fluoresc. superimposed on excitation spectrum 1−36739
$GdAlO_3$-$YAlO_3$-$LuAlO_3$, Nd activated, spectroscopic props. 1−26244
$Gd_2(MoO_4)_3$ single cryst., luminesc. during mech. switching 1−8144
Gd_2O_3:Eu^{3+}, fluoresc. spectrum, site-selective excitation, cryst. field anal., and energy transfer 1−39152
Ge, ⟨111⟩ stressed, two-component electron-hole liq. phase separation, time resolved luminesc. spectra 1−34632
Ge, electron-hole droplet and ballistic phonon imaging 1−16237
Ge, electron-hole droplet interaction with dislocations, luminesc. obs. 1−12579
Ge, electron-hole drops, static friction mechanism 1−42698
Ge, electron-hole system outside droplet formation region, thermodynamical props. 1−26264
luminescence of inorganic solids continued
Ge, excited hole state of donor bound excitons and parity selection rule 1−3457
Ge, nonlinear optical absorption and ultrafast carrier relaxation physics 1−15211
Ge, radiation defect annealing, photoluminescence study 1−20262
Ge:As(Bi)(P), even parity excited donor states from bound exciton two-electron transitions 1−48143
Ge-Se, amorphous, photoluminescence, review 1−31202
$Ge_{1-x}In_{x-y}P_y$, epitaxial struct., radiative recomb. emission intensity 1−8139
GeO_2 doped optical fibres and preforms, UV excited fluoresc., refr. index profiling appl. 1−46556
GeO_2 films, in MIM struct., elec. props., electrolum., and electron emission 1−38874
a-GeS_2, chalcogenide glass, luminescence polarisation time depend. 1−16605
Ge_xSe_{1-x}, amorphous, fatigue of photoluminesc. and photocreation of paramag. centres 1−21266
a-Ge_ySe_{1-y}, glass and film, IR and photoluminescence study 1−21275
n-$Hg_{0.89}Mn_{0.11}Te$, stimulated spin-flip scatt., photoluminesc., magnetoabsorpt. 1−29335
α-HgS, cinnabar, photoluminesc., optical absorpt., and excitation spectra 1−3481
(In,Ga)(As,P), VPE growth, n- and p-type doping, photolum., mobility and electron diffusion lengths 1−48267
In-I, resonant Raman scatt. and luminesc. 1−12488
InAs-GaSb superlattice, IR magnetoabsorption and luminescence study 1−52920
$In_{0.72}Ga_{0.28}$ $As_{0.6}P_{0.4}$, absorption, emission and gain spectra, calc. 1−43155
$In_{0.53}Ga_{0.47}As$, photoexcited, hot carrier relaxation 1−3449
$In_{1-x}Ga_xP_{1-y}As_y$ lattice matched LPE layers on GaAs, photoluminesc. 1−31178
$In_{1-x}Ga_xP_yAs_{1-y}$, LPE growth and photolum. meas. 1−26396
InI, photoluminescence, donor-acceptor pair recomb. 1−8126
InP crystal photoluminescence, influence of surface energy band bending 1−16597
InP LEC crystals, deep impurity levels, DLTS and photoluminesc. study 1−47557
InP LPE layers, heavily doped, visible photoluminesc. emission 1−43152
InP, nonradiative states, photoacoustic spectroscopy 1−21261
InP, optical transmission, luminesc. and Raman spectra under hydrostatic press. 1−35007
InP:Zn p-n junction, control of Zn doping for growth by LPE 1−25300
n-InP-Au Schottky diodes, bias-dependent photoluminesc. intensities 1−43157
n-InSb, radiative recombination, quantum efficiency 1−3485
InSe, layered crysts., electronic spectrum, press. effects, optical absorpt. and photoluminesc. meas. 1−52915
InSe:Fe, impurity effect on optical spectra *(Russian)* 1−31177
InSe:Zn, photoluminesc. emission band associated with Zn acceptor level 1−48159
InSe-GaSe heterojunctions, elec. props. in darkness 1−20865
InSe-GaSe heterojunction, formed by optical contact, I-V characts., luminescence 1−42853
Ir(I) complexes, emission spectra and lifetimes, temp. effect 1−35080
KBr:Ba(Eu), cryst., photoluminesc. and optical absorpt. of colour centres 1−3474
KBr:Tl, pretreated, thermoluminescence 1−43191
KBr(Cl), O_2^- centres, vibronic luminesc. spectra under press. 1−43182
KBr(I), Li-$(F_2^+)_A$ centre absorpt. and emission bands, potential laser action 1−52974
KCl, undoped and Tl (Cu) doped, thermally stimulated exoelectron emission, thermoluminesc., rel. to colour centres 1−43252
KCl:I, UV irrad., I ion motion, absorption and emission bands 1−21237
KCl:Mn, monochromatic thermolum., recomb. kinetics model 1−3500
KCl:Pb, polarised A-luminesc. obs., 85K, kinetic investig. *(Russian)* 1−16603
KCl:Pb, solid solution, decomposition, optical investigation 1−20385
KCl:Pb, Suzuki-like occlusion growth, photoluminesc. and absorpt. spectra anal. 1−2498
KCl:Pb^{2+}, impurity aggregates, low temp. absorpt., emission and excitation spectra 1−16589
KCl:Sn, luminescence, Sn^{2+} electronic states, decay time, mag. field effect 1−8123
KCl:Sn, polarised A-luminesc. obs., 15-300K, Jahn-Teller effect of activation centres *(Russian)* 1−16602
KCl:$SnCl_2$, light and thermally stimulated recombination luminesc. 1−3465
KCl:Sr, thermolum. of Z_1-centre 1−31207
KCl:Tl, diffusion coeff. determ. by 5 keV electron irrad. 1−11909
KCl-$EuCl_2$, precipitated Eu^{2+} phase, optical absorpt. and luminesc. spectra 1−39130
KCl(Br)(I), mag. circular polarisation of F centre emission and spin mixing processes in optical cycle 1−39139
KH_2PO_4, X-irrad., opt. absorpt. and thermolum., 13K to room temp. 1−31208
KI, free exciton, coexistence with self-trapped exciton 1−38725
KI, free exciton, luminescence spectra, nature of emission 1−38724
KI, photostimulated luminesc. after UV preexposure 1−48163
KI:Ga^+, Jahn-Teller coupling in ^1T_u excited level of Ga^+, emission bands obs. 1−35091
KI:NO_2^-, laser induced fluorescence and Raman studies 1−43171
KI:Sn^{2+}, emission spectroscopy, temp. and excitation wavelength depend. 1−12577
KI:Ti^+, A_x emission, decay time, symmetry and g-value, mag. field effects 1−48164
KMgF$_3$:Fe^{2+}, dynamic Jahn-Teller effects in photoluminesc. 1−39147
$K_2MoO_3(C_2O_4).H_2O$, deep red luminesc. at low temp. 1−52980
K_2O_3-BaO-GeO_2:Ho^{3+}, glass, 750 nm laser emission anal. 1−16584
$K_2Pt(SCN)_4$ single cryst., luminesc. at high press. 1−43153
La complex, La (hexamethylphosphoramide)$_6(ClO_4)_3$:Eu^{3+}, crystal field parameters, fluoresc. spectra 1−25677
LaF_3:Gd^{3+}, two-photon absorption as a new test of the Judd-Ofelt theory, fluoresc. detection 1−43170
LaF_3:Pr^{3+}, transfer inside pairs of Pr^{3+}, up-conversion fluorescence study 1−48152
LaOF, electronic struct., photoelectron and X-ray emission spectra 1−3570
La_2O_2S:Tm^{3+}, two photon excited luminesc. 1−12565

luminescence of inorganic solids continued
$(Li,Na,K,Cs)(Eu,Tb)_{1-x}(Gd,\gamma)_x[(Mo,W)O_4]_2$, luminescence props. 1−39136
Li, polycrystalline, X-ray Compton profile 1−43213
$Li_2B_4O_7$, rare earth doped, dosimetric properties, luminescence studies 1−954
$Li_2B_4O_7$:Cu phosphor, preparation and characteristics, TLD appl. 1−959
LiCl:Tl^+, light quenching of luminesc. *(Russian)* 1−43180
$LiErP_4O_{12}$, growth and spectral props. 1−26380
LiF, F_2^- centres, stimulated emission and optical absorption spectra 1−26235
LiF, flow-curves, complex thermoluminesc. anal., individual peak resolution 1−26289
LiF, high sensitivity tissue-equivalent thermoluminescent phosphor, simultaneous sensitisation and re-estimation 1−1044
LiF, luminesc. and stimulated emission of colour centres 1−12542
LiF materials, flame-sintered, comparative TL-TSEE measurements 1−8140
LiF TL phosphors, low energy beta radiation detection and measurement 1−41285
LiF, TLD, B diffused thermoluminescent surface layer, skin dose assessment. 1−958
LiF, TLD, radiation-induced colour centres at high absorbed dose rates 1−944
LiF TLD performance 1−6051
LiF TLDs, appl. to personnel and environmental dosimetry 1−6050
LiF, thermoluminesc., particle size effects, annealing at 300 to 400°C 1−48174
LiF, thermoluminescence sensitivity and non-radiation induced signals, particle size effects 1−955
LiF, thermoluminescence glow-curves, computerised curve-fitting 1−3509
LiF, with F_2^+, F_2^-, centres, emission spectra and intracentre charact. 1−37500
LiF, X-ray luminesc. temp. depend. 1−48153
LiF:Mg, thermoluminescence, Z-centre model 1−3511
LiF:Mg, Ti, TLD, Z-centre model 1−3508
LiF:Mg, Ti, thermoluminescent response under heavy ion bombardment 1−948
LiF:Mg, Ti, thermoluminescence properties, influence of OH^- 1−3510
LiF:PTFE discs, automated personal dosimetry system, appl. of photo-transferred thermoluminescence 1−952
LiF:Ti, thermoluminescent mechanism, F-centre trap 1−3506
LiF:TiO_2, crystal excitation transfer mechanism to activator centres 1−35089
Li_2O-CaO-Al_2O_3-P_2O_5:Mo^{3+} glasses, fluoresc. line narrowing and decay rates, site depend. 1−39148
$LiWO_5$:U, luminesc. spectra, vibr. struct. and electronic transitions 1−31179
$LiYF_4$, optical detection of exciton EPR 1−26079
$LiYO_2$:Dy^{3+} single cryst., spectrosc. props. 1−16601
$Mg(BO_2)_2$, recombination luminescence kinetics 1−12581
$Mg_xCd_{1-x}Se$ solid solns., synthesis and luminesc. props. 1−35168
MgF_2, sputtered excited particle kinetic energies, secondary photon emission 1−16613
MgF_2, stimulated fluoresc. by ArF laser radiation 1−16592
MgF_2:Co, VUV absorpt. spectra, X-ray luminesc. kinetics and thermolum. props. 1−31184
MgO, F_2^{2+} centre ODMR, zero-field spectra, spin coherence 1−26080
MgO, heat treated, SEM cathodolum. studies 1−3498
MgO, origin of luminesc. excited in F absorption band 1−3468
MgO, thermoluminescence mechanisms, V-centres 1−3503
MgO, UV-irradiated, interaction of O_2 molecules with surface centres 1−38645
MgO:Ga, photolum. and cathodolum. decay obs. *(Russian)* 1−16612
MgO:OH, Al, F, thermally stimulated luminescence, electron and hole traps 1−21282
MgO:V^{2+}, mag. and elec. dipole transitions, zero-phonon line shape 1−39149
MgS:Sb^{3+} phosphors, luminescence and excitation spectra meas. 1−39138
$MgWO_4$:U, luminesc. spectra, vibr. struct. and electronic transitions 1−31179
N_2 doped with O atoms, luminescence stimulated by low energy electrons 1−26281
α-N_2, solid, vacuum UV luminescence spectrum *(Russian)* 1−43154
NH_4Br:Tl^+, impurity centre parameters, order-disorder transition effects, spectra meas. 1−25430
NH_4I:Tl, phase transitions under heating and cooling conditions, luminesc. study 1−2623
$NH_4UO_2(NO_3)_3$, γ-irradiated, long wave luminesc. centre 1−12573
$(Na,K)_5(Eu,Tb)_{1-x}(Gd,\gamma)_x[(Mo,W)O_4]_4$, luminescence props. 1−39136
NaCl, γ-irradiated, F-centre decay, aquoluminesc. 1−8135
NaCl:$Cu^+(Mn^{2+})$ pure and doped, recombination luminesc. 1−39164
NaCl:Cu^{2+}, fluorescence spectra 1−3455
NaCl:Sn, optical spectra and luminesc. 1−21264
NaCl-$EuCl_2$, precipitated Eu^{2+} phase, optical absorpt. and luminesc. spectra 1−39130
NaF, luminesc. and stimulated emission of colour centres 1−12542
NaF, X-ray irrad., thermoluminescence study 1−31209
$NaHCO_3$:NO_2^-, $^{1,3}B_1$-$^1A_1$ electronic transition, IR absorpt., fluoresc. and phosphoresc. spectra 1−30658
NaI, doped, scintillator, luminesc. kinetic charact. 1−12546
NaI, self-localised exciton luminesc., point defect recomb., phonon contrib. 1−3486
NaI:Pb, absorpt. and emission spectra and luminesc. decay meas. 1−21246
$Na_3La_{1-x}Nd_x(PO_4)_2$, $Na_3La_{1-x}Nd_x(VO_4)_2$, optical props. rel. to microlaser develop. 1−16595
$Na_2Mo_2O_7$, luminesc. meas., decay time, level splitting 1−52987
Na_2O-B_2O_3-SiO_2:CrIII ions (with Cr_2O_3 0.005 to 1.0 wt.%), luminesc. spectra 1−43162
Na_2O-SiO_2 glass, excitation of intrinsic luminesc. 1−43178
$NaPO_3$:Ho^{3+}, glass, 750 nm laser emission anal. 1−16584
$Na_4P_2O_7$:Dy_2O_3, use in TLD 1−14720
$Na_2W_2O_7$, luminesc. meas., decay time, level splitting 1−52987
Nd:glass, laser, absorpt. and luminesc. spectra, Stark struct., radiative and stimulated transitions 1−51486
$OsBr_6^{2-}$ in Cs_2SnBr_6, high resolution IR and visible luminesc. spectra 1−26262
$OsCl_6^{2-}$ in Cs_2TeCl_6, high resolution IR and visible luminesc. spectra 1−26262
$PbBr_2$, cryst., red luminesc., decay kinetics 1−8119
luminescence of inorganic solids continued
PbI_2 cryst., red luminesc., decay kinetics 1−8119
PbI_2(2H), reflection and photoluminescence spectra, exciton polaritons 1−48156
$PbMoO_4$ crystals, coloration, absorpt. bands, photocond., photo- and thermolum. 1−21243
$PbMoO_4$, $PbWO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
PbO, electron-hole liq., condensation energy. luminesc. study 1−20640
PbO tetragonal type single crysts., low temp. luminesc. 1−35087
RbBr, exciton decay into defects, luminescence spectra 1−12038
RbBr:Ca^{2+}, single crystals, optical absorption, thermoluminescence glow and emission spectra 1−8143
RbBr:OH^-, single crystals, optical absorption, thermoluminescence glow and emission spectra 1−8143
RbCl, thermoluminescence glow, optical absorpt. and emission 1−53002
RbCl:Eu^{2+}, thermoluminesc., fluoresc., optical absorption 1−43194
RbCl(Br), mag. circular polarisation of F centre emission and spin mixing processes in optical cycle 1−39139
RbI, de-excitation of electron and hole excited states of self-trapped excitons 1−20636
RbI, Li-$(F_2^+)_A$ centre absorpt. and emission bands, potential laser action 1−52974
RbI:Pb^{2+}, polarised luminesc. meas. at liq. He temp. 1−3467
RbI:Tl^+, dimer centres, emission and absorption spectra 1−12568
Rb_2KNdF_6 conc. quenching of Nd^{3+} fluorescence 1−3470
$RbMnF_3$:Nd^{3+}, 10488 Å line position and width, thermal behaviour 1−52988
ReO_4^- and ReO_6^{5-} complexes, host lattices, quantum efficiency luminescence 1−16594
Rh(I) complexes, emission spectra and lifetimes, temp. effect 1−35080
Ru complex, Ru(bipyridyl)$_3^{2+}$, luminesc. props., emission and excitation spectra, 4.2 to 300K 1−35079
Ru complex, tris (2,2′-bipyridine) Ru(II), charge transfer excited state, singlet energy transfer 1−3454
Sc_2SiO_5:Nd^{3+}, luminesc. and stimulated emission 1−48155
$ScTa_{1-x}Nb_xO_4$, struct. and luminesc. 1−13972
Si, amorphous CVD film, elec. and optical props. and localised state density *(Japanese)* 1−20608
Si, amorphous hydrogenated, light-induced radiative recomb. centres, photolum. study 1−26251
Si avalanche-plasma light emitter, physical anal. 1−48167
Si, biexciton form., photoluminesc. study 1−48145
Si, Czochralski crystals, annealed at 800°C, oxygen-related donors, spectral study 1−26255
Si, Czochralski crystals, oxygen-related donors, Hall effect and photoluminesc. study 1−26256
Si, donors, new type, photolum. anal. 1−47556
Si, electron-phonon interaction, photolumin. and transport phenomena 1−42493
Si, etching by F atoms, chemiluminescence study 1−16615
Si, excitons, biexcitons, and free carriers, kinetic props., luminesc. 1−47488
a-Si, hydrogenated, band-to-band luminescence 1−8130
a-Si, hydrogenated, luminescence decay intensity depend. 1−8131
Si, insulator-metal transition of free excitons to electron-hole plasmas, luminesc. spectra 1−47490
Si, ion-implanted, lattice damage annealing, photoluminesc. study 1−11776
Si, irradiated, uniaxial stress meas. on 0.97 eV line 1−31127
Si MOSFET, emission spectra from subbands in inversion layers 1−12585
Si, many-exciton and exciton-impurity complexes, spectral study 1−12552
Si, photoluminescence after laser annealing, dislocation effects 1−48128
Si, stressed uniaxially, electron-hole drop densities from photoluminesc. 1−42696
Si:B, impurity conc. meas. by SIMS 1−47109
Si:B,In, photoluminesc., relative impurity concs. exciton transfer 1−38399
Si:B(Li)(P), bound multiexciton complexes, exciton capture and Auger recomb. rates 1−48146
Si:Fe, deep states, photoluminesc. study, Zeeman splitting 1−48137
Si:H, amorphous, elec. and optical props., book contrib. 1−38816
Si:H, amorphous, gap states, review 1−16221
Si:H, amorphous, gap states and recomb. processes *(Japanese)* 1−43175
Si:H, amorphous, internal elec. fields, luminesc. decay time meas. 1−52983
Si:H, amorphous, radiative recombination, high press. effect, photoluminesc. 1−48160
Si:H, amorphous film, luminesc. decay, surface and thickness effects 1−21251
Si:H, amorphous films, recombination, Auger effects and nongeminate recomb., luminesc. study 1−48162
Si:H, amorphous thin film, band-bending, photoluminesc. study 1−52984
Si:In, U_2 photoluminesc. line, evidence for complex isoelectronic centre 1−26257
Si:In(B), exciton capture cross section, photoluminesc. 1−39153
Si:Li, 1.045 eV vibronic band 1−3458
Si:Li, bond multiexciton luminesc. 1−8118
Si:O,H, amorphous, plasma deposited, luminesc. props. 1−21265
Si:P, bound multiexciton complex radiation lines in mag. field, polarisation and splitting 1−52993
Si:P, four-particle radiative transitions of biexcitons and multiple bound excitons 1−31188
Si:P, high frequency modulation spectroscopy of bound multiexciton complexes 1−48142
Si-C amorphous alloy film, deposited by glow discharge decomp., white photoluminesc. 1−12538
SiC, 4H, 6H, and 15R polytypes, site effect on impurity levels, photolum. meas. 1−16255
SiC(6H), mag. resonance optical detection for D-A recombination luminescence 1−47977
SiC(6H), prebreakdown electroluminescence spectra 1−35099
Si_xGe_{1-x}:H amorphous film, electronic and optical props. 1−30853
SiO_2, crystalline and amorphous, photolum. from E band centres 1−3461
SiO_2 film, cathodolum. meas. 1−3497
SiO_2 film, undoped, cathodolum. spectra, intrinsic defects assignment of emission maxima *(Russian)* 1−16619
SiO_2 thin layers struct. homogeneity, luminesc. meas. *(German)* 1−43185
SiO_2, vitreous, luminescence band at 4.4 eV, struct. 1−43177
SiO_2:Fe, vitreous, fundamental absorpt. edge 1−16591

luminescence of inorganic solids continued
$SiO_2:Sm^{2+}$, vitreous, photoluminesence and photoinduced absorption 1−16607
Sm^{3+} in $POCl_3:SnCl_4$, $^6H_{5/2}$ and $^4G_{5/2}$ states, near-resonance interactions between Stark components 1−26272
$SmMgF_4$, photoluminescence and energy transfer 1−26253
Sn^0, atomic centres, luminesc. in dielectric canal matrix of zeolite crystals 1−26265
$SnO_x/ZnS/Cu_xS/ZnS:Mn(Sm)/Al$ electrolum. thin film struct., spectral props. 1−52999
$SrClF:Sm^{2+}$, fluorescent spectrum, Stark components, cryst. field parameters 1−3491
$SrClF:Sm^{2+}$, fluorescence spectrum, Stark components 1−31192
SrF_2, sputtered excited particle kinetic energies, secondary photon emission 1−16613
$SrF_2:Eu^{2+}$, tunable optical phonon detector and generator 1−15979
SrF_2:Mn, X-irrad., absorpt. and emission spectra, lifetimes 1−21238
SrF_2:Na, luminesc. and stimulated emission of M_A-centres 1−12541
$SrF_2:Sm^{2+}$ crystals, $4f^{k-1}5d$ to $4f^k$ luminesc. vibronic wing, vibr. spectrum and symm., Jahn-Teller pseudo effect 1−43168
$SrMgF_4$, photoluminescence and energy transfer 1−26253
$SrMoO_4$, $SrWO_4$, static Jahn-Teller effect manifested in intrinsic luminesc. 1−12549
$SrO-Li_2O-P_2O_5$:Mn, Ce system, luminesc. meas., composition depend. 1−48133
SrS:Cu, photoluminesc., influence of Er 1−39133
SrS:Cu, Yb, phosphors, photo- and electro-luminesc. 1−3476
SrSe:Cu, photoluminesc., influence of Er 1−39133
$SrTiO_3$, ceramic, cond. depend. cathodoluminescence 1−35103
$Sr(Y_{1-x}Yb_x)_2F_8$, cooperative luminesc., spectral and kinetic characts. 1−12550
$SrYb_2F_8$, avalanche quenching of luminesc. 1−48154
$ThBr_4:Pr^{3+}$, absorpt. and laser excited fluoresc. spectra, energy levels, crystal field parameters 1−48119
TiO_2, ceramic, cond. depend. cathodoluminescence 1−35103
Xe, solid, polariton effects in luminesc. *(Russian)* 1−3451
Y complex, Y (hexamethylphosphoramide)$_6(ClO_4)_3:Eu^{3+}$, crystal field parameters, fluoresc. spectra 1−25677
YAG, excitation dragging in strong noncoherent interaction of Er^{3+} and Yb^{3+} ions 1−12583
YAG, pure and doped, X-ray irrad., thermoluminesc. study 1−21281
YAG rare earth doped, optical detection of EPR 1−34937
YAG single cryst. phosphor screen for cathode ray tube, LPE grown 1−8241
YAG:Nd, three-photon absorption, Nd energy levels, fluoresc. decay study 1−39131
YF_3:Yb, Er, IR convertors, heating effect quantitative evaluation 1−43163
Y_2O_3, Y_2O_2S, rare earth ion activated, electron-hole pair radiative recomb. mechanisms 1−48171
$Y_2O_3-ZrO_2$, X-irrad. and thermostimulated luminescence 1−39142
YOF, electronic struct., photoelectron and X-ray emission spectra 1−3570
$(Y_{1-x}Tb_x)_3M_5O_{12}$, M=Al,Ga, garnet oxide phosphors, cathodoluminesc. efficiency determ. 1−39161
YVO_4, rare earth ion activated, electron-hole pair radiative recomb. mechanisms 1−48171
$YVO_4:Nb^{5+}$, Eu^{3+}, luminescence processes, effect of Nb impurities 1−26273
ZnCdS:Ag screen, electron beam excited, absolute efficiency 1−8137
ZnO electroluminophores, photo- and electroluminesc., grinding effect 1−52996
ZnO, electrophotographic grade, cathodoluminesc. and photoconductivity meas. in SEM 1−21280
ZnO epitaxial layers, recomb. radiation kinetics 1−31194
ZnO, preparation by burning Zn in O_2, photo- and electroluminescent properties 1−8263
ZnO:La, brightness waves of electroluminescence 1−52997
ZnO:Sm, Cu(Ag), electrolum. and photolum. 1−43183
ZnO:Sm, phosphors, electrolum. and photolum. 1−43183
ZnO:Sm (:Sm, Ag) (:Sm, Cu) phosphors, photo and electroluminescence spectra obs. 1−16593
ZnO.Zn phosphor, synthesis by oxidation of ZnS, reactions and luminosity obs. 1−48288
ZnS, edge luminescence under strong photoluminescence conditions 1−16606
ZnS, emission edge, temp. shift 1−3482
ZnS epitaxial layer on Ge substrate, cryst. struct. 1−42649
ZnS, exciton refl. and luminesc. spectra evolution during struct. transition 1−26233
ZnS phosphors, roentgenoluminesc. spectrum, exciting-radiation photon energy effect 1−8120
ZnS, self-activated luminesc. *(Japanese)* 1−39156
ZnS thin-film electroluminescent layers, production and electrical props. *(German)* 1−26277
ZnS:Cu,Al phosphor, cathodolum. saturation and decay characts. 1−26280
ZnS:Cu,Nd,Cl, thin film, direct current electrolum. and Nd luminescence centres 1−3495
ZnS:Cu luminophore, photoluminesc., depend. on Cu conc. 1−16598
ZnS:I, blue luminesc. band nature, annealing in high vac. influence 1−35094
ZnS:Mn, AC thin film electrolum., memory effect, Mn distrib. effect 1−21276
ZnS:Mn, Cu, Cl thin films, elec. props., electroluminesc., switching 1−39159
ZnS:Mn, Cu powder phosphors, time resolved DC electrolum. studies 1−43184
ZnS:Mn, polymorphic props. anal. by laser spectroscopy 1−47033
ZnS:Mn phosphors, nonradiative relax., photoacoustic meas. 1−42472
ZnS:Mn thin film electroluminescent devices, luminesc. props. and cryst. struct., effect of Cl 1−48168
ZnS:Sn luminophors, blue luminesc. study 1−21263
ZnS(Se), ion alloying method for defect struct. control and phosphor activation, luminesc. characts. 1−12548
ZnS(Se):Te(Hg), scintillator materials, spectral and kinetic characts. 1−12545
$ZnS_{0.52}Se_{0.48}$, self-activated luminesc. and ODMR study 1−21260
ZnS_xSe_{1-x} epitaxial layers on GaAs(Ge), organometallic CVD growth, photoluminesc. and heterojunction props. 1−48151
$ZnS(Se)(S_{1-x}Se_x)$, LPE using Te a solvent 1−43282
ZnSe, bound excitons, investigation by electroabsorption method 1−21174
luminescence of inorganic solids continued
ZnSe, broad band emission, cathodolum., thermolum., transitions involving deep level centres *(French)* 1−53000
ZnSe, crystallization, volume defects 1−7161
ZnSe, doped with acceptor impurities, thermoluminescence, photoconductivity 1−43195
ZnSe, electron-hole liquid, luminescence spectra *(Russian)* 1−12584
ZnSe, Fano effect in bound exciton spectra 1−48141
ZnSe, free exciton luminesc. and refl. spectra, native defect conc. effect 1−12570
ZnSe, light amplification in electron-hole drops 1−3438
ZnSe, monocryst., self-induced photoluminesc. excitation mechanism 1−48150
ZnSe, ODMR, luminescence study of vacancy associated defects, recombination 1−26081
ZnSe Schottky barrier diode, photoluminesc. intensity, surface field effect 1−52985
ZnSe single cryst., edge luminesc. under strong opt. excitation, 77-300K 1−21273
ZnSe single crystalline layers, epitaxial growth by vapour flow focusing *(Japanese)* 1−3636
ZnSe sputtered film, degree of crystallinity determ. using longwave IR spectroscopy 1−47411
ZnSe:Co, high energy luminescence bands 1−8128
ZnSe:Cu, final state effects in deep impurity excitation spectra 1−2920
ZnSe:Cu (Ag)(Al), impurity diffusion, luminesc. modification 1−38596
ZnSe:P, ODMR of P_4 cluster centres 1−43039
n-ZnSe/electrolyte junction, electrolum. under anodic polarisation, adsorpt. effects 1−16360
ZnSe-metal interface, exciton refl. and photolum. spectra meas. 1−25645
ZnSe-ZnS:Mn thin films, bright DC electroluminescence 1−3494
ZnSe(Te), donor species, bound excitons, photoluminesc. meas. 1−48135
ZnSe(Te)(O), electron-hole liq., condensation energy. luminesc. study 1−20640
Zn_2SiO_4:Mn phosphor, electron traps, photostimulated emission, phosphoresc. and photoluminesc. study 1−35084
$ZnSiP_2$(:Ga) crystals grown from non-stoichiometric melt, elec. and optical props., orient. depend. 1−34705
n-ZnTe, diffusion of Al, cond. and lum. characts. of junction, impurity levels *(Japanese)* 1−20470
ZnTe, donor-acceptor pairs, selective pair luminesc. in external mag. field 1−39151
ZnTe, edge emission and deep centre luminesc., effects of Zn-vapour heat-treatments 1−12589
ZnTe, edge-emission, cathodolum. and isochronal annealing studies 1−35101
ZnTe, heavily doped, photoluminescence, bound exciton complexes 1−31189
ZnTe, high excitation luminescence, two-photon Raman scatt. 1−26270
ZnTe, impurity states, ground and excited, Zeeman splitting, selective pair luminesc. 1−47595
ZnTe, resonance secondary exciton emission 1−12558
ZnTe, resonant donor-bound-exciton luminesc. 1−3456
ZnTe, selective excitation of donor-acceptor pairs, excitation and relax. processes 1−48136
ZnTe:Cu, donor-acceptor pair spectra, luminesc. 1−12576
$ZrO_2-Y_2O_3-R_2O_3$, (R=Pr, Nd, Sm, Eu, Tb, Dy, Ho, Tm, Er, Yb), X-irrad. and thermostimulated luminescence 1−39142
ZrO_2-ZnO phosphor, long persistence, fabrication and props. 1−8111
$ZrSiO_4$, natural, thermoluminescence explanation 1−12590
$ZrSiO_4:Dy^{3+}(Tb^{3+})(Gd^{3+})(Eu^{3+})(Sm^{3+})$, trapping and emission centres, thermolum.. obs. 1−39163

luminescence of liquids and solutions
acridine dyes, intramol. transitions and fluoresc., quantum yields and transition probabilities 1−10767
1-amino-3-anthryl-(9)-propanes, electrogenerated chemiluminesc., intramol. exciplex form. 1−26751
anthracene compound solutions, excited state radiative lifetime, temp. effect 1−46027
anthracenes and its derivatives in solution, fluoresc. solvent viscosity effect 1−12566
N-arylpyridinium salts as laser dyes 1−6551
aza-1,2,4-triazine derivative, compound SKh-10, N_2 laser excited, stimulated emission 1−33680
benzene, in cyclohexane soln., indioluminesc., fluoresc. decay curves, quenching kinetics 1−43187
1,3-bis(4-hydroxy-1-naphthyl)propane, normal and second intramol. excimer fluoresc. 1−46006
1,3-bis(4-methoxy-1-naphthyl)propane, normal and second intramol. excimer fluoresc. 1−46006
chlorophyll solutions, fluoresc. quenching, maser eqn. approach 1−199
diaryloxazoles solutions, lasing processes 1−10998
dinaphthylalkanes, solns., fast triplet excimer form., spin-orbit coupling 1−33587
dye, fluorescent, solvent matrix influence on overlapping of absorpt. and emission bands 1−26252
dye solns., luminesc. spectral props., electrolyte effects 1−46334
dye tagged macromols. and particles, electro-fluorescent light valve mechanism 1−41530
high-pressure, use for electronic phenomena studies in condensed systems 1−12563
ion recombination in hydrocarbon solns., ns time resolved radioluminesc. studies 1−53442
malachite green in H_2O, picosecond time delay fluorimetry using jitter-free streak camera 1−8635
mean diffusion length, donor and acceptor molecules conc. 1−43181
methylcyclohexane glass supercooled liq., polariscopic and kinetic evidence, benzene probes 1−38250
molecules in solution, electronic and photoluminesc. spectra, stochastic theory 1−33408
nitroaniline, (N-methylation), substitution, press. and solvent effects, isomers, charge transfer, luminesc. obs. 1−33554
phthalimide derivatives, fluoresc. polaris., intermol. interactions effects 1−29025
picosecond relaxation processes in liquids 1−16579
polar liquids, dipolar orientational relax., fluoresc. probe investigation 1−16600
polybenzimidazole soln., mol. aggregation by fluorescence spectroscopy 1−35526

luminescence of liquids and solutions continued
polymethine dyes, fluorescence decay measurements using the Synchroscan streak camera and mode-locked CW dye laser 1−29030
polymethine dyes, short-wavelength luminesc. 1−3471
rhodamine 4C in solns., rot. relax. in ground and excited states 1−3464
rhodamine 6G, association study using fluorescence polarisation 1−29027
rhodamine 6G, solvent effects on gain spectra 1−19328
rhodamine 6G aq.-micellar solns., spectral luminesc. props., component conc. effect 1−43167
rhodamine 6G solns., fluoresc. decay, TEA UV CO_2 laser meas. 1−6294
rhodamine 6G solution, effect of reabsorpt. of stimulated emission and luminesc. 1−29273
rhodamine dyes in alcoholic solns., electronic excitation migration 1−43161
superluminescence, transverse relaxation time from steady-state pulse shape 1−1535
triphenylmethane derivatives and complexes with rare earths, anomalous luminesc. obs. 1−24187
L-(−)-tryptophan−DMSO, fluorescence and phosphorescence quenching by Eu^{3+} 1−26271
uniaxial liquid crystals, photoselection, rot. Brownian motion effect on orientational distrib. function 1−8115
uniaxial liquid crystals, photoselection, rot. Brownian motion effect on orientational distrib. function 1−8116
uranine-DAMC dye mixture laser, N_2 laser pumped, gain studies 1−24416
water, liquid, non-Cherenkov UV emission, electron beam effect 1−16610
xanthene dyes, intramol. transitions and fluoresc., quantum yields and transition probabilities 1−10767
yield of Chr. minutissimum and photosystem II of green plants, mag. field effect, pheophytin state 1−17415
Ar, liq., free-ion electron yield and recomb. luminesc., elec. field effects 1−21269
CS_2, shock expts., sources of light emission 1−7256
Co-Ar solutions, vibr. energy transfer and storage 1−35082
Eu complex, Eu benzoylacetonate, soln., energy transfer and nonradiative loss 1−12572
Eu compounds, in soln., luminesc. spectra, use for interpretation of struct. data obtained using lanthanide shift reagent 1−35086
HCl(Br):Sb^{3+} complex, aqueous solutions, luminescence spectra and kinetics *(Russian)* 1−31197
KCl-NO_2 solution, relax. processes in luminesc. center *(Russian)* 1−8133
KCl(Br), additively and gamma coloured, lyoluminesc. in fluoresc. and chemiluminesc. solns. 1−26274
NaCl(Br), additively and gamma coloured, lyoluminesc. in fluoresc. and chemiluminesc. solns. 1−26274
O_2 singlet in solns., photosensitised luminesc. in IR region 1−14954
O_2, singlet state, laser-induced fluoresc. and relax. in liquid phase 1−29022
O_2, singlet state, luminesc. in soln., pulsed spectrosc. investig. 1−6307
Os complexes, solution photophysics, luminesc. lifetimes, laser flash photolysis study 1−48166
Pr^{3+}, in soln., nonradiative transitions, breakdown of cascading 1−3473
Pt complexes, solution photophysics, luminesc. lifetimes, laser flash photolysis study 1−48166
Ru complexes, solution photophysics, luminesc. lifetimes, laser flash photolysis study 1−48166
Xe, liq., free-ion electron yield and recomb. luminesc., elec. field effects 1−21269

luminescence of organic solids
amino-N-methylphthalimides, fluoresc., directed energy transfer 1−16599
4-amino-N-methylphthalmide solid solns., fluoresc. spectral line shift due to directional energy transfer 1−35095
3-aminophthalmide solid solns., fluoresc. spectral line shift due to directional energy transfer 1−35095
anthracene:naphthacene, amorphous film, fluoresc. spectra temp. depend. 1−8109
anthracene, influence of surface effects and temp. on triplet excitons interaction, fluroesc. obs. 1−8125
anthracene cryst., triplet exciton pair-charge carrier interaction 1−20635
anthracene crystal, annealing influence on low-temp. fluorescence, exciton *(Russian)* 1−35096
anthracene crystals, generation and annealing of dislocations, fluorescence spectra *(Russian)* 1−20207
anthracene single cryst., triplet states, phosphoresc. and delayed fluoresc. mag. reson. 1−31063
benzophenone, photostabiliser, luminesc. spectral props. investig. 1−48149
carbohydrates, lyoluminescent phosphors, response to ionising radiation 1−8134
cellulose, lyoluminescent phosphors, response to ionising radiation 1−8134
cholesteric polymer films, optical appls. 1−48186
coronene in n-heptane single crystal, luminesc. spectrum, multiplet component polarisation, 77K 1−41423
2,12-dimethyltridecahexaene, absorpt. and emission spectra 1−37217
glass, mechanoluminescence, and acoustic emission meas. 1−46642
glucose monohydrate, lyoluminescence phosphors, radiation quality and gamma dose, response function 1−6045
glutamine, lyoluminescence dosimetry, high-dose intercomparisons 1−6044
o-hydroxybenzophenones, photostabiliser, luminesc. spectral props. investig. 1−48149
isobutyl alcohol, dipolar orientational relax., fluoresc. probe investigation 1−16600
mannose, lyoluminescent dosimetry, appl. to ratiotherapy, radiation processing of food and sterilisation 1−9031
mannose monohydrate, lyoluminescence phosphors, radiation quality and gamma dose, response function 1−6045
6-methylmercaptopurine, thermoluminesc. and visible emission spectra, X-irrad. at 10K 1−16614
6-methylmercaptopurine riboside, thermoluminesc. and visible emission spectra, X-irrad. at 10K 1−16614
mixed molecular crysts., stimulated emission at low temps. review 1−3436
molecular crystals, surface impurity, meas. of luminesc. polarisation, mol. orientation determ. 1−52986
naphthalene: chrysene mixed cryst., excitation spectra of delayed luminesc. 1−48131
naphthalene, influence of surface effects and temp. on triplet excitons interaction, fluroesc. obs. 1−8125
naphthalene, lightly doped crystals, singlet exciton transport, correlated hopping model, fluoresc. meas. 1−3450

luminescence of organic solids continued
naphthalene dimers, relax. mechanisms in excited state impurity mols. 1−47532
palladiumporphin in n-octane crystals, triplet-state, Zeeman multiplets, phosphoresc., vibronic symmetries 1−39141
phthalimide derivatives, solid solns., fluoresc. decay kinetics, reson. transfer effects 1−46014
PMMA, fluoresc., directed energy transfer 1−16599
PMMA, phosphorescence studies of relaxation effects, emission depolarization study 1−3809
PMMA, sub-threshold glow depend. on compression *(Russian)* 1−39165
polar glasses, dipolar orientational relax., fluoresc. probe investigation 1−16600
poly(N-vinylcarbazole) films, fluoresc., phosphoresc. and delayed fluoresc. at 77K 1−21253
poly-9-anthrylmethyl methacrylate, spectral luminesc. anal. using chromophore photodimerisation 1−43165
polyacetylene, deuterated, film, resonant Raman spectra, isotope effects 1−39172
polyethylene adipate, irrad., cation-electron pair recomb. by long-range tunnelling, isothermal luminesc. study 1−31206
polyethylene terephthalate, irrad., cation-electron pair recomb. by long-range tunnelling, isothermal luminesc. study 1−31206
polymers, in strong elec. fields, current and luminesc. oscills. 1−25742
polyvinyl alcohol, fluoresc., directed energy transfer 1−16599
proteins, lyoluminescent phosphors, response to ionising radiation 1−8134
pyrene crystals, excimer and monomer emission, solid state phase transition 1−3452
pyrene films, evaporated at low temp., fluoresc. spectra, excimer emission 1−26261
saccharides, lyoluminescent phosphors, response to ionising radiation 1−8134
solid polar dye mixtures, directed energy transfer 1−16599
starch, lyoluminescent phosphors, response to ionising radiation 1−8134
tetrafluoroethylene powder, reflectance and fluorescent properties 1−26183
triphenylamine crysts., mechanoluminesc. and photoluminesc., piezo induced 1−12564
xanthene dyes, solid solns., fluoresc. decay kinetics, reson. transfer effects 1−46014
Cr complexes, Cr III, trinuclear, antiferromag. coupled, luminesc. 1−8110

luminescence of solids
see also luminescence of inorganic solids; luminescence of organic solids
activated crystals, phonon spectroscopy, review 1−12553
amorphous hosts, homogeneous fluoresc. linewidths 1−21268
avalanche quenching of luminesc. 1−48154
cathodoluminescence topography, fast electron energy dissipation and optical emission processes 1−43190
exchange promotion of luminescence in rigid solutions, kinetics 1−3472
exciton-phonon system, first and second order optical responses 1−35062
exciton-phonon system, resonant light scatt. and luminesc., simplified balance eqn. 1−26190
exciton-phonon system, resonant light scatt. and luminesc. 1−26189
excitonic luminescence, polariton mechanism 1−12561
excitonic luminescence spectra, surface polaritons 1−12559
high-pressure, use for electronic phenomena studies in condensed systems 1−12563
impurity centre spectral line inhomogeneous broadening, luminesc. quenching 1−31183
long persistence luminescent materials, colour TV SEM 1−26283
optical properties of solids, light emission, absorption and photoelec. effects *(Japanese)* 1−8121
phosphor, spherical particle, luminesc. intensities, geom. optics calc. 1−43160
phosphors, luminescence, conference, Lvov, USSR (Sep. 1978) 1−9760
recombination luminescence in rigid media 1−52994
resonant Raman scattering and luminesc., role of relax. processes 1−35061
resonant secondary emission by luminesc. centres 1−12557
resonant secondary emission spectroscopy 1−26263
semiconducting layer, fluoresc. efficiency calc. using Huygens principle 1−31201
semiconductor, characterisation and props., review, book contrib. 1−47712
semiconductor, negative luminescence 1−39158
supercooperation sensitisation of luminesc. 1−16604
thin layer emitters, optical-environment-doped-spontaneous emission rates 1−12578

luminescent devices
see also fluorescent screens; phosphors; scintillation counters
single-crystal screen, angular distrib. of light radiation calc., luminosity 1−35093
thin-film electroluminescent layers, production and electrical props. *(German)* 1−26277
Al_2O_3, impurity-doped, thin film electrolum. devices 1−8136
ZnS:Mn thin film electroluminescent devices, luminesc. props. and cryst. struct., effect of Cl 1−48168

luminophors *see phosphors*

luminors *see phosphors*

lumped parameter networks
undamped vibratory system models, lumped parameter, bond graph structures and modal transformations 1−44762

lunar atmosphere *see Moon; planetary satellite atmospheres*

lunar geology *see lunar rocks and minerals*

lunar rocks and minerals
composition rel. to meteorite parent bodies and Earth, accretional heating cause 1−22699
cosmic ray irradiation of solar system rocks and long term variations 1−44401
glasses, compositional classification 1−40362
Luna 24 ferrobasalt, origin as low Mg primary melt 1−49545
magnetic anomaly high albedo assoc. terrain due to solar wind interaction 1−9393
mare magmas, tectonic implications of mare-ridge pattern of central Oceanus Procellarum 1−49546
Oceanus Procellarum, stratigraphy and emplacement of basalts 1−27404
orthopyroxene, lunar and terrestrial, Guinier-Preston zones, composition, struct. and stability 1−22704
reflectance spectrophotometry in UV 1−22520
reflectivity, cause of lunar dark and bright spots 1−22700

lunar rocks and minerals continued
regolith, small impact craters morphologies, relative ages and form. rates 1−4793
regolith microfragments, physical prop. determ. 1−32636
soil, $^{13}C/^{12}C$ ratio of implanted carbon 1−13708
soil samples, Ca isotope fractionation by sputtering 1−54404
soils at Apollo 14 Station G, lateral continuity from anal. of core (14220) 1−4789
solar flare proton flux, ^{3}He record of last few million years 1−17803
Sm-Nd ages of norites from highlands, formation age 1−54402
Zr isotopic ratio in meteorites, lunar samples and granite G2, mass spectra 1−51303

lunar seismology
epicentres of deep moonquakes, selenographical distrib. rel. to model of lunar interior 1−17776
central Oceanus Procellarum, moonquakes distrib. rel. to tectonic implications of mare-ridge pattern 1−49546
shallow moonquake mechanism for Ar release in transient phenomena 1−36204
shear wave velocities (near surface) at Apollo landing sites 1−27403
velocity structure based on fission origin model 1−9392

lunar structure
see also lunar rocks and minerals; Moon
accretion model of lunar heating 1−27405
asymmetrical structure, evolutionary model of lunar interior 1−4794
asymmetry origin, hydrostatic tidal model 1−4785
concentric basins, structure rel. to Mercury and Mars 1−4796
core detection using two surface magnetometers at very low frequency 1−22692
core dynamo deduced from present mag. field 1−54403
crust evolution related to Earth 1−13416
electrical conductivity distribution, investigations rel. to Moon interior struct. 1−22698
fission origin model 1−9392
gravity field, distrib. of gravit. accel. and plumb-line deviations over lunar surface 1−13710
internal struct. and early history of Moon, results from Apollo missions 1−40363
libration, free and forced consts. determ. *(Polish)* 1−49548
lithosphere stress patterns and tectonic faults due to tidal distortion 1−44452
magnetic field as evidence of old core dynamo 1−54403
Moon apparent figure, peculiarities and influence on results of reduction of meridian obs. *(Russian)* 1−13665
deep moonquake epicentres, selenographical distrib. rel. to model of lunar interior 1−17776
central Oceanus Procellarum, tectonic implications of mare-ridge pattern 1−49546
physical libration, Hamiltonian theory 1−40365
pre-mare crater population, anal. rel. to ancient meteoroidal flux rate 1−49547
shear wave velocities (near surface) at Apollo landing sites 1−27403
shell relief, comparison with Earth relief *(Russian)* 1−17777
surface features, origin rel. to roles of impact and volcanism in planetology 1−4787
surface morphology and stratigraphy, remote sensing synthesis 1−4786
surface slopes, freq. function rel. to modelling of temps at selected points in maria 1−4792

lung
see also pneumodynamics
administration of PuO_2 aerosols pathological effects on system for study in mice 1−49169
augmented diffusion, support of pulmonary gas exchange 1−26923
brachytherapy, development of ^{192}Ir sources 1−32247
bronchial bifurcation model, mass transport obs. 1−17443
bronchial tree, human, technique for meas. of α-activity on mucosal surface 1−17473
bronchomotor tone, influence on airway dimensions and resistance, excised dog lungs 1−26925
cancer, computed axial tomography, contrib. to dosimetry and treatment evaluation 1−13316
cancer from ^{222}Rn and decay products, estimate of risk from environmental exposure 1−53828
clinical US examination, contrast clearance investigation, microbubble dynamics obs. 1−8937
Compton 90° scattering tomography 1−43966
computerised tomography, dynamic spatial reconstructor, appl. to 3D imaging of heart, lungs, and circulation 1−49123
fibroblasts, Chinese hamster lung, UV-B exposure, effects on DNA 1−4333
flexible disc bonded to an elastic half space, deform., lung appl. 1−22047
fluid transport across the canine tracheal epithelium 1−49029
gas exchange in the lungs, math. anal. 1−4242
KHT sarcoma cells, ^{137}Cs γ-ray induced changes in the in vivo growth rate 1−8924
laser fluorescence bronchoscopy for early lung cancer localisation 1−35872
liquid breathing, ventilation-perfusion lines and gas exchange, theory 1−26924
lung tumour formation in RFM mice, effects of split doses of X-rays or fission neturons 1−4336
mammalian cells, response to 30 MV X-irrad. in presence of 20 kilogauss mag. field 1−13292
mechanical properties of lungs and chest wall during spontaneous breathing 1−26929
microcirculation and material exchange, O_2 transfer *(Japanese)* 1−43888
microvascular pressures in the isolated perfused dog lung, direct meas. 1−49050
mucus, tracheal and bronchial, vel. obs., rel. to lung clearance 1−22026
nodule, improved detect. with an equalised radiographic image 1−43983
oedema and congestion, meas. by peribronchial elec. admittance, method and dog expts. 1−27019
perfusion meas. using a digitised ECG-triggered γ-ray absorpt. technique 1−49118
perivascular interstitium, press.-vol. behaviour, isolated dog lung obs. 1−22025
positron imaging, detect. of pulmonary emboli by inhalation of $C^{15}O_2$ 1−9013
radioaerosols, appl. to lung imaging for airway disease assessment 1−9012

lung continued
regional function, quantitative approach to study in children using ^{81m}Kr 1−49102
regional perfusion, dog, effects of pulmonary oedema 1−49028
rheological properties of bronchial secretion and mucociliary transport 1−49039
scintigraphic evaluation of regional pulmonary ventilation 1−4364
scintigraphic ventilation-perfusion imaging, current status 1−9011
squamous epithelial cells, math. model for discriminant features anal. 1−35739
surfactant system, rabbit, effects of ^{60}Co radiation 1−35834
tissue volume in isolated perfused dog lungs, capillary blood flow 1−13270
transmission US, appl. to lung tissue study 1−13301
transplantation, preservation and ventilation system 1−22161
vasculature in cardiac failure, anal. by computer evaluation of radiographs 1−9015
venoconstriction caused by elevated cerebrospinal fluid press., dog expts. 1−17420
ventilation-perfusion ratio distributions of foreign gas intravenously infused 1−26931
X-irradiation induced pneumonitis and fibrosis, mouse, respiratory freq. and histology assay 1−43913
^{144}Ce inhaled by dogs, effects on cardiopulmonary function and histopathology 1−43919
^{A}Pu, A=239, 240, fallout concs. in human tissues from New York City 1−4370

lutecium *see lutetium*

lutetium
see also nuclei with .....
Oklo natural nuclear reactor in Gabon, Lu isotope study *(French)* 1−40131
^{177}Lu, effects of short-lived β-emitters on mice 1−13293

lutetium alloys
$Ag_{0.5}Lu_{0.5-x}R_x$ amorphous alloys, resist. and magnetoresist. meas. 1−30696
Gd-Lu, mag. phase diagram, search for Lifshitz points 1−12292
Lu-Os, dil., elec. field gradient meas. by nucl. orientation technique 1−12081
Lu-Re, dil., elec. field gradient meas. by nucl. orientation technique 1−12081
$LuAl_2$:Dy(Er), crystalline elec. field, magnetisation meas. 1−47593
$LuCo_2$, Pauli paramagnet, electronic specific heat in high mag. fields 1−7349
$Lu_{0.02}Dy_{0.98}$, dil., anal. of ^{175}Lu NMR data 1−34946
$Lu_{1-x}Fe_x$, amorphous, mag. props. in conc. range, x=0.3 to 0.5 1−47907
$LuGa_2$, cryst. struct. by X-ray methods *(Ukrainian)* 1−20116
Lu_xIr_3, cryst. struct. 1−34289
$LuMn_2$, X-ray absorption spectroscopic study 1−43219
$Lu_{0.02}Tb_{0.98}$, dil., anal. of ^{175}Lu NMR data 1−34946
$Tm_xLu_{1-x}Zn$, cubic, quadrupolar interactions, parastriction and third-order mag. susceptibility 1−21030

lutetium compounds
see also lutetium alloys
diphthalocyanine films, anodic reaction boundary propag., gaseous environment effects 1−35407
$GdAlO_3$-$YAlO_3$-$LuAlO_3$, Nd activated, spectroscopic props. 1−26244
$KLu(WO_4)_2$, monoclinic, stimulated radiation of Nd^{3+} and Ho^{3+} at room temp. 1−31167
$(LaLuSm)_3(FeGa)_5O_{12}$, submicron bubble garnets, development and charcts. 1−7905
$(LaSmLu)_3(GaFe)_5O_{12}$ epitaxial films, bubble states and other mag. props. 1−7907
$(Lu,Y,Gd)_3(Fe,Mn,Ga)_5O_{12}$ film strip domains, large magnetostriction constants under influence of in-plane fields 1−12368
Lu complex, $Lu[S_2P(C_6H_{11})_2]_3$, cryst. and mol. struct., trigonal prismatic vs. octahedral coordination 1−25233
$Lu_{15}C_{19}$, cryst. struct., X-ray diffr. obs. *(French)* 1−2400
LuO, dissoc. energies mass spectra results correl. 1−17044
LuOOH, X-ray structural refinement 1−30157
$LuOsB_2$, ternary borides with $LuRuB_2$-type struct., supercond. and magnetism 1−16398
$LuRh_6B_4$, strongly enhanced itinerant paramag., X-ray, magnetisation and Mossbauer studies 1−30985
$LuRhO_4$, photoelectrochem. props. in electrolytic cell 1−35547
$LuRuB_2$, ternary borides, supercond. and magnetism 1−16398
$LuRuB_2$ ternary boride, cryst. struct. study using X-ray diffr. 1−20158
$Lu_2V_2O_7$, ferromagnetic semiconductor, critical temp. and saturation moment 1−25912
$(SmLuCa)_3(FeSi)_5O_{12}$ epitaxial films on CaGeGa garnet, mag. and struct. charcts. 1−42988
$(SmLuCa)_3(SiLuFe)_5O_{12}$ epitaxial film, domain wall resonance 1−3226
$(SmLuCa)_3(SiLuFe)_5O_{12}$ bubble film growth on $Ca_3Ga_2Ge_3O_{12}$ substrate, mag. props. 1−8240
$Sm_{1-x}Lu_xS$, low field mag. susceptibility determ. 1−12273
SmLuYCaGeIG system, bubble collapse temp. coeff., ion implantation and annealing effect 1−38959
Y-Sm-Lu-Ca-Ge garnet film, ion implanted bubble circuit, drive layer thickness effect 1−7916
$(Y_{1-x}Lu_x)_3Al_5O_{12}$:$Mo^{3+}$, EPR and NMR study 1−26030
$(YLuSmCa)_3(FeGe)_5O_{12}$, mag. bubble garnet, LPE growth, simultaneous multiple dipping 1−8242
$(YSmErGdLuCa)_3(FeGe)_5O_{12}$ bubble films with collapse-field temp. coeffs. from −0.3 to 0%/°C 1−7906
$(YSmLuCa)_3(FeGe)_5O_{12}$, 2 μm bubble propag. on asymm. chevron patterns, three-dimens. continuum magnetostatic energy model 1−7913
$(YSmLuCa)_3(FeGe)_5O_{12}$, garnet film stripe domain control, laser beam deflection 1−11077
$(YSmLuCa)_3(FeGe)_5O_{12}$ garnet films, magnetic loss, domain wall motion 1−16465
$Y_{1.62}Sm_{0.21}Lu_{0.27}Ca_{0.9}Fe_{4.1}O_{12}$ garnet film, stripe domain width 1−16466
YSmLuCaGeIG and YSmErGdLuCaGeIG bubble garnet films, collapse field temperature charcts. 1−42987
$(YSmLu)_3(FeGaSc)_5O_{12}$, $(YSmLu)_3(FeAlSc)_5O_{12}$, submicron bubble garnets, development and charcts. 1−7905

Luxemburg effect *see ionospheric electromagnetic wave propagation*

Lyapunov methods
nonlinear gyro platform observing system *(Russian)* 1−253
strange attractors, chaotic behavior and information flow 1−40643

lyotropic liquid crystals *see liquid crystals*

ABSTRACTS AND CURRENT PAPERS JOURNALS

SUBSCRIPTION PRICES

	USA $	UK £	ROW £	JAPAN ¥
PHYSICS ABSTRACTS				
Paper *or* Microfiche	1105	440	565	452,000
Paper *and* Microfiche	1658	660	848	678,000
2nd and subsequent copies	480	250	250	200,000
ELECTRICAL & ELECTRONICS ABSTRACTS				
Paper *or* Microfiche	820	375	450	360,000
Paper *and* Microfiche	1230	562	675	540,000
COMPUTER & CONTROL ABSTRACTS				
Paper *or* Microfiche	495	230	290	232,000
Paper *and* Microfiche	742	345	435	348,000
PA/EEA/CCA COMBINED SUBSCRIPTION				
Paper *or* Microfiche	2150	915	1165	932,000
Paper *and* Microfiche	3225	1372	1748	1,398,000
EEA/CCA COMBINED SUBSCRIPTION				
Paper *or* Microfiche	1200	535	675	540,000
Paper *and* Microfiche	1800	802	1012	810,000
CURRENT PAPERS IN PHYSICS				
Member rate	60	30	30	—
Non-Member rate	140	80	80	64,000
CURRENT PAPERS IN ELECTRICAL & ELECTRONICS ENGINEERING				
Member rate	55	30	30	—
Non-Member rate	118	65	65	52,000
CURRENT PAPERS ON COMPUTERS & CONTROL				
Member rate	55	30	30	—
Non-Member rate	118	65	65	52,000
KEY ABSTRACTS				
Member rate*	30	15	15	—
Non-Member rate	65	30	30	24,000
KEY ABSTRACTS				
EMI/PMI COMBINED	—	50	50	40,000

*The Key Abstracts Member rate is available to Members of the IEE and IEEE *only*.

CUMULATIVE INDEXES

Cumulative indexes are available for *Physics Abstracts*, *Electrical & Electronics Abstracts* and *Computer & Control Abstracts*, for both authors and subjects. These cumulations generally cover a period of four years, with the exception of *Computer & Control Abstracts* where the initial volume covered the period 1966–68. The table below shows the prices and periods for the two types of cumulative index.

	PHYSICS ABSTRACTS		ELECTRICAL & ELECTRONICS ABSTRACTS		COMPUTER & CONTROL ABSTRACTS	
	Subject	Author	Subject	Author	Subject	Author
	£	£	£	£	£	£
1955-59	20	20	15	20	—	—
1960-64	40	17	20	12	—	—
1965-68	63	25	35	20	—	—
1969-72	—	—	72	64	48	30
1973-76	600	300	250	150	150	75
1966-68	—	—	—	—	15	

For US$ and Yen prices please contact the appropriate address below

ORDERING PROCEDURE

THE AMERICAS

North (including Canada), Central and South

All orders from the above areas, and orders from members of Institute of Electrical and Electronics Engineers Inc. anywhere in the world, should be sent to Fulfillment Manager, Institute of Electrical & Electronics Engineers Inc., 445 Hoes Lane, Piscataway, N.J. 08854, USA.

日本のお客様にご案内申し上げます

日本国内に於けるINSPECの購入価格はすべて円建てとなっております。また刊行物はすべて航空便で配達されます。INSPEC刊行物の価格、その他についてのお問合わせは最寄の洋書取扱専門店または輸入総代理店㈱ユー・エス・エシアテック　カンパニー　〒105東京都港区新橋1—13—12、TEL 03 (502) 6471までご連絡ください。

REMAINDER OF THE WORLD

All remaining subscriptions should be sent to INSPEC Marketing Department, P O Box 26, Hitchin, Herts SG5 7RS, England. Telephone Hitchin 53331, Telex 825962, Telegrams IEE G.

OTHER INSPEC SERVICES

SDI

(Selective Dissemination of Information.) This is a service individually tailored to the requirements and interests of the engineer or research worker. Details of information relevant to the interest profile of the individual subscriber are selected from the data being processed for the INSPEC database. Information is dispatched weekly on 150 mm × 100 mm (6" × 4") cards.

TOPICS

This is an SDI service based on standard profiles. There are over 70 subjects covering high-activity areas of research and development. This is an inexpensive card service designed to alert engineers and researchers to the availability of literature within their subject area.

MAGNETIC TAPES

Tapes containing all the information included in the INSPEC publications are issued twice monthly. They enable the larger research and development organisations to produce their own internal information and current-awareness services.

inspec
The Institution of Electrical Engineers

1977-80 CUMULATIVE INDEXES

Search 4 years at a time using the latest Cumulative Indexes.

- **Save Time**

  Your search is completed faster with the 1977-80 Cumulative Indexes

- **Increase Precision**

  The subject indexing has been revised to relate all the entries produced over the four year period to the 1980 subject headings.

The 1977-1980 Cumulative Indexes are available as follows:

Computer & Control Abstracts	Publication Sept./Oct. 1981
Electrical & Electronics Abstracts	Publication Oct./Nov. 1981
Physics Abstracts	Publication Spring 1982

Orders and Enquiries to:

INSPEC Marketing Department
Station House
Nightingale Road
Hitchin
Herts.

or for Americas only
INSPEC
IEEE Service Center
445 Hoes Lane
Piscataway, N.J. 08854
USA